

Harnessing the Green and Digital Transitions for Gender Equality: Insights from the 2024 OECD Forum on Gender Equality

OECD PUBLIC GOVERNANCE POLICY PAPERS

October 2024 **No. 61**



This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD Member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Cover image: © OECD

© OECD 2024



Attribution 4.0 International (CC BY 4.0)

This work is made available under the Creative Commons Attribution 4.0 International licence. By using this work, you accept to be bound by the terms of this licence (<https://creativecommons.org/licenses/by/4.0/>).

Attribution – you must cite the work.

Translations – you must cite the original work, identify changes to the original and add the following text: *In the event of any discrepancy between the original work and the translation, only the text of original work should be considered valid.*

Adaptations – you must cite the original work and add the following text: *This is an adaptation of an original work by the OECD. The opinions expressed and arguments employed in this adaptation should not be reported as representing the official views of the OECD or of its Member countries.*

Third-party material – the licence does not apply to third-party material in the work. If using such material, you are responsible for obtaining permission from the third party and for any claims of infringement.

You must not use the OECD logo, visual identity or cover image without express permission or suggest the OECD endorses your use of the work.

Any dispute arising under this licence shall be settled by arbitration in accordance with the Permanent Court of Arbitration (PCA) Arbitration Rules 2012. The seat of arbitration shall be Paris (France). The number of arbitrators shall be one.

Harnessing the green and digital transitions for gender equality: Policy insights from the 2024 OECD Forum on Gender Equality

Gender inequalities persist as a global challenge amidst the transition towards a green and digital future. These shifts towards environmental sustainability and digital societies mark a pivotal moment, offering significant opportunities to advance gender equality through new economic prospects and more diverse participation in decision-making processes. However, these transitions also highlight existing gender disparities, such as wage gaps and limited participation in leadership roles in both private and public spheres. In addition, the digital transformation exposes women to technology-facilitated gender-based violence and can increase young individuals' exposure to harmful content, reinforcing negative gender norms and stereotypes.

To fully harness the opportunities presented by these global transitions, it is crucial to address labour market inequalities and ensure access to emerging job opportunities. Promoting the skills needed for success in the green, energy, and digital sectors, and integrating gender equality into policies and strategies, are essential steps. This paper, supporting the inaugural OECD Forum on Gender Equality, provides valuable insights into these transitions, highlighting both challenges and opportunities.

Acknowledgements

This policy paper was prepared as an integral part of the OECD's Forum on Gender Equality, a key outcome of the OECD's contribution to promoting gender equality. The paper was written under the leadership of the OECD Deputy Secretary-General and Gender and Diversity Champion, Ulrik Vestergaard Knudsen.

This publication is the result of extensive teamwork and collaboration across OECD directorates. The OECD Directorate for Public Governance (GOV) co-ordinated this paper. It was jointly produced with the Directorate for Employment, Labour and Social Affairs (ELS); the Environment Directorate (ENV); the Development Centre (DEV); and the Directorate for Science, Technology and Innovation (STI).

Tatyana Teplova (GOV) oversaw the development of this paper, and Pinar Guven and Capucine Kerboas (GOV) co-ordinated it. The chapters were written by the following authors: Kristina Feikova and Krzysztof Michalak (ENV) (sections 1 and 2); Lorena Giuberti Coutinho and Molly Leshner (STI) (section 3); Pierre de Boissésón (DEV) and Valentina Patrini (ELS) (section 4); Capucine Kerboas and Natsuki Murai (section 5).

The authors are grateful to the Task Force for the implementation of the OECD's Gender Strategy; Theodora Castan (OSG); Gillian Dorner, János Bertok, Elizabeth Manning, Camila Saffiro, Erika Bozzay, Jacobo Garcia Villarreal, Scherie Nicol, Supriya Trivedi, Sofia Blamey Andrusco, Stefani Cooper, Réka Mihácsi, Giulia Morando, Nora Rusti, Jisoo Yoon (GOV); Angelica Salvi del Pero, Monika Queisser (ELS); Bathylle Missika, Hyeshin Park (DEV); Enrico Botta, Cian Montague, Kilian Raiser, Amelia Smith (ENV); Celine Caira, Martina Fattiboni Ferrara, Dallia Gaor, Hanna Pawelec, Karine Perset, Lisa Robinson (STI); David Halabisky (Centre for Entrepreneurship, SMEs, Regions and Cities); Michelle Harding, Peter Green (Centre for Tax Policy and Administration); Mollie Cretsinger, Jenny Hedman, Lisa Williams (Development Co-operation Directorate); Michela Gamba, Asa Johansson, Ashley Ward (Statistics and Data Directorate); Magdalena Olczak (International Transport Forum); Abel Schumann (Directorate for Education and Skills); Noemi Gietemann (Directorate for Financial and Enterprise Affairs); Liva Stokenberga (Centre on Well-being, Inclusion, Sustainability and Equal Opportunity); Florence Maher (Nuclear Energy Agency); Per-Anders Widell (International Energy Agency); Lauren Harrison, Sophie Kenneally (Paris 2021) for their contributions and valuable comments. "Worldcrunch" provided editorial assistance. Andrea Uhrhammer and Melissa Sander provided logistical and publishing support.

The OECD extends its sincere thanks to the United States for its financial contribution to the paper.

Table of contents

Acknowledgements	4
Executive summary	7
1 Making gender equality central to the net-zero climate imperative	9
Gender equality and climate action is not a zero-sum game	9
Climate change and environmental factors do not affect everyone equally	9
Women play an important role in achieving net-zero, but gender equality in decision-making falls far short	10
The green transition offers opportunities to accelerate gender equality	10
2 Why gender matters in the energy transition era	14
Gender perspectives are crucial in times of unprecedented energy transition	14
The energy sectors are male-dominated	14
Opportunities to advance gender equality as part of the energy transition	17
3 Bridging digital gender divides	18
Digital transformation presents both opportunities and risks for gender equality	18
Gender disparities persist in skill sets needed to thrive in a digital world	18
Opportunities in digital transformation	24
4 Multi-sectoral approaches to support gender equality	25
Entrenched gender inequalities hinder the inclusiveness of global transitions	25
Long-standing and modern barriers hamper progress in gender equality amid transitions	26
Opportunities to break down pervasive gender inequalities	34
5 Harnessing government tools and data for inclusive global transitions	36
Tools, capacities and data for driving inclusive transitions	36
Gender-responsive policymaking is essential for inclusive global transitions, but gaps in implementation persist	36
Spending is a crucial tool for ensuring gender equality, yet its potential remains untapped	39
Towards an enabling environment	42
Opportunities for using government policy and tools to promote gender equality	43
6 Policy recommendations	45
References	47
Notes	58

Figures

Figure 3.1. Boys continue to outperform girls in mathematics	19
Figure 3.2. The missing female coders	19
Figure 3.3. Closing the ICT gender gap	20
Figure 3.4. More women are authoring AI publications, but parity remains far off	21
Figure 3.5. Cyberbullying rates have increased in nearly all countries and regions	23
Figure 3.6. Problematic social media use affects girls more	23
Figure 4.1. Exploring the "iceberg" of gender-based discrimination: gender gaps above the water, discriminatory social institutions and restrictive norms of masculinities under the water	26
Figure 4.2. Changes in social norms are a mixed bag of progress and setbacks	27
Figure 4.3. Gender segregation in the choice of study fields and career expectations persists	29
Figure 4.4. Progress in closing the gender wage gap has been slow	31

Boxes

Box 1.1. Gender diversity in decision making and green financing	11
Box 1.2. Gender-responsive infrastructure and planning for inclusive mobility	12
Box 2.1. Gender perspective in development of renewables	15
Box 2.2. Challenges to women's advancement in the nuclear sector	16
Box 4.1. Australia's strategy for women in STEM	29
Box 4.2. Incentives for fathers to take leave after childbirth	30
Box 4.3. Pay transparency for equal pay	31
Box 4.4. Supporting women's representation in private leadership positions	32
Box 4.5. Germany's action plan for "More female entrepreneurs for small and medium-sized enterprises" (<i>Der Aktionsplan Mehr Unternehmerinnen für den Mittelstand</i>)	33
Box 5.1. Gender analysis to ensure green policies benefit everyone equally	37
Box 5.2. Integration of gender equality objectives into strategic planning documents guiding global transitions	38
Box 5.3. Gender budgeting amid the green and digital transition	40
Box 5.4. Gender-responsive procurement for inclusive transitions	41
Box 5.5. Sweden's gender-disaggregated data collection on environment-related policies	43

Executive summary

Women's freedom in their private lives and participation in public and economic life is both a matter of human rights and necessary for well-functioning societies and democracies. The past century has seen unprecedented expansion in gender equality. Women-led social movements have driven political, social and economic progress: ensuring women's right to vote, to work, to freedom of movement, to make autonomous decisions over their bodies, and much more.

These advances, however, were never universal, and face a new set of risks today. In many parts of the world, access to education, healthcare, job and food security and housing is receding. Amid these shifts, the gender divide again appears to be growing due to factors such as political polarisation, social disparity, and economic inequality.

The twin global transitions of climate and digitalisation offer multiple opportunities to promote gender equality in these spheres and across society. With careful planning, the green and energy transitions can facilitate gender equality through education, training and inclusion initiatives. These steps mutually reinforce advances in climate protection: given that many women-led public and private-sector organisations have proven to increase the effectiveness of climate-saving initiatives, gender equality in sectors such as innovation and renewable energy can foster inclusive and resilient economies and help hasten the net-zero transition.

Digital transformation of society may also unlock new economic opportunities, enhance employment prospects, increase participation in political and public life and help them obtain greater access to education, including for women and girls. It is also in the digital sphere where democratic participation, notably through social media engagement and access to information, can bring about new policies of inclusion.

However, the threats to gender equality posed by climate change and the dynamics of energy and digital transitions are often overlooked. These transitions also present risks of deepening existing gender disparities, such as wage gaps, opportunities for skills acquisition and women's representation in public and political spheres. Gender gaps in leadership roles within these fast-changing sectors will limit the perspectives shaping the transformations.

In order to deliver the potential opportunities and benefits offered by the twin transitions, countries need to take concerted action against the following emerging risks:

- **The green transition:** The effects of climate change have a disproportionate impact on women, especially in developing countries, where they lack access to and control over land and natural resources. For example, despite accounting for 43% of the world's agricultural labour force, less than 15% of landowners are women. Moreover, women are underrepresented in the green sector, holding just 28% of such jobs in OECD countries.
- **The energy transition:** Women continue to be underrepresented in the energy sector and earn almost 20% less than their male counterparts. Less than one in five senior positions are held by women and only 11% of energy start-ups are founded by women, compared to nearly 20% in other industries.
- **The digital transition:** The gender digital gap poses risks to gender equality. The gap in authorship of AI publications appears to be widening over time, with more publications having at

least one male author than those with at least one female author in 2023. In addition, technology-facilitated GBV is a significant and growing threat, with cyberbullying rates increasing in nearly all countries and region, and girls being more likely to be cyberbullied than boys.

- **Evolving governmental policies and tools:** Government tools, supposedly neutral, may inadvertently reinforce existing structural inequalities by not integrating a gender perspective and assessing how gender affects a person's experience, particularly in policymaking, spending and regulatory policies.

Policy action for gender equality

To effectively address these risks and leverage the opportunities created by the twin transitions to advance gender equality for sustainable and inclusive economies and societies, it is vital to address labour market inequalities and to ensure equal access to new job opportunities in green innovation, clean energy and AI research and applications. Research indicates that diverse teams outperform homogeneous ones, and promoting gender equality helps expand the talent pool, bringing fresh perspectives and innovative problem-solving approaches to the table. Thus, encouraging girls to enter the science, technology, engineering, and mathematics (STEM) fields will be crucial.

Other specific actions to foster gender equality in education and the labour market include transforming discriminatory social norms into gender-equitable ones; facilitating a more equal sharing of paid and unpaid work; providing more accessible and affordable early childhood education and care; promoting effective flexible working arrangements; and promoting gender equality in entrepreneurship.

It is also necessary to accelerate gender equality in leadership roles within transitioning sectors to optimise the economic and social benefits of the twin transitions. This requires eliminating all forms of discrimination against women and girls, including multiple and intersecting forms of discrimination, across social institutions in all aspects of their lives, including disproportionate time spent on unpaid care work by women, lower employment rates, labour market segregation, persistent glass ceilings, impediments to entrepreneurship or self-employment, and a limited representation of women in policymaking. It also calls for challenging gender stereotypes and transforming social norms and practices to promote equality and inclusion at all levels.

To develop and implement these policy actions, a wide range of tools to promote inclusivity and co-operation in domestic, international and development policies is available to governments. Engaging and ensuring the participation in decision-making of diverse population groups and collecting gender-disaggregated, gender-relevant and intersectional data support the design of effective policy frameworks and government responses to tackle gender inequalities. Multi-stakeholder partnerships, including governments, businesses, civil society and international and multilateral organisations, are an accelerator for the achievement of gender equality and creating a safe and inclusive environment for all.

In line with the objectives of the OECD's Contribution to Promoting Gender Equality, the OECD is stepping up the level of ambition of the Organisation's work on gender equality. This paper brings together the core analysis on the pursuit of gender equality in the context of global transitions based on OECD data and evidence to support decision-makers to adopt policies which advance gender equality. It also incorporates insights of the first edition of the OECD Forum on Gender Equality. This report primarily focuses on women and girls due to the specific nature of available data, but it acknowledges the importance of intersectionality and addresses it whenever possible, underlining the need for more comprehensive data collection.

Closing the gender gap in the green, energy and digital transitions must be pursued with the same urgency that governments and activists have been calling for action on AI and climate change: these social, environmental and economic changes are deeply intertwined. This report highlights the current risks of overlooking this connection – not only for the women affected, but for the sake of the transitions themselves.

1 Making gender equality central to the net-zero climate imperative

Gender equality and climate action is not a zero-sum game

Environmental and climate degradation can exacerbate existing gender gaps, disproportionately impacting women due to structural inequalities. It is therefore crucial to pursue gender equality and environmental goals jointly through integrated policy approaches (see section 5).

Climate change acts as a “threat multiplier”, particularly for those at the intersection of multiple inequalities, such as Indigenous and Afro-descendant women and girls, LGBTQI+ persons, women and girls with disabilities, and those living in rural, remote, conflict and disaster-prone areas (UN Women, 2022^[1]). Likewise, biodiversity loss and pollution disproportionately harm those who rely most on natural resources and are often the least able to adapt to environmental changes.

While the link between gender and the environment is clear, it does not always translate into more responsive policies towards gender equality. Indeed, only 17 out of 30 OECD countries who replied to a survey reported considering gender aspects in environmental policymaking, either systematically or occasionally (OECD, 2021^[2]). Globally, only 55 national climate action plans explicitly mention gender equality, and merely 23 recognise women as drivers of change in accelerating climate commitments (UN Women, 2023^[3]).

Policies must factor in development issues to advance gender equality globally. There is potential for better aligning gender equality and climate protection goals through co-operation and investment policies. Actors including OECD Development Assistance Committee (DAC) members, financing institutions and philanthropic foundations address the intersection of climate change, environmental degradation, biodiversity loss and gender inequalities to some extent, but more can be done. For example, OECD DAC members integrate gender equality objectives into only 55% of all climate-related Official Development Assistance (ODA) (OECD, 2023^[4]).

Incorporating the issue of gender equality into climate policy has created a clear divergence of opinions among societies and businesses, as recent data from the European Union (EU) reveals. Some respondents expressed strong support for this integration (22.1%), though nearly an equal proportion (19.8%) was firmly opposed (European Union, 2024^[5]) (UN Women, 2023^[3]).

Climate change and environmental factors do not affect everyone equally

Environmental change affects people differently, exposing underlying gender inequalities, discrimination, and physiological factors that determine one’s vulnerability (OECD, 2023^[6]). For example, in low- and lower-middle-income countries, where agriculture is a critical source of women’s employment, climate impacts such as droughts or unpredictable rainfalls pose challenges for women in sustaining and supporting their families. In addition, women’s limited participation in the formal economy diminishes their

ability to protect and adapt themselves to climate change (see section 4) and women and girls account for 80% of those displaced by climate-related events (UNESCO, 2024^[7]). Climate change also drives rural-urban migration, shifting gender roles and placing additional agricultural and household responsibilities on rural women, further impacting food security (Braham, 2018^[8]).

Gender-based differences in environmental health risks are also noteworthy. Evidence shows that environmental and occupational risks cause more male deaths in OECD countries due to their exposure to outdoor air pollution (OECD, 2020^[9]). However, globally, women are disproportionately harmed by indoor air pollution, for example due to cooking and heating fuels (see section 2) (OECD, 2021^[2]),¹ as well as poor sanitation (OECD, 2020^[9]). Additionally, women engaged in informal and often unpaid waste management tasks tend to be unwittingly exposed to harmful substances and chemicals (OECD, 2021^[2]).

Natural disasters and other hazards² – having nearly doubled over the past two decades (UNDRR, 2020^[10]) – also have varying impacts. For example, extreme heat is particularly dangerous for pregnant women and is associated with an increased risk of developing complications that lead to adverse maternal and perinatal outcomes (WHO, 2023^[11]). Moreover, due to a disproportionate share of familial responsibilities and limited access to technology, women may encounter significant challenges in making evacuation decisions, in mobility, and in managing increased unpaid workloads during disasters (OECD, 2018^[12]) (OECD, 2021^[13]). In the aftermath, there is a heightened risk of gender-based violence (GBV) as well as early and forced marriages, loss of livelihood, restricted access to education and deterioration in sexual and reproductive health (OECD, 2023^[14]). While these issues may be interconnected and exacerbate each other in the context of natural disasters, they remain challenges that require separate consideration and government responses.

Furthermore, people with intersecting marginalised identities, especially those with disabilities, are particularly affected by disasters. For example, individuals with disabilities are at higher risk of negative health and social outcomes from natural hazards (The University of Melbourne, 2017^[15]). Addressing these differentiated impacts and vulnerabilities is crucial in disaster risk reduction and management.

Women play an important role in achieving net-zero, but gender equality in decision-making falls far short

Women remain underrepresented in public environmental leadership positions. As of 2023, only 23% of cabinet positions and 32% of environment ministers worldwide were women (UN Women, 2023^[3]). Women's service as environment ministers, in delegations and as national representatives to United Nations environmental conventions such as the Framework Convention on Climate Change (UNFCCC) is even lower in many developing countries, despite their greater vulnerability to climate impacts³. It is also important to recognise that gender-diverse representation in negotiations does not guarantee substantive participation. Factors such as race, nationality and proficiency in English can serve as discriminatory barriers, emphasising the importance of embracing intersectionality in climate leadership (Strumskyte, Ramos Magaña and Bendig, 2022^[16]).

The green transition offers opportunities to accelerate gender equality

Since 2019, demand for green jobs has grown 30% faster than the overall labour market. The energy sector in Europe, for instance, is expected to yield substantial job gains in areas such as water supply, waste management, utilities and electricity due to advancements in circular economies and renewables. Moreover, sectors such as manufacturing and construction will also be influenced by the effects of green initiatives (CEDEFOP, 2021^[17]).

However, women occupy only 28% of green jobs in OECD countries, even as non-green jobs are much more evenly distributed among women and men. In France, for example, women hold only 18% of green occupations, as compared to 48% representation in all professions (République Française, 2020^[18]). Importantly, green jobs offer up to 20% higher pay than other jobs (OECD, 2023^[19]), and leaving women behind in the green job market risks exacerbating the existing gender pay gap (see section 3).

While the green transition is expected to bring about net job gains overall, it will likely result in the loss of some existing jobs, especially highly polluting or “brown” jobs (OECD, 2023^[20]). Even if jobs in these sectors are largely held by men, knock-on effects for women’s employment imply a role for gender-responsive transition policies in affected regions. For example, studies on the restructuring of coal mining regions suggest that in some cases unemployed men have crowded women out of the local labour market in the long term, although the literature is limited and further research is needed (OECD, 2021^[13]). Moreover, when rural jobs are lost due to climate stressors, men often migrate to urban centres, exacerbating the disproportionate responsibilities of unpaid care work borne by women.

