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ESMAP
Energy Sector Management Assistance Program

EXPLORING OPPORTUNITIES

for Gender Diversity in the Mining and Energy Sector in Serbia

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Exploring Opportunities for Gender Diversity in the Mining and Energy Sector in Serbia

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Abbreviations

EPS	Elektroprivreda Srbije
ESMAP	Energy Sector Management Assistance Program
EY	Ernst and Young
GDP	gross domestic product
HR	human resources
ICT	information and communication technology
OECD	Organisation for Economic Co-operation and Development
STEM	science, technology, engineering, and mathematics
TVET	technical and vocational education and training
WBG	World Bank Group

Executive Summary

Women are underrepresented in the mining and energy sector in Serbia. According to national statistical data, women account for only 17 percent of Serbia's mining and energy workforce, which is slightly lower than the global average of 19 percent for the energy sector. As a consequence, women represent a major source of untapped talent for the sector, both in Serbia and worldwide.

Closing gender gaps in Serbia's mining and energy sector presents a potentially powerful source of competitive advantage for the industry, especially in the context of a rapidly changing global energy landscape. International research shows that greater female inclusion in the workforce—especially in leadership roles—offers a range of concrete benefits to companies across all sectors, from an expanded talent pool for recruitment and promotion to higher levels of innovation and team cohesion, more robust decision-making in leadership teams, and improved financial and corporate governance performance.

Given the ongoing transformation of Serbia's energy and mining sector and its projected growth over the next 10 years, a greater focus on equal opportunity and women's inclusion in the workforce and leadership could bring significant national economic and social development benefits in addition to greater opportunities for the performance and growth of individual companies. In this context, the government of Serbia has identified the need to increase women's participation in high-paying sectors such as energy and mining as a priority and key objective under the recently adopted National Gender Equality Strategy 2021–2030 (2021) (hereafter, National Gender Equality Strategy).

This study is the first targeted gender assessment in Serbia's mining and energy sector, and it aims to stimulate dialogue among policy makers, companies, and other actors on how best to strengthen women's participation in mining and energy. It provides new and detailed quantitative information on women's current role in the sector and qualitative

information on the key barriers to women's increased participation and success. This new research provides the foundation for targeted recommendations for how policy makers and companies can work together—with the targeted support of the World Bank—to enhance gender diversity and inclusion and reduce gender gaps in the energy and mining sector.

Methodology

The research for this study is based on the following:

- A workforce survey of 14 companies operating in Serbia's energy and mining sector, providing data for the period 2019 to mid-2021 and covering around 50,000 workers or approximately 70 percent of the total national workforce in the sector
- Analysis of national and international statistical data
- A desk review of legal and policy frameworks in Serbia, existing literature on women's employment in Serbia's mining and energy sector, and international good practices to strengthen women's participation in mining and energy
- Focus group discussions with male and female employees of mining and energy companies in Serbia
- Interviews with selected key informants, including human resources (HR) staff and senior management of mining and energy companies in Serbia, and representatives of government bodies

Key Findings from the Survey of Energy and Mining Companies and Focus Groups with Employees

Company-level data indicates that:

- **Women are underrepresented across Serbia's mining and energy sector.** Women account for around 21 percent of the total workforce of surveyed companies, and the female share of total employment is lowest in the coal mining and renewables subsectors (16 percent). Over the survey period, women's participation in the sector has remained largely static, with the female share of employment declining slightly from 21.4 percent in 2019 to 20.8 percent in mid-2021. While survey data do not suggest a clear explanation for the slight decline in the female share of employment, it might be linked to a disproportionate increase in the number of men working in mining and energy over the survey period: while the total number of male employees increased by 4 percent, the total number of female employees grew by only 1 percent.
- **Serbia's mining and energy companies are missing out on female talent in their leadership teams.** Women represent only 17 percent of senior managers and 16 percent of members of boards of directors. Six out of 14 companies surveyed have male-only senior management teams, and half of the companies with boards of directors have no women board members. Women represent 21 percent of all middle managers across the survey sample; however, women's participation in leadership declines as seniority level rises.
- **Women are concentrated in office-based roles and underrepresented among the technical and operations workforce.** Women account for 51 percent of all employees (including senior and

middle managers and nonmanagement employees) in occupational fields related to business and administration but just 12 percent of the total technical and operational workforce, which represents the greatest source of jobs in the mining and energy sector and a key pathway for promotion to leadership roles. Women account for only 5 percent of senior managers in technical and operational business functions.

- **When women do work in technical positions, they are better represented in highly skilled roles, including engineering.** Some 13 percent of all women in the sample work as engineers in technical fields, compared with 11 percent of all men, and as much as 25 percent of the technical engineers across the companies surveyed are women.
- **Women in the sector have a higher level of education than men.** A third of women working for the surveyed companies have advanced university qualifications, compared with 13 percent of men. Some 14 percent of the female workforce hold an undergraduate university degree compared with 6 percent of all male employees. These trends indicate that the mining and energy sector is an attractive employment option for highly skilled women in Serbia and women's underrepresentation in senior leadership roles cannot be attributed to an absence of qualified women in the sector.
- **Women's representation in the sector is unlikely to increase based on current recruitment and turnover rates.** Turnover rates for women are broadly comparable with turnover rates for men in the sector, and a slight increase in the female share of new recruits in 2020 did not counteract the overall decline in women's share of total employment over the survey period.
- **Companies could do more to support women's employment and leadership in the sector.** Gender equality measures at the enterprise level are predominantly focused on legal compliance, and less than a third of companies have introduced additional proactive measures to support women's employment and leadership. Flexible working arrangements are generally available to male and female employees, but policies to support employee care responsibilities rarely extend beyond legal requirements.

Focus group discussions with employees indicate that the mining and energy sector provides attractive employment for women and men alike, with employees reporting high levels of satisfaction with their jobs. Nevertheless, participants drew attention to barriers that women face in obtaining and advancing in technical and managerial roles in the sector. Employees highlighted the importance of raising awareness among young women and girls of career opportunities in mining and energy to challenge the social norms that deter them from pursuing technical education and employment, as well as the need to improve working conditions in field-based environments.

Focus group participants noted that family and care responsibilities present additional challenges for women's advancement, particularly in operational roles that require shift work or frequent overtime. Women and men alike expressed interest in greater support for care responsibilities, and some women highlighted the need for more women's networking opportunities that do not take place outside of working hours.

There was evidence that more could be done to prevent and address sexual harassment in the sector. While this was not highlighted as an endemic problem by focus group participants, some men expressed uncertainty about what constitutes sexual harassment in the workplace, while some women provided examples of inappropriate behavior.

Recommendations

The results of this study indicate that there is a persistent gap in women's representation across Serbia's mining and energy sector, with particularly low levels of gender diversity in leadership and technical roles. Information gathered for this study indicates that women's underrepresentation is likely to persist unless positive action is taken, given the ongoing low levels of female enrollment in relevant technical studies, strong gender norms that perpetuate a male-dominated working environment, and very limited proactive initiatives from companies to create more inclusive and diverse workplaces. As such, there is a pressing need for policy makers and companies to take action: an integrated and collaborative approach is crucial for ensuring that the right blend of supportive policies, frameworks, and company-level measures are put in place.

Recommendations for policy makers in the mining and energy sector:

- Launch an industry coalition with companies to promote women's leadership and employment in the sector.
- Conduct public awareness-raising campaigns in partnership with education providers and the private sector to highlight opportunities for women in the sector.
- Introduce a code of conduct on sexual harassment and provide guidance to help companies ensure more inclusive workplaces.
- Explore opportunities to work with employers on supporting care responsibilities and work-life balance for women and men.

Recommendations for mining and energy companies:

- Strengthen outreach to attract women into the mining and energy sector, particularly into technical and operational roles.
- Implement measures to strengthen equal opportunity outcomes in recruitment.
- Adopt measures to support women's professional development, increase the share of women in senior leadership, and build the pipeline of female talent in the company and the industry as a whole.
- Invest in creating safer and more inclusive working environments that respond to the needs of women and men alike.

Recommendations for the World Bank:

- Support policy dialogue and collaboration between mining and energy sector actors on women's employment and leadership, including through World Bank-financed projects.

1 • Introduction

This report aims to identify gender gaps in employment and representation in Serbia's mining and energy sector and explore opportunities for narrowing these gaps, thereby contributing to the objective of the World Bank Group Gender Strategy 2016–2023 to remove constraints to more and better jobs for women. The report particularly focuses on the challenges faced by female staff in technical and managerial positions in mining and energy companies. It offers recommendations to policy makers and companies for increasing gender diversity and inclusion in technical and managerial positions in the mining and energy sector.

This section outlines the context and objectives of the study, provides an overview of the methodology applied, and summarizes the structure of the report.

1.1 Context

Given the strategic importance of mining and energy to Serbia's economic development, it is imperative that actions to promote the sector's growth incorporate equal opportunities and gender considerations. As of 2020, mining and energy make up around 5 percent of Serbia's gross domestic product (GDP), a figure which is expected to double to 10 percent over the next decade (bne IntelliNews 2021; Statistical Office of the Republic of Serbia 2021c).[1] International experience shows that the economic and human development costs of ongoing gaps in gender equality are significant, as are the potential gains in closing them (Wodon et al 2020). When women and men participate in labor markets in more equal measure, governments and companies across all sectors have access to the widest pool of available skills and talent in the population, and all individuals—regardless of gender—have opportunities to make the best use of their talents.[2] Policies that promote gender equality in economic participation may be especially important in supporting the growth of new sectors such as renewable energy, where fast-changing labor and skills demands pose particular workforce challenges.

This study represents the first targeted gender assessment of Serbia's mining and energy sector. It aims to expand the knowledge base on women's employment in mining and energy and fuel informed discussion among stakeholders on how to promote equal opportunity and increase women's representation. The government of Serbia collects gender-disaggregated employment data at the sectoral level; however, there are still industry-specific gaps in women's participation in management and technical occupations. This report provides a more nuanced picture of the role of women in Serbia's mining and energy sector through the results of an industry-wide survey, key informant interviews, and focus group discussions with employees.

1.2 Methodology

The research for this report is based on the following elements:

- A workforce survey of 14 companies operating in Serbia's mining and energy sector, providing data for 2019 to mid-2021 and covering a total of around 50,000 workers, or approximately 70 percent of the national workforce in the sector
- A desk review of legal and policy frameworks in Serbia, existing literature on women's employment in Serbia's mining and energy sector, and international good practices to strengthen women's participation in mining and energy
- Analysis of national and international data
- Focus group discussions with male and female employees of mining and energy companies in Serbia
- In-depth interviews with key informants, including HR staff and senior management of mining and energy companies in Serbia, and representatives of government bodies

The methodology for the company survey, focus group discussions, and interviews with key informants is set out in further detail below.

1.2.1 Survey of Serbian Mining and Energy Companies

The survey comprised a detailed questionnaire on a range of workforce and management characteristics for the period 2019–2021.[3] Companies' HR staff completed the survey between June and August 2021. A total of 14 companies provided workforce data, covering a total of around 50,000 workers. A summary of the survey sample is provided in table 1.

The survey covers a broad cross section of Serbia's mining and energy sector. It encompasses most major energy subsectors (electric utility, coal mining, renewables, oil, and gas) and private and state-owned enterprises with varying workforce sizes and scopes of business activities (from highly specialized service companies with fewer than 20 employees to large organizations with thousands of

TABLE 1 • Workforce covered by company survey, by subsector, June 2021

Subsector	Total workforce	Female workforce
Electric utility	17,635	3,860
Mining	20,838	3,409
Oil and gas	11,018	3,077
Renewables	1,324	208
Total	**50,815**	**10,554**

Source: Company survey, 2021.

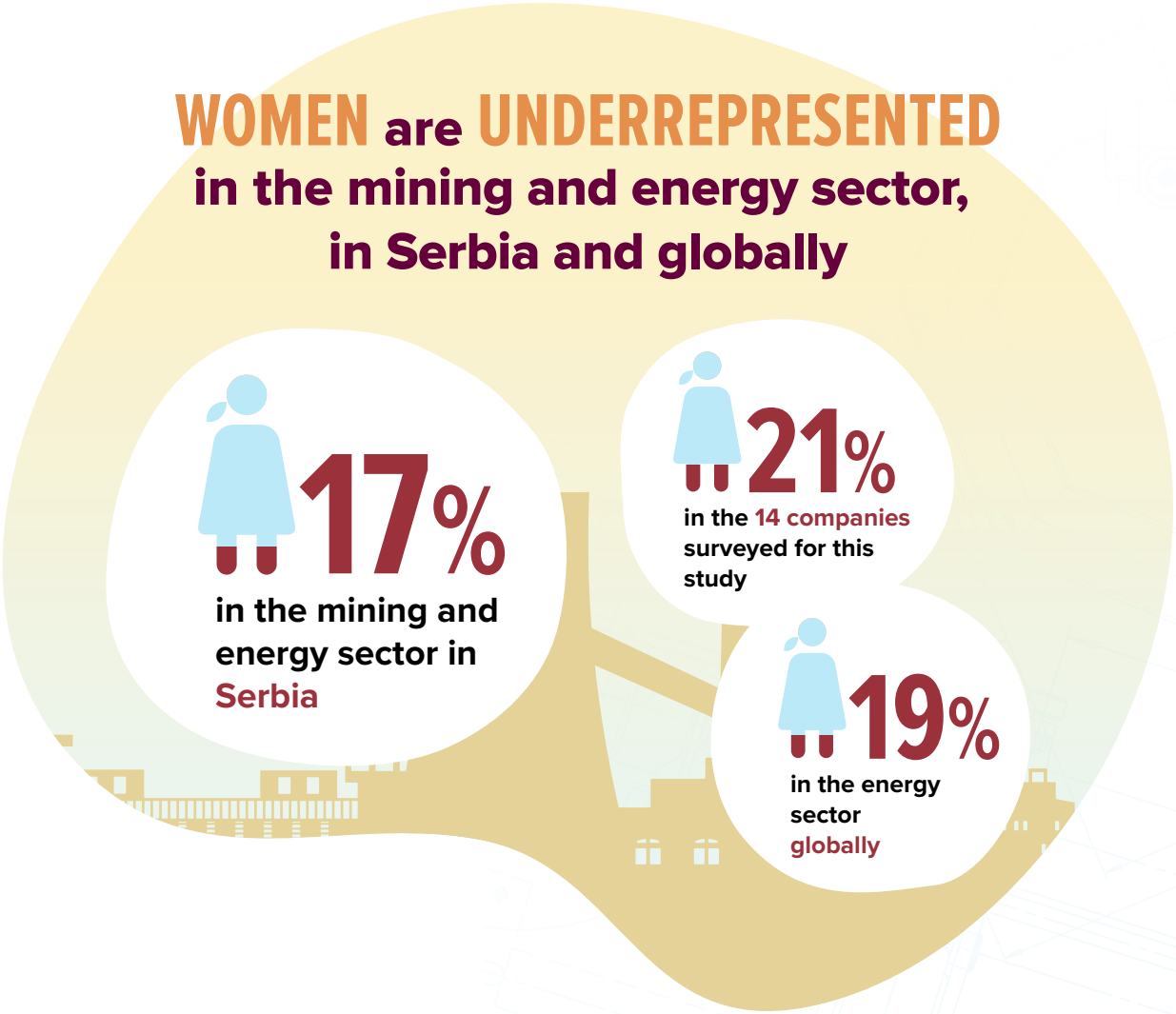
employees across a range of business activities). As such, it is reasonable to generalize key findings from the company survey to Serbia's mining and energy sector as a whole.

The findings presented in this report are based on an analysis of company data at the aggregate level. This form of analysis is appropriate for providing a general picture of employment in the sector overall while protecting individual companies' confidentiality.

1.2.2 Focus Group Discussions

Focus group discussions were conducted with employees of three companies: Elektroprivreda Srbije (EPS), the state-owned power production and electricity utility, and the mining companies Resavica and Rio Sava Exploration. These companies were selected to provide qualitative insights into the experience of women and men working in different subsectors.

A total of 76 employees (46 women and 30 men) took part in nine focus group discussions from June to August 2021. Where possible, separate discussions were organized with men and women in nonmanagement, middle management, and senior management positions. Each discussion included participants in technical and nontechnical occupations.



1.2.3 Interviews with key informants

To further support the research, a small number of in-depth interviews with key informants were conducted in the period from September to November 2021. These included interviews with male and female senior managers and HR staff at selected companies identified in consultation with the World Bank, namely EPS and Rio Sava Exploration, as well as interviews with representatives of key state bodies such as the Coordination Body for Gender Equality and the Ministry of Mining and Energy.

1.3 Structure of report

This report comprises six principal sections:

- **Section 1** outlines the context and objectives of the study and provides an overview of the methodology applied.
- **Section 2** considers why women's employment in mining and energy is of critical importance for policy makers and companies in Serbia, providing detailed information on the sector's ongoing development, the business case for promoting gender diversity for companies, and an overview of national policy and legislative commitments to gender equality.
- **Section 3** offers a high-level overview of women's current participation in education and employment, benchmarking women's representation in mining and energy in Serbia against comparator economies.
- **Section 4** sets out the findings from company-level research conducted as part of the study, including quantitative data generated by the company survey and qualitative insights from key informant interviews and employee focus group discussions.
- **Section 5** reviews international good practices on how policy makers and private sector actors can support women's participation in the sector.
- **Section 6** sets out a series of practical recommendations for policy makers, companies, and the World Bank on how to remove barriers to women's participation and narrow the gender gap in the sector.

2 • Why Women's Employment Matters for Serbia's Mining and Energy Sector

This section considers why women's employment and gender diversity in the mining and energy sector are of critical importance for policy makers and private sector actors in Serbia. It discusses the ongoing development and projected growth of the country's mining and energy industry, outlines the business case for promoting gender diversity for companies, and provides an overview of existing national policy and legislative commitments to gender equality.

2.1 The Importance of the Mining and Energy Sector in Serbia

Development of the mining and energy sector is a priority for the government of Serbia. In 2020, mining and energy made up around 5 percent of Serbia's GDP, a share that could increase significantly over the next decade depending on the realization of announced investments in these two sectors (bne IntelliNews 2021; Statistical Office of the Republic of Serbia 2021c). There is significant growth potential in mining in particular, with the estimated value of Serbia's mineral resources—including deposits of coal, iron ore, gold, silver, copper, zinc, and lithium—exceeding €200 billion (eKapija 2021; World Bank 2020a, 2020b). As of 2021, Serbian authorities report that the GDP share of the mining sector alone is set to grow from 1.9 percent to 4–5 percent in the next five years (Spasić 2021a).

Serbia's domestic energy production currently relies primarily on coal, which accounts for nearly 70 percent of total energy generation in the country (Decision 156/2020-15 (2020)). The country possesses significant coal reserves, with 7.5 billion metric tons of proven lignite deposits (Energy Sector Development Strategy 2016). Crude oil and natural gas are expected to account for 8.0 percent and 3.1 percent of energy

production in 2021, respectively (Decision 156/2020-15 (2020)), although Serbia remains heavily dependent on oil and gas imports from abroad. Renewable energy sources currently make up around 20 percent of primary energy production, with 7.2 percent generated by hydroelectric power plants. Biomass accounts for 11.8 percent, while geothermal, solar, wind, and biogas plants represent 1.4 percent of total energy production in 2021 (Decision 156/2020-15 (2020)).

The government of Serbia has set ambitious targets for decarbonization and renewable energy development. Although the share of renewable energy has not yet reached the Energy Community Treaty's 27 percent target for 2020, Serbian authorities have announced their intention to achieve a 40 percent share by 2040 (Spasić 2021b). Significant capacities in wind power generation are already in place: wind power plants with a total capacity of 400 megawatts have been built since 2014, and 2.7 gigawatts of wind energy projects are currently in the pipeline. Serbia is also thought to have a large solar energy potential, although solar power capacity is currently low at just 20 megawatts. Nevertheless, it is expected that recent legislative changes will create a favorable framework for investments in solar power plants and contribute to a "solar energy boom" in the next 5 to 10 years (Spasić 2021b). Another priority is to increase energy efficiency: it is estimated that Serbia currently consumes approximately four times more energy than the EU average (bne IntelliNews 2021).

