



Policy brief

Gender equality and the green transition of the labour market

Introduction

How can gender equality be made an integrated part of the green transformation of the labour market? What are the challenges? Which skills are needed in future green jobs? What is the impact of traditional gendered patterns of education? Is there a risk that the green transition of the labour market will reproduce and reinforce the gender segregation of the world of work, or can the green transition provide new opportunities to create less segregation?

This policy brief provides facts and figures and raises key issues concerning the relevance of gender equality in the green transition of the labour market. The policy brief is relevant for politicians and decision-makers, trade unions and employers' organisations, environmental organisations and others who are involved in the green transition, employment and gender equality.

Employment

Towards a green and gender equal labour market

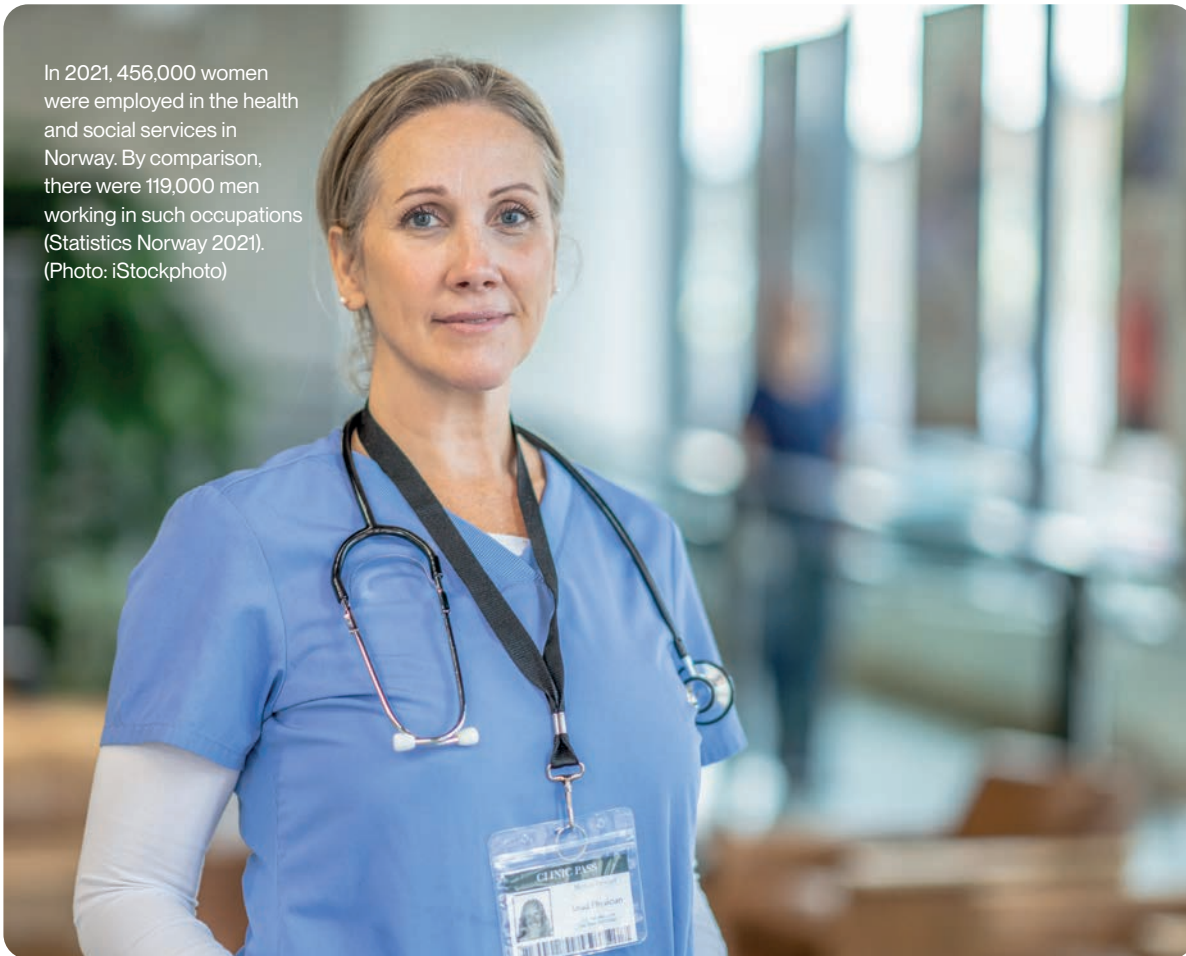
Internationally, gender equality is widely acknowledged as a prerequisite for the green transition. The enhanced [Lima Work Programme](#), with pertaining gender action plan, was adopted during the 2019 UN Climate Change Conference in Madrid (COP25). The programme constitutes an impor-

