



OECD Environment Working Papers No. 193

Women's leadership
in environmental action

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Sara Ramos Magaña,
Helene Bendig**

<https://dx.doi.org/10.1787/f0038d22-en>

ENVIRONMENT DIRECTORATE

Women's Leadership in Environmental Action

Environment Working Paper No. 193

By Sigita Strumskyte, Sara Ramos Magaña and Helene Bendig ⁽¹⁾

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Authorised for publication by Alain de Serres, Acting Director, Environment Directorate.

Keywords: gender equality, leadership, environmental sustainability, climate change, gender environment nexus, environmental action

JEL classification: D71 J16 J18 M51 Q56

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JT03494213

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Abstract

Women's participation in environmental decision-making is important for advancing both gender equality and environmental action. The presence of women in political decision-making is linked to more ambitious climate goals and policies. Women on corporate boards consistently prioritise environmental, social and governance issues, including climate and sustainability. In civil society, women around the world create powerful networks to combat environmental degradation and tackle climate-related inequalities. Despite these benefits, significant gender gaps in environmental leadership persist across countries and sectors, with some of the widest occurring in countries especially vulnerable to climate change and where its gender-differentiated impacts are most acute. This paper reviews existing evidence on women's environmental leadership in public governance, environmentally-sensitive industries, and civil society, and its impact on environmental outcomes in these sectors. It identifies potential policy actions as well as areas for further data collection and research.

Keywords: gender equality, women's empowerment, leadership, environmental sustainability, climate change, gender environment nexus, environmental action

JEL Classification: D71 J16 J18 M51 Q56

Résumé

La participation des femmes au processus décisionnel en matière d'environnement est importante pour faire progresser l'égalité des sexes ainsi que l'action environnementale. La présence des femmes dans la prise de décision politique est liée à des objectifs et des politiques climatiques plus ambitieux. Les femmes au sein des conseils d'administration accordent systématiquement la priorité aux questions environnementales, sociales et de gouvernance, y compris celles du climat et de la durabilité. Dans la société civile, les femmes du monde entier créent des réseaux puissants pour lutter contre la dégradation de l'environnement et les inégalités liées au climat. Malgré ces avantages, des écarts importants entre les sexes en matière de leadership environnemental persistent dans les pays et les secteurs, avec les plus importants se produisant dans les pays particulièrement vulnérables au changement climatique et où ses impacts différentiels selon le sexe sont les plus aigus. Ce document examine des données existantes sur le leadership environnemental des femmes dans la gouvernance publique, les industries sensibles à l'environnement et la société civile, ainsi que son impact sur les résultats environnementaux dans ces secteurs. Il identifie des actions politiques potentielles ainsi que les domaines dans lesquels des données et des recherches supplémentaires sont nécessaires.

Mots-clés : gender equality, women's empowerment, leadership, environmental sustainability, climate change, gender environment nexus, environmental action

Classification JEL : D71 J16 J18 M51 Q56

Acknowledgements

The authors are grateful to colleagues Willem Adema and Maja Gustafsson (OECD Directorate for Employment, Labour and Social Affairs) and Maria Chiara Cavalleri (General Secretariat) for their comments on this paper. Thanks also to Tereza Zoumpalova for her research and input, and Amelia Smith for editorial contributions.

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Introduction

The interlinkages between gender equality and environmental sustainability are increasingly acknowledged, both in terms of the differentiated gender impacts of environmental degradation and the contribution that greater gender equality and women's empowerment can make to environmental action. A key objective of the gender-environment nexus is improving women's representation in environmental decision-making across all spheres of society.

Gender gaps in environmental decision-making persist across countries and sectors, with the widest occurring in low-income countries and environmentally-sensitive industries. Women make up 39% of environment ministers in OECD countries, but their numbers are considerably lower in countries that are likely to suffer the greatest damage from climate change, and where women are most vulnerable to environmental risk. There is also a low representation of women in infrastructure ministries (energy, transport and communications) linked to the environment (OECD, 2019^[1]). The highest representation of women in environmental leadership is found in civil society institutions and international environmental negotiations.

Women's environmental leadership can not only bring about improvements in representational justice and increased focus on gender-specific environmental impacts. It can also lead to stronger and more effective environmental action (OECD, 2021^[2]). Studies find that women's participation in decision-making can lead to better environmental outcomes, including by strengthening environmental policies and promoting sustainable investments, in both the public and private sectors.

Research supports that a higher presence of women in public sector decision-making bodies translates into more ambitious climate goals and policies. Evidence from the business sector shows that when women occupy at least 30% of board seats they start making a difference to climate governance within companies (The Sasawaka Peace Foundation and BloombergNEF, 2020^[3]). Around the world, women are creating powerful networks to combat environmental degradation and tackle climate-related inequalities. Some of these activists, especially in indigenous societies, encounter violent opposition.

The same "sticky floors" related to social norms, gender stereotyping and discrimination, and "glass ceilings" related to motherhood penalties that prevent women from accumulating human capital at the same rate as men (Ciminelli, Schwellnus and Stadler, 2021^[4]), perpetuate the gender gap in environmental leadership. Engrained gender discrimination in societies, especially for girls in low- and middle-income countries, also stands in the way of female environmental leaders. Addressing the different forms of explicit and hidden discrimination that women are subject to and supporting women's leadership potential are fundamental conditions for improving women's representation in environmental decision-making. Women's environmental action across society, including that of indigenous and marginalised women, must be acknowledged and supported.

Data collection and indicators are essential not only to measure women's environmental leadership across societies, but also for improving their access to leadership positions, as such evidence provides the rationale for reforming policies, practices and social norms, and for challenging the status quo.

This paper reviews existing evidence on women's environmental leadership in public governance, environmentally-sensitive industries, and civil society, and its impact on environmental outcomes in these sectors. It suggests potential policy actions that governments could take to improve the representation of women in environment-related decision-making, and identifies areas for further data collection and research.

1 The benefits of women's environmental leadership

Gender equality and environmental goals are mutually reinforcing, with progress on gender equality supporting environmental action and vice versa (OECD, 2021^[2]). The links between gender and environment are recognised in both the United Nations' Agenda 2030 and accompanying Sustainable Development Goals (SDGs).