Furthermore, women’s underrepresentation in green jobs necessitates tackling gender gaps in relevant educational fields. Despite girls being more likely to exhibit foundational levels of environmental sustainability competence (OECD, 2023^[21]), women remain largely underrepresented in green-related fields of study, especially in science, technology, engineering, and mathematics (STEM) (see section 4). Filling this gap is urgent, as some figures show that demand for green expertise currently surpasses available supply, with vacancies for environmentally conscious roles increasing by 8% annually since 2015, in contrast to a 6% rise in the supply of green talent (LinkedIn Economic Graph, 2022^[22]). The lower likelihood of women pursuing qualifications in STEM-related fields also helps explain the relatively low number of female investors in technology, further slowing the development of new green low-carbon technologies (OECD, 2021^[13]).

Evidence shows that the participation of women in the finance industry could result in greener performance (Box 1.1). At present, only 1% of climate financing is allocated to organisations led by women globally (UNESCO, 2024^[7]) (see section 4).

Box 1.1. Gender diversity in decision making and green financing

Evidence shows that companies with more gender-diverse leadership tend to perform better financially, with higher returns on equity, assets, sales, as well as greater financial stability for banks. Women directors often focus more on environmental, social, and governance (ESG) issues, prioritising sustainability and responsible corporate practices. Research indicates that when women hold at least 30% of corporate boards seats, companies’ climate impact improves significantly. Since the 2015 Paris Agreement, firms with greater gender diversity in management have reduced their carbon dioxide (CO₂) emissions by about 5% more than those with predominantly more male managers. This underscores the importance of promoting gender diversity in leadership to enhance corporate performance and contribute to sustainability. Moreover, supporting women entrepreneurs and women-led businesses can improve women’s access to financial services, fostering their economic empowerment and participation in the green economy.

Source: (OECD, 2022^[23]; Strumskyte, Ramos Magaña and Bendig, 2022^[16]; Sasakawa Peace Foundation and BloombergNEF, 2020^[24])

Gender-responsive infrastructure and transport can boost gender equality in economic participation

Infrastructure policy – encompassing transportation networks, energy systems and public services, among others – is crucial for economic growth and influences an individual’s well-being in a variety of ways

(OECD, 2023^[25]). At the same time, the infrastructure sector is a significant source of pollution and carbon emissions (over 60% of all greenhouse gases) and will require seismic reforms to meet the net-zero target.

Men and women may have different infrastructure-related needs, such as varying restrictions on mobility and resources, daily routines and time-availability, physiological needs and vulnerability to violence in public spaces. OECD estimates show that improved access to social infrastructure could increase women's labour market participation by around 3%, which would add 2.5% to the GDP per capita globally (OECD, 2021^[2]).

Inadequate frequency, coverage, and safety of public transportation systems hinder women's participation in the labour market to a greater extent than that of men. Indeed, while women represent 66% of public transport users globally, urban planning typically caters to the needs of an "average" worker, neglecting the diverse responsibilities and mobility patterns of women who balance work, family and other duties (Diehl and Cerny, 2021^[26]). This can cause gender disparities in access to education, jobs, and other opportunities for economic empowerment by increasing the time and means spent on commuting. Transport solutions that suit men – who tend to make few direct trips at set times and often alone – are not necessarily convenient for female transport users (Sustainable Mobility for All, 2023^[27]). Although recent studies have found that longer commutes increase the probability of leaving a job for both men and women, these effects are greater for women. Women who have an hour-long commute are 29.1% more likely to leave their current job than if they had a 10-minute commute, compared with 23.9% for men (OECD, 2021^[28]).

However, only 30% of the International Transport Forum's (ITF) Member countries have been taking steps to implement national transport strategies with measures to promote gender equality. To boost efforts in this regard, the ITF has developed the Gender Analysis Toolkit for Transport Policies (ITF, 2022^[29]).

Concerns about sexual harassment and abuse also remain significant barriers to women's full participation in sustainable modes of transportation (EIGE, 2017^[30]). Women particularly avoid poorly lit areas at night due to fear of aggression and face increased risks of sexual harassment in overcrowded public transport (European Bank for Reconstruction and Development, 2011^[31]).

Box 1.2. Gender-responsive infrastructure and planning for inclusive mobility

Colombia's strategy to enhance women's mobility

Colombia's National Urban Mobility Strategy (ENMA) aims to reduce climate change impacts and greenhouse gas emissions by promoting walking and cycling, aligning with the transport sector's Paris Agreement commitments. The strategy also integrates gender mainstreaming to better understand diverse mobility needs.

Gender equality in Chile's Sustainable Mobility Plans

In Chile, under the MobiliseYourCity initiative, Sustainable Urban Mobility Plans were developed in collaboration with Latin American cities. In Antofagasta, a gender perspective was integrated into travel surveys, territory studies, and transport route analysis, revealing significant gaps in meeting women's mobility needs. Measures to address these gaps, including public transport and land use improvements, are now integrated into planning, including the Mobility Policy with a gender approach.

Source: (Changing Transports, n.d.^[32])

Opportunities to advance gender equality as part of the green transition

Advancing gender equality is crucial for ensuring inclusivity in governments' response to climate change and sustainable development, as women play a pivotal role alongside men in climate change mitigation and adaptation. Furthermore, the green transition to a net-zero economy will have profound labour market implications, presenting a unique opportunity to boost women's economic empowerment. Specifically, it is important to recognise and leverage the influence of women in promoting climate-friendly behaviours across all aspects of life and especially through their leadership.

Evidence suggests that women are more inclined towards consumption practices aligned with achieving net-zero emissions (OECD, 2022^[33]). For instance, research from Sweden shows that women's spending habits reflect a preference for eco-friendly products and services, with their expenditures on food, furniture and leisure associated with 16% lower greenhouse gas emissions compared to men's (Carlsson Kanyama, Nässén and Benders, 2021^[34]).

Moreover, many organisations led by women across various sectors, including public, private, and civil society, showcase enhanced environmental performance (Strumskyte, Ramos Magaña and Bendig, 2022^[16]). For instance, in India, research demonstrates that increased gender balance in decision-making resulted in an 11% expansion of forest cover in studied regions (Agarwal, 2009^[35]).

Studies also show that more gender-equal participation in decision-making can lead to better environmental outcomes (Strumskyte, Ramos Magaña and Bendig, 2022^[16]). For example, gender-equal representation in decision-making can reveal the gendered nature of environmental impacts, as women in positions of political power are often more inclined to prioritise gender-sensitive issues (Clayton, Josefsson and Wang, 2016^[36]). Equal representation also results in more ambitious climate objectives and policies (Mavisakalyan and Tarverdi, 2019^[37]). Increased gender equality in parliaments has been linked with improvements in both progress towards Sustainable Development Goals (SDG) (Mirziyoyeva and Salahodjaev, 2021^[38]) and the environmental performance of countries (DiRienzo and Das, 2019^[39]).

Women also play an important role in promoting sustainable mobility practices, as they demonstrate greener travel behaviours. Women walk and use public transport more than men (OECD, 2023^[40]). If men were to travel in the same manner, emissions from passenger transport would decrease by 18% (EIB, 2022^[41]). Therefore, incorporating gender considerations into infrastructure design, especially in transport, is critical for encouraging a shift toward low and zero carbon transport options.

Greener transport is not the only emerging trend in mobility infrastructure; others include smartphone-based mobility services, autonomous driving and car sharing (UITP, 2023^[42]). These evolving trends can improve women's mobility based on their travel patterns. Cross-sectoral collaboration between the technology industry and the green mobility industry – with a particular focus on better integrating women's mobility needs – could enhance their economic participation, potentially boosting economies (OECD, 2021^[28]).

This and the following section also contribute to the OECD Horizontal Project “Net Zero+: Climate and Economic Resilience in a Changing World”.

2 Why gender matters in the energy transition era

Gender perspectives are crucial in times of unprecedented energy transition

Access to clean energy is a precondition for health, education and economic prosperity, and essential to achieving all SDG, including SDG 5 for gender equality. Although energy is vital for both women and men, energy needs, access, usage impacts and policies are not gender-neutral. Studies confirm that women often face greater exposure to energy and transport poverty, which can limit their employment opportunities, leading to negative health effects and social exclusion. This disparity is often exacerbated by lower levels of disposable income and overrepresentation in single-parent households. However, energy policies and planning often lack a gender perspective, and women continue to be underrepresented in the energy and transport sectors and leadership positions (see section 1).

The link between gender inequalities and the energy transition is receiving increasing attention, although further data and analysis are necessary to fully understand its impact on gender equality.

Access to energy is not gender-neutral

Energy poverty is characterised by profound gender disparities, mainly driven by the overall earnings gap and the uneven distribution of unpaid care work. Recent research by Eurostat shows that, across Europe, 8.1% of female-led households are unable to keep their home warm, as opposed to 7.5% for male-led ones. Additionally, 8.3% of female-led households appear to be behind in utility bills compared to 7.2% of male-led households. Moreover, households with a female head allocate a greater portion of their budget to energy expenses (Murauskaite-Bull et al., 2023^[43]).

The unequal share of unpaid work disproportionately exposes women to certain types of pollution (see section 1). In 128 countries worldwide, 2.3 billion people, predominantly women, still cook their meals over open fires or on basic stoves, exposing themselves to harmful smoke released from burning materials like coal, charcoal, firewood, agricultural wastes and animal dung. These practices are linked to around 2.5 million premature deaths annually, with women and children facing the highest risk. In many households, women have limited control over spending, with other priorities often taking precedence over investing in clean cooking technologies (IEA, 2023^[44]).

The energy sectors are male-dominated

The energy sector has historically been a male-dominated field and its workforce distribution is unrepresentative of the broader population and workforce at large. Despite making up to 39% of the global labour force, women only account for 22% of roles in the traditional energy sector (oil and gas) (IRENA, 2019^[45]). Globally, women hold 11% of ministerial positions responsible for energy, natural resource fuels, and mining across 190 countries (UN Women, UNIDO, 2023^[46]).

In 2022, women accounted for up to 15% of senior management in publicly listed energy firms worldwide, on par with the 16% representation in all publicly listed firms across all business sectors. The figures vary significantly from one sector to the next, ranging from 9% in the nuclear power sector to 20% in electricity grid infrastructure and services. Two-thirds of energy subsectors fall below the 15% average share of female senior managers in all sectors. Female representation is even lower in higher-level senior management positions relative to overall senior management. In 2022, in the energy sector, positions such as founders and executive officers had almost no female representation (0% and 1% respectively), and female Presidents/CEOs and chairpersons were just slightly above 5% (IEA, 2023^[47]).

These findings suggest that a second glass ceiling exists beyond the senior management level. There is higher gender-balanced representation in leadership positions in multinational energy enterprises, many of which have implemented policies focused on diversity and inclusion. Large and publicly listed firms, and those that operate across multiple markets, have begun to yield to increased scrutiny from investors and are therefore more likely to adopt comprehensive gender-sensitive employment practices (IEA, 2021^[48]).

Box 2.1. Gender perspective in development of renewables

The shift to renewable, distributed, and decarbonised energy systems is creating an array of social and economic advancements, including employment opportunities that require varying skill sets and talents. The International Renewable Energy Agency (IRENA) estimates that the number of jobs in the sector could increase from 10.3 million in 2017 to nearly 29 million in 2050. A key objective of the energy transition should be ensuring that the opportunities it creates are equally accessible, and the benefits it bestows equitably distributed.

IRENA's 2018 online survey shows that women already have a stronger presence in renewable energy than in fossil fuels, holding 32% of full-time jobs in the sector as compared to 22% of roles in oil and gas industry.

As a young and dynamic sector, renewable energy is open to change in ways that are harder to effect in an industry as set in its ways as the relatively mature fossil fuel sector. Although some technical fields are still male-dominated, younger generations of women are increasingly educated and prepared for the emerging opportunities in renewable energy. The right set of public policies can help ensure that women benefit fully from these opportunities.

Adopting a gender perspective in renewable energy development is critically important to ensure that women's contributions – especially their skills and views – comprise an integral part of the growing industry. Studies suggest that women bring new outlooks to the workplace and improve collaboration, while increasing the number of qualified women in an organisation's leadership yields better performance overall. In the context of energy access, engaging women as active agents in deploying off-grid renewable energy solutions is known to improve sustainability and gender outcomes.

Source: (IRENA, 2019^[45])

When female employment is disaggregated by the size of the company, smaller energy firms consistently demonstrate larger employment gaps, while there is no discernible common cross-national trend regarding women's employment and the size of non-energy firms (IEA, 2023^[47]). There are disproportionately higher shares of women in low-wage firms and occupations in the energy sector compared to the rest of the economy. Wages for female employees are almost 20% lower than for male employees, with the gap being somewhat greater than in non-energy firms. Significantly, the wage gap remains approximately the same when other factors are accounted for, indicating that the gap is not a function of gender differences in skill levels within firms (OECD, 2023^[6]). Unfair negotiating and discrimination were identified as playing a major role in explaining this wage gap. Additionally, women working in energy were more likely to leave for

another sector than those working in other sectors, which highlights a retention problem that needs to be addressed along with other factors that prevent diversity (IEA, 2022^[49]).

A similar situation exists in the nuclear energy sector. The first comprehensive survey of gender distribution in nuclear jobs in Nuclear Energy Agency (NEA) member countries substantiated women's underrepresentation in the sector, especially in STEM and leadership roles. Based on data from 17 countries, women make up 24.9% of the nuclear workforce, 20.6% of the STEM workforce and only 18.3% of senior leadership roles. Current recruitment, attrition and promotion rates are insufficient to significantly improve gender balance in the sector (NEA, 2023^[50]). The survey identified several challenges to women's advancement in the nuclear sector, including that women are, on average, paid less than men in the nuclear sector, that the female promotion rate is insufficient for significantly improving the gender balance in STEM roles and that women regard opportunities for career advancement as unequal (Box 2.2).

Box 2.2. Challenges to women's advancement in the nuclear sector

Data and qualitative surveys from the OECD Nuclear Energy Agency show that women in the nuclear sector tend to be paid less than men. Salary disparities between men and women are lowest in European countries.

Women are awarded 27.1% of promotions in the nuclear sector, which is higher than their representation in the nuclear workforce (24.9%). Women in positions requiring university degrees and in management roles are being promoted above their proportional workforce representation in these categories. However, promotion rates for non-STEM roles significantly exceed those for STEM roles, exacerbating trends that concentrate women in non-STEM areas.

While women express a desire for career progression, they do not regard opportunities in the nuclear workplace as equal and face tacit or explicit institutional barriers to their retention and advancement. Major hurdles include stereotypes or unconscious bias about leadership characteristics; real or perceived incompatibilities between family and career responsibilities; and workplace cultures unsupportive of women's professional development.

Moreover, although women make up 26% of participants in career development programmes, surpassing their proportional representation in the nuclear workforce (24.9%), qualitative surveys reveal disparities in opportunities. Finally, women identify the lack of female role models, mentors and leaders, as well as entrenched perceptions of nuclear careers as masculine, as significant barriers to achieving gender balance in the sector.

To address this issue, an OECD Recommendation on Improving the Gender Balance in the Nuclear Sector was adopted by the Council in 2023.

Source: (NEA, 2023^[50])

Similarly, gender diversity remains limited in the transport workforce. Only 22% of transport employees in the EU are female. Women are particularly rare in senior roles in the transport, logistics and infrastructure sectors. In the United States, for example, only 14% of these roles are filled by women (OECD, 2023^[6]).

Women remain a minority among inventors and entrepreneurs in the field of energy technologies, although their representation is increasing

Women pioneered the nuclear and radiological fields and continue to play an important role in innovation. The number of patents with at least one female inventor shows that the number has more than doubled for energy technologies worldwide between 2000 and 2019, even when split into fossil fuels and clean energy transition patents, reaching 34% and 32% respectively (IEA, 2023^[47]). The trend is similar for all technologies, based on the International Energy Agency (IEA) analysis of the European Patent Office's

World Patent Statistical Database (European Patent Office, 2022^[51]). The percentage of female inventors in OECD countries has remained stable over the past decade (see section 3), while it has doubled at the global level for energy technologies and all other technologies. In 2019, 20% of worldwide inventors in all technologies were female, compared to 11% in energy technologies in OECD countries (OECD, 2023^[6]).

However, the number of start-ups with gender diverse founders has been consistently lower in the energy sector compared to non-energy since 2000, though both have grown over the past two decades (see section 4). Energy start-ups with gender diverse founders grew from 3% in 2000 to 11% in 2021, while the number of non-energy start-ups with gender diverse founders increased from 14% to 20% (IEA, 2023^[47]).

In terms of the average amount raised per start-up, the gender gap is much larger in the non-energy sector. Non-energy start-ups with gender diverse founders raised less than one-half the funds when compared to male-only founded start-ups. However, in the energy sector, start-ups whose founders are gender diverse raise more on average (USD 36 million) than start-ups founded exclusively by men (USD 30 million) (OECD, 2023^[6]).

Opportunities to advance gender equality as part of the energy transition

Gender equality in the energy sector is necessary for driving more innovative and inclusive solutions, particularly in the context of the clean energy transition. When women have ownership and benefit from energy use in activities such as paid work or healthcare, it opens up a wealth of opportunities for economic empowerment and resilience. Furthermore, transitioning to a greener energy sector presents an opportunity to address gender gaps in employment (see sections 1 and 4). Inter-institutional partnerships including the public, private, and non-governmental sectors can be effective in providing women with opportunities and skills to find clean energy employment.

It is urgent for countries to attract and retain a diverse workforce in the energy and transport sectors to ensure innovation and the inclusive perspectives needed to successfully navigate the low-carbon energy transition. The transformation of these sectors towards sustainable, clean energy sources provides a golden opportunity for greater gender diversity, including women from low-income, indigenous, or rural backgrounds.

Moreover, women entrepreneurs can improve the effectiveness of the energy supply chain by fast-tracking the final stages of distribution of renewable energy technologies. They have been found to have the ability to connect with female customers, foster community awareness, and distribute products and services via previously unexplored social networks (Cecelski and Oparaocha, 2023^[52]).

3 Bridging digital gender divides

Digital transformation presents both opportunities and risks for gender equality

Despite the progress made in recent years, women and girls continue to face numerous barriers that prevent them from fully benefiting from digital technologies. Gender gaps persist in many of the skills that are key for thriving in a digital world, which limits participation of women and girls in information and communication technologies (ICT) and STEM careers; this also leads to underrepresentation in the research and development (R&D) of digital technologies, such as AI. In addition, women and girls are disproportionately affected by negativity online, technology-facilitated gender-based violence (TF-GBV), which poses significant risks to their well-being and mental health.

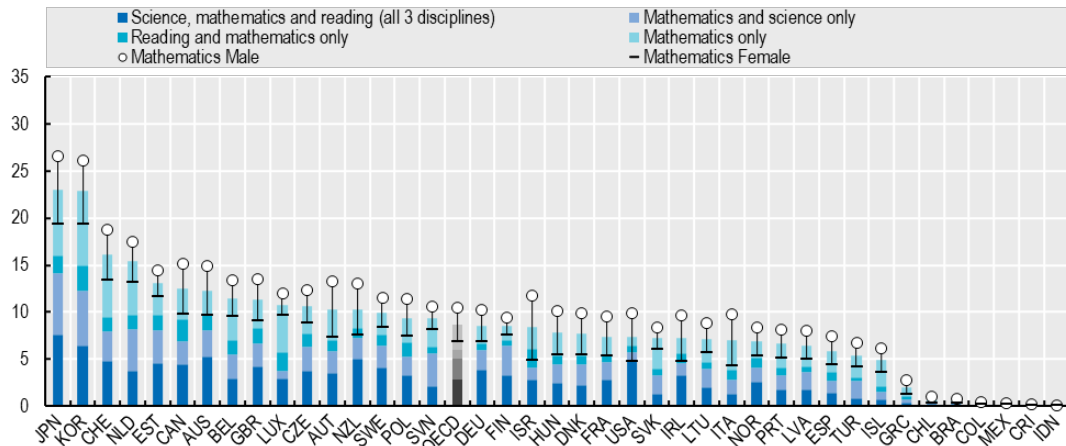
Gender disparities persist in skill sets needed to thrive in a digital world

The increasing benefits of digital competency and skills put significant pressure on governments to address gender inequalities in education, particularly in foundational ICT and related skills, including programming. These skills are prerequisites for thriving in a society where people increasingly rely on digital technologies for communication, social interaction, and work (OECD, forthcoming^[53]).

