

## Gender perspective on green jobs in the Nordic region

A collection of results from NIKK 2020–2022

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The Nordic Council of Ministers has adopted the vision that the Nordic region will be the most sustainable and integrated region in the world by 2030. This knowledge review sheds light on a number of reports that use gender analyses to help understand the challenges of the green transition. It presents five thematic approaches to green jobs and concludes with a summary and key messages from these reports.

## Introduction

To achieve the Nordic Council of Ministers' vision for 2030, the Council has prioritised the strategic areas of *A green Nordic region*, *A competitive Nordic region*, and *A socially sustainable Nordic region* (Nordic Council of Ministers, 2020). This vision is linked to the 2030 Agenda and the 17 sustainable development goals (SDG) adopted by the UN's Member States. The intention of the SDGs is to work cross-sectorally, integrating the environmental, economic and social dimensions of sustainability (UN, 2015).

The Nordic Council of Ministers' vision, the 2030 Agenda, and the Paris Agreement all emphasise gender equality as a horizontal principle, and that the conditions for women and men, respectively, must be taken into account when designing interventions (cf. UN Women, 2013; IUCN, 2021). In addition, the Nordic Council of Ministers has committed itself to promoting climate justice through feminist action. Examples of this include developing and sharing knowledge in 2022–2024 about:

how the Nordic countries are working to ensure inclusive green jobs and study opportunities, with a focus on reducing vertical and horizontal gender segregation in the labour market, in particular in STEM study programmes and jobs (Nordic Council of Ministers, 2022).

### Purpose

The Nordic cooperation body Nordic Information on Gender (NIKK) produced a series of reports in the period 2020–2022 which, through their gender analyses, are relevant to understanding the challenges of the green transition (listed below in descending chronological order):

- <u>Climate, gender and consumption: An overview of research with a gender</u> <u>perspective on sustainable lifestyles (Sand, 2022);</u>
- <u>Towards a sustainable future world of work in the Nordic countries: The gender</u> perspective on the opportunities and challenges (Young Håkansson et al., 2022);
- <u>Vocational education and training in the Nordic countries: Knowledge and interventions to combat gender segregation</u> (Simonsson, 2022);
- <u>Genusperspektiv på framtidens högteknologiska arbetsliv: En nordisk</u> <u>forskningsöversikt om utbildningsval inom STEM (Science, Technology,</u> <u>Engineering and Mathematics)</u> (Gender perspective on the high-tech labour market of the future: A Nordic research overview on education choices within Science, Technology, Engineering and Mathematics (STEM), Jansson and Sand, 2021); and
- <u>Genusperspektiv på regionala utmaningar, regionalpolitik och demografisk</u> <u>utveckling i en nordisk kontext: en kunskapsöversikt</u> (Gender perspective on regional challenges, regional policy and demographic trends in a Nordic context: A research overview, Grip, 2020).

In this context, the anthology <u>Re-Imagining Sexual Harassment: Perspectives from</u> <u>the Nordic Region</u> (Lundqvist et al., 2023) is also relevant.

The findings from the aforementioned publications are presented here in a combined knowledge overview. The purpose of this report is to identify links between issues related to gender-segregated educational choices and gender segregation in the labour market related to the transition to green jobs. The hope is that it will help to deepen the Nordic region's perspectives on these issues and, by extension, contribute to sustainable solutions for social development in the Nordic countries.

### Background

A green transition based on the 2030 Agenda requires behavioural changes as well as technological development. With this in mind, it is essential that interventions to reduce resource consumption and greenhouse gas emissions are designed to be compatible with sustainable social development, and gender equality in particular (cf. Gloor et al., 2022).

The UN Environment Programme (UNEP) and the UN International Labour Organization (ILO), among others, have defined green jobs as those

that contribute substantially to preserving or restoring environmental quality. Specifically, although not exclusively, this includes jobs that help to protect and restore ecosystems and biodiversity; reduce energy, materials and water consumption through high-efficiency and avoidance strategies; de-carbonise the economy; and minimise or altogether avoid generation of all forms of waste and pollution (Renner et al., 2008).