An underlying principle of the gender-environment nexus is that environmental degradation can have different impacts on women and men. Physical characteristics, levels of economic vulnerability, and roles and behaviours in societies all contribute to gender-differentiated experiences with, and responses to, environmental impacts. For instance, women around the world are disproportionately affected by indoor air pollution, and many lack access to safe water and adequate sanitation. Women may bear the opportunity costs of collecting water and fuel, and of caring for others affected by natural disasters (OECD, 2021^[2]) (OXFAM, 2018^[5]). The effects of environmental impacts also vary among women themselves, with rural or indigenous women living different experiences than those in urban areas (OECD, 2021^[2]).

Another aspect of the gender-environment nexus is that women and men have different behaviours and attitudes regarding choices that affect the environment. Studies show that women are more prone to recycle, and to buy more eco-friendly products (Bulut, Kökalan Çımrın and Doğan, 2017^[6]) (Kennedy and Kmec, 2018^[7]) (Xiao and Hong, 2010^[8]). In OECD countries, women have a marginally "greener" attitude when it comes to driving less (OECD, 2008^[9]). Globally, the same applies to the use of alternative modes of transport (Ng and Acker, 2018^[10]). Women tend to support local communities, indigenous peoples and other environmental stewards, and are more likely to back policies such as more information on how products are made, transporting goods using clean energy, and stopping burning fuels that pollute (UNDP & University of Oxford, 2021^[11]).

Women and men also tend to have different attitudes towards environmental risks and damages. In a 2019 survey of how people around the world view climate change, women in 9 of 26 responding countries were more likely than men to see climate change as a serious threat (Pew Research Center, 2019^[12]). Studies in the United States have also found women's perceptions of environmental issues to be different from men's, particularly in cases where local environmental issues also pose health hazards (Xiao and McCright, 2012^[13]). While the proportion of women and men in the US believing in climate change and understanding its anthropogenic causes is similar, women perceive the risks as higher, more immediate and more likely to affect them personally (Ballew et al., 2018^[14]).

Surveys in developing countries show that men and boys are more likely than women and girls to see climate change as an emergency, but the margin is small and could be explained by a higher level of education among men in developing countries. Generally, recognition of the climate emergency is considerably higher among people with higher levels of education (UNDP & University of Oxford, 2021^[11]). This serves as a reminder that equal access to education is important not only for tackling gender inequality, but also for increasing environmental awareness.

Women's environmental leadership brings an array of benefits that can enhance environmental action and support the achievement of the UN Sustainable Development Goals (OECD, 2021^[2]). Studies confirm the

links between women's leadership and positive environmental outcomes in government ministries, corporations and grassroots organisations (Leisher et al., 2016^[15]) (Offermann and Foley, 2020^[16]).

2 Women's environmental leadership in public governance

Women's leadership in public governance can help bring women's experiences with the environment to the fore, as evidence shows that women in political power are more likely to uphold gender-sensitive issues and increase the political participation of women (Clayton, Josefsson and Wang, 2017^[17]) (Barnes and Burchard, 2012^[18]).

The presence of women in political decision-making translates into more ambitious climate goals and policies (Mavisakalyan and Tarverdi, 2019^[19]). For example, a study of European Parliament legislators over two legislative cycles found that while male and female legislators expressed similar concern for the environment, women were significantly more likely to support environmental legislation, even after controlling for political ideology and nationality (Ramstetter and Habersack, 2020^[20]). A review of 1.2 million interventions in the UK House of Commons and 500 000 interventions in the US House of Representatives found that women of all political parties spent more time than their male counterparts addressing environment-related topics (OECD, 2021^[2]) (D'souza, 2018^[21]). A higher share of women in parliament has been linked to improvements on the SDG agenda (Mirziyoyeva and Salahodjaev, 2021^[22]) and in environmental quality (DiRienzo and Das, 2019^[23]). It has been estimated that countries with a critical mass of female legislators above 38% will experience increases in per capita forest cover (Salahodjaev and Jarilkapova, 2020^[24]).

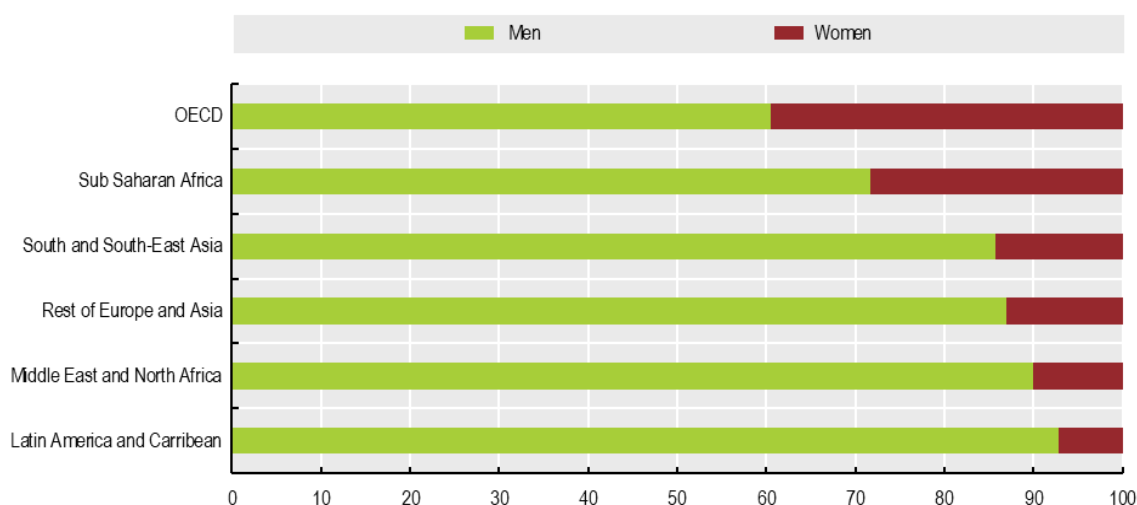
Gender balance in environment ministries

Gender balance in environmental ministries may influence climate negotiations, which are normally led by ministers and high-ranking officials. Women, when able to contribute meaningfully to policy negotiations, push for more concrete and ambitious outcomes and achieve more long-lasting and positive agreements (Paffenholz et al., 2016^[25]) (Krause, Krause and Bränfors, 2018^[26]). Women's participation in international negotiations has been shown to broaden the issues discussed, and put greater pressure on parties to reach agreement or go back to the negotiating table when talks are interrupted. (UN Women, 2015^[27]). Countries with higher female representation are more likely to ratify international environmental treaties (Norgaard and York, 2016^[28]).