Proficiency in subjects like science, reading, and mathematics serves as a basis for using digital technologies effectively and can therefore impact future personal and professional prospects. However, there are persistent disparities in educational performance between genders, where boys continue to perform better than girls in mathematics (Figure 3.1), while girls excel in reading (OECD, 2024^[54]). This gender gap has remained largely unchanged since 2018 and has even widened in some countries (OECD, 2023^[55]). Factors contributing to the underachievement of high-performing girls in mathematics may include lower self-confidence and anxiety towards the subject (Encinas-Martín and Cherian, 2023^[56]).

Figure 3.1. Boys continue to outperform girls in mathematics

Percentage of top-performing students aged 15-16 years, 2022 (or latest available)



Note: Top performers in science, mathematics and reading are students aged 15-16 years who achieved the highest level of proficiency (i.e. Levels 5 and 6) on the OECD PISA assessment.

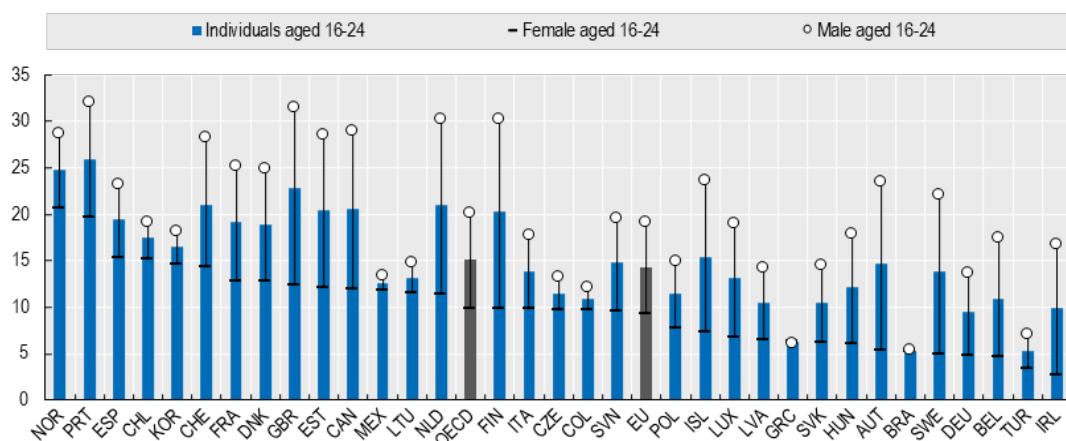
Source: The OECD Going Digital Toolkit, based on the OECD Programme for International Student Assessment (PISA) Database (<https://oe.cd/pisa>, <https://goingdigital.oecd.org/indicator/52>) (accessed on 12 February 2024).

The gender gap seen in foundational subjects also extends to computer programming skills. Across the EU this gender gap is stark, with more than twice as many young men (aged 16-24) than women having learnt to program (Figure 3.2). This gap is a cause for concern, particularly given people's increasing reliance on digital technologies and algorithms for decision-making. In addition, people with programming skills can shape the development of digital technologies and their application in various sectors, such as healthcare, education and finance.

In 2021, there were fewer female students graduating in ICT or STEM fields than male students in all countries for which data is available (OECD, 2024^[57]).

Figure 3.2. The missing female coders

Women's representation out of all 16-24 years-old who can program, 2023 (or latest available)



Note: The data refer to individuals who "wrote code in a programming language". The latest data refer to a recall period of 3 months prior to being surveyed, though some countries use different periods and recall periods may vary over time. The OECD ICT Access and Usage by Households and Individuals Database includes data from Eurostat. In 2021, Eurostat changed the recall period from the previous 12 months prior to being surveyed to the previous 3 months.

Source: The OECD Going Digital Toolkit, based on the OECD ICT Access and Usage by Households and Individuals Database, <https://goingdigital.oecd.org/indicator/54> (Accessed on 29 February 2024).

The male bias in the ICT sector diminishes the inclusiveness of the digital transformation

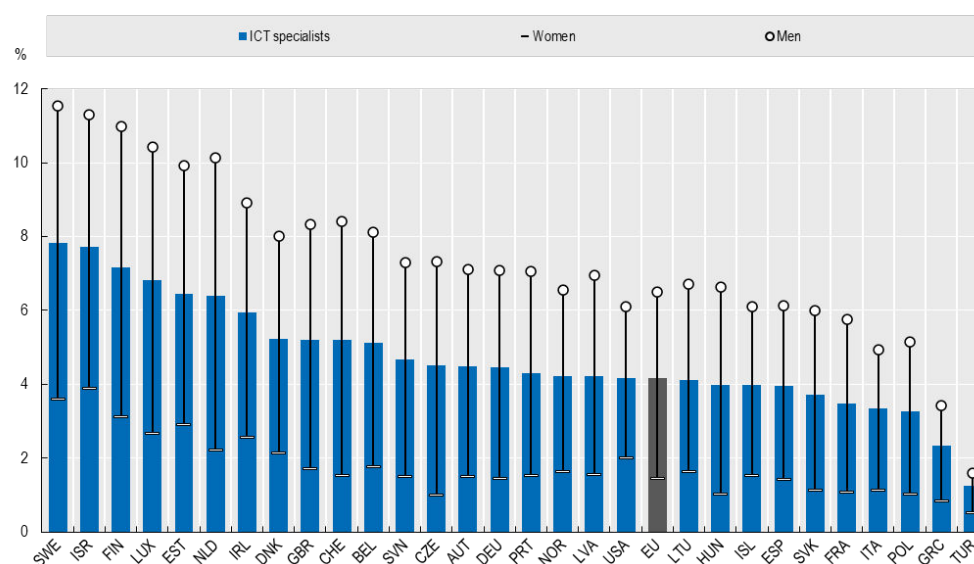
With digital advancements continuously transforming the labour market, society and workplace, there is greater demand for a skilled workforce in ICT-related tasks and digital-intensive industries. However, women continue to be underrepresented in the ICT sector, as outlined by the forthcoming *OECD Digital Economy Outlook 2024 (Volume 2)* (OECD, forthcoming^[58]).

The gender imbalance in ICT persists across countries (OECD, 2024^[61]). Over the past decade, the number of women working in ICT specialist jobs has increased by only 1% and across OECD countries, the percentage of men as ICT specialists is three to seven times higher than the percentage of women working in such positions (OECD, forthcoming^[58]). Progress remains slow and the prospects for change unlikely given that by the age of 15, less than 1% of girls on average across the OECD aspire to become ICT professionals, compared to almost 8% of boys (OECD, 2019^[59]).

Even in economies with the highest shares of ICT specialists in the total workforce, such as Sweden (7.8%), Israel (7.7%) and Finland (7.2%), gender disparities persist. While these countries boast a higher proportion of female ICT specialists compared to others, there remains a significant gender gap. Overall, women represent a tiny fraction of ICT specialists, ranging from 0.5% in Türkiye to 4% in Israel. This indicates a systemic issue that transcends geographical boundaries (Figure 3.3).

Figure 3.3. Closing the ICT gender gap

ICT specialists as a percentage of all jobs, total economy, by gender, 2022 (or latest available)



Note: ICT specialist occupations are identified by three-digit classes of the 2008 revision of the International Standard Classification of Occupations (ISCO-08): Information and communications technology service managers (133), Electrotechnology engineers (215), Software and applications developers and analysts (251), Database and network professionals (252), Information and communications technology operations and user support (351), Telecommunications and broadcasting technicians (352) and Electronics and telecommunications installers and repairers (742).

Source: The OECD Going Digital Toolkit, based on European Labour Force Surveys, national labour force surveys and other national sources, <https://goingdigital.oecd.org/indicator/40> (accessed on 16 February 2024).

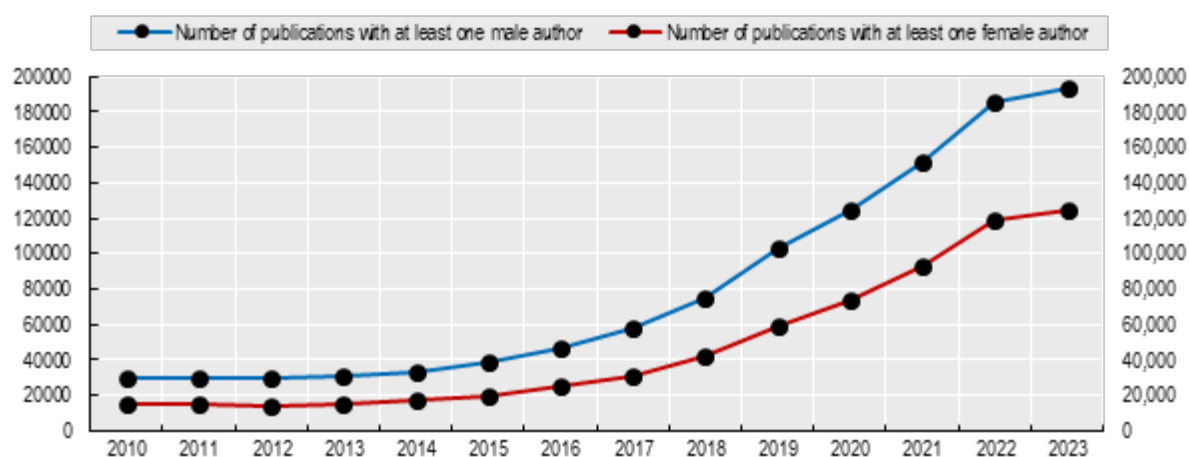
Gender inequalities in AI-related R&D risk perpetuating harmful biases

AI stands out as one of the most transformative technologies, reshaping how people interact, work and obtain information. However, the decisions made by AI systems rely on the developers and data on which they are trained. Without diverse representation, these technologies may perpetuate harmful stereotypes and biases, leading to continued discrimination against members of underrepresented groups (Williams, Brooks and Shmargad, 2018^[60]) (Chen, 2023^[61]).

While the number of publications on AI is rising at a rapid pace, women continue to contribute to a smaller number of publications compared to men. This gap seems to be increasing over time, so much so that in 2023, the number of publications with at least one male author was over a third higher than those with at least one female author (Figure 3.4). The gender gap in computer science research is also alarming, with projections suggesting that gender parity in publications will not be achieved this century if current trends continue (Wang et al., 2021^[62]).

Figure 3.4. More women are authoring AI publications, but parity remains far off

Number of AI research publications by gender, all countries



Note: For this experimental indicator, Elsevier assigned a gender value only to those authors in the Scopus dataset for whom the algorithm used returned a gender probability of 85% or higher. To ensure a sufficient number of authors for analysis, the gender probability threshold was set at 70% for China. Additional information is available in the [methodological note](#). Due to a lag in reporting, figures for the latest quarter may appear slightly lower than they actually are. This is automatically corrected in subsequent updates. Data downloads provide a snapshot in time. Caution is advised when comparing different versions of the data, as the AI-related concepts identified by the machine learning algorithm may evolve over time. Please see methodological note for more information.

Source: (OECD, 2024^[63]), visualisation powered by JSI, using data from Elsevier, www.oecd.ai.

Imbalanced gender representation in AI-related professions globally (OECD, 2024^[63]) has also led to concerns about the perpetuation of biases through AI generated outputs. For example, large language models have been observed to generate outputs reinforcing gender stereotypes, with women more likely associated with family and appearance and described as less powerful than men (Lucy and Bamman, 2021^[64]). Bias also extends to image models, where women are portrayed in hypersexualised images (Lamensch, 2023^[65]), while men are portrayed as professional and career-oriented (Caira, Russo and Aranda, 2023^[66]; Lorenz, Perset and Berryhill, 2023^[67]). However, attempts to correct bias problems in AI generated outputs have faced criticism for overcorrecting and creating inaccuracies in historical depictions (Robertson, 2024^[68]).

The digital space is not immune to gender-based violence (GBV)

GBV pervades multiple spheres of life (see section 4), including the online sphere. TF-GBV is a growing concern and can include harmful and illegal practices such as online harassment, cyberbullying, stalking and gender-based mis- and dis-information. For example, evidence highlights that women public figures face higher rates of exposure to TF-GBV and gender-based mis- and dis-information (Internet Governance Forum, 2021^[69]) (UN Women, 2021^[70]), being persistently more targeted than their male counterparts (ShePersisted, 2023^[71]). They are also marginalised for other reasons, such as sexual orientation and race or ethnicity, groups even more vulnerable to violence (Amnesty International, 2018^[72]) (UNFPA, 2021^[73]) (Women Political Leaders, 2022^[74]). A recent study has shown that 85% of women parliamentarians in 45 European countries experienced psychological violence during their term and 58% became targets of online sexist attacks on social networks, prompting many to consider withdrawing from politics (National Democratic Institute for International Affairs, 2023^[75]). A study conducted in the United Kingdom by the Women and Equalities Committee noted the role of online harassment, abuse and threats of violence as significant factors in the poorer retention rate of female MPs compared to their male counterparts (UK Parliament, 2022^[76]).

As immersive technologies approach a tipping point, concerns about TF-GBV are growing within these environments. For example, one study shows higher incidences of sexual harassment among female virtual reality (VR) users compared to their male counterparts (Outlaw, 8 May 2018^[77]). Furthermore, the integration of generative AI and immersive technologies accelerates content creation, potentially leading to the development of experiences that inadvertently encourage gender-based targeting (Lorenz, Perset and Berryhill, 2023^[67]; DataHub YouTube channel, 20 July 2023^[78]).

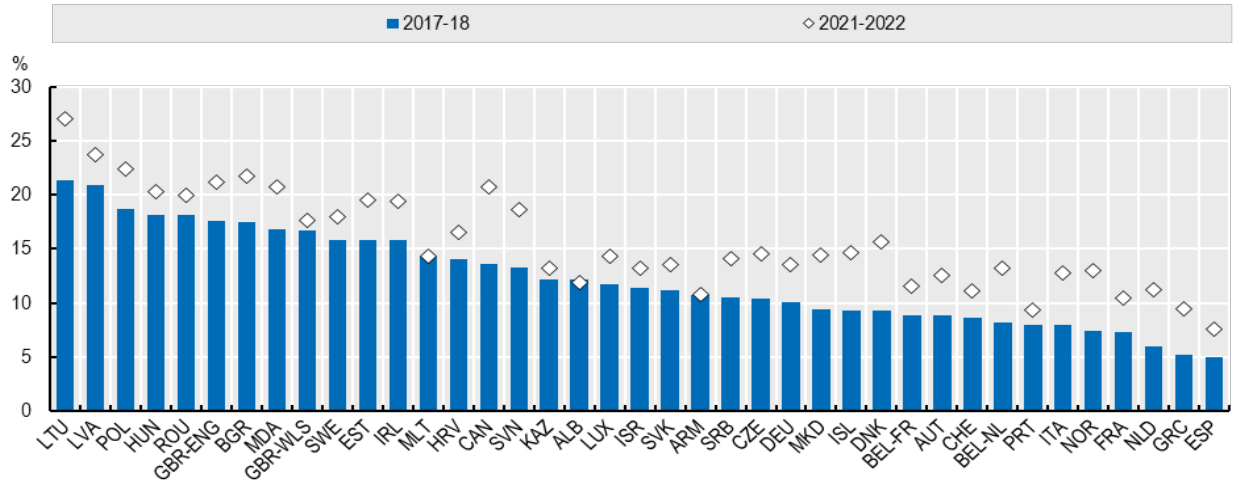
Negative behaviours online are increasing, and they impact groups differently

New analysis from the *OECD Digital Economy Outlook 2024 (Volume 1)* explains why people communicate differently online and presents evidence of how negative behaviours in digital environments, such as cyberbullying and problematic social media use are on the rise and affect girls more (OECD, 2024^[79]). Since 2017-18, cyberbullying rates have increased in nearly all countries and regions analysed, with girls being more cyberbullied than boys (Figure 3.5). Among OECD countries where girls were cyberbullied more than boys, the gap between cyberbullied girls and boys ranged from almost one percentage point in Norway to just over six percentage points in France (OECD, 2024^[80]).

Girls tend to engage more intensively with friends and others through instant messaging, social networks, e-mail and other forms of online communication as compared to boys (Inchley et al., 2020^[81])⁴. They are also more likely to be problematic social media users⁵ (PSMU) than boys. In 2021-22, the number of girls identified as PSMU was significantly higher than boys in almost 80% of the countries and regions analysed (Figure 3.6), with the gender gap widening over time. Among the OECD countries analysed in 2021-22, Ireland had the highest overall PSMU rate with a notable gender difference (OECD, 2024^[82]).

Figure 3.5. Cyberbullying rates have increased in nearly all countries and regions

Share of youth (11-, 13- and 15-year-olds) who report being victims of cyberbullying at least once in the last couple of months, 2017-18 and 2021-22

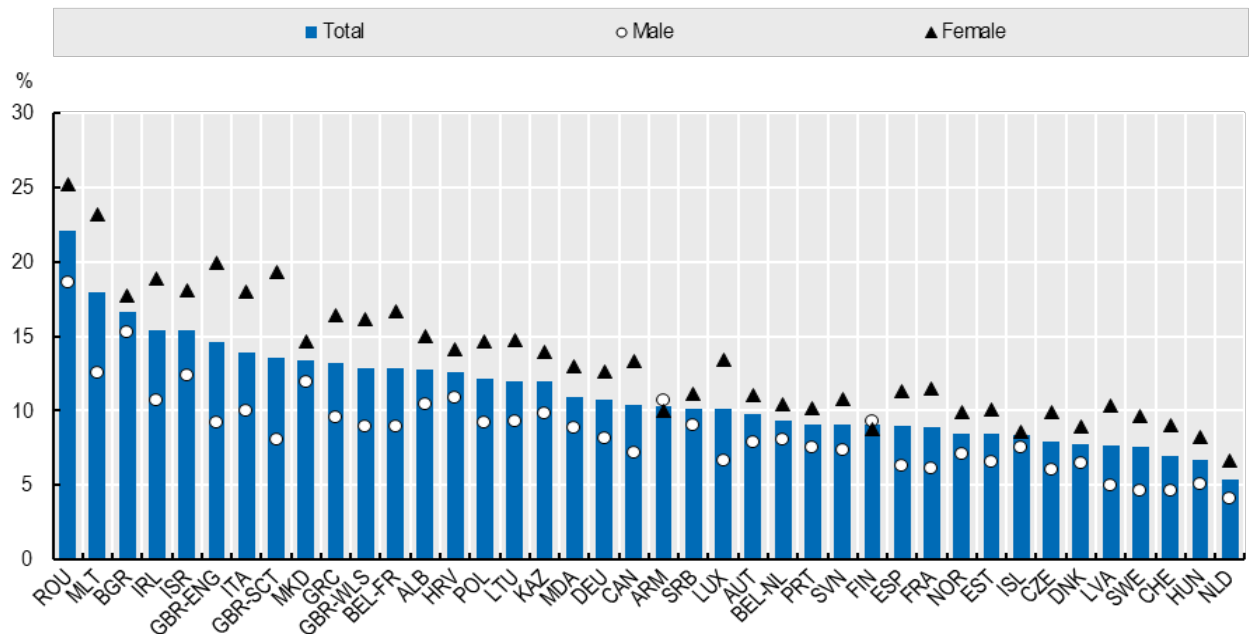


Note: Regional codes: BEL-FR: Belgium (French speaking); BEL-NL: Belgium (Flemish speaking); GBR-ENG: England; GBR-SCT: Scotland; GBR-WLS: Wales.

Source: The OECD Going Digital Toolkit, DataKitchen based on the Health Behaviour in School-aged Children: World Health Organization Collaborative Cross-National (HBSC) Study, <https://oe.cd/cyberbullying> (accessed on 14 May 2024).

Figure 3.6. Problematic social media use affects girls more

Share of youth (11-, 13- and 15-year-olds) identified as PSMU, 2021-22



Note: PSMU was assessed through the Social Media Disorder Scale (Van Den Eijnden, Lemmens and Valkenburg, 2016[40]). See endnotes.6 Regional codes: BEL-FR: Belgium (French speaking); BEL-NL: Belgium (Flemish speaking); GBR-ENG: England; GBR-SCT: Scotland; GBR-WLS: Wales.

