



Gender in focus: Towards inclusive solutions to plastic pollution

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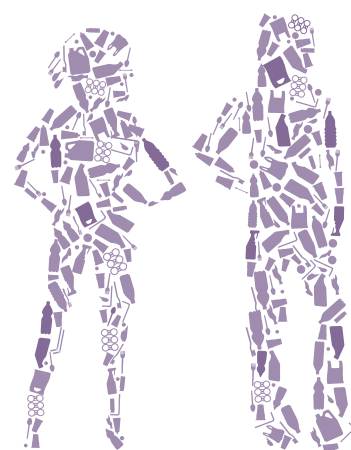
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Introduction

The exclusion of women and under-represented groups from decision-making at the highest levels of policy, operations, planning and programme design has led to a fragmented response to plastic pollution. Numerous studies indicate that women's attitudes towards plastic pollution and prioritization of environmental and human health lead to different behaviour and decision-making. (GPAP, 2021)

The plastics value chain is not gender-neutral: Inequalities from society are also reflected in this material flow.

Along the lifecycle of plastics, impacts and involvement is different according to the actor's gender. Since data on non-binary perceptions is limited, the focus will lie on the difference between men and women along the plastics value chain. The findings are mainly from a global perspective and vary according to context.

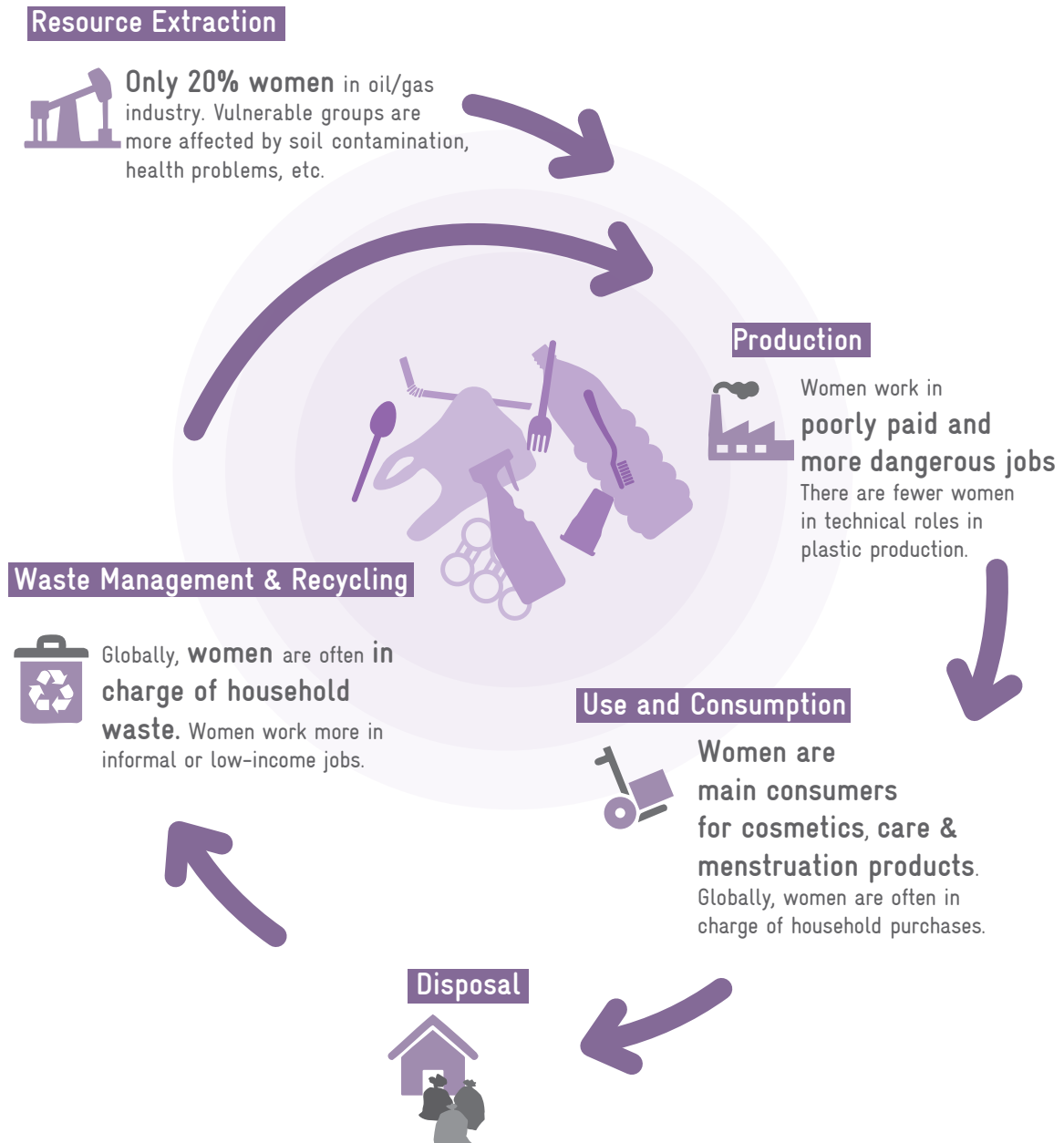
Studies show that women are important change agents as consumers, entrepreneurs, household managers and politicians. They often act in an en-