A look at environmental ministries around the world illustrates the persistent gender gap in top decision-making positions. In general, the gap is widest in regions likely to suffer the greatest damage from climate change, and where women are most vulnerable to environmental risk. The narrowest is in OECD countries (where women accounted for 39% of all environment ministers in 2021) (Figure 2.1).

Figure 2.1. Environment ministers, by gender

2021 data



Note: Regions classified as presented in OECD, 2015^[36]. Rest of Europe and Asia = non-OECD European countries, European countries that belong neither to the OECD nor EU, the Caspian Region (excluding Iran), China and the Russian Federation.

Source: Authors' own research, 2021.

In Sub-Saharan Africa, projected to be one of the regions worst affected by climate change (OECD, 2015^[29]) (Swiss Re Institute, 2021^[30]), only 28% of environment ministers are women. At the same time, the forecast shock in crop yields in this region will be one of the climate change impacts with the strongest gender dimension, as women across Ethiopia, Malawi, Niger, Nigeria, Tanzania and Uganda represent 40% of labour in crop production (World Bank, n.d.^[31]).

Gender disparity in decision-making is also notable in South and South-East Asia, where women make up 14% of environment ministers. This region is projected to suffer the second most severe economic damage from climate change and natural disasters by 2060 (OECD, 2015^[29]), including high losses in the fisheries and aquaculture sectors, where women occupy most of the informal jobs (OXFAM, 2005^[32]) (UNEP, 2019^[33]) (Pross et al., 2020^[34]).

In Latin America and the Caribbean, women make up only 7% of environment ministers. Projected climate effects on biodiversity services and nature-related tourism in the LAC region are particularly relevant for women, who represent 60% of the tourism sector workforce, following a feminisation of low-skilled tourism work (UNWTO, 2019^[35]).

Together with Sub-Saharan Africa, countries in the Middle East and North Africa will be most severely affected by climate change. Here too, women's representation among environment ministers is quite low (10%).

In the rest of Europe and Asia, leadership in environment ministries is predominantly male, with women representing only 13% of ministers.

Gender disparity exists across all government ministries, and not only in top leadership positions. For instance, in OECD country infrastructure ministries linked to the environment (energy, transport and communications), women only make up 18% of staff, compared to 38% in socio-cultural ministries (OECD, 2019^[11]).

Gender balance in negotiation of international environmental conventions

Gender aggregated data on National Focal Points (NFPs) of parties to three United Nations environmental conventions – the UN Convention on Biological Diversity, UN Convention to Combat Desertification, and UN Framework Convention on Climate Change – show an overall better representation of women than in environment ministries, but with significant differences between regions. NFPs are often director-level ministry staff who actively contribute to negotiations.

Among OECD countries, the percentage of men and women serving as NFPs is roughly equal. Latin America, the Caribbean and the rest of Europe and Asia also have relatively equal splits. However, in South and South-East Asia, Sub-Saharan Africa, and the Middle East and North Africa, women's representation as NFPs to all three UN conventions is low. This is particularly concerning, given that these regions are especially vulnerable to climate change and where its gender-differentiated impacts are most acute.

Figure 2.2. National Focal Points of parties to the UN Convention on Biological Diversity, by gender

2021 data by region

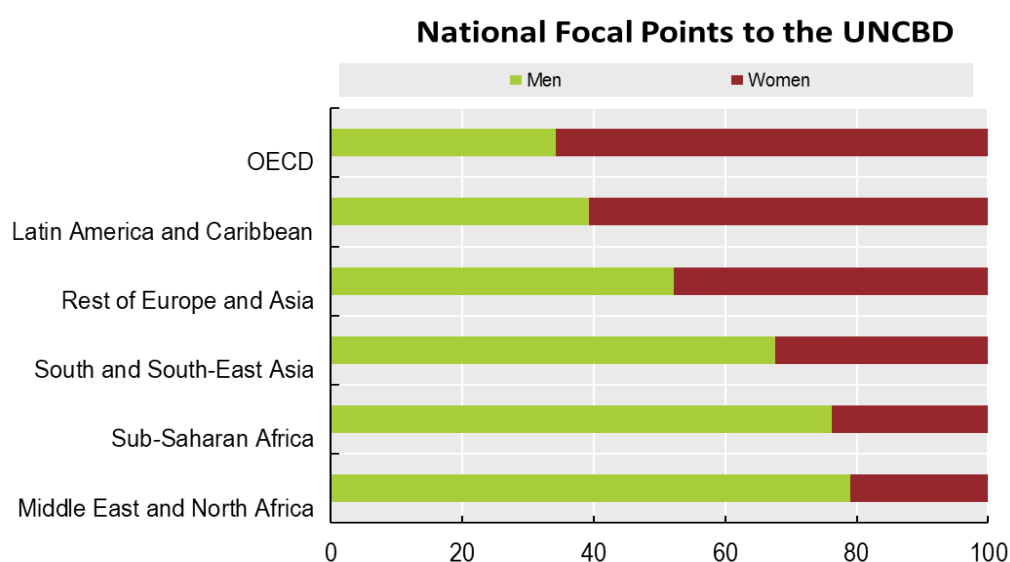


Figure 2.3. National Focal Points of parties to the UN Convention to Combat Desertification, by gender