Source: The OECD Going Digital Toolkit on the Health Behaviour in School-aged Children: World Health Organization Collaborative Cross-National (HBSC) Study, <https://goingdigital.oecd.org/indicator/59> (accessed on 14 May 2024).

Men and boys are not immune to the risks posed by the digital transformation, including exposure to violent content in digital environments (e.g., video games), which can perpetuate toxic notions of masculinity and nurture harmful behaviours (UNESCO, 2024^[83]).

Opportunities in digital transformation

Digital transformation provides new avenues for advancing gender equality and the empowerment of all individuals. The Internet, online platforms, mobile phones, and digital financial services offer opportunities to earn additional income, increase employment opportunities, and foster economic independence to help bridge gender divides. In addition, online education can help facilitate skills development, particularly for those from disadvantaged backgrounds, with generative AI promising to facilitate more tailored and more accessible resources. Moreover, if carefully and purposefully designed, AI can be a powerful tool to mitigate biases and gender stereotypes, customise processes, and reduce gender gaps, including through simplified policymaking processes and increased co-ordinated across government entities, fostering a whole-of-government approach (see section 5).

OECD countries are adopting initiatives to promote diversity in AI workforces. For instance, the United States Department of Health and Human Services is taking proactive steps to promote AI diversity in the workforce by establishing partnerships to increase the participation and representation of researchers from underrepresented groups in AI and machine learning. Similarly, the Dutch government is actively engaged in preventing biases in AI by proposing guidelines for public organisations and companies that suggest involving multiple stakeholders in the development of algorithms (Caira, Russo and Aranda, 2023^[66]). Such initiatives may serve as examples for other countries to cultivate diverse AI workforces.

Advancing gender equality in the digital age necessitates cross-sectoral collaboration and data-driven insights. Gender disparities in problematic social media use among youth and women's underrepresentation in STEM leadership are exacerbated by discriminatory cultural and societal norms. To bridge these gaps, effective policies, especially in education and employment, are crucial. Skills development is a key driver of progress, demanding a whole-of-society approach involving governments, citizens, and the private sector to tackle the pervasive issue of gender inequality in the digital age.

4 Multi-sectoral approaches to support gender equality

Entrenched gender inequalities hinder the inclusiveness of global transitions

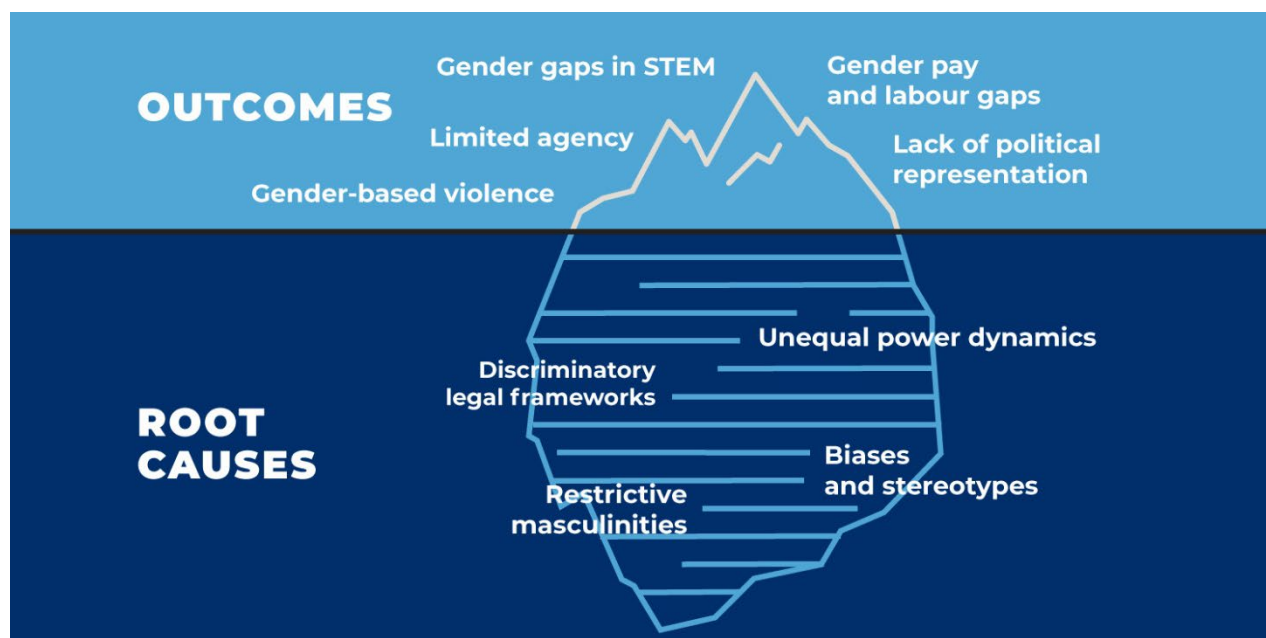
Although substantial data gaps prevent from having a complete gender-disaggregated picture (Cohen and Shinwell, 2020^[84]), available evidence shows that the world is not on track to fulfil the SDG promise "to leave no one behind". Longstanding gender inequalities prevail across social and economic spheres in all countries – including those at the forefront of gender equality policy. Tackling these inequalities is necessary to ensure inclusive green, energy and digital transitions. Other than the barriers discussed in sections 1, 2 and 3, persistent challenges hinder women's economic opportunities and perpetuate gender wage gaps, including: disproportionate time spent on unpaid care and domestic work by women (especially when they become mothers); lower employment rates; fewer paid working hours per week; substantial labour market segregation; persistent glass ceilings; impediments to entrepreneurship or self-employment; and a limited representation of women in policymaking. On average, across the OECD, women are also doing worse in a number of additional well-being dimensions such as in feeling safe at night, in perceived health, in mental health outcomes, and in the amount of time available for self-care and leisure (Fleischer and Stokenberga, 2023^[85]). The intersection of gender with various policy domains, including environmental, energy, foreign direct investment (FDI), competition, responsible business conduct, corporate governance and development co-operation, as well as transport and trade sectors, highlights the multifaceted nature of these barriers.

These factors result in substantial gender gaps in lifetime earnings and pension income, as well as missed opportunities for job creation, growth, and innovation. Gender inequalities cost the global economy trillions of US dollars in GDP every year (Holland and Ell, 2023^[86]; EIGE, 2021^[87]; Wodon et al., 2020^[88]; OECD, 2019^[89]; Wodon and de la Brière, 2018^[90]). For instance, across OECD countries, closing gender gaps in labour force participation and working hours could add 0.23 percentage points per year to per capita GDP growth, resulting in a 9.2% boost to GDP per capita by 2060 (OECD, 2023^[6]). Moreover, despite women's overrepresentation in public employment, their underrepresentation in politics and government leadership poses risks to taking proper account of issues affecting women and families, potentially diminishing policy support for gender equality and women's rights.

At the heart of persisting gender gaps and inequalities lie discriminatory social institutions. The inequalities observed and experienced by women and girls in all sectors and activities, including renewable energy or tech innovation, are just the tip of the "iceberg" of discrimination. Formal and informal laws, social norms and practices rest below the surface and act as structural barriers to gender equality, dictating what women and men are allowed to do, what they are expected to do and, in the end, what they do or do not do (Figure 4.1). These dynamics often start in the family from an early age and have lasting consequences on all other aspects of women's and girls' lives; they are fundamentally underpinned by discriminatory social norms and so-called norms of restrictive masculinities (i.e. rigid and inflexible social constructions of what it means to be a "real" man that obstruct gender equality). Worryingly, in the context of socioeconomic crises, evidence from OECD countries points towards a widening of the gender divide on

these issues and attitudes, notably among younger generations (Government of France, 2024^[91]; King's College London and Ipsos, 2024^[92]; Burn-Murdoch, 2024^[93]; The Economist, 2024^[94]).

Figure 4.1. Exploring the "iceberg" of gender-based discrimination: gender gaps above the water, discriminatory social institutions and restrictive norms of masculinities under the water



Source: (OECD, 2023^[14]), *SIGI 2023 Global Report: Gender Equality in Times of Crisis*, <https://doi.org/10.1787/4607b7c7-en>.

To confront these deep-seated issues, a paradigm shift needs to occur. Policymaking must target the root causes of inequality and promote a transformative change for gender equality – converting discriminatory norms and values into equitable ones (OECD, 2023^[14]). Yet, as deeply entrenched and often invisible barriers, discriminatory social norms are particularly difficult to measure, analyse and transform.

For example, understanding the role of social norms and masculinities is still partial, yet remains a crucial challenge to engaging with men and boys. In 2021, Ireland was the first OECD country to successfully apply the OECD's framework on masculinities at the national level (Government of Ireland, 2021^[95]; OECD, 2021^[96]). Exploring norms of masculinities further is not only important for women's empowerment but is also necessary to better acknowledge those areas where men are doing worse than women. Across the OECD, men are more likely to face severe health issues such as suicide, acute alcohol abuse and drug overdose, and are more prone to experience job strain, to spend less time socialising and to be less satisfied with their personal relationships (Fleischer and Stokenberga, 2023^[85]).

Long-standing and modern barriers hamper progress in gender equality amid transitions

Gender inequalities are rooted in discriminatory social institutions

In 2023, the fifth edition of OECD's Social Institutions and Gender Index (SIGI) showed that, worldwide, 40% of women and girls live in countries where the level of discrimination in social institutions (i.e. formal and informal laws, norms and practices that govern behaviour in society) is estimated to be high or very high (OECD, 2023^[14]).

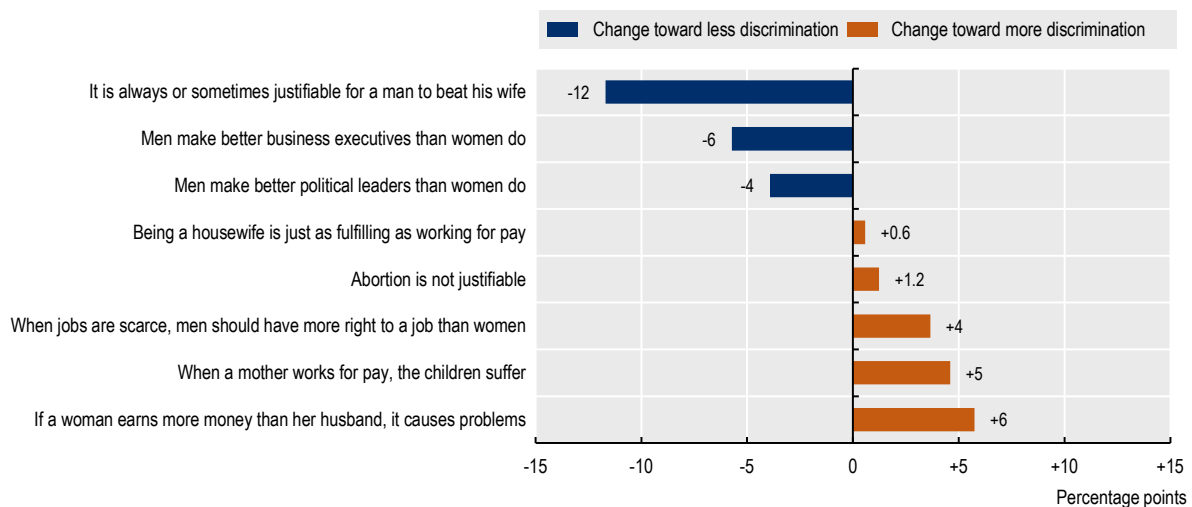
Globally, discrimination remains highest in the family sphere. Discriminatory laws hamper women's marriage rights, their status in the household, their ability to seek and obtain a divorce and their opportunities to inherit from their parents or spouse on equal grounds with men. At the same time, social norms and views on traditional gender roles tend to confine women to care and reproductive roles. Conversely, within the logic of norms of restrictive masculinities, men are expected to be financially dominant, to control household assets and to have the final say in household spending and decisions (OECD, 2021^[96]; OECD, 2023^[14]). Norms of restrictive masculinities are essential factors to understand and explain violence against women, including at home through domestic violence and in conflict settings. In this regard, it is a key component of initiatives led by the United Nations and the African Union (UN Spotlight Initiative, 2024^[97]; African Union, 2021^[98]).

This discrimination that women and girls face in the private sphere often constitutes one of the main barriers that prevent their active participation in the public and economic spheres – with far-reaching consequences that extend well beyond women's status in the household.

Recent evidence paints a mixed picture of progress and reveals setbacks in transforming discriminatory social norms into gender-equitable ones (Figure 4.2). Transforming social norms takes time as they relate to the core beliefs of individuals. Based on 37 countries that account for 50% of the world's adult population, data show that attitudes towards intimate partner violence and women's leadership in both economic and political spheres evolved positively between 2014 and 2022. However, over the same period, social norms related to women's equal rights and ability to work have worsened.

Figure 4.2. Changes in social norms are a mixed bag of progress and setbacks

Change in discriminatory attitudes between 2014 and 2022



Note: For each statement, the figure presents the change in percentage points between the share of the population holding discriminatory views in 2014 and 2022. A change toward less discrimination indicates that the share of the population holding discriminatory attitudes decreased between 2014 and 2022; a change toward more discrimination indicates that the share of the population holding discriminatory attitudes increased between 2014 and 2022. Depending on the statement, changes are calculated over a sample of 36 or 37 countries for which data are available for both consecutive waves 6 and 7 of the World Values Survey, which correspond to the periods 2010-14 and 2017-22, respectively. These countries account for 50% of the population aged 18 years and more.

Source: (Inglehart et al., 2022^[99]), "World Values Survey: All Rounds", <https://www.worldvaluessurvey.org/WVSDocumentationWVL.jsp>.

Stereotypes underpin gender gaps in educational choices...

Education is a field where girls and women have made great advances in recent decades. In many developed and developing countries, gender gaps in different educational levels (primary, secondary and tertiary) have narrowed and even begun to reverse (OECD, 2024^[100]; OECD, 2023^[55]; OECD, 2021^[101]; Van Bavel, Schwartz and Esteve, 2018^[102]).

In OECD countries, young women now have a substantially higher educational attainment rate than young men. In 2021, 53% of women aged 25-34 years had attained a tertiary level of education compared to 41% of men of the same age (OECD, 2022^[103]). At school, girls usually fare better than boys in science and reading scores, while they continue to perform worse than boys in mathematics (see section 3). Across subjects, boys are more commonly low achievers, which undermines school engagement and may contribute to their higher likelihood of leaving school early.

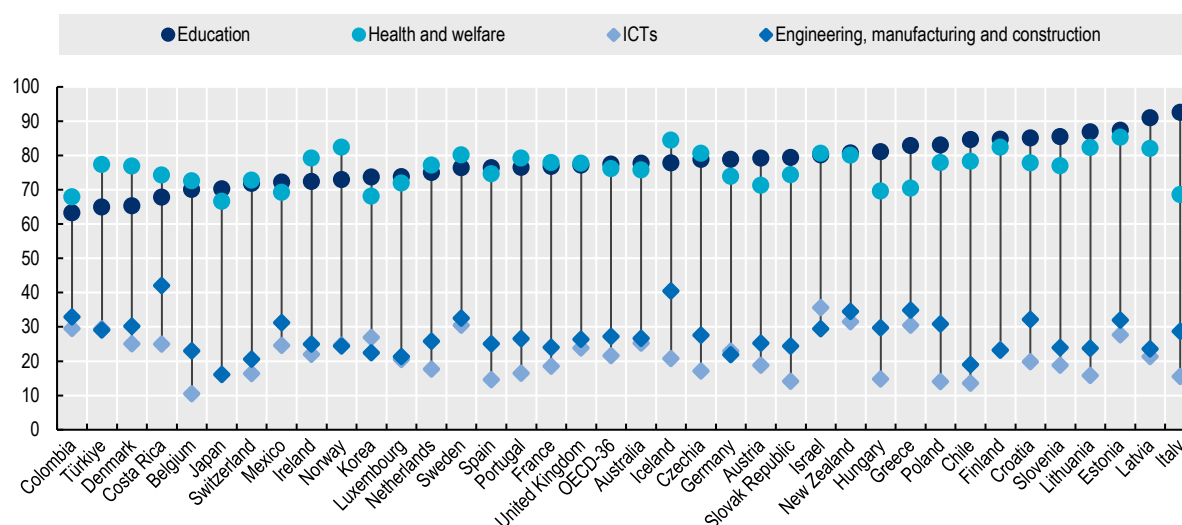
Ensuring that everyone benefits from the global transitions requires addressing the root causes of boys' disengagement from education, as well as tackling the persisting gender segregation in educational choices (UNESCO, 2022^[104]).

Gender stereotypes that exist at home, in the classroom, and in society contribute to major gender segregation in fields of study and career expectations, notably in STEM sectors, which are crucial for green and digital sectors (Figure 4.3). Despite their higher educational attainment, young women are still more likely than young men to pursue studies in fields relating to education, health, and welfare, and less likely to choose engineering, mathematics, or computing (see sections 1,2 and 3). The picture is very similar in the case of vocational education and training. Furthermore, women who have studied STEM may not consistently pursue their careers in those fields. For instance, women often drop out of the IT industry; compelling reasons are likely to include a workplace culture that reinforces traditional gender roles and stereotypes as well as long working hours that are incompatible with caring responsibilities (Korinek, Moisé and Tange, 2021^[105]).

Therefore, women end up being mainly represented in human- and care-centred occupations, which are typically characterised by lower pay compared to STEM occupations. For example, the teaching profession has witnessed a growing feminisation, particularly at primary and secondary levels. Occupations predominantly filled by women may receive lower remuneration because they are undervalued, not because they are inherently less valuable to society and the economy (Bettio and Verashchagina, 2009^[106]; OECD, 2023^[107]).

Figure 4.3. Gender segregation in the choice of study fields and career expectations persists

Share (%) of new entrants in tertiary education who are women, by field of study, 2021



Source: OECD (2023^[110]), *Education at a Glance 2023: OECD Indicators*, <https://doi.org/10.1787/e13bef63-en>.

Recognising the importance of ensuring a gender-balanced participation in STEM, countries have taken steps to encourage girls to choose this field (Box 4.1).

Box 4.1. Australia's strategy for women in STEM

In Australia, the government advances gender equality in STEM through a multifaceted strategy that aims to unlock women's STEM potential in education and support women in STEM careers, while enhancing the visibility of women in STEM fields. Key initiatives include the Women in STEM and Entrepreneurship (WISE) grants programme, the development of the Girls in STEM Toolkit (GiST) and investments to support the participation of indigenous girls in STEM. The expansion of the Science in Australia Gender Equity (SAGE) pilot launched in 2015, supported by government funding, has also demonstrated promising results in promoting gender equality within academic and research institutions.

Sources: (Australian Ministry for Industry and Science, 2023^[108]; OECD, 2022^[33])

...and in active life

Labour market outcomes of men and women have converged substantially over the past few decades. Nevertheless, working-aged women continue to fare worse than men in many ways. For instance, women in OECD countries are on average 10 percentage points less likely to be employed than men (OECD Employment Database). However, this aggregate figure does not address sectoral nuances, including significant gender gaps in some of the sectors leading the current transitions. In 2023, across the OECD, women accounted for only 31% of the employees of the information and communication sector (ILO, 2023^[109]). Likewise, in the energy sector, the gender employment gap is much wider than across the wider economy (see section 2) (OECD, 2023^[6]; IEA, 2023^[47]; IEA, 2022^[49]).

Despite improvements in family support systems in many countries (OECD, 2023^[6]), women continue to dedicate more than twice as much time as men to unpaid care and domestic work globally (OECD,

2023^[14]). In OECD countries, considering both paid and unpaid work together, women work significantly longer hours than men: on average, women work 25 more minutes per day than men (OECD, 2023^[110]). However, long hours that women spend in unpaid work explain most of this gap. Conversely, men tend to work longer hours in paid work, with women still spending about five hours less per week in paid work compared to men (2020^[111]; OECD, 2023^[6]).

