THE GENDER FACE
OF THE CLIMATE CRISIS

CAUSES AND CONSEQUENCES OF THE FOSSIL CRISIS AND THE NEED FOR FEMINIST SOLUTIONS






actionaid

CREDITS

75inQ is a non-profit foundation working on the intersection of the Sustainable Development Goals SDG7 (Sustainable Energy for All) and SDG5 (Gender Equality). Our approach revolves around agenda setting, research, and consultancy from the dynamics in the boardroom to the effects of climate change and energy poverty in the living room.

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EXECUTIVE SUMMARY

Apart from the discussions on the impact of climate change on nature, it is key to look at the human decision-making dynamics in the past 70 years. Applying a gender lens to the origin of the ever-increasing emissions reveals alarming insights in the drivers and dynamics; exposing not only a gender gap and an identity crisis, but amplifying the urgency for wide-felt solidarity with the women in the Global South, as this group by far is hit hardest by the effects of a changing climate.

The climate crisis increases existing gender inequalities and is very patriarchal by nature with the extraction industry, fossil fuel industry and industrial agriculture largely dominated by male-dominated corporations and shareholders. In contrast, women and girls are the prime victims, losing access to food, water, energy, health services, education and livelihood.

This report is based on literature review and desk research of policy documents. We shine a light on the gendered face of climate change by identifying the consequences and causes of climate change on existing gender inequalities. The report provides tangible recommendations for the actors in the climate change debate on the choices towards feminist solutions to climate change adaptation.

CONSEQUENCES

Due to existing gender inequality in society, women are more severely affected by the adverse impacts of climate change. This is because women represent the majority of the world's poor population and are proportionally more dependent on threatened natural resources. Additionally, women have limited access to and control of environmental goods and services; they have negligible participation in decision-making and are not involved in the distribution of environmental management benefits.

Consequently, women are more vulnerable to respond to natural effects of climate change, like extreme weather phenomena like floods, droughts, and extreme weather temperatures. Therefore, women lack access to education, sufficient food and water, clean sources of energy and health services. Although these consequences are felt globally and impacting even women in high-income countries in the Global North like The Netherlands, the women in the Global South are hit the hardest.

- For example, when school facilities are destroyed by extreme weather, returning students to school is a challenge in the poorest countries. **Climate dropouts are more likely to be girls than boys.** Education is not only important to increase job opportunities and secure livelihoods. Education and literacy skills help people understand and address the impacts of the climate crisis, empowering them with the knowledge, skills, values and attitudes needed to act as agents of change. Literacy skills also strengthen women in their ability to adapt to climate change and to gain access to government programs and other support for climate change resilience. As of 2020, 90% of men and 83% of women in the world were literate.

- Energy poverty, the lack of access to affordable, sustainable and clean energy services and products, is impacting women more than men. Globally 3 billion people live in energy poverty and the energy poor in Europe are increasing due to the energy crisis caused by the Ukraine war. **Among the energy poor, women are overrepresented.** Being in energy poverty hampers the ability to participate in climate change adaptation measures like energy efficiency improvements and change in consumption patterns towards more sustainable and clean energy sources.

- Climate change and health have a mutual reinforcing effect. Climate change causes health threats, like illnesses and higher mortality risks. On the other hand, people with health conditions are more vulnerable to climate change effects and have limited resilience to climate changes like extreme weather temperatures. **Women are more vulnerable to the health threats of climate change; especially elderly women have a higher risk of dying in extreme heat.** Women's and girls' health is endangered by climate change and disasters by limiting access to services and health care, as well as increasing risks related to maternal and child health.

Besides the natural effects of climate change, there are also human-caused effects in response to the climate change. Climate change as a catalyst of conflict and political tensions is primarily related to the availability and accessibility to natural and energy resources, land use, the growing risks of droughts and floods, and weak institutional arrangements, and not much to armed conflicts. The combination of increased conflicts and security threats with natural disasters, increase tension in unstable regions and spikes global migration. Climate-induced migration means that communities feel compelled to move because of the combination of more extreme and unpredictable weather conditions, sea level rise, and other climate change-related factors. In 2020, the number of people displaced due to natural disasters and extreme weather events jumped to 30.7 million globally. Women are increasingly vulnerable as a group in the wake of **migration, conflict, Gender Based Violence (GVB), and poverty.** What we see in the different data is that context matters whether men or women are the ones that leave their homes and lose their livelihoods in climate change induced conflicts. Global numbers are not available and gender-disaggregated data are limited or only available for specific geographical locations.

CAUSES

During the past century the drive for extractive industries to produce and use as much fossil fuels as technically possible, was accelerated by the neoliberal paradigm that companies are only responsible towards their shareholders as their source of investment funding. Women have statistically never played a role of significance in extractive industry leadership. The wealth of the richest 1% of the population has doubled, since the beginning of the 21st century, and therewith also doubled their investment power. In the USA, only 4.5% of this 1% group is based on the income of a woman. More than from their consumption, the total emissions from the global top 1% of the world population come from their investments. Applying a gender lens to the producers, investors, and beneficiaries demonstrates that the benefits of fossil economies are largely received by a small group of men in the global North, leaving women in the global South to bear the burden of the consequences of continuous extraction and use of fossil fuels.

CHOICES

As this report has demonstrated, human choices and human actions are highly responsible for the existing climate crisis. We call upon governments, companies and individuals to change their behaviour and adopt feminist solutions to battle the climate crisis.

Within the climate change crisis, we identify the following actors that are in charge of making choices in towards feminist solutions:

- **Consumers:**
  the 1 % overconsumers need to halt consuming fossil-fuel products so that the 50% underconsumers can see their right to basic needs to be fulfilled in a climate-neutral and sustainable matter.

- **Producers of CO2 emitting products:**
  shareholders need to act upon their power to divest from fossil fuels and fossil fuel-based products towards cleaner and sustainable option acknowledging that **economic growth** and sustainability need to be intertwined. Employees in the sectors impacting climate change should stimulate the just transition by gender equality within their companies and foster gender mainstreaming in their organisations.

- **Decision makers:**
  investors & funders should apply gender-budgeting in climate change projects and finance just transition for all stakeholders involved. Policymakers can contribute by stopping investment in fossil fuel-based growth and facilitate just transitions that eliminate gender inequality. International conferences like the COP can stimulate just transition decision-making by promoting female voices to be heard during these conferences and incorporate recommendations from civil society expressing the unheard voices of the vulnerable and deprived groups in society, like women. To have more gender-responsive decision making, gender-disaggregated data are crucial to inform decisions and policy makers. Academia should be more engaged in the gender-responsive research on climate change and collect, report and monitor gender-disaggregated data on the climate crisis.

Applying a gender lens to the origin of the ever-increasing emissions, reveals alarming insights in the drivers and dynamics; exposing not only a gender gap and an identity crisis, but amplifying the urgency for wide-felt solidarity with the women in the Global South, as this group by is far hit hardest by the effects of a changing climate.

1. INTRODUCTION: THE CLIMATE CRISIS IS GENDERED

The climate crisis increases existing gender inequalities and is very patriarchal by nature with the extraction industry, fossil fuel industry and industrial agriculture largely dominated by male-dominated corporations and shareholders. In contrast, women and girls are the prime victims, losing access to food, water, energy, health services, education and livelihood.

1.1 THE CLIMATE CRISIS IS GENDERED

The climate crisis is the most pressing crisis the world is facing. It is very visible for the rich and those residing in OECD countries, but climate change is affecting Low and Middle-income countries (LMICs or the Global South) more heavily and in particular deprived communities and women much more than men. The latest Intergovernmental Panel on Climate Change[1][2] report states that over 3 billion people are very vulnerable to the impacts of climate change with women and other marginalized groups being the most vulnerable. The statistics that are commonly used to support this claim are UNDP statistics from 2016 or older. It is time that these statistics get updated to reflect the impact of recent times.

Since 2016 there have been many human caused climate disasters like more frequent and severe droughts, extreme cyclones and storms, flash floods and floodings, and salinization of coastal areas and groundwater. Research on the gendered impact of climate change is growing and reveals the gender inequalities in impact and vulnerability in recent natural disasters and their aftermath. Women and girls experience the nexus between climate change and security/socio-economic stability in direct and profound ways. For example, since women are often the providers of food, water, and energy for their families—socially prescribed on the basis of their gender in many societies—they are likely to face increased challenges in accessing resources due to climate change. As such, the climate change -energy and food transition-gender equality pathway has started receiving increased focus from scholars, decision-makers, and other societal and private sector actors.

Gender inequality embedded in societies might limit the agency of women to participate in just transitions. Agency is defined as: the ability to define one's goals and act upon them. Policy interventions can create enabling conditions to strengthen the agency of the women and men to participate and benefit from just transitions.[3] Three roles of change agents have been identified in the energy transition[3]:

1. Consumer – i.e., demanding the use of energy services (a consumptive role),
2. Producer – i.e., producing and supplying energy services to end-user (a productive role),
3. Decision-maker – i.e., governing the energy sector (a decisive role).

Recognising women's knowledge and capacities is a key objective of agency theories. Ignoring women's agency hinders their access to sustainable and affordable services and limits their participation in just transitions. Acknowledging the potential of women as change agents in just transitions is receiving growing interest in the just transition literature and policy.[4]

ActionAid is an international feminist organization that strives to improve the position of women and other marginalized groups in society. To do so we work with local communities across the globe to draw attention to their struggle, learn from them, facilitate them to get their rightful place at the decision and negotiation table, and support them with tools to stand up for their rights. Through this, ActionAid has grown increasingly involved in climate work and together with women is piloting and scaling feminist (women-centered) alternatives for climate change adaptation, mitigation, and

1 OECD countries: the 37 countries that are part of the Organisation of Economic Cooperation and Development, also referred to as the Global North

resilience, which can help combat climate change and its impacts.

Before policymakers embrace such feminist alternatives in combatting climate change, they must first understand the gendered dimensions of climate change and the climate crisis.

- Who was and is causing climate change?
- Who is being affected by the consequences of climate change?
- And what (potential) feminist solutions should be part of a just transition policy choices?

This report will provide an introduction to the gendered dimension of climate change, its causes and consequences, and will propose tangible recommendations for feminist choices in climate change policy.

1.2 RESEARCH METHODOLOGY

This report is based on the combination of a literature review and a desk review of policy documents, reports, and statistics. For the literature review, the intersection of gender and climate change is conceptualized and three roles of women in just transitions are identified. The desk review of policy documents analysed how feminist just transitions policy interventions could be formulated and implemented. Both reviews contribute to guidelines and recommendations for more feminist just transition policies that ActionAid can implement and support.

1.3 READING GUIDE

This report is structured in three subsections: **consequences** (Chapter 2) **and causes** (Chapter 3) **of climate change and choices** (Chapter 4 in climate change adaptation policy.

Within this report, we use the concept of gender in an intersectional approach. Throughout the report we will address this variety of sex by using the terms 'female/male' or 'woman/man', thereby addressing both, non-binary and gender fluid people as well as intersectionality factors, like age, religious background, ethnicity and other factors of diversity.

To ensure that the effects of climate change (both positive as well as negative) are equally distributed in society, gender equality must be a central component of just transition policies. Existing inequalities, if left unchecked, can be exacerbated not only by the effects of climate change itself but also by gender-blind climate policy[5]. We identify the triple roles of actors (consumer, producer, and decision-maker) in the transition to just and climate-neutral economies[4], and each part will highlight one of these roles.

Consequences of climate change: *How and why women are hit hardest by climate change*
The impact of climate change on (increasing) gender inequality.

Social, economic, political, and cultural dimensions should be integrated when examining the causes and consequences of climate change on people in general, and when analysing the impact of climate change on existing gender relations in particular.[6]

Causes *of climate change: Gender inequality and the root causes of climate change*
The impact of the existing gender inequality of the emitters and corporate actors causing climate change.

Choices *in climate change adaptation; Feminist Solutions to a Fossil Crisis.*
The impact of gender equality on climate policy and a just transition; a decision-maker perspective with an appeal to all actors involved to accelerate feminist solutions in their choices towards a just transition to combat climate change and mitigate its consequences.


MAKE
LOVE
NOT
CO2
MELLEMFOLKELIGT
SAMVIRKE

2. CONSEQUENCES: HOW AND WHY WOMEN ARE HIT HARDEST BY CLIMATE CHANGE.

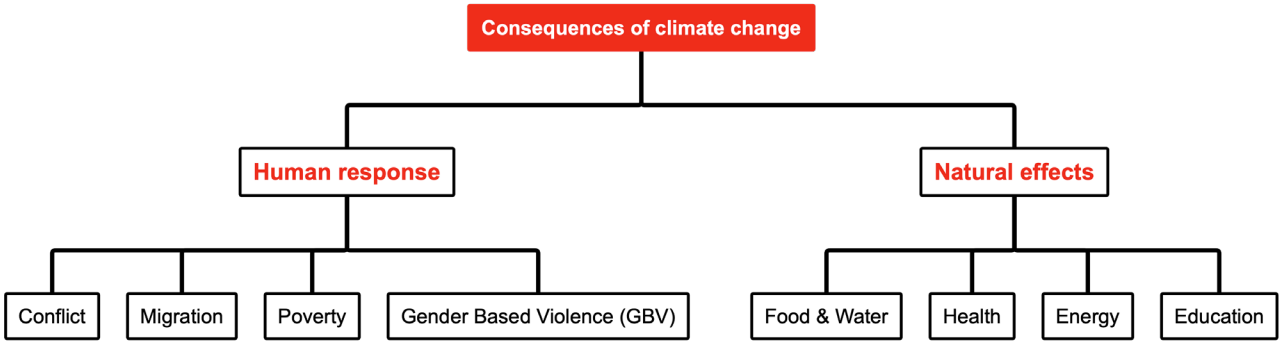

Figure 2.1 The impact of climate change on (increasing) gender equality.

When considering the impact of climate change on women and girls, we make a distinction between:

1. **Consequences of natural effects of climate change:** the natural effects of climate change, like severe weather changes, extreme temperature differences, floods and droughts.

2. **Consequences of human responses to climate change:** The impact of the decisions and political choices made to adapt to climate change like policy and funding.

