



Women's Economic Empowerment and Climate Change: A Primer

WOW Helpdesk Guidance Note No. 3

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Purpose of this document: To help the UK government ahead of COP26 in its thinking around how to better understand the differential effects of climate change and support the inclusion of women in climate action, by bringing together the latest thinking about how women’s economic empowerment (WEE) and climate change intersect.

This Primer, together with the complimentary briefing on **Women and the net zero economy**, make up the **WOW guidance note 3**.

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The Work and Opportunities for Women (WOW) programme is a flagship programme funded by the UK’s Foreign, Commonwealth and Development Office (FCDO). The objective of WOW is that women have access to improved economic opportunities through business interventions in global value chains and economic development programmes. The five-year programme aims to enhance the economic empowerment of 300,000 women working in global value chains by September 2022. It will achieve this goal by supporting businesses, organisations and programmes that are ready and willing to act on women’s economic empowerment; enabling players across the value chain ecosystem to drive change; and influencing the UK and global agenda on women’s economic empowerment.

WOW is delivered by a consortium of global experts at the cutting edge of women’s economic empowerment research, programme design, and delivery – including PwC, BSR, CARE International, the University of Manchester, and Social Development Direct.

Executive Summary

Climate change is experienced and shaped differently by women and men (Jerneck, 2018; UNFCCC, 2019). Women are more likely to die in a climate disaster, be displaced by climate change, or die from pollution (UNDP, 2016b). They are not inherently more vulnerable, but intersections between gender, power dynamics, socio-economic structures, and societal norms and expectations result in climate impacts being experienced very differently by women (Andrijevic et al., 2020). Gender inequality also intersects with discrimination based on other aspects of identity – class, age, disability, sexual orientation and gender identity, ethnicity, religion - to multiply the impacts of climate change (Kaijser and Kronsell, 2013; UNFCCC, 2019).

The climate crisis is accelerating faster and is more severe than previously anticipated (IPCC, 2018b). The Intergovernmental Panel on Climate Change (IPCC) special report on global warming of 1.5°C (2018) is explicit: we must reach net zero greenhouse gas emissions globally by 2050. We are already seeing the impact of climate change with extreme weather events, land degradation, loss of biodiversity, rising sea levels, and collapsing ecosystems (Allen et al., 2019). These lead to risks to human health and survival, food supply and livelihoods, public goods such as access to water, and to migration and displacement, security issues, and increases in the economic and social costs of mitigation.

The 2015 Paris Agreement saw ground-breaking international commitment towards reducing emissions. 195 nations agreed to action and investment to keep the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursuing efforts to limit the temperature increase to 1.5°C (UNFCCC, 2016).

Action on gender and climate change was agreed by Parties to the Paris Agreement in the Enhanced Lima Work Programme on Gender and its [Gender Action Plan](#) (UNFCCC, 2019). The Gender Action Plan (GAP) emphasises that a just transition to sustainable development can only be achieved if women are actively involved in developing and implementing all aspects of climate change mitigation and adaptation (UNFCCC, 2019). While applying a gender lens to climate finance is increasingly recognised as key to effective climate outcomes, it remains challenging for women's organisations to participate in climate finance processes or access funds.

The Gender Action Plan places women's economic empowerment as central to climate policy and action. It notes that “full, meaningful and equal participation and leadership of women in all aspects of the UNFCCC process and in national- and local-level climate policy and action is vital for achieving long-term climate goals” and “gender-responsive implementation of climate policy can enable Parties raise ambition, as well as enhance gender equality, and just transition of the workforce and the creation of decent work and quality jobs” (UNFCCC, 2019, p2).

Evidence shows that climate change action that uses a gender lens to inform analysis and priorities can create rapid improvements in women's economic empowerment (WEE) and gender equality more broadly. It shows that addressing the gender-specific barriers and enablers to WEE, and ensuring women have access to and control over decent work and economic assets can lead to better climate and environmental outcomes.

For example, the evidence tells us:

Constraints and Enablers: Women are vastly under-represented in climate policy and financing processes and yet women's leadership increases the effectiveness of climate funding by addressing women's different needs and building on women's agency, strengthens climate innovation and delivers stronger climate, environmental and business outcomes such as stronger climate policies and more sustainable business practices. Engaging with women's organisations, networks and unions can also help improve women's economic empowerment and climate and environmental outcomes. Women already face barriers to work, to engaging in productive and sustainable agriculture, and achieving economic empowerment as a result of social norms and gendered power dynamics. These barriers are intensifying through the uncertainty and change caused by climate change. Policies and workplace practices that create or exacerbate barriers to women's economic empowerment such as unpaid care/work burdens, gender segregated occupations, wage gaps and gender-based violence generate additional barriers for women to transition into new jobs and sectors.

Access to and control over decent work: Women are overrepresented in the lowest paid and informal jobs which are at greater risk from climate variability and climate shocks. Green growth is not necessarily inclusive and, without policy interventions, e.g. in education and training, women are less likely to benefit as new jobs are created, jobs change and jobs disappear. Women entrepreneurs and women-led start-ups can help diversify value chains, reduce risk, increase competitiveness, and enable climate-responsive innovation.

Access to and control over economic assets: Secure land tenure for women, especially combined with indigenous women's knowledge and practices, would increase climate resilience, and improve climate and environmental outcomes. Access to digital and technological assets can help women to manage climate risk, respond to climate variability and access support and information relevant to their livelihoods during climate shocks. Social protection linked to resilience of social and ecological systems can contribute to women's adaptive capacity and provide a stepping-stone to other economic opportunities.

Based on the evidence there are ten opportunities to support the implementation of the Gender Action Plan and raise ambitions on women's economic empowerment *and* climate and environmental outcomes. As countries define their Nationally Determined Contributions and develop their National Adaptation Plans, the opportunities proposed in this report can help ensure women's economic empowerment is a core part of the response to climate change.



GAP	Raise ambition, enhance gender equality, and ensure a just transition of the workforce and the creation of decent work and quality jobs								
WEE	Address gender-specific constraints and barriers			Access to decent work and control over work-related decisions			Access to and control over economic assets		
OPPORTUNITIES	Use gender analysis to better understand context, intersectionality and power dynamics and design better climate change responses and a more just transition								
	Promote women's leadership in climate processes and in business	Engage women's organisations in climate processes	Change the rules and challenge social norms that create barriers to WEE and climate resilience	Ensure women get decent jobs in green sectors and the transition to net zero	Enhance education and skills for women workers in the green economy	Champion women innovators and entrepreneurs in the green economy and transition to net zero	Ensure women have access to natural and communal assets	Ensure women have access to and control over digital technology	Build women's resilience to climate shocks



COP 26	ADAPTATION AND RESILIENCE NATURE-BASED SOLUTIONS ENERGY TRANSITION CLEAN ROAD TRANSPORT FINANCE RACE TO ZERO RACE TO RESILIENCE NATIONAL ADAPTATION PLANS NATIONALLY DETERMINED CONTRIBUTIONS LONG-TERM LOW EMISSION DEVELOPMENT STRATEGIES
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Acronyms

ADB	Asian Development Bank
AfDB	African Development Bank Group
COP	Conference of the Parties
COVID-19	Coronavirus disease
FAO	Food and Agriculture Organisation of the United Nations
FCDO	Foreign, Commonwealth and Development Office
GAP	Gender Action Plan
GDP	Gross Domestic Product
ILC	International Land Coalition
ILO	International Labour Organisation
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
LED	Low-Emission Development Strategies
NAP	National Action Plan
NCE	New Climate Economy
NDC	Nationally Determined Contribution
OECD	Organisation for Economic Cooperation and Development
OHCHR	Office of the United Nations High Commissioner for Human Rights
STEM	Science, Technology, Engineering and Mathematics
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNICEF	United Nations International Children's Emergency Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank
WEDO	Women's Environment and Development Organisation
WEE	Women's Economic Empowerment
WFP	World Food Programme

1. Introduction

The climate crisis is accelerating fast with women disproportionately affected and urgent action is needed. The UK government is raising ambition on climate change as the host of COP 26 and a critical part of that is raising ambition on gender equality and women's economic empowerment.