In recognition of the mining and energy sector's growing strategic importance and the challenges associated with climate change, the government has significantly strengthened the regulatory framework in recent years. This includes the adoption of the new Law on the Use of Renewable Energy Sources (2021) and the new Law on Energy Efficiency and Rational Use of Energy (2021) and amendments to the existing Law on Energy and Law on Mining and Geological Research (2015).

2.2 The Business Case for Gender Diversity in the Mining and Energy Sector

The business case for an increased focus on gender diversity is compelling, based on considerable international evidence that greater female inclusion in the workforce—and especially in leadership roles—offers a range of concrete benefits to companies, from an expanded talent pool for recruitment to improved financial and corporate governance performance (for example, see Hunt, Layton, and Prince 2018).

Serbia's mining and energy companies face a series of complex business challenges, including moving toward more renewable energy sources and embracing disruptive new technologies: this means that they must make full use of the talent that is available to them. As recognized in the Energy Sector Development Strategy (2016) and by the Ministry of Mining and Energy, structural changes in Serbia's energy sector will create demand for new skills in the labor market, requiring additional training or retraining of the existing workforce.[4] In this context, hiring and retaining more women can help ease labor shortages as the sector develops and grows (AHR 2019). More women entering the industry also results in a larger pool of highly qualified candidates for recruitment, whereas companies that fail to ensure equal opportunity in employment risk limiting their access to top talent (Rick, Marten, and von Lonski 2017).

Supporting equal opportunity in employment can help mining and energy companies position themselves as employers of choice and attract the very best female (and male) talent (ILO 2019; Rick, Marten, and von Lonski 2017). Introducing policies that support women's employment, such as offering childcare options or flexible work arrangements, also has a positive impact on talent retention and recruitment costs by incentivizing women to stay with the company (AHR 2019; Hunt, Layton, and Prince 2018; ILO 2019). Moreover, research shows that employers that offer childcare options improve staff productivity through reduced absenteeism, greater focus, and enhanced motivation and commitment (IFC 2017).

By increasing gender diversity, mining and energy companies can improve team performance and stimulate high levels of innovation. An analysis carried out by BHP Billiton, an Anglo-Australian mining company with global operations, found that its top 10 most inclusive sites performed at least 15 percent better than the company average on safety, production, and cost efficiency (Hume 2017). Research indicates that homogenous groups are susceptible to bias and "group think," whereas diverse groups are more resilient and more inclined to consider problems from different angles (Brogan 2019; Hoogendorn, Oosterbeek, and van Praag 2013; Hunt, Layton, and Prince 2018; Rick, Marten, and von Lonski 2017; Rock and Grant 2016). Research indicates that greater gender equality can stimulate higher levels of innovation, with one study of more than 4,000 companies with research and development teams finding that the probability of innovative developments increased with higher levels of gender diversity (Díaz-García, González-Moreno, and Sáez-Martínez 2014).

The presence of women in senior management is shown to improve motivation, teamwork, and cooperation and result in better performance and higher operating margins. One of the most comprehensive studies analyzed the performance of over 20,000 companies in 91 countries and found that having at least a 30 percent share of women in senior leadership positions led to a 15 percent increase in profitability (Noland, Moran, and Kotschwar 2016). Similarly, a recent McKinsey study found that companies ranking in the top quartile for gender diversity on their executive teams are 21 percent more likely to have financial returns higher than the national industry medians (Hunt, Layton, and Prince 2018). This positive relationship between diversity in leadership and company performance has also been identified in the mining sector (for example, see WIM-Canada 2016). It must be noted, however, that the business benefits associated with women's presence among senior managers do not result from women outperforming men, but from diversity in leadership: a single woman among the ranks of senior managers is not sufficient to achieve such benefits.

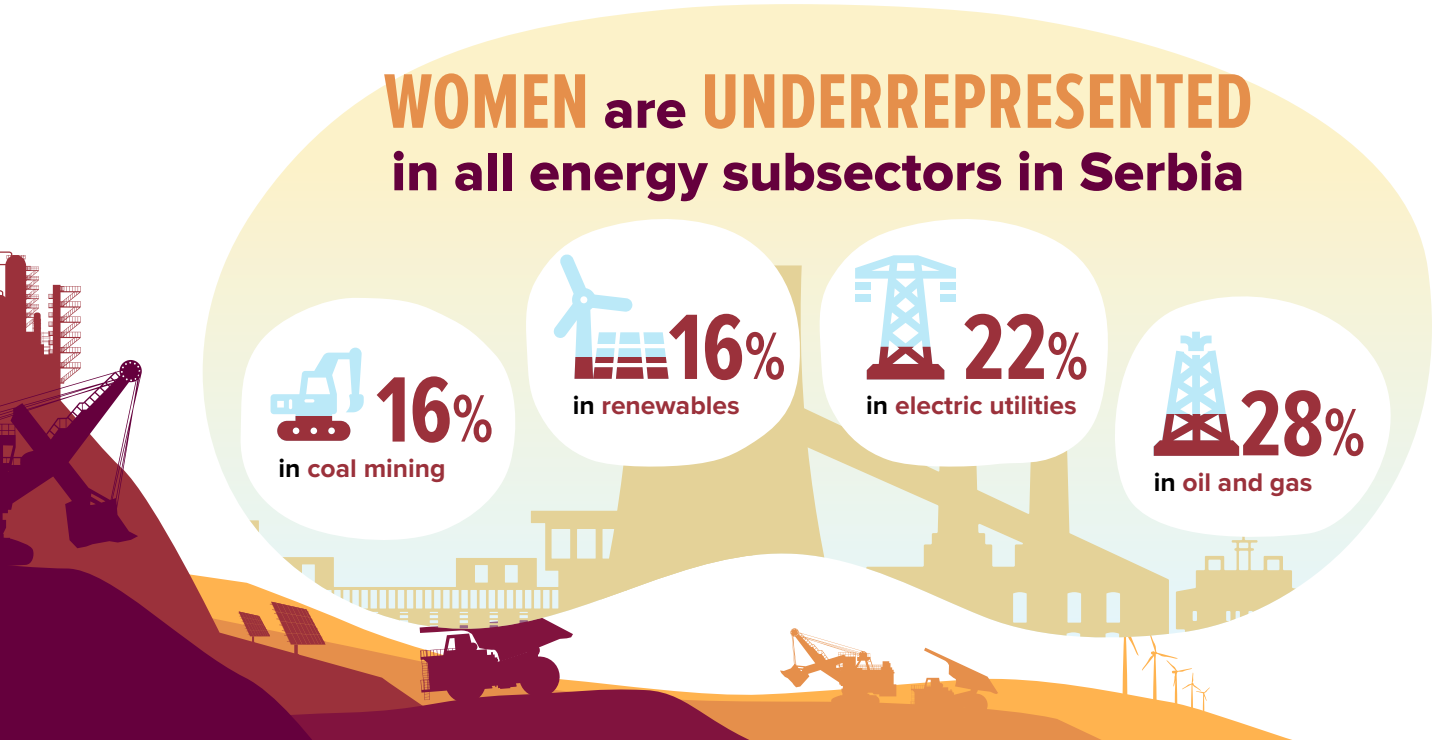
Evidence from the energy sector shows that more gender-diverse leadership can lead to improved shareholder returns. An analysis by Ernst and Young (EY) of the world's 200 largest utilities (by revenue), found that having more women in leadership leads to improved financial performance. The top 20 global utilities in terms of diverse leadership achieved 1.07 percent better return on equity for shareholders compared with the 20 lowest-ranked companies. Given that utilities are typically asset heavy, a 1.07 percent difference may be worth several million dollars. Return on equity is especially important in the energy sector, where many utilities are subject to regulated maximum returns, and thus efficient operations can result in a better return on equity (EY 2016). Similar findings have been reported across other studies (for example, see Beck and Pánczél 2018; Clerkin 2017; Eastman, Rallis, and Mazzucchelli 2016; Hunt, Layton, and Prince 2018).

Companies with gender-diverse boards are better equipped to meet rising public and investor demand for robust corporate governance. Research at the board level shows that boards of directors with at least three women demonstrate improved communications, greater adherence to codes of conduct, and better criteria for managing strategy and monitoring its implementation (Brown, Brown, and Anastasopoulos 2002). Global investors are increasingly requiring energy companies to be more transparent with their efforts to build gender-diverse boards and disclose gender-related information (AHR 2019).

2.3 National Commitments to Gender Equality—Policy and Legislation

Progress toward mining and energy sector development must be aligned with Serbia's existing, strong commitments to gender equality. Serbia's wide-reaching legislative and policy framework supporting equal opportunities for women and men includes the following:

- The **Law on Gender Equality (2021)** stipulates the obligations of public authorities and employers on gender equality and guarantees equal opportunity in employment. It explicitly prohibits gender discrimination at all stages of employment, gender-based harassment and sexual harassment at work and in connection with work, and the payment of unequal wages for work of equal value. The law includes several measures to encourage employers to take a proactive approach to fostering gender equality, including requiring employers with more than 50 employees to develop annual gender equality plans and report on their implementation.
- The **National Gender Equality Strategy 2021–2030 (2021)** recognizes gender equality as a precondition for the development of Serbia's society.[5] The strategy, adopted in October 2021, envisages measures to increase women's participation in high-paying jobs by removing the barriers to women's employment and leadership in sectors where they are underrepresented, such as information and communication technology (ICT), finance, and energy. The strategy foresees the development of gender-responsive public policy in the mining and energy sector, among others, and it contains measures to work with employers to support work-life balance for women and men. Accordingly, the strategy integrates the concept of unpaid care and household duties, and the need to recognize, value, and redistribute this work.
- The **Law on Prohibition of Discrimination (2009)** prohibits direct and indirect discrimination on grounds including sex, gender, gender identity, sexual characteristics, marital and family status, and age and appearance, among others. Discrimination in employment is explicitly outlawed. The law also prohibits "segregation," defined as the exclusion or separation of other persons on the basis of specified discriminatory grounds without an objective and reasonable justification.
- The **Law on Prevention of Workplace Harassment (2010)** defines and prohibits harassment in the workplace, including sexual harassment. Employers are obliged to implement measures to identify and prevent harassment and train employees and their representatives to recognize the causes, forms, and consequences of abuse.
- The **Labor Law (2005)** guarantees equal pay for equal work or work of equal value. It prohibits sexual harassment at work, and direct and indirect discrimination on the grounds of inter alia sex, age, pregnancy, marital status, family obligations, and other personal characteristics. The Labor Law provides special protection to female employees during pregnancy and after childbirth and allows for breastfeeding breaks.



3 • Women's Participation in Serbia's Mining and Energy Sector: An Overview

This section benchmarks women's representation in the mining and energy sector of Serbia against other economies. It offers a high-level overview of women's current participation in education and employment in Serbia, including patterns of gender-based occupational segregation across the economy, women's participation in leadership roles and technical education associated with employment in mining and energy, and the gender wage gap. This section also considers broader challenges to women's employment in Serbia, including unpaid care responsibilities and workplace sexual harassment.

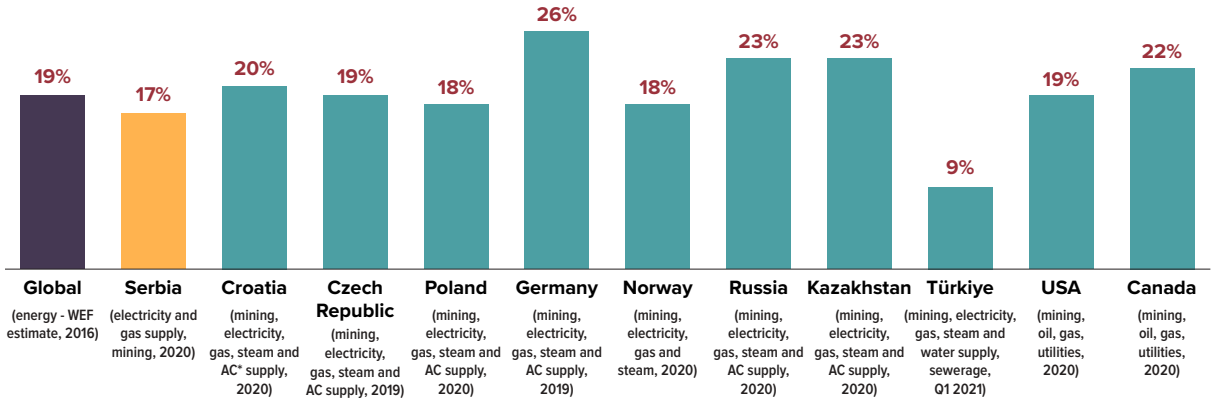
3.1 Benchmarking Women's Representation in the Sector

Women represent 17 percent of the mining and energy sector workforce in Serbia. They account for an estimated 21 percent of the workforce in electricity and gas supply and approximately 13 percent of all employees in mining (Statistical Office of the Republic of Serbia 2021a).

Serbia's mining and energy sector scores slightly below international benchmarks for women's share of total employment (figure 1). According to data from the World Economic Forum (2016), women account for just 19 percent of all employees in the energy sector worldwide. Cross-country comparison of women's employment rates in the sector is problematic given the differences in how national governments define economic sectors and disaggregate data. However, a review of comparator economies shows women's share of employment ranging from 9 percent in the mining and energy sector in Türkiye to 26 percent in Germany, with most national sectors showing female workforce shares of between 18 and 23 percent.

Internationally, women represent a greater share of the workforce in energy, compared with mining. Across the countries reviewed, women accounted for between 20 and 25 percent of most national electricity and gas supply subsectors but just 13 to 18 percent of the workforce in most mining subsectors (figure 2).

FIGURE 1 • Women as a proportion of the energy sector workforce

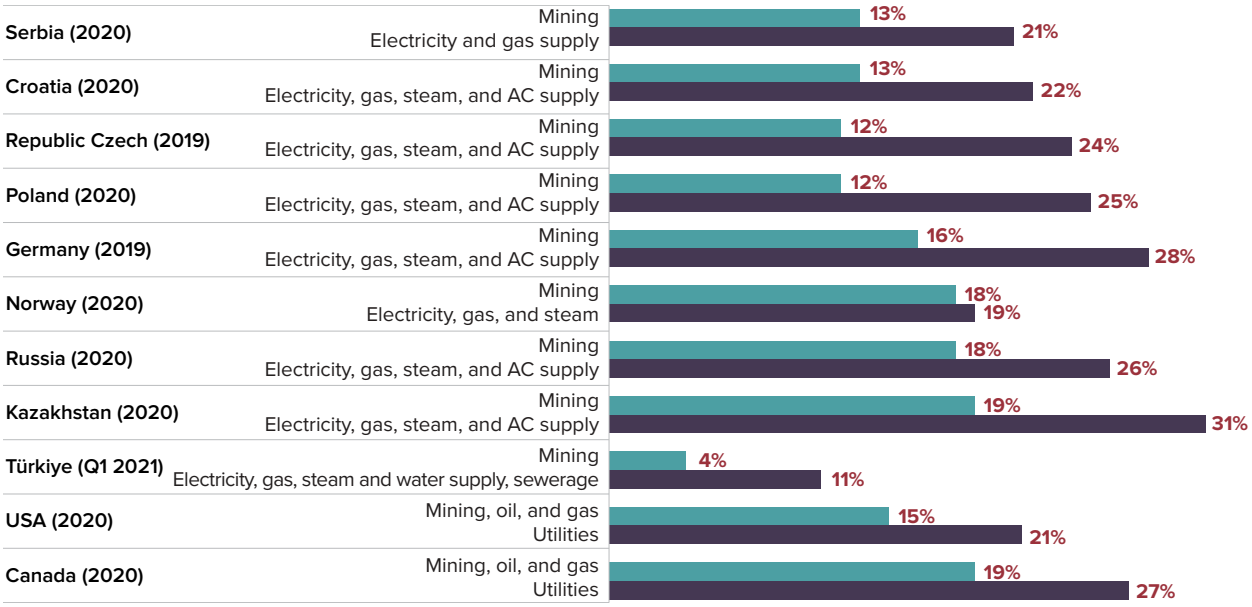


Sources: WEF 2016; Statistical Office of the Republic of Serbia 2021a; Croatian Bureau of Statistics 2021; Czech Statistical Office 2020; Statistics Poland 2020; Federal Statistical Office of Germany 2019; Statistics Norway 2020; Rosstat 2020; Bureau of National Statistics of Kazakhstan 2020; Turkish Statistical Institute 2021; US DOL 2020; Statistics Canada 2020.

Note: In light of differences in national statistical classifications of industrial sectors, it is difficult to find directly comparable national sources on the energy sector. Therefore, figure 1 provides only approximate benchmarks.

* AC = air conditioning

FIGURE 2 • Women as a Proportion of the Workforce in the Mining and the Electricity and Gas Supply Subsectors



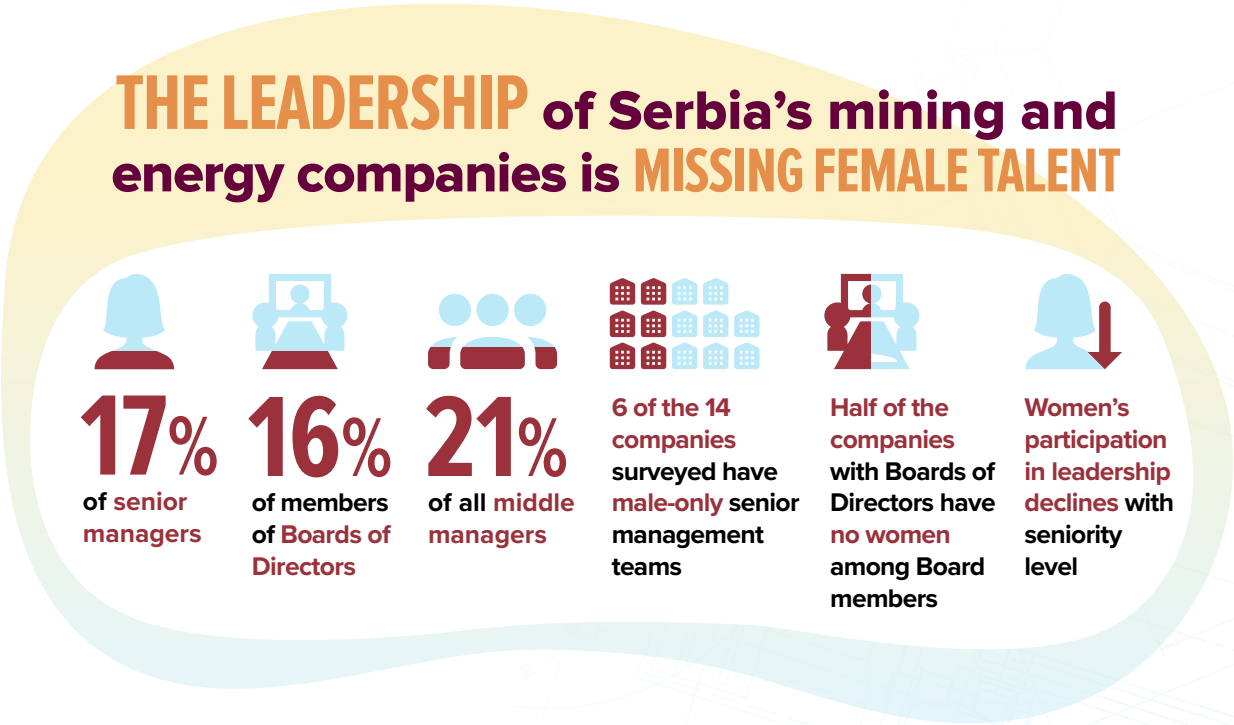
Sources: Statistical Office of the Republic of Serbia 2021a; Croatian Bureau of Statistics 2021; Czech Statistical Office 2020; Statistics Poland 2020; Federal Statistical Office of Germany 2019; Statistics Norway 2020; Rosstat 2020; Bureau of National Statistics of Kazakhstan 2020; Turkish Statistical Institute 2021; US DOL 2020; Statistics Canada 2020.