The Intergovernmental Panel on Climate Change (IPCC)'s Sixth Assessment Report on Impacts, Adaptation and Vulnerability[2], demonstrated that the impacts of climate change are already being felt throughout the world and will have more severe effects than previously believed, with the most vulnerable in society hit hardest.[7] [8] Both in the Global North as in the Global South the climate change induced effects are felt as demonstrated in this report. According to the IPCC report among others, the severity and unpredictability of climate change impacts are to be intensified in the coming decades.[7] [9] [10] Those conditions are rapidly transforming the natural and socio-economic environment around the world, with climate change emerging as one of the main security challenges of the 21st century that mankind will need to address in the coming decades and a growing concern among the public, politicians, companies, researchers and societies.

Due to existing gender inequality in society, women are more severely affected by the adverse impacts of climate change. According to UN data[11], this is because women represent the majority of the world's poor population and are proportionally more dependent on threatened natural resources. Additionally, compared to the male population, women's access to arable lands, agricultural activities, financial and technological tools, decision-making processes, training and upskilling is limited, and, as such, women are less equipped to adapt to climate change[12].

Although the severity and the intensity of the phenomenon might differ depending on the specific geographic and socio-economic context, the women population across the globe is more vulnerable in terms of the ability to adapt, strengthen its resilience and maximize the benefits of each climate change adaptation and mitigation action taken at the local, national and global level. This results in a limited resilience to climate change consequences, whether these are human-caused or natural effect, of women. This does not mean that men are not impacted by climate change. They certainly are, but some men have more power than women to respond and cope to climate change induced effects. Men who belong to socially,

economically, and politically disadvantaged communities are facing the impacts of climate change and have limited coping mechanisms than men from a more advantaged situation. Societal expectations that men are the breadwinners and maintain family stability add to the mental burden. In this chapter we touch upon the impact of the natural effects of (section 2.1) and human-based reaction to (section 2.2) climate change and how these have consequences for gender equality. To address that climate change consequences are felt by women and men but impact women more, the literature analysis is illustrated by data of the impact. Furthermore, the climate crisis is a global crisis hitting women in the Global South the hardest, but but also impacting women in the Global North. Therefore, the case study of the impact on women in the Netherlands are illustrating how even in a high-income country in the Global North climate change has a gendered impact increasing current inequalities in society.

2.1 CONSEQUENCES OF NATURAL EFFECTS OF CLIMATE CHANGE

Climate pledges, objectives, and strategies to mitigate and adapt to climate change hazards that have been agreed upon globally and nationally, require substantial changes in most economic sectors and call for broad societal acceptance and public engagement. As such, the responses to climate change will merely have social inequality-aggravating effects whereby initial inequality causes the disadvantaged groups to suffer disproportionately from the adverse effects of climate change, resulting in greater social inequality. In more concrete terms, certain areas and parts of the population are disproportionately affected by climate change due to differences in their economic and social status. Their capacities to adequately respond, adapt to climate change, and participate in the relevant decision-making policy process are limited.

Women have limited access to and control of environmental goods and services; they have negligible participation in decision-making and are not involved in the distribution of environmental management benefits. Consequently, women are less able to confront natural-caused consequences of climate change, like extreme weather phenomena like floods, droughts, and extreme weather temperatures.

Therefore, women lack access to education, sufficient food and water, clean sources of energy and health services. Although these consequences felt globally and impacting even women in high-income countries in the Global North like The Netherlands, the women in the Global South are hit the hardest.

2.1.1 LACK OF ACCESS TO EDUCATION

Regarding climate change, educational needs are invisible in most discussions. Countries usually do not include educational issues when discussing actions to be taken; they do not consider how climate change interrupts students' learning processes. Many schools have been destroyed or closed due to fires, extreme heat, flooding, or other natural disasters that have become more frequent and are often climate change induced. They destroy roads to schools by knocking down bridges, crumbling highways, or destroying learning materials. These interruptions have affected students' learning and physical and mental health. Girls and boys enrolled in schools are affected equally by these interruptions. However, when school facilities are destroyed for a long period of time, returning students to school is a challenge in the poorest countries.

Students not returning to school after climate change caused interruptions, and climate dropouts, are more likely to be girls than boys. On top of that, refugee girls are half as likely to be in school as refugee boys.[28]

When finances are limited and children are needed to help out in livelihood activities and family business, girls are the first to be pulled out of school. Limited access to education is not only a threat for girls, but also for adult women. During extreme weather such as droughts and floods,

In Somalia for example, following a spate of rural-to-urban migration related to flooding, drought and conflict, there was evidence of an increase in the average enrolment in schools. However, when the figures were broken down, it appeared that while boys' enrolment increased after the move, girl's enrolment rate dropped significantly. Boys were advantaged by no longer being needed to help parents in agricultural and other income generating activities as they had before their displacement, whereas it is assumed the cost of schooling was the main barrier preventing girls from attending school in their host area.

women tend to work more to secure household livelihoods. This will leave less time for women to access training and education, develop skills or earn income. Especially the limited access to education has a severe impact on gender inequalities. There is a gender gap in the global literacy rate. Although literacy rates have generally increased worldwide for both men and women, males are on average more literate than females. Adult literacy rate is defined as the percentage of people aged 15 years and above who can both read and write with understanding a short simple statement about their everyday life.[13]

The Netherlands: *women less literate than man*
Although the illiteracy rate in the Netherlands is not as high as in the global South, still it is a major concern for the illiterate themselves and policymakers. With a growing digitalization, the expected literacy skills is high in order to use public services and participate in the digital society. More and more governmental services are requiring digital literacy and climate change mitigation interventions are no exceptions. The Netherlands has a complex system of financial support, like subsidies and tax benefits, to stimulate investment of households in energy efficiency. There are tax benefits for installing heat pumps, subsidies for PV installations, low interest rates for improving the energy efficiency of housing, private lease constructions for electric cars, etc. However, a high literacy rate and digital skills are required to have access to these financial services. In the Netherlands, the illiteracy data are shocking:

- 1,8 million Dutch between 16–65-year-old have trouble reading, writing and understanding numbers and calculations. They are considered functionally illiterate.
- A shortage of maths skills is a strong predictor of long-term poverty. Good maths skills help to manage personal finances and stay out of debt.
- People aged 16 to 34 who are deficient in maths skills are three times as often unemployed as those with good maths skills.
- Low-literate people have fewer functional language skills than non-illiterate people, while they are an important precondition for the development of digital skills.
- 300,000 Dutch people (16-65 years old) never use a computer and are low literate.
- 740.000 employees are illiterate.
- Illiteracy costs the illiterate roughly € 575 each year.
- 17,9% of the 15-year-olds have a higher risk to become illiterate.
- Looking at the gender distribution, it is striking that women are slightly more illiterate than men **(female illiteracy 12.7% versus 11.2% male illiteracy).**[82]

CONCLUSION
Education is not only important to increase job opportunities and secure livelihoods. Education and literacy skills help people understand and address the impacts of the climate crisis, empowering them with the knowledge, skills, values and attitudes needed to act as agents of change. Literacy skills also strengthen women in their ability to adapt to climate change and to gain access to government programs and other support for climate change resilience. **As of 2020, 90% of men and 83% of women in the world were literate.**

2.1.2 LACK OF ACCESS TO SUFFICIENT FOOD & WATER

Agricultural workers in countries with low and medium Human Development Index (HDI) were among the worst affected by exposure to extreme temperatures, bearing almost half of the 295 billion potential work hours lost due to heat in 2020. These lost work hours could have devastating economic consequences to these already vulnerable workers—data shows that the average potential earnings lost in the Global South were equivalent to 4–8% of the national gross domestic product.[14]

During any given month in 2020, up to 19% of the global land surface was affected by extreme drought; a value that had not exceeded 13% between 1950 and 1999. In parallel with drought, warm temperatures are affecting the yield potential of the world's major staple crops—a 6% reduction for maize; 3% for winter wheat; 5,4% for soybean; and 1,8% for rice in 2020, relative to 1981–2010 —exposing the rising risk of food insecurity.[14]

Women represent a high percentage of poor communities that are highly dependent on local natural resources for their livelihood, particularly in rural areas where they shoulder the major responsibility for household water supply and energy for cooking and heating, as well as for food security. In the many Global South countries women contribute up to 50% of the agricultural

workforce. They are mainly responsible for the more time-consuming and labour-intensive tasks that are carried out manually or with the use of simple tools. In Latin America and the Caribbean, the rural population has been decreasing in recent decades. Women are mainly engaged in subsistence farming, particularly horticulture, poultry and raising small livestock for home consumption.

70% of the 1.3 billion people living in conditions of poverty are women. Women predominate in the world's food production (50-80%), but they own less than 10% of the land and often produce food for their own consumption.[15]

One of the most severe impacts of climate change is the impact on the water cycle causing a decrease or increase of regular rainfall impacting the frequency of floods and droughts.[16] Collecting water is the gendered role for many women and girls in the global South. Due to droughts, they need to walk longer distances to access wells and water pits. The time needed for water collection adds to the burden of women and decreases the available time for education and income-generating activities. Furthermore, women are more vulnerable in floods because they swim less than men and are often responsible for the safety of children and elderly family members.[17]

The Netherlands: *female-headed households in threat of water poverty.*
The Netherlands is a rich country, characterized by the abundant presence of water. When it comes to 'water poverty' or the lack of access to clean and affordable water, the Netherlands may not be the first country that comes to mind. However, this does not mean that a phenomenon such as water poverty cannot occur here. Because despite the fact that all residents of the Netherlands are entitled to the supply of water under the Drinking Water Act (Art. 8), a situation in which a household is unable to pay the water bill can in theory lead to two situations:

1. payment delays, which in the most extreme case may result in a disconnection of drinking water; *or*
2. trying (extremely) to conserve water in the house to keep the bill as low as possible.

In the case of structural payment delays or a disconnection, as well as in the case of far-reaching savings, one can speak of water poverty, or probably at least stress surrounding the use of drinking water.

Because the Netherlands (still) lacks a clear, widely supported definition of water poverty, it is currently difficult to map out the extent of the problem. One possibility is to look at the number of payment delays and disconnections. Previous representative research shows that 12% of drinking water customers, more than 900,000 households, indicate that it is sometimes difficult for them to pay their drinking water bill. In fact, for about 1 % (or 77,000 households) this is very often difficult.[83]

By definition, averages always conceal subgroups and individuals. In the Netherlands, there is one subgroup that stands out when it comes to payment problems related to utility bills: single-parent families with dependent children, often this group are female-headed-households. This is the group of customers who appear to be most vulnerable to water poverty. This picture is confirmed by the data on the payment of the drinking water bill.

Of the single-parent households, no less than 25% indicate that they sometimes have difficulty paying the tap water bill and 3% (very) often.[83]

This can result in payment delays. Based on data from five of the ten Dutch drinking water companies, which together serve approximately 55% of the total number of household customers, it appears that in 2019 approximately 1,000 collection visits took place per 100,000 households, a small part of which were closing visits. In total, approximately 1,700 households were effectively cut off from water by these five companies in 2019. This is slightly less than 40 per 100,000 households per year. This often concerns a short-term closure, which is lifted when payment is made or a payment arrangement is made. Water poverty only affects a small group of people in the Netherlands, but often has major consequences for them.

The effect of climate change on water poverty in the Netherlands still remains unknown. However, with the increasingly unpredictable climate change-induced effect on water quality and quantity (floods and droughts), the Dutch waterboards and water agencies are implementing climate change mitigation and adaptation measures requiring huge financial investment. It is

a matter of time till these investments combined with the staggering inflation and increasing energy prices are impacting the historic low water prices for consumers.

CONCLUSION

The increase of consumer prices of water has a tremendous impact on the affordability and accessibility of this basic need hitting women harder than men to adapt.

2.1.3 LACK OF ACCESS TO CLEAN SOURCES OF ENERGY

In 2010, the UN Secretary General's Advisory Group on Energy and Climate Change (AGECC) launched the global initiative Sustainable Energy for All (SEforALL). The Secretary-General called for commitment and action on two goals: ensuring universal access to modern energy services and reducing global energy intensity through energy efficiency measures. The SEforALL initiative has three major targets by 2030: **1)** ensuring universal access to modern energy services, **2)** doubling the rate of improvement in energy efficiency and **3)** doubling the share of renewable energy in the global energy mix. The SEforALL programme comes with the challenge to make access to sustainable energy universal, for all men and women, in the global South as well in the North. Energy poverty, the lack of access to sufficient energy resources, is a global struggle. Energy poverty can be defined as the lack of choice in accessing adequate, affordable, reliable, high quality, safe and environmentally benign energy services to support economic and human development[18] (Feenstra 2020). It is a phenomenon both experienced in the Global South as in the Global North. According to 2018 IEA *World Energy Outlook* there are currently 1 billion people in the world – 13% of the total population – with no access to electricity, mostly in Africa and South Asia. In sub-Saharan Africa, it is estimated that approximately 600 million people – 57% of the population – live without electricity, against the 350 million people – representing 9% of the population – who lack access in developing Asia. UN figures show that globally three billion people live in energy poverty without access to electricity or cooking on biomass. With only 12% of the world's population relying on clean fuels and technologies for cooking, the health of these populations is still at risk from dangerously high concentrations of household air pollution.[14] Eurostat estimated that Europe counts more than 54 million people who have difficulty paying their energy bills or have limited access to high-quality energy, some even using biomass for cooking and heating. Many of them are living in uninsulated homes, using inefficient appliances (particularly for heating, cooking, and hot water) resulting in high energy bills. Energy poverty has a gender imbalance. Due to the income gap between men and women, and the demographic fact that women live longer, it is estimated that women are disproportionately affected by energy poverty. From a cost-effective point of view, many may want to invest in energy efficiency, but due to the lack of finances to invest, they struggle to participate in the energy transition. Not only financially, but also legally they meet obstacles to improving their access to sustainable energy solutions. Many of the energy poor live in rented residential buildings, depending on a landlord to invest in energy efficiency. With extreme temperatures occurring more often as a consequence of climate change, more people experience globally the struggle to afford clean energy sources to stay cool and/or warm in their homes.