The Nordic region is at the forefront of the development of green technologies such as biogas, offshore wind and geothermal energy, battery manufacturing and the electrification of transport, digitalisation technology, carbon-free steel, geological storage of carbon dioxide and forest-based bioeconomy (see for example Andersson et al., 2019; Khan et al., 2021). The Nordic countries are also relatively well ranked in various gender equality indices (see UNDP, 2020). Their labour markets feature high labour participation of women supported by policy reforms such as publicly funded childcare and parental leave. This has led to a stronger economy than would otherwise been the case (OECD, 2018; Nordic Council of Ministers, 2019). At the same time, gender segregation is pronounced, in the sense that to a large extent, women and men work in different sectors as well as holding different positions in workplace and education system hierarchies.

Gender-biased recruitment to engineering and other technology-based study programmes and occupations has been seen as particularly problematic for a long time (see for example, Chavatzia, 2017; OECD, 2017; Charles and Thébaud, 2018; Beghini and Cattaneo, 2019) and this issue also arises in policy development when it comes to the green transition. Studies have shown that climate action tends to have a positive overall impact on the number of jobs, particularly in male-dominated sectors such as the energy, industrial and agricultural sectors, while the most significant negative impacts on the number of jobs are found in the femaledominated services sector. (Lander Svendsen et al., 2022). These perspectives need to be taken into account when discussing a fair or socially sustainable green transition (cf. Büscher et al., 2020; Høst et al., 2020; Cedergren et al., 2022)



### 1. Competence provision

Transitioning the workplace and economic activity to reduce environmental impact requires changes in competence provision. Employers are looking for specific skills, such as those related to hydropower, wind power, hydrogen, batteries, biomass and geothermal energy (DAMVAD Analytics, 2022), as well as more generic skills related to social and ecological sustainability (Strietska-Ilina et al., 2011). Changes in the skills that are in demand in the labour market affect the entire formal education system, from preschool to vocational education and training in upper secondary schools and higher education – an education system marked in various ways by gender inequality and limiting gender norms, both of which have an impact on which skills a person develops. If the ambition is for education to promote sustainable development, it is problematic that the education system reproduces norms and structures that hinder sustainability (cf. Jónsson et al., 2021; Sterling, 2001).

The research overview of gender-based education choices produced by NIKK, Genusperspektiv på framtidens högteknologiska arbetsliv (Gender perspective on the high-tech labour market of the future, Jansson and Sand, 2021), shows that the gender gap in science and technology does not reflect any corresponding differences in relevant skills between women or girls as a group and men or boys as a group. The differences that develop during the school years are also smaller the younger the studied cohorts are. The gender-based recruitment of women emanates from the interaction between a number of factors relating to upbringing and socialisation as well as education, and is marked by gender norms in society (see also Chavatzia, 2017). The expectation that mathematics, science - with the exception of the subject of biology - and technology are something boys are particularly suited for leads to the perception that it is a given that boys generally have the relevant skills in these areas. The same expectations shape a lack of self-confidence among girls that does not correspond to their actual abilities, thus cementing gender segregation in the labour market. In schools, technology is primarily presented as technical objects and devices, and this too has an impact. Studies show that boys tend to be interested in technology as artefacts (cf. Wajcman, 1991; Berner, 2003), while girls generally attach greater importance to technology's social relevance, or how an education in science and technology provides them with the opportunity to work with people or for the benefit of the environment - technology as a socio-ecological system (Jansson and Sand, 2021; cf. Ahlborg et al., 2019).