Note: AC = air conditioning.

3.2 Women are Underrepresented in Leadership and Technical Roles

To some extent, the low female share of the mining and energy workforce is linked to the broader underrepresentation of women in higher-paid industrial sectors, both in Serbia and worldwide (European Commission DG JUST and Krstic 2020; National Gender Equality Strategy 2021). Across the Serbian economy, female employees are predominantly concentrated in healthcare and social work (representing 76 percent of the total sectoral workforce), education (75 percent), and the financial and insurance sector (67 percent), whereas men predominate in construction (92 percent of the total sectoral workforce), transportation and storage (80 percent), manufacturing (61 percent), and information technology (62 percent)—as well as mining (87 percent) and electricity and gas supply (79 percent) (Statistical Office of the Republic of Serbia 2021a).

Evidence suggests that women in Serbia face additional barriers to promotion and advancement in the workplace across all sectors, including mining and energy. As of 2020, women account for 31 percent of all legislators, administrative officials, and managers in Serbia (Statistical Office of the Republic of Serbia 2021a). The European Commission has observed that there is a tendency in Serbia to view men as "more stable" candidates for managerial positions—a stereotype that acts as a barrier to women's access to promotion (European Commission DG JUST and Krstic 2020). Additionally, recent research on the energy sector in central, eastern, and southeastern Europe has highlighted how women often receive less support than men internally to promote their professional advancement, with the result that qualified women are routinely overlooked for consideration for promotion (Beck and Pánczél 2018). For example, promotions to management positions often require support from senior leadership, yet women are less likely to be on the radar of key decision-makers, who are overwhelmingly male. Women's relative lack of access to professional networks and contacts, which are often dominated by men and established through activities that take place outside the workplace, is a key contributing factor.



Women's overall underrepresentation in more highly paid industrial jobs and leadership positions likely contributes to Serbia's wage gap. The national gender wage gap currently stands at 9 percent and is among the highest (15 percent) in electricity, gas, steam, and air conditioning supply—the economic sector offering second-highest average annual earnings (after finance and insurance, where the wage gap is even higher at 20 percent) (Commissioner for Protection of Equality 2021; Statistical Office of the Republic of Serbia 2020b). Notably, the gender wage gap in mining and quarrying is in women's favor, with women's hourly earnings exceeding men's by 6 percent (Statistical Office of the Republic of Serbia 2020b). However, this figure is likely skewed by a small number of highly paid women in the subsector. Indeed, women's median annual earnings in mining and quarrying are lower than men's, indicating that a typical woman in mining and quarrying earns less than a typical man in this subsector (Statistical Office of the Republic of Serbia 2020b).

The government of Serbia has announced its intention to address—and ultimately eliminate—the gender wage gap. The National Gender Equality Strategy (2021) aims to address gender wage gaps in all sectors and increase women's participation in high-paying jobs. Planned measures include legislative amendments, research and analysis, information and awareness-raising campaigns, and cooperation with employers in the public and private sectors. Stakeholders have argued that stronger requirements for wage transparency could aid in closing gender pay gaps by making it easier to identify and subsequently challenge any discrepancies, particularly in male-dominated sectors such as mining and energy (European Commission DG JUST and Krstic2020). Since 2021, this law has required companies to collect gender-disaggregated data on salary and compensation levels.

3.3 Women are Underrepresented in Technical Education Fields

There is evidence that young women and girls in Serbia tend to make educational choices that orient their future careers toward more typically feminized sectors and away from higher-paying sectors such as mining and energy. Data from 2019 show that girls and young women represent 50 percent of pupils in upper secondary education and 57 percent in higher education (Statistical Office of the Republic of Serbia 2020a, 2021b). However, girls and young women represent a significantly lower share of students in technical disciplines associated with employment in the mining and energy sector:

- **In upper secondary education,** girls account for just 34 percent of pupils in geology, mining, and metallurgy and only 10 percent of students in electrical engineering (Statistical Office of the Republic of Serbia 2021b). In contrast, girls predominate in fields such as textiles and leather industry (79 percent), health and social welfare (77 percent), and economics, law, and administration (68 percent) (figure 3).
- **In higher education,** women are underrepresented in both engineering, manufacturing, and construction (39 percent of students) and information and communication technologies (29 percent) (figure 4).

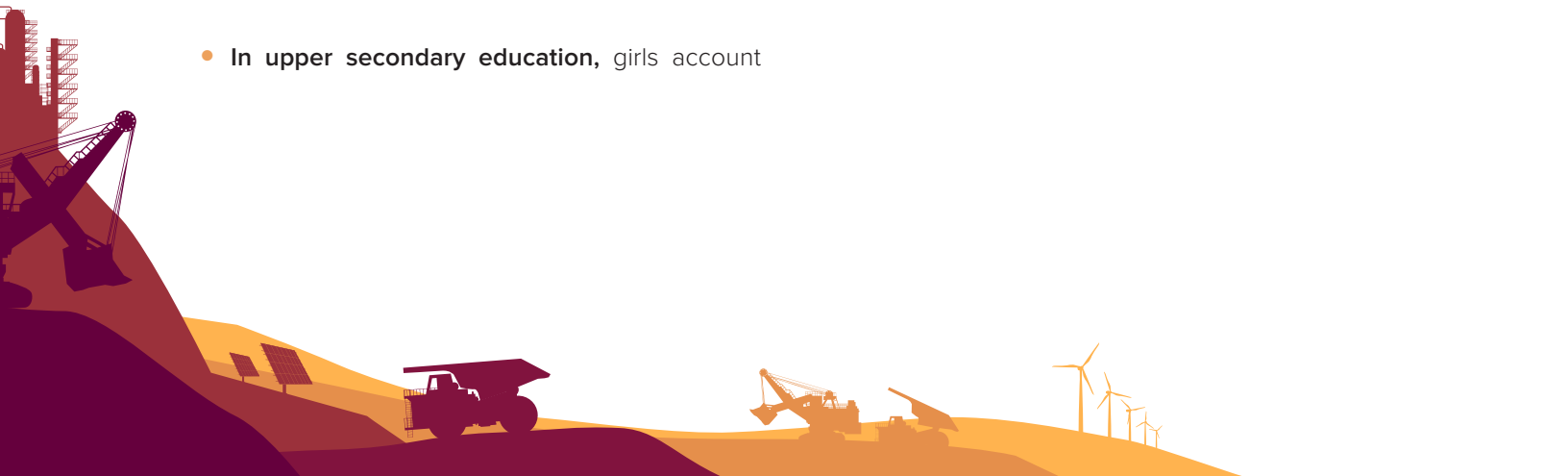
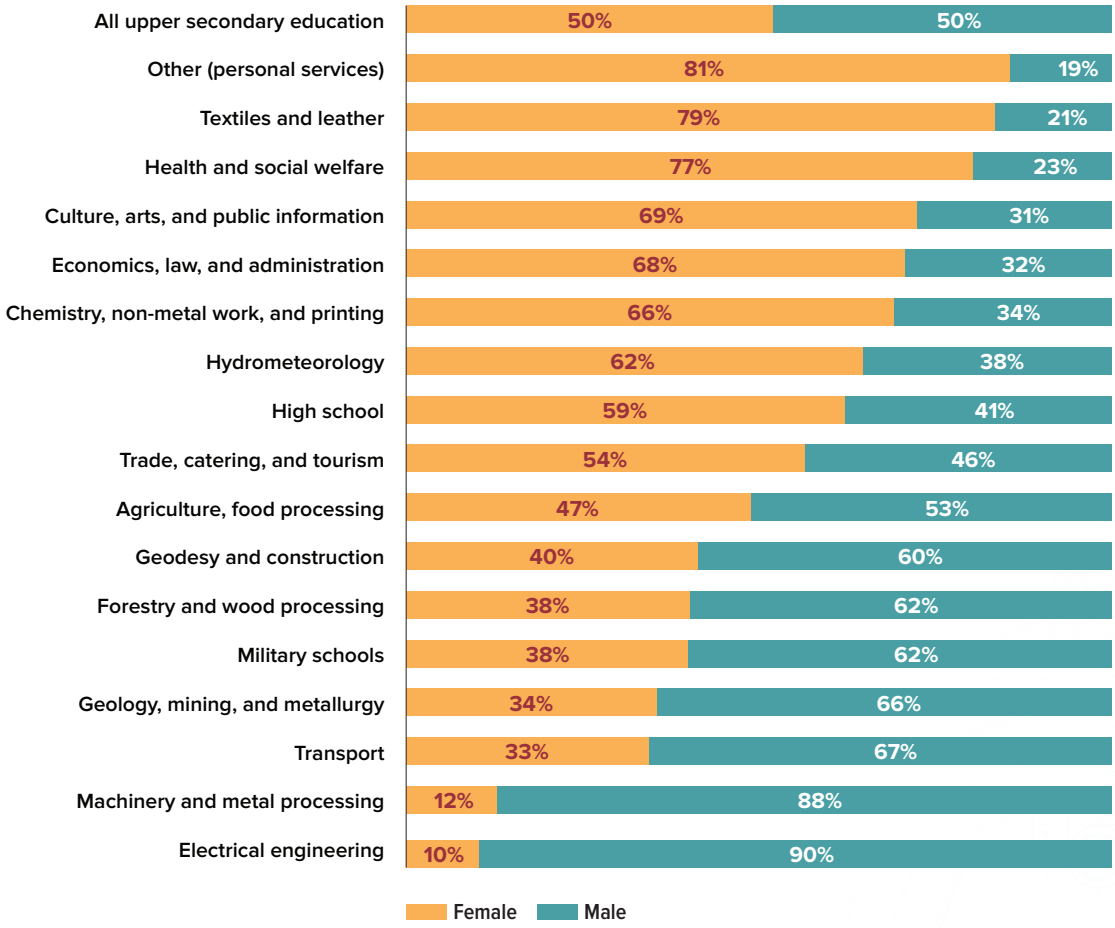


FIGURE 3 • Students in Upper Secondary Education in Serbia, by Gender and Field of Study, 2020



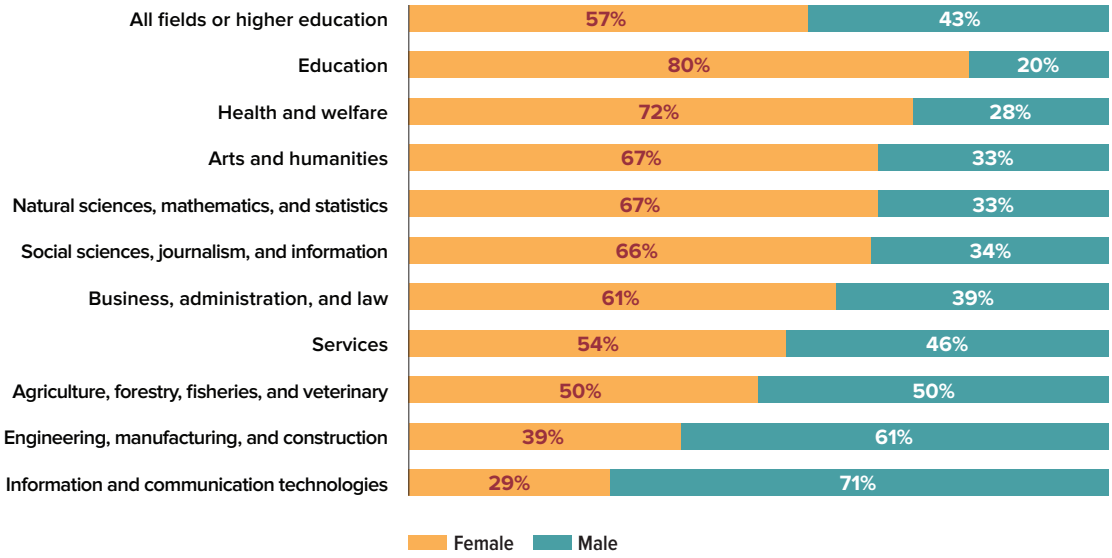
Source: Statistical Office of the Republic of Serbia. 2021. Upper secondary education, start of school year, 2020. Retrieved from: https://publikacije.stat.gov.rs/G2021/XlsE/G20215672.xlsx

WOMEN are UNDERREPRESENTED in technical studies associated with employment in mining and energy

In upper secondary education, women are:
34% of pupils in Geology, Mining and Metallurgy
10% in Electrical Engineering

In higher education, women are:
39% of students in Engineering
39% in Manufacturing and Construction
29% in Information and Communication Technologies

FIGURE 4 • Students in Higher Education in Serbia, by Gender and Field of Study, 2019



Source: Statistical Office of the Republic of Serbia. 2020. Higher education 2019. Retrieved from: https://publikacije.stat.gov.rs/G2020/XlsE/G20206010.xlsx

3.4 Care Responsibilities Likely Shape Women's Career Choices

Women's disproportionate share of family and care responsibilities is likely to affect their career choices across the economy, including in the mining and energy sector. There are strong cultural expectations that women take on primary responsibility for care responsibilities, which can act as a barrier to career progression even if employment requirements and conditions are comparable for women and men in the workplace. It is estimated that Serbian women spend, on average, almost three times more time than men on unpaid caregiving and household work every day (Commissioner for Protection of Equality 2021). A 2018 survey revealed that 55 percent of Serbian men and women hold the view that "domestic household tasks are by nature more appropriate for women" while 61 percent of men and 57 percent of women surveyed agree that "if only one in the couple is employed, it is natural that this should be a man" (Oliver-Burgess et al 2020). Women's care responsibilities have also grown during the COVID-19 pandemic (Commissioner for Protection of Equality 2021; Simić 2021).

Nevertheless, when provided with the right opportunities and support, many women are ready to take on challenges and greater responsibilities at work. While some mothers may prefer to focus primarily on family life, especially while children are young, international energy sector research shows that many women with children are just as interested and willing as men to take on senior roles, relocate, work overtime, and balance these career responsibilities with family life (Beck and Pánczél 2018). Misplaced assumptions that women with children lack flexibility or are unwilling to fulfill the responsibilities associated with senior roles may at times lead qualified female candidates to be overlooked for promotions.

Encouraging a more equitable distribution of care and household responsibilities as a means of increasing women's labor force participation is an important focus of national policy. Under

the new National Gender Equality Strategy (2021), the government envisages additional measures to strengthen the availability of care and support services, work with employers to ensure work-life balance for women and men, and conduct awareness-raising campaigns to encourage men to take a more active role in parenting. For instance, although Article 94 of Serbia's Labor Law (2005) provides that both mothers and fathers can take childcare leave following the birth of a child, the number of fathers choosing to do so remains very low: only 338 Serbian men took paternity leave in 2019 (European Commission DG JUST and Krstic 2020; Simić 2021).

3.5 Gender-Based Discrimination and Sexual Harassment Persist Despite Protective Legislation

Although discrimination in employment is strictly prohibited by Serbian law, there are reports of discriminatory practices across all sectors. The Commissioner for Protection of Equality (2021) reports complaints of gender-based discrimination in labor and employment in 2020, with working women also facing discrimination on grounds of marital and family status. Despite legislative protections, women are frequently asked questions related to marital status and family planning in the recruitment process, with job offers made conditional on postponing pregnancy (Commissioner for Protection of Equality 2021). It is also reported that female employees are reassigned to lower-level or lower-wage positions upon returning from maternity and childcare leave, effectively changing their terms and conditions of employment (Commissioner for Protection of Equality 2015; European Commission DG JUST and Krstic 2020). In addition, employed women are less likely to be promoted than men and more likely to be in fixed-term rather than permanent employment (Commissioner for Protection of Equality 2021). Finding quality employment is particularly difficult for Roma women, women with disabilities, single mothers, rural women, and women with lower levels of education (Commissioner for Protection of Equality 2021).

There is evidence that workplace sexual harassment in Serbia is common but severely underreported. According to a recent survey, 40 percent of Serbian women of working age had experienced at least one form of sexual harassment in the workplace, with every fifth woman (21 percent) having experienced it on more than one occasion (Đan and Vrbaški 2019). Only 17 percent of victims reported sexual harassment to their manager, 8 percent reported it via a formal workplace grievance mechanism, and only 2 percent reported it to the police (Đan and Vrbaški 2019). Fear of losing one's job and the belief that harassment is a "personal" issue that they must resolve by themselves were among the reasons women chose not to report workplace harassment. Interviews revealed that some victims of workplace harassment chose to quit their jobs rather than report it (Đan and Vrbaški 2019). Younger women, single women, and women with short-term employment contracts are particularly vulnerable to sexual harassment at work (Oliver-Burgess et al 2020).

Worldwide, the risk of workplace sexual harassment is higher for women in male-dominated industries such as mining and energy (Hersch 2015; Willness, Steel, and Lee 2007). Sexual harassment and other forms of gender-based violence create a hostile work environment that contributes to higher turnover of female employees and/or women's self-withdrawal from the labor market. As a form of discrimination, sexual harassment in the workplace is also associated with lower overall individual and team productivity (McLaughlin, Uggen, and Blackstone 2017).

4 • Insights from Company-Level Research

This section builds a more detailed picture of the situation of women in Serbia's mining and energy sector. It sets out the findings from company-level research, including quantitative data generated by the company survey and qualitative insights from management interviews and focus group discussions with employees at a smaller number of companies.

4.1 Women in the Workforce: Results of the Survey of Energy and Mining Companies

Results from the survey of fourteen energy and mining companies operating in Serbia provide a detailed picture of women's participation across a substantial subset of Serbia's mining and energy sector companies from 2019 to 2021. The results are based on workforce data from a sample of 14 companies, covering around 50,000 workers. This sample represents approximately 70 percent of the 73,000 people currently employed in the electricity and gas supply and mining and quarrying sectors, according to national statistics (Statistical Office of the Republic of Serbia 2021a).

The findings presented in this section focus primarily on the most recent data as of June 2021. Data from other survey years are included where trends over time are particularly relevant. In most cases, however, workforce data do not vary substantially across survey years. Statistical data gathered as part of the survey is presented in detail in the appendix to this report.

4.1.1 Women are Underrepresented across the Sector

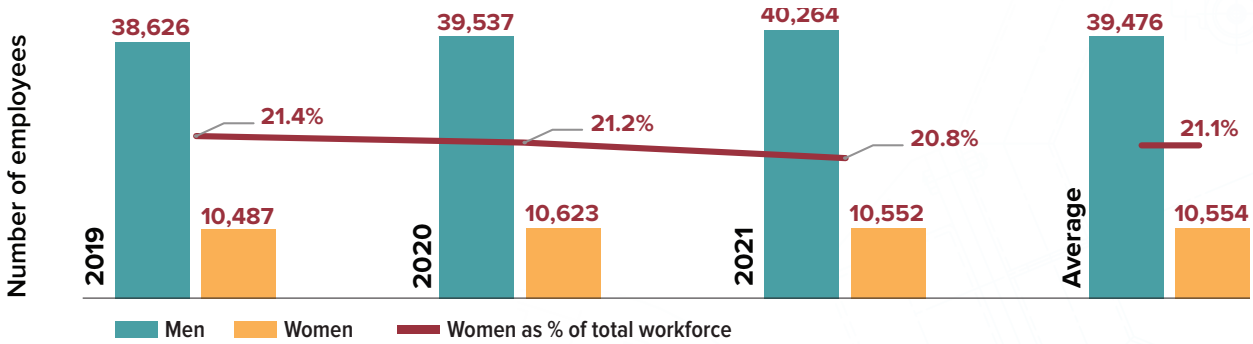
KEY POINTS

- Women account for approximately 21 percent of the total workforce of the surveyed companies.
- Women are underrepresented across subsectors, particularly in coal mining and renewables.
- Women's participation in the sector is somewhat static, with the female share of employment declining slightly in the period from 2019 to 2021.