The Netherlands: *more women in energy poverty.* The figures from TNO from September 2021 before the Ukraine war, show that approximately 550,000 households in the Netherlands are energy-poor. That is about 7% of all households. These households have a low income on the one hand and either high energy costs or a house with a low energy quality on the other. By way of comparison, about 15% of households in the Netherlands are affected by income poverty; the number of low-energy households in the Netherlands is therefore about half the number of low-income households.[86]

Within the group of energy-poor households, approximately 250,000 households have a relatively low income and a home with low energy quality and high energy costs. There are an estimated 140,000 households with hidden energy poverty; these are people who, due to financial problems, consume less energy than they would like. Finally, the data show that almost half (48%) of all households in the Netherlands live in a house with a relatively low energy quality that they cannot make sustainable on their own. More than half of them are tenants who cannot decide for themselves about sustainability, the other households are homeowners who have insufficient equity or borrowing capacity to make large investments in themselves.[86]

An analysis of the characteristics of energy-poor households shows that single-person households and especially single-parent families are strongly overrepresented in the group of energy-poor households. Depending on the definition chosen, **17-22% of energy-poor households consist of single-parent families,** while they constitute only 5% of all households in the Netherlands. In total, families with children (both single and two-parent families) make up about 30% of households that are currently energy poor and about 60% of the group of homeowners who have the insufficient financial capacity to make their relatively energy-inefficient home more sustainable.[86]

In 2021 there were 593,871 single-parent families (approximately 23% of the families), in most cases a single mother with one or more children[84]. Compared to 2020, the ratio of one-parent families to two-parent families has remained the same as a percentage. In both years, this concerns 77% of two-parent families and 23% of one-parent families[84]. The number of children and young people up to the age of 25 growing up in a single-parent family has steadily increased in recent years. In 2021, 764,022 children and young people lived with one of their parents. That is almost 16% of all children and young people up to the age of 25. A year earlier, there were 760,920 children and young people up to the age of 25. Compared to 2010, more than 100,000 more children are growing up in a single-parent families. In 2021, 538,285 children of the minors lived with one parent. That is more than 16% of children and young people up to the age of 18.[84]

Based on these figures from an analysis of September 2021, it is expected that the number of households in energy poverty has increased due to the increased energy prices. Energy suppliers signalled in April 2022 that the number of households with payment delays had not yet risen very much, but the level of payment delays had increased considerably. This is a concern in the long term because the average energy debt of households is increasing. The average payment arrears of customers with energy companies have increased by almost 40% in two and a half years. While the backlog per customer amounted to an average of € 400 in the summer of 2019, it was already € 550 at the end of 2021. That calculated credit service provider Intrum, which acts, among other things, as a collection agency, based on its own data.[87]

CONCLUSION

Energy poverty, the lack of access to affordable, sustainable and clean energy services and products, is impacting women more than men. Globally 3 billion people live in energy poverty and the energy poor in Europe are increasing due to the energy crisis caused by the Ukraine war. Among the energy poor, women are overrepresented. Gender-disaggregated data on energy poverty are unfortunately not available for the Global South as well as in the Global North. Too often the household is taken as the entity for research and policy, not acknowledging the gendered composition of households.

But knowing that 70% of the 1.3 billion people globally living in conditions of poverty are women, it is fair to say that at least 70% of the poor women are also facing energy poverty. Being in energy poverty hampers the ability to participate in climate change adaptation measures like energy efficiency improvements and change in consumption patterns towards more sustainable and clean energy sources.

2.1.4 HEALTH THREATS

Women's and girls' health is endangered by climate change and disasters by limiting access to services and health care, as well as increasing risks related to maternal and child health.

Research indicates that extreme heat increases the incidence in the Global South of stillbirth, and climate change is increasing the spread of vector-borne illnesses such as malaria, dengue fever, and Zika virus, which are linked to worse maternal and neonatal outcomes.

Through multiple simultaneous and interacting health risks, climate change is threatening to reverse years of progress in public health and sustainable development in the Global South.[14]

Climate change can impact mental health through several pathways: extreme weather events are causing Post-Traumatic Stress Disorder, anxiety and depression; extreme temperatures affect mood, worsen behavioural disorders, increase suicide risk and impact the well-being of those with mental health issues; distress associated with ongoing or anticipated climate and environmental change causing climate anxiety; and impacts associated with changing livelihoods and social cohesion of entire communities.

The concurrent and interconnecting risks posed by extreme weather events, infectious disease transmission, and food, water, and financial insecurity are overburdening the most vulnerable populations globally by hitting women in the Global South the hardest. The following vulnerable population groups can be identified:
(Vulnerable) elderly (age over 75) have a reduced body-temperature regulating function which makes them less resilient to extreme temperatures. When the ambient temperature increases, sweating is a natural mechanism to reduce body temperature. With age, this function decreases and women are less able to reduce their body temperature by sweating[14]. Due to the demographic fact that on average women all over the world live longer than men, elderly women are the most vulnerable to health-related impact to extreme weather temperatures. From ages 50 and over, women across the world make up a bigger proportion of the population "with their share of the population increasing in every age group thereafter. The numbers are staggering, with as many as 18 countries in Europe having less than 2 men for every 5 women aged 80 or over.
New born babies despite the advantage of their body surface area-to-mass ratio (they have a relatively big body surface compared to their mass, helping them to better regulate heat), are fully dependent on others since they cannot regulate their own behaviour, like drink more, stay in the shade and cloth differently during a heat stroke. Since their main caregivers are their mothers, due to the gendered roles in society, mothers with dependent new-borns are equally likely to be vulnerable groups with a limited resilience to extreme temperatures.

Women have an ambient temperature preference difference of roughly 1,5C compared to men.

This is partly because of the biological difference in lower body temperature through sweating, women sweat less than men. Furthermore, with cold temperatures, women struggle to stay warm enough due to their biological capacity for temperature regulation.[14]

Urban population is more vulnerable for the heat-island-effect caused by the lack of green areas and water, the temperature in urban environments is higher than in rural areas. Furthermore, buildings store the heat in summers reducing the effect of natural cooling in the evenings. In cities all around the world, the female population is the minority[21] but still women and girls in urban areas are more exposed to heat stress than the female population in rural areas. Although men also exposed to heat stress in urban areas, due to the fact that women are overrepresented in the elderly population and as mothers caring for new-borns plus less resilient to cope with higher ambient temperatures, women are hit hardest by heat stress. Record temperatures in 2020 resulted in a new high of 3,1 billion more person-days of heatwave exposure among people older than 65 years and 626 million more person-days affecting children younger than 1 year, compared with the annual average for the 1986–2005 baseline.[14] Furthermore, people in the Global South have had the biggest increase in heat vulnerability during the past 30 years, with risks to their health further exacerbated by the low availability of cooling mechanisms and urban green space.

The Netherlands: *elderly women higher risk of extreme temperature related mortality.*
Mortality in the Netherlands represents the typical V- or hockey-stick shaped curve with a higher daily mortality in the cold and heat than at milder temperatures in both males and females, especially in the age group ≥ 80 years. There were no sex differences in cold-related mortality in this study, but females appear to be more susceptible than males to both mild and extreme heat when considering all age groups combined. This is still the case after correcting for population size, which is important as females tend to live longer than males, which results in twice as many females than males in the Netherlands in the age group ≥ 80 years. Age-specific significant sex differences were only observed for the oldest group in extreme heat, but not in mild heat as for the total population.[22] Knowing that more women are overrepresented in the age group > 80 years, **elderly women have a higher risk of dying in extreme heat.**

CONCLUSION

Climate change and health have a mutual reinforcing effect. Climate change causes health threats, like illnesses and higher mortality risks. On the other hand, people with health conditions are more vulnerable to climate change effects and have limited resilience to climate changes like extreme weather temperatures. Women are more vulnerable to the health threats of climate change; especially elderly women have a higher risk of dying in extreme heat. Women's and girls' health

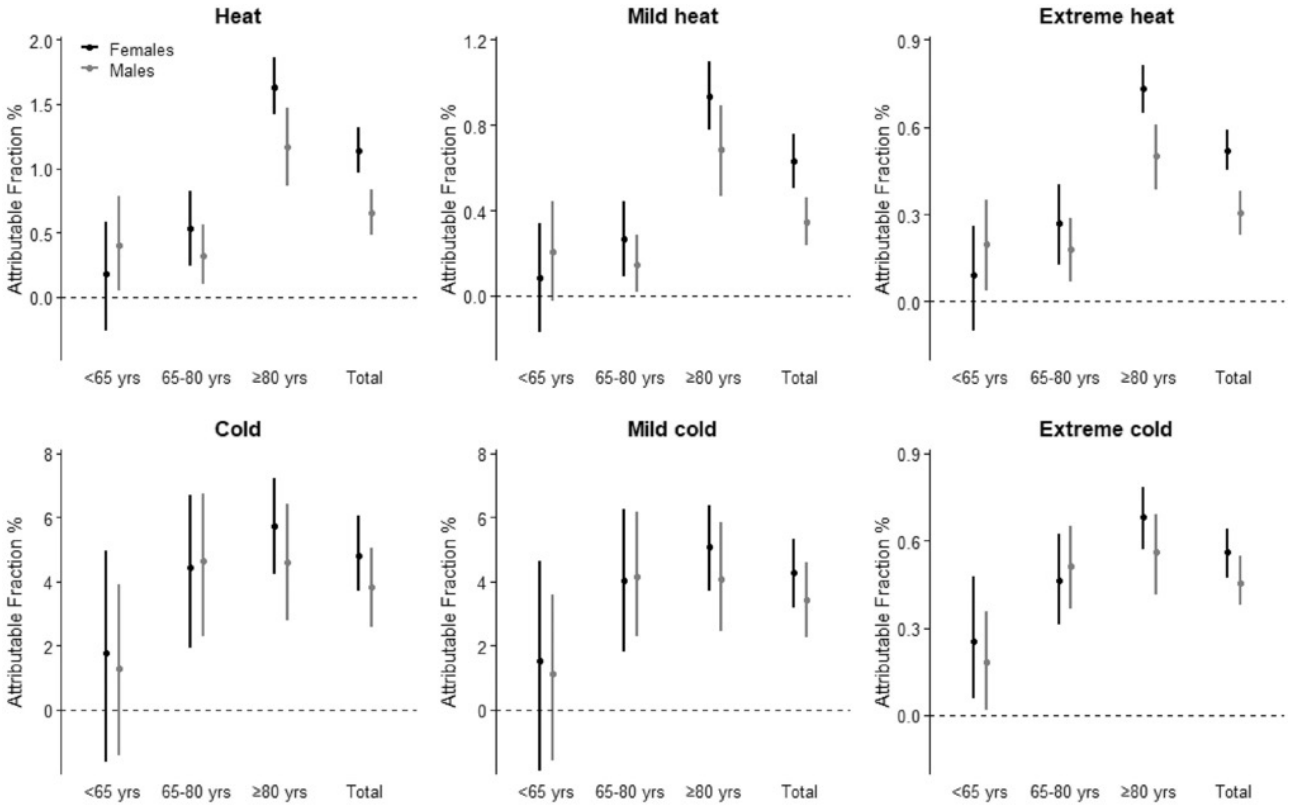

Table 1 From Folkerts et al. (2021) Daily mortality attributable to the heat and cold in the Netherlands between 1995–2017 subdivided into males and females for the total population and separated for three different age groups (< 65, 65–80, ≥ 80 years).[22]

is endangered by climate change and disasters by limiting access to services and health care, as well as increasing risks related to maternal and child health.

2.2 HUMAN-CAUSED CLIMATE CHANGE CONSEQUENCES

The acceleration of climate change will put growing stress on the availability and quality of drinking water, the availability of arable lands and damaging crop yields, inadequate infrastructures like dams and energy pipelines, air quality, and other health considerations. Women and girls experience climate change in combination with socio-economic stability in direct and profound ways. For example, since women are often the providers of food, water, and energy for their families—socially prescribed roles on the basis of their gender in many societies—they are likely to face increased challenges in accessing resources due to climate change. This becomes a devastating burden not only in conflict-affected areas but also in the so-called developed states that have placed climate change combat and energy transition highly in their political agenda.

As such, the climate change consequences on gender equality have started receiving increased focus from scholars, decision-makers, and other societal and private sector actors. The shift to low-carbon energy sources and reducing reliance on fossil fuels is one of the major ways to massively cut carbon emissions and help to mitigate and adapt to climate change. Primary (directly linked to land use such as afforestation, climate-resilient agricultural practices, etc.) and secondary (linked to renewable energy plants and other infrastructure installations, such as dams) interferences aim at buffering the adverse effect of climate change in a region and making the local communities less vulnerable and more resilient to climate change.[23] Those interferences though can have as a consequence both benefits and losses. Since these interferences are decisions made by humans, their consequences are what we call human-caused consequences of climate change.

2.2.1 CONFLICT AND SECURITY THREATS

Next to being a merely environmental issue, climate change has also started being considered as a threat and risk multiplier for people. While it is agreed that climate change will not alone cause

conflict, it is also acknowledged almost universally that it has the potential to exacerbate or catalyse conflict in conjunction with other factors.[24]

Climate change as a catalyst of conflict and political tensions is primarily related to the availability and accessibility to natural and energy resources, land use, the growing risks of droughts and floods, and weak institutional arrangements, and not much to armed conflicts. Companies and investors have started placing extreme weather phenomena in their future risk factors.[23]

Climate extremes are increasingly recognized as security challenges due to their direct and indirect link to existing conflicts and social tensions, population displacement and climate change-induced migration, urbanization acceleration, and labour market challenges. It is, then, the combination of limited resilience to climate change and broader socioeconomic vulnerability that drives the potential for conflict and violence. As the Internal Displacement Monitoring Centre (IDMC) highlights in their 2020 report, many displacements are a combination of climate change consequences and existing conflicts that got fired up due to the increasing scarcity of resources. In already unstable regions, natural disasters like floods and droughts, fuel the conflicts in those regions. An example is Mozambique. Displacement by disasters and by attacks in northern Mozambique have heightened protection risks significantly, particularly for women and girls, people with disabilities, older people and those living with HIV/AIDS. Children, who make up around half of the displaced population, are particularly vulnerable. Some have been forcibly recruited by armed groups and others have been deprived of education.

Many women and girls have been subjected to forced marriage, abduction and gender-based violence.[26]

The ongoing conflict in Syria resulted in 75% of the refugees being female-headed families and elderly people between December 2019 and March 2020.

What we see in the different data is that context matters whether men or women are the ones that leave their homes and lose their livelihoods in climate change induced conflicts. Global numbers are not available and gender-disaggregated data are limited or only available for specific geographical locations.