The NIKK report *Vocational education and training in the Nordic countries* (Simonsson, 2022) shows that the education system features the same gender segregation as seen in the labour market, where women and men, to a large extent, work in different sectors (horizontally) and in different positions (vertically). The majority of students studying health and social care in upper secondary vocational education and training courses are girls, while courses in electricity and energy or building and construction, for example, are even more tangibly dominated by boys (Simonsson, 2022). Vertical gender segregation means that men are often in higher and more prestigious positions and that men's work is often valued more highly. Horizontal gender segregation is cemented by this, since male-dominated study programmes tend to provide advantages in the labour market such as higher salaries and better working conditions (see also Reisel et al., 2015; Måwe, 2019). Studies have also pointed to a paradox in the attempts to reform upper secondary schools in order to meet labour market's needs for technical skills, for example. Schools specialising in science and technology adapted to the labour market seem to result in an even larger divide between girls and boys in the area of science and technology (Mellén, 2021; Young Håkansson, et al., 2022).

The overarching message from the NIKK reports is that the solutions seem to be counter-productive if the problem of gender-based educational choices and gender-segregated labour markets is formulated as a shortage of skilled labour. Instead, improving the conditions for both boys *and* girls who find themselves in a position where they are the minority group could provide an alternative solution to the problems of gender-based educational choices and a gender-segregated labour market. In addition to having a greater impact, this would be in line with the ambition to reduce social differences through education, a stance that historically has characterised the education systems of the Nordic countries (Imsen et al., 2017; Young Håkansson et al., 2022). Furthermore, the reports shows that an alternative way of bringing about change would be to work to dispel misconceptions and prevailing gender norms linked to specific sectors and occupations and the study programmes relevant to them. Herein lie also questions of how different occupations are valued and how this can have different consequences for men and women (Simonsson, 2022; Måwe, 2019).

### 2. Interventions to break down gender segregation

When major investments in green industries are made such as Northvolt's battery manufacturing and the production of carbon-free steel through the Hybrit project in northern Sweden, labour shortages are presented as a key problem. These investments lead to the creation of jobs that are not expected to be filled from the supply of relevant skilled labour already present in the region (see for example Ramboll Management Consulting, 2022). The underrepresentation of women in engineering and other technology-based occupations is often highlighted as a key issue in this context, as it means that a large part of the population is seen as an under-utilised resource (see, for example WEF 2016). According to estimates by the European Institute for Gender Equality (EIGE), economic growth in the European Union is expected to increase by an additional EUR 610–820 billion by 2050 if, all other things being equal, women are engaged in the workforce to the same extent as men (EIGE, 2017).

As the NIKK report *Vocational education and training in the Nordic countries shows*, there are many examples of interventions aimed at addressing the gendersegregated labour market – in the different Nordic countries as well as internationally, in different sectors of society and industries, and at different levels. Firstly, there are initiatives that are largely implemented as part of a country's overall strategies that are derived from gender equality, anti-discrimination or education policies in general. These include formulations at an overall level on how gender equality is to be achieved in and through the school and education system. Secondly, there are initiatives based on a description of gender segregation in the labour market as a comprehensive problem that must be addressed. These include the education system as part of the problem, but without focusing on specific industries. Thirdly, which is the most comprehensive in terms of number, there are industry-specific interventions which aim to tackle gender-based recruitment (Simonsson, 2022).

In the NIKK report *Genusperspektiv på framtidens högteknologiska arbetsliv* (*Gender perspective on the high-tech labour market of the future*), the inventory of these interventions – which are very often jointly organised by employers and education providers in cooperation – shows that their focus is primarily on role models, mentoring, networks and sharing of experiences, and that they target girls and women at different educational levels (Jansson and Sand, 2021). These interventions tend to be based on a problem formulation in which women and other underrepresented groups 'fall by the wayside' at various points on their way to becoming an engineer, for example, and that different types of support should be implemented to support them to stay on track (cf. Schiebinger, 2008, 2010). As stated in the section above, *Competence provision*, the interventions then also run the risk of being counter-productive by reiterating and reinforcing gender stereotypes about men and women as a group (Simonsson, 2022) in the way they address these issues.

The overall message from the NIKK reports is that if the interventions are to truly address the issues of gender-based educational choices and gender-segregated labour markets, they need to be based on what the research shows: science and technology are dominated by men and the image of who can be an engineer, for example, is associated with being a man, and education and workplaces in these areas are characterised by norms and cultures supported by a traditional form of masculinity that marginalises women and other underrepresented groups (Jansson and Sand, 2021).