The purpose of the primer is to help the UK government in its thinking around how to better understand the differential effects of climate change and support the inclusion of women in climate action. The primer brings together the latest thinking about how women's economic empowerment (WEE) and climate change intersect, specifically how climate action can support women's economic empowerment and how women's economic empowerment can contribute to climate and environmental outcomes.

The primer is structured in three parts: the first provides an overview of the scientific context, policy context and financing context; the second explores the evidence on how women's economic empowerment and climate change intersect; and the third proposes opportunities and actions for women's economic empowerment and climate change.

This evidence and the proposed opportunities set the scene for the separate Women and the Net Zero Economy briefing which draws on primary research with companies and key informants to explore how the transition to a net zero global economy will impact on women's economic empowerment, particularly in developing countries.



2. Context: science, policy and finance

2.1 Science: where we are now

The climate crisis is accelerating faster and is more severe than previously anticipated (IPCC, 2018b). The IPCC special report on global warming of 1.5°C (2018b) is explicit: we must reach net zero greenhouse gas emissions globally by 2050, with a 45 percent decrease on 2010 levels by 2030, to avoid the destructive consequences of a world warmed by more than 1.5°C.

We are already seeing the impact of climate change with extreme weather events, land degradation, loss of biodiversity, rising sea levels, and collapsing ecosystems (Allen et al., 2019). These lead to risks around human health and survival, food supply and livelihoods, public goods such as access to water, and to migration and displacement, security issues, and increases in the economic and social costs of mitigation (Goh, 2012).

Global warming of just 1.5°C will affect different populations and regions in different ways. Warming of 1.5°C will disproportionately affect disadvantaged and vulnerable populations, including women, older people and youth, some indigenous peoples, and local communities dependent on agricultural or coastal livelihoods (IPCC, 2018b). Small island developing states, land-locked developing countries and least developed countries are most likely to be negatively impacted and have the least capacity to absorb and recover from the impacts of climate change (ibid).

We already have the tools we need to address climate change though urgent and rapid changes are required in energy generation, land use, cities and industry (Allen et al., 2019). The biggest sources of emissions are electricity production (25 percent), food, agriculture and land use (21

BOX 1: DEFINITIONS

Climate change: a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability (United Nations, 1992).

Global warming: an increase in combined surface air and sea surface temperatures over a 30-year period (IPCC, 2018a).

Climate variability: Refers to variations of the climate on all spatial and temporal scales beyond individual weather events, and can be due to natural or human activity (IPCCa, 2018).

Carbon emissions: carbon dioxide released from the burning of fossil fuels (Eurostat, 2017).

Adaptation: adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts to moderate potential damages or to benefit from opportunities to do with climate change (UNFCCC, 2021c)

Mitigation: efforts to reduce greenhouse gas emissions and enhance sinks (e.g. increasing forest areas) (UNFCCC, 2021a)

Resilience: the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (UNDRR, 2021)

Gender equality: Equality of opportunity and equitable outcomes for all women and men where access to life chances and opportunities are not constrained by, nor dependent on, their sex. This usually requires strategies that compensate for women's historical social and political disadvantage at every level, and that prevents women and men from otherwise operating on a level playing field (DFID, 2019).

percent), transportation (14 percent) and buildings (6 percent) (Project Drawdown, 2020). By the mid-21st century Africa and Asia are projected to see 2°C temperature increases whilst by the late-21st century there will be increases of more than 4°C for most of Africa and a range of 3°C to 6°C for Asia without further climate action (IPCC 2014). This will increase the frequency and/or severity of acute climate hazards, with parts of India and Pakistan likely to be the first places in the world to experience heat waves that exceed the survivability threshold for a healthy human being (McKinsey Global Institute, 2020).

National government commitments to reducing emissions are increasing though much needs to be done to move from pledges to legislation and to action. In 2019 emissions, even with pledges to cut them, put the world on track to a temperature rise of 3°C by the end of the century (Allen et al., 2019). New research shows that, while more than half of global emissions are covered by some form of net zero target, only 11 percent are legislated or in the process of being legislated (Moore and Bullard, 2021).

Climate change is experienced and shaped differently by women and men, and women experience the worst effects (Jerneck, 2018; UNFCCC, 2019a). Women are not inherently more vulnerable, but intersections between gender, power dynamics, socio-economic structures, and societal norms and expectations result in climate impacts being experienced very differently by women (Andrijevic et al., 2020). Gender inequality also intersects with discrimination based on other aspects of identity – such as class, age, (dis)ability, sexual orientation and gender identity, ethnicity, religion - to multiply the impacts of climate change (Kaijser and Kronsell, 2013; UNFCCC, 2019a).

These intersections and power dynamics mean women are more likely to die in a climate disaster, be displaced by climate change, or die from pollution (UNDP, 2016b). Customs such as traditional dress codes and norms against teaching women to swim can increase fatalities, caregiving responsibilities can lead to women prioritising children and the elderly hampering their mobility in a crisis, and discriminatory or gender-blind post-crisis recovery can undermine women's access to resources and increase violence against them (UNDP, 2016b). Higher gender inequalities that affect women's survival, health and livelihoods tend to occur more in countries with lower levels of climate action (Andrijevic et al., 2020).

BOX 2: KEY FACTS ON GENDER AND CLIMATE CHANGE

Women and children are 14 times more likely than men to die during a climate-related disaster due to gendered differences in capacity to cope and insufficient access to early warning information (UNDP, 2016b)

80% of people displaced by climate change are women (UNDP, 2016a)

There is a direct link between climate change and child marriage, with **1.5 million girls in Malawi estimated to be at risk of becoming child brides** as a direct result of climate change (Brides of the Sun, 2017).

Land ownership is linked to greater resilience and security yet **globally women own less than 15% of land (FAO, 2018).**

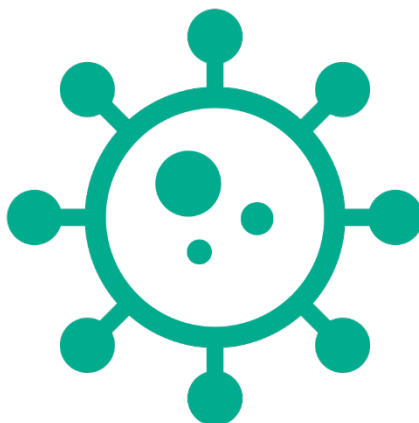
People with disabilities are disproportionately affected by climate change (OHCHR 2021), and women with disabilities often face additional barriers (Kett and Cole 2018)

Every year, **4.3 million people – mainly women and children** – die as a result of indoor air pollution. (WHO 2016)

Indigenous people live in geographical regions and ecosystems that are most vulnerable to climate change – they **are 5% of the world's population yet protect 80% of the planet's remaining biodiversity.** Indigenous women are particularly vulnerable to climate change (ILO, 2017a).