2.2.2 CLIMATE-INDUCED MIGRATION

Another human-caused consequence of climate change interventions is the increase in migration movements over the globe. In 2018, 17.2 million people were internally displaced because of natural disasters. In 2020, the number of people displaced due to natural disasters and extreme weather events jumped to 30.7 million globally.[26] Climate-induced migration means that communities feel compelled to move because of the combination of more extreme and unpredictable weather conditions, sea level rise, and other climate change-related factors. As Sawas and Bose (2021) demonstrate in their report, more women than men are affected by climate-induced migration[27]. According to the climate change projections in five South Asian countries, namely Bangladesh, India, Nepal, Pakistan and Sri Lanka, about 37.4 million people will be displaced by 2030 and an estimated 62.9 million by 2050, due to nature-based climate change consequences such as sea-level rise and drought.[27]

The country-level research from these six South Asian countries reveals that changing temperatures and levels of precipitation; intensifying cyclones and rising sea levels; increasing river erosion and water salinity; greater flooding and longer droughts are severely affecting people's abilities to cope with and adapt to environmental shocks and stresses. Many are being forced to migrate in search of an income so that they and their families can survive. In most cases, **men migrate and women stay behind with the care of dependent family members.** The research shows different, disproportionate impacts on the women and girls left behind, compared to men and boys. When girls and women are displaced, they're often unable to continue their education and pursue economic opportunities. **Refugee girls are half as likely to be in school as refugee boys.[28]**

Several countries address the gendered impacts of climate-related displacement:

- Somalia's national adaptation action plan acknowledges the insecurity internally displaced women face, including an increased risk of violence in overcrowded displacement camps. It also identifies women's lack of inclusion in the clan-based systems used to address most issues

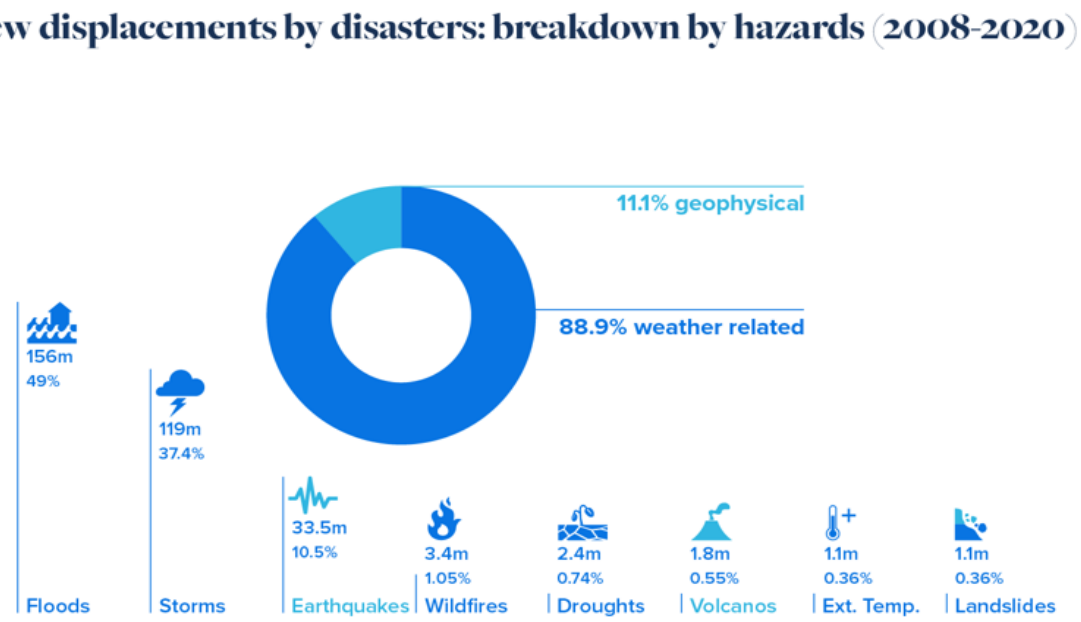

Figure 2.2.2 Displacements by disasters worldwide: breakdown by hazards. Source: Internal Displacement Monitoring Centre (2020)

surrounding natural resources and disasters as depriving them of a voice on such matters.

- Bangladesh' climate change and gender action plan of 2013 recognizes climate-related displacement and its specific impacts on women.

- The Philippines specifies a range of gender-sensitive provisions and actions, including gendered risk assessments and gender sensitivity in disaster risk management and climate change adaptation plans, gender-sensitive outreach to increase awareness on climate and disaster risk reduction, and gender awareness in conflict prevention in the case of resettled "climate refugees". It also includes provisions for post-disaster resettlement and counselling for displaced families and communities.[26] Climate change-induced gender-based violence

Climate change is a "threat multiplier", meaning it escalates social, political, and economic tensions in fragile and conflict-affected settings. As climate change drives conflict worldwide, women and girls face increased vulnerabilities to all forms of gender-based violence, including conflict-related sexual violence, human trafficking, child marriage, and other forms of violence. Gender-based violence is defined as any act of violence that arises from or is driven by inequalities, discrimination, roles, disparities or expectations based on gender. It includes any act that results in, or is likely to cause physical, sexual, or

CLIMATE CHANGE-INDUCED GENDER-BASED VIOLENCE IN UGANDA, UNDP[29] [30]:

- In periods of prolonged drought, women and girls make more frequent and longer journeys to obtain food or water, which makes them vulnerable to sexual assault.
- Some food vendors, farmers or landowners at times insist on trading sex with women in exchange for food or rent; even attempts by women to negotiate to provide labor in exchange for food are sometimes rejected, and these men with power insist on sex.
- Girls who spend more time fetching water have fewer days in school and may even drop out. Women reported that having to spend more time and energy finding food and water meant that they might not have time to complete their other household and family responsibilities. Or this extra work meant that they became too tired for sex, and some men respond to this with violence.
- Some families resorted to marrying off their daughters to better cope with food scarcity.
- In families where men left home to seek a living elsewhere, women and children were left to fend for themselves, which made them vulnerable to violence and sexual exploitation.
- Poor harvests, livestock loss, lower earnings and food insecurity put pressure on men's traditional role as providers. They often turn to alcohol to cope and can become more violent, especially in disagreements with their wives.

psychological harm or suffering for an individual or group of people, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or in private life.[29] [30]

2.2.3 INCOME LOSS

Gender inequality in income and wealth is one of the oldest and most pervasive forms of inequality in the world. It denies women their voices, devalues their work and makes women's position unequal to men's, from the household to the national and global levels. Despite some important progress to change this in recent years, in no country have women achieved economic equality with men, and women are still more likely than men to live in poverty. Women's economic inequality is characterized by:

- Low wages. Across the world, women are in the lowest-paid work. Globally, they earn 24% less than men and at the current rate of progress, **it will take 170 years to close the income gender gap. 700 million fewer women than men are in paid work.**

- Lack of decent work. **75% of women in developing regions are in the informal economy** - where they are less likely to have employment contracts, legal rights, or social protection, and are often not paid enough to escape poverty. 600 million are in the most insecure and precarious forms of work.

- Unpaid care work. Women do at least twice as much unpaid care work, such as childcare and housework, as men – sometimes 10 times as much, often on top of their paid work. The value of this **unpaid care work each year is estimated at $10.8 trillion** – more than three times the size of the global tech industry.

- Longer workdays. Women work longer days than men when paid and unpaid work is counted together. That means globally, a **young woman today will work on average the equivalent of four years more than a man over her lifetime.**[31]

Women represent around 50% of the global agricultural workforce, but they face countless barriers to economic independence. One of these barriers is limited property rights, women are denied property rights in half of the countries around the world. Furthermore, access to finance is limited for women, they are often barred from borrowing money for fertilizer and tools, which prevents them from successfully guiding their crops to harvest. They also can have trouble accessing markets to sell their harvest. As soil quality worsens and water becomes scarcer, women will be less able to find the credit and financing they need to be resilient to the changing conditions. And without any possibility of buying a new property, many female farmers will be stuck with ever-declining yields on their existing land. Climate change, whether the consequences are nature-based or human responses to climate change, has a severe impact on the income and well-being of human beings.

Economic stability and wealth provide opportunities for resilience to adapt to climate change and to mitigate the consequences at the personal level. But for those people that are living in poverty, their resilience to changes is already weak, adding climate change to their insecurity and causing income loss. Women are disproportionately impacted by income loss due to climate change as the example of female farmers illustrates.

2.3 CONCLUSION: ASSIGNING CLIMATE CONSEQUENCES TO GENDER INEQUALITY

Due to existing gender inequality in society, women are more severely affected by the adverse impacts of climate change. Women represent the majority of the world's poor population and are proportionally more dependent on threatened natural resources. Additionally, compared to the male population, women's access to arable lands, agricultural activities, financial and technological tools, decision-making processes, training and upskilling is limited, and, as such, women are less equipped to adapt to climate change.

When considering the impact of climate change on women and girls, we make a distinction between

1. Consequences of natural effects of climate change

The physical effects of climate change, like severe weather changes, extreme temperature differences, floods, and droughts disrupting the lives and livelihoods of populations are felt hardest by **women in the Global South. Many women in the Global South are having limited access to food and water, health, energy and education as a consequence of climate change, turning back positive developments on gender -equality.**

2. Consequences of human responses to climate change

The impact of the decisions and political choices made to mitigate and adapt to the consequences of climate change, like policy and funding are not gender-responsive and enlarging existing gender inequalities. **Women are increasing vulnerable as a group in the wake of migration, conflict, Gender Based Violence (GVB) and poverty.** What we see in the different data is that context matters whether men or women are the ones that leave their homes and lose their livelihoods in climate change induced conflicts. Global numbers are not available and gender-disaggregated data are limited or only available for specific geographical locations.


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PLAY
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3. CAUSES: GENDER INEQUALITY AND THE ROOT CAUSES OF CLIMATE CHANGE.

The impact of gender inequality on the origin and mitigation of climate change.

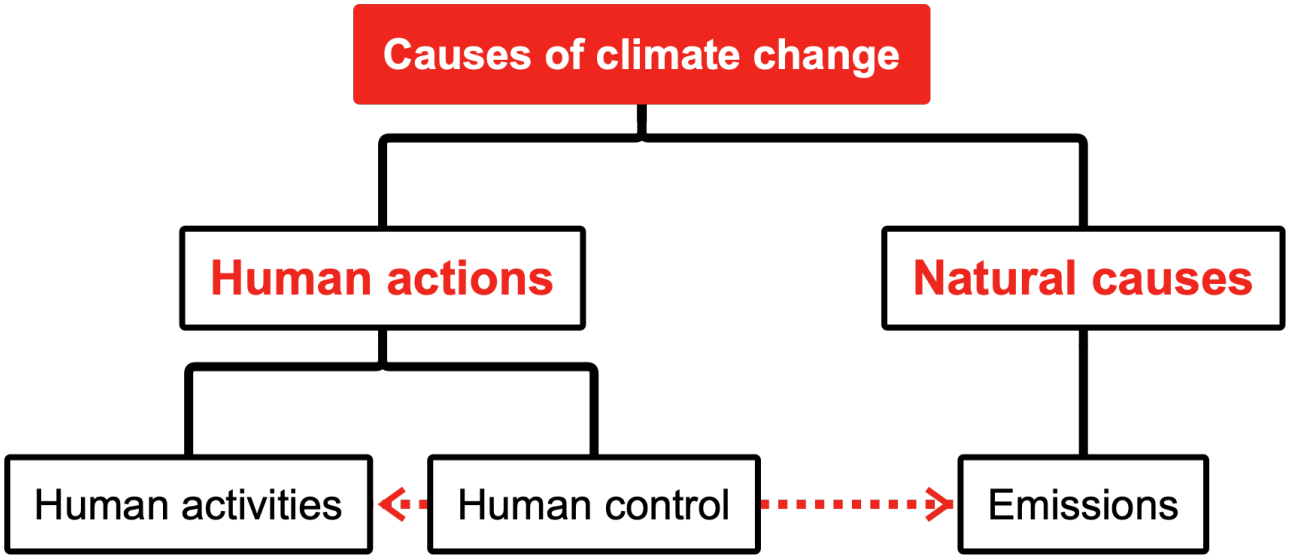


Figure 3.1 Causes of climate change

3.1 ASSIGNING CLIMATE RESPONSIBILITY

Where the first part highlighted the consequences of climate change, this second part of this report will identify the causes of climate change. Climate change is caused by greenhouse gas-emissions, accelerated by activities that are controlled by humans. Humanity can control the decrease or increase of the amount and nature of greenhouse gas emissions. Hence, the causes of climate change are a combination of natural causes and human actions. Both causes are impacted by existing gender inequalities in society.

NATURAL CAUSES OF CLIMATE CHANGE

The change of our climate is caused by the increase of greenhouse gases[2] in the earth's atmosphere. The burning of fossil fuels is by far the largest source of these emissions. The emissions of these harmful gases are the highest in history and human influence on the climate system is clear and undisputed by science.[32]

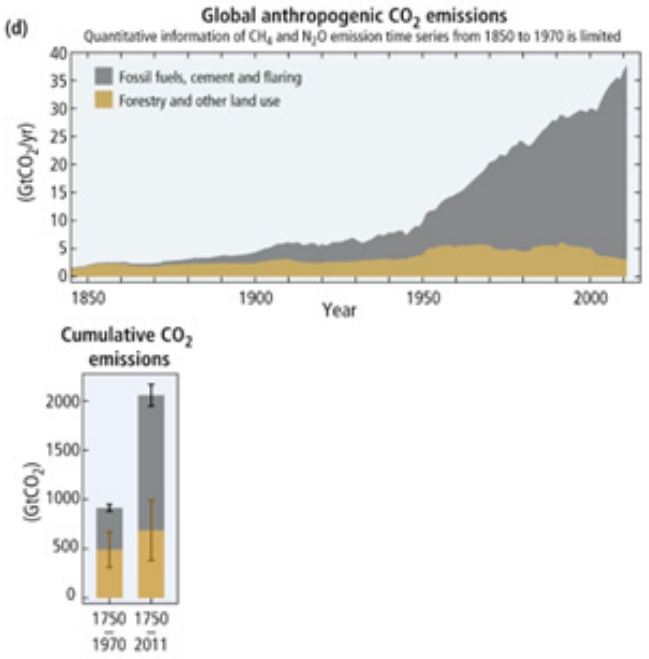


Figure 3.1 Cumulative emissions in Energy and Forestry/other land use. Source: IPCC, 2014

2 Greenhouse gases: Carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O))

Emissions of greenhouse gases from human activities are responsible for approximately 1.1°C of warming since 1850-1900. Averaged over the next 20 years, global temperature is expected to reach or exceed 1.5°C of warming.[9]

HUMAN CAUSES OF CLIMATE CHANGE

Why do we keep producing more fossil fuels? Are we simply accepting the consequences of adding more CO_2 in the atmosphere? Or is there more to the story, and can we assign climate responsibility to a specific group that relies on these emissions to hold on to privilege and power? Both the human activities as well as the humans in charge of these activities can be studied through a gender lens, exposing a strong discrepancy between the genders and regions responsible for the bulk of the historical and current emissions.