Overall, women represent around one-fifth of all mining and energy employees in the survey sample. Over the period 2019–2021, the surveyed companies employed 10,554 women and 39,476 men, giving an average female share of total employment of 21.1 percent (figure 5). The total number of mining and energy sector employees grew by 3 percent over the survey period, a net increase of 1,703 workers. However, while the total number of men increased by 4 percent, the total number of women only grew by 1 percent, suggesting that women did not benefit from the sector's growth to the same extent (figure 5). Although the survey period is not sufficient to draw meaningful conclusions about long-term employment trends, the survey data suggest that women's share of employment is static, if not declining slightly.

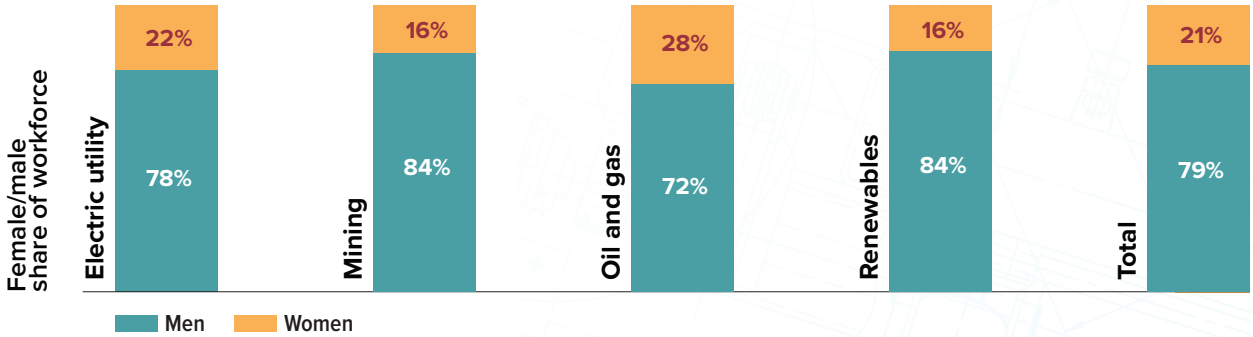
Women are particularly underrepresented in the mining and renewables subsectors. As of June 2021, women account for just 16 percent of all employees in coal mining and renewables compared with 22 percent of the workforce in electric utility and 28 percent in oil and gas (figure 6).

FIGURE 5 • Total Men and Women in the 14 Mining and Energy Companies Surveyed, 2019–2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

FIGURE 6 • Share of Men and Women in the 14 Mining and Energy Companies Surveyed, by Subsector, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

4.1.2 Companies Are Missing Out on Female Talent in Leadership

KEY POINTS

- Women hold 20 percent of all leadership positions.
- Across the sector, women represent 21 percent of middle managers, 17 percent of senior managers, and only 16 percent of members of boards of directors.
- Six of the 14 companies surveyed have male-only senior management teams, and half of the companies with boards of directors have no women board members.
- Women's share of leadership roles is significantly lower than their workforce share in mining.
- Women are particularly underrepresented in management roles in technical and operational business functions, where they account for only 5 percent of senior managers.

The gender makeup of leadership teams in the mining and energy companies surveyed reflects women's underrepresentation in the sector as a whole. Women's participation in leadership (defined as members of boards of directors or having senior or middle management roles)[6] stands at 20 percent, roughly proportionate to their share of the total workforce at 21 percent. Overall, around 8 percent of the women and 8 percent of the men in the sample are employed in a management or other leadership role. The underrepresentation of women in leadership is therefore consistent with the low numbers of women in the workforce as a whole.

Survey data indicate that women's participation in leadership declines with seniority level (figure 7). Women account for 21 percent of middle managers in 2021, a figure that drops to 17 percent at the senior management level. Six of the 14 companies have no women among their senior managers. Similarly, across those companies in the sample that operate with their boards of directors (eight companies), women hold 6 of 37 seats on the boards (16 percent). Half of the eight companies with boards of directors did not have a single woman on the board in June 2021.

Women's participation in leadership is significantly lower than their overall workforce share in the mining subsector and higher than their workforce share in the electric utility subsector (figure 8). Across most subsectors, women's participation in leadership is mostly consistent with their workforce share. However, the proportion of women leaders in mining (11 percent) is significantly below the women's workforce share (16 percent). The reverse trend is observed in the electric utility subsector, where the share of women in leadership and management roles (30 percent) exceeds their workforce share (22 percent).

Women are acutely underrepresented in management roles related to technical and operational business functions. Women account for 13 percent of all nonmanagement employees in technical occupational fields (including energy production, distribution, and mining operations) but represent just 9 percent of middle managers and only 5 percent of senior managers in this occupational category (figure 8). Women are also underrepresented in management roles in business and administration-related functions—representing 47 percent of middle managers and 27 percent of senior managers—but to a lesser degree. Nevertheless, these figures represent a notable decrease from women's share of nonmanagement positions in the same business and administration fields (52 percent).

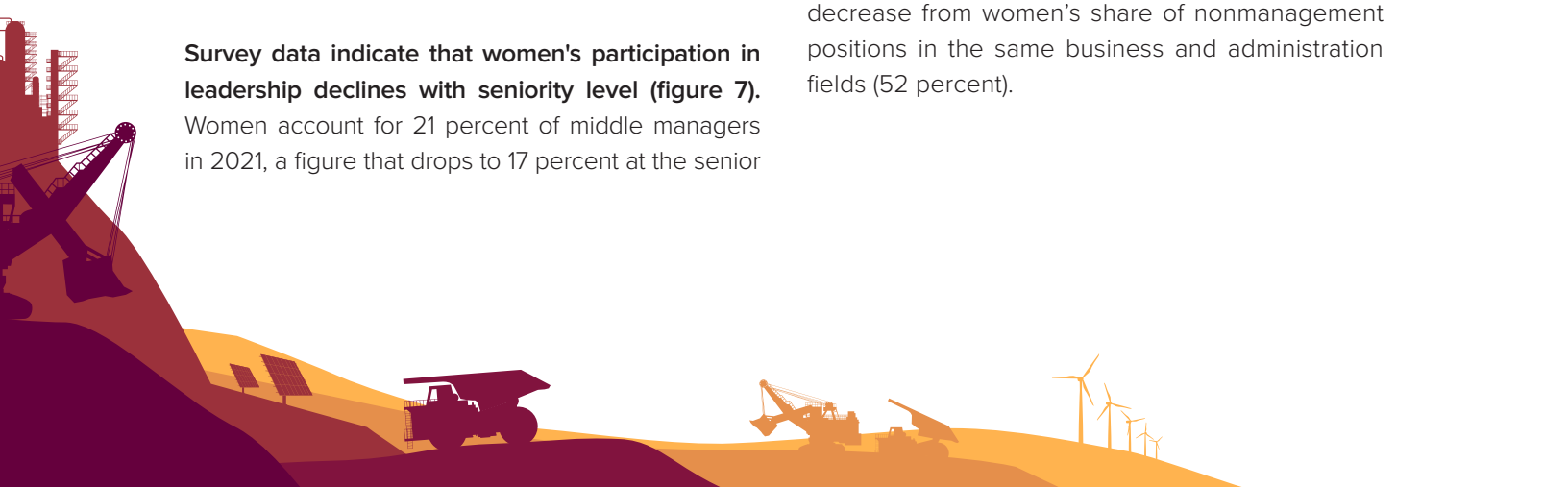
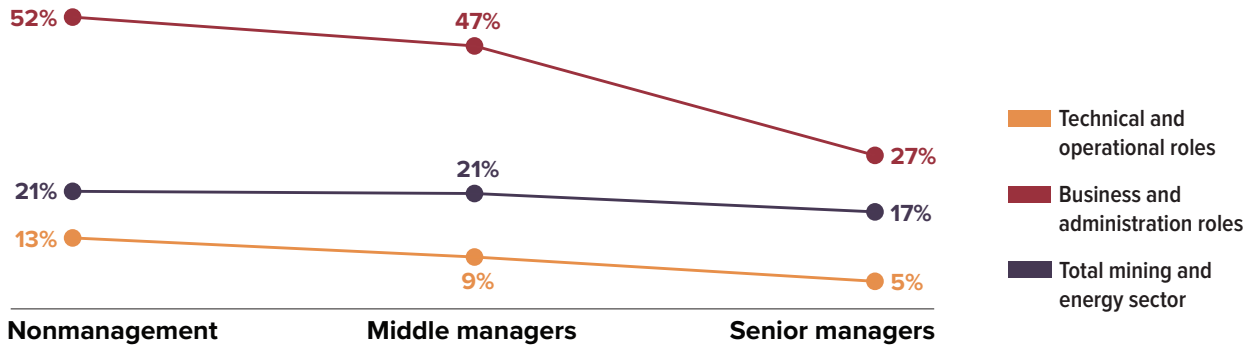
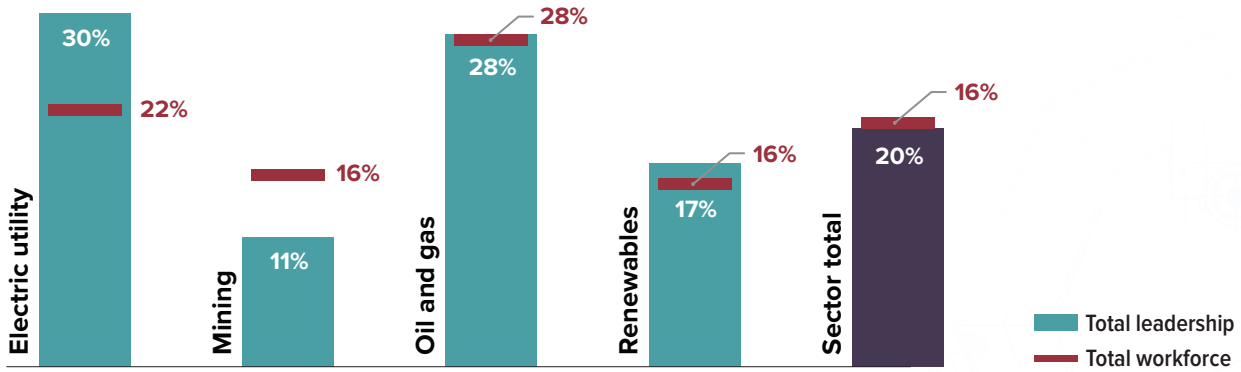


FIGURE 7 • Women's Share of Employment by Seniority and Occupational Category, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.
Note: "Technical and operational roles" are positions in the occupational fields of energy production, distribution, and mining operations. "Business and administration roles" are positions in the occupational fields of administration, legal and finance, and trade and sales.

FIGURE 8 • Share of Women in Leadership Roles by Subsector, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

4.1.3 Women Are Concentrated in Office Roles and Are Underrepresented in Technical and Operations Roles

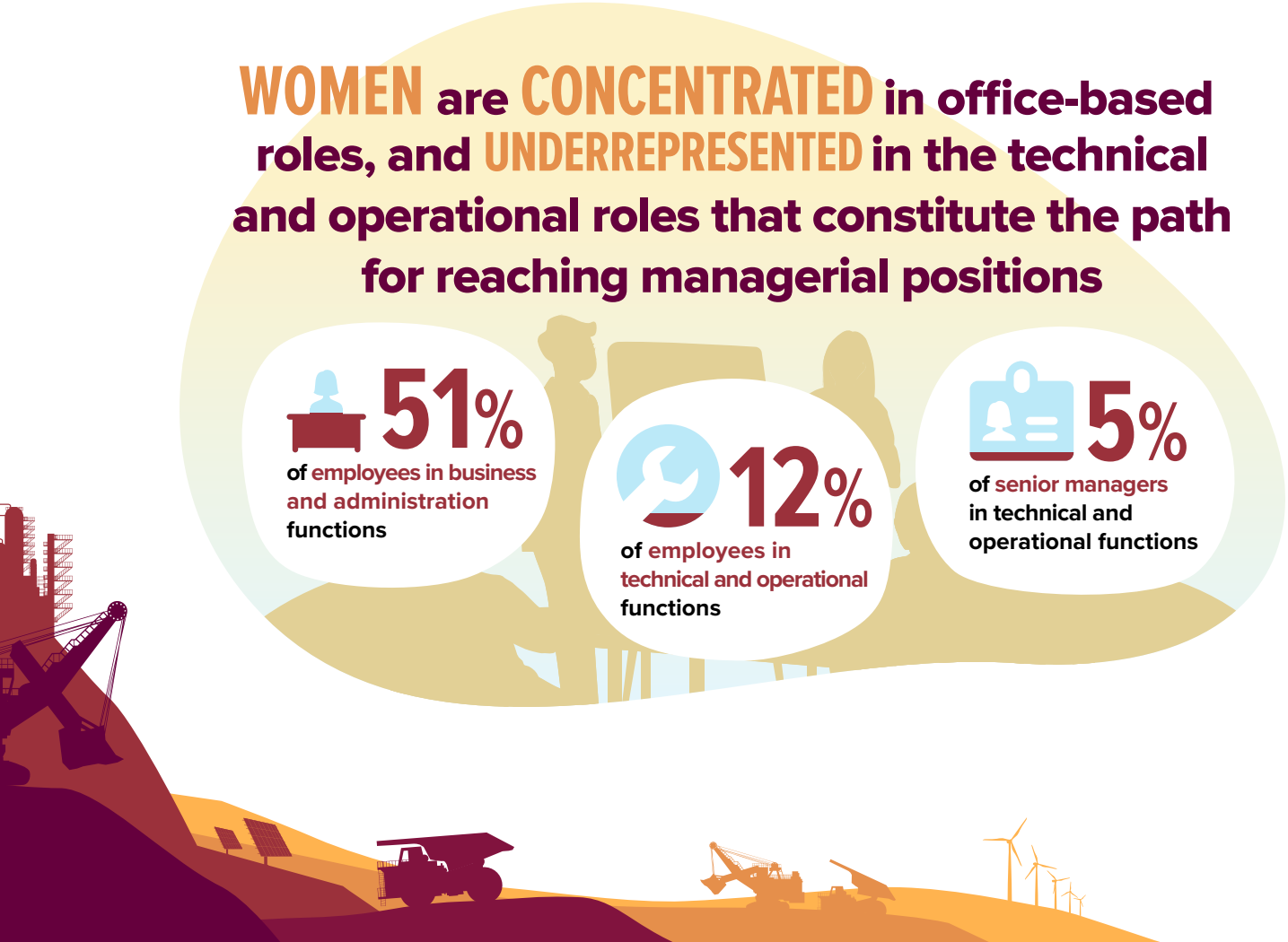
Women are comparatively better represented in occupational fields related to business and administration and underrepresented in technical and operational roles (figure 9). As of June 2021, women represent approximately 51 percent of all business and administration employees (including nonmanagement, middle managers, and senior managers) across the sample (5,036 employees out of a total of 9,861), but only 12 percent of all technical and operational workers (4,517 out of 36,570). Specifically, as shown in figure 10, women account for 45 percent of all trade and sales employees (1,365 out of 3,061) and 54 percent of the administration, finance, and legal workforce (3,671 out of 6,800). By contrast, women make up 18 percent of employees in electricity distribution (1,768 out of 9,996) and just

KEY POINTS

- Women account for 51 percent of all employees in business and administration roles.
- Women represent just 12 percent of the total technical and operational workforce, which represents the greatest source of jobs in the sector, and only 5 percent of senior management in technical and operational business functions.
- When women do work in technical and operational roles, they are more likely to be higher-skilled engineers than men.

10 percent in energy production (525 out of 5,144) and mining operations (2,224 out of 21,430). This pattern of gender-based occupational segregation is significant given that the majority of jobs fall within technical and operational fields. For example, in this survey sample, approximately 72 percent of all employees work in the fields of energy production, distribution, and mining operations.

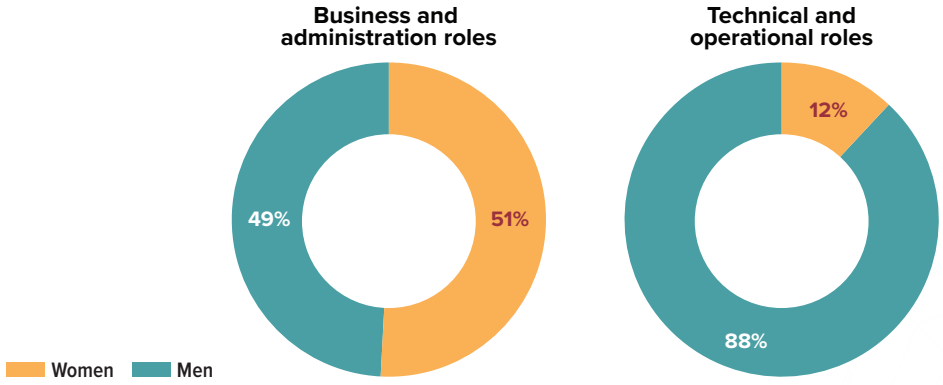
Women's underrepresentation in technical and operational roles is consistent across all levels of seniority. As previously observed (figure 8), women account for 52 percent of all employees in business and administration roles at nonmanagement levels (4,532 out of 8,729) compared with just 13 percent of technical and operational workers at the same level of seniority (4,271 out of 33,842). In middle management, women represent 47 percent of all middle managers in business and administration roles (464 out of 986) but just 9 percent of comparable positions in technical and operational fields (240 out of 2,609). Similarly, women make up 27 percent of senior leaders in business and



administration-related fields (40 out of 146), but only 5 percent of senior management in technical and operational business functions (6 out of 119).

Where women do work in technical positions, they are better represented in highly skilled roles, including engineering. Survey data indicate that a greater share of the female mining and energy sector employees work as engineers in technical fields compared with males. As of June 2021, 13 percent of women in the sample (1,397) are engineers in technical fields compared with 11 percent of men (4,273). Although women account for just 12 percent of all employees in technical and operational fields including energy production and distribution and mining operations, they represent as much as 25 percent of technical engineers across the companies surveyed. Overall, however, technical engineers make up less than a fifth of all technical and operational roles in June 2021.

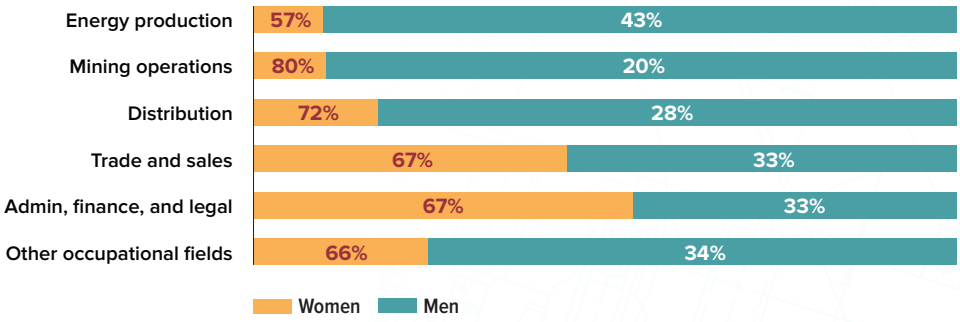
FIGURE 9 • Occupational Categories of Women and Men, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

Note: "Technical and operational roles" refers to positions in the occupational fields of energy production, distribution, and mining operations. "Business and administration roles" refers to positions in the occupational fields of administration, legal and finance, and trade and sales. These figures include management and nonmanagement roles.