vironmentally more responsible way than men. However, women are usually more involved in informal, end-of-pipe activities with lower added value like recycling or waste management. This disparity stems from several underlying factors, including a gender gap in access to education, finance and technologies, women's low participation in STEM (science, technology, engineering, mathematics), a mismatch between new jobs and women's skills, as well as discriminatory social norms in laws, unpaid care work and underrepresentation in decision-making roles. (GPAP, 2021)

In the following, each stage of the plastics value chain will be looked at through a gender lens.



Figure 1 In general: what does plastic have to do with gender?

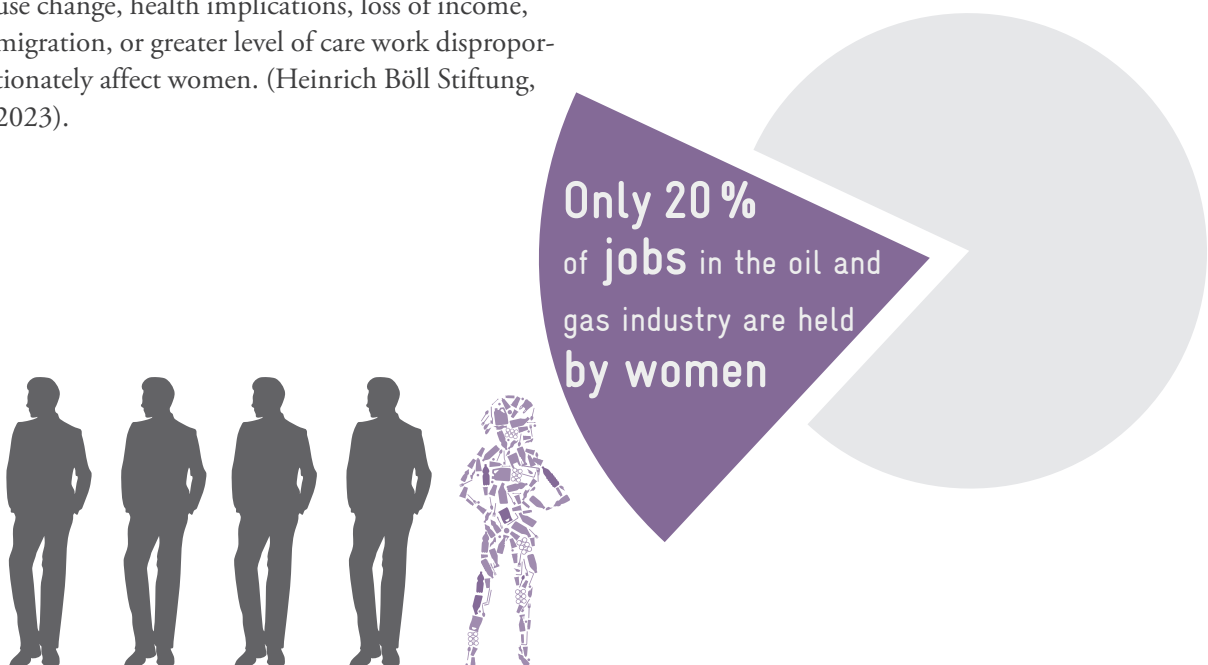


Source: Own elaboration adapted from Heinrich Böll Stiftung, 2023.