1. HUMAN ACTIVITIES CAUSING CLIMATE CHANGE

The human activity of burning fossil fuels is by far the largest source of emissions. By applying a gender lens to the people burning fossil fuels, we focus on the sources and dynamics behind the demand. We make a distinction between sector, region and individuals to dissect the different emitters of greenhouse gases and to identify where the responsibility for the causes of climate change could be based.

2. HUMANS IN CONTROL CAUSING CLIMATE CHANGE

After analysing which human activities at what level are responsible for greenhouse gas emissions impacting climate change, we want to identify where the responsibility lies to make decisions to adapt and mitigate climate change. When we look at the gender balance of humans in charge of making decisions impacting climate change and their mitigation measures, a strong gender component is identified as men are overrepresented in decision-making positions globally.

3. 2 HUMAN ACTIVITY CAUSING CLIMATE CHANGE

3.2.1 EMISSIONS BY SECTOR

When analysing the emissions by sector, 73,2% of global greenhouse gas emissions are a product of energy production and use. Next in line is the agricultural sector, responsible for 18,4% of global greenhouse emissions.

The Netherlands

In The Netherlands the global picture of emission causes are reflected: the emissions of greenhouse gases are dominated by energy and followed by agriculture, according to different sources responsible for 6-11% of the emissions.[33] [34]

The 10 major emitters of CO_2 based in the Netherlands[34] are multinational companies producing iron & steel and chemical and petrochemical products.

1. Tata Steel IJmuiden B.V.
2. RWE Eemshaven Holding II B.V.
3. Chemelot Site Permit B.V.
4. SHELL Nederland Raffinaderij B.V.
5. Vattenfall Power Generation Netherlands B.V.
6. Uniper Benelux N.V.
7. DOW Benelux B.V.
8. Yara Sluiskil B.V.
9. SHELL Nederland Chemie B.V.
10. Esso Nederland B.V.

3.2.2 EMISSIONS BY REGION

Analysis of global emission data shows a breakdown of major economies emitting greenhouse gases, with China rapidly emerging as Asia's and the world's largest emitter: it emits nearly 10 billion tonnes each year, more than one-quarter of global emissions.[35]

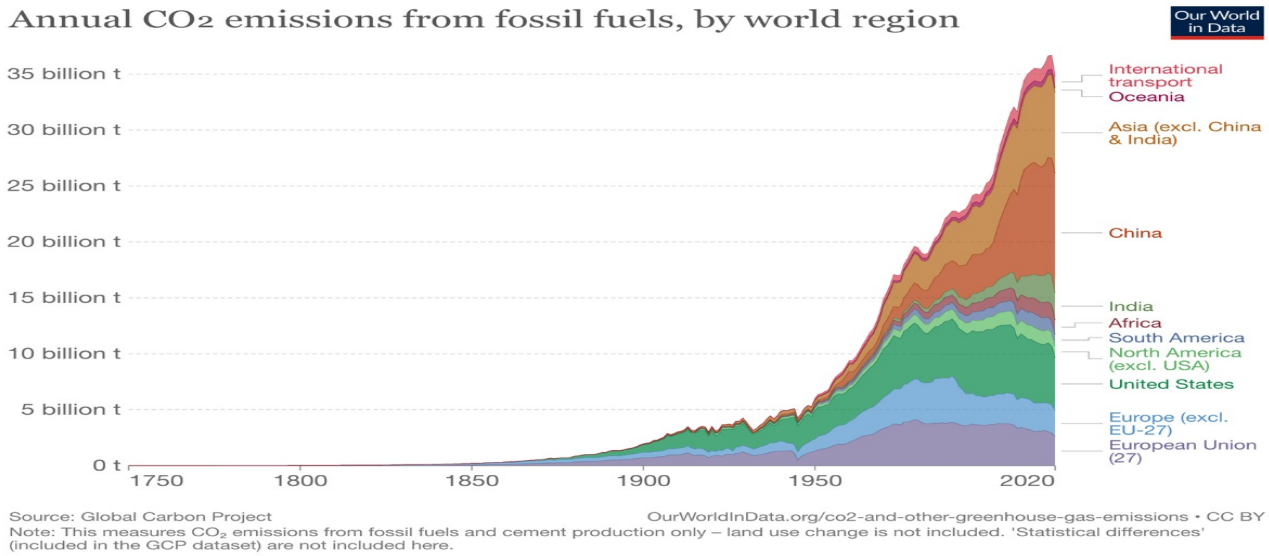


Figure 3.2.2 Annual CO_2 emissions from fossil fuels, by world region. Source: Global Carbon Project

When adding the historical emissions, data identifies that the USA and the EU are responsible for over half of the global CO_2 emitted so far, but China will overshoot soon. The emissions shown in the figures relate to the country where the CO_2 is produced (i.e. production-based CO_2), not to where the goods and services that generate emissions are finally consumed. Having a global market and an increasing global dependency of production in low-income countries and consumption in high income countries, impact an unfair image of CO2 produced in low-income countries for the consumption needed in high income countries.

When correcting the CO_2 numbers based on that global distribution, the USA was responsible for 40% of excess global CO_2 emissions in 2015 and the European Union (EU-28) for 29%. The G8 nations (the USA, EU-28, Russia, Japan, and Canada) had a shared responsibility of 85% of the CO_2 emissions. The Global North was responsible for 92%. By contrast, most countries in the Global South were within their boundary of fair share.[36]

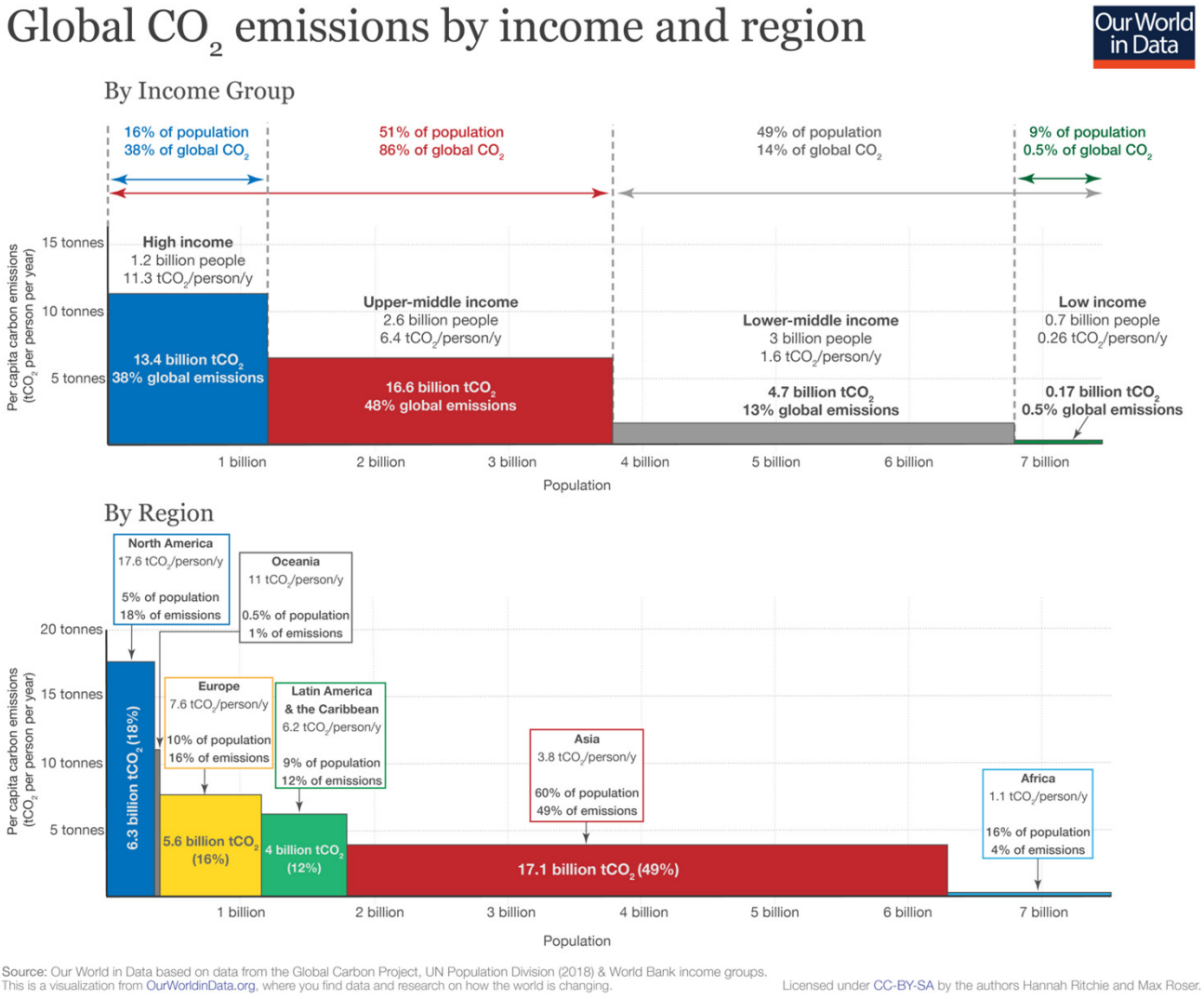


Figure 3.2.2 Global CO_2 emissions by income and region. Source: Our World in Data, 2016.

EMISSIONS NORTH/SOUTH USA AND EU ARE RESPONSIBLE FOR OVER HALF OF THE GLOBAL CO2 EMITTED SO FAR, AND CHINA WILL BE OVERSHOOTING SOON. THE EMISSIONS RELATE TO THE COUNTRY WHERE CO2 IS PRODUCED, NOT USED. AFRICA HAS HARDLY CONTRIBUTED TO THE GLOBAL EMISSION OF CO2.

The Netherlands

With a share of 0,35%, The Netherlands is the 44th largest emitter of CO_2.[33] The approach of determining responsibility for carbon emissions by country is based on CO_2 equivalent emission within national boundaries. This approach does not take into account the ability of national economies to exploit cross-border trade. By sourcing high-carbon products and services from other countries, nations can effectively "export" their emissions. This process accelerated significantly over the past two decades and has substantially changed the way that rich countries in particular use up the global carbon budget, by shifting from direct emissions to "indirect" emissions through cross-border trade.[37] The numbers in this report relating to The Netherlands may therefore be on the conservative side, meaning that the CO_2 emissions by the Netherlands could be higher than based on the available data.

3.2.3 EMISSIONS BY INDIVIDUALS

When zooming in to the individual level of greenhouse gases emissions, we identify that between 1990 and 2015, the richest 1% of people on Earth caused twice as much greenhouse gas emissions as the poorest half of the world's population.[34 35 36] Among EU consumer-emitters the largest share of emissions comes from mobility patterns and transport behaviour: car journeys, and especially for the very highest emitters, flights. This pattern seems to be common across regions in the world: it is estimated that the top 10% richest households globally use around 45% of all the energy linked to land transport, and around 75% of all energy linked to aviation, compared with just 10% and 5% respectively for the poorest 50%.[38 39]

Petro-masculinity

Analysing the behaviours of the top 1% highest emitters that are also the wealthiest members in a highly patriarchal society and generally male, reveals a link between emissions and identity. This link is described in the literature by the concept of petro-masculinity. The concept of petro-masculinity links the identity of traditional white male privilege and power with climate destructive behaviour, like fossil-fuel intensive transport like heavy vehicles and private air travel. This concept suggests that fossil fuels mean more than profit; fossil fuels also contribute to shape personal identities.[42] White, politically conservative males in the United States have been widely found to maintain petro-masculine attitudes that include aspects of racism, misogyny, and climate change denial. These beliefs and their associated behaviours, including climate destructiveness, can be conceptualised as compensatory reactions to modern-day racial, gender, and climate-related anxieties that are experienced as threats to traditional white male privilege and power.[43 44]

3.3 HUMANS IN CONTROL OF CAUSING CLIMATE CHANGE

When researching the climate-change impacting companies in the energy, steel and petrochemical sectors, we clearly see that women are underrepresented at all levels in this sector. However, increasing numbers of multinationals and national companies have recognised that gender balance in the board will add to more gender equality within their organisation, and therefore have at least one female board member. This is accelerated by the international and national legislation of female quota at decision-making positions in multinational companies.

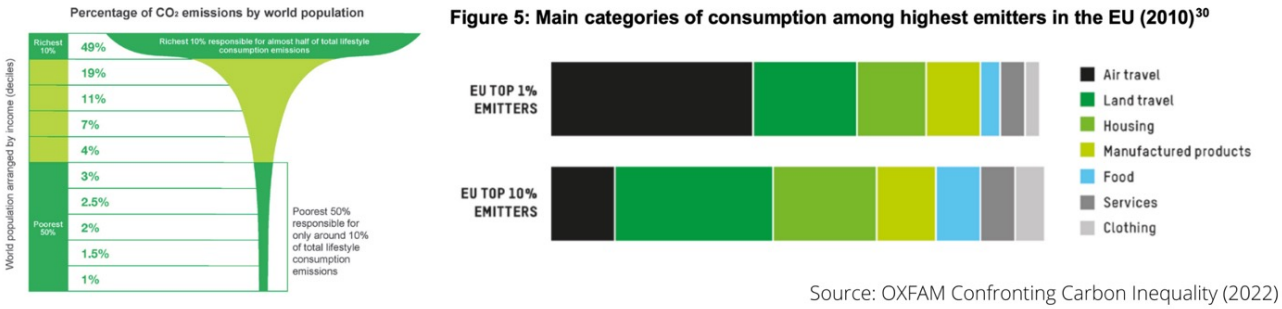


Figure 3.2.3 Main emission categories among highest emitters in EU.

The visibility of female executives in large fossil and investment companies should not be confused with gender balanced or gender inclusive decision-making, because:

1. the percentage of female employees in the levels below the boards never passes 22%,

2. the fossil-based product itself benefits more men than women, since men are the main consumers due to their transport consumption patterns,

3. the fossil-fuel sector harms the lives of more women than men, particularly in the Global South, with the climate-change impact of the fossil industry,

4. and most important: investment decisions reside with the shareholders, who are dominantly male.

3.3.1 PRODUCERS: WOMEN IN THE ENERGY SECTOR

Longitudinal data demonstrates that globally the percentage of women employed in the global energy sectors has never exceeded 22% meaning the energy sectors are, and have been extensively dominated by male employees. The tipping point of inclusive decision making requires a 35% participation,[45] [47] hence the energy sector is far distant from inclusive decision making.