2021 data by region

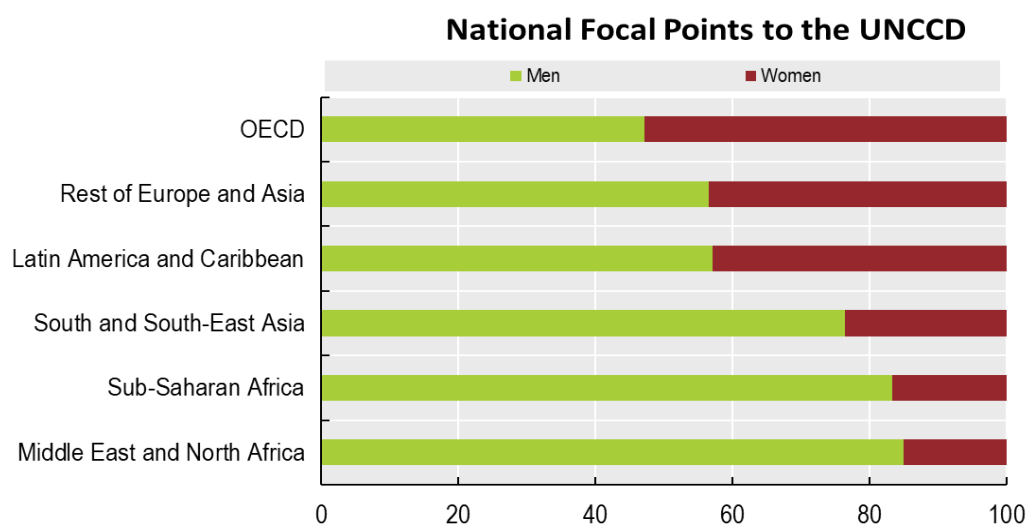
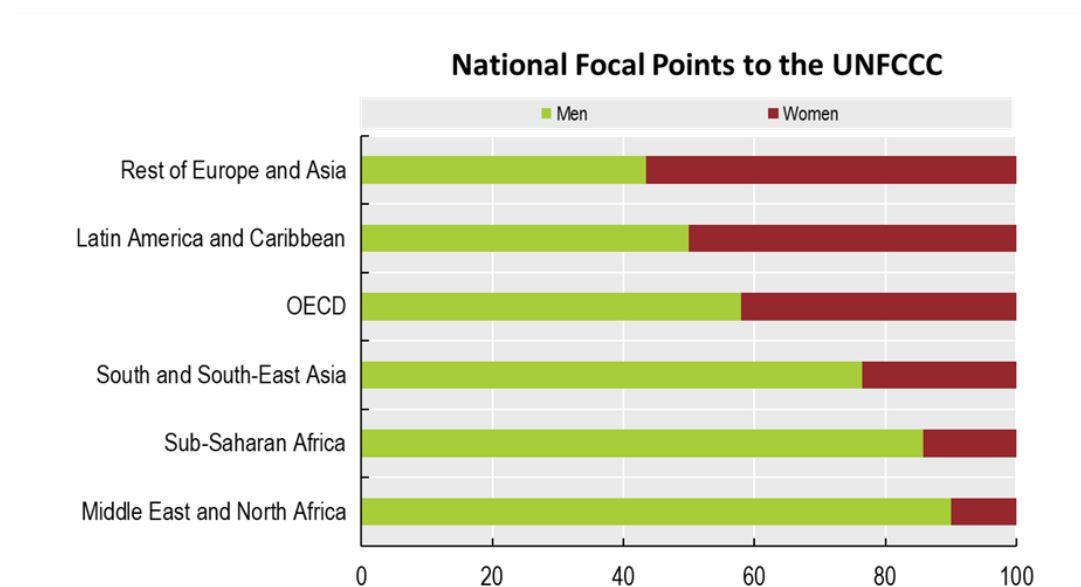


Figure 2.4. National Focal Points of parties to the UN Framework Convention on Climate Change, by gender

2021 data by region

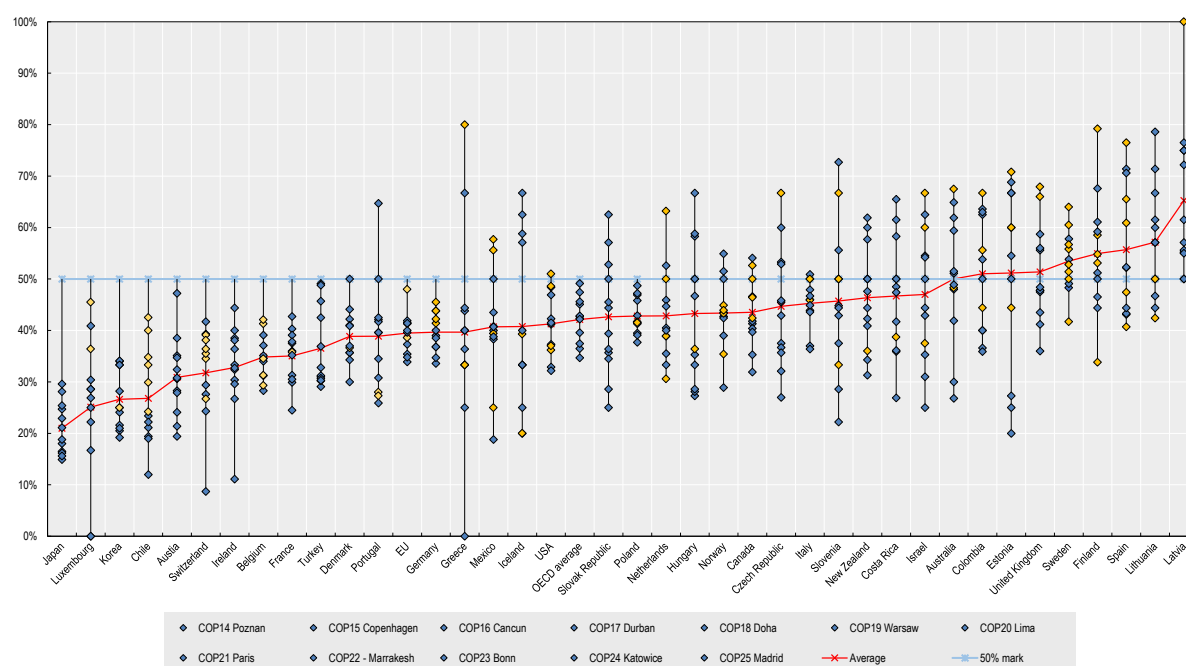


Note: Data provided for the United Nations Convention to Combat Desertification (UNCCD), Convention on Biological Diversity (CBD), and United Nations Framework Convention on Climate Change (UNFCCC). The Rest of Europe and Asia category = non-OECD European countries, European countries that belong neither to the OECD nor EU, the Caspian Region (excluding Iran), China and the Russian Federation. Source: Authors' data collection from (CBD, n.d.[36]) (UNCCD, n.d.[37]) (UNFCCC, n.d.[38]).