Climate impacts are more likely to affect poorer women and women with disabilities. Poorer women tend to be dependent on natural resources for their economic activities and those in urban areas who are more exposed to overcrowding, pollution, and inadequate water and sanitation provision (Dercon, 2014). Women with disabilities are at greater risk of death, injury and additional impairments as they are generally excluded from disaster risk reduction policies, plans and programmes, and emergency-related information and warnings are often not accessible to persons with disabilities (UNHCR, 2020). At the same time however, the evidence shows that women's leadership, agency, voice and economic and political empowerment improve climate outcomes (Daniel, 2020; Mavisakalyan and Tarverdi, 2019; McKinney and Fulkerson, 2015; WEDO, 2020).

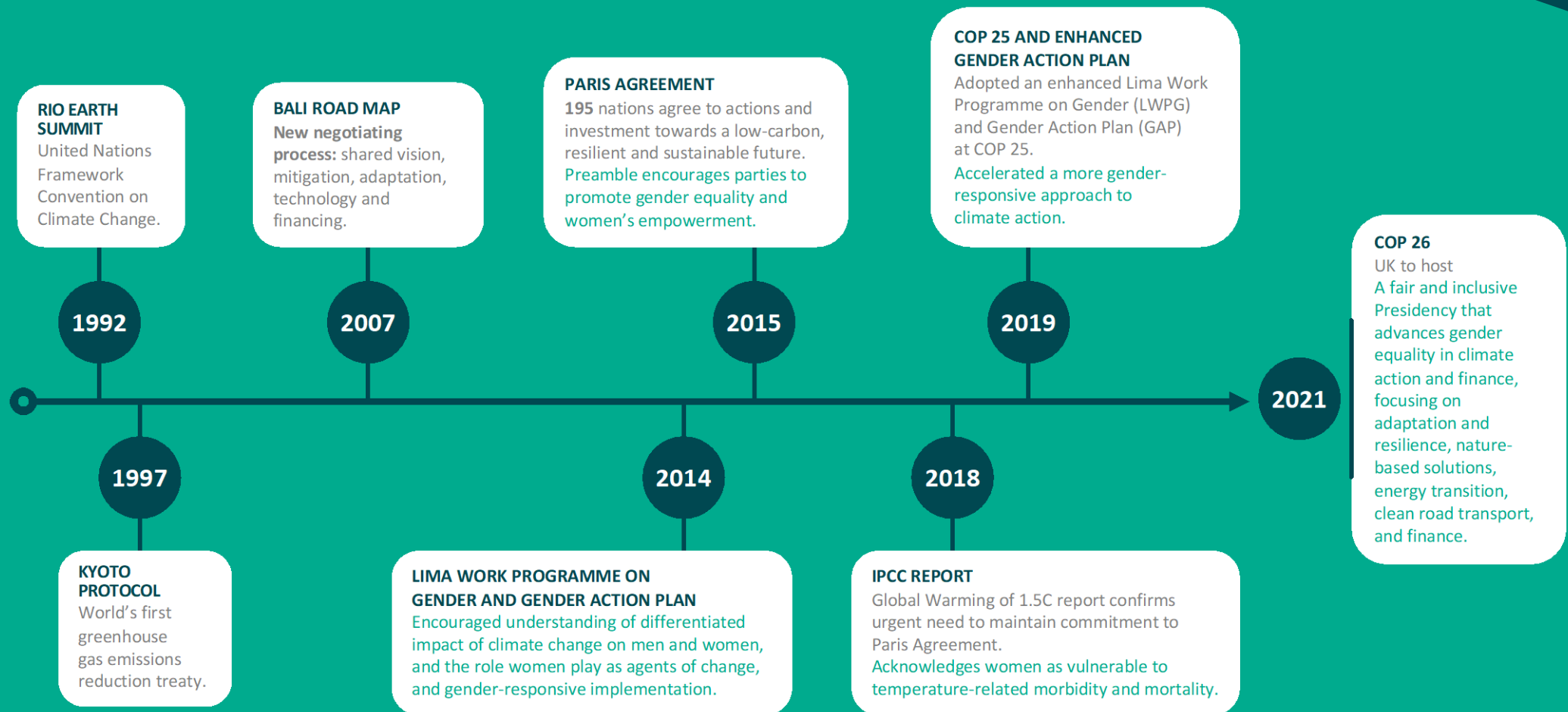
COVID-19 and racial justice and de-colonisation movements have revealed systemic inequalities and shown how shocks and crises disproportionately affect certain populations. Existing inequalities, such as women's unpaid work burden and gender-based violence, were exacerbated during COVID-19 lockdowns (Rijsberman et al., 2020). COVID-19 has highlighted the need for planning for systemic risks, including climate adaptation planning, as short-term choices aimed at tackling unemployment and inequality as part of the COVID-19 recovery, if poorly targeted, could lock in higher emissions in the long-term (Committee on Climate Change, 2020). Analysis of the intersection between racial and environmental justice reveals, for example, that communities of colour and low-income communities are disproportionately exposed to environmental toxics and at the same time indigenous ways of life are not recognised or respected (Agyeman et al., 2016). The disproportionate effect of climate change on Indigenous communities and the importance of Indigenous peoples' knowledge and practices are increasingly mentioned in climate change discourse, however literature on decolonisation and climate change also suggests more needs to be done to foreground indigenous peoples' interests in environmental and climate change policy (Dhillon, 2018).



2.2 Institutions and policy frameworks: what is being done

2015 Paris Agreement saw ground-breaking international commitment towards reducing emissions. 195 nations agreed to action and investment to keep the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursuing efforts to limit the temperature increase to 1.5°C.

Figure 1: Timeline of selected events leading to COP 26



The 2015 Paris Agreement also requires countries to set out how they will reduce emissions and adapt to the impacts of climate change. [Nationally Determined Contributions](#) (NDCs) outline each country's planned climate actions and their commitments to reducing emissions (UNFCCC 2021b). Country-driven [National Adaptation Plans](#) (NAPs) identify medium- and long-term adaptation needs and are intended to be a continuous, progressive and iterative process which is gender responsive, participatory and transparent. Countries should also strive to develop long-term [low greenhouse gas emission development strategies](#) (LEDs).

BOX 3: INTERNATIONAL COMMITMENTS ON GENDER AND CLIMATE CHANGE

The Paris Agreement: “climate change is a common concern of humankind, *Parties should when taking action to address climate change, respect, promote and consider* their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as *gender equality, empowerment of women* and intergenerational equity” (UNFCCC, 2019b).

The Committee on the Elimination of All Forms of Discrimination Against Women General Recommendation No.37 sets out how climate change is a women's human rights issue (CEDAW, 2018). It makes it clear that state parties can and should be held accountable for the impact that climate change has on women and girls.

The Sustainable Development Goals integrate gender equality across all 17 goals. Goal 5 is on Gender Equality and Goal 13 is on Climate Action.

The Sendai Framework for Disaster Risk Reduction 2015–2030 has recommendations on gender-sensitive Disaster Risk Reduction and promotes a stronger role for women in building resilience.

Action on gender and climate change was agreed by Parties to the Paris Agreement in the Enhanced Lima Work Programme on Gender and its [Gender Action Plan](#) (UNFCCC, 2019b). The Gender Action Plan (GAP) emphasises that a just transition to sustainable development can only be achieved if women are actively involved in developing and implementing all aspects of climate change mitigation and adaptation (UNFCCC, 2019b). The Paris Agreement also mandates gender-responsive adaptation actions and capacity-building activities (Article 7.5 and 11.2) and the GAP is supported by multiple international commitments on gender and climate change (see Box 3).

The GAP encourages parties to the Paris Agreement to promote gender balance and gender-responsive climate policy through: 1) enhanced understanding of the differentiated impact of climate change on men and women, and the role women play as agents of change; 2) gender balance, participation, and women's leadership; 3) coherence in integration of gender considerations; 4) gender-responsive implementation in mitigation, adaptation, finance, technology and development; 5) monitoring and reporting to improve tracking of implementation and reporting on gender-related mandates.