In the Middle East, oil production reduces the number of women in the labour force, which in turn reduces their political influence. The failure of women to join the non-agricultural labour force has profound social consequences: it leads to higher fertility rates, less education for girls, and less female influence within the family. It also has far-reaching political consequences: when fewer women work outside the home, they are less likely to exchange information and overcome collective action problems; less likely to mobilize politically, and to lobby for expanded rights; and less likely to gain representation in government.

This leaves oil-producing states with atypically strong patriarchal cultures and political institutions. As a result, oil-producing states are left with atypically strong patriarchal norms, laws, and political institutions.[48]

The Netherlands

The participation of women in the Dutch energy sector is in line with the global numbers and never exceeded 22%, dropping to 16% at leadership levels.[49]

3.3.2 DECISIONMAKERS: SHAREHOLDERS FIRST

For the coal, gas and oil industries, there is a fundamental tension between two competing mandates: the pressure to contribute to the social goal of climate change mitigation, and the need to perform financially and meet obligations to shareholders in activities that directly contribute to climate change.[50] National and international oil companies are governed by their public and private shareholders.

Leaving fossil resources untouched and unmined likely means leaving trillions of dollars of corporate profit in the ground. Reducing greenhouse gas emissions, in line with the scientific consensus and internationally agreed goals would and will directly harm shareholder returns and is therefore undesired. Vast networks of privilege that are sustained by fossil economies are likewise threatened.[52]

Figure 3.3.1 Women in the Dutch Energy Sector.

A century of extractivism in the 20th century coincided with the peak of a neoliberal economic system. In this economic climate, the Friedman doctrine[3] dictates that the social responsibility of a business is to increase its profits. This approach views shareholders as the economic engine of the organization and the only group to which the firm is socially responsible.[51]

Large (majority) shareholders like governments and high net worth individuals have a significant influence on the governance of a few fossil fuel firms; The top ten owners (Blackrock, Vanguard, the Government of India, State Street, the Kingdom of Saudi Arabia, Dimensional Fund Advisors, Life insurance Corporation, Norges Bank, Fidelity Investments, and Capital Group) have notable influence over the trajectory of the fossil fuel industry. Collectively, these **ten shareholders own 49.5% of the emissions potential** from the CU200.[4] [56]

These firms will not decide to stop producing fossil fuels if their own shareholders are not demanding this shift. The influence of green shareholders, demanding to adhere to the international agreements curbing climate change is growing over time, but has not yet reached the tipping point to decrease emissions.

3.3.3 LEGISLATION: INTELLECTUAL PROPERTY RIGHTS[5]

A major concern for combatting the climate crisis and developing alternative sources of energy is the concentration of the necessary knowledge and technology in a few private companies, preventing the dissemination of critical technologies that are essential for the green transition and kept in place by the global system of intellectual property rights established through the Marrakesh Agreement (signed in 1994) that created the WTO.[37] [53]

SHAREHOLDERS AND INTELLECTUAL PROPERTY RIGHTS

- Our economic system has accelerated the drive for extractive industries to produce and use as much fossil fuels as technically possible, as this was regarded as a key responsibility towards the shareholders.
- The global system of intellectual property rights prevents the dissemination of knowledge and technology that are essential for the green transition.

3.3.4. CONSUMERS: SHAREHOLDERS FIRST

After demonstrating the impact of emissions through the behaviour and consumption of the wealthiest top 1% of the population, it is key to highlight the effect on climate change by the investment of this group, often represented by the large investment funds named above.
The bulk of total emissions from the global top 1% of the world population comes from their investments[54] rather than from their consumption.

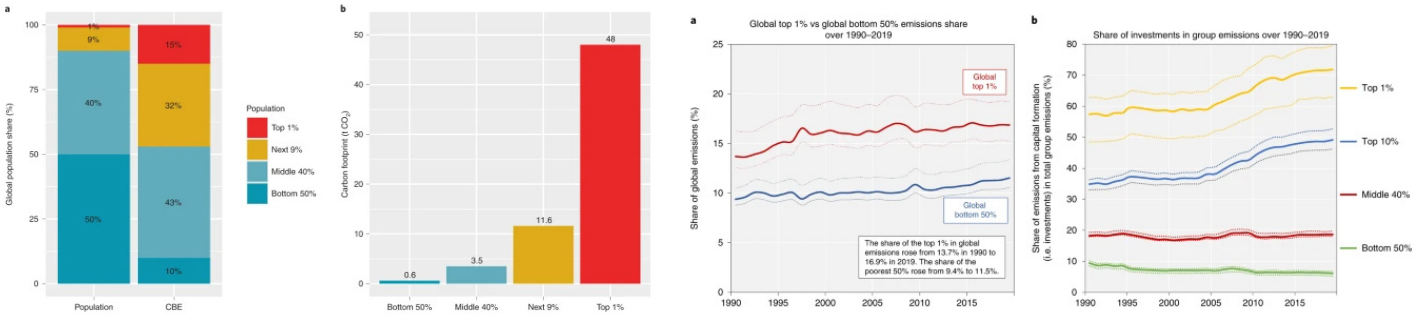


Figure 3.3.4 Global carbon emissions share (right, Source: Chancel 2022) and average carbon footprint (Source: Bruckner 2022)

3 The Friedman doctrine is a normative theory of business ethics advanced by economist Milton Friedman which holds that the social responsibility of business is to increase its profits. This shareholder primacy approach views shareholders as the economic engine of the organisation and the only group to which the firm is socially responsible. As such, the goal of the firm is to increase its profits and maximise returns to shareholders.[1] [Source: Wikipedia]
4 CU200 The Carbon Underground 200™, compiled and maintained by FFI Solution, identifies the top 100 coal and the top 100 oil and gas publicly-traded reserve holders globally, ranked by the potential carbon emissions content of their reported reserves.
5 Intellectual property (IP) is a category of property that includes intangible creations of the human intellect. There are many types of intellectual property, and some countries recognize more than others. The best-known types are copyrights, patents, trademarks, and trade secrets. Source: Wikipedia

Investors
While some investors have taken positive steps to engage with the industry, others continue to vote against climate-related shareholder proposals.[55] Consequently, equity owners that maintain holdings in fossil fuel firms must be held accountable for their continued and unabated contribution to fossil fuel production and, to climate instability.[56]

Wealth Gap
The gender distribution of the 1% highest emitters suggest that a small group of homogenous men likely hold most of the substantive status and influence as shareholders and decision makers. During the first two decades of the 21st century, the wealth gap between the top 1% and the bottom 50% has increased, doubling the assets of the top 1%. Since 1995, the top 1% have captured nearly 20 times more of global wealth than the bottom 50% of humanity.[57]

The disproportional growth of the financial assets of this 1%[21] means that understanding the impact of wealth inequality is fundamental to assign climate responsibility.

Austerity measures
In 2022 at least 73 countries face the prospect of IMF-backed austerity measures, worsening inequality between countries, and every type of inequality within countries. Women's rights and progress toward gender equality will be hit hard by these austerity measures, after a health crisis that has already set back the goal of achieving gender parity by a whole generation to 135 years, when previously it was 99.[57] What makes this situation even harsher is that women in many countries face the second pandemic of increased gender-based violence—while, as with every crisis, having to absorb the shock of a mountain of unpaid care work that keeps them trapped at the bottom of the global economy. Women face the consequences of austerity measures and the increasing wealth gap between and within countries, delaying gender parity even more.

3.4 CONCLUSION: ASSIGNING CLIMATE RESPONSIBILITY

What we have highlighted in this chapter is who is responsible for causing the current climate crisis. Nearly 75% of global greenhouse gas emissions are a product of energy production and use. During the past century the drive for extractive industries to produce and use as much fossil fuels as technically possible, was accelerated by the neoliberal paradigm that companies are only responsible towards their shareholders as their source of investment funding. Women have statistically never played a role of significance in extractive industry leadership.

TOP 1%: BEHAVIOUR AND INVESTMENTS
The wealthiest 1% are not only causing greenhouse gas emissions by their behaviour, more importantly, the bulk of total emissions from the global top 1% of the world population comes from their investments.
As the global wealth gap has steeply increased in the past decades, the impact of this group has too.
Understanding the impact of wealth inequality is fundamental to assign climate responsibility.

Historically, the USA and EU are responsible for over half of the global CO_2 emitted so far, with China rapidly catching up. China is currently the largest emitter, since that country is the main producer of CO_2 intensive products. The EU and USA are greatly benefiting from the CO_2 intensive products produced in China. Africa has hardly contributed globally to CO_2 intensive production and as a result are hardly emitting.

The richest 1% of people on Earth caused twice as much greenhouse gas emissions as the poorest half of the world's population. The largest share of their emissions comes from individual transport choices: individual mobility consumption like car use and flights.

More than from their consumption, the total emissions from the global top 1% of the world population come from their investments.

- The wealth of the richest 1% of the population has doubled, since the beginning of the 21st century, and therewith also doubled their investment power.
- In the USA, only 4.5% of this 1% is based on the income of a woman.
- The top ten shareholders own 49.5% of the emissions potential, ten of the top 20 owners are in the United States, nine of which are investment advisors.

A small group of homogenous men in the USA likely hold most of the substantive status and influence. The concept of petro masculinity links the identity of traditional white male privilege and power with climate destructive behaviour, like big and powerful engine vehicles. The growing investment power of a small group of homogenous men, holding on to traditional white male privilege and power fuels racism, misogyny, and climate change denial, too often embraced by emerging totalitarian leaders.

So we conclude that **by applying a gender lens to the producers, investors, and beneficiaries of fossil economies shows that the benefits are largely received by a small group of men in the global North, leaving women in the global South to bear the burden of the consequences of continuous extraction and use of fossil fuels.**

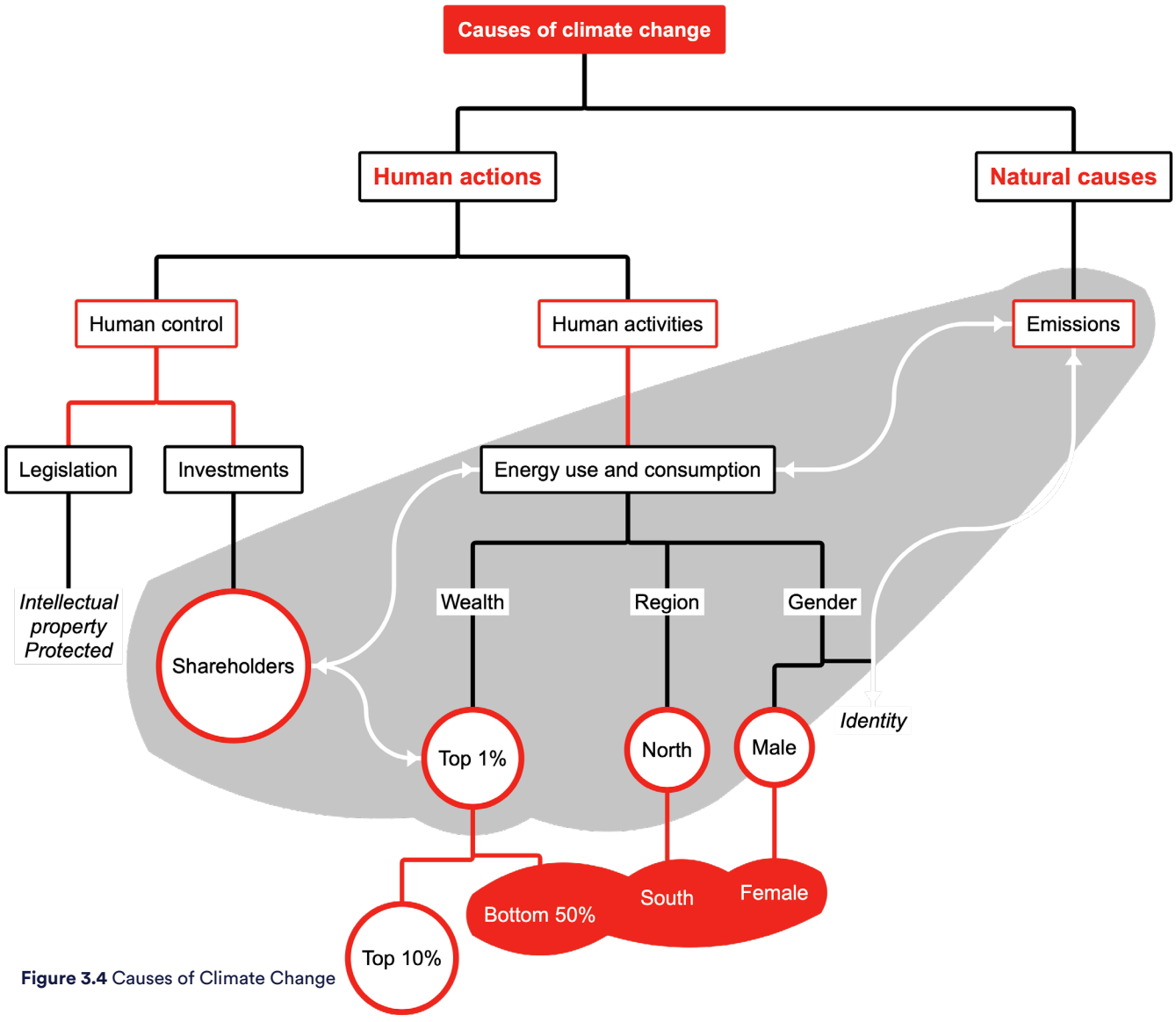


Figure 3.4 Causes of Climate Change


DON'T PANIC –
ORGANIZE!
MELLEMFOLKELIGT
SAMVIRKE actionaid


Change lives. For good.
actionaid

4. CHOICES: FEMINIST SOLUTIONS TO A FOSSIL CRISIS.

The causes of climate change are well known and have been thoroughly studied by the Intergovernmental Panel on Climate Change.[6] Scientists and policymakers have a common understanding of the causes and effects on human life on earth. Despite this widespread knowledge, humanity has continued to increase the amount of greenhouse gases emission in the earth's atmosphere. Instead of shifting towards reducing emissions, the political choices appear to have collectively chosen to mitigate and adapt to a future in a heating planet.

Apart from the nature-based consequences of climate change, it is key to look at the human decision-making dynamics in the past 70 years. Applying a gender lens to the origin of the ever-increasing emissions, reveals alarming insights in the drivers and dynamics; exposing not only a gender gap and an identity crisis, but amplifying the urgency for wide-felt solidarity with the women in the Global South, as this group by is far hit hardest by the effects of a changing climate.