tant acknowledgement that climate change and climate policies impact men and women differently (Svendsen et al. 2022, Standal and Aamot 2022). If economic growth is to take place within the limits of what nature can withstand while also providing good living conditions for future generations, the transition will have to be fair and inclusive. One of the means to ensure socially and economically



A more climate-friendly agricultural industry is important for food production and employment. (Photo: iStockphoto)

In 2021, 456,000 women were employed in the health and social services in Norway. By comparison, there were 119,000 men working in such occupations (Statistics Norway 2021). (Photo: iStockphoto)



sustainable development is the creation of new jobs in a *green economy*.

The Nordic countries have committed to work towards achieving a green and gender equal Nordic region. In spring 2022, the Nordic Council of Ministers for Gender Equality and LGBTI signed the joint declaration [A Green and Gender-Equal Nordic Region](#). The Nordic Council of Ministers emphasises that the gender perspective must be embedded into climate action – including policies targeting the green transition of the labour market. Because men and women, at the group level, take different types of education and hold different positions in the labour market, green transition does not necessarily translate into equal access to green jobs for men and women.

Green transition and social dumping

Research on green jobs in the British recycling industry shows that the jobs were unattractive, and carried out by male labour migrants working under poor conditions (Wilson and Chu 2019). So far, the risk of new green jobs becoming an arena for social dumping has not been a major topic in climate policy. The example from the UK shows how a combination of gender, ethnicity and class can affect the position of individual groups in the labour market.

What are green jobs and the green economy?

The UN Environment Programme defines green economy as “one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.” (The UN Environment Programme, undated). The International Labour Organization (ILO) has defined green jobs as “Jobs that reduce the environmental impact of enterprises and economic sectors, ultimately to levels that are sustainable.” (ILO 2019). The definition covers work in agriculture, industry, services, and administration. Green jobs are often associated with technology, engineering and digitalisation intended to make society more climate-friendly by developing new solutions. ILO emphasises that green jobs must also meet the criteria for decent work, which includes adequate wages, safe conditions, and workers’ rights to organise and to participate in decision-making. Evidently, decent work implies equal opportunities for women and men in the workplace. The definitions of green economy and green jobs show that social dimensions such as gender are important in the transition towards a green society.

How can we ensure that the green transition does not create new winners and losers in the labour market?

Restructuring the gender-segregated labour market

One of the key challenges of the green restructuring of the labour market is that many of the green jobs are created in sectors where women have traditionally been, and still remain, underrepresented. Norway still has a highly gender-segregated labour market in that men and women largely work in different sectors and different occupations. The Norwegian labour market has become less segregated in recent years because more women have entered traditionally male-dominated occupations (Reisel et al. 2019). However, some sectors remain strongly dominated by one gender. The health and care sector, in particular, is dominated by women, while technology and ICT-related occupations remain male-dominated. Only about 15 per cent of all occupations in Norway can be characterised as gender-balanced occupations, with about the same proportion of men and women (Reisel et al. 2019).

Will the green transition create a more gender-segregated labour market, or can it provide new opportunities to reduce gender segregation in the labour market?

Education



Both the UN and OECD point out that one of the barriers to women's participation in the green transition is the gender imbalance in STEM fields. (Photo: iStockphoto)

Gender differences in educational choice

The gender-segregated labour market is closely linked to gender differences in educational choice. According to calculations from the Institute for Social Research, two thirds of the occupational gender segregation in the labour market can be explained by educational gender segregation (Reisel 2018). In 2021, about 40 per cent of students in Norway were men, while 60 per cent were women (Norwegian Directorate for Higher Education and Skills 2022). However, it is important to emphasise that the high proportion of women studying nursing and health care programmes is the main factor behind the overall proportion of women among students. One in three female students study care and nursing subjects, and 85 per cent of the students on these programmes are women. By comparison, men make up 84 per cent of students on information and computer technology (ICT) programmes (Reisel and Seehuus 2022).