Relevant problem formulations would then be that social circumstances, cultural stereotypes and the gender-based division of labour impede women's participation in STEM study programmes and that organisations in the education system and workplaces must change in order to appeal to and retain these groups. Analyses of particular importance to the green transition are those that point out that the knowledge produced in engineering, for example, is characterised by norms of gender, class, race/ethnicity, etc., and that this has consequences for the importance of these disciplines and occupations in the broader community (cf. Schiebinger, 2008, 2010).

## 3. Gender labelling of technology and of sustainability

Studies of climate policies in different countries show that when interventions are largely gender-blind in their design, they have negative consequences for gender equality and ultimately also a negative impact on the effective implementation of the green transition. Decision-makers in the area are often economists and engineers – professions dominated by men – whose education and training are about focusing on costs to society and technological solutions rather than social aspects (Lander Svendsen et al., 2022; see also Paavola et al., 2021; IUCN, 2021). There is reason to assume that analyses of the sex and gender aspects of the prevailing conditions in households as well as in the labour market would help to improve climate policy in the Nordic countries and globally.

'Gender labelling' or 'gender coding' of occupations are terms used to describe how socially constructed notions about femininity and masculinity are associated with what is required for a particular occupation or work. Femininity and masculinity are terms that have been used since the 19th century to describe a range of characteristics. Both men and women can embody these characteristics, but social norms mean that women are associated with femininity and men with masculinity (Nordberg, 2004). This division aligns with a segregation of work that has existed at least since the industrial revolution where, according to a binary model of gender, men primarily do work that is defined as productive while women are responsible for the reproductive work (Federici, 2014). The latter often includes unpaid care work that is needed to raise children and to reproduce everyday life in households that provide food, security and a space for the body to recuperate (Beier, 2018; Widegren and Sand, 2021). Women as a group take the primary responsibility for unpaid care and domestic work, and it is primarily women who work in health, education and social care (2019; cf. Badgett and Folbre, 1999).

Gender labelling of occupations reproduces an existing gender segregation in the labour market, which includes a vertical segregation where men's tasks and positions are valued more highly than those of women (Abrahamsson, 2002; Seierstad, 2011; cf. Kanter, 1977). The horizontal gender segregation in the labour market is reflected in perceptions of what a typical representative of a specific occupational category – in health and social care, or technology and science – is like or what they look like, which often reproduces prevailing social norms (Breda, et al., 2020). For example, this means that it is seen as natural for boys to be interested in and have relevant skills linked to technology, while the same applies to girls with regard to care. This

has consequences in the form of gender-based educational choices, but also in the differences in men's and women's engagement with issues of sustainable development (Jansson and Sand, 2021; Sand, 2022; Simonsson, 2022; see also Alasaari and Sundell, 2021).

The overview of research on the climate impact of households produced by NIKK and entitled Climate, gender and consumption (Sand, 2022) shows that care values and responsibility for unpaid care and domestic work are a key to the green transition. Women as a group are more interested in climate issues and sustainable development than men as a group, which is reflected in food consumption and efforts to recycle or travel with reduced climate impact, but also in their engagement in social movements related to climate change. However, gender norms have a greater explanatory value than gender per se as a variable. For example, it has been shown that men who are engaged in sustainability issues also take a greater share of the responsibility for unpaid care and domestic work than other men. In general, men are more interested in technical solutions, such as the installation of solar panels or the replacement of fossil-fuel powered vehicles. In comparison with second-hand shopping or sorting household waste for example, these kinds of technical solutions do not require a lot of additional everyday work. A consequence of the fact that technological solutions are subject to gender stereotypes about male expertise, through the gendered division of labour in households, is that the green transition risks placing additional burdens on women as a group in the form of more unpaid work (cf. Lander Svendsen et al., 2022). In order to achieve socially, economically and environmentally sustainable development, it is therefore necessary to design interventions that will challenge the gender labelling that associates technology with masculinity and care with femininity (see also Hultman and Pulé, 2018; Godin, 2022).