1. Women in Africa are hit hardest by the devastating effects of climate change increasing existing gender inequality by lack of access to water, food, energy, education and health services
2. Despite international agreements to curb and limit further emissions of greenhouse gases, the actual emissions are still increasing.
3. A small selection of men in Europe, the US and China benefit most from the products and lifestyle that cause emissions.
4. The investment power lies with the same small selection of men in Europe, the US and China and has increased over the past decades.
5. Linking identity and privilege to a fossil-fuelled lifestyle, sparks resistance in the form of racism, misogyny and climate denial.

As demonstrated in the above sections of this report, women and girls have fewer social, material, and environmental options and poor coping mechanisms to respond to climate impacts.

But this does not mean there are no avenues to build women's resilience. Recognized by the UN Framework Convention on Climate Change's (UNFCCC's) Enhanced Gender Action Plan (2019), there are critical opportunities to engage with women and support their agency in responding to the climate crisis and building resilience. Paying greater attention to women's voices and the agency is critical to understanding what those opportunities are and harnessing them through gender-transformative policy and programming approaches.

This implies a paradigm shift from the passive categorization of women and girls as 'vulnerable victims' of climate change towards understanding their specific barriers and needs, to support them in being active agents of transformative change. Women are already making massive contributions to disaster risk reduction, post-disaster management and climate change mitigation and adaptation strategies in their everyday life.

4.1 THE ROLE OF DECISION-MAKERS IN CLIMATE CHANGE CHOICES AND FEMINIST SOLUTIONS

4.1.1 Female participants at the COPs: voicing women's agency

In recent decades, various conventions on gender and climate have been adopted in the international community, often as a result of international conferences, such as the COP (Conference of

6 Intergovernmental Panel on Climate Change (IPCC), intergovernmental body of the United Nations responsible for advancing knowledge on human-induced climate change. Established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), and later endorsed by United Nations General Assembly.

the Parties) cycle and UN conferences.[5] However, **only 41 (21%) of 196 heads of delegation to the UN Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) in 2019 were women, and women headed just 29% of national delegations to the UNFCCC intersessional in June 2019.** Equal access to decision-making is a critical step towards achieving gender equality and many studies show that the equitable participation of women and men in climate change decision-making can provide the crosscutting experiences necessary for climate change mitigation and adaptation policies that embody social and economic equity and reflect and serve the needs of society.

A closer look at the statistics showcases there has been minimal improvement in gender balance representation from 2008 onwards which led to average participation of 28%, peaking in 2014 while sliding backward after 2016. While women represented 25% of participants at COP20 in Lima, this decreased to a dramatic 9% at COP21 in Paris and 10% at COP22 in Marrakech. Arguably, COP15 in 2009 (10% women's participation) and COP21 in 2015 (9% women's participation) were considered pivotal decision-making events under the UNFCCC, highlighting that as more senior officials take up the role as Head of Delegation, the more likely they are to be men. It is a trend overall that women's participation is higher at intersessionals than at COP meetings in any given year. Although both COPs and the meetings in-between those sessions ("intersessionals") are significant and contribute to the body of international climate policy, it is usually the COP in November/ December where final decisions are made that determine global climate policy.

COP21 in 2015 resulted in the well-known Paris Agreement, considered a landmark in the effort to address the climate crisis and one of the most important decisions on climate change ever taken at the international level. Paris Agreement is legally binding, it covers climate change mitigation, adaptation, and finance, and its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. During COP21, women comprised only 9% of heads of delegation, compared to 24% the previous year– an already troubling figure. The following year, women serving as heads of delegation doubled to 18%, but still, the percentage is very low.
At COP 25 (Chile-Madrid 2019) the Parties agreed on a 5-year enhanced Lima work program on gender and its gender action plan The enhanced gender action plan sets out objectives and activities under five priority areas that aim to advance knowledge and understanding of gender-responsive climate action and the coherent mainstreaming in the implementation of the UNFCCC and the work of Parties, the secretariat, United Nations entities and all stakeholders at all levels, as well as women's full, equal and meaningful participation in the UNFCCC process.

The UNFCCC Secretariat confirms the lack of consistent progress toward gender balance on constituted bodies and government delegations under the Convention, the Kyoto Protocol, and the Paris Agreement. Another UNFCCC report summarizes the progress made in integrating a gender perspective into the constituted body processes and shows more positive trends in terms of the number of bodies integrating gender perspectives, the reported information, and the formulation of plans and indicators for further integration of gender perspective in their respective work and mandates[58]. However, those trends are not consistent across the different bodies.

The COP26 was held in Glasgow in November 2021. The line-up revealed that women were only present at junior-level sub-sections of the negotiations. The absence of women at the top level undermines the legitimacy of previous talks of inclusivity. It is surprising to see how on the one hand COP talks about incorporating the Climate Change Gender Action Plan (CCGAP) to bolster the role of women in climate action also gender responsiveness of climate finance is set as a priority regarding public finance, but on the other hand, the same parties fail to put their policies into practice as women fail to be represented in these top-level discussions and negotiations.

Feminist solutions to increase the influence of women in climate change conferences

- Support legislation, policies and strategies that promote leadership and participation of women and girls in decision-making around climate action and biodiversity protection, from the local and national to international levels.

- Quota legislation within arenas where decisions are made about climate and biodiversity, for example through support for the Women Delegates Fund.[59]

- Climate NGOs should deepen dialogue with women's rights and gender organizations, anti-racist and youth organizations, organizations representing disabled and socially excluded individuals and communities and implement gender and diversity sensitive internal policies in the areas of recruitment, promotion, remuneration, training policies and inclusive communication.[5 60]

- Stimulate capacity building of gender equality and women's rights organizations working on climate adaptation, mitigation and the protection of biodiversity.

- Supporting women's collective action to promote gender-responsive alternatives to climate change and related crises.[61] While society is still largely characterized by a gendered division of labour and unequal gender norms that expect women to be submissive, women's networks are proving to be training grounds for sustained participation, recognizing women's authority before, during, and after crises. Women's networks can bridge government and civil society by facilitating regular and sustained participation, beginning with local decision-making.

4.1.2 POLICYMAKERS

Gender equality should be integrated into environmental policy objectives and the EU should consider the mandatory assessment of the social and gender impacts of policies and measures in the national energy and climate plans for the implementation of climate policies.[60] Innovation, speed, and quality of decision-making are increasing.

The support for decisions also increases with more gender equality: proportional representation and diversity ensure that more interests are represented, people recognize themselves more in policy and there is more support for decisions. The quality of decisions improves with a proportion of between 35 and 65% of women in teams.[66]

A diverse terminology, using terms such as "gender-sensitive", "gender-mainstreaming", "gender-responsive" and "gender-aware", is used to address gender in policy-makin.[4] This report uses gender responsiveness as the gender lens for engendering policy. Gender responsiveness refers to outcomes that reflect an understanding of gender roles and inequalities and which make an effort to encourage equal participation and equal and fair distribution of benefits.[67] The process towards a gender-responsive just transition policy has similarities with the engendering policy process. Engendering policy is defined as the process that aims to create a policy, in which the needs and the rights of both women and men are addressed to realize a gender-equal policy outcome.[68]

The energy transition policy process has similarities with the just transition policy process. Engendering energy policy resonates with the prevailing academic debate on energy justice and equal access to energy services, as is reflected in international commitments and national policy plans toward a just energy transition (ibid).

If governments strive to implement an energy transition policy that "leaves no one behind" (SDG7) and that resonates with the justice discourse, the costs and benefits of the energy transitions need to be equally distributed in society taking into consideration the existing inequalities and injustices.[4]

The role of different actors in the energy system depends on the capacity to act upon the agency these actors possess.

Climate policies must recognize that vulnerable mining and farming communities may already face precarious livelihoods and may not be able to bear the burden or cost of just transitions unless they are given strong support and positive incentives to do so. The call to policymakers is to embark on a just transition away from harmful agriculture, food and energy systems that address – rather than exacerbate – inequalities; transform systems to work for people, nature and the climate; ensure inclusiveness and participation; develop comprehensive policy frameworks.[65] Just transition policies must address the lack of access to secure food, nutrition, energy and livelihoods faced by poor and vulnerable communities, and these policies must recognize that women face particular challenges and burdens.

Feminist solutions for policymakers in climate change choices.

- Actively break through the knowledge silos in the field of climate change, energy transition, and gender equality.

- Actively follow up in policy implementation on the concrete recommendations of the scientists associated with the IPCC and IBPES, [14 16] p. 202,[59] [69].
- Addressing the multiple inequalities and disproportionate impacts faced by women, girls and marginalized communities must be central to addressing climate-induced loss and damage. Policies must make a specific effort to target women, otherwise, they are likely to miss out on the support they need.[59]

- Governments must systematize national social protection systems and plans that provide basic coverage, ensure universal access, are proactively gender-responsive, and are shock-responsive in that they are able to respond quickly to meet climate challenges, including slow-onset impacts. If done well, social protection measures can bring profound development and human rights benefits while also scaling-up to address climate impacts and strengthen resilience as needed.[59]

- Revise positions and policies to national agricultural development and pull back current policies that favor industrialised and market-driven paradigms.[65]

- Decentralise power to local communities, with a focus on women-led accountability mechanisms, for their full participation in the formulation and implementation of policies and programs that affect them. Improve collaborative competencies through the capacity strengthening of rural institutions.

- In addition to appointing Gender Focal Points (permanent contact persons or persons within organizations responsible for gender mainstreaming) in ministries, (local) gender experts should be involved at all levels of policy development and decision-making.[59]

- Enact policies to prevent rural dispossession and land grabbing

- Make and reshape economic policies with an intersectional lens, to ensure that women facing intersectional forms of oppression have their rights fulfilled, as part of a conscious effort to break with patriarchal, racist and colonial mindsets and policies that reflect and entrench these.[65 70]

- Provide support and resources for mutual support and reciprocity networks, including specific legal policies, frameworks and funding to support women's cooperatives.[65]

- Subsidies and tax benefits must be transparent and easy to apply for taking low-literate people into account. Especially access to public finance is limited and full of obstacles for women and communities in the Global South. For example, having a bankaccount in your own name is not a given for many of these women. Even in the Netherland with a functional illiteracy rate of 20% among adults, many are unable to apply for financial support

4.1.3 FUNDERS, SHAREHOLDERS & INVESTORS

In the implementation of climate change adaptation and interventions, the funding of these initiatives becomes crucial. Energy transition projects are illustrative for the role of funders, shareholders and investors to enhance climate change choices. Now that renewable energy is growing faster in developing countries than in developed countries for the first time, it has become imperative to examine the linkages between the energy transition and economic development.[73] When shifting away from fossil fuels towards renewable energy, the transformation of energy systems must take into account the potentially harmful impacts of renewable energy's increased demand on metal and mineral extraction and must not simply shift exploitation and land grabs to new areas. Funding strategies by national governments can be used to counter private investment to stimulate a just transition and to avoid exploitation for economic development. National-level financial instruments such as national climate funds and climate finance strategies can help countries manage, coordinate, implement and account for international and domestic climate finance.[74]

Feminist solutions for funders & investors in climate change choices

- Make gender-related objectives in funds and projects explicit and ensure transparent and active monitoring of these via strict criteria. This applies to government programs and to instruments or funds implemented by external parties.[59]

- Ensure that an intersectional gender lens is structurally applied in risk analyses, project and policy development as an obligatory element in grant applications.[59]

- Gender transformative communication and education as obligatory social return on investment;
- Develop and fund gender and climate awareness initiatives.
- Strong labour, social, environmental, and gender-responsive standards must govern all sectors involved.
- Create a financial support system for climate change interventions that are just
- Gender budgeting: encourages an allocated budget in various policy areas to implement gender equality measures
- Include gender perspectives in national and international climate opportunity funding mechanisms and strategies. All types, scales and aspects of climate finance need gender awareness.[67 74]
- Non-governmental and civil society organizations, including women's organizations, should be assured of direct access to funding mechanisms.[74]
- Ensure funding is available and accessible to local communities and women, who work on ecosystem conservation and restoration and effective climate initiatives, and work to protect and support female environmental and human rights activists[59 75].
- Provide government funding for policy implementation to initiate system change, identify causes and address causes (economic growth, emissions).[74 76]
- The European Commission should systematically implement gender mainstreaming in green budgeting and taxation by developing gender equality benchmarks and indicators as part of the scorecard.[60]
- Ensuring access for women and organizations to funding
  - Providing gender-equitable financing in the energy sector.[60]
  - Include social aspects in the upcoming revision of the Energy Taxation Directive and promote practices such as the redistribution of revenues from CO_2 prices to lower-income citizens, the vast majority of whom are women.[60]
  - Provide gender-equitable financing in the energy sector, such as supporting women in all their diversity with energy entrepreneur loans to reduce energy poverty.
- International Monetary Fund must provide $1.0 trillion annually to poorer nations to create green jobs, and rich governments to cancel debt to low-income creditors while giving their own citizens a "universal basic dividend" to help share corporate windfalls.[77]
- Support countries to develop and implement national climate policies by granting them the fiscal space to finance them in the short and long term.[65]

4.1.4 ACADEMIC INFLUENCERS

Additionally, of the 1000 scholars listed by Reuters as the most influential on climate change, Sonia Isabelle Seneviratne, ETH Zurich (Switzerland) on number 9 is the only woman in the top 20.[62] Of the 1000 scholars, only 122 were women of which 111 were from institutions in the Global South of which 88 from China.[63] Scholars in the Global North benefit from significant advantages in terms of resourcing: financial, intellectual, and administrative support to develop grant applications; access to sources of funding to undertake research; and the availability of research infrastructure including libraries and journal subscriptions. Scholars in the Global South have more restricted access to journals, libraries and online resources, and while they may be able to publish a paper for free, they might not even be able to download and read other papers published in the same issue of a journal. Despite the lack of female scholars and their limited support to do gender-responsive research in climate change, male scholars are equally invited to participate in this research and the academic debate on feminist solutions in climate change choices.

Due to the lack of academic engagement with gender-responsive research in climate change, gender-disaggregated remain scarce on climate change consequences, causes and consequences. Gender-disaggregated data is not only scarce but often limited for either a certain topic or a specific geographical location hampering a consistent and comprehensive analysis of the gendered impact of the climate change crisis.