Science, technology, engineering, and mathematics (STEM) and the green transition

Scientists have criticised how climate challenges were initially presented as a problem for the natural

sciences to deal with (Hemmati and Röhr 2009). This resulted in science, technology, engineering, and mathematics, collectively known as STEM subjects, being allowed to define both the problem and the solutions to the climate crisis (Magnusdottir and Kronsell 2021). The UN and OECD both point to male dominance in STEM subjects as an important obstacle to women's participation in the green transition (UN 2019, OECD 2021).

STEM subjects are relevant to the green transition because they educate experts for the sectors that are subject to restructuring by climate actions. Many of the green jobs are created within these same sectors, for example in developing new technologies. The UN and OECD point out that equality in these disciplines must therefore be a key strategy to ensure work for women in future and prevent them from being excluded from the green transition.

How is women's under-representation in STEM fields significant for the green transition?

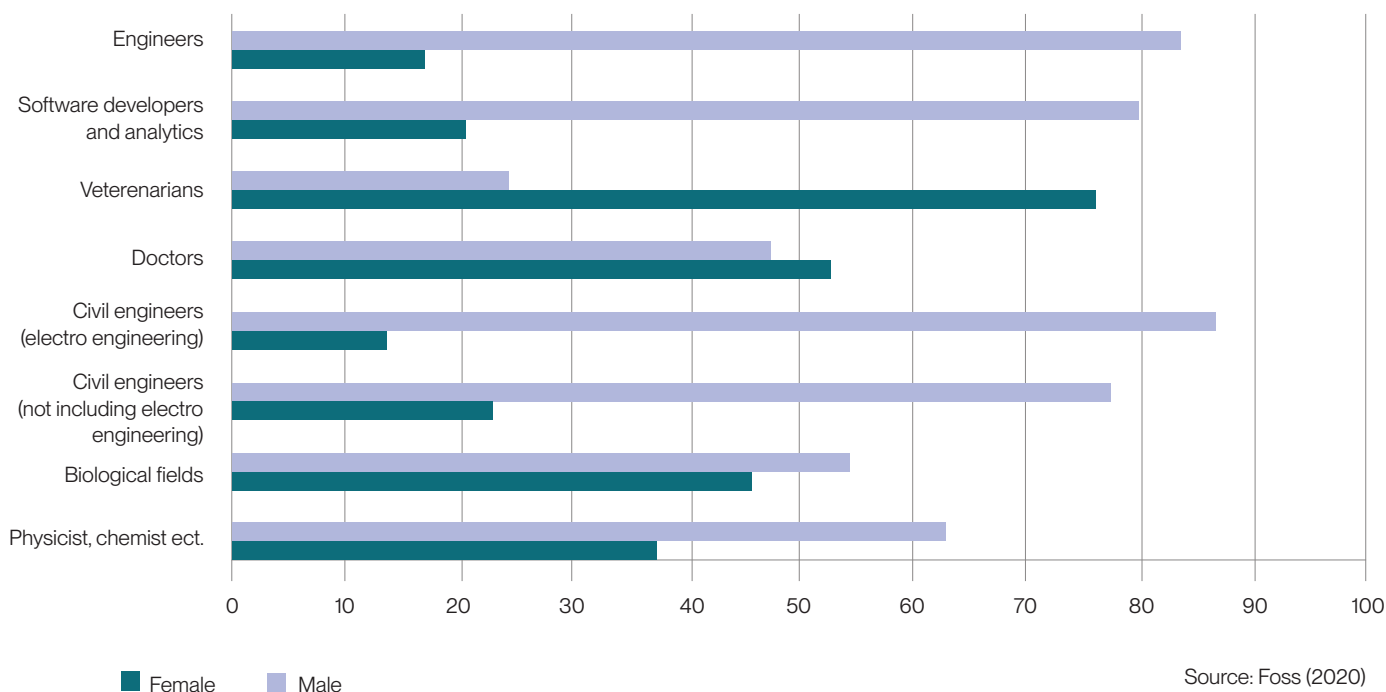
Gender inequalities in STEM

In 2018, less than 29 per cent of all STEM graduates in Norway were women. That was the second lowest proportion of female students in STEM fields in the Nordic countries, second only to Finland with 27 per cent (Jansson and Sand 2021). This gender imbalance is reflected in the labour market where, according to Statistics Norway, women make up only 25 per cent of the labour force in STEM occupations (Foss 2020). As shown by Figure 1, the male dominance is particularly strong in occupations such as engineer and graduate engineer and in the field of computer technology. A report from the Nordic Council of Ministers concluded that research on gendered educational choices, gender-segregated labour markets and gender imbalance in STEM

subjects show that norms about gender and gender stereotypes set the framework and stipulate the terms for our choices and actions. The connections between men, masculinity and technical knowledge remain, as do the gendered ideals of science (Jansson and Sand 2021).

How can we ensure that we have a sufficient workforce in health and care occupations in future?

Figure 1: Proportion of men and women in selected STEM occupations, 2020.





A majority of the members of the Confederation of Norwegian Enterprise expect that they will need more expertise in engineering and technical subjects in the future. (Photo: iStockphoto)

Gender Impact Assessment of the Finnish Climate and Energy Strategy

The Finnish government is the first among the Nordic countries to have assessed the gender impact of proposed policy measures for the national climate and energy strategy. The research group analysed the consequences for gender equality at the macro level in six different sectors: energy production, construction, transport, industrial production, the service sector and agriculture. The report concludes that the proposed