FIGURE 10 • Women's Share of Employment by Occupational Field, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

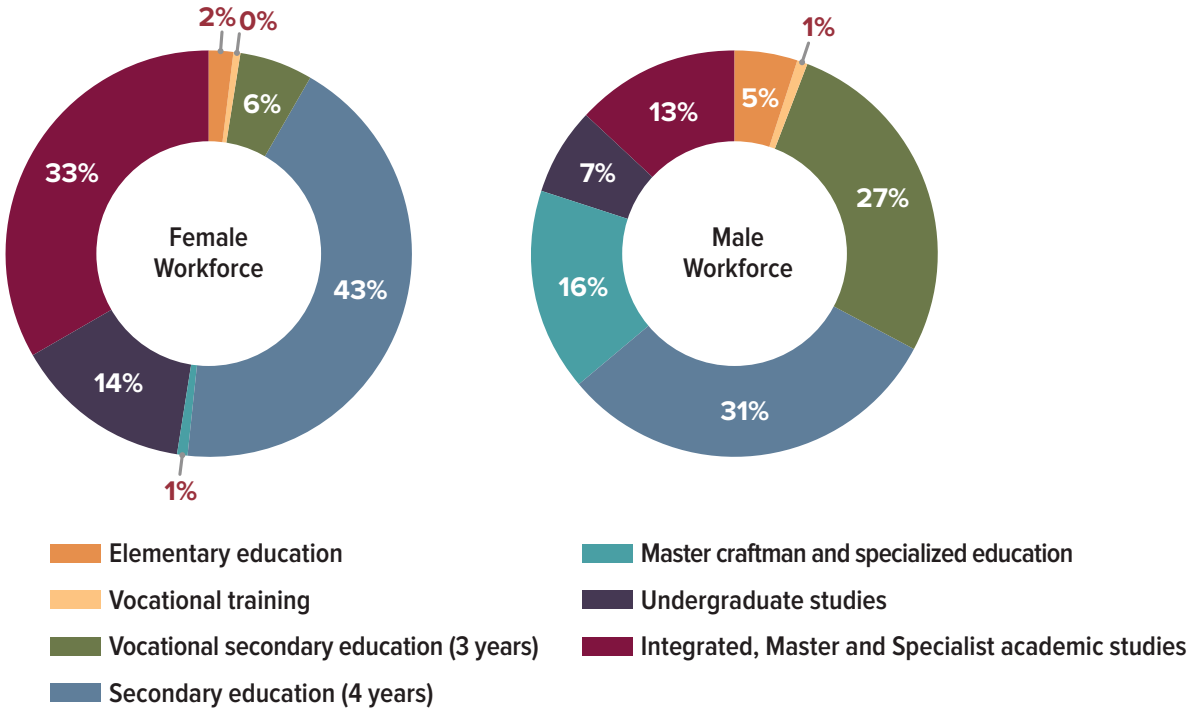
4.1.4 Women in the Sector Have More Education than Men

KEY POINTS

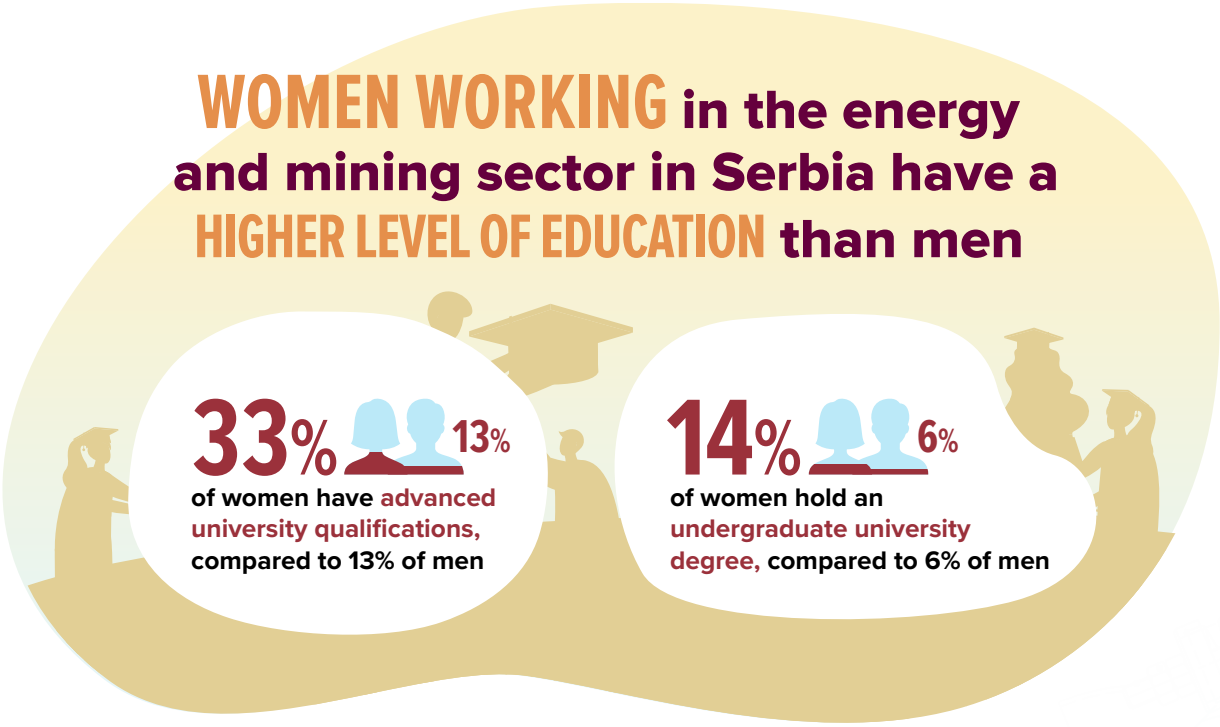
- Thirty-three percent of women working for the mining and energy sector companies surveyed have advanced university qualifications compared with 13 percent of men.
- Fourteen percent of the female workforce holds an undergraduate university degree compared with 6 percent of male employees.

Women employed by the surveyed mining and energy companies typically have higher levels of education than men. For instance, in June 2021, women account for exactly half of all employees with doctoral qualifications.[7] A third of all female employees hold an advanced university degree (integrated, master, and specialist academic studies) compared with 13 percent of males.[8] A further 14 percent of the female workforce holds an undergraduate university degree (or equivalent) compared with just 6 percent of males.[9] However, employees with master craftsman and specialized education comprise a substantially larger proportion of the male workforce (16 percent) than the female workforce (1 percent). Meanwhile, employees with secondary education (four-year) qualifications account for 43 percent of women and 31 percent of men in the workforce, but the percentage of men with vocational secondary (three-year) education (27 percent) is much higher than the equivalent among women (6 percent).[10]

FIGURE 11 • Level of Formal Education, by Gender, June 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.



4.1.5 Recruitment and Turnover Suggest Continued Women's Underrepresentation

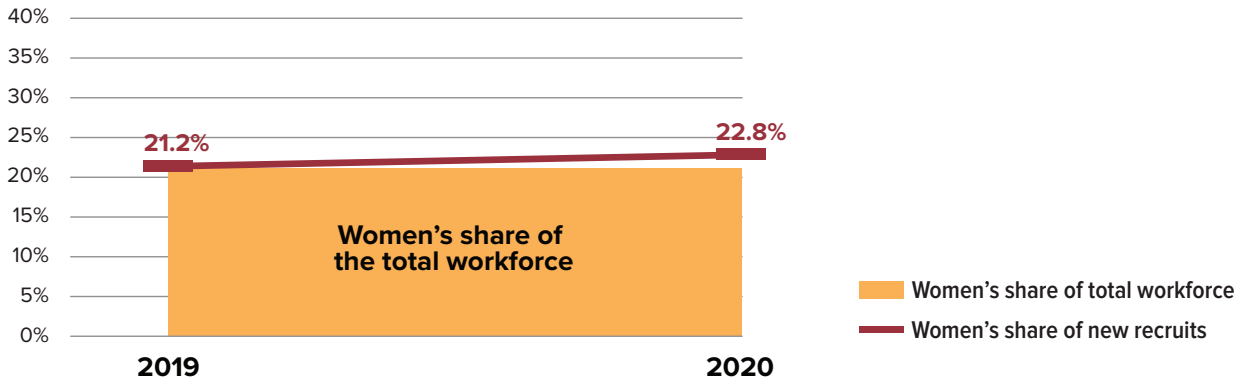
KEY POINTS

- The female share of new recruits grew in 2020 but did not counteract the overall decline in women's share of total employment.
- The turnover rates for women and men are broadly comparable.
- Addressing women's longstanding underrepresentation in the sector requires proactive measures.

Turnover rates for women are broadly comparable with turnover rates for men in the sector. In 2019, women's turnover rate was 4.2 percent compared with 3.9 percent for men. However, companies across the mining and energy sector reported much lower turnover in 2020 compared with 2019, at 2.6 percent for women and 2.3 percent for men (a 39 percent overall reduction in turnover).

Women's share of new recruits increased in 2020 but was not enough to counteract the overall reduction in women's share of total employment in the sector (figure 12). Across the companies surveyed, women's share of all new recruits increased slightly from 21.2 percent in 2019 to 22.8 percent in 2020. Nevertheless, women's share of new recruits only exceeded women's share of the total workforce by less than 2 percentage points in 2020, which has not counteracted the overall reduction in female participation in the mining and energy sector over the survey period (see section 4.1.1). It is therefore unlikely that a slight increase in women's recruitment share will result in positive changes in women's total workforce representation over time. These data highlight the need for proactive measures to address the somewhat static nature of women's engagement in the sector.

FIGURE 12 • Women's Share of New Recruits, 2019 and 2020



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

4.1.6 Companies Could Better Support Women's Employment and Leadership

KEY POINTS

- Only half of all companies have formal gender equality policies.
- Gender equality measures are predominantly focused on legal compliance: less than a third of companies have introduced proactive measures to support women's employment and leadership.
- Flexible working arrangements are available to male and female employees, but few firms report having policies to support care responsibilities or offer maternity/paternity entitlements beyond the legal requirements.
- Only 0.03 percent of men in the sector took paternity leave in 2020.
- Policies and procedures to address workplace sexual harassment are in place at most companies, but little is known about their implementation or the number of complaints received or addressed.

About half of the companies in the sample report having a gender equality policy (figure 13). Gender equality, nondiscrimination, and/or equal opportunity policies explicitly prohibiting gender-based discrimination in employment are reported to be in place in half of the mining and energy companies surveyed (7 out of 14).[11] Six companies reported that the implementation and enforcement of these policies were monitored at country and company levels, and three companies stated they had a designated person or team responsible for gender equality or diversity in the organization.

Few companies take proactive measures to ensure nondiscrimination in recruitment, but there are some examples of good practices. Although half of the companies surveyed report having a policy or explicit commitment to nondiscrimination in recruitment, only two firms provide job interviewers with specific training or guidance on how to conduct interviews to ensure nondiscriminatory outcomes, and only one company had a formal policy to ensure gender diverse interview panels. To improve recruitment outcomes, one company gives preference to female candidates wherever a male and a female candidate have similar experience, skills, and qualifications.[12]

Current GENDER EQUALITY MEASURES in mining and energy companies are predominantly FOCUSED ON LEGAL COMPLIANCE

50% Only half of all companies have formal gender policies

29% of companies introduced additional proactive measures to support women's employment and leadership, e.g. gender-awareness trainings

21% of companies have gender diversity targets

43% of companies conduct employee surveys, but only 29% provide the results in gender-disaggregated format

0% None of the surveyed companies require that women be represented in shortlists for management positions to the extent possible

Less than a third of the firms surveyed conduct gender awareness training for their staff. Only 29 percent of companies in the sample (4 out of 14) reported conducting gender awareness training to help employees and managers understand the impact of gender (including gender stereotypes) on practices and outcomes for women and men at work and familiarize staff with good practices for promoting gender equality in the workplace (figure 13). Initiatives offered in the sector include annual company-wide gender awareness events, gender equality sessions implemented in partnership with labor unions, and dedicated training programs on appropriate workplace conduct.

There is scope to strengthen companies' HR practices to support women's employment and leadership. Gender diversity targets are in place at just three of the companies surveyed (21 percent of companies in the survey sample), only two of which report having an organization-wide monitoring and evaluation system for measuring progress against these targets and communicating them to staff (figure 13). In addition, only two companies in the sample analyze promotions for gender trends, and just one has a policy for gender diversity on the board of directors. None of the surveyed companies requires that women be represented in shortlists for management positions to the extent possible. Finally, although 43 percent of participating companies (6 out of 14) report conducting employee surveys, only 29 percent (4 out of 14) provide the results in a gender-disaggregated format.

Companies fare better when it comes to flexible working policies. Eighty-six percent of the companies surveyed (12 out of 14) report offering flexible work options to their staff (figure 13), with part-time employment and flexible core hours being the most common (offered by 9 companies), followed by options for remote work (offered by 8 companies). Meanwhile, only four companies in the survey sample reported offering flexible work options such as a phased return schedule for parents returning from parental leave or compressed work schedules. Overall, although most companies state that flexible work options were communicated and made equally available to male and female staff, the companies surveyed did not provide data on the use of flexible working arrangements by women and men.

Few companies report policies to support care responsibilities or offer maternity/paternity entitlements that go beyond legal requirements. Only 14 percent of the companies surveyed (2 out of 14) report providing maternity and/or paternity entitlements that go beyond the requirements of national law (figure 13). These include financial compensation beyond the legal requirement and a designated contact point to whom employees can reach out for administrative and other support while on leave. Similarly, just 3 out of the 14 companies surveyed report having formal policies in place to support employees' care responsibilities. Among these is the provision of solidarity assistance to subsidize the cost of childcare and care in the event of a family member's illness, and paid leave of up to 30 days to take care of a family member in cases of illness. None of the companies surveyed reports offering free or subsidized workplace childcare centers or formal partnerships with local care providers.

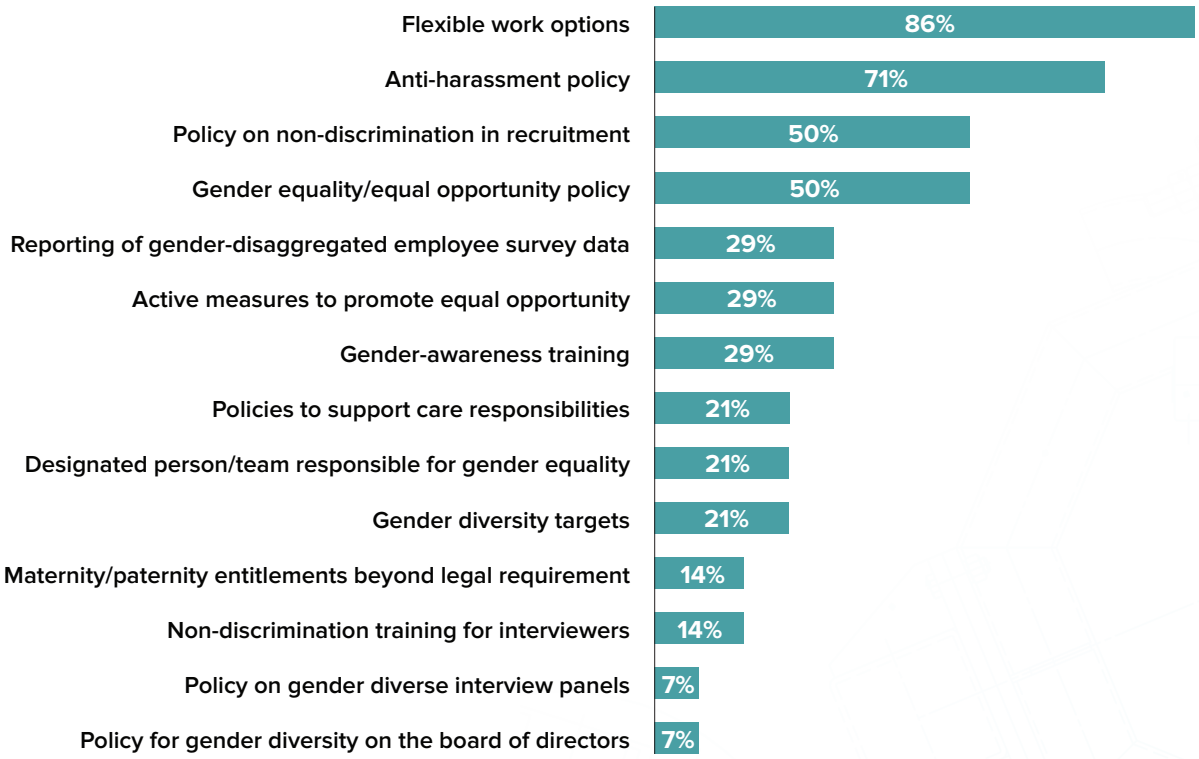
At the same time, survey data indicate that women employed in the sector may be taking on a greater share of care responsibilities compared with men. Across the surveyed companies, the share of female employees who took maternity leave in the 2020 calendar year stood at 4 percent of all women in the sector. In contrast, only 0.03 percent of men took paternity leave. Similarly, despite making up just 21 percent of the total workforce, women account for as much as 87 percent of all employees who took special care leave in 2020. The average number of sick leave days taken by women also exceeds that taken by men. Although the average amount of sick leave taken by both male and female employees increased in 2020 compared with 2019, women saw a sharper growth, with the average number of sick leave days taken by women rising by 4 days (from 18 in 2019 to 22 in 2020), while men's average sick leave increased by only 2 days (from 13 in 2019 to 15 in 2020).[13] The wider disparity between men and women in 2020 could reflect women's disproportionate share of care and family responsibilities, which have grown during the pandemic (see section 3.4).

Policies and procedures to address sexual harassment and gender-based violence are in place at most companies, but little is known about their implementation or the number of grievances submitted (figure 13). Although 71 percent of companies in the survey sample (10 out of 14) report having a formal policy on sexual harassment and 79 percent (11 out of 14) have a dedicated procedure for addressing complaints of sexual harassment, none of the firms surveyed provided data on the number of sexual harassment complaints registered or resolved in the past year, or specified whether employees receive training on the company's sexual harassment policies and procedures. Staff responsible for dealing with complaints are given specialized training on addressing sexual harassment at just two of the companies surveyed. Given that 40 percent of Serbian women of working age are estimated to have experienced at least one form of sexual harassment in the workplace, and that the risk of sexual harassment is generally higher for women in male-dominated industries, it is likely that incidents occurring in the sector remain unreported (see section 3.5) (Đan and Vrbaški 2019; Hersch 2015; Willness, Steel, and Lee 2007).

Less than a third of the companies surveyed (29 percent, 4 out of 14) report any proactive measures to promote equal opportunity and gender diversity in employment and leadership (figure 13). These measures include a range of policies and programs, such as outreach to schools and higher education institutions with a focus on increasing women's participation in the sector (2 companies), leadership and mentoring programs for women (2 companies), conducting gender pay gap assessments (1 company), a women's network or club (1 company), and internal and external events and communications to raise awareness of the importance of gender equality (1 company). None of the companies surveyed offered internships reserved specifically for women. Notably, one company's "Women in Leadership" program, which provides female staff with a platform to share experience and discuss issues related to professional development, has received active support from women employees and is now expanding to include joint events with male colleagues to promote open dialogue and awareness of gender issues in the workplace.[14]

Most health and safety departments employ both women and men, but more could be done to recognize women's health and safety risks in the workplace. Only around a third of the companies surveyed (29 percent to 36 percent) report that their health and safety assessments, policies, implementation plans, training plans, and anti-bullying policies include recognition of different health and safety risks for women and men. Additionally, although 64 percent of companies in the sample (9 out of 14) report that their health and safety department employs both men and women, women make up only 16 percent of the members of health and safety committees across the four companies that provided data. Only one company reported that women's health or safety issues have been raised by its health and safety committee in the past 12 months, specifically in relation to allowing pregnant employees and mothers of young children to work from home during the COVID-19 pandemic.

FIGURE 13 • Share of Companies Reporting Gender Equality Initiatives, 2021



Source: Based on the survey of fourteen energy and mining companies carried out by the authors, 2021.