As the host of COP 26, the UK government is already [raising the profile](#) of the Gender Action Plan and [opportunities to integrate gender equality](#) in climate policy, planning and financing. There are a range of campaigns, negotiations and plans where the Gender Action Plan could be implemented:

- Five campaigns are planned for [COP 26](#): Adaptation and Resilience, Nature-based Solutions, Energy Transition, Clean Road Transport, and Finance.
- The [Race to Zero](#) is “a global campaign to rally leadership and support from businesses, cities, regions, and investors for a healthy, resilient, zero carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth”. It aims to build momentum around the shift to a decarbonized economy ahead of COP26, where governments must strengthen their contributions to the Paris Agreement.
- [The Race to Resilience](#) aims to “catalyse actors outside of national governments to build the resilience of 4 billion people from vulnerable groups and communities” and criteria for commitments include “inclusive and equitable actions”.
- [The newly launched Adaptation Action Coalition](#), focuses on turning political commitments into support for vulnerable communities experiencing the impacts of climate change.

National Adaptation Plans, Nationally Determined Contributions and Low-Emission Development Strategies are being developed and offer key entry points for integrating the GAP into national level climate commitments and action at scale with a whole economy approach. The development of the UK’s next NAP (due in 2023) offers a major opportunity for the UK to demonstrate leadership in integrating the GAP into national planning on climate change.

There is growing public support for action on climate change and civil society and the private sector are mobilising. A global youth [movement](#) of school strikes has sprung up around the world, taking place in 216 countries including Bangladesh, India, and Uganda. Extinction Rebellion, a non-violent civil disobedience movement is now made up of 1,143 local Extinction Rebellion groups around the world, including 24 in Africa and 22 in South Asia (Extinction Rebellion, 2021). The [UK’s first citizens’ climate assembly](#) has made recommendations around transport, housing and energy to achieve net zero carbon emissions in the UK by 2050 (Climate Assembly UK, 2020). The private sector is also becoming increasingly engaged with climate action, with 2,004 companies recently committing to bold climate action ([We Mean Business Coalition](#), 2021) and numerous private companies undertaking good practice and profitable climate change activities (UNFCCC, 2021b).

2.3 Climate finance: how the response is funded

Climate finance is complex with [multiple funding sources, instruments, recipients and uses](#). Funds flow through multilateral channels – within and outside the UNFCCC and Paris Agreement financial mechanisms – and increasingly through bilateral, regional and national climate change channels (Watson and Schalatek, 2020). Coordinating and monitoring finance flows is challenging as there is no agreed definition or rules governing funds (ibid).

Only 10 percent of climate finance flows to the local level, 1 percent of “gender equality” funding from governments flows to women’s organizations, and 3 percent of environmental philanthropy supports “women’s environmental activism” (Daniel, 2020).

Gender-smart climate finance can help improve climate and business outcomes (Biegel and Lambin, 2021). [GenderSmart](#), a gender and climate investment working group set up in February 2020, [identify five reasons for gender-smart climate finance](#): to mitigate reputational, social and operational risks; fulfilling fiduciary duty and meeting investors' expectations that capital is put to uses that deliver financial and societal returns; driving long term value by accessing new markets, new lines of business, new customers, and attracting and retaining talent; finding new investment opportunities through women innovators and entrepreneurs; and amplifying societal impact by unlocking opportunities across climate change and gender goals (ibid). The [2X Gender and Climate Finance Taskforce](#), set up by EIB, CDC and DEG also aims to "leverage the power of gender-smart investments for climate action in the run-up to COP-26".

While applying a gender lens to climate finance is increasingly recognised as key to effective climate outcomes, it remains challenging for women's organisations to participate in climate finance processes or access funds (Granat and Daniel, 2019). A formal gender policy or gender action plan for a climate financing instrument is rarely enough. What is needed is the systematic integration of gender equality in a fund's governance structure as well in its public participation mechanisms, including a dedicated role for gender-focused organizations and women's representative groups, for example in determining funding priorities as participants in coordinating mechanisms or through roles in project design, implementation and monitoring and evaluation, particularly through participatory monitoring approaches (Schalatek, 2019).

2.4 Key debates and approaches: the ways climate change is being addressed

There is growing consensus that our current economic model is unsustainable and the current focus on Gross Domestic Product (GDP) is inadequate (Raworth, 2017; Dasgupta, 2021; Allen et al., 2019). New ways of thinking about the economy are being proposed which vary in the extent to which they explicitly address gender equality. (Note, the examples below are presented to illustrate different ways of thinking about the economy and vary in levels of rigour and acceptance).

- **[Economics of Biodiversity](#)**: aims to enhance biodiversity and deliver economic prosperity (Dasgupta, 2021). Economies, livelihoods and well-being are embedded within Nature, not external to it; demands on Nature must not exceed its supply. Inclusive wealth is defined as including produced capital, human capital and natural capital, moving away from GDP as measure of success. The report discusses family planning, linking production, consumption and fertility decisions. Gender equality is not explicitly referred to, though climate justice literature on distributive justice is mentioned to "sharpen sustainability assessment and policy analysis" (ibid, pp.64-65).
- **[Doughnut economics](#)**: a regenerative and distributive economy (Raworth, 2017). Aims to ensure that no one is left falling short on life's essentials, and introduces an ecological ceiling, to ensure we remain within the planetary boundaries that protect Earth's life-supporting systems. Gender equality is a specific aspect of the social foundation required for a regenerative and distributive economy. Doughnut economics expands on the concept of [circular economies](#) that design out waste and pollution, keep products and materials in use, and regenerate natural systems. Doughnut economics/circular economies are being piloted in [Amsterdam](#), [Portland](#) and [Paris](#).
- **[Degrowth](#)**: a transition towards a just, participatory, and ecologically sustainable society. Ecological economists define degrowth as an equitable downscaling of production and consumption that will reduce societies' throughput of energy and raw materials. It proposes radical redistribution, reduction in the material size of the global economy, and a shift in common values towards care, solidarity and autonomy.

At the same time as different economic paradigms are being explored and debated, there are varying approaches to addressing the climate crisis. Each approach uses a different lens through which to view climate change and action towards mitigation, adaptation and resilience.