policy measures mostly target male-dominated sectors, men's consumption habits and include technical solutions that are appealing to men. The report recommends that policy measures must be put in place to counteract the gender imbalance in the industries that benefit the most from the climate measures, and that emphasis should be placed on measures that increase women's participation in climate related decision making (Paavola et al. 2021).

Trade and industry

The gender segregation in STEM fields affects trade and industry's recruitment base for the green transition. In order to restructure for the green transition, industries need new expertise, but are at risk of recruiting a homogeneous group. Head of the skills and innovation department of the Confederation of Norwegian Enterprise (NHO), Rebekka Borsch, describes the situation as follows:

"Taken to its extreme conclusion, we are at risk of ending up in a situation where women increasingly have to take care of society's old and sick, while men shape and define the digital and green society. This is a huge challenge in a gender equality perspective." (Rebekka Borsch, 2021)

How can we ensure that both men and women have access to the knowledge and skills required for new green jobs?



Rebekka Borsch, head of the skills and innovation department of the Confederation of Norwegian Enterprise (NHO).

"Green transition could be a door opener"

More knowledge about how to achieve equality in the STEM field, both in work and education, is a key aspect of the Nordic countries' efforts to incorporate gender equality in their climate policy (Nordic Council of Ministers 2022). Hilde G. Corneliussen, Research Leader at Western Norway Research Institute, has conducted research on women who chose to study technology at university level. Her research shows that very few of the women had felt *invited* or *encouraged* to familiarise themselves with technology in lower or upper secondary school. Many of them "discovered" technology as an interesting option only after having started another study programme; technology was thus their second education. "Young women who are about to choose an education need to be familiar with technology, and not least the many opportunities it presents," says Corneliussen.

"Linking the need for technological expertise to topics such as climate challenge and green transition could be a door opener to technology subjects for women who otherwise would not have considered technology as a relevant educational option." (Hilde G. Corneliussen, 2022)



Hilde G. Corneliussen is Research Leader at Western Norway Research Institute.



Green jobs are also created by "green entrepreneurs". In 2021, one third of Innovation Norway's "green projects" went to projects that were defined as "women-oriented". (Photo: iStockphoto)

Green entrepreneurship

Green jobs are also created by what are known as green entrepreneurs. In 2021, a record-breaking share of funding awarded by Innovation Norway, more than 60 per cent, went to green projects. One third of the projects were defined as women-oriented which means that women started the project, are co-owners, or that the enterprise in question aims to raise the skills of its female staff (Innovation Norway 2022). Several of these green entrepreneurs started up enterprises that engage in reuse and repair of household goods, small electronic appliances and devices – and not least clothes. Such enterprises are often run by women on a non-profit basis.