### 4. Academic norms and workplace culture

The Nordic Council of Ministers' vision and its action plan for 2021–2024 describe sexual harassment as an obstacle to skills development and well-functioning labour markets that are able to satisfy the requirements of the green transition (Nordic Council of Ministers, 2020). In the forthcoming anthology that NIKK has helped to produce, '*Re-imagining sexual harassment: Perspectives from the Nordic Region* (Lundqvist et al., 2023), the editors problematise the idea and view of sexual harassment as something that deviates from the norm. Particularly in the Nordic region, with its self-image of being a particularly gender-equal society, viewing it as a deviation should be seen in relation to the high reporting of sexual harassment, sexual violence and gender-based discrimination in this region. The conventional definition of sexual harassment as a legal issue delimits and makes the issue legally manageable, but it also limits how sexual harassment is understood as something that relates to gender norms, and which affects education and the workplace as well as everyday life in households.

In one of the articles published in the anthology, 'Men run academic track; women jump sexist hurdles', the author analyses gender stereotypes and subject area cultures in science and technology programmes and points to how norms in a maledominated subject area such as physics define women as deviant and lead to unwanted sexual attention being directed at students and teachers who are women (Skewes, 2023). The most common approach of 'fixing women' as a measure to combat gender-based educational choices (cf. Schiebinger, 2008, 2010) leads to the consolidation of norms that associate masculinity with science and technology, rather than bringing about change. The women in the study were as passionate about the subject of physics as the men, if not more so, but women encounter a greater number of obstacles during their studies in the form of sexism and sexual harassment. Men are perceived as the norm, and for women, gender and femininity stand in the way of being perceived as legitimate academics. The approach of 'fixing women' turns the problem into an issue for those who deviate from the norm because it does not challenge the privilege of men to be the norm.

Academic norms and workplace culture are also highlighted as issues in the research overview produced by NIKK on gender-based educational choices in relation to science, technology and mathematics entitled *Genusperspektiv på framtidens högteknologiska arbetsliv* (*Gender perspective on the high-tech labour market of the future*, Jansson and Sand, 2021). Based on studies with empirical data collected from study programmes in physics, chemistry and engineering as well as workplaces in technology and engineering industries, the report looks at why women and girls feel that it is rational to opt out of a career in STEM. Gender stereotypes linking skills in STEM subject areas to masculinity, such as the image of the male nerd or tech genius, may lead to women not being able to develop and pursue a career on equal terms with men because they are perceived to be less suited to such a career. In addition, male-dominated workplaces, which is the case here, are often characterised by a norm where employees are seen as unencumbered individuals without any care responsibilities. Since men as a group have fewer of these responsibilities than women as a group, it consolidates gender inequality insofar as men directly benefit from not taking on care responsibilities. In an overview of interventions, the report nevertheless shows that while a number of initiatives have been implemented based on the understanding that women and other under-represented groups drop out and fail to pursue a professional career as an engineer, for example, there are far fewer interventions focused on changing organisations within the education system in the workplace in this area so that they might appeal to and retain these groups (Jansson and Sand, 2021; see also Simonsson, 2022).

## **5.** Social sustainability, welfare systems and the significance of place

One emphasis of the Nordic vision's action plan for 2021–2024 is the importance of good, gender-equal and safe health and welfare for all, and that the green transition should not lead to an increase in social inequalities (Nordic Council of Ministers, 2020). Regional challenges and how care responsibilities are organised affect both working life and everyday life in a variety of ways depending on, for example, gender, class, ethnicity and age. This is why gender analyses can contribute to a better understanding of how these things also affects people's opportunities to be part of the green transition.

As previously noted, the labour markets in the Nordic region are marked by strong gender segregation, where occupations in health and social care and occupations in technology and engineering industries are dominated by either women or men. While technological developments in the form of automation and digitalisation have reduced the share of jobs in the male-dominated energy, industrial and agricultural sectors for example, climate policy interventions and investments in the green transition tend to create more jobs in these sectors than in the female-dominated services sector (Alsos and Dølvik, 2021; see also, for example Paavola et al., 2021).