- **Inclusive Green Growth:** While there is no international consensus on a definition, evidence suggests green growth is not automatically inclusive, nor does it address gender equality unless deliberate actions are integrated into planning and implementation. There may be trade-offs between environmental benefits of green growth and poverty reduction and inclusion (Dercon, 2014). FCDO defines inclusive green growth as simultaneously achieving poverty reduction, social inclusion, environmental sustainability and economic growth. It is economic growth that maintains natural wealth or assets, whilst also delivering positive environmental, social and economic outcomes, by recognising the need to balance short-term drivers of growth with longer-term global environmental constraints.
- **United Nations Sustainable Development Goals:** Seventeen goals that aim “to promote prosperity while protecting the planet”. Goal 5 is a stand-alone goal on Gender Equality and most of the other goals integrate gender equality into targets and indicators. Goal 13 on Climate Action has a target on effective planning and management including focusing on women, youth and local and marginalized communities. Goal 8 on Decent Work and Economic Growth includes targets on full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay, child labour, and labour rights including for migrant workers.
- **Building Back Better:** In response to COVID-19, this term from disaster risk reduction has been adopted by multiple actors – national, regional and sectoral - to refer to a recovery from COVID-19 that also addresses climate change. The UK’s [policy paper on building back better](#) describes “a transformational approach, tackling long-term problems to deliver growth that creates high-quality jobs across the UK ...and... achieving the people’s priorities: levelling up the whole of the UK, supporting our transition to net zero”. Other examples have varying objectives but all refer to economic recovery from COVID while simultaneously addressing aspects of climate change e.g., [the World Economic Forum](#), the [We Mean Business Coalition](#) and the [African Union’s African Green Stimulus Programme](#).
- **Nature-based Solutions:** Also seen as an integral part of climate-smart agriculture, [Nature-based Solutions](#) refers to ways of working with nature underpinned by biodiversity and led by local communities; people and nature co-produce ecosystem services which in turn benefit society and feedback to support ecosystem health (Seddon and Smith, 2021). Nature-based solutions target ecosystems alongside human development, with participation and co-production as central features. Nature-based Solutions include ecosystem-based adaptation, ecosystem-based disaster risk reduction, natural infrastructure, green and blue infrastructure which support flood protection, air and water quality, forest and landscape restoration (Chausson et al., 2020).
- **Transition to net zero:** The path to achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere. Reaching net zero means reducing emissions by using energy more efficiently and expanding renewable energy resources to replace fossil fuels and removing emissions through sinks (Allen et al., 2019).
- **Just transition:** Transitions to low carbon economies will create opportunities for new jobs and investment, but also potential for stranded workers, communities and assets in carbon-intensive industries. Starting with social dialogue, just transition builds support for climate action and adopts measures that ensure no-one is left behind. FCDO defines just transition as aiming to ensure environmental sustainability whilst delivering *decent work*, *social inclusion* and supporting

poverty eradication. It assists workers and communities dependent on *fossil fuels and other polluting industries* to find alternative jobs, sources of income and replacement industries. Just transition is included in the preamble to the 2015 Paris Agreement and Parties to the Agreement are required to include just transition measures within national plans on climate change.

- **Green New Deal:** In the UK, a Green New Deal was first proposed in 2008 after the financial crisis and now has cross-party support, with core principles such as good work, space for nature and national fairness (Green New Deal Group 2021). Similar initiatives have become popular globally since the publication of the IPCC 1.5°C report in 2018, with similar proposals put forward in the US, European Union, Canada and South Korea. The UK Government has set out a 10 point plan for [a green industrial revolution](#) that will create 250,000 jobs in clean energy, transport, nature and innovative technologies.
- **Climate Justice:** Addressing recognitional (understanding and valuing all lives), procedural (ensuring participation and responsiveness) and distributive (ensuring a fair allocation of benefits and burdens) equity in climate change mitigation and adaptation. (Klinsky and Winkler, 2018). Climate justice explicitly addresses gender inequalities as well as racial justice issues and distributive justice. The [Mary Robinson Foundation defines climate justice](#) as linking human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable people and sharing the burdens and benefits of climate change and its impacts equitably and fairly. The BCorps Collective, a group of businesses committed to inclusive society and environmental regeneration, has developed a [Climate Justice Playbook for Business](#) on how to centre climate action on climate justice.
- **The Care/Reproductive Economy** debate proposes that [new economic models will only be sustainable if care is placed at the centre](#). The concept acknowledges that paid and unpaid care work is unrecognised and under-valued and without deliberate action the transition to a green economy may exacerbate women's care burden. For example, in reducing ecological footprints care burdens may increase. At the same time, it is vital to the functioning of society and the economy. Advocates propose that, as attention grows on the green economy, questions around social and reproductive labour, including how that labour is shared, are included in policy discussions and solutions.
- **Carbon trading:** The carbon market involves buying and selling greenhouse gas emission allowances, carbon credits and emission offsets to help countries, companies and individuals to meet their voluntary or required greenhouse gas emission reduction obligations. Market-driven carbon financing could provide financial and technological capital to small-scale projects that are typically undertaken by women, however most focus on large-scale initiatives and women are under-represented in carbon financing as sellers, buyers and investors (UNDP, 2011). Some women's organisations have benefited from carbon trading certification schemes such as the [Women Organizing for Change in Agriculture and Natural Resource Management's Women+ Standard](#) that uses women's empowerment screening tools to certify projects for premium credits.

3. Climate change and women's economic empowerment

The Gender Action Plan places women's economic empowerment as central to climate policy and action. It notes that “full, meaningful and equal participation and leadership of women in all aspects of the UNFCCC process and in national- and local-level climate policy and action is vital for achieving long-term climate goals” and “gender-responsive implementation of climate policy can enable Parties raise ambition, as well as enhance gender equality, and just transition of the workforce and the creation of decent work and quality jobs” (UNFCCC, 2019b, p2).

3.1 Definitions and conceptual framework

This section explores the relationship between climate change and women's economic empowerment (WEE). The WEE conceptual framework organised around three domains, (see figure 2) is used to analyse the evidence on how WEE contributes to environmental and climate outcomes and the impact of climate change on WEE.

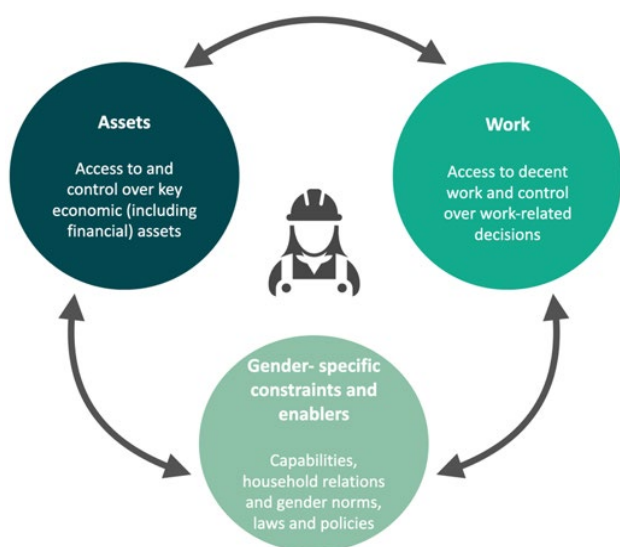


Figure 2: WEE conceptual framework (Calder et al., 2020)

BOX 4: DEFINITIONS

Women's economic empowerment (WEE):

Women having the ability to succeed and advance economically, and the power to make and act on economic decisions to enhance their broader well-being and position in society (Calder et al., 2020).

Social norms: implicit and informal rules that most people accept and follow (ALIGN 2021).

Gender norms: how we are expected to behave as a result of the way we or others identify our gender (a sub-set of social norms) (ALIGN 2021).

Gender responsive: refers to outcomes that reflect an understanding of gender roles and inequalities which make an effort to encourage equal participation and equal and fair distribution of benefits (UNDP 2015).

Intersectionality: How different social and political characteristics (gender, race, ability, class etc.) interact to create different modes of marginalisation or discrimination – evolved from legal concept around discrimination (Calder et al., 2020).

Evidence is synthesised from three strands of literature: climate change literature addresses the different impacts of climate change on women and men and demonstrates the long history of efforts to address gender in relation to climate change. The green growth literature identifies potential barriers and opportunities for women's economic empowerment in green sectors. The women's economic empowerment literature adds evidence on the enabling environment for women's economic empowerment and on the importance of women's leadership, voice and representation.

3.2 Gender-specific constraints and enablers

Gender-specific constraints and enablers include individual capabilities, attitudes towards women's access to and control over economic assets and work, social norms and power dynamics, laws and regulations, and women's agency in relation to assets and jobs (Calder et al., 2020).