Extraction



Plastic is made from oil and gas. The extraction of those raw materials often brings fast industrialisation that deepens gender gaps and reinforces marginalisation. While men often find jobs in the fossil fuel industry, women only hold 20 per cent of jobs in the oil and gas industry. Effects like land use change, health implications, loss of income, migration, or greater level of care work disproportionately affect women. (Heinrich Böll Stiftung, 2023).



What could you do?

- ⊙ Politicians could integrate gender-sensitive impact assessments into fossil fuel and extraction policies, ensuring that women's livelihoods and environmental health are protected.
- ⊙ Business leaders in extractive industries could implement gender-equitable hiring practices

and invest in skills development programmes for women in local communities.

- ⊙ Civil society could advocate for policies that protect women from displacement and ensure that affected communities, especially women, have a voice in decision-making.

Production



Women are often less involved in entrepreneurial activity and STEM fields of work. According to WEF's 2023 Global Gender Gap Report, women make up only approximately 30 per cent of STEM workers (World Bank, 2023). In another study, the World Bank points out that women in the plastics industry tend to hold lower skilled jobs than men (World Bank, 2022). Even though data is scarce, it can be assumed that women are also underrepresented in the production of plastic products.



Women in the production phase. Photo: ©GIZ / Sabrina Asche



Above all, socially constructed gender hierarchies and gender-specific labour markets channel women and people facing multiple forms of discrimination into poorly paid and dangerous types of work in industrial mass production with high levels of chemical exposure. (Heinrich Böll Stiftung, 2023)



In industrial mass production, women often work in poorly paid and dangerous jobs with high levels of chemical exposure. This is especially risky because women suffer stronger negative impacts of exposure to chemicals used as additives in plastic production due to their higher biological sensitivity. Sometimes, the involvement of women in plastics production is only visible at second

sight: While women represent only 30 per cent of the workforce in plastics production in total, they make up for around 70 per cent of the workforce in the textile and footwear industry where plastics are also an important part of the products. (Heinrich Böll Stiftung, 2023) (Heinrich Böll Stiftung, 2019).

What could you do?

- ▶ Politicians could promote gender-inclusive education in STEM and enforce labour rights to protect women in hazardous plastic production environments.
- ▶ Business leaders could ensure safe working conditions and strive for greater diversity throughout their companies, e.g. by ensuring equal opportunities for women, including access to leadership roles in the plastics and manufacturing sectors.
- ▶ Civil society could monitor working conditions and push for corporate accountability in ensuring gender equity in hiring and workplace safety.



Use or consumption

The different roles women and men take in society mean that in some areas, they have special potential as change agents. For example, women are often responsible for household purchases and therefore well situated to raise consciousness about the impact of product choice, reuse, and behaviour change measures. Studies show that, once sensitised, women are more open to 'green products'. (Heinrich Böll Stiftung, 2019) (GPAP, 2021).

Furthermore, women are the main target group of cosmetic and personal care products, that many use daily. Mainly coming in plastic containers, most of these products contain microplastics and harmful chemicals. With changes of gender roles advancing and men being increasingly targeted as well by the cosmetics industry, the resulting health risks may apply to all genders in future.

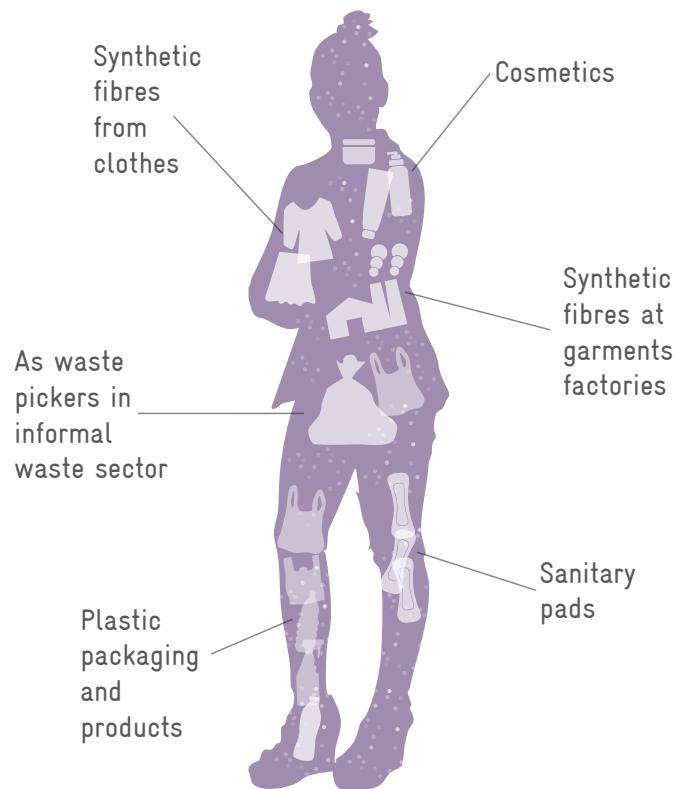
Another product group where women play an important role are menstrual products. Many of them are single-use, and especially mass-produced items contain a lot of plastics. Sanitary pads for example are 90 per cent made of plastic.