Between 2008 and 2019, there was an upward trend in the number of women in national delegations of OECD countries to UNFCCC Conferences of the Parties (COPs) (Figure 2.5). Australia, Colombia, Estonia, Finland, Latvia, Lithuania, Spain, Sweden and the United Kingdom surpassed, on average, a 50% representation of women over this period. Chile's delegation was led by a woman at nine COP meetings, followed by Sweden's eight times. In contrast, Austria, Ireland, Japan, the Slovak Republic and Turkey did not appoint a woman to lead their COP delegation between 2008 and 2019.

Figure 2.5. Women in national delegations to UNFCCC Conferences of the Parties (COPs)

OECD countries, 2019 data



Note: Women's participation in annual COPs for the period 2008-2019, as a percentage of the total size of the national delegation. Yellow diamonds indicate that a woman was heading the delegation. The red line projects the average value per country.

Source: (OECD, 2021^[2]).

The presence of women in negotiating fora does not guarantee that they will be active in discussions, nor that their issues will be heard (Craft and McCraine, 2019^[39]) (Paffenholz et al., 2016^[25]) (Schulthess, 2017^[40]). Attendance at gender events at COPs is often low. Race, nationality, and level of command of English can also be discriminatory factors (Gay-Antaki and Liverman, 2018^[41]). Thus, analysis of women's representation in negotiating fora must take intersectionality into account. It is essential that all women representatives in international climate negotiations be equipped with the skills necessary to fully contribute.

Beyond simple headcounts, more analysis is needed to assess the impact of women's environmental leadership in public governance. Further research should aim at understanding how women can best be supported to exercise their leadership, and their influence in shaping environmental policies and negotiations.

Box 2.1. Actions to promote women's environmental leadership in the public sector

The [OECD 2015 Recommendation of the Council on Gender Equality in Public Life](#) offers a whole-of-government policy approach that can also be applied to gender gaps in environmental public governance.

The [OECD Toolkit for Mainstreaming and Implementing Gender Equality](#) (2018), which serves as practical guidance for implementing the Recommendation, highlights relevant good practices such as defining clear institutional roles and responsibilities to advance gender equality, establishing independent recourse and appeal mechanisms, enhancing management and executive accountability, and integrating leadership training programmes for female civil servants.

Many countries promote women's leadership in public governance, though mostly through across-government initiatives not specific to individual ministries. In Germany for instance, public authorities, social institutions or municipalities have equal opportunity officers who deal with the promotion and implementation of equal rights and gender equality. This practice extends to the German Federal Environment Agency, whose equal opportunity team campaigns for more women in public leadership positions and advocates for flexible working conditions for employees with family responsibilities. As a result of these efforts, gender parity was achieved at the department management level in 2016 (Umweltbundesamt, 2021^[42]).

Various non-governmental initiatives aim at further developing women's leadership in environmental negotiations. WEDO's Women Delegates Negotiations Training, aimed primarily towards first-time negotiators from Least Developed Countries, builds leadership skills through knowledge and capacity building on technical issues related to UN climate negotiations (Women Delegates Fund, WEDO, 2021^[43]). Similarly, the European Capacity Building Initiative (ecbi) has developed a mentorship programme together with WEDO to support women climate negotiators from developing countries (IIED, 2020^[44]).

3 Women's leadership in environmentally-sensitive industries

According to the International Labour Organization, companies with genuine gender diversity, particularly at the senior level, are 8.9% more likely to have enhanced business outcomes (ILO, 2019^[45]). Women's leadership has been linked to driving employee engagement (Gallup, 2017^[46]), and striking the right balance between benevolent and risk-taking attitudes when occupying a board seat (Eastman, 2018^[47]).

Women's presence on corporate boards is associated with better environmental performance and responsible business practices (Hafsi and Turgut, 2013^[48]). Women directors and managers improve the environmental performance of companies by disseminating information to stakeholders and participating in decision-making on environmental matters. Likewise, when women's participation on corporate boards is low, firms' sustainability reporting is perceived to be less reliable (Arayssi, Dah and Jizi, 2016^[49]). More women on corporate boards correlates with increased environmental investments and greater commitment to pro-climate strategies (Di Miceli and Donaggio, 2018^[50]).

Evidence has found that female directors consistently prioritise environmental, social and governance (ESG) issues, including climate and sustainability, in a way that male directors do not. When asked whether climate change should be taken into account when forming strategy, 79% of female directors agreed, compared to 62% of male directors. Similar results apply to human rights, resource scarcity and social movements (PwC, 2020^[51]).

Women in middle and senior corporate management

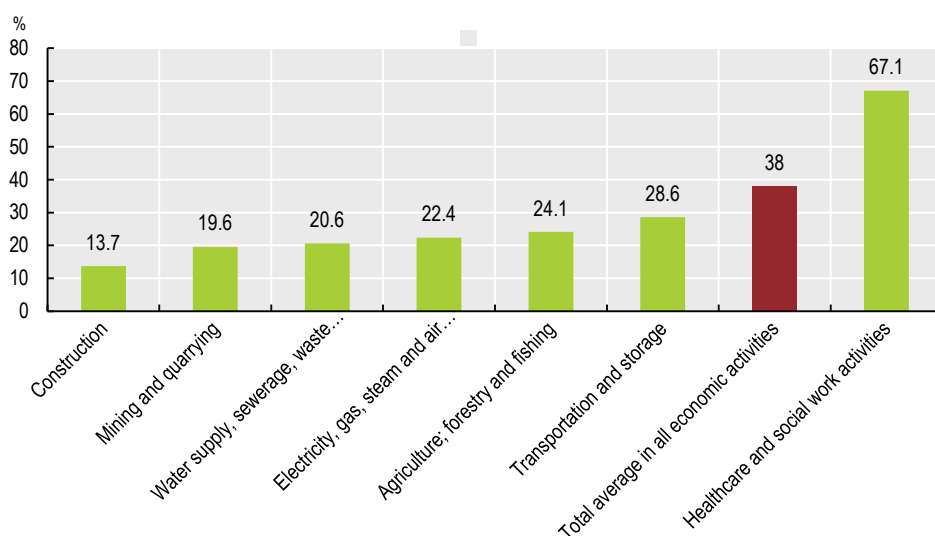
Despite ample evidence on the benefits of including women on boards, a large gender gap remains. The percentage of women in corporate boards in OECD countries was still only 25% on average in 2019 (OECD, 2020^[52]). The OECD Analytical Database on Individual Multinationals and their Affiliates (ADIMA) confirms that women are systematically under-represented in boardrooms across all industries in OECD countries (ADIMA OECD, 2020^[53]).