In view of the importance of how welfare is organised for women's and men's lifestyles and their participation in working life, interventions need to be grounded in gender analyses to much greater extent, and people's needs to provide and receive care must be recognised. This is also relevant to areas such as traffic planning, where studies show that the transport patterns of individuals who work part-time and have more care responsibilities (generally women) have a comparatively low climate impact. Men as a group often travel by car and for longer distances to and from work compared to women as a group, who tend to use public transport more often, and run errands, and drop off and pick up children at school or child care on their way to and from work. These patterns can explain the differences in the climate impact of women's and men's lifestyles (Sand, 2022).

NIKK's study entitled *Genusperspektiv på regionala utmaningar, regionalpolitik och demografisk utveckling i en nordisk kontext (Gender perspective on regional challenges, regional policy and demographic trends in a Nordic context,* Grip, 2020) shows that the trend toward centralisation, as well as policy countermeasures in the form of regional expansion, tends to reinforce the differences between the transport patterns of women as a group and men as a group in relation to work, home and *child and/or elderly care. In the Nordic region, urbanisation, meaning migration to*  cities and larger urban areas, has been a clear trend for a long time. Young adults aged between 20 and 35 years account for the majority of the migration numbers from rural areas to urban areas, and young women in particular are over-represented. Women are more likely than men to leave sparsely populated areas for more urban settlements with education and employment opportunities. They are also highly motivated by a desire to leave behind traditional gender patterns and gain access to a wider range of leisure and culture opportunities. Despite this, there is a clear lack of the gender dimension in policies to meet regional challenges, which in the Nordic countries are based on promoting increased mobility to achieve a geographically larger labour market. With a growing regional labour market, men's wages tend to increase faster than those of women, while also creating challenges for family and private life, often referred to in terms of the 'work-life balance'.

The NIKK report Towards a sustainable future world of work in the Nordic countries (Young Håkansson et al., 2022) includes some discussion of the significance of place and the gendered aspects of teleworking. The COVID-19 pandemic that hit the world in 2020 made it clear that it will never be possible to perform many essential services occupations in healthcare, schools, social care, service and transport remotely. Most of these occupations are strongly female-dominated and have a relatively high proportion of workers with ethnic minority backgrounds; many jobs are characterised by low wages and precarious employment conditions. An increase in teleworking, which occurred during the pandemic but which was also highlighted as a solution to regional challenges, risks widening the gap between those who can work from home and those who do not have these opportunities. There is a class dimension to this, as it is often about differences between occupations where higher education is required and manual labour occupations. Among those who have the opportunity to telework, many people, especially women, feel that it assists in combining work and private life. Flexible work allows more people to maintain their rate of employment during their children's early years, which can lead to a more even distribution of income between men and women. At the same time, there is a tendency for women to be expected to do more domestic work during the working day than men, and for the time that women spend on unpaid domestic work to actually increase when working from home. In addition, teleworkers tend to be promoted and offered continuing professional development opportunities less often than those working in the office. Teleworking may offer gender equality advantages and disadvantages, but in general these tendencies lead to a risk of women's careers and pay trends risk being adversely affected by this flexibility. The unequal and gendered division of unpaid domestic and care work remains, but it does help women with their 'work-life balance' (Young Håkansson et al., 2022).



### Summary and key messages

A green transition based on the 2030 Agenda requires behavioural changes as well as technological development. With this as a starting point, it is essential that interventions to reduce resource consumption and greenhouse gas emissions are designed to be compatible with socially sustainable development, and in particular gender equality.

The issue of gender-biased recruitment to STEM study programmes and occupations has been viewed as particularly problematic for a long time. This is also seen in policy development concerning the green transition. Studies have shown that interventions to mitigate climate change tend to have a positive overall impact on the number of jobs, particularly in male-dominated sectors such as the energy, industrial and agricultural sectors, while the most significant negative impacts on the number of jobs are found in the female-dominated services sector. These perspectives need to be taken into account when discussing a fair or socially sustainable green transition.