Feminist solutions to increase the influence of academia in climate change choices

- Collect gender-disaggregated data: which means that the data generated by research and published is broken down by gender. Too often "the household" or "consumer" is referred to as a homogeneous entity without distinguishing between the diversity of households, the existing power relations within and between groups, such as inequality between men and women, and the fluidity of households.[64]

- Conduct gender-responsible research: this means conducting research with an eye for the gender implications of the research area and using and generating gender-disaggregated data.

- Monitor gender equality in various sectors and in various policy areas: it is important to measure existing inequalities between men and women, the impact of policy interventions to monitor this inequality, and to evaluate effectiveness.

- Invest in more comprehensive research and data-gathering tools to track and assess progress and macroeconomic policy impacts that use robust intersectional analyses to better track and address gender inequalities, ensuring women at the margins are neither made invisible nor left behind.[65]

- Enhance scientific awareness of women's localised knowledge of climate change, its causes, and its consequences.[61]

4.1.5 EMPLOYERS

To unravel the gender dimension of just transitions, it is instrumental to look at women's triple role as change agents in just transitions.

Not only women are the beneficiaries of policy and projects as consumers, but they can play an equally impactful role as producers working in those sectors of just transitions. In addition, women are often involved in the lower-paid, less-qualified activities of the sectors analysed, which puts them at risk of being overlooked by climate policy.

At the same time, impacts on men's jobs may trigger domestic instability, heightened tensions, and increased domestic violence. A gender-just transition will also mean looking beyond traditional "green jobs" and more specifically within the energy sector to consider low-carbon jobs contributing to broader societal resilience to climate change consequences. This includes healthcare workers, educators, caregivers, and small-scale agriculture workers. These workforces are highly feminized but often underpaid and with precarious contracts and working hours.

Feminist solutions for employers in climate change choices

- Equality promotion measures, policies and practices for a better work-life balance and zero tolerance for toxic masculinity, discrimination and violence in EU institutions and political parties.[60]

- Monitoring labour mobility (inflow, throughflow, side flow and outflow) in the energy sector: to measure is to know. Due to limited data, the urgency of the untapped labour potential in the energy sector is not recognized and the call to action is too limited, so interventions start too slowly.

- Job diversity: diversity of jobs and roles within the energy sector creates opportunities for non-technicians and therefore for women who have not had any technical prior education

- Binding targets for the proportion of women in all their diversity in male-dominated environmental sectors (such as renewable energy, energy efficiency and construction) at all levels (councils, executive committees, management and global workforce) and specific funding for measures that make the workforce more diverse and gender equalization[60].

- Challenging prevailing systems of oppression and redefining social, economic and political norms to retain women and minorities in male and traditional norms dominated sectors.[60]

- Open up meaningful and representative spaces for women, women's rights organizations and movements at decision-making tables, recognising the value of their knowledge and practice.[65]

- Conduct gender-responsive human rights due diligence, based on the OECD guidelines and the UN Guiding Principles for Business and Human Rights, throughout their entire operations and value chains, take steps to address violations identified and ensure access to remedy.[78]

- Commit to becoming tax-responsible by making incremental changes to its structures and tax-related transactions eschewing the tax avoidance measures currently widely practiced so they stop using tax avoidance schemes and pay more taxes in the countries where their profits are created.[78]

- Recognise that women face particular disadvantages and discrimination, by developing and publishing a gender policy, addressing the systemic problems faced by women and how the company will seek to address them throughout their supply chains and business operations.[78]

- Leverage influence to positive ends, by publicly calling on governments to respect women's rights and address gender inequalities, and provide an enabling environment for responsible business conduct and women's empowerment and equality.[78]

4.1.6 CONSUMER

As this report has demonstrated, human choices and human actions are highly responsible for the existing climate crisis. We call upon governments, companies and individuals to change their behaviour and adopt feminist solutions to battle the climate crisis. When we zoom in at the individual level of the consumer, we identified the ambivalent pattern of 1% of the population being **"overconsumers"** with extreme over-consumption of fossil-intensive products and lifestyle financed by their extreme wealth. On the other hand, we are confronted with 50% of the population being vulnerable and poor, impacting their consumption pattern that is less resilient to climate change adaptation. They are the **"underconsumers"** who consume less than their basic need due to limited resources and access to water, energy, food, health, mobility options, education and income generating activities.

Among the two extreme ends of the consumer spectrum, we see minimum participation of women in the overconsumers, estimated by 5%, and an over-representation of female under-consumers. To have the voices heard of the under consumers, decades of local projects are implemented and training are given to strengthen bottom-up approaches in policy making and project management. These initiatives are impacted by awareness, capacity and knowledge of women's agency. **Women at the local level have low awareness and capacity to comprehend prevailing technical information while scientific and policy communities have low understanding of women's valuable everyday knowledge in addressing climate-related crises locally.**[61]

Feminst solutions for consumer in climate change choices

- One size does not fit all: acknowledge and recognize the 1% consumers versus 50% consumers.

- Basic needs and the right to energy, water and food versus the consumption patterns. Recognizing the basic needs does not jeopardize the climate, but overconsumption does.

- Individuals must appeal to the government to recognize and take responsibility to reduce emissions. This can be done through voting behaviour during elections, climate strikes and climate demonstrations and other expressions in public opinion

- In addition to information campaigns, adjusting consumer behaviour also needs accompanying policies to be able to implement recommendations:

- Acknowledge the difference between being able, willing and allowed to implement climate change adaptation measures and behaviour: e.g. people who rent depend on landlords to implement energy efficiency. More women than men are dependent on rented housing in the Netherlands and they are overrepresented in social housing.[4]

- Create communities of experts at all levels of governance where women's cumulative, customary knowledge is equally valued and can come together with scientific and technical knowledge.

- Establish "train the trainer" initiatives to enable women to be knowledge brokers in their communities.

- Promote women as local information and data gatherers of the everyday signs or risks of climate change and related crises, allowing them to present their knowledge and effectively make claims on the state. Women's Weather Watch is a good example of how to synthesize this information and data.

4.2 CONCLUSION: ASSIGNING ACTORS TO USE FEMINIST SOLUTIONS IN CLIMATE CHANGE CHOICES

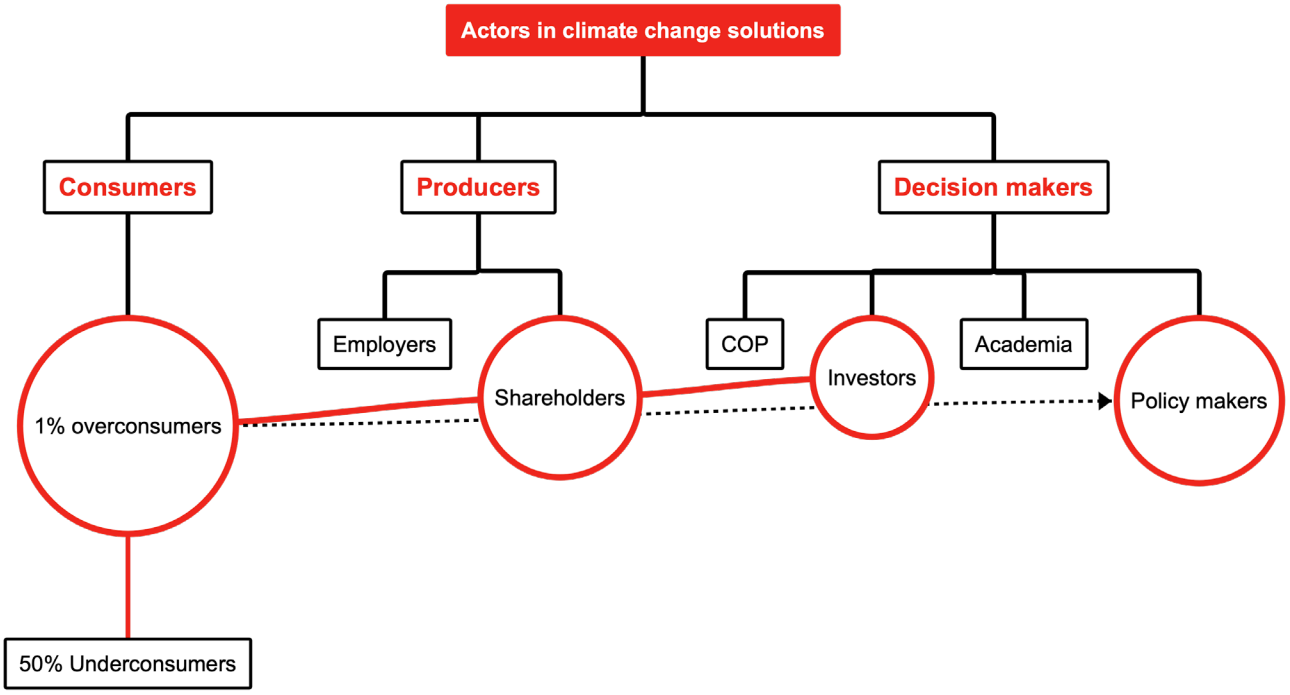
Applying a gender lens to the origin of the ever-increasing emissions, reveals alarming insights in the drivers and dynamics; exposing not only a gender gap and an identity crisis, but amplifying the urgency for wide-felt solidarity with the women in the Global South, as this group by is far hit hardest by the effects of a changing climate. To call for this solidarity, we address the main actors in charge to implement feminist solutions to the climate crisis. A feminist solution entails a choice in actions, behaviour and decisions towards eliminating existing gender equality and stimulate women's empowerment.

Within the climate change crisis, we identify the following actors that are in charge of making choices in towards feminist solutions:

Consumers: the 1 % over-consumers need to halt consuming fossil-fuel products so that the 50% under-consumers can see their right to basic needs to be fulfilled in a climate-neutral and sustainable matter.

Producers of CO_2 emitting products: shareholders need to act upon their power to divest from fossil fuels and fossil fuel-based products towards cleaner and sustainable option acknowledging that economic development and sustainability need to intertwined. Employees in the sectors impacting climate change should stimulate the just transition by gender equality within their companies and foster gender mainstreaming in their organisations.

Decision makers: investors & funders should apply gender-budgeting in climate change projects and finance just transition for all stakeholders involved. Policymakers can contribute by stopping investment in fossil fuel-based growth and facilitate just transitions that eliminate gender inequality. International conferences like the COP can stimulate just transition decision-making by promoting female voices to be heard during these conferences and incorporate recommendations from civil society expressing the unheard voices of the vulnerable and deprived groups in society, like women. To have more gender-responsive decision making, gender-disaggregated data are crucial to inform decisions and policy makers. Academia should be more engaged in the gender-responsive research on climate change and collect, report and monitor gender-disaggregated data on the climate crisis.



GLOSSARY

Agroecology[65 79]
Agroecology is the science of sustainable agricultural ecosystems, a set of farming practices, and a social movement. The agroecology movement is part of the struggle for the right to produce healthy food and to preserve natural resources: land, water, seeds, plants and all the teeming life that is biodiversity.[79]

Climate adaptation[1]
The adaptation - often through technology - to climate change in areas such as infrastructure, healthcare, agriculture and construction.

Climate (in)justice[5]
Climate change is and was disproportionately caused by rich countries and people; this while poor countries and people are experiencing the most adverse effects so far. Climate justice advocates fair climate policies that respect these inequalities. The impact of climate change can amplify existing gender inequalities. Climate policy must therefore recognize, reduce and ultimately eliminate these gender inequalities. Poverty has an amplifying interaction with the impact of climate change, and most poor people worldwide are women. That is why many women's organizations and international climate advocates advocate the combination of climate justice and gender justice.[13 27]

Engendering policy
The process toward a gender-sensitive just transition policy has similarities with the engendering policy process. Engendering policy is defined as the process that aims to create a policy, in which the needs and the rights of both women and men are addressed to realize a gender-equal policy outcome.[68]

Ecofeminism[65]
Both a philosophy and a movement that sees a connection between the exploitation of and degradation of the natural world and the subordination and oppression of women through patriarchal structures.[65]

Extractivism[65]
Economic and political model based on the exploitation and commodification of nature by removing large amounts of a nation's natural commons for sale on the world market.[65]
Energy Poverty
Inability of energy consumers to have access to affordable, sustainable and clean energy services to meet their energy needs. Access to energy services is highly gendered linked to existing gender inequalities in society.[3 4 64]

Feminist Economic Alternatives (FEA)[65]
Creating an environment conducive to and supportive of women's collective autonomy and leadership, feminist leadership and the democratization of economic decision-making that is accountable, incorporating an intersectional analysis of how economic policies impact differently on different groups of women based on overlapping systems of oppression. Decolonising global systems of power away from an extractivist economy dominated by economic elites in the Global North, towards a feminist solidarity-based economic multilateralism and the restorations of social contracts between governments and their people. These underlying transformative commitments underpin the incremental changes that lead to systemic transformation through FEAs.
Gender-responsiveness
This report uses gender-responsiveness as the gender lens for engendering policy. Gender responsiveness refers to outcomes that reflect an understanding of gender roles and inequalities and which make an effort to encourage equal participation and equal and fair distribution of benefits.[67]
Gender-based violence (GBV)
GBV is violence that is directed at an individual based on their biological sex or gender identity. It includes physical, sexual, verbal, emotional, and psychological abuse, threats, coercion, and economic or educational deprivation, whether in public or private life

Global North[65]
The societies of Europe and North America are largely characterized by wealth, technological advancement, relative political stability, aging population, zero population growth, and dominance of world trade and politics. Not strictly geographical, the definition can also broadly include Australia, New Zealand, Japan and South Korea.[65]

Global South[65]
Broadly referring to the regions of Latin America, Asia, Africa, and Oceania. It is one of a family of terms, including "Third World" and "Periphery," that denote regions outside Europe and North America, mostly (though not all) low-income and often politically or culturally marginalized.[65]

Just Transition[65]
A framework of principles, processes and practices that build economic and political power to shift economies from exploitative and extractive paradigms towards sustainable production. The term is used by the trade union movement to secure workers' rights and livelihoods, and by climate justice advocates to combine improving social equality with combating climate change and protecting biodiversity.[65]

Social protection systems[80, 81]
the United Nations' International Labour Organisation (ILO) defines the concept as a mix of policies and programs that aim to reduce poverty, vulnerability and inequality throughout the life cycle. Policies such as sick pay, parental leave and pensions are all examples of social protection tools that help individuals make ends meet when their ability to earn a living is affected by life events. When applied expansively, the term can also include programs that support key public services such as healthcare and education, or subsidies for example to food or fuel. Social protection programs can therefore deliver human rights for individuals, while also supporting the broader economy.

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