A study of global companies found that women start making a difference in climate governance and innovation when they occupy at least 30% of board seats (The Sasawaka Peace Foundation and BloombergNEF, 2020^[3]). These findings are consistent across different types of board systems across countries (Velte, 2016^[54]) (Yarram and Adapa, 2021^[55]). Yet, only about one-third of global enterprises meet the critical mass of women on boards needed to influence outcomes. Almost 30% have only between 1% and 10% of women in the boardroom (International Labour Organization, 2019^[56]).

Data from G20 countries shows that the share of women in middle and senior management is lowest in environmentally-sensitive economic sectors (Figure 3.1). The construction sector has the lowest share of women in managerial positions: less than one third of the economy-wide average of 38%. By contrast, the share of women in managerial positions in healthcare and social work is much higher (67.1%).

Figure 3.1. Women in management in environmentally-sensitive sectors

G20 countries, 2020 data

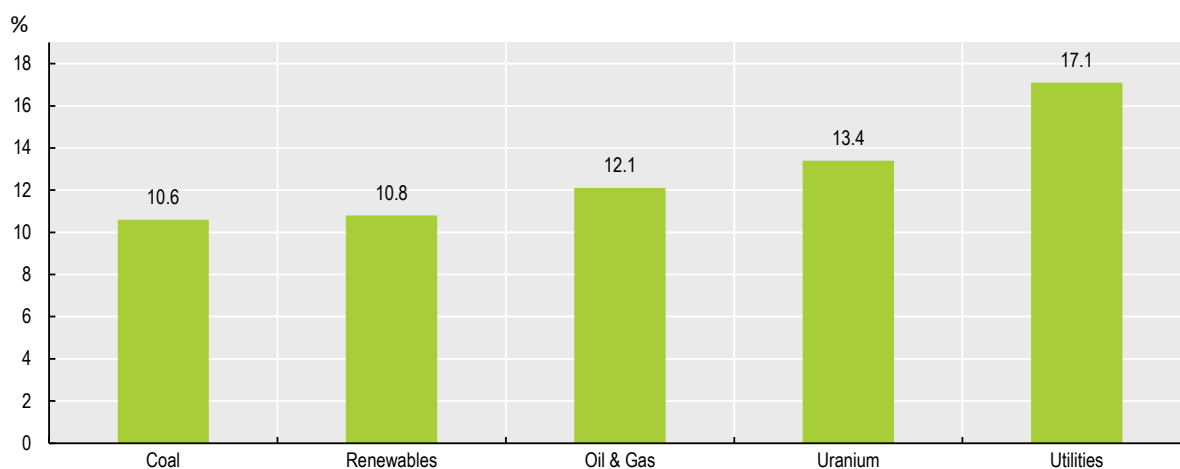


Note: Weighted averages, based on 14 G20 countries. Women's share of employment in managerial positions as a percentage of total employment in management. Latest year available. Managers and leaders are considered as the highest category in ISCO-08 (category 1).
Source: ILOSTAT, (ILO, 2020^[57]).

Women's representation in managerial positions in the energy and utilities sector is very low (Figure 3.2). In a global survey of 2 500 firms that collectively employ over 38 000 staff, women represented only 13.9% of senior management. The number of women in senior positions in renewable energy firms is well below the average for the overall energy sector at just 10.8%. This is only slightly higher than in the coal sector, which has the lowest representation at 10.6% (OECD and IEA, 2021^[58]).

Figure 3.2. Women in senior management in the energy sector

Global, 2019 data



Note: OECD and IEA calculations based on company data available as of end-2019 from the Refinitiv PermID database; global, as defined by the database.
Source: (IEA, 2019^[59]).

Educational barriers may obstruct women's leadership in environment-related sectors, as illustrated in the energy sector. While women account for 32% of the renewable energy workforce, compared to 22% in the oil and gas industry, they occupy mainly administrative or non-STEM (science, technology, engineering and mathematics) positions (IRENA, 2019^[60]).

Women as green entrepreneurs

Women entrepreneurs also contribute to positive environmental outcomes. A study of a green entrepreneurship training programme in Australia found that women displayed more pro-environmental attitudes, were more committed to sustainability goals, and tended to engage in greening their businesses to a greater extent than their male counterparts. Men tended to look more for bottom-line outcomes and competitive advantage, while women tended to lean towards broader ethical concerns in terms of benefiting the greater good (Braun, 2010^[61]).

However, the same barriers faced by women entrepreneurs in general – e.g. adverse tax and family policies, institutional constraints and negative social attitudes – also apply to women's green entrepreneurship (OECD, 2021^[62]). A South African study identified four fundamental actions to address such barriers: 1) green entrepreneurship education; 2) access to financial resources; 3) networking programmes for women in green entrepreneurship; and 4) implementation of government policy to support sustainability-related work (Maziriri et al., 2019^[63]). A Serbian survey on green entrepreneurship in tourism found that access to finance is a significant hurdle for women: a vast majority (94%) of respondents replied that there are no special credit products for women entrepreneurs in the field (Radović-Marković and Živanović, 2019^[64]).

Women's representation in the start-up environment, particularly in green technology, remains low, meaning that women's perspective is sorely lacking in the development of innovative solutions to fight climate change and environmental degradation (MaRSDD and EDC, 2020^[65]). Data shows a significant investment gap in women-led start-ups (World Economic Forum, 2021^[66]) (OECD, 2017^[67]), and women report an unconscious bias and lack of role models (First Round, 2016^[68]). As boards of later-stage start-ups are almost three times less likely to have a woman on their board, fostering entrepreneurship among women at an early stage is key for their participation (First Round, 2016^[69]).