Women and women's organisations are vastly underrepresented on boards and in environmental and climate change organisations' decision-making roles and processes (Mavisakalyan and Tarverdi, 2019; WEDO, 2020a). This is despite growing evidence that women's leadership and participation in decision-making increases the effectiveness and efficiency of climate funding (WEDO, 2020a), strengthens climate innovation, and delivers stronger climate, environmental and business outcomes (Biegel and Lambin). For example, women's leadership and representation in parliaments has been shown to result in lower carbon dioxide emissions as they implement stronger climate change policies (Mavisakalyan and Tarverdi, 2019; McKinney and Fulkerson, 2015). Companies with more gender balanced leadership had improved performance and pursued more sustainable business practices (Biegel and Lambin, 2021).

Gender quotas, increasing women's participation, and engaging with women's organisations can increase the equality and effectiveness of climate interventions (Daniel, 2020; WEDO, 2019). Women's knowledge and experience can help design more effective policy that supports women's access to employment and income generating activities *and* climate adaptation and resilience. One study of more than 11,700 companies globally demonstrated that a critical mass of 30 percent women on the board makes a key difference to climate governance and innovation, but found that only 16 percent of companies surveyed had more than 30 percent women on their board (The Sasakawa Peace Foundation, 2020). Diverse teams are also more likely to consider issues from multiple perspectives and find solutions that all stakeholders find acceptable (The Sasakawa Peace Foundation, 2020). The IPCC (2019) report acknowledges the importance of engaging with indigenous and local communities as they have a long history of adapting to social and ecological conditions, while prioritising the environment and ecosystems.

The impact of formal and informal rules - such as policies, laws, social norms and workplace practices - on women's economic empowerment affects women's opportunities to adapt to changes caused by climate variability and

Globally women made up **39%** of national COP delegations in 2019, compared to **32%** in 2009. At COP25 in 2019, 41 of 196 Heads of Delegation (21%) were women. The most gender balanced teams in 2019 came from Antigua and Barbuda, Botswana, Cuba, Mongolia, Norway, and Peru (WEDO, 2020b)

"The presence of more women corporate directors in a company is linked to the proactive pursuit of sustainable business practices and opportunities such as investing in renewable power generation, improving energy efficiency, and measuring and managing emissions"
(Biegel and Lambin, 2021).

A critical mass of **30%** of women on a company's board improved climate governance, innovation, and a lower growth rate of emissions: **0.6%** compared to **3.5%** for companies with no women on their board (Biegel and Lambin, 2021).

A randomized trial supported 440 forest users from Indonesia, Peru and Tanzania. A 50 percent gender quota was assigned to half of the groups. Groups with a gender quota conserved more trees in a 'payment for ecosystem services' intervention and shared the payment more equally (Daniel, 2020).

climate shocks. Norms that limit women's mobility, time and voice mean that women tend to stay at home while men migrate during climate shocks leaving women with rising care burdens and declining food and water security (Eastin, 2018; Hunt and Samman, 2016). Women have less access to networks, support and resources (Buvinić and Furst-Nichols, 2014; de Haan, 2017) and are less able to participate in formal labour markets, join civil society organizations, or collectively mobilize for better opportunities and working conditions (Eastin, 2018; Wong, 2016). Women with disabilities already face additional barriers in the workplace as a result of stigmatisation and discrimination and accessibility of workplaces which are also exacerbated by climate change and can be heightened by other intersecting factors such as age, displacement, indigenous origin or minority status (UNHCR, 2020).

Gendered occupational segregation and legal restrictions can prevent women entering professions or registering businesses, especially for informal workers, migrant workers and in male-dominated professions. In the energy sector, cultural and social norms, skills and training, and security and the remoteness of field locations are barriers to women's participation, retention and advancement in the sector (Biegel and Lambin, 2021). Low paid and informal jobs, where more women are employed, are less frequently subject to labour standards or occupational health and safety rules and regulations, and less likely to have ways in which workers can collectively organise to negotiate improved conditions (Buvinić and Furst-Nichols, 2014; Hunt and Samman, 2016). Laws in many countries restrict women from pursuing the same economic activities as men or directly prohibit women from holding particular jobs (Hunt and Samman, 2016).

100 out of 173 countries surveyed **restrict women from pursuing the same economic activities as men or directly prohibit women from holding particular jobs** (Hunt and Samman, 2016).

Gender-based violence is exacerbated during climate variability and climate shocks and is a barrier to women in the workplace. As social controls and protections are disrupted, women and children face greater risk of becoming targets for exploitation, gender-based violence, and human trafficking (Goh, 2012) especially for young women and women with disabilities (REF). Social norms disruption during shocks can also increase new opportunities for women, as gender segregated occupations are challenged, women migrate for work and women mobilise collectively to improve working conditions. It is important in these circumstances to also prevent and protect women against violence and exploitation including backlash and safety threats in response to changing power dynamics (Hunt and Samman, 2016). **Increased climate variability and climate shocks disproportionately affect women's access to work and livelihoods through impacts on unpaid workload and time.** Social norms define women and men's work roles at home and in the community with women doing a disproportionate amount of unpaid work. Climate change impacts such as water scarcity, forest depletion or rising temperatures can increase women's workloads related to care and household work, expose them to sexual violence, lead to productivity losses and pull girls out of school to help with these tasks (AfDB, 2018; Björkman-Nyqvist 2013; Chigwanda 2016; ILO, 2017c). For example, as climate variability increases the scarcity of water and firewood, women, especially adolescent girls, are likely to need to spend more of their time to source them (Berhman et al 2014; Goh 2012).

Unpaid care and domestic work is valued to be between 10 and 39 per cent of GDP and can contribute more to the economy than the manufacturing, commerce or transportation sectors (UN Economic and Social Council, 2017).

Time poverty is directly associated with women's lower income and asset base, and limits women's ability to move into higher-paid economic activities (World Bank, 2012). This increase in time poverty can have negative consequences on women's economic empowerment, as well as health and wellbeing, as they have less time to participate in education, income-earning activities and developing social assets such as building social networks and joining civil society organisations (Berhman et al 2014; Eastin 2018; Goh 2012). At the same time, paid and unpaid care work is undervalued perpetuating low salaries and poor working conditions for women, the majority of the employed care workforce (ILO, 2017c).

3.3 Women's access to decent work and control over work-related decisions

Access to decent work and control over work-related decisions includes safe and productive waged work (formal and informal) and entrepreneurship, choice over work and balancing paid and unpaid work, and visibility, voice and representation in employment (Calder et al. 2020).

The green/low-carbon economy and the transition to net zero could offer opportunities for women to access decent work. The transition towards a low-carbon and sustainable economy is likely to bring new jobs and new supply chains in renewable and low-carbon industries, changes to some jobs, as well as some job losses associated with the transition away from fossil fuels (Rijsberman et al., 2020). Most job losses are likely to be in mining, construction, manufacturing and transport (ILO, 2019) with new jobs emerging in green sectors such as construction, energy, the circular economy, transport and conservation agriculture (ILO, 2017c).

Green growth is not automatically inclusive, and trade-offs may be required (Dercon, 2014). The short-term costs of green policies can create trade-offs between environmental protection and short-term economic growth (World Bank 2012). These trade-offs should be explicitly addressed in implementing green growth policies and programmes to avoid women and men living in poverty from facing significant costs such as rising energy prices, the collapse of sectors they work in, and new job opportunities not being available to them (Dercon, 2014; Bowen and Kuralbayeva, 2015; Raworth et al., 2014).