4.2 Women in the Workforce: Interview and Focus Group Findings

4.2.1 Attractive Employment for Women and Men in the Sector

Male and female employees generally reported high levels of satisfaction with their jobs. Employees reported that they had chosen to work in mining and energy because of the relatively high salaries and benefits offered by employers in the sector. "As a single parent, I chose to work [at my company] because of the job security. Children get a full scholarship in case of a parent's death," said one female focus group participant.

The MINING AND ENERGY sector provides ATTRACTIVE EMPLOYMENT for women and men alike

Both male and female employees report high levels of satisfaction with their jobs

Family tradition and the resultant early exposure to career opportunities in the sector was also an important motivation for women and men. Many women and men chose education and employment in the sector because they grew up in communities with a strong mining tradition or have family members including parents and spouses who work(ed) in the energy sector.

Women and men did not identify direct gender-based discrimination in the sector. In general, employees do not feel that there is direct or explicit discrimination on the basis of gender and believe that women and men have equal opportunities in the sector. Focus group participants spoke of a sense of "solidarity between employees," including during the pandemic, and supportive "organizational culture" toward women with children within their companies.

4.2.2 Barriers to Women Obtaining Technical Roles and Learning about Opportunities

Social norms and gender stereotypes deter young women and girls from taking up technical education. Men and women in technical roles across the sector report that women typically represent a small minority of students in technical studies at universities and technical and vocational education and training (TVET) institutions, particularly in subjects such as mining that have conventionally been considered better suited for men. Women said that they often confronted discriminatory attitudes that discouraged them from technical studies: according to one junior female employee, "People told me that my course—Mechanical Engineering—is for men and that I will never get a job when I graduate." Other young women in technical roles reported that families sometimes actively steer girls away from technical education because they consider that technical fields are not appropriate for women.

Focus group participants believe there is a need to raise awareness of career opportunities in mining and energy to attract more young women and girls to technical education. Focus group participants expressed the view that "more work could be done on career counseling so that children know what opportunities exist and what work really looks like [in the mining and energy sector]." In addition, female employees at one company reported that special events and workshops to allow girls to "see the various positions that they can study for and what their work would look like" had been important in raising awareness of the job opportunities in the sector, and "as a result, they all wanted to go into technical studies." Female focus group participants in managerial and nonmanagerial roles also stated that "it is important to cooperate more with universities, as there is not enough focus on teaching practical skills."

"I am from a mining town and my father worked in a mine, but he insisted that I do not go into the mining sector [or take up related] studies. It was what I wanted, so I did not listen."

– Female Engineer, 25 years old

WOMEN FACE BARRIERS in taking up and advancing in technical and managerial roles in the sector

Social norms deter young women and girls from pursuing technical education and employment

Family and care responsibilities present additional challenges for women's advancement, particularly in operational roles that require working in shifts or frequent overtime

Only 0.03% of men in the sector took paternity leave in 2020

Female employees lack networking opportunities that do not take place outside working hours

When women acquire technical qualifications, they do not necessarily use them to pursue technical or operational roles. Anecdotally, many young women who do graduate from technical studies do not go on to pursue operational roles in the sector, leaving mining and energy companies with few female candidates for recruitment.[15] Focus group participants shared the view that "even when [women] come from technical universities, they try to get jobs in administration because it is less [physically] strenuous," giving an example of a talented female welder who chose a more administrative role in an inspection department over welding.

Women are more likely to choose technical and operational roles that are office-based and involve regular working hours. In coal mining, for example, women are said to be better represented in technical roles in departments tasked with planning and organization, which are predominantly office-based with regular working hours. Few women are engaged in field operations, which involve shift work, frequent overtime, and working in poor weather conditions.[16]

> ***"The best environment to work in is one where there is gender balance. To achieve this, we need more women to take on different kinds of work, including field activities. We cannot just stay in our offices—we have to be in the field too."***
>
> **– Female Engineer, 27 years old**

More could be done to improve working conditions for women and men alike in technical roles, including those in field-based and operational environments. According to one female working in mining, "The main problem is outdated technology. There are such advances in the world today that could make the work much easier and more pleasant." Male and female participants shared the view that working conditions in mines are "extremely harsh," "physically demanding," and "dirty," with limited availability of facilities such as toilets. "Can you

imagine being in the field and not even having a break to go to the toilet?" said one woman. Focus group participants considered that improving working conditions in the field would be beneficial for both women and men in the sector.

Encouragingly, there are growing opportunities to tackle the structural barriers to women's employment in operational roles. For example, the introduction of new technology by companies may open up more opportunities for women through the automation of physically demanding tasks. At the same time, some companies shared plans to introduce HR practices that will allow workers greater choice in balancing family and work responsibilities, such as allowing employees to select their own shifts.[17]

WOMEN NEED ROLE MODELS

There is scope for female employees to act as role models and provide support to each other, including through women's networks

4.2.3 Specific Challenges Facing Women at Management Levels

Some women expressed that they faced disadvantages in applying for leadership roles. Technical and field experience is often seen as a requirement for promotion to leadership roles, putting women—who tend to be particularly underrepresented among workers in the field—at a disadvantage. However, some women felt that qualified female employees with fieldwork experience are still overlooked for promotion to managerial positions. "Women in the mining sector cannot get a promotion, as the criteria for promotion are different for men and women in practice," said one female employee in a technical role.

"I have felt at certain meetings that male senior managers will very instinctively turn to other male colleagues, rather than the women. It's all very subtle."

– Female Senior Manager

Some participants highlighted negative perceptions about women's leadership styles. Most focus group participants agreed that management skills depend more on individual personality than on gender. One female manager stated: "I was a manager of a predominantly male team of workers in the field for 20 years, we had a good relationship, and they never had any issues with me being a woman." However, some men expressed the view that women managers "do not have the courage to make their own decisions, but always have to consult with someone," "are afraid to take responsibility," "[are] not fast or energetic enough for certain positions," and "clash a lot with each other." Additionally, women employees report that female managers without families are often stereotyped as being "less of a woman" and "angry and unsatisfied because they do not have partners."

Care responsibilities may present an obstacle to women's advancement, particularly in operational roles, where work is organized in shifts or requires frequent overtime. A junior female employee in a technical role observed: "I know from my older

[female] colleagues that they do less overtime work than male colleagues because they have obligations at home." An older woman working in mining operations confirmed: "Men do more overtime work, and this creates higher earnings for some of them." Another woman said that she declined two offers for promotion due to potential difficulties balancing work with her care responsibilities as a single mother. At the same time, male managers voiced assumptions about women's family responsibilities, with one male participant stating that he purposefully avoids hiring women in jobs that require shift work and harder jobs "in order to protect women."

Meanwhile, interviews with senior women in the sector highlight that having a supportive spouse can play a pivotal role in enabling women to succeed in their careers. One female manager "only accepted a management position after [her] children grew up because it is hard working alongside having to bring up three children—help from partners and family members is definitely needed." There is some indication that the distribution of domestic work may be changing, however: many male focus group participants reported that they are responsible for some childcare and household tasks, such as taking their children to and from school every day and grocery shopping.

"I think it would be useful for our female colleagues to form some networks across [mining and energy] companies in Serbia. It's also important to ensure that there is more than one woman in certain teams. I find that when there are at least two women in any team, it's easier to attract even more women to join."

– Female Senior Manager

Junior and senior women in the sector suggest that there is scope for female employees to act as role models and provide support to each other, including through women's networks. One female manager noted: "Another problem [...] is the support that successful women give to their female employees. I often feel that such support does not exist." According to another female manager, increasing women's representation in management teams and visibility in the sector as a whole could also play an important role in attracting more women to enter and pursue careers in mining and energy. Similarly, junior female employees in technical roles state they would welcome the "networking of women across the company" and "more opportunities to meet and exchange experiences and provide support."

4.2.4 Creating More Inclusive and Respectful Workplaces

Gender norms and stereotypes impact the allocation of tasks in the workplace. One female middle manager stated: "When I need someone to investigate a mistake, I ask female employees to do it, as women are more analytical. Men are somehow sloppy. However, men are also less complicated and will be quicker to do what needs to be done." Women are often expected to do more of the "office housework," such as administrative and undervalued tasks: for instance, according to one female employee, "washing coffee mugs is expected of women, but then they protest and the men have to do their part." Similarly, a female manager noted that "in the office, women instinctively take on administrative tasks for meetings, like organizing tea/coffee and arranging schedules, even for men who are their peers at work."

Women have to work harder to be accepted into male-dominated teams. Female employees in technical roles report that a key challenge is being "on good terms" with their male colleagues and that they have to work harder to prove themselves to be accepted as part of the team. According to one female middle manager, "when a woman enters a profession that is male-dominated, there may be some rejection from colleagues at first, but very soon it fades away if she is a good worker."

Women and men alike expressed interest in greater support for care responsibilities. Some female employees reported that they had access to flexible working arrangements that supported work-life balance and care responsibilities, such as flexible start and finish times that made it easier for working parents to take children to and from kindergarten. Male and female focus group participants supported the introduction of childcare facilities on company premises. Senior managers noted that "access to childcare can be difficult, especially in smaller communities," while some female employees expressed the view that better access to state-supported childcare 40 years ago gave women at the time much better scope to balance demanding jobs with family responsibilities.

"Every day a thousand of us sit in our cars, go shopping, and prepare food for a thousand children. If there were kindergartens, ten people could go shopping for these children, and ten more would cook for them. It would save a lot of time for everyone—for companies, employees and the state."

– Male Engineer, 46 years old
(on the relevance of having accessible childcare)

Few men take advantage of flexible working arrangements and paternity leave. Although some male focus group participants said they heard of men taking paternity leave, none reported using it themselves. Occasionally, when men had taken paternity leave, it was a strategic decision—for example, to allow the mother to return to work sooner in order to extend a fixed-term contract.

More could be done to provide employees with information and training on sexual harassment. Male focus group participants agreed that certain behaviors were inappropriate and may constitute harassment "if they make a woman uncomfortable" but admitted that they are "not always aware of when this happens" and did not have a clear understanding of what constitutes sexual harassment. Some female employees were shocked to find out there were posters of nude women on the walls of male-dominated technical workshops, while others did not see it as an issue, with one woman in a technical role stating: "It does not bother me. [Male colleagues] respect me a lot and that is the only thing I care about."

"The boundaries between what behavior is acceptable and what is not, are not always clear."

– Male Employee

5 • International Good Practice: Promoting Women's Employment and Leadership

This section provides an overview of selected international good practices at the policy and company levels, covering five key milestones in the employment relationship where women may encounter barriers to participation and advancement (figure 14). Some of the steps outlined in this section respond to specific challenges in the mining and energy sector, while many seek to address wider challenges faced by women in the workplace more generally that also apply to women in the mining and energy sector.

FIGURE 14 • Key Entry Points for Addressing Barriers to Women's Employment, Retention, and Advancement

I. Attraction

- Encouraging women to take up technical education and relevant studies
- Raising public awareness of opportunities for women in the sector
- Shifting gender stereotypes and norms

II. Recruitment

- Introducing recruitment processes that strengthen equal opportunity outcomes
- Incentivizing the recruitment of women

III. Inclusion at work

- Introducing HR policies and procedures that support women and men alike
- Collecting gender-disaggregated workforce data
- Supporting care responsibilities
- Ensuring zero tolerance for sexual harassment

IV. Development and advancement

- Supporting professional and skills development for women, particularly in technical and managerial roles
- Proactively building the pipeline of female talent

V. Leadership

- Increasing the share of women in senior leadership roles
- Expressing support for women's employment and leadership at senior management level

Adapted from: World Bank 2019b; Schomer and Hammond 2020.
Note: HR = human resources.

5.1 Policy Responses

5.1.1 Encouraging Women to Study Science, Technology, Engineering, and Mathematics

In light of the low numbers of women pursuing the studies needed to take up technical roles in sectors such as mining and energy, many governments have introduced labor market policies designed specifically to reduce occupational segregation and encourage women into new professions and fields, especially technical and engineering professions (box 1). Some countries have developed partnerships between government departments, sector associations, and educational institutions to promote women's increased participation in science, technology, engineering, and mathematics (STEM) studies and professions, including through scholarships, internships, and apprenticeships that target and/or are reserved for women. Austria, for example, has introduced a female-specific program that offers certified qualifications through apprenticeships, TVET schools, and universities in nontraditional professions (Kring 2017).

Policy makers have also worked with employers and sector associations to support women's professional development in male-dominated industries such as energy. The United Kingdom (UK), for example, has established the UK Resource Centre for Women in Science, Engineering and Technology, which offers direct expert advice to individuals and organizations on how to access, set up, or improve mentoring and networking schemes to help women access support, develop skills, and make professional contacts (UKRC n.d.). Similarly, government agencies in Canada have partnered with sectoral organizations to advance the role and recognition of women in the renewable energy sector through mentoring, providing networking opportunities, and organizing capacity-building field trips (IRENA 2019). In many contexts, industry awards programs have been used to raise awareness of opportunities for women in technical sectors like energy, encourage employers to improve their work practices, and address barriers to women's employment and advancement in the sector.

BOX 1 • Selected Policy Initiatives to Encourage Women to Take up Technical Studies

- Offering partnerships with employers, sector associations, and educational institutions to promote women's participation in STEM
- Offering scholarships, internships, and apprenticeships for women
- Providing sector-wide mentoring and networking schemes
- Providing industry awards programs

5.1.2 Challenging Social Norms and Stereotypes

Several governments have introduced initiatives to challenge the gendered norms and stereotypes that discourage young women and girls from education and employment in traditionally male-dominated fields such as mining and energy (box 2). Some countries have, for example, revised national educational policies and curricula to ensure materials are free from gender stereotypes concerning fields of study and professions, as well as providing gender sensitivity training to teachers (GWNET 2020; Kring 2017). Similarly, the education ministry in France has partnered with private sector actors to create the Science Ambassador program to encourage more young women to study STEM

subjects by combating stereotypes about scientific fields and providing positive female role models to young people (Clancy and Feenstra 2019).

Governments have also recognized the importance of promoting a more equitable distribution of care and household responsibilities between parents to support women's economic participation. Significantly, many countries have taken steps to extend paternity leave entitlements. According to a World Bank (2019a) analysis, 33 countries have increased paid paternity leave entitlements since 2009, including a significant proportion of countries in the broader eastern European region (for example, Albania, Bulgaria, Georgia, Moldova, Montenegro, and North Macedonia). Some governments have accompanied legislative changes with public information campaigns to encourage men to make use of paternity leave entitlements and promote a more equitable distribution of family responsibilities between men and women more generally (for example, see Barker et al. 2016).

BOX 2 • Selected Policy Initiatives to Challenge Social Norms

- Revising national educational policies and curricula to ensure materials are free from gender stereotypes
- Providing gender sensitivity training for teachers
- Providing positive female role models
- Extending paternity leave entitlements and promoting a more equitable distribution of family responsibilities

5.1.3 Measures to Expand Women's Leadership Opportunities

Increasing women's representation in senior leadership roles has recently been an important focus for many governments (box 3). For instance, many countries have set public targets for women's representation on boards—for example, via corporate governance codes (for example, Pakistan, Poland). Others require companies to disclose information on the gender composition of their management teams and, in some cases, explain any disproportionality (for example, Finland, South Africa, Sweden, and the UK). Several countries have gone further, however, legislating mandatory quotas for women on corporate boards with sanctions in the form of fines and other penalties for noncompliance (for example, Australia, Belgium, France, Germany, India, Italy, and Norway).[18] International research suggests that mandatory gender quotas are significantly more effective than voluntary targets in increasing female board representation: countries that institute mandatory quotas tend to achieve higher levels of women's representation in leadership and do so more rapidly than those which opt instead for the comply-or-explain approach (Emelianova and Milhomem 2019; IRENA 2019).

BOX 3 • Selected Policy Initiatives to Expand Women's Leadership Opportunities

- Requiring companies to disclose the gender composition of their management teams
- Setting public targets or mandatory quotas for women's representation on boards of directors

5.1.4 Strengthening the Legal Framework to Ensure Equal Opportunity in Employment

Many national governments have bolstered existing nondiscrimination laws by adopting more proactive policies and regulations concerning equal opportunity in employment, including in relation to pay (box 4). While many countries have already implemented laws mandating equal pay for women and men engaged in comparable work, national governments are increasingly looking to support this legislation with additional reporting requirements for companies. For example, Serbia and the UK are among many European governments that have introduced legislation requiring companies to report on their gender pay gaps, with a view toward driving more proactive corporate efforts to reduce pay inequality (IFC 2018). Similar legislation has been adopted or is under discussion in other OECD (Organisation for Economic Co-operation and Development) countries (for example, Australia and Canada). The European Commission (2014) has also urged member states to implement measures to aid in pay transparency, including establishing the right to request information on pay levels, issuing gender pay reports, conducting gender pay audits, and discussing the issue of equal pay during collective bargaining.

In addition, a growing number of countries have taken steps to strengthen their legislative regimes around sexual harassment in the workplace, in recognition of the benefits of strengthening women's economic participation. For instance, 35 countries have introduced new sexual harassment laws to protect women at work in the last decade, including several countries in eastern and central Europe (Georgia, Moldova, Montenegro, and North Macedonia) (World Bank 2019a). As part of this global movement to strengthen protection against sexual harassment, the International Labour Organization adopted the Violence and Harassment Convention (No. 190) in 2019, which provides an important reference point for national governments seeking to introduce or strengthen legislation to address sexual harassment and other forms of harassment and violence in the world of work.

BOX 4 • Selected Policy Initiatives to Strengthen Legal Frameworks

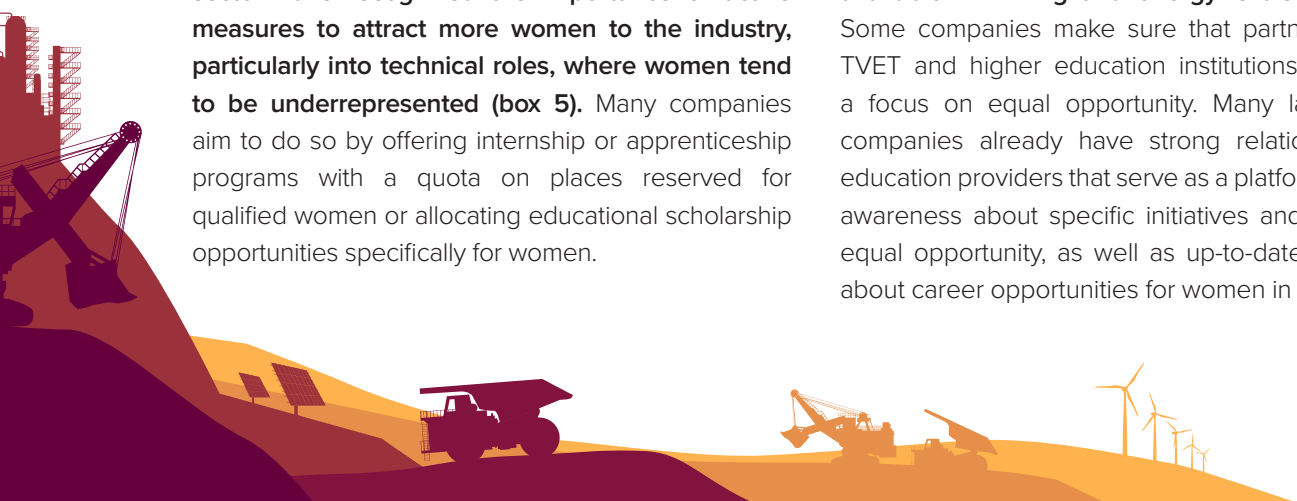
- Requiring companies to report on gender pay gaps and enhancing transparency
- Strengthening the legislative regime around sexual harassment in the workplace

5.2 Private Sector Responses

5.2.1 Attracting Women into the Mining and Energy Sector through Enhanced Outreach

Leading companies in the global mining and energy sector have recognized the importance of active measures to attract more women to the industry, particularly into technical roles, where women tend to be underrepresented (box 5). Many companies aim to do so by offering internship or apprenticeship programs with a quota on places reserved for qualified women or allocating educational scholarship opportunities specifically for women.