How can we ensure that the new green jobs do not reinforce gender stereotypes where men take charge of high technology while women attend to traditional women's tasks such as repairing clothes?

Climate and environmental considerations in trade and industry

The gender segregation in education affects the recruitment base to business and industry. In a survey of enterprises that are members of the Confederation of Norwegian Enterprise, more than half answered that climate and environmental considerations have a bearing on their knowledge and skills needs (Rørstad et al. 2022).

This first and foremost applies to companies that produce and supply renewable energy, transport enterprises, the seafood industry and other industrial sectors. Most of the enterprises also expect to need more skills and knowledge in engineering and technical subjects, as well as qualified tradespersons (Rørstad et al. 2022).



It is likely that gender and age interact when it comes to individuals' ability and willingness to adapt to the green labour market. (Photo: iStockphoto)

Sustainable skills

According to ILO, a just transition towards environmentally sustainable economies and societies has to take gender equality into account. A gender perspective facilitates more effective and targeted climate actions because it involves a higher proportion of the population. This, in turn, allows for more creative solutions as well as more just environmental management and a fairer distribution of resources (ILO 2015). How gender equality considerations should be incorporated into the green transition in practice, however, is a complex question.

For example, the strong emphasis on the necessity for more women to choose STEM occupations raises a number of questions: If a high proportion of women stop training for health and care occupations in favour of green technology industries, is it necessary to have a strategy to ensure a sufficient and qualified workforce to cover the increasing need for health and care services? How can the tasks that remain to be resolved within the health and care sector be included in the green transition policy? Is one of the solutions to attract more men to the health and care sector? And if so, what would it take to encourage men to train for occupations in the health and care sector? Although research shows that the climate actions overall can bring more economic activity and increased employment to a number of male-dominated industries, we know little about the impact of the green transition on the work situation of individuals. In Norway, the expertise of the oil and gas industry is claimed to be key to the green transition. Nonetheless, there is reason to ask whether all industrial workers will be included in the green transition. What about older industrial workers in male-dominated sectors who are unable or unwilling to take part in the transition?

Gender and age probably interact when it comes to individuals' ability and willingness to adapt to the green labour market. How can we ensure that men and women of different ages and with different qualifications will be included in the green transition of the labour market?

In order to reduce the emissions while safeguarding the welfare system and ensuring good working conditions, the whole labour force needs relevant skills. Gender-blind climate policies, as well as employment policies, that ignore gender as a factor in the green transition are at risk of reproducing and reinforcing gender inequalities, including the gender segregated labour market and the gender pay gap (Svendsen et al. 2022). Thus, it is important to identify the actions that will enable us to solve climate challenges in a way that ensures the participation of both men and women and at the same time, safeguard welfare services.

How can the tasks that remain to be resolved in the health and care sector be included in the green transition policy? Is one of the solutions to attract more men to the health and care sector?

Points for reflection

1. How can we ensure that the green transition does not create new winners and losers in the labour market?
2. Will the green transition create a more gender-segregated labour market, or can it provide new opportunities to reduce gender segregation in the labour market?
3. How is women's underrepresentation in STEM fields significant for the green transition?
4. What are the consequences if most of the new green jobs are filled by men?
5. How can we ensure that we have a sufficient workforce in health and care occupations in future?
6. How can we amplify the skills necessary for the green transition of the labour market when the recruitment base remains gender-segregated?
7. How can we ensure that both men and women have access to the knowledge and skills required for the new green jobs?
8. Could the green transition be a door opener for women into STEM fields?
9. How can we ensure that the new green jobs do not reinforce gender stereotypes where men take charge of high technology while women attend to traditional women's tasks such as repairing clothes?
10. How can the tasks that remain to be resolved within the health and care sector be included in the green transition policy? Is one of the solutions to attract more men to the health and care sector?
11. How can we ensure that men and women of different ages and with different qualifications will be included in the green transition of the labour market?

The policy brief is based on Kilden's annual conference "Gender equality and the green transition". The conference was held in Oslo on 18 November 2021, with representatives from the science community, national authorities and civil society.

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