Actions supporting gender equality require valuing and recognising care work, including its economic contribution to GDP. These actions include providing social protection for caregivers; shifting societal norms to recognise and value care work as equally important for men and women by engaging men to take active roles in caregiving responsibilities, thereby challenging traditional stereotypes; and promoting family and workplace cultures that support work-life balance. OECD countries have taken steps to support a more equal distribution of paid and unpaid work, including by adopting incentives for fathers to take leave around childbirth (Box 4.2), a better offer of childcare options, and flexible work opportunities, among others. Looking ahead, countries will face additional challenges. For instance, climate change is expected to increase the demand for formal and informal care, putting additional pressure on already overburdened care systems (EIGE, 2023^[112]). Addressing these issues is essential for enabling women to participate fully in the emerging green and digital sectors, which are pivotal for sustainable economic growth and innovation, and may require targeted action in specific sectors. For instance, a survey of women working in the nuclear energy sector confirms that work-life balance is a crucial factor for women's participation and progression in the nuclear workforce. The women surveyed overwhelmingly agree (over 70%) that pregnancy, maternity leave, parenting or other family and caregiving responsibilities negatively impact women's career trajectories in the nuclear sector (NEA, 2023^[50]; OECD, 2023^[6]).

Box 4.2. Incentives for fathers to take leave after childbirth

To encourage fathers to take more paid leave and take a more active role in childcare, and to erode the stubborn gender norms surrounding childcare and unpaid work, many countries have introduced or expanded fathers' entitlements to paternity and parental leave with measures to incentivise fathers to take it. In Norway, for example, both parents have earmarked parental leave quotas, topped up with a sharable leave period. Significant policy advancements have been spurred by efforts of EU countries to align with the EU directive on work-life balance (Directive 2019/1158/EU). Some EU countries, such as Austria or Czechia, have recently introduced paid paternity leave; others such as Spain and Italy have increased the length of paid paternity leave entitlements; and others such as Estonia and Greece have introduced non-transferable rights of leave for fathers. Outside the EU, other OECD countries have also adapted their parental leave systems to encourage take-up among men.

Source: (OECD, 2024^[113]; 2023^[114]; 2023^[6])

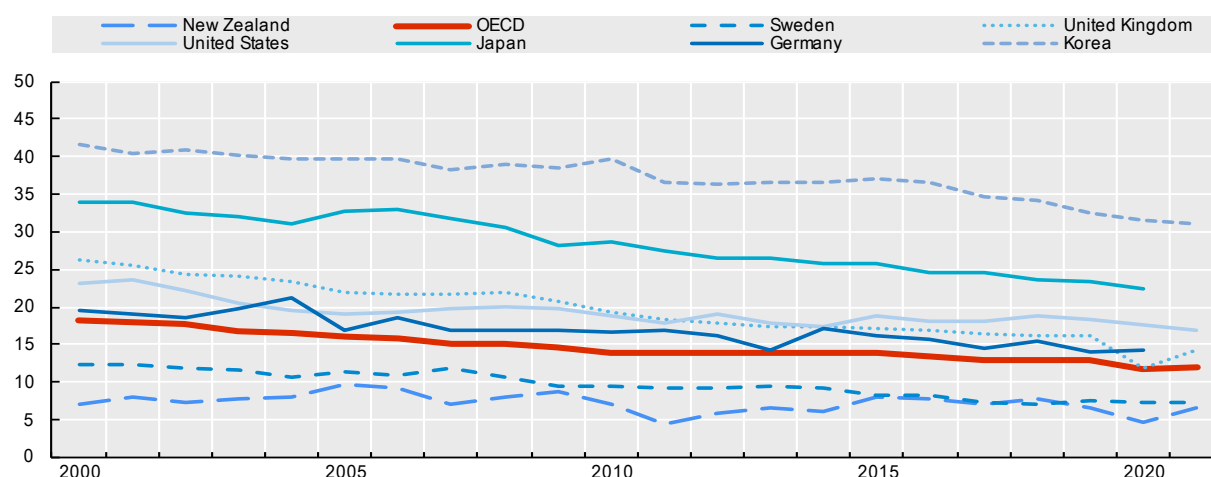
Tax and transfer policies may also play a significant role in influencing women's labour force participation. In married couples, second earners – more than 75% of whom are women in almost all OECD countries – generally face higher tax rates than a single worker with similar income and household characteristics (OECD, 2024^[115]). The tax difference is particularly large in countries with household taxation, or in countries with individual taxation where tax breaks are considered at a household level (OECD, 2024^[115]; OECD, 2022^[116]; OECD, 2024^[115]).

When in paid work, men and women are also highly segregated across occupations and industries. Women often work in lower-paying jobs of the service sector, while men are disproportionately employed in higher-paying jobs, such as in the ICT or energy sector (see sections 1, 2 and 3). Even within sectors, vertical segregation can lead to substantial pay differences between men and women. For instance, recent data in the United Kingdom revealed that men earn more than women in 91% of tech companies with 250 or more employees, resulting in a 16% gender pay gap. This gap largely reflects vertical occupational

segregation, with men dominating the top-paying jobs in the tech sector (Verdict, 2022^[117]). Overall, on average across the OECD, gender differences in employment culminate in a substantial gender pay gap, with women earning about 11.6% less than men in 2022, measured at median earnings for full-time workers (Figure 4.4). Such disparities are often more marked in the emerging fields of the digital, green, and energy sectors, as also noted in the previous sections.

Figure 4.4. Progress in closing the gender wage gap has been slow

Gender wage gap for full-time dependent employees, selected countries, 2000 through latest available year, %



Note: Values represent the difference between median earnings of men and women relative to median earnings of men. Trend lines include the latest data available.

Source: (OECD, 2024^[118]), "Gender wage gap" (indicator), <https://doi.org/10.1787/7cee77aa-en>.

In recent years, countries have proposed multiple solutions to try and close the gender pay gap. Promising developments include the use of pay transparency tools to advance towards more equality in pay (Box 4.3).

Box 4.3. Pay transparency for equal pay

Pay transparency measures spread awareness of the gender pay gap and can support a balancing of pay for similar work. As of 2022, more than half of all OECD countries had mandated private sector firms to comply with gender-disaggregated pay reporting requirements or gender pay audits. Within this group, ten OECD countries have implemented comprehensive equal pay auditing processes that apply to a predetermined set of employers (Canada – under the Pay Equity Act –, Finland, France, Iceland, Ireland, Norway, Portugal, Spain, Sweden and Switzerland). Some countries apply more limited tools, such as requiring analysis of gender pay gaps in the process of labour inspections (Costa Rica, Czechia, Greece and Türkiye) or requiring companies to report gender statistics on outcomes other than pay. Of course, pay transparency tools must be part of a comprehensive effort to combat gender pay gaps – simply revealing the presence of a pay gap will do little to mitigate pay inequity that has built up over years of educational and workplace choices.

Sources: (OECD, 2023^[119]; OECD, 2021^[120])

Beyond pay transparency, the private sector plays a significant role in advancing gender equality through inclusive corporate governance and practices. Efforts promoted by companies include mainstreaming

gender equality into business strategies, ensuring leadership accountability to drive systemic change, as well as fostering equal opportunities for women in hiring, promotion, and leadership roles. In the current context of global economic complexities and backlash against ESG objectives (Skinner, 2023^[121]) companies are uniquely positioned to build a strong business case for gender equality, demonstrating that economic and social goals can align effectively. Companies that prioritise gender equality are more likely to achieve above-average profitability (Criscuolo et al., 2021^[122]; André et al., 2023^[123]).

A persistent glass ceiling and leaky pipeline exacerbates women's underrepresentation in leadership positions

The gendered distribution of managerial positions in the private and public sector is still unequal. On average across OECD countries, in 2022, only 34% of managers in the private sector were women, although these figures tend to be significantly lower in the green, energy and digital sectors (see sections 1,2 and 3). Estimates range from a low of 13% in Japan to a high of 43% in Latvia. Worldwide, on average, the share of women managers drops to 25% (OECD Development Centre/OECD, 2023^[124]). In publicly listed companies and top levels of management, evidence of the leaky pipeline – the decreasing percentage of women at higher rungs on the career ladder – and the glass ceiling – an invisible barrier to women's advancement past a certain point – is even starker (OECD, 2023^[107]; 2023^[6]). This gap is also striking in the technology sector, where all-women entrepreneurial teams only represent 8% of teams in the United Kingdom, 5% in France and 4% in Germany (Boston Consulting Group, 2019^[125]).

An increasingly widespread use of gender quotas and targets for corporate boards as well as complementary initiatives have increased women's presence on the boards of the largest publicly listed companies⁶ from around 21% in 2016 to 29.6% in 2022 (Box 4.4). Yet, the slow pace of progress indicates that there is still a long way to go to achieve parity. Views on women's inability to competently perform executive responsibilities partly explain this underrepresentation. In 2023, across the OECD, 18% of the population thought that men make better business executives than women. Worldwide, 42% of the population holds such views (OECD Development Centre/OECD, 2023^[124]).

Box 4.4. Supporting women's representation in private leadership positions

The G20/OECD Principles of Corporate Governance underline the board's responsibility to evaluate its own performance and composition, including with respect to gender and other forms of diversity. In practice, 15 jurisdictions⁷ out of the 49 surveyed have established mandatory quotas for women's participation on boards of listed companies.

On average, countries that have initiated mandatory quotas and/or voluntary targets for board composition in listed companies have achieved a greater level of gender diversity on boards over the last decade. For example, France, Germany, and Italy have made some of the biggest gains, with the support of both board quotas and disclosure requirements. Complementary approaches include training and mentorship programmes, networks, relevant listing rules, role model schemes, peer-to-peer support, as well as advocacy initiatives to raise awareness, overcome biases and cultural resistance and develop the female talent pipeline. Some countries with (e.g. Italy and Spain) or without (e.g. New Zealand) quotas or targets have achieved significant progress through such additional initiatives.

Sources: (Denis, 2022^[126]; OECD, 2023^[127]; 2023^[128])

Across the legislative, executive and judiciary branches of power, women still make up only about one-third of leadership positions in the OECD on average, a figure that has remained stagnant for a decade. In 2023, across the OECD, women accounted for 33% of the members of parliaments, compared to 27% at the global level (OECD Development Centre/OECD, 2023^[124]). Worldwide, at the rate of progress recorded

between 2012 and 2022, gender parity in parliaments will not be achieved before 2062 (OECD, 2023^[14]). These low levels of women's representation in politics reflect deeply entrenched attitudes that perceive men as natural leaders. In 2023, worldwide, 48% of the population believed that men make better political leaders than women (22% of the population in OECD countries) (OECD, 2023^[14]). Beyond policies and instruments such as legislated gender quotas in politics, bold action from political parties is required to promote female candidates and encourage women to run for elections.

Inclusive representation within social partners is equally needed to ensure better advocacy for gender-responsive policies and practices, fostering supportive and inclusive work environments.

Women account for a large part of 'missing entrepreneurs'

Women are less likely than men to create a business, work in a new start-up or be self-employed. Although the gender gap in entrepreneurship narrowed in most countries over recent years, in OECD countries women are about 30% less likely than men to start or manage a new business (OECD/European Commission, 2023^[129]), 40% less likely to be self-employed, and 30% less likely to employ others (OECD/European Commission, 2023^[129]).

Women are held back in entrepreneurship and self-employment by a range of barriers such as a self-perceived fear of failure and skill gaps. Nearly half of women in the EU and the OECD countries report that a fear of failure prevents them from starting a business, versus slightly more than four in ten men and are about 75% as likely as men to report that they have the skills needed to start a business. Other significant barriers include access to finance (OECD/EU, 2022^[130]) and to entrepreneurship networks (OECD/EU, 2015^[131]).

On average, there are differences in motivations and ambitions in entrepreneurship, which also explains some of the gender gaps. For example, women are more likely to report that they started their business as a way to manage their work-life balance. Moreover, women are less likely than men to report that they expect their new business to create a high number of jobs (OECD/European Commission, 2023^[129]).

Policymakers and non-government actors have been working to reduce gender gaps in entrepreneurship for decades. However, these efforts are often not well-linked to strong policy frameworks for women's entrepreneurship (OECD, 2021^[132]). This can result in a lack of cohesion in support systems and challenges in sustaining resource levels for support schemes.

Several new strategies have been launched recently in the OECD to support women's entrepreneurship (Box 4.5).

Box 4.5. Germany's action plan for "More female entrepreneurs for small and medium-sized enterprises" (*Der Aktionsplan Mehr Unternehmerinnen für den Mittelstand*)

The action plan "More female entrepreneurs for small and medium-sized enterprises (SMEs)" developed under the Bundesministerium für Wirtschaft und Klimaschutz (BMWK) initiative "Women in SMEs Crafts, Foundations and Start-ups" engages five federal ministries and 27 stakeholders of associations, networks, and scientific institutions. Launched in 2023, the plan aims to increase the number of women entrepreneurs in Germany. It includes over 40 measures focused on four key pillars: increasing financial resources and access to venture capital for female entrepreneurs; enhancing regulatory and operational environments to encourage women's entrepreneurship; promoting women's greater participation in the climate sector and the energy transition to support their careers in skilled trades and STEM fields; and enhancing visibility and recognition of the accomplishments of self-employed women.

Source: (BMWK, 2023^[133])

GBV, including sexual harassment, remains a persistent threat

GBV is ubiquitous – it can take place anywhere, in public or in private spheres, offline or online. Worldwide, it is estimated that more than one in four women have experienced physical and/or sexual intimate-partner violence or non-partner sexual violence in their lifetime – a number which is likely underestimated as cases of violence are heavily underreported (WHO, 2021^[134]; Sardinha et al., 2022^[135]). In parallel, new forms of violence, including TF-GBV such as online harassment and stalking, are becoming increasingly common (see sections 3, 5). In this context, in 2021, OECD members identified violence against women as the main priority area for gender equality in their respective country (OECD, 2022^[136]; OECD, 2023^[6]).

The impact of violence on women's lives is devastating. Women who have survived violence are more likely to suffer from physical and mental health problems; children who grow up in violent homes may experience a wide range of behavioural and emotional disturbances; and acts of GBV may affect women's ability to work or induce significant losses in revenues, while women's economic dependence on their partners may also hinder their ability to leave an abusive relationship (OECD, 2023^[110]; OECD, 2023^[14]).

Governments' responses to this threat include, among others, laws to address sexual harassment, as well as national strategies and legislation to combat online harassment. However, despite efforts to protect women's safety and well-being, legislative progress, strategic planning, policy co-ordination and long-term investment in services have often been uneven across OECD countries, limiting the effectiveness of public measures (OECD, 2019^[137]). As an example of a major and persistent barrier, survivors of GBV frequently encounter significant administrative and bureaucratic hurdles when accessing services, having to navigate a complex web of social services offered by a range of providers (OECD, 2023^[138]). Moreover, the lack of sufficient timely and quality data and statistics poses a significant barrier to devising effective measures against GBV. To strengthen systems to respond to and prevent sexual harassment and sexual exploitation and abuse, OECD members and partners have adopted the DAC Recommendation on Ending Sexual Exploitation, Abuse, and Harassment in Development Co-operation and Humanitarian Assistance (OECD, 2019^[139]).

Opportunities to break down pervasive gender inequalities

Policymaking must embrace an intersectional, gender-mainstreamed approach (see section 5) that targets the roots of inequality and promotes a transformative change for gender equality – converting discriminatory norms and values deeply held by women and men into equitable ones, including within green, digital and energy sectors (OECD, 2022^[140]). All individuals, regardless of their gender may find themselves performing new social roles and contributing to their communities in sustainable ways, when gender stereotypes are dismantled.

The list of actions supporting this shift is long: challenging restrictive masculinities, notably through the promotion of role models of positive masculinities; enacting and enforcing laws that protect women's and girls' rights; tackling and transforming discriminatory social norms and biases in all spheres of life; facilitating a more equal sharing of paid work and unpaid work; educating children and adolescents against sexism; valuing and recognising care work; providing more accessible and affordable early childhood education and care; promoting effective flexible working arrangements to make work compatible with family responsibilities, advancing opportunities for men's and women's equal participation to the labour market, equal pay for work of equal value, better employment quality, and equality in entrepreneurship; supporting women's career progression and representation in private and public leadership positions; and sustaining global efforts for widespread gender equality. For all these actions, it is not only essential to understand what types of initiatives work but also why and how they succeed. In this regard, accountability and monitoring mechanisms are crucial and can help push back the global push-back movement against gender equality.

The importance of effective policy action cannot be overstated in the face of the entrenched and multi-layered gender inequalities, which will require not only targeted interventions but also a comprehensive re-evaluation of social norms and institutional frameworks and fostering an inclusive environment that values and utilises the potential of all people equally. As such, it is essential that all stakeholders—governments, private sector, and civil society—commit to sustained and collaborative efforts to reshape the foundational aspects of gender relations, ensuring that the progress made is not only substantial but also enduring.

5

Harnessing government tools and data for inclusive global transitions

Tools, capacities and data for driving inclusive transitions

Governments play a major role in steering global transitions towards inclusivity through their public policies. Strategic decision-making, resource allocation, and purchasing power can foster innovation, guide the private sector and individual behaviours and set the course for sustainable progress.

Specifically, to ensure gender-inclusive outcomes as part of the global transitions, governments can use a range of tools, such as gender impact assessments (GIAs), gender budgeting and gender-responsive public procurement. These tools help ensure that both green and digital shifts consider people's unique needs and contributions. The government toolbox also includes laws and regulations, which are powerful instruments that can be wielded strategically. The effectiveness of these tools in driving gender-inclusive transitions hinges on strong political will. Without a clear commitment and investments from governments to leverage these instruments, their impact could be limited.

Gender-responsive policymaking is essential for inclusive global transitions, but gaps in implementation persist

As policymaking becomes more intertwined and complex, ensuring policies are gender-responsive requires a robust, whole-of-government effort.

GIAs can drive inclusive transitions...

Mainstreaming gender across various policy areas can be a powerful way to ensure that everyone benefits from and contributes to global transitions. Governments use GIAs as a primary tool to integrate gender considerations into policies (OECD, 2022^[136]). They allow governments to evaluate the gender-specific impacts of policies⁸ across all sectors and make policy shifts to facilitate more equitable policy outcomes. As of 2021, over 75% of OECD countries had a formal requirement for GIAs (OECD, 2022^[136]). Box 5.1 discusses Canada's practice to conduct gender analysis in environmental policies using the Gender-based Analysis Plus (GBA Plus) tool.

Box 5.1. Gender analysis to ensure green policies benefit everyone equally

Canada's GBA Plus tool applied to the work of the Department of Environment and Climate Change

The Canadian Department of Environment and Climate Change (ECCC) integrates GBA Plus into its operations in line with the government-wide commitment to using GBA Plus in the development of policies, programmes and legislation. This includes incorporating GBA Plus into research, consultations, programme design and reporting. To ensure effective implementation, ECCC has established a dedicated GBA Plus Centre of Expertise within its Strategic Policy Branch, providing tools, guidance and support to staff. These initiatives aim to enhance collaboration, leverage existing efforts and promote inclusive decision-making within ECCC regarding science and environment-related issues.

Source: (Environment and Climate Change Canada, 2024^[141])

...yet further efforts are needed

Even if most OECD countries now have a legal mandate to integrate gender considerations into government decision-making, gaps persist in implementation. The main barriers reported are the perception of GIAs as merely a “tick-the-box” exercise, a lack of binding GIA requirements and a lack of gender expertise among policymakers (OECD, 2022^[136]). Some OECD Members have also highlighted an absence of relevant, high-quality data as an obstacle (OECD, 2022^[136]). While there is limited evidence on the specific challenges faced by policymakers in conducting GIAs in the green, energy and digital sectors, it is likely that they are similar. Despite an increased recognition of the gender-environment nexus, only 57% of OECD Members participating to a survey reported occasional or systematic consideration of gender aspects in environmental policymaking. This highlights the need for systematic incorporation of gender considerations into environmental policy development (see section 1). In addition, some policy areas, including taxation, budgeting, regulatory impact assessments and investment still need more effective integration of this nexus (OECD, 2021^[13]).

Addressing these limitations requires both building capacity for policymakers in conducting GIAs and improving data systems for collecting and disseminating data and evidence about gender gaps and using this data for gender mainstreaming. To be effective, GIAs should be conducted not only in the design phase of policies, which is the most common practice across OECD membership, but also throughout the policy cycle including implementation and evaluation.