Raising awareness of the career opportunities available in mining and energy is also important. Some companies make sure that partnerships with TVET and higher education institutions incorporate a focus on equal opportunity. Many large energy companies already have strong relationships with education providers that serve as a platform for raising awareness about specific initiatives and policies on equal opportunity, as well as up-to-date information about career opportunities for women in the sector.



BOX 5 • Selected Private Sector Actions to Enhance Outreach

- Offering scholarships, internships, and apprenticeships for women
- Incorporating a focus on equal opportunity into partnerships with educational institutions
- Raising awareness through career events for students

Companies such as Germany-based electric utility E.ON choose to include outreach to students at all levels of the education system as part of their equal opportunity strategy (E.ON 2018, n.d.). This may include sending female role models to talk to primary or secondary school students, participating in career fairs, or engaging with on-campus student networks at universities and colleges. This outreach helps to cultivate a positive image of the energy sector and technical and operational roles among girls, young women, and their families, who are often involved in education and career decisions.

5.2.2 Strengthening Recruitment Processes

International mining and energy companies' efforts to increase the share of women in their workforce typically involve upgrading standard recruitment and hiring systems to encourage women to apply and promote equal opportunity outcomes (box 6). For example, some companies include text such as "we welcome applications from women and men" or "we are an equal opportunity employer" in job advertisements, ensuring that the wording of recruitment materials is inclusive, to appeal to women as well as men, and company communications feature images of women and men. This is particularly important for technical or operational positions that women are less likely to apply for, in part because they assume their applications may not be seriously considered or the work is too physically demanding. Additionally, companies such as electricity and gas supplier ScottishPower provide inclusion and unconscious bias training to recruitment managers and ensure that candidate shortlists are gender-balanced (POWERful Women 2020).

Leading mining and energy sector players such as BHP Billiton have also set public targets on women's employment and leadership and backed them up with systematic data collection frameworks to monitor and report on progress (BHP 2019). In fact, studies have found that companies that set gender targets make the most tangible progress toward gender balance and equity compared with those without targets (Hunt, Layton, and Prince 2015). Ensuring that commitment to equal opportunity goes beyond lip service, however, requires that responsibilities and accountability for progress on gender equality are clearly allocated, which may include integrating targets, goals, and measurements into the appraisal process for individual managers, such as by linking progress on gender equality to financial incentives.

BOX 6 • Selected Private Sector Actions to Strengthen Recruitment

- Actively encouraging women to apply and ensuring that recruitment materials are inclusive
- Ensuring that candidate shortlists are gender-balanced
- Providing inclusion and unconscious bias training for recruitment managers
- Setting women's recruitment targets and monitoring progress
- Communicating organizational commitment to and progress on gender equality to the wider public and existing employees

Signaling organizational commitment to gender equality and principles of equal opportunity in public statements by senior leaders and all internal and external communications is also important, not only as part of outreach efforts to potential recruits but also to communicate the commitment to and progress on gender equality for existing employees and the wider public. This includes ensuring that the business case for gender equality is clearly set out and signaled as a business priority and not just a "social issue."

5.2.3 Building an Inclusive Workplace

Leading mining and energy sector companies aim to support women's employment by ensuring that HR policies are gender-sensitive and include an explicit equal opportunity policy, setting out a clear commitment to gender equality in all stages of the employment relationship, including recruitment, training, promotion, pay, parental leave, access to benefits, and termination of the employment relationship (box 7).

In recognition that the uneven distribution of family and care responsibilities is widespread, several mining and energy companies have introduced family-friendly working arrangements for both women and men and encouraged benefits uptake among the male employees. Moreover, energy companies including Schneider Electric and mining and energy sector service provider SAP have sought to re-engage young parents following career breaks through special programs that facilitate their transition back into the workforce, including by offering flexible working arrangements (for example, the possibility for remote or part-time work) and the support needed to refresh and redevelop skills (Beck and Pánczél 2018; GWNET 2020).

Many mining and energy companies have also carried out gender wage audits to ensure that women receive equal pay for work of equal value and take steps to appropriately address any identified gaps. Electricity and gas utility Energy Australia, for example, spent US$0.85 million to boost the pay of 350 women to ensure that women were paid the same amount as men for doing the same job, and the company announced plans to conduct regular reviews to ensure continued pay equality (Morgan 2018).

BOX 7 • Selected Private Sector Actions to Build Inclusive Workplaces

- Ensuring that HR policies are gender-sensitive and having an explicit equal opportunity policy
- Introducing family-friendly working arrangements and encouraging uptake among men
- Reengaging young parents following career breaks
- Conducting gender wage audits
- Supporting ongoing gender-sensitive dialogue and consultation with employees
- Providing guidance and training on sexual harassment

Ultimately, ongoing dialogue and consultation have been important tools in ensuring that the working environment responds to the needs of women and men. Mechanisms for gender-sensitive dialogue and consultation may include having dedicated women's committees or ensuring gender balance on worker-management committees. Staff satisfaction surveys can be an invaluable source of information, as long as data are gender disaggregated. Brazilian hydroelectric company Itaipu has, for example, started its equal opportunity program by conducting a wide-ranging consultation exercise with all employees and subcontractors. The exercise prompted the introduction of various new facilities, such as separate toilets for women and men, as well as flexible working hours to help parents balance work with childcare

responsibilities. The company reports that open dialogue on work-life balance has helped achieve higher levels of employee satisfaction for women and men (Itaipu n.d.).

Ensuring a zero-tolerance environment for discrimination and gender-based violence is another important element of an inclusive workplace. Leading mining and energy sector companies have enacted dedicated harassment protocols that contain definitions of what constitutes sexual harassment, provide practical guidance on how to report harassment, prohibit retaliation against those who report, as well as outline the relevant sanctions and disciplinary measures. To enable the safe reporting of discrimination and workplace sexual harassment, these policies should be accompanied by effective gender-sensitive mechanisms for women workers to lodge grievances and seek support. Some companies also provide ongoing education about behavioral expectations and information about which behaviors are acceptable and unacceptable.

5.2.4 Supporting Women's Professional Development and Advancement

Mentoring and sponsorship schemes play an important role in companies' efforts to support the professional development of their female employees (box 8). For instance, E.ON runs a specific mentoring program for women executives that includes a focus on female junior employees identified as having the potential for leadership positions (E.ON 2018). Such initiatives can increase the visibility of high-potential women with senior leaders while providing women with invaluable opportunities for learning and support.

Women's professional networks operate within companies and across the mining and energy sector, offering women an important platform to connect with others in the sector through formal and informal events and discuss shared experiences and challenges. Such initiatives play an important role in women's career advancement by facilitating female employees' access to personal and professional connections, which can otherwise be limited. The UK's Centrica has its Women's Network, as do many companies, which identifies women employees' needs and provides support through training and skills development (Centrica 2018). Elsewhere, companies are involved in collaborative initiatives through their industry associations and other global and national networks aimed at facilitating contact among and supporting women working in the energy sector.

Companies have also sought to encourage women employees to pursue professional development and advancement opportunities by highlighting successful senior women—including those in nontraditional roles—as role models, sources of inspiration, or templates for career success for more junior women (and men). This is a particularly important strategy in the mining and energy sector, where there are often few women in senior ranks.

BOX 8 • Selected Private Sector Actions to Support Women's Professional Development

- Providing mentoring and professional development programs for female employees
- Offering women's networks and clubs at company-level and beyond
- Highlighting women in senior roles as role models

5.2.5 Expanding Women's Access to Leadership

In addition to supporting women's professional development and career progression more broadly, leading energy sector companies have implemented specific measures to increase the share of women in senior leadership positions (box 9). Oil and gas company Shell, for example, has set a public target for 20 percent of senior management and executive positions to be held by women. In the six years following the announcement, the proportion of women on Shell's board of directors grew from 8 percent to 46 percent, while the number of women in senior leadership positions increased from 16 percent in 2012 to 24 percent in 2018 (Shell n.d., 2019). Other international energy companies aim to ensure that at least one woman is included on candidate shortlists for vacant leadership positions, conditional on meeting core job requirements. These efforts can be aided by tracking the presence of women in the company's talent pool to identify gaps in the talent pipeline (particularly for progression toward senior management) and tracking whether there are high-potential women who may benefit from additional support. Denmark's largest energy company, Ørsted, has also launched a special "Female Spotlight" initiative to support experienced female managers in progressing into senior leadership positions through the creation of detailed professional development plans (Ørsted 2018).

Meanwhile, companies including Australia's energy provider Origin and Hungarian oil and gas company MOL have taken steps to ensure women employees are involved in the initial selection process and represented on interview panels for senior roles (Beck and Pánczél 2018; Origin Energy 2014). More broadly, companies' efforts to ensure clarity, rigor, and transparency in recruitment and promotion processes can help focus new appointments on objective assessments of merit and minimize bias.

BOX 9 • Selected Private Sector Actions to Expand Women's Access to Leadership

- Setting public targets for women's participation in leadership
- Including qualified women candidates on shortlists for promotion
- Tracking gaps in the talent pipeline and providing additional support to high-potential women
- Ensuring gender-balanced interview panels
- Enhancing clarity, rigor, and transparency in recruitment and promotion processes

6 • Narrowing Serbia's Mining and Energy Sector Gender Gap: Recommendations

Serbia's mining and energy sector already employs a significant number of women; however, the results of the company survey highlight that women continue to be underrepresented across all subsectors and there is particular scope to increase their participation in leadership and technical roles. Interviews and focus group discussions demonstrate that women continue to face barriers to employment and progression in the sector, including gender norms that discourage women from taking up technical studies. For Serbia to secure a competitive, productive, and innovative future for its national mining and energy sector, it is crucial for the industry to make the best use of the talents of women and men alike and offer inclusive working environments.

There is evidence to suggest that higher levels of women's participation can potentially lead to substantial gains for mining and energy companies, thereby building a more dynamic and innovative sector. However, to introduce higher levels of gender diversity, the sector needs to address varied, complex, and overlapping challenges, which will require action over a long period. An integrated and collaborative approach is crucial, with the involvement of several actors across the mining and energy sector—including government, private sector, and educational actors—to ensure that the right blend of supportive policies, frameworks, and company-level measures is put into place. Multiple challenges must be tackled concurrently to overcome the barriers to women's education and skills development, employment, and leadership.

This section sets out a series of practical recommendations for policy makers, companies, and the World Bank on how to remove barriers to women's participation and narrow the gender gap in mining and energy in Serbia.

6.1 Recommendations for Policy Makers in the Mining and Energy Sector

Recommendation 1 • Launch an industry coalition with companies to promote women's leadership and employment in the sector.

Successful efforts to grow the share of women in traditionally male-dominated sectors require collaborative action on the part of policy makers, private sector actors, and other stakeholders. To this end, the Ministry of Mining and Energy is well placed to convene a sectoral coalition with the industry's key players to stimulate dialogue and efforts toward ensuring equal opportunity and increasing women's participation in the sector, particularly in technical and leadership roles. Such a body, whether formal or informal, could serve as a platform for companies to share their experiences and raise awareness of good practices, as well as discuss existing challenges and develop strategies for coordinated action in the sector.

The work of an industry coalition could inform and support the development of gender-responsive public policy in the mining and energy sector, as envisaged by the National Gender Equality Strategy. This could include targeted inputs to government efforts—with the support of UN Women—to mainstream gender concerns (including women's leadership and employment) into sectoral policy documents such as the new Energy Development Strategy until 2040 and the Integrated National Energy and Climate Plan for the period 2021–2030 (with projections up to 2050), which is currently under development.

Recommendation 2 • Conduct public awareness-raising campaigns in partnership with education providers and the private sector to highlight opportunities for women in the sector.

Policy makers and government actors such as the Ministry of Mining and Energy should work with educational institutions and companies to encourage and enable more women to take up STEM subjects and technical training programs relevant to the mining and energy sector, in line with the Government's policy goal of increasing women's participation in high-paying jobs (National Gender Equality Strategy 2021). Collaboration between the Ministry of Mining and Energy and the Ministry of Education, Science and Technological Development would also build on the government's recognition of the need for closer coordination on skills and training (Energy Sector Development Strategy (2016)).

Efforts could involve targeted communications and public information campaigns to raise awareness about career opportunities for women (and men) in mining and energy, with consideration given to future skills gaps in the sector, and to dispel prevalent stereotypes around the suitability of technical and operational roles for women. Such initiatives should be pursued in coordination with employers and sectoral associations as well as upper secondary education institutions and universities. Industry involvement in public awareness campaigns is vital to ensure that girls are encouraged to take up fields of study that are closely aligned with employer needs and more likely to lead to jobs that are in demand.

Educational institutions can ensure that employers have access to the necessary channels (for example, student information sessions and career fairs) to ensure that the messaging is correctly targeted at young women. Policy makers might also consult with education providers and companies on providing financial and other direct support (such as co-funded scholarships) for women to study STEM subjects.

Recommendation 3 • Introduce a code of conduct on sexual harassment and provide guidance to help companies ensure inclusive workplaces.

Given that workplace sexual harassment is particularly likely to affect women in male-dominated environments, policy makers could support efforts to protect mining and energy sector employees from

sexual harassment by setting and disseminating regulatory standards for good practices in the industry. The Ministry of Mining and Energy could do so by introducing a code of conduct for the mining and energy sector, providing companies with tailored guidelines for effective actions that prevent, identify, and combat instances of sexual exploitation, abuse, and harassment in their operations. In addition to encouraging companies to adhere to the code of conduct, policy makers could also ensure that the guidelines apply to contractors.

More widely, the Ministry of Mining and Energy and institutions tasked with promoting gender equality in Serbia could play a role in supporting and advising the private sector on equal opportunity in employment, including through the aforementioned industry coalition/platform. For example, the ministry could work with the Coordination Body for Gender Equality to develop guidance to improve companies' understanding of equal opportunity approaches and strengthen compliance with the legal requirements on nondiscrimination, gender-balanced leadership, reporting, and other measures to support women in the sector.

Recommendation 4 • Explore opportunities to work with employers on supporting care responsibilities and work-life balance for women and men.

Policy makers and government actors, including the Ministry of Mining and Energy, could explore opportunities to work with employers on supporting work-life balance and more equitable distribution of family and care responsibilities for women and men in the sector. In line with the objectives of the National Gender Equality Strategy, such measures could involve supporting greater availability of flexible working arrangements in the sector, encouraging employers to introduce policies to support employees' care responsibilities, analyzing existing gaps in the infrastructure and services needed by working parents, and conducting awareness-raising campaigns to encourage more men to share family and care responsibilities.

POLICYMAKERS in the mining and energy sector CAN ALSO DO MORE to support women's employment in the sector

Launch an industry coalition with companies to promote women's leadership and employment in mining and energy

Conduct public awareness-raising campaigns in partnership with education providers and the private sector to highlight opportunities for women in the mining and energy sector

Introduce a Code of Conduct on sexual harassment and provide guidance to help companies ensure more inclusive workplaces

Explore opportunities to work with employers on supporting **care responsibilities and work-life balance** for women and men

6.2 Recommendations for Mining and Energy Companies

Recommendation 5 • Strengthen outreach to attract women into the mining and energy sector, particularly into technical and operational roles.

To tackle the low numbers of women who study in technical fields and subsequently pursue employment in the sector, companies must strengthen their outreach and messaging to girls and women by raising awareness of the wide range of career opportunities available in the sector and projecting a positive image of the employment prospects for women in mining and energy, particularly in technical and operational roles.

Given the persistence of gender stereotypes influencing young women to select courses that lead them into more traditionally female occupations and sectors, awareness-raising activities need to emphasize a diverse range of roles that are open to women in mining and energy and challenge negative social and cultural norms that lead to gender-based occupational segregation.

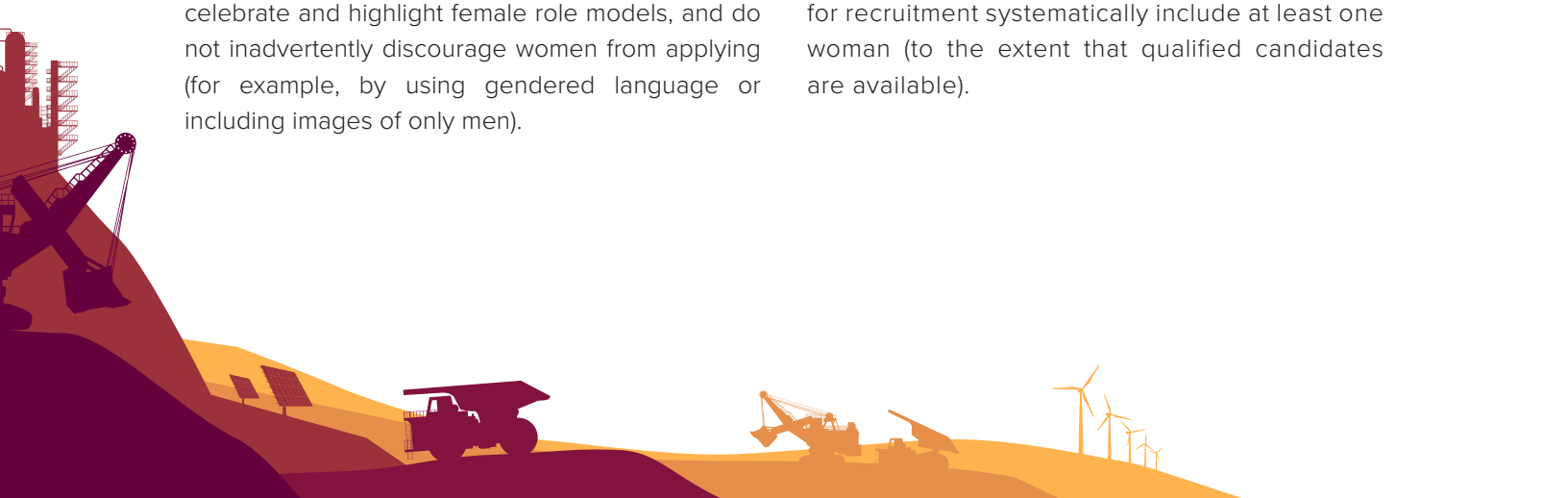
Active measures could include:

- Scholarships and internships targeted at women (particularly in technical roles);
- Partnerships with universities or TVET institutions to publicize opportunities for women; and
- Outreach programs to primary and secondary schools with an equal opportunity element.

Recommendation 6 • Implement measures to strengthen equal opportunity outcomes in recruitment.

Companies seeking to increase the share of women employees in their workforce need to ensure that their recruitment processes actively seek female applicants, promote equal opportunity, and counter stereotypes about the sector. This could include giving particular attention to all external communications concerning recruitment (such as job advertisements or careers pages on company websites) to ensure that materials clearly state the company's commitment to equal opportunity, celebrate and highlight female role models, and do not inadvertently discourage women from applying (for example, by using gendered language or including images of only men).

Improved working conditions could also make fieldwork more attractive to talented candidates, as well as benefit existing staff. Any changes to working conditions as a result of modernization and automation should be clearly reflected in job descriptions and other recruitment materials to correct misperceptions about certain jobs in the sector, especially in relation to technical and operational roles. Additionally, companies could choose to adopt a policy to ensure that shortlists for recruitment systematically include at least one woman (to the extent that qualified candidates are available).



Recommendation 7 • Adopt measures to support women's professional development, increase the share of women in senior leadership, and build the pipeline of female talent in the company and the industry as a whole.

Serbia's mining and energy companies cannot afford to neglect women's leadership: international studies consistently demonstrate the business benefits associated with higher levels of gender diversity in leadership roles, including more robust decision-making, enhanced innovation, and increased profitability. Having more female leaders can also have a positive transformative effect on women's participation in the sector by providing other women with role models and creating a more inclusive environment within individual companies and the sector more broadly.