Furthermore, women are also main users of cleaning or care work products. A lot of single use plastic products (e.g. diapers) are used when taking care of children, older or sick people in their own family or others'.

Besides the waste implications of those regularly needed products, plastic also contains many chemicals (up to 36,000) and can thus have negative impacts both on human health and the environment. (Heinrich Böll Stiftung, 2019, 2023) (GPAP, 2021) (WECF, 2023).



Figure 2 Women's plastic exposure. Women in Asia come into contact with plastic every day, both at home and at work



Source: Adapted from Heinrich Böll Stiftung Hong Kong, 2021

What could you do?

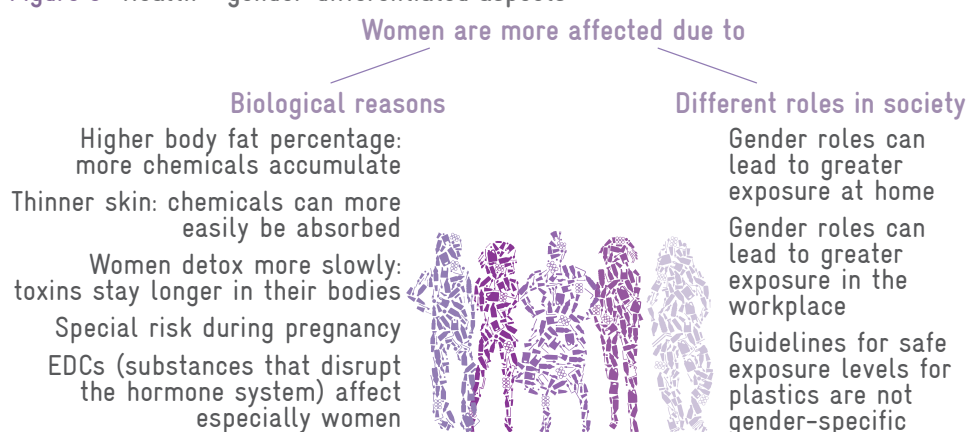
- ▶ Politicians could take a gender-differentiated approach when designing consumer-awareness measures or campaigns, while being careful not to reinforce harmful gender stereotypes.
- ▶ Business leaders could strive for greater diversity in their product design teams and throughout the whole company, to ensure products that are tailored to the user and safe for both human health and the environment.
- ▶ Civil society could lead gender-sensitive awareness campaigns on sustainable consumption and empower women-led initiatives.

Health

The negative health effect of plastic can be worse for women than for men. The female body accumulates toxins more due to a higher fat rate, while women also detoxify more slowly and have a thinner skin which allows for easier absorption of chemicals. Endocrine disruptors can also have negative effects both on women and unborn children during pregnancy. Furthermore, menstruation products consist of a high amount of plastics and potentially harmful additives.

Secondly, the role women take in society has an influence as well. Gender roles can lead to greater exposure to toxins at home when women are responsible for the household waste or care work requiring use of plastic-intensive products. At the workplace, they are more likely to be in lower-paid or informal jobs where adequate safety

Figure 3 Health – gender-differentiated aspects



Source: Own elaboration

equipment is often missing. A Canadian study showed that women working in the car industry handling plastics are five times more likely to develop breast cancer. (Heinrich Böll Stiftung, 2019) (WECF, 2023) (UNEP, 2023)

Furthermore, marginalised groups (often mainly women) are disproportionately affected by pollution and live in especially polluted areas, corresponding with negative impacts on health and livelihood. (UNEP (b), 2021).

What could you do?