Gender-responsive regulations can help reduce the adverse impacts of global transitions on individuals from diverse backgrounds and marginalised groups

Integrating GIA into regulation-making can help counterbalance the potentially adverse effects of the green and digital transitions on gender equality. Yet, the extent to which gender perspectives have been integrated into regulatory frameworks shaping the global transitions, such as the recently adopted Digital Services Act in the EU, remains unexplored. Moreover, effectively tackling the growing issue of TF-GBV (see section 3) requires appropriate regulatory responses, but existing regulations lack specific provisions addressing cyber harassment. Governments are also encountering challenges in enforcing regulations against emerging technologies such as AI and deep fakes (computer-generated images or media that have been digitally manipulated to resemble a human subject), which are increasingly prevalent across social media (OECD, 2023^[142]).

Gender perspectives need to be an integrated part of government plans for global transitions...

Through strategic planning, governments set the trajectory for formulating effective policies that align with overarching goals and objectives. Therefore, integrating gender equality objectives into strategic planning that guides global transitions can facilitate policy coherence. Box 5.2 provides examples of initiatives to mainstream gender equality within digital and green strategies. It is key that gender considerations are also taken into account in cooperation and development strategies and policies.⁹ This requires, in turn, a strong political commitment and investments and the adoption of whole-of-government approaches (OECD, 2015^[143]) (OECD, 2019^[144]).

Box 5.2. Integration of gender equality objectives into strategic planning documents guiding global transitions

The Digital Democracy Initiative's dedicated focus on gender equality

Denmark, in collaboration with the EU, has launched the Digital Democracy Initiative, a €51 million project spanning from 2023 to 2026. It supports civil society actors in safeguarding and advancing democracy and human rights using digital technologies by equipping civil society actors with tools to combat disinformation and polarisation while promoting freedom of association and speech. This initiative also enhances democratic participation of women, among other marginalised groups, by funding projects to expand civic engagement through digital technology and to promote stronger policies to protect their rights in digital spaces.

Spain's Plan for the Digitalisation of its Public Administration to reduce inequalities

With the adoption of its Plan for the Digitalisation of the Public Administration 2021-25, Spain aims to modernise its government, improve public policies, particularly those addressing the socio-economic crisis caused by the COVID-19 pandemic, increase productivity and potential output and enhance social and territorial cohesion, all while ensuring gender equality in digital access. This includes developing more inclusive digital public services that are accessible and beneficial to all citizens as well as using information more efficiently to tailor public policies to citizens' specific needs.

United States' strategic planning to address the gender-climate nexus

The United States released its first National Strategy on Gender Equity and Equality in 2021, emphasising the interconnectedness of gender equality and climate action. This approach was further solidified in August 2023 with the release of the United States Strategy to Respond to the Effects of Climate Change on Women, which focuses on both mitigating climate risks for women and girls and fostering their leadership in climate solutions.

Sources: (CIVICUS, 2020^[145]) (European Commission, 2023^[146]) (Office of Global Women's Issues, 2023^[147])

...but there is limited evidence on the use of whole-of-government approaches

While many OECD Members aspire to adopt a whole-of-government approach, in practice, these efforts fall short in many countries, leading to implementation gaps. Such gaps can be attributed to several factors, including the relegation of gender equality strategies to the sidelines, dissociating them from sector-specific plans, and limited or uneven capacity for gender mainstreaming and analysis across government institutions. This fragmentation can impede the effectiveness of gender initiatives.

Environmental and gender equality goals are often being viewed as operating in parallel, or even in competition, with one another for budgetary resources, rather than as mutually reinforcing objectives. This divide is evident in the use of certain government tools such as procurement, where priorities such as environmental sustainability and gender equality appear to be seldom integrated holistically. Notably, environmental goals tend to be more prominently featured in such tools, yet strategic objectives pertaining to social issues like gender equality are comparatively less emphasised in these frameworks (OECD, 2023^[19]).

Amid the growing adoption of national strategies for green and digital transformations, the integration of gender equality considerations is paramount to ensuring inclusive progress. However, out of the 803 COVID-19 measures in the OECD Green Recovery Database evaluated for their gender relevance, only 2.9% were deemed gender-relevant. They primarily address specific sectors like women's skills in STEM, while neglecting others such as agriculture and forestry (OECD, 2022^[136]).

Spending is a crucial tool for ensuring gender equality, yet its potential remains untapped

Gender budgeting

The budget stands out as one of the most powerful tools available to governments. Indeed, those holding the purse strings have the power to promote gender equality through funding allocation decisions. To maximise the potential of gender budgeting, it is crucial to ensure gender-balance in budget decision-making processes (see section 4).

Gender budgeting involves integrating gender considerations into budget decision-making processes with the aim of closing gaps. Its use has been increasingly observed, with at least six new OECD countries introducing or reintroducing it since 2018. Most OECD countries now practice gender budgeting (OECD, 2023^[148]).

An increasing number of countries are also considering how the budget can be leveraged to help meet environmental objectives (Nicol and Dosen, 2024^[149]). Budgetary decisions can also have an impact on both the environment and gender equality. For example, prioritising public transport instead of building more roads and motorways not only contributes to environmental sustainability but also promotes gender equality, given women's higher reliance on public transit (see section 1) (EBB, 2021^[150]). Conversely, subsidies to fossil fuel industries, which are predominantly male dominated, could contribute to unequal resource distribution and opportunities, which could potentially exacerbate gender inequalities.

To advance gender equality and climate action, the EU's Multiannual Financial Framework of seven years (2021-27) foresees 30% of EU expenditure climate-related, and, in parallel, foresees GIAs (EBB, 2021^[150]). Some countries are going one step further by aiming to integrate environmental and gender considerations in their budgeting processes. For example, Canada presents an Impacts Report alongside its budget which presents a summary of the gender and diversity impacts of each new budget measures, as well as the impacts across six Quality of Life domains, including the environment (Government of Canada, 2024^[151]). A further example from New Zealand is highlighted in Box 5.3.

Box 5.3. Gender budgeting amid the green and digital transition

New Zealand's Budget 2023

In 2021, the Ministry for Women (Manatū Wāhine) and the Treasury (Te Tai Ōhanga) introduced gender budgeting on a pilot basis, starting with a pilot programme for Budget 2022 and subsequently expanding it into a Gender Budgeting Exercise for Budget 2023.

Budget 2023 allocated funds to support the delivery, connectivity and sustainability of public transportation in line with overarching climate objectives. It recognised the positive impact of maintaining these services on gender equality, considering their higher usage by women. Moreover, it viewed public transport as a promising avenue for enhancing women's employment opportunities, including an initiative aimed at increasing their participation in the public transport workforce. Additionally, in addressing the productivity challenges brought about by the digital transition, Budget 2023 included an investment of \$26.6 million to support businesses as they attempt to upskill their employees in order to address digital skills gaps. A gender analysis of the initiative projects an increase in women's participation in the technology sector from 27% to 50% by 2030.

Sources: (OECD, 2021^[2]) (Government of New Zealand, 2023^[152])

Public spending, including investment plans, plays an important role in shaping gender equality outcomes. Through an analysis of investment plans, governments can assess how priority spending such as green and digital investments may disproportionately benefit men over women. For example, Iceland conducted a GIA of its capital investment programme in response to COVID-19, covering projects in transport infrastructure, building construction and maintenance, research and innovation, energy exchange and green solutions and digitalisation. It estimated that about 85% of created jobs would benefit men. Following this, the programme focused on mitigating this effect as well as the gendered environmental impacts in subsequent phases (OECD, 2022^[153]).

ODA is another crucial component of public spending. By integrating gender considerations into its allocation, ODA can play a significant role in fostering inclusive transitions. Yet, to date, across OECD membership only 43% of ODA currently contains gender equality objectives (OECD, 2024^[154]). The OECD has developed a practical handbook "Gender Equality and the Empowerment of Women and Girls: DAC Guidance for Development Partners" to boost efforts in this regard (OECD, 2022^[140]).

Sustainable finance for both green and gender equality goals

Linking gender equality with sustainable finance is another strong option for tackling disparities arising from the gender-environment nexus, yet financial markets have historically treated gender- and environment-related considerations separately. Ensuring that sustainable financial practices consider gender perspectives can facilitate more inclusive access to financial services while addressing gender inequalities during the transition to a net-zero economy. This involves not only creating financial products explicitly aimed at women but also integrating gender equality considerations into existing financial instruments. For instance, when issuing sustainable debt, such as bonds, the goals related to gender equality can be included alongside environmental objectives. This ensures that targets related to gender equality are set realistically, measured accurately, and compared against external benchmarks. ESG investing, which evaluates companies based on their sustainability practices, can play a crucial role in integrating gender concerns into finance. Currently, while ESG ratings consider social and governance factors, environmental metrics tend to overshadow gender-related ones. Enhancing the integration of gender and environmental considerations across all pillars of ESG assessment can give investors a clearer picture of a company's gender and environmental impacts (OECD, 2022^[23]).

The OECD's government-backed guidance to companies on responsible business conduct (RBC) including gender-responsive due diligence is aimed to help businesses mitigate climate impacts that disproportionately affect women in the workplace and in their communities. The guidance also aims to support a just transition that does not leave women workers behind (see section 4).

Purchasing with a purpose: Using gender-responsive public procurement for inclusive transitions

Another government tool is public procurement, the process through which governments purchase goods and services, which can serve as a strategic lever for advancing policy objectives such as environmental protection and gender equality. The volume of public procurement has increased across OECD economies, rising from 11.8% of GDP in 2007 to 12.9% in 2021 (OECD, 2023^[19]). Of the 27 OECD countries responding to a 2020 survey, 57% with strategic public procurement frameworks also incorporate gender equality considerations (OECD, 2021^[155]).

Spotlight on gender-responsive procurement in the shift to greener economies

As OECD countries move towards greener economies, they increasingly leverage public procurement to promote sustainability, primarily through the adoption of Green Public Procurement (GPP) frameworks (OECD, 2023^[19]). The systematic integration of gender equality considerations could help maximise the efforts foreseen in GPP frameworks. In addition, well-designed green procurement initiatives can contribute significantly to foster inclusiveness. For example, in sectors overrepresented by low-paid women, such as cleaning services and textile production, integrating green procurement criteria can enhance the health and safety standards for workers in these sectors (EIGE, 2024^[156]).

Yet, in practice, only a few OECD countries, such as Spain, have taken steps in this regard, highlighted in Box 5.4.

Box 5.4. Gender-responsive procurement for inclusive transitions

The Valladolid's Strategy for socially and environmentally responsible public procurement

Spain is advancing strategic public procurement in line with the ratified agreement of 12 April 2019. At the municipal level, the Valladolid's Strategy aims to streamline procedures, support small and medium-sized enterprises (SMEs) and social economy enterprises and support socially and environmentally sustainable practices. This strategy also addresses gender inequalities by targeting wage parity, promoting work-life balance, striving to eliminate sexist dress codes and tackling unemployment among marginalised groups with limited access to the labour market, particularly women who are victims of GBV and LGBTQI+ individuals. However, implementation challenges, including resource allocation, enforcement, and coherence, have been tough to overcome. Concerning the latter, the Strategy suggests that allowing open access to models of procurement documents could enhance the coherence of the Municipality's procurement procedures, including the application of environmental and social criteria. Open access could also provide SME bidders with clear expectations.

Source: (European Commission, 2020^[157])

Towards an enabling environment

Strengthening institutions, capacities, and skills across all policy areas is essential to a gender equitable and inclusive future

Integrating gender equality across policy sectors driving current and future transitions requires sound institutional settings, awareness and understanding of gender implications across all public institutions. This requires resources and political will to champion gender equality initiatives and institutions. Central gender equality institutions, among others, often hold the primary responsibility of integrating a gender lens into decision-making processes across governments. However, despite their critical mandate, these institutions continue to face resource, capacity and influence constraints (OECD, 2023^[6]). Addressing these constraints could help drive the gender equality agenda across sectors.

Most OECD countries continue to encounter major challenges in this regard. For example, more than one-third of OECD countries have identified a lack of clear understanding of how to implement gender-related considerations into public procurement policies and practices as a significant challenge (OECD, 2021^[155]). Additional challenges include insufficient human and resource capacities, limited mandates to effectively mainstream gender, limited demand for gender data from line ministries and ineffective co-ordination mechanisms (OECD, 2022^[136]).

Investing in gender-disaggregated and intersectional data is crucial to enhance monitoring and ensure policies promote gender equality...

Good quality data on gender equality is an essential foundation for the efficient use of governments tools. A key common challenge is the lack of common definitions, methodologies and standards on how to collect data on issues that are directly linked to the transitions, such as TF-GBV. This prevents policymakers from grasping the extent of the issues and hampers the design of adequate policies for inclusive transitions as well as their monitoring and evaluation. Moreover, the effective implementation of all gender-responsive government tools depends heavily on access to granular, high-quality, and timely data, and the associated capacities to present and analyse such data. For example, although public procurement strategies have been used to promote gender inclusivity in energy projects, empirical evidence on their effectiveness remains scarce. This is partially due to the limited availability of gender-disaggregated data in public procurement within the sustainable energy sector (UN Women, UNIDO, 2023^[46]). The absence of data can be a missed opportunity to provide evidence of, for example, imbalanced procurement from women's enterprises in the energy sector.

OECD data shows that environmental protection, energy and infrastructure are sectors where gender-disaggregated evidence remains particularly scarce (OECD, 2019^[144]). Overall, in OECD countries, only 34% of the 102 gender-related SDG indicators are supported by the systematic collection of data (OECD, 2023^[6]). These data gaps prevent policymakers from gaining a better understanding of the gender-environment and gender-digital nexuses and the development of measures that effectively address both policy concerns (see section 1). Countries such as Sweden have taken steps to gather relevant gender-disaggregated data to inform environmental policies, as discussed in Box 5.5. The OECD Gender Data Initiative takes steps to identify such gaps and priority areas for combined efforts. Furthermore, the Initiative looks to improve OECD dissemination and coordination, as well as strengthening country's capacity to collect, curate and use gender data.

Box 5.5. Sweden's gender-disaggregated data collection on environment-related policies

Statistics Sweden, the country's national statistical agency, provides gender equality indicators and collects gender-disaggregated data including on land ownership and environmental economic accounts, focusing on sectors like environmental goods and services and the bioeconomy. It also collects gender-disaggregated data on environmental health, covering aspects such as noise exposure, air quality, time spent in green spaces and exposure to food contaminants and agricultural chemicals. The country's Consumer Agency gathers information on consumer perceptions and attitudes by gender and income, revealing variations in consumption patterns across sectors like transportation, food and second-hand goods.

Source: (OECD, 2022^[33])

Opportunities for using government policy and tools to promote gender equality

By fostering collaboration and coherence across sectors, policymakers can develop holistic strategies that not only advance gender equality, environmental sustainability, and digital innovation individually, but also create an impact that is more than the sum of its parts, reinforcing progress towards overarching societal goals. There are opportunities that governments must seize on to ensure the rapid and effective adoption of policies and tools that integrate the goals of gender equality and green, energy and digital initiatives.

The current digital landscape provides new opportunities for enhancing government capacity to integrate GIAs into decision-making by leveraging emerging datasets and policy simulation tools. While evidence of the use of AI to facilitate GIAs among OECD members is lacking, Canada has demonstrated progress in this area. The updated Directive on Automated Decision-Making emphasises the importance of ethical AI development, mandating the integration of Gender-Based Analysis Plus to mitigate biases and promote inclusive policymaking by accounting for a spectrum of identity factors (Government of Canada, 2024^[158]). In addition, the use of machine learning techniques has enabled Canada to gain a deeper understanding of how its Labour Market Development Agreement programme can impact beneficiaries according to their gender but also other factors. Indeed, a recent study showed that AI allowed for the provision of more granular evidence about user needs and outcomes. This can facilitate the optimisation of programmes tailored to various groups (Government of Canada, 2023^[159]).

Seizing the opportunity of the digital government to accelerate the gender equality policy agenda

More generally, "e-governance", can boost efforts aimed at embracing a whole-of-government approach conducive to inclusive global transitions and positively impact gender equality. There are three main components of e-government, namely, e-service delivery, digitalised citizen engagement/participation and connectivity architecture. The digitalisation of public services can lead to a boost in women's economic empowerment, with a 1.6 percentage point increase in the share of women's pre-tax income over a 10-year period for countries with well-established "GovTech" strategies and a dedicated institution (International Monetary Fund, 2023^[160]). Moreover, digital technologies in government systems can help overcome traditional barriers to the inclusion of citizens in governance and public life. For example, in Colombia, the city of Bogota introduced "Chatico", a virtual agent, to efficiently communicate available services to citizens, providing easier access to district aid for specific population groups such as pregnant and/or breastfeeding women, the elderly, and low-income groups (ALCALDÍA MAYOR DE BOGOTÁ, 2022^[161]). Digital technologies can also facilitate co-ordination across government agencies and enhance

government accountability, potentially contributing to ensure gender considerations are integrated coherently into all policymaking processes (International Monetary Fund, 2023^[160]).

Among the most promising practices in the digital space is the enhanced availability and accessibility of gender-disaggregated data and improved data privacy safeguards. Emerging sources such as big data are increasingly used to deepen understanding of gender inequalities. Social media platforms can also provide valuable environmental data (e.g. on the displacement of people after natural disasters), highlighting the need for enhanced governance to integrate these sources into official gender statistics and environmental assessments (Data2X, 2022^[162]).

Countries are increasingly adopting agendas or plans for AI in the public sector. A 2022 OECD survey showed that AI was already integrated into at least one government function – public sector internal processes, public services design and delivery, and policy making – in at least 23 countries. Notably, 11 countries surveyed were already using AI to improve policymaking, including for environmental policy making (OECD, 2023^[19]). However, evidence is lacking regarding the extent to which these strategies and practices incorporate gender considerations.

While the shift towards digital governments presents an opportunity to harness governments' digitalisation for more inclusive global transitions, this is far from a gender-neutral technical exercise with automatic benefits for everyone. Rather, it requires a deliberate and strategic institutional strategy aimed at achieving gender-sensitive policy design and inclusive outcomes (EGOV4WOMEN, 2018^[163]).

The development of these technologies is often hindered by a pitfall known as "techno-solutionism" (UN Women, 2024^[164]). This refers to an excessive reliance on technological solutions while disregarding their broader social, including gender, impacts. Techno-solutionism can lead governments to prioritise technological interventions over comprehensive, context-specific approaches that address the complex, multifaceted nature of social issues, including gender equality. Such an approach can potentially exacerbate gender inequalities.