In line with this, the Nordic Council of Ministers have undertaken to develop and share knowledge about how the Nordic countries are working to ensure inclusive green jobs and education opportunities, with a focus on reducing vertical and horizontal gender segregation in the labour market, in particular in STEM study programmes and jobs.

Findings from many of NIKK's publications show links between issues related to gender-segregated educational choices and gender segregation in the labour market related to the transition to green jobs. These findings have been collected and summarised in this report, with the hope that it will help to deepen the Nordic region's perspectives on these issues and, by extension, will contribute to sustainable solutions for social development in the Nordic countries.

Twenty key messages in the NIKK reports are:



The solutions to problems of gender-based educational choices and gender-segregated labour markets end up being counter-productive if the issue is formulated in terms of a labour shortage.



Social conditions, cultural stereotypes and the gender-based division of labour are barriers to, for example, the participation of women in STEM study programmes.



Organisations in the education system and working life must improve the conditions for boys and girls where they are the minority in order to tackle the problems of gender-based educational choices and gender-segregated labour markets.



To bring about change, work to dispel misconceptions and prevailing gender norms linked to specific sectors and occupations and the study programmes relevant to them must be undertaken. Herein lie also questions about how different occupations are valued and how this can have different consequences for men and women.



Analyses of particular importance to the green transition are those that point out that the knowledge produced in engineering, for example, is characterised by norms of gender, class, race/ethnicity, etc., and that this has consequences for the importance of these disciplines and occupations in the broader community



Care values and responsibility for unpaid care and domestic work are key to the green transition.



Women as a group are more interested in climate issues and sustainable development than men as a group. This is reflected in food consumption as well as efforts to recycle or travel with reduced climate impact, but also in their engagement in social movements related to climate change.



Men who are engaged in sustainability issues take greater responsibility for unpaid care and domestic work than other men.



A focus on technological solutions, combined with the gender-based division of labour in households, risks having the consequence that the green transition places an additional burden on women as a group in the form of more unpaid work. Men spend more time on technology solutions at the expense of domestic work, while actions such as sorting waste and shopping for second-hand items mean that more time needs to be spent on domestic work which is primarily done by women.



In order to achieve socially, economically and environmentally sustainable development, it is necessary to design interventions that will challenge the gender labelling that associates technology with masculinity and care with femininity.



Gender stereotypes, norms and workplace culture lead to women in particular having unsustainable work environments, being disadvantaged and unable to develop and pursue careers in male-dominated workplaces.



Norms of what are male-dominated subject areas such as physics define women as deviant in these contexts. This can lead to unwanted sexual attention and sexual harassment directed at students and teachers who are women in these subject areas.



The conventional definition of sexual harassment as a legal issue delimits and makes the issue legally manageable, but it also limits how sexual harassment is understood as something that relates to gender norms, and which affects education and the workplace as well as everyday life in households.



The approach of 'fixing women' turns the problem into an issue for those who deviate from the norm because it does not challenge the privilege of men to be the norm.



Male-dominated workplaces are often characterised by a norm where employees are seen as unencumbered individuals without any care responsibilities.



Regional challenges and how care responsibilities are organised affect both working life and everyday life in a variety of ways depending on, for example, gender, class, ethnicity and age. This affects people's opportunities to participate in the green transition.



Greater consideration needs to be given to people's needs to provide and receive care, as how the welfare system is organised plays a major role in the lifestyles of women and men and their opportunities to participate in working life.



Traffic planning needs to be based more on gender analyses, as studies show that the transport patterns of individuals who work part-time and have more care responsibilities (generally women) have a comparatively low climate impact.



Tackling regional challenges by promoting increased mobility in order to create a geographically larger labour market can lead to greater gender inequality. With a growing regional labour market, men's wages tend to increase faster than those of women, while also creating challenges for family and private life, often referred to in terms of the 'work-life balance'.



An increase in teleworking, which occurred during the pandemic but which was also highlighted as a solution to regional challenges, risks widening the gap between those who can work from home and those who do not have these opportunities.

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