Further research should aim to understand how women can shape sustainability outcomes in the private sector through decision-making and entrepreneurship. Attention should be paid to factors that limit their potential as leaders, including gender bias in corporate and entrepreneurship culture, social norms, gender stereotyping, and discrimination including motherhood penalties (OECD, 2020^[52]). Such factors can prevent women from accumulating professional capital at the same rate as men, perpetuating the leadership gap (Ciminelli, Schwellnus and Stadler, 2021^[4]).

Box 3.1. Practices promoting women's environmental leadership in the private sector

The OECD has developed a number of recommendations for promoting women's leadership in the corporate sector and as entrepreneurs. A report presented to the G20 EMPOWER Alliance, [Policies and Practices to Promote Women in Leadership Roles in the Private Sector](#) (2020) and an OECD report on [Entrepreneurship Policies through a Gender Lens](#) (2021) provide policy toolkits that could be applied to women's leadership in greening business, for instance actions such as introducing gender criteria in green public procurement, facilitating access to finance to female green entrepreneurs, and investing in training, mentorship and networking programmes.

The European Bank for Reconstruction and Development's CLIMADAPT programme supports women's resilience to climate change by eliminating gender gaps in access to finance in Tajikistan. The programme collaborated with women's business associations and conducted gender awareness seminars for staff of partner financial institutions, increasing the share of women in the total CLIMADAPT portfolio to 30% (EBRD, 2016^[70]). Similarly, the UNDP's Green Business Initiative aims to target structural barriers preventing women from participating in the green economy by supporting women entrepreneurs and workers with training, networking and advisory services, and increasing women's access to finance and climate change funds (UNDP, n.d.^[71]).

Other programmes have been developed as partnerships between the private sector, universities and civil society. The World Business Council for Sustainable Development's LEAP project, in partnership with Spanish business school ESADE and Yale University, supports women in reaching top management positions while ensuring that sustainability is part of their leadership and company strategies (WBCSD, 2020^[72]). The UNESCO & Women@Dior Leadership & Sustainability Education Program partners with universities to develop leadership skills that will help women contribute to sustainable development (UNESCO, n.d.^[73]). The Women's Enterprise for Sustainability programme, implemented in Tunisia between 2012 and 2018 to develop a network of women entrepreneurs and sustainability leaders, trained over 3 000 women, created over 1 000 job opportunities and led to the creation and expansion of more than 650 businesses. The programme was designed by the Institute of International Education (IIE) and funded by the US State Department (WES, n.d.^[74]).

Other examples include the Women's Forum for the Economy & Society, in partnership with Procter & Gamble (P&G) (Women's Forum for the Economy & Society, 2022^[75]) and the HEC Paris Innovation & Entrepreneurship Centre, which launched an accelerator programme to equip women with the resources and skills needed to innovate in the context of green businesses (HEC, n.d.^[76]). Government-funded programs such as the EU-funded EIT Climate-KIC Accelerator support women entrepreneurs through benchmark studies, workshops, radical collaboration and resource sharing (EIT Climate-KIC, 2019^[77]).

Mentoring programmes for women in energy and environment-related companies, such as Women in Cleantech & Sustainability, the Global Women's Network for the Energy Transition and Women in Sustainability, help women to build strong networks around sustainable businesses. (Women in Cleantech & Sustainability, n.d.^[78]) (GWNet, n.d.^[79]) (Women in Sustainability, n.d.^[80]).

4 Women as environmental leaders in civil society

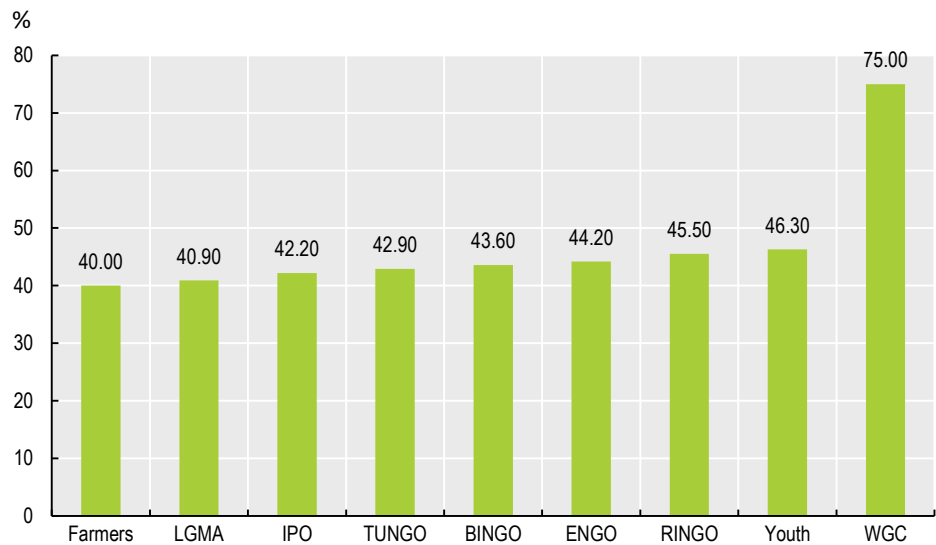
Numerous studies confirm the benefits of women's environmental leadership in NGOs and at the grassroots community level. For example, research on forestry conservation programmes in India showed that greater representation of women led to more equitable benefit sharing and improved conservation outcomes, with an 11% forest cover increase in the study areas (Agarwal, 2009^[81]). Similar evidence from Nepal and India shows that including women in forest and fishery management groups can result in better resource governance and conservation outcomes (Leisher et al., 2016^[15]). Evidence from 44 water projects across Asia and Africa shows that when women engage in shaping water policies and institutions, communities use water services more and sustain them for longer (UNDP, 2006^[82]). Research on forest user groups in Indonesia, Peru and Tanzania showed that groups with a gender quota conserved more trees in a Payment for Ecosystem Services intervention and shared the payments more fairly compared to groups without a quota (Cook, Grillos and Andersson, 2019^[83]). Other scholars have affirmed the positive effects of increasing the number and decision capacity of local women rangers on conservation projects and the fight against environmental crime (Wilson-Holt, 2021^[84]) (Agu and Gore, 2020^[85]).