6 Policy recommendations

To foster an inclusive environment in the transformative sectors of green, energy, and digital technology, both the overt and covert barriers that hinder gender equality must be dismantled. This requires:

Promoting gender-responsive sustainable consumption by reframing awareness efforts to incorporate a gender perspective, considering diverse preferences, incentivizing waste reduction, addressing stereotypes, and ensuring affordable energy access for all through targeted policies, financial support, inclusive infrastructure, monitoring, and partnerships at all governance levels

Promoting the attractiveness and inclusiveness of the economic opportunities offered by the global transitions by creating the necessary conditions to encourage women to explore, pursue and sustain careers in relevant fields, through:

- Adopting targeted strategies and programmes to overcome gender stereotypes and barriers to entry in STEM and ICT fields, supporting the participation of girls and women from an early age, offering inclusive training opportunities to help bridge the gender gap in green occupations, integrating gender-equality content into curricula, promoting diverse role models and developing targeted scholarships and training programmes
- Fostering an inclusive culture within companies to increase their attractiveness to all, including by adopting gender-responsive policies, such as flexible work arrangements, parental leave, and anti-discrimination measures, while challenging stereotypes and promoting gender equality
- Enhancing support for women in entrepreneurship, including in the energy, green and digital fields, notably by providing funding opportunities for women-led start-ups and by developing platforms for women entrepreneurs to connect with larger networks and access markets
- Advancing gender equality in digital, including AI-related fields, through policy and private-sector engagement, ensuring diverse perspectives in technology development and providing comprehensive digital literacy and skills training to women, including those from underrepresented groups
- Fostering partnerships between government, industry, and civil society to support women with the skills needed to enter the clean energy workforce
- Promoting equal gender representation in key partner organisations, such as social partner structures, to enhance advocacy for gender-responsive policies and practices, including in the fields related to the green and digital transitions, fostering inclusive and supportive work environments

Advancing gender equality in leadership and decision-making to ensure inclusive outcomes amid the global transitions and more broadly, by:

- Promoting gender-balanced representation in decision-making roles across all relevant sectors, including budgetary processes, notably by adopting policies such as leadership development

opportunities, targets, and quotas, and by strengthening the gender expertise of leaders across sectors

- Taking measures to create a safe and enabling environment for women and girls to explore STEM education opportunities, and supporting women-led energy projects
- Amplifying women's voices in environmental justice efforts
- Promoting gender-inclusive strategies in tackling climate change and in sectors like agriculture and forestry, focusing on increasing women's participation in green initiatives and leadership in environmental organisations, and ensuring that women have equitable access to resources and opportunities, notably through ODA

Eradicating structural gaps and harmful gender norms and stereotypes that hinder gender equality progress amid the global transitions, by:

- Dedicating the necessary effort to achieve a world free of GBV, including TF-GBV, for example by adopting and implementing laws and action plans, ensuring survivor-centred approaches to data collection, adopting multi-stakeholder approaches by working with civil society and other key actors such as the private sector and digital platforms (e.g., to integrate safety measures into online platforms' design); emphasising prevention, education on online risks, empowering users to report abuse, and providing victim support
- Improving the quality of employment for women, addressing the gender pay gap, improving the work life balance and redistributing the unequal share of unpaid work
- Increasing the understanding and measuring of social norms including norms of harmful masculinities by collecting relevant data and analysing their effects on gender equality
- Strengthening engagement with boys and men to be agents of change in fighting discrimination notably through educational curricula and other public efforts, including communication campaigns and advocacy action

Placing gender equality at the centre of policymaking and strengthening society-wide collaboration, by:

- Strengthening policy and data frameworks, data collection and tools, training and cross-sectoral capacities to support the integration of gender equality considerations into energy, green and digital transformation strategies across sectors, including by leveraging opportunities offered by technology to facilitate efficient and inclusive policymaking, including improvement of gender impact assessment and public consultation processes
- Integrate gender perspectives into government decision-making processes and tools, such as public procurement, budgeting, and regulation, as well as in ODA, notably by involving a wide range of stakeholders, including civil society and other non-governmental actors
- Collecting, consolidating and disseminating data on global transitions impacts on gender equality, in particular in areas where gender evidence is scarce (e.g., environment, energy), addressing intersections with other inequalities, including through leveraging digitalisation for expanded data sources, including big data, streamlining administrative data collection through online surveys
- Enhancing policy evaluation and accountability mechanisms to ensure that global transitions deliver inclusive outcomes, notably by leveraging digital tools to optimise monitoring and gender impact assessment processes
- Reinforcing shared commitment to gender equality and deepening the mainstreaming of gender equality from both a policy and budgetary perspectives

References

- African Union (2021), “Kinshasa Declaration and Call for Action of the African Union Heads of State on positive masculinity in leadership to end violence against women and girls in Africa”, *Men’s Conference on Positive Masculinity*, African Union,
https://au.int/sites/default/files/pressreleases/41226-pr-Declaration_Mens_Conference_English.pdf. [9
8]
- Agarwal, B. (2009), “Gender and forest conservation: The impact of women’s participation in community forest governance”, *Ecological economies*, Vol. 68/11, pp. 2785-2799,
<https://doi.org/10.1016/j.ecolecon.2009.04.025>. [3
5]
- ALCALDÍA MAYOR DE BOGOTÁ (2022), *Alcaldía de Bogotá presenta agente virtual que facilitará el acceso a servicios distritales y campañas de participación ciudadana*,
<https://www.sdp.gov.co/node/30609>. [1
6
1]
- Amnesty International (2018), *Toxic Twitter – A Toxic Place for Women*,
<https://www.amnesty.org/en/latest/research/2018/03/online-violence-against-women-chapter-1-1/>. [7
2]
- André, C. et al. (2023), “Promoting gender equality to strengthen economic growth and resilience”, *OECD Economics Department Working Papers*, No. 1776, OECD Publishing, Paris,
<https://doi.org/10.1787/54090c29-en>. [1
2
3]
- Australian Ministry for Industry and Science (2023), *Grants to strengthen women in STEM careers*,
<https://www.minister.industry.gov.au/ministers/husic/media-releases/grants-strengthen-women-stem-careers#:~:text=This%20latest%20round%20of%20Women,and%20succeed%20in%20STEM%20careers.> [1
0
8]
- Bettio, F. and A. Verashchagina (2009), *Gender segregation in the labour market: Root causes, implications and policy responses in the EU*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, <https://op.europa.eu/en/publication-detail/-/publication/39e67b83-852f-4f1e-b6a0-a8fbb599b256>. [1
0
6]
- BMWK (2023), *Neue Start-up-Förderung für Gründerinnen aus dem Wissenschaftsbereich*,
<https://www.exist.de/EXIST/Redaktion/DE/Aktuelles/Nachrichten/exist-women-foerderung.html>
(accessed on 16 November 2023). [1
3
3]
- Boston Consulting Group (2019), *Les inégalités d’accès au financement pénalisent les créatrices de startup*,
<https://static1.squarespace.com/static/5cb5f6b651f4d41671cfdd25/t/5d77bf6b1c0c795f4311284> [1
2
5]

- <b/1568128879711/Barometre-SistaxBCG-France10sept.pdf>.
- Braham, M. (2018), *Gender and climate-induced migration in the Mediterranean: from resilience to peace and human security*. [8
]
- Burn-Murdoch, J. (2024), “A new global gender divide is emerging”, *Financial Times*, [9
3]
<https://www.ft.com/content/29fd9b5c-2f35-41bf-9d4c-994db4e12998>.
- Caira, C., L. Russo and L. Aranda (2023), *Artificially Inequitable? AI and closing the gender gap*, [6
6]
<https://oecd.ai/en/wonk/closing-the-gender-gap>.
- Carlsson Kanyama, A., J. Nässén and R. Benders (2021), “Shifting expenditure on food, holidays, and furnishings could lower greenhouse gas emissions by almost 40%”, *Journal of Industrial Ecology*, Vol. 25/6, pp. 1602-1616, <https://doi.org/10.1111/jiec.13176>. [3
4]
- Cecelski, E. and S. Oparaocha (2023), *The lack of gender targets for clean energy is harming women and girls*, <https://sdg-action.org/the-lack-of-gender-targets-for-clean-energy-is-harming-women-and-girls/>. [5
2]
- CEDEFOP (2021), *The green employment and skills transformation: insights from a European Green Deal skills forecast scenario*, <https://doi.org/10.2801/112540>. [1
7]
- Changing Transports (n.d.), *Why Urban Mobility and Gender?*, <https://changing-transport.org/why-urban-mobility-and-gender/>. [3
2]
- Chen, Z. (2023), *Ethics and discrimination in artificial intelligence-enabled recruitment practices*, <https://doi.org/10.1057/s41599-023-02079-x>. [6
1]
- CIVICUS (2020), *Digital Democracy Initiative*, <https://www.civicus.org/index.php/what-we-do/innovate/digital-democracy-initiative>. [1
4
5]
- Clayton, A., C. Josefsson and V. Wang (2016), “Quotas and Women’s Substantive Representation: Evidence from a Content Analysis of Ugandan Plenary Debates”, *Politics and Gender*, Vol. 13/2, pp. 276-304, <https://doi.org/10.1017/S1743923X16000453>. [3
6]
- Cohen, G. and M. Shinwell (2020), “How far are OECD countries from achieving SDG targets for women and girls? : Applying a gender lens to measuring distance to SDG targets”, *OECD Statistics Working Papers*, No. 2020/02, OECD Publishing, Paris, <https://doi.org/10.1787/17a25070-en>. [8
4]
- Criscuolo, C. et al. (2021), *The Human Side of Productivity: Uncovering the role of skills and diversity for firm productivity*, *OECD Productivity Working Papers*, OECD Publishing, Paris. [1
2
2]
- Data2X (2022), *Solutions to Close Gender Data Gaps*, <https://data2x.org/wp-content/uploads/2022/04/Solutions-to-Close-Gender-Data-Gaps-FINAL.pdf>. [1
6
2]
- DataHub YouTube channel (20 July 2023), “Let’s Make Virtual Worlds More Liveable – Ideas to Prevent Metaverse Harms”, webinar by Shannon Pierson, https://www.youtube.com/watch?v=-9gMWIYVSRE&ab_channel=DataGovHub. [7
8]
- Denis, E. (2022), “Enhancing gender diversity on boards and in senior management of listed companies”, *OECD Corporate Governance Working Papers*, No. 28, OECD Publishing, Paris, <https://doi.org/10.1787/4f7ca695-en>. [1
2
6]
- Diehl, K. and P. Cerny (2021), *Women on the Move: Sustainable Mobility and Gender*, [2
6]

- <https://eu.boell.org/en/women-on-the-move-sustainable-mobility-and-gender>.
- DiRienzo, C. and J. Das (2019), “Women in government, environment, and corruption”, *Environmenta Development*, Vol. 30, pp. 103-113, <https://doi.org/10.1016/j.envdev.2019.04.006>. [3
9]
- EBB (2021), *Why the European Green Deal Needs Ecofeminism: moving from gender-blind to gender-transformative environmental policies*. [1
5
0]
- EGOV4WOMEN (2018), <https://egov4women.unescapsdd.org/toolkit/unit-11-e-government-for-women%E2%80%99s-empowerment-and-gender-equality>. [1
6
3]
- EIB (2022), *The EIB Climate Survey 2021-2022: Citizens call for green recovery*, <https://doi.org/10.2867/414948>. [4
1]
- EIGE (2024), *Five reasons why gender-responsive public procurement is crucial in the EU context.*, https://eige.europa.eu/gender-mainstreaming/toolkits/grpp/five-reasons-why-gender-responsive-public-procurement-crucial-eu-context?language_content_entity=en. [1
5
6]
- EIGE (2023), *Gender Equality Index 2023. Towards a green transition in transport and energy*, https://eige.europa.eu/publications-resources/publications/gender-equality-index-2023-towards-green-transition-transport-and-energy?language_content_entity=en. [1
1
2]
- EIGE (2021), *The costs of gender-based violence in the European Union*, European Institute for Gender Equality, Vilnius, <https://eige.europa.eu/publications-resources/publications/costs-gender-based-violence-european-union>. [8
7]
- EIGE (2017), *Gender in Transport*, https://eige.europa.eu/publications-resources/publications/gender-transport?language_content_entity=en. [3
0]
- Encinas-Martín, M. and M. Cherian (2023), *Gender, Education and Skills: The Persistence of Gender Gaps in Education and Skills*. [5
6]
- Environment and Climate Change Canada (2024), *2024-2025 Departmental Plan*, <https://www.canada.ca/en/environment-climate-change/corporate/transparency/priorities-management/departmental-plans/2024-2025/supplementary-tables/gender-based-analysis-plus.html>. [1
4
1]
- European Bank for Reconstruction and Development (2011), *Gender 1: Urban rehabilitation and transport projects*, <https://www.ebrd.com/news/publications/guides/gender-1-urban-rehabilitation-and-transport-projects.html>. [3
1]
- European Commission (2023), *The 2023 EU Justice Scoreboard*, https://commission.europa.eu/system/files/2023-06/scoreboard_factsheet-quantitative-v4.pdf. [1
4
6]
- European Commission (2020), *Valladolid's Strategy to boost socially efficient public procurement: strategic, honest and sustainable*, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi-oqHy8oeFAxURUKQEHSXvBBQQFnoECBkQAQ&url=https%3A%2F%2Fec.europa.eu%2Fdocsroom%2Fdocuments%2F42753%2Fattachments%2F13%2Ftranslations%2Fen%2Frenditions%2Fnative&usq=AOvVaw333xhO9VOw0>. [1
5
7]
- European Patent Office (2022), *PATSTAT*, <https://www.epo.org/en/searching-for-patents/business/patstat#tab-1>. [5
1]
- European Union (2024), *COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT* [5]

- REPORT, [https://ec.europa.eu/transparency/documents-register/detail?ref=SWD\(2024\)63&lang=en](https://ec.europa.eu/transparency/documents-register/detail?ref=SWD(2024)63&lang=en). [1]
- Fleischer, L. and L. Stokenberga (2023), "Well-being in Finland: Bringing together people, economy and planet", *OECD Papers on Well-being and Inequalities*, No. 14, OECD Publishing, Paris, <https://doi.org/10.1787/ecf06a58-en>. [8 5]
- Government of Canada (2024), *Budget 2024 Impacts Report*, <https://budget.canada.ca/2024/report-rapport/gdql-egdqv-2-en.html>. [1 5 1]
- Government of Canada (2024), *Guide on the use of generative artificial intelligence*, <https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/guide-use-generative-ai.html>. [1 5 8]
- Government of Canada (2023), *Gender-Based Analysis Plus Exploratory Evaluation Study on Selected Labour Market Programs*, <https://www.canada.ca/en/employment-social-development/corporate/reports/evaluations/gender-based-analysis-labour-market-programs.html>. [1 5 9]
- Government of France (2024), *Rapport annuel 2024 sur l'état des lieux du sexisme en France: S'attaquer aux racines du sexisme*, Haut Conseil à l'Égalité entre les femmes et les hommes, https://www.haut-conseil-egalite.gouv.fr/IMG/pdf/hce_-_rapport_annuel_2024_sur_l_etat_du_sexisme_en_france.pdf. [9 1]
- Government of Ireland (2021), "Gender Norms in Ireland", *Statistical Spotlight*, No. 6, Department of Children, Equality, Disability, Integration and Youth, <https://assets.gov.ie/207637/1ffaa942-044a-4fbb-8ded-f4f8bf479a3d.pdf>. [9 5]
- Government of New Zealand (2023), *Wellbeing Budget 2023*, <https://2023.budget.govt.nz/budget/pdfs/wellbeing-budget/b23-wellbeing-budget.pdf>. [1 5 2]
- Holland, D. and K. Ell (2023), *Close the Gender Gap to Unlock Productivity Gains: Limited and divergent progress has been made elevating females in the workplace*, Moody's Analytics, <https://www.moodyanalytics.com/-/media/article/2023/close-the-gender-gap-to-unlock-productivity-gains.pdf>. [8 6]
- IEA (2023), *A Vision for Clean Cooking Access for All*, <https://www.iea.org/reports/a-vision-for-clean-cooking-access-for-all>. [4 4]
- IEA (2023), *Gender and Energy Data Explorer*, <https://www.iea.org/data-and-statistics/data-tools/gender-and-energy-data-explorer>. [4 7]
- IEA (2022), *Understanding Gender Gaps in Wages, Employment and Career Trajectories in the Energy Sector*, <https://www.iea.org/articles/understanding-gender-gaps-in-wages-employment-and-career-trajectories-in-the-energy-sector>. [4 9]
- IEA (2021), *Women in senior management roles at energy firms remains stubbornly low, but efforts to improve gender diversity are moving apace*, <https://www.iea.org/commentaries/women-in-senior-management-roles-at-energy-firms-remains-stubbornly-low-but-efforts-to-improve-gender-diversity-are-moving-apace>. [4 8]
- ILO (2023), "Employment by sex and economic activity (thousands) - Annual", *ILOSTAT Statistics on Employment*, <https://ilostat ilo.org/topics/employment/>. [1 0 9]

- Inchley et al. (2020), *Spotlight on Adolescent Health and Well-being: Findings from 2017/2018 Health Behaviour in School-aged Children (HBSC) Survey in Europe and Canada. International Report. Volume 2. Key data*, World Health Organization, Regional Office for Europe, <https://iris.who.int/handle/10665/332104>. [8 1]
- Inglehart, R. et al. (2022), "World Values Survey: All Rounds – Country-Pooled Datafile Version 3.0", *World Values Survey*, JD Systems Institute and WVSA Secretariat, Madrid, Spain and Vienna, Austria, <https://www.worldvaluessurvey.org/WVSDocumentationWVL.jsp>. [9 9]
- International Monetary Fund (2023), *Inclusive GovTech: Enhancing Efficiency and Equity Through Public Service Digitalization*. [1 6 0]
- Internet Governance Forum (2021), *IGF 2021 BPF Gender and Digital Rights on Gendered Disinformation*, https://intgovforum.org/en/filedepot_download/248/21181. [6 9]
- IRENA (2019), *Assessments of gender equity in renewable energy*, <https://www.irena.org/Energy-Transition/Socio-economic-impact/Gender>. [4 5]
- ITF (2022), *Gender Analysis Toolkit for Transport Policies*, <https://www.itf-oecd.org/itf-gender-analysis-toolkit-transport-policies-0>. [2 9]
- King's College London and Ipsos (2024), *Emerging tensions? How younger generations are dividing on masculinity and gender equality*, Ipsos, The Global Institute for Women's Leadership (King's College London) and The Policy Institute (King's College London), <https://www.kcl.ac.uk/policy-institute/assets/emerging-tensions.pdf>. [9 2]
- Korinek, J., E. Moisé and J. Tange (2021), "Trade and gender: A Framework of analysis", *OECD Trade Policy Papers*, No. 246, OECD Publishing, Paris, <https://doi.org/10.1787/6db59d80-en>. [1 0 5]
- Lamensch, M. (2023), *Generative AI Tools Are Perpetuating Harmful Gender Stereotypes*, <https://www.cigionline.org/articles/generative-ai-tools-are-perpetuating-harmful-gender-stereotypes/>. [6 5]
- LinkedIn Economic Graph (2022), *2022 Global Green Skills Report*, <https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/global-green-skills-report/green-skills-report-2023.pdf>. [2 2]
- Lorenz, P., K. Perset and J. Berryhill (2023), "Initial policy considerations for generative artificial intelligence", *OECD Artificial Intelligence Papers*, No. 1, OECD Publishing, Paris, <https://doi.org/10.1787/fae2d1e6-en>. [6 7]
- Lucy, L. and D. Bamman (2021), *Gender and Representation Bias in GPT-3 Generated Stories*, <https://doi.org/10.18653/v1/2021.nuse-1.5>. [6 4]
- Mavisakalyan, A. and Y. Tarverdi (2019), "Gender and climate change: Do female parliamentarians make difference?", *European Journal of Political Economy*, Vol. 56, pp. 151-164, <https://doi.org/10.1016/j.ejpoleco.2018.08.001>. [3 7]
- Mirziyoyeva, Z. and R. Salahodjaev (2021), "Women's Parliamentary Representation and Sustainable Development Goals: a Cross-Country Evidence", *Applied Research in Quality of Life*, Vol. 17, pp. 871-883, <https://doi.org/10.1007/S11482-021-09940-8>. [3 8]
- Murauskaite-Bull, I. et al. (2023), *The effects of the energy transition on women*, Publications Office of the European Union, <https://doi.org/10.2760/511412>. [4 3]