- ▶ Politicians could support gender-sensitive research into the health effects of plastics and strive for gender-differentiated health regulations.
- ▶ Business leaders could commit to safer production standards and invest in safer, non-toxic alternatives. They could also provide gender-responsive occupational health measures, including PPE (personal protective equipment) designed for women.
- ▶ Civil society can play a crucial role in raising awareness about plastic-related health risks for women and advocating for more stringent health and safety policies.

Disposal



Women are often responsible for sorting and disposing of household waste and therefore a great lever for awareness-raising measures. Campaigns should consider who is responsible for household waste, while also addressing how to distribute the workload more equally.

Municipal solid waste management strategies should be gender-responsive. Disposal facilities should be easy to reach in a reasonable time for those responsible for waste in households. Women and vulnerable groups should be consulted and included in decision-making. (GPAP, 2021) (UNEP (a), 2019)

Exclusion from the more formalized, powerful spaces in the plastics value chain occurs despite the fact that women around the world are more often the ones making the decisions regarding plastics purchases for the households and the disposal of plastic waste at the end of use.
(GPAP, 2021)



What could you do?

- ▶ Politicians could implement gender-responsive waste management policies, ensuring easy access to waste disposal facilities for those responsible for household waste, and promote gender-sensitive educational campaigns.
- ▶ Civil society could support initiatives that educate and empower women in waste reduction strategies while advocating for more equitable distribution of household labour.

Waste management and recycling



Dealing with waste has traditionally been considered as part of traditional housewifery in many parts of the world. On the other hand, as in many industries, women are edged out of waste management activities if these become profitable enterprises. (UNEP (b), 2019)

In the informal sector, women (and children) make up the largest proportion of informal workers in many countries, due to the flexible working hours, low entry barriers and the possibility of taking their children to work. When competing with men for materials, women are often left with less valuable fractions. Women seldomly lead 'family businesses' and are more involved in sorting at home while men are collecting the waste. Their restricted access to resources like equipment or vehicles means that women are gathering less waste than men. Bad working conditions and absence of protective equipment (which is often made for men's bodies only) enhance negative health effects.

In the formal sector, women are mostly underrepresented and responsible for casual tasks with less recognition and income (e.g., street sweeping instead of transporting waste). Women often face greater entry barriers and disproportionately lose jobs and income in the formalisation of the waste sector. This can be due to various reasons, like the

Figure 4 Protective equipment is often made for men only



Source: Adapted from Heinrich Böll Stiftung, 2023.









lack of flexibility for combination with care work or stereotypes of women perceived as weaker and therefore not apt for some tasks like lifting waste containers.

Until recently, women mostly took on the role of street sweepers. However, since the position became professionalised and the salaries increased, women have been losing these jobs. (UNEP (a), 2019)

In both formal and informal sectors, there are reports of sexual harassments, mainly against women. Other safety constraints occur in public spaces where women are more vulnerable, like work-

ing in the streets during night time. (GPAP, 2021) (Heinrich Böll Stiftung, 2023) (UNEP (b), 2019) (UNEP (a), 2019) (UNEP (b), 2021).

Figure 5 Gender and plastic waste management

			
			Recommendations for action
Decision-makers 	Tend to occupy higher decision-making positions in the waste management sector	Tend to be less visible as decision-makers	Zero tolerance for sexual harassment Actively include women experts in panels, events, advisory committees, etc.
Households 	Tend to be responsible for taking waste outside the home	Tend to be responsible for waste prevention and sorting in the home	Educate all household members in sorting and waste prevention as well as about the safe disposal of non-recyclables
Consumer pattern 	Tend to buy more expensive goods with a longer lifetime	Tend to buy more basic consumer goods such as food, household products, etc.	Raise awareness regarding different types of goods, their shelf lives and options for recycling especially for expensive goods Increase the ease in recycling basic consumer goods such as by clear product coding and sorting options
Formal waste workforce 	Mainly occupy technical jobs	Mainly occupy non-technical jobs. Women are also strongly represented as unpaid activists and advocates for reducing plastics waste and recycling	Zero tolerance for sexual harassment in the workplace supported by polices and leadership commitment Actively recruit women to apply for technical jobs and men in marketing and communications jobs
Informal waste workers 	Hazardous work conditions, social stigma.	Invisibility, poor working conditions, unstable income, limited access to resources such as capital to purchase equipment to increase efficiency in processing recyclables	Increase awareness of the key role played by women and men informal waste pickers in supporting the effectiveness of the circular economy Support programmes to reduce gender based violence (GBV) for women waste pickers. Increase their visibility, safety, status and income
Personal actions 	Tend to litter more and are less likely to participate in recycling	Tend to be more environmentally aware and more likely to participate in clean-up activities but are less likely to occupy paid or decision-making positions	Targeted male-focused campaigns to encourage men to increase recycling Recruit women activists into paid positions and provide mentoring and training programmes to advance women into greater decision-making positions

Source: Adapted from 'Drowning in plastics – Marine Litter and Plastic Waste Vital Graphics' (UNEP, 2021)

What could you do?