To support women's participation in leadership, companies might consider whether it is possible to expand traditional selection criteria so that more women can be included on shortlists for management roles without compromising on the core requirements of the job. Similarly, companies should review their succession plans to ensure that women are expressly factored into the leadership pipeline and given exposure to the kinds of assignments that will increase their suitability for leadership roles. Companies may also wish to review their promotion and development processes to ensure that both are truly objective and merit-based, with no room for unconscious bias or misplaced assumptions about women's professional goals or family responsibilities. Where appropriate, companies could consider introducing targets for women in management, in line with strategies adopted by many international energy companies. Moreover, expanding the numbers of women in technical roles could increase the pool of candidates for promotion to management positions.

To develop their pipelines of female leaders, mining and energy companies must ensure that women employees have equal access to professional development, mentoring, and training opportunities. In some cases, this means introducing dedicated leadership or mentoring programs for women. Internal professional networks for women can provide networking opportunities and act as consultative bodies within companies and at the sectoral level. Sectoral associations play a particularly important role in supporting women's professional development in subsectors where companies tend to be small businesses, such as the renewable energy sector. The Female Network of the Association of Renewable Energy Sources of Serbia, for example, has the potential to serve as a valuable platform for intrasectoral mentoring programs.

Recommendation 8 • Invest in creating safer and more inclusive working environments that respond to the needs of women and men alike.

To attract and retain more women, mining and energy sector companies need to make sure that they create and maintain safe and inclusive working environments that respond to the needs of women and men. All energy companies should have measures in place to ensure a respectful workplace, including a zero-tolerance environment for discrimination and gender-based violence, and gender-sensitive mechanisms for women workers to lodge grievances and seek support. While discrimination and sexual harassment can be extremely sensitive subjects to address, they can arise in all sectors, countries, and occupations and should not be ignored or underestimated, as they create a hostile working environment for women.

Companies could also consider how they can introduce policies and practices to support work-life balance for women and men, including support for

care responsibilities. While recognizing that women are most likely to be caregivers, interventions on work-life balance and family-friendly working arrangements should support both women and men in caring for dependents. This should include encouraging men to use their paternity and childcare leave entitlements.

While Serbia's labor law contains important provisions on nondiscrimination and protections in the workplace, companies may review their HR policies to identify opportunities to go beyond basic legislative compliance (for example, to strengthen family-friendly working arrangements, introduce childcare facilities, or strengthen policies to prevent and address workplace sexual harassment). Where possible, any new changes or initiatives should be developed in consultation with existing female employees to understand their priorities and concerns and should be accompanied by frameworks for measuring results. Indeed, companies that have strong (gender-disaggregated) data collection frameworks are better positioned to understand how they can make progress on gender equality and provide concrete evidence of change.

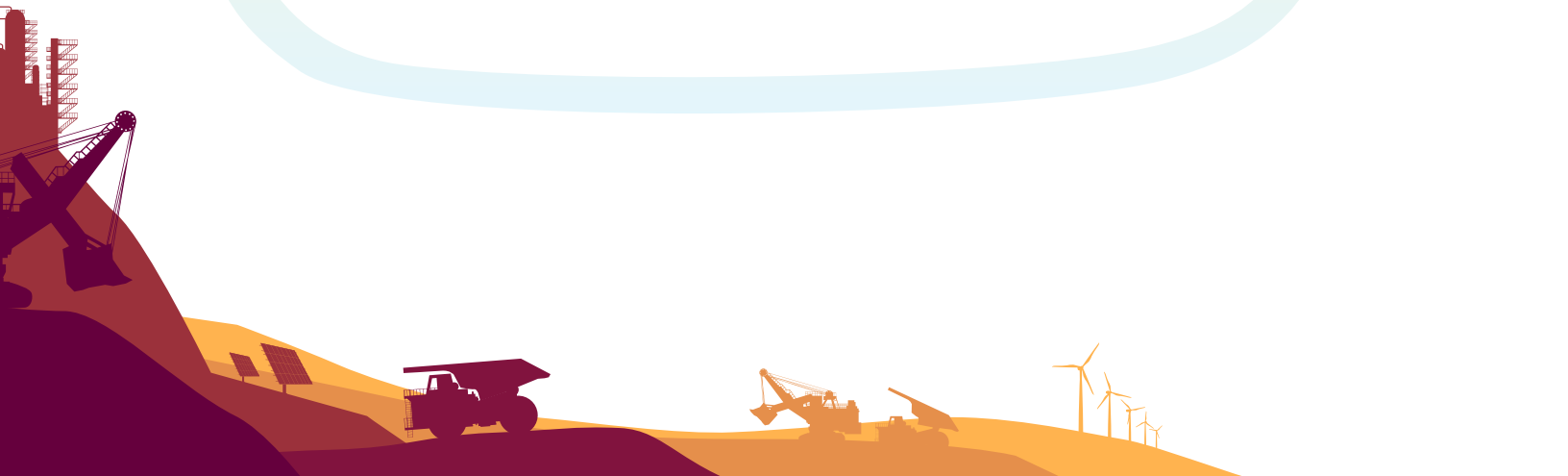
COMPANIES in the mining and energy sector CAN DO MORE to support women's employment and leadership in the sector

Strengthen outreach to educational institutions to attract women into the mining and energy sector

Adopt measures to support women's professional development and increase the share of women in senior leadership

Invest in creating safer and more inclusive working environments that respond to the needs of women and men alike

Do more to prevent and address sexual harassment in the sector



6.3 Recommendations for the World Bank

Recommendation 9 • Support policy dialogue and collaboration between mining and energy sector actors on women's employment and leadership, including through World Bank-financed projects.

The World Bank has an important role to play in supporting and amplifying the impact of Serbian government and private sector initiatives to increase women's employment and leadership in the mining and energy sector. World Bank-financed projects provide a good platform to support these efforts in Serbia.

The World Bank could support dialogues and collaboration between sector stakeholders, including government and private sector actors. This could include providing inputs to new industry initiatives (such as the industry coalition/platform on women's employment and leadership) by sharing experiences and examples of good practices at the international level. More broadly, World Bank-financed projects could support the Ministry of Mining and Energy and other stakeholders with organizing public awareness campaigns on the careers available in the sector as well as cooperate with stakeholders on the development of a targeted internship program for women.

Endnotes

1 Section 2 contains more detailed information regarding Serbia's mining and energy sector and its projected development, and outlines the business case for gender diversity in the sector.

2 Section 5 provides a more detailed review of international experience concerning legal and policy initiatives to support women's increased labor market participation and remove barriers to women's employment across all sectors of the economy, including mining and energy.

3 Responding companies provided annual workforce data for 2019 and 2020 and comparable data for the first six months of 2021.

4 According to interviews with government stakeholders, November 2021.

5 According to interviews with government stakeholders in November 2021, the action plan to implement the National Gender Equality Strategy in the period 2021–2023 was in the process of being drafted.

6 For the purposes of the company survey, the term "board of directors" includes all members of the board of directors or supervisory board, including independent directors. "Senior management" refers to the top tier of management. This may include the chief executive officer or general director and heads of subsidiaries and representative offices registered as legal entities. Senior management may also include individuals who are not members of the board (for example, vice-presidents, executive directors, managing directors, etc.), as well as heads of subsidiaries and representative offices that are separate structural divisions of legal entities. It may also include deputies of senior managers. "Middle management" (also other management) refers to the next level of management in the organizational structure below senior management (for example, heads of departments/sites).

7 "Doctoral" qualifications refer to Doctoral studies (DS, 180 ECTS).

8 "Integrated, master, and specialist academic studies" includes the following qualifications: Integrated academic studies (IAS, max. 360 ECTS), master academic studies (MAS,180+120 or 240+60 ECTS), master applied studies (MAS, 120 ECTS), and specialist academic studies (SAS, 60 ECTS).

9 "Undergraduate studies" includes the following qualifications: undergraduate studies (BUS, 180 ECTS), basic applied studies (BAS, 180 ECTS), undergraduate studies (BUS, 240 ECTS), and specialist applied studies of I degree (SAS, 180+60 ECTS, acquired in accordance with the Law on Higher Education which entered into force on October 7, 2017).

10 "Secondary education (four-year)" refers to secondary education of four years' duration (vocational, artistic, secondary school), while "vocational secondary (three year)" refers to vocational secondary education of three years' duration and informal education of adults (minimum 960 hours of training).

11 As a stand-alone policy or a separate section of human resources or other corporate policies (for example, part of employee handbook or collective agreement).

12 According to interviews with HR staff of mining and energy companies, September 2021.

13 Findings reflect the average number of sick leave days across all women and men working in the 12 mining and energy sector companies that provided sick leave data.

14 According to interviews with HR staff of mining and energy companies, September 2021.

15 According to interviews with HR staff of mining and energy companies, September 2021.

16 According to interviews with senior management of mining and energy companies, September 2021.

17 According to interviews with senior management of mining and energy companies, September 2021.

18 The European Commission proposed a bloc-wide directive to set quotas for women on boards in 2012. However, because of opposition from some member states, the development of the proposal has stalled, although there are indications of renewed interest in advancing the initiative (Rankin 2020).

Appendix A. Tables

The tables in this appendix present statistical data gathered through a survey of 14 companies in Serbia's mining and energy sector.

The project team acknowledges the important contribution of the following companies who provided workforce data for the survey:

Beo Čista Energija d.o.o. Beograd
Crni Vrh Power d.o.o. Žagubica
Elektrodistribucija Srbije d.o.o. Beograd
Elektromreža Srbije
Energogreen D.O.O.
JP Elektroprivreda Srbije
New Energy Solutions LTD.
NIS AD Novi Sad
PE UCE Resavica
Rio Sava Exploration d.o.o.
Serbia Zijin Cooper d.o.o. Bor
Suez Vinča Operator d.o.o.
Transnafta Pancevo
Vetroelektrane Balkana d.o.o.

The project team is grateful to JP Elektroprivreda Srbije, PE UCE Resavica, and Rio Sava Exploration for their additional collaboration in providing for focus group discussions with employees, and to senior management and human resources staff at JP Elektroprivreda Srbije and Rio Sava Exploration for their participation in key informant interviews.

TABLE A.1 • Employees by Gender, 2019–21

	2019	2020	2021
Women	10,487	10,623	10,552
Men	38,626	39,537	40,264
Total	**49,113**	**50,160**	**50,816**

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.2 • Employees by Role, Subsector, and Number of Women, June 2021

		Electric utility	Mining	Oil and gas	Renewables	Sector total
Members of boards of directors	Total	7	7	19	4	37
	Women	2	2	2	0	6
Senior managers	Total	132	53	116	10	311
	Women	26	2	24	1	53
Middle managers	Total	1,094	1,908	705	141	3,848
	Women	345	217	212	26	800
Nonmanagement	Total	16,407	18,870	10,196	1,174	46,647
	Women	3,489	3,189	2,910	178	9,766

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.3 • Employees by Category, Field, and Number of Women, June 2021

Occupational category	Occupational field	Senior managers		Middle managers		Nonmanagement		Total workforce	
		Total	Women	Total	Women	Total	Women	Total	Women
Technical and operational	Energy production	19	3	265	31	4,860	491	5,144	525
	Mining operations	41	-	1,827	104	19,562	2,120	21,430	2,224
	Distribution	59	3	517	105	9,420	1,660	9,996	1,768
Business and administration	Trade and sales	11	1	138	37	2,912	1,327	3,061	1,365
	Admin, finance, and legal	135	39	848	427	5,817	3,205	6,800	3,671
Other		40	7	249	91	4,093	1,003	4,382	1,101

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.4. EMPLOYEES BY CONTRACT TYPE AND GENDER, JUNE 2021

	Women	Men	Total
Employees with permanent contracts	8,597	33,573	42,170
Employees with fixed-term contracts	2,068	5,435	7,503
Workers engaged through contracting companies	38	95	133

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.5 • Engineers in Technical Fields by Gender, June 2021

	Women	Men	Total
Engineers in technical fields	1,397	4,273	5,670

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.6 • Union Members by Gender, June 2021

	Women	Men	Total
Union members	6,821	27,918	34,739

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.7 • Employees with Disabilities by Gender, June 2021

	Women	Men	Total
Employees with disabilities	60	574	634

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.8 • Employees by Age and Gender, June 2021

Age group	Women	Men	Total
Under 30	956	3,954	4,910
30 to 39	2,482	9,750	12,232
40 to 49	2,893	12,175	15,068
50 to 59	3,349	12,094	15,443
Over 60	874	2,288	3,162

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

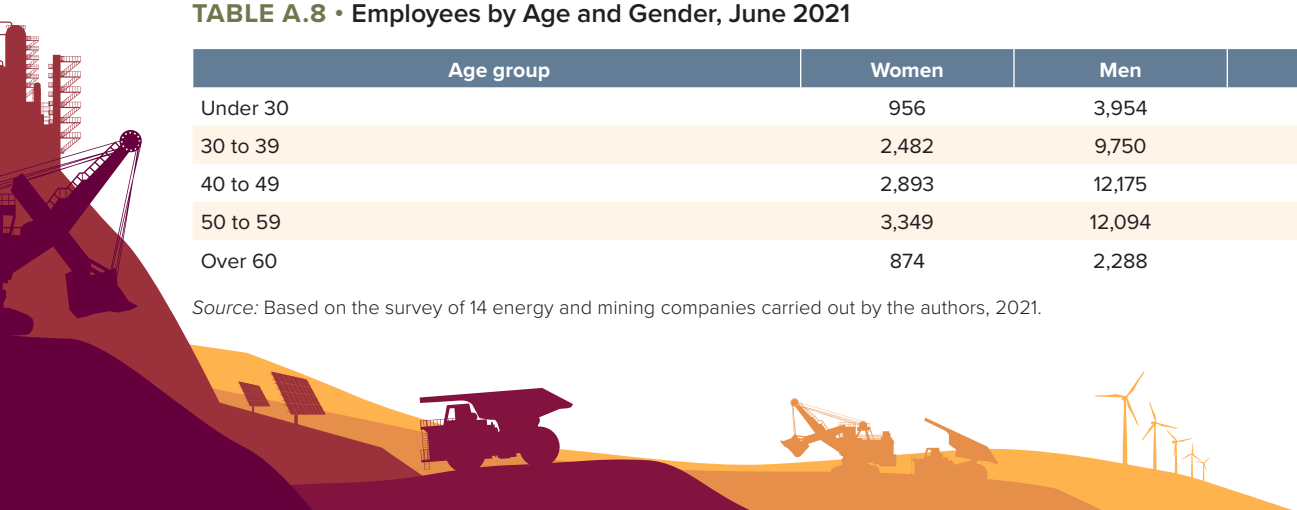


TABLE A.9 • Employees by Highest Level of Education and Gender, June 2021

Education level	Women	Men	Total
Elementary education	188	2,105	2,293
Vocational training	51	572	623
Vocational secondary education (3 years)	684	10,960	11,644
Secondary education (4 years)	4,508	12,299	16,807
Master craftsperson and specialized education	133	6,342	6,475
Undergraduate studies	1,486	2,603	4,089
Integrated, master's, and specialist academic studies	3,479	5,338	8,817
Doctoral	23	46	69

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.10 • Employees Who Received Company-Sponsored Training, by Gender, 2019–20

		2019	2020
Employees who received training	Women	2,112	1,230
	Men	8,086	6,798
Total workforce	Women	9,445	9,552
	Men	35,045	35,873

Source: Based on training data provided by 13 of the 14 energy and mining companies surveyed by the authors, 2021.

TABLE A.11 • New Recruits by Number of Women, 2019–20

		2019	2020
New recruits	Total	4,241	3,126
	Women	901	714
Total workforce	Total	45,867	46,795
	Women	9,790	9,902

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.12 • Employee Promotions by Number of Women, 2019–20

		2019	2020
Employees promoted	Total	2,960	3,145
	Women	665	671
Total workforce	Total	45,867	46,795
	Women	9,790	9,902

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.13 • Workers Who Left the Companies Surveyed, by Gender, 2019–20

		2019	2020
Voluntary workforce turnover	Women	412	254
	Men	1,414	865
Total workforce	Women	9,790	9,902
	Men	36,077	36,893

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.14 • Employees Who Took Maternity, Paternity, and Special Care Leave, by Gender, 2019–20

		2019	2020
Maternity/paternity leave	Women	342	401
	Men	11	11
Special care leave	Women	464	375
	Men	69	54
Total workforce	Women	9,790	9,902
	Men	36,077	36,893

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

TABLE A.15 • Average Employees' Sick Leave Days, by Gender, 2019–20

	2019	2020
Women	18	22
Men	13	15

Source: Based on sick leave data provided by 12 of the 14 energy and mining companies surveyed by the authors, 2021.

TABLE A.16 • Companies' Gender Equality and Equal Opportunity Measures

Policy or practice	Companies with policy or practice
Flexible work options	12
Anti-harassment policy	10
Policy on nondiscrimination in recruitment	7
Gender equality/equal opportunity policy	7
Reporting of gender-disaggregated employee survey data	4
Active measures to promote equal opportunity	4
Gender-awareness training	4
Policies to support care responsibilities	3
Designated person/team responsible for gender equality	3
Gender diversity targets	3
Maternity/paternity entitlements beyond legal requirement	2
Nondiscrimination training for interviewers	2
Policy on gender diverse interview panels	1
Policy for gender diversity on the board of directors	1

Source: Based on the survey of 14 energy and mining companies carried out by the authors, 2021.

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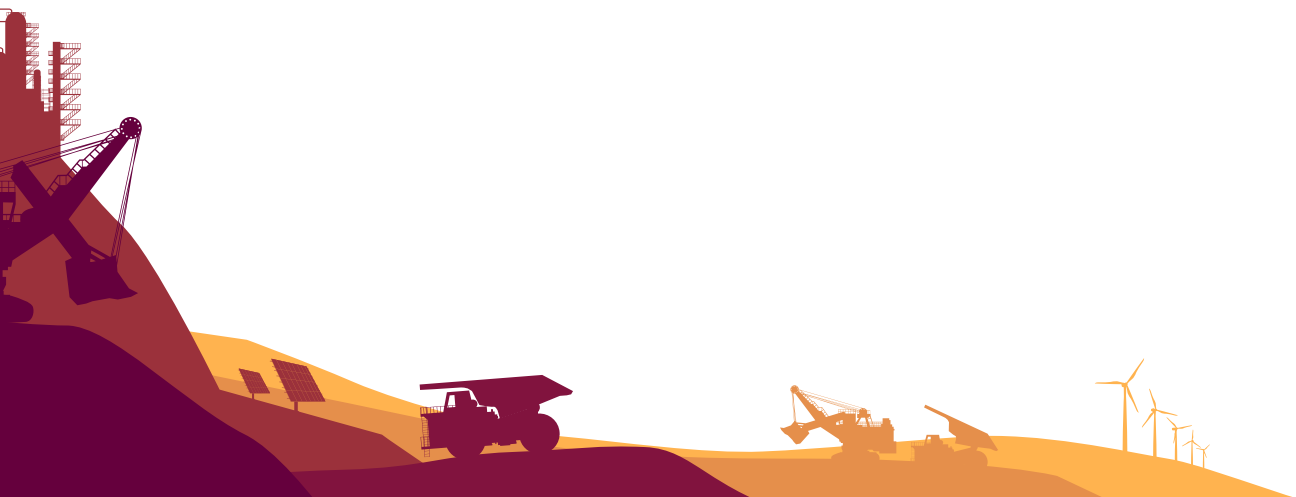

EXPLORING OPPORTUNITIES

for Gender Divercity in the Mining and Energy Sector in Serbia

2022

WORLD BANK GROUP
Social Sustainability & Inclusion

ESMAP
Energy Sector Management Assistance Program

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