- National Democratic Institute for International Affairs (2023), *General Day of Discussion on the Equal and Inclusive Representation of Women in Decision-Making Systems*, <https://www.ndi.org/sites/default/files/NDI%20Written%20Submission%20to%20CEDAW%20day%20of%20discussion%20on%20equal%20and%20inclusive%20representation%20of%20women%202023.pdf>. [75]
- NEA (2023), *Gender Balance in the Nuclear Sector, Human aspect of Nuclear Safety*, OECD Publishing, https://www.oecd-nea.org/jcms/pl_78831/gender-balance-in-the-nuclear-sector?details=true. [50]
- Nicol, S. and I. Dosen (2024), “The emergence of strategic budget initiatives”, *OECD Journal on Budgeting*, <https://doi.org/10.1787/8053099b-en>. [149]
- O. (ed.) (2023), *Built Environment through a Well-being Lens*, OECD Publishing, Paris, <https://doi.org/10.1787/1b5bebf4-en>. [25]
- O. (ed.) (2023), *How to Make Societies Thrive? Coordinating Approaches to Promote Well-being and Mental Health*, OECD Publishing, Paris, <https://doi.org/10.1787/fc6b9844-en>. [110]
- OECD (2024), *Development finance for gender equality and women’s empowerment*, <https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/development-finance-for-gender-equality-and-women-s-empowerment.htm> (accessed on 18 April 2024). [154]
- OECD (2024), “Family Indicators”, *OECD Social and Welfare Statistics* (database), <https://doi.org/10.1787/efd30a09-en> (accessed on 24 May 2024). [113]
- OECD (2024), *Gender wage gap* (indicator), <https://doi.org/10.1787/7cee77aa-en> (accessed on 14 March 2024). [118]
- OECD (2024), *OECD Digital Economy Outlook 2024 (Volume 1): Embracing the Technology Frontier*, OECD Publishing, Paris, <https://doi.org/10.1787/a1689dc5-en>. [79]
- OECD (2024), *OECD Going Digital Toolkit DataKitchen: Share of young people who report being victims of cyberbullying at least once in the past couple of months*, https://goingdigital.oecd.org/datakitchen/#/explorer/1/toolkit/indicator/explore/en?mainCubeld=OECD.STI.DEP%2FSDS_TOOLKIT_13%40DF_GD_BREAKDOWNS_13&pairCubeld=&sizeCubeld=&mainIndId=HBSC_B1&pairIndId=&sizeIndId=&sizeBreakdowns=&countries=&countryFilter=fal (accessed on 1 April 2024). [80]
- OECD (2024), *OECD Going Digital Toolkit: Share of problematic social media users*, <https://goingdigital.oecd.org/indicator/59> (accessed on 1 April 2024). [82]
- OECD (2024), *OECD Going Digital Toolkit: Top-performing 15-16 year old students in science, mathematics and reading*, <https://goingdigital.oecd.org/indicator/52> (accessed on 29 February 2024). [54]
- OECD (2024), *OECD Going Digital: New tertiary graduates in science, technology, engineering and mathematics as a share of new graduates*, <https://goingdigital.oecd.org/indicator/43> (accessed on 29 February 2024). [57]
- OECD (2024), *OECD.AI Policy Observatory: Demographics of AI professionals by gender*, <https://oecd.ai/en/data?selectedArea=ai-demographics&selectedVisualization=ai-demographics-by-gender> (accessed on 29 February 2024). [63]

- OECD (2024), *SIGI 2024 Regional Report for Southeast Asia: Time to Care*, Social Institutions and Gender Index, OECD Publishing, Paris, <https://doi.org/10.1787/7fc15e1c-en>. [10]
- OECD (2024), *Taxing Wages 2024: Tax and Gender through the Lens of the Second Earner*, OECD Publishing, Paris, <https://doi.org/10.1787/dbcbac85-en>. [15]
- OECD (2023), *Breaking the Cycle of Gender-based Violence: Translating Evidence into Action for Victim/Survivor-centred Governance*, <https://doi.org/10.1787/b133e75c-en>. [142]
- OECD (2023), *Exploring Norway's Fertility, Work, and Family Policy Trends*, OECD Publishing, Paris, <https://doi.org/10.1787/f0c7bddf-en>. [14]
- OECD (2023), *G20/OECD Principles of Corporate Governance 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/ed750b30-en>. [128]
- OECD (2023), *Gender Budgeting in OECD Countries 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/647d546b-en>. [148]
- OECD (2023), *Government at a Glance 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/3d5c5d31-en>. [19]
- OECD (2023), *Improving the Quality of Walking and Cycling in Cities: Summary and Conclusions*, OECD Publishing, <https://doi.org/10.1787/cdeb3fe8-en>. [40]
- OECD (2023), *Joining Forces for Gender Equality: What is Holding us Back?*, OECD Publishing, Paris, <https://doi.org/10.1787/67d48024-en>. [61]
- OECD (2023), *OECD Corporate Governance Factbook 2023*, OECD Publishing, Paris, <https://doi.org/10.1787/6d912314-en>. [127]
- OECD (2023), *OECD Economic Outlook, Volume 2023 Issue 1*, OECD Publishing, Paris, <https://doi.org/10.1787/ce188438-en>. [107]
- OECD (2023), *OECD Skills Outlook 2023: Skills for a Resilient Green and Digital Transition*, OECD Publishing, Paris, <https://doi.org/10.1787/27452f29-en>. [21]
- OECD (2023), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/53f23881-en>. [55]
- OECD (2023), *Reporting Gender Pay Gaps in OECD Countries: Guidance for Pay Transparency Implementation, Monitoring and Reform*, Gender Equality at Work, OECD Publishing, Paris, <https://doi.org/10.1787/ea13aa68-en>. [119]
- OECD (2023), *SIGI 2023 Global Report: Gender Equality in Times of Crisis, Social Institutions and Gender Index*, OECD Publishing, Paris, <https://doi.org/10.1787/4607b7c7-en>. [14]
- OECD (2023), *Supporting Lives Free from Intimate Partner Violence: Towards Better Integration of Services for Victims/Survivors*, OECD Publishing, Paris, <https://doi.org/10.1787/d61633e7-en>. [138]
- OECD (2023), *The gender equality and environment intersection: An overview of development co-operation frameworks and financing*, OECD Publishing, <https://www.oecd.org/dac/gender-equality-environment-intersection.pdf>. [41]
- OECD (2022), *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/3197152b-en>. [103]

- OECD (2022), *Empowering Women in the Transition Towards Green Growth in Greece*, OECD Publishing, <https://doi.org/10.1787/a9eacee6-en>. [3
3]
- OECD (2022), *Gender and Capital Budgeting*. [1
5
3]
- OECD (2022), *Gender Equality and the Empowerment of Women and Girls: DAC Guidance for Development Partners*, OECD Publishing, Paris, <https://doi.org/10.1787/0bddfa8f-en>. [1
4
0]
- OECD (2022), *Report on the Implementation of the OECD Gender Recommendations*. [1
3
6]
- OECD (2022), "Supporting women's empowerment through green policies and finance", *OECD Environment Policy Papers*, No. 33, OECD Publishing, Paris, <https://doi.org/10.1787/16771957-en>. [2
3]
- OECD (2022), *Tax Policy and Gender Equality: A Stocktake of Country Approaches*, OECD Publishing, Paris, <https://doi.org/10.1787/b8177aea-en>. [1
1
6]
- OECD (2021), *Entrepreneurship Policies through a Gender Lens*, OECD Studies on SMEs and Entrepreneurship, OECD Publishing, Paris, <https://doi.org/10.1787/71c8f9c9-en>. [1
3
2]
- OECD (2021), *Gender and the Environment: Building Evidence and Policies to Achieve the SDGs*, OECD Publishing, Paris, <https://doi.org/10.1787/3d32ca39-en>. [2
1]
- OECD (2021), *Man Enough? Measuring Masculine Norms to Promote Women's Empowerment*, Social Institutions and Gender Index, OECD Publishing, Paris, <https://doi.org/10.1787/6ffd1936-en>. [9
6]
- OECD (2021), *Pay Transparency Tools to Close the Gender Wage Gap*, Gender Equality at Work, OECD Publishing, Paris, <https://doi.org/10.1787/eba5b91d-en>. [1
2
0]
- OECD (2021), "Promoting gender equality through public procurement: Challenges and good practices", *OECD Public Governance Policy Papers*, No. 09, OECD Publishing, Paris, <https://doi.org/10.1787/5d8f6f76-en>. [1
5
5]
- OECD (2021), *SIGI 2021 Regional Report for Southeast Asia*, Social Institutions and Gender Index, OECD Publishing, Paris, <https://doi.org/10.1787/236f41d0-en>. [1
0
1]
- OECD (2021), "The inequalities-environment nexus: Towards a people-centred green transition", *OECD Green Growth Papers*, No. 2021/01, OECD Publishing, Paris, <https://doi.org/10.1787/ca9d8479-en>. [1
3]
- OECD (2021), "Women in infrastructure: Selected stocktaking of good practices for inclusion of women in infrastructure", *OECD Public Governance Policy Papers*, No. 07, OECD Publishing, Paris, <https://doi.org/10.1787/9eab66a8-en>. [2
8]
- OECD (2020), *Gender and Environmental Statistics: Exploring available data and developing new evidence*, <https://www.oecd.org/environment/brochure-gender-and-environmental-statistics.pdf>. [9
1]
- OECD (2020), *How's Life? 2020: Measuring Well-being*, OECD Publishing, Paris, <https://doi.org/10.1787/9870c393-en>. [1
1
1]
- OECD (2019), *DAC Recommendation on Ending Sexual Exploitation, Abuse, and Harassment in Development Co-operation and Humanitarian Assistance: Key Pillars of Prevention and* [1
3
9]

- Response, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-5020>.
- OECD (2019), *Fast Forward to Gender Equality: Mainstreaming, Implementation and Leadership*, <https://doi.org/10.1787/g2g9faa5-en>. [1
4
4]
- OECD (2019), *PISA 2018: Insights and Interpretations*, OECD Publishing, Paris, <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>. [5
9]
- OECD (2019), *SIGI 2019 Global Report: Transforming Challenges into Opportunities*, Social Institutions and Gender Index, OECD Publishing, Paris, <https://doi.org/10.1787/bc56d212-en>. [8
9]
- OECD (2019), "Violence against women", in *Society at a Glance 2019: OECD Social Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/008fcef3-en>. [1
3
7]
- OECD (2018), *Empowering women in the digital age. Where do we stand?*, <https://www.oecd.org/en/topics/digital.html>. [1
2]
- OECD (2015), *OECD Recommendation on Gender Equality in Public Life*. [1
4
3]
- OECD (forthcoming), *OECD Digital Economy Outlook 2024 (Volume 2)*. [5
8]
- OECD (forthcoming), *Spotlight on preparing for the skill needs of tomorrow. OECD Digital Economy Outlook 2024*. [5
3]
- OECD Development Centre/OECD (2023), "Gender, Institutions and Development (Edition 2023)", *OECD International Development Statistics* (database), <https://doi.org/10.1787/7b0af638-en> (accessed on 12 March 2024). [1
2
4]
- OECD Publishing, P. (ed.) (2023), *Gender Budgeting in OECD Countries 2023*, <https://doi.org/10.1787/647d546b-en>. [2
0]
- OECD/EU (2022), *Policy brief on access to finance for inclusive and social entrepreneurship: What role can fintech and financial literacy play?*, OECD Publishing, Paris. [1
3
0]
- OECD/EU (2015), *Policy Brief on Expanding Networks for Inclusive Entrepreneurship*, OECD, Paris. [1
3
1]
- OECD/European Commission (2023), *The Missing Entrepreneurs 2023: Policies for Inclusive Entrepreneurship and Self-Employment*, OECD Publishing, Paris, <https://doi.org/10.1787/230efc78-en>. [1
2
9]
- Office of Global Women's Issues (2023), *Breaking the Silos: A New U.S. Strategy Linking Gender Equality & Climate Action*, <https://www.state.gov/breaking-the-silos-a-new-u-s-strategy-linking-gender-equality-climate-action/>. [1
4
7]
- Outlaw, J. (8 May 2018), "Harassment in social VR: Stories from survey respondents", Medium blog, <https://jessica-outlaw.medium.com/harassment-in-social-vr-stories-from-survey-respondents-59c9cde7ac02>. [7
7]
- République Française (2020), *Part des femmes dans les professions vertes (en %)*, <https://www.notre-environnement.gouv.fr/donnees-et-ressources/ressources/graphiques/article/part-des-femmes-dans-les-professions-vertes-en>. [1
8]

- Robertson, A. (2024), *Google apologizes for ‘missing the mark’ after Gemini generated racially diverse Nazis*, <https://www.theverge.com/2024/2/21/24079371/google-ai-gemini-generative-inaccurate-historical>. [6
8]
- Sardinha, L. et al. (2022), “Global, regional, and national prevalence estimates of physical or sexual, or both, intimate partner violence against women in 2018”, *The Lancet*, [https://doi.org/10.1016/s0140-6736\(21\)02664-7](https://doi.org/10.1016/s0140-6736(21)02664-7). [1
3
5]
- Sasakawa Peace Foundation and BloombergNEF (2020), *Gender Diversity and Climate Innovation*, <https://www.spf.org/en/gender/publications/20201201.html>. [2
4]
- ShePersisted (2023), *Monetizing Misogyny*, https://she-persisted.org/wp-content/uploads/2023/02/ShePersisted_MonetizingMisogyny.pdf. [7
1]
- Skinner, C. (2023), *How to move beyond the anti-ESG backlash*, World Economic Forum, <https://www.weforum.org/agenda/2023/11/esg-backlash/>. [1
2
1]
- Strumskyte, S., S. Ramos Magaña and H. Bendig (2022), “Women’s leadership in environmental action”, *OECD Environment Working Papers*, No. 193, OECD Publishing, Paris, <https://doi.org/10.1787/f0038d22-en>. [1
6]
- Sustainable Mobility for All (2023), *Gender Imbalance in the Transport Sector: A Toolkit for Change*, https://www.sum4all.org/data/files/gender_imbalance_in_the_transport_sector_a_toolkit_for_change.pdf. [2
7]
- The Economist (2024), “Why young men and women are drifting apart”, *The Economist*, <https://www.economist.com/international/2024/03/13/why-the-growing-gulf-between-young-men-and-women>. [9
4]
- The University of Melbourne (2017), *Disability Inclusion in Disaster Risk Reduction*, https://mspgh.unimelb.edu.au/data/assets/pdf_file/0011/2567576/WEB-DIDRR-Report-14112017.pdf. [1
5]
- UITP (2023), , <https://www.uitp.org/news/unleashing-the-innovation-potential-of-public-transport-as-backbone-of-urban-mobility-upper-project-launches/>. [4
2]
- UK Parliament (2022), *Action needed to avoid losing a generation of women in politics*, <https://committees.parliament.uk/committee/328/women-and-equalities-committee/news/161363/action-needed-to-avoid-losing-a-generation-of-women-in-politics/>. [7
6]
- UN Spotlight Initiative (2024), *Spotlight Initiative: Who we are*, United Nations, <https://www.spotlightinitiative.org/who-we-are>. [9
7]
- UN Women (2024), *Placing Gender Equality at The Heart of the Digital Global Compact*. [1
6
4]
- UN Women (2023), *Data Driven Insight: The Effects of Climate Change on Gender Development*, https://www.unwomen.org/sites/default/files/2023-11/data-driven_insight_the_effects_of_climate_change_on_gender_development.pdf. [3
1]
- UN Women (2022), *Explainer: How gender inequality and climate change are interconnected*, <https://www.unwomen.org/en/news-stories/explainer/2022/02/explainer-how-gender-inequality-and-climate-change-are-interconnected>. [1
1]
- UN Women (2021), *Guidance Note: Preventing Violence against Women in Politics*, [7]

- <https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2021/Guidance-note-Preventing-violence-against-women-in-politics-en.pdf>. [0]
- UN Women, UNIDO (2023), *Gender Equality in the Sustainable Energy Transition*, <https://www.unwomen.org/sites/default/files/2023-05/Gender-equality-in-the-sustainable-energy-transition-en.pdf>. [4
6]
- UNDRR (2020), *The human cost of disasters: an overview of the last 20 years (2000-2019)*, <https://www.undrr.org/publication/human-cost-disasters-overview-last-20-years-2000-2019> (accessed on 25 April 2024). [1
0]
- UNESCO (2024), *UNESCO is stepping up the evidence base for gender equality*, <https://www.unesco.org/en/articles/unesco-stepping-evidence-base-gender-equality>. [8
3]
- UNESCO (2024), *Women in science, not in silence: pioneering change in the global climate crisis*, <https://www.unesco.org/en/articles/women-science-not-silence-pioneering-change-global-climate-crisis>. [7
1]
- UNESCO (2022), *Leave no child behind: global report on boys' disengagement from education*, UNESCO, <https://doi.org/10.54675/bdl13314>. [1
0
4]
- UNFPA (2021), *Technology-facilitated Gender-based Violence: Making All Spaces Safe*, <https://www.unfpa.org/publications/technology-facilitated-gender-based-violence-making-all-spaces-safe>. [7
3]
- Van Bavel, J., C. Schwartz and A. Esteve (2018), "The Reversal of the Gender Gap in Education and Its Consequences for Family Life", *Annual Review of Sociology*, Vol. 44/1, pp. 341-360, <https://doi.org/10.1146/annurev-soc-073117-041215>. [1
0
2]
- Verdict (2022), "Exclusive: How big is the gender pay gap in the tech industry in Britain and who are the worst offenders?", <https://www.verdict.co.uk/exclusive-how-big-is-the-gender-pay-gap-in-the-tech-industry-in-britain-and-who-are-the-worst-offenders/>. [1
1
7]
- Wang, L. et al. (2021), "Gender trends in computer science authorship", *Communications of the ACM*, Vol. 64/3, pp. 78-84, <https://doi.org/10.1145/3430803>. [6
2]
- WHO (2023), *Protecting maternal, newborn and child health from the impacts of climate change: call for action*, <https://www.who.int/publications/i/item/9789240085350>. [1
1]
- WHO (2021), *Violence Against Women Prevalence Estimates, 2018*, <https://www.who.int/publications/i/item/9789240022256>. [1
3
4]
- Williams, B., C. Brooks and Y. Shmargad (2018), "How Algorithms Discriminate Based on Data They Lack Challenges, Solutions, and Policy Implications", *Journal of Information Policy*, Vol. 8/1, <https://doi.org/10.5325/JINFOPOLI.8.1.0078>. [6
0]
- Wodon, Q. and B. de la Brière (2018), *Unrealized Potential: The High Cost of Gender Inequality in Earnings*, The Cost of Gender Inequality, World Bank, Washington, DC, <http://hdl.handle.net/10986/29865>. [9
0]
- Wodon, Q. et al. (2020), *How Large Is the Gender Dividend? Measuring Selected Impacts and Costs of Gender Inequality*, The Cost of Gender Inequality, World Bank, Washington, DC, <http://hdl.handle.net/10986/33396>. [8
8]
- Women Political Leaders (2022), *Women's Political Careers 2022*, [7]

<https://www.womenpoliticalleaders.org/wp-content/uploads/2023/04/Womens-Political-Careers-Report.pdf>.

4]

Notes

¹ While women are more negatively affected by many health risks linked to climate change, some primarily affect men. Men, overrepresented in high-risk rescue work, face a higher disaster-related mortality rate compared to women in certain events (World Bank, GFDRR, 2021^[180]). Men in OECD countries experience higher rates of premature mortality from environmental and occupational hazards compared to women. Farmer suicide, for instance, partly attributed to how factors like drought and unpredictable weather impact agricultural income, predominantly affects men. In Australia, France, and the United Kingdom, men account for a significant majority of farmer suicides, representing 87%, 86% and 96% of the total respectively. In India, the crisis is especially severe, with 10 281 farmers and agricultural labourers dying by suicide in 2019 (OECD, 2021^[2]).

² Floods, wildfires and droughts are becoming more prevalent and have impacted over 4 billion people in the past 20 years, in addition to leading to economic losses (OECD, 2023^[14])

³ In 2021, only 14, 10 and 7% of environmental ministers were women in South and South-East Asia, the Middle East and North Africa, and Latin America and the Caribbean, respectively (Strumskyte, Ramos Magaña and Bendig, 2022^[16]).

⁴ Consistent with the approach taken in the World Health Organization international report (Inchley et al., 2020^[81]), intensive users of online communication are people who reported having online contact with friends or others almost all the time throughout the day in the 2017/2018 HBSC survey. More information can be found at <https://hbcs.org/>.

⁵ Consistent with the approach taken in the World Health Organization international report (Inchley et al., 2020^[81]), problematic social media users are people who answered “yes” to six or more items of the Social Media Disorder Scale. See (OECD, forthcoming^[78]) for more information.

⁶ For EU countries, Iceland, Norway and Türkiye, data refer to the proportion of seats held by women on boards for the largest 50 members of the primary blue-chip index in the country concerned. For other countries, data refer to the proportion of seats held by women on boards for companies covered by the MSCI ACWI index – an index of around 2 400 large- and mid-cap firms from developed and emerging countries. For detailed statistical definitions, see <https://stats.oecd.org/index.aspx?queryid=54753>.

⁷ Austria, Belgium, Germany, Greece, Finland, France, Iceland, India, Israel, Italy, Korea, Malaysia, the Netherlands, Norway and Portugal.

⁸ For the purposes of brevity, the following paragraphs will employ the term “policy” in a broader sense to encompass laws and regulations.

⁹ DAC members, with the *DAC Recommendation on Gender Equality and the Empowerment of All Women and Girls in Development Co-operation and Humanitarian Assistance* (2024), have committed to consistently promote gender equality and the empowerment of all women and girls globally and in a collaborative and inclusive manner