Existing barriers to women's economic empowerment are likely to persist in the transition to a net zero economy. Women earn less than men and are under-represented in certain occupations and sectors relevant to the green economy and transition to net zero. In the renewable energy sector, where the number of jobs could increase from 10.3 million in 2017 to nearly 29 million in 2050, women only represent 32% of employees (IRENA 2019). More women tend to work in informal jobs which are lower paid and at greater risk during climate shocks and in the transition to net zero. Jobs in the informal economy tend to have poor working conditions, low pay and limited access to social protection (ILO, 2017c). The lack of labour

Women earn 77 per cent of what men earn as they work fewer hours, are kept out of certain jobs, or are paid less for the same work (de Haan, 2017)

Women make up 40% of workforce but hold only 23% of agribusiness management positions and make up only 5.4% of entrepreneurs in the agriculture sector globally (Biegel and Lambin, 2021)

Women make up only 18% of staff in infrastructure ministries (energy, transport and communications) compared to 38% in socio-cultural ministries (ibid).

A study of skills for green sectors across 32 countries concludes that, **without policy interventions, the energy transition will likely create more employment opportunities for men than for women (ILO, 2019).**

standards and health and safety rules and regulations are compounded by a lack of opportunities to collectively organise to negotiate for improved pay and working conditions (Hunt and Samman, 2016).

This means deliberate action is required to ensure a just transition to net zero. More green jobs can be created per dollar invested in green economy projects, for example 2-3 times more green jobs are created by renewable energy and energy efficiency projects than those created by fossil fuels (NCE, 2018). These potential opportunities in green sectors and in industries and occupations transitioning to net zero need to be made available to women, including women of different ages, in rural or urban settings, and for women with disabilities.

Skills shortages are likely to be a major challenge for the transition to net zero and will affect women and men differently. Sectors and occupations, such as wind, wave and tidal power, renewable energies for manufacturing, construction and installation, the expansion of the environmental industries, and the green building and construction sector are most likely to be affected by skills shortages (ILO, 2017b). Climate action could create more than 65 million new jobs by 2030 in fields like public transit, efficient buildings and clean energy (The New Climate Economy, 2018). Women will need to have skills in these sectors to be able to take up these new opportunities.

Skills shortages affect women and men differently as many occupations in these sectors are traditionally male-dominated and many of the potential new jobs will require highly skilled workers. Transitioning to the job opportunities that will be available in green sectors will require significant upskilling for women in low-paid, low-skilled jobs. For example, currently only 28% of technical staff in renewable energy companies are women (Biegel and Lambin, 2021). Intentional policy-making can support a just transition to ensure women also benefit from these opportunities, for example investing in women leaders and STEM skills for women, challenging patriarchal social norms that perpetuate gendered job segregation, and ensuring women are protected from violence, exploitation and harassment as they take on new roles in male-dominated sectors (Biegel and Lambin, 2021; Hunt and Samman, 2016).

Women entrepreneurs and women-led start-ups can help to diversify value chains, reduce risk, increase competitiveness and enable climate-responsive innovation (Biegel and Lambin, 2021). At the same time, women entrepreneurs face constraints such as ownership of assets, access to finance, training and mentorship, networks, trade and supply chains (de Haan, 2017). Subsistence-level women's firms tend to operate in sectors that face more severe constraints to growth and women face more mobility and time constraints and demands on cash that limit the types of businesses they can run (Buvinić and Furst-Nichols, 2014). Supporting women entrepreneurs in green sector and supply chains, with access to finance *and* mentoring, ownership of assets such as land, and access to markets and supply chains, could contribute to both women's economic empowerment and climate outcomes.

Frontier Markets supports 10,000 rural women across four states in Turkey. They have earned \$12 million by selling 2.2 million solar and digital connectivity appliances to 350,000 households (earning 15% margin on sales). This has led to 406,000 hours saved due to increased productivity and \$120 million in income/savings created for rural customers where 65% of rural customers are women (Biegel and Lambin, 2021).

There is a gender credit gap of \$285 billion for women entrepreneurs with 70% of women-owned business either not served or under-served (de Haan, 2014).

3.4 Women's access to and control over economic assets

Access to and control over economic and financial assets includes digital, financial, property (e.g. land, livestock, machinery, tools of the trade), infrastructure assets, exercise of decision-making over key assets and opportunities in households and businesses (Calder et al., 2020).

Evidence shows that access to and control over economic assets improves climate resilience. Economic assets are important in times of shocks, as better-off households can sell their assets to smooth income, whilst poorer households reduce their assets and consumption resorting to negative coping strategies that decrease longer term production and consumption (Giesbert and Schindler, 2010). When there are shocks due to climate change, physical assets such as livestock and tools can be sold whilst assets such as land, technology, education and social capital can help those who rely on agriculture for their livelihood (approximately 2.5 billion people according to ILC and Oxfam 2020) to respond to the variability of agricultural production longer term (Berhman et al. 2014; Goh 2012).

Men and women use assets differently in response to climate shocks. During shocks, women often reduce their own food intake to reduce costs and increase food security for the rest of the household (Goh 2012; Serna 2011). Women's assets such as jewellery or small livestock are often the first to be sold for extra income, as they tend to be portable and easily converted to cash (Deere and Doss 2006; Goh 2012). Though men may sell their livestock first due to gender norms that men are responsible for household food security (Kristjanson et al. 2010). Men are more likely to migrate to areas which are less affected by climate change to find other income opportunities, whereas women, who are less mobile due to dependents and social norms around roles and mobility, are more likely to stay back, dependent on finding other ways to supplement household income (Goh 2012). Women may become more dependent on men's income, which can have negative effects on empowerment (Eastin 2018). For female-headed households which already tend to be poorer with higher numbers of dependents, a climate shock is more likely to lead to the disposal of assets and savings (Eastin 2018).

Women tend to own less assets, and assets of lower value, than men resulting in a "gender-asset gap" (Deere et al., 2013). Women are also more vulnerable to the loss of these assets, for example through separation, divorce or widowhood (Berhman et al. 2014; Goh 2012; Eastin 2018). On average in developing countries, women own less land and property than men with the land often being of lower quality (FAO, 2011). Girls have less years of education than boys and there is a 'digital divide' whereby women have less access to digital and other technologies than men. Physical assets are important as collateral for credit and digital assets are necessary for mobile banking (AfDB, 2018; Burjorjee and Bin-Humam, 2018).

Within agriculture, gender differences in access, control, and use of assets (such as livestock, crops and machinery) are pervasive and lead to gender-differentiated impacts from climate change and adaptation. Although there are differences based on country context, a range of studies have found that women tend to have the primary responsibility for harvesting and food processing, own less livestock and have smaller farms than men, and focus more on subsistence production rather than cash crops (DFID, 2014). Climate change may not only affect these responsibilities differently but gender differences will also affect the take up of adaptation strategies, such as climate-smart agriculture. For example, a World Bank study in Bolivia found that men focus on large-scale community interventions such as irrigation, whereas women are more likely to focus on practical improvements such as planting new crop varieties or supplementing traditional revenue with diversified production activities (World Bank, FAO, IFAD, 2015).

Secure land tenure would mean women have more resources and capacity to cope with climate variability and climate-related shocks. Women are disproportionately reliant on land-based resources and have less secure rights to land than men. Insecure land tenure, along with limited capital and a lack of access to finance and technology constrains their ability to adapt to climate variability (UNDESA 2020). Without legal control over the land, women often lack the security or authority to decide how to conserve the land; if they irrigate the fields or plant trees they may not be the ones to reap the benefits if the land is taken from them. With secure land rights, women are more likely to increase their crop yields, conserve soil and plant trees (Landesa 2015). Securing land tenure for women not only improves women's economic empowerment by enhancing their assets, but also increases their incentives to make the land more climate-resilient (Deininger 2003).

In sub-Saharan Africa, women comprise 48.7% of agricultural labour, but only 15% of agricultural land holders. In Asia (excluding Japan), women comprise 42% of agricultural labour and 11% of land holders (Landlinks, 2016).