- Politicians could advocate for gender-sensitive policies in waste management by conducting gender analyses, work towards a just transition when installing schemes for waste management like Extended Producer Responsibility (EPR), or work towards better health and safety regulations in both the formal and informal sector.
- Business leaders could include informal waste workers in Extended Producer Responsibility (EPR) schemes or evaluate the diversity in waste management companies and implement work and hiring models that empower women's participation.
- Civil society could advocate for the rights of informal waste workers and support women in waste management by providing training and protective equipment.

Conclusion

Women are key stakeholders in addressing plastic pollution across all stages of the plastics value chain. However, structural inequalities in education, employment, and decision-making limit their ability to fully engage in sustainable solutions.

Politicians, business leaders, and civil society can work towards a gender-responsive and inclusive approach to plastic pollution – one that acknowledges the disproportionate impacts on women while leveraging their crucial role as change agents. Addressing plastic pollution through a gender lens makes measures more targeted and ultimately more effective in driving lasting change.

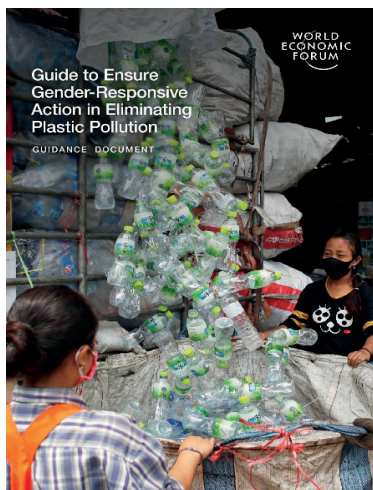


Women in the production phase. Photo: ©GIZ/Sabrina Asche

Existing international efforts and initiatives for inspiration



The [Global Plastic Action Partnership \(GPAP\)](#), hosted by the World Economic Forum (WEF) works on preventing plastic pollution worldwide in so-called 'National Plastic Action Partnerships' (NPAP). Many of those NPAPs have already published a socio-economic context analysis, highlighting gender-sensitive actions and implications along the plastic value chain in the respective country. Intersectionality is already considered in some of them. Furthermore, GPAP published an extensive guide with recommendations for various actors in 2021, the '[Guide to Ensure Gender-Responsive Action in Eliminating Plastic Pollution](#)', which can be accessed through the [Global Plastic Action Partnership website](#), together with a visualisation of some key messages and a storytelling approach of '[Aminya's story](#)'.



[Women in Informal Employment Globalizing and Organizing \(WIEGO\)](#) supports women and informal waste workers worldwide in voicing their perspective and organizing in associations. They published various knowledge products on the gender dimensions in the informal sector and organised trainings.



[Women of Waste](#) is a working group of the **International Solid Waste Association (ISWA)** that organises events and publishes knowledge products on the role of women in both the formal and the informal solid waste sector.



The [International Alliance of Waste Pickers \(IAWP\)](#) works on topics like Just Transition. They published various knowledge products such as case studies on inclusive EPRs and are involved in the negotiations for a global plastics treaty, voicing the demands of informal waste workers to be considered in the future treaty and not to be left out in the formalisation of the waste sector.



Further organisations produced various publications on the topic and can be found in Further resources. For example, [GRID-Arendal](#) published knowledge products on inclusive EPR. Furthermore, UNEP published various publications on the nexus between plastic and gender, as well as the World Bank.



The organisation [Women Engage for a Common Future \(WECF\)](#) also works on the nexus of gender and plastic. It has different programs on the topic and published various valuable knowledge products, e.g. on gender considerations for the global plastics treaty negotiations, chemicals in plastics or plastic in menstruation products.

Sources & further resources

Please note that this list is not exhaustive. There are a many new reports being published on the topic.

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