Women in international NGOs and grassroots movements

Data availability and the breadth and complexity of the civic space make it difficult to quantitatively assess women's participation and leadership in environmental action at the grassroots level. However, an analysis of NGOs admitted to the 2021 UNFCCC Conference of the Parties in Glasgow (COP 26) gives an idea of how women in civil society are represented in international climate negotiations. At COP26, women made up 44.2% of delegates representing environmental NGOs, 42.2% of delegates from indigenous peoples' organisations and 43.6% of representatives from business and industry NGOs.

The list of NGOs admitted to the UNFCCC shows that the proportion of women in Women and Gender Constituencies (WGC) was significantly higher than in other categories: 75% as opposed to an average of 40-45% in other NGOs Figure 4.1. Nevertheless, women still made up only 1.7% of total NGO staff (UNFCCC, n.d.^[86]), indicating that women's representation in environmental civil society could be improved, notably at the international level.

Figure 4.1. Women’s representation in NGOs admitted to COP26



Note: LGMA = local governments and municipal authorities; IPO = indigenous peoples organisations; TUNGO = trade union NGOs; BINGO = business and industry NGOs; ENGO = environmental NGOs; RINGO = research and independent NGOs; WGC = women and gender constituency.
Source: (UNFCCC, n.d.^[86]).

It is important to acknowledge that much of women’s environmental activism takes place outside of formal platforms. For instance, in 2018, over 100 indigenous women in Ecuador demanded an end to all oil and mining activities in the Amazon rainforest by delivering a “Mandate of Amazonian Women Defenders of the Jungle of the Bases against Extractivism” to the country’s president and ministers (Amazon Watch, 2018^[87]). In 2019, Brazil’s National Articulation of Ancestral Indigenous Women Warriors (ANMIGA) mobilised the first Indigenous Women’s March, which gathered 2500 women from 130 indigenous groups (ANMIGA, n.d.^[88]).

Not only do women face cultural barriers and social norms to engage in civil society, they are sometimes subject to violence when they report and stand up to environmental crimes and injustices (Anagnostou et al., 2020^[89]). Those who act and speak out may also face gender-specific threats including sexual violence, or even death. Over one in ten of the environmental defenders killed in 2020 were women (Global Witness, 2021^[90]).

Box 4.1. Actions to promote female-led grassroots movements to protect the environment

The following actions help to boost the role of women in civil society in protecting the environment:

- *Recognising and involving local women as sustainability actors* can amplify the impact of women's leadership in the broader community. For instance, while the Mexican government tends to support eco-tourism and sustainable fishing, benefits have often accrued to male-dominated industries. Women-led grassroots organisations have transformed local waste management and plastics recycling, improving the sanitary conditions of the area and the health of both the local natural environment and population. National and state-level recognition as important actors in the design and implementation of a new state waste management system was paramount to the women-led movement's success (UNEP and World Water Alliance, 2019^[91]).
- *Training and micro-finance for environmental community leaders.* Programmes such as the Women's Earth Alliance Accelerator identify leaders in the farming sector in India and offer training on sustainable agriculture practices. Participants are supported to design their own action plans and receive seed grants to launch community-specific projects addressing climate change and food security (Women's Earth Alliance, n.d.^[92]).
- *Developing networks of like-minded women environmentalists* can foster women's access to leadership and decision-making positions. Women's Environmental Leadership Australia (WELA), a platform for mentoring and employment opportunities, connects women from different backgrounds, including indigenous women, with experienced environmentalists (WELA, 2021^[93]).

5 Policy actions to promote and measure women's environmental leadership

Addressing the gender-environment nexus requires considering how gender equality and women's empowerment as leaders and decision-makers can help advance environmental goals. Governments should consider a holistic framework that takes into account conflicting objectives, complementarities and spill over effects, as presented in [Gender and the Environment: Building Evidence and Policies to Achieve the SDGs](#) (OECD, 2021^[2]).

Support for women's environmental leadership should start with policy action to address gender discrimination, social norms, and behaviours, from harassment to gender stereotyping, that sustain pervasive leadership gaps (Ciminelli, Schwellnus and Stadler, 2021^[4]). (Breschi, Lassébie and Menon, 2018^[94]).

Governments could also consider the following measures:

- Training, mentoring and coaching initiatives to promote women's environmental leadership within existing training programmes.
- Partnering with educational and vocational training institutions and the private sector to scale up programmes that support women's environmental leadership and leverage their impact.
- Financing initiatives that support women's green entrepreneurship and women's environmental leadership in the civil society sector.
- Applying a gender lens to environmental regulations and to public procurement for green infrastructure projects to promote women-led companies.
- Protective measures to foster the establishment and operation of civil society institutions dedicated to sustainability goals, especially for female environmental activists wherever aggression is detected.

Indicators to measure women's environmental leadership

More data is needed on how women can lead towards a more sustainable world through their political decisions, influence in environmentally-sensitive industries, grassroots actions and consumer choices. The following indicators would help feed the general understanding of women's environmental leadership by highlighting areas where women's experiences are under-represented and pointing out where their representation leads or lags behind:

- heads of environmental ministries/agencies, by gender;
- number of female heads of delegations to UNFCCC COPs and other international environmental negotiations;

- number of female delegates to UNFCCC COPs and other international environmental negotiations;
- participants in national-level environmental fora, by gender;
- composition of corporate boards and senior management positions in green private sector companies, by gender;
- share of women on boards of climate mechanisms and funds;
- number of female entrepreneurs with adequate access to financing for low-carbon and climate-resilient investment.

Finally, future work could focus on causal links between the distribution of the gender data collected above and the adoption of environmental policies, their stringency, and gender relevance. Analysis could identify correlations or make use of econometric methods such as cross-sectional models or quasi-experimental design, using longitudinal data for some countries. While proving causality may not be an easy task due to unobserved heterogeneity, there are methods to tackle this bias and obtain sufficiently robust results, which would enrich the necessary data for grasping the gender-environment nexus in policy-making.

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