The link between climate change mitigation and women's land rights are particularly strong for indigenous and rural women. Indigenous people often have unique traditional knowledge about natural resources and adaptation to variable and changing social and ecological conditions (IPCC 2014). They often use economic systems that value sustainable management of natural resources and minimise emissions from deforestation (ILO 2017; ILC and Oxfam 2020). For example, IUCN found traditional and innovative adaptive practices such as shoreline reinforcement, crop and livelihood diversification, rainwater harvesting and several indigenous crop varieties and agricultural practices to present advantages in terms of drought, pest and flood tolerance (Macchi et al. 2008). This shows they are often uniquely placed for climate change adaptation and mitigation, leading to calls for recognition of indigenous land rights to be scaled up (IPCC Response 2019). Indigenous women use forests for raw materials, food or medicinal plants to boost income, and their conservation of the forest helps manage deforestation emissions (Bäthge 2010). They play significant roles in the sustainable management of agriculture and forestry but tend to be excluded from decision making and land ownership (ILO 2017a).

Biodiversity indicators decline 30% less and 30% more slowly in indigenous lands than in lands not managed by indigenous people. (Ichii et al. 2019).

Access to digital and technological assets can help women manage climate risk, respond to climate variability and access support and information during climate shocks. Climate information technologies can be useful for farmers to predict changes in agricultural production, and agricultural technologies such as irrigation equipment can support adaptation in agricultural production. Knowledge and the ability to access information about the climate can also be lifesaving in the case of a climate-related disaster (Kwauk et al., 2019). Women's lack of access to digital and agricultural technologies places them at a disadvantage in terms of climate impacts and can worsen disparities in crop production or increase women's dependency on men (Berhman et al. 2014; Goh 2012; Dillon and Gill 2014). Women and men also tend to have different needs in terms of climate technologies and communication channel (e.g. SMS or radio) due to different agricultural practices and constraints on time (Archer 2003; Tall et al. 2014; Roncoli et al. 2009).

Women are 20% less likely than men to use the internet on a mobile phone. (GSMA, 2020)

Women tend to have less access to credit that can be used to smooth income in the face of climate variability or a climate shock. In countries where women face legal restrictions on their ability to work, head a household, choose where to live, and inherit, they are also less likely than men to own a bank account, save or borrow (Demirguc-Kunt et al., 2013). Additional barriers include women's lower levels of education, women's lower levels of digital access for mobile money payments, and women's lower ownership of physical assets such as land which can be used as collateral for credit. When a climate shock hits, access to credit, microfinance or insurance can make up for lost agricultural produce or be used for investment in climate-resilient solutions such as new agricultural technologies or alternative livelihoods (Nuryartono, 2005; Fayolle et al., 2016).

4 out of 5 women in Africa lack access to an account at a formal financial institution compared to about 1 out of 4 men which restricts them establishing and developing their own enterprises and in accessing finance (AfDB, 2018).

Women benefit from only 10% of credit to small farmers and less than 1% of total credit to agriculture (AfDB, 2018).

Social protection improves women's resilience to climate-related shocks, addresses barriers to economic participation and has positive long-term effects on household productivity and labour market participation. Social protection can complement climate adaptation and disaster risk management programmes by reducing vulnerability and reliance on negative coping strategies in the event of shocks, providing a stepping-stone towards climate-resilient livelihoods or by supporting inclusive disaster preparedness and response (FAO and Red Cross Red Crescent Climate Centre, 2019). Social protection that is gender responsive, combined with environmental, eco-system strengthening or natural resource management objectives can strengthen women's resilience, especially for indigenous women, and achieve strong environmental outcomes (Daniel, 2020; ILO, 2017a). Given the uncertainty around what the impacts of climate change will be for each individual, social protection represents a low-risk investment, reducing poverty while addressing vulnerability to climate change (WFP 2019).

4. Climate change and WEE: opportunities to engage and empower women

This section explores how opportunities to address women's economic empowerment and climate change can be integrated into COP26 campaigns and national plans and support the UK's leadership in meeting the commitments set out in the Gender Action Plan mandated actions agreed in Paris.

The evidence identifies three main strands to the linkages between climate change and women's economic empowerment:

- Evidence shows that women and men experience and shape climate change in different ways, with women disproportionately negatively affected.
- Climate change action that uses a gender lens to inform analysis and priorities can create rapid improvements in women's economic empowerment and gender equality more broadly.
- At the same time, specific measures to improve women's economic empowerment can support better environmental and climate outcomes.

Based on the guidance from the Gender Action Plan and the evidence on women's economic empowerment and climate change we identify ten opportunities to improve climate outcomes and address women's economic empowerment (see Figure 3).

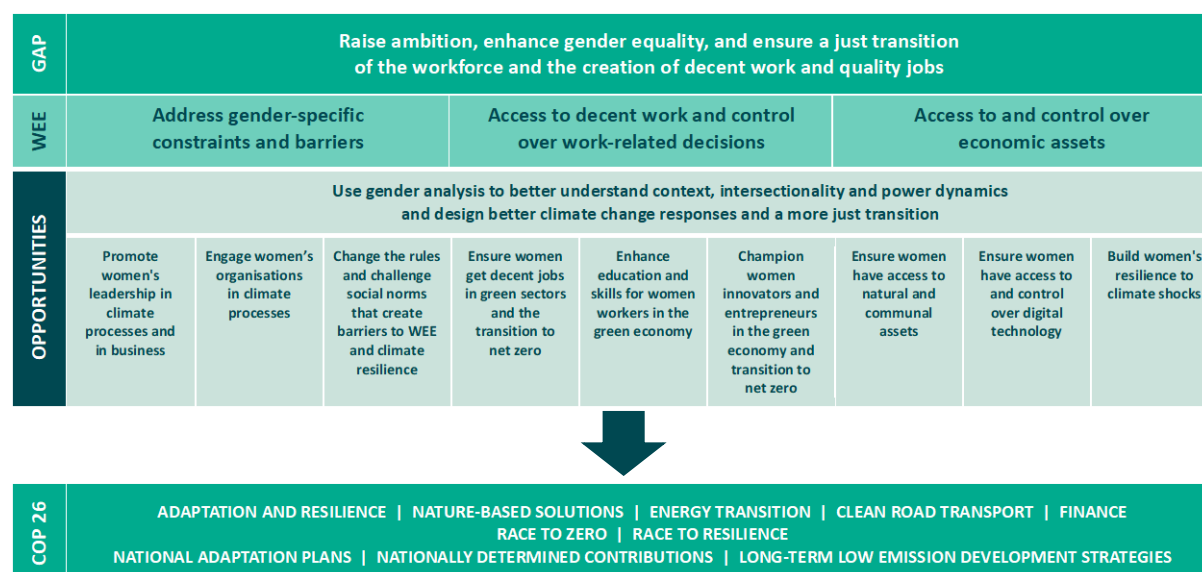


Figure 3: Opportunities to address WEE and climate change

COP26 offers an opportunity for the UK, and other nations and institutions, to implement the GAP, raising ambition on WEE and improving climate change outcomes. The following table provides a summary of the opportunities for accelerating action on women's economic empowerment and climate change – making the most of the synergies identified in the evidence review.

DRIVERS OF WOMEN'S ECONOMIC EMPOWERMENT	10 OPPORTUNITIES FOR ACCELERATING ACTION	BASED ON EVIDENCE ON SYNERGIES BETWEEN WOMEN'S ECONOMIC EMPOWERMENT AND CLIMATE CHANGE	EXAMPLES
DATA, EVIDENCE AND ANALYSIS	Use gender analysis to better understand context, intersectionality and power dynamics and design better climate change responses and a more just transition	Climate change is experienced and shaped differently by women and men, and women experience the worst effects. Women are not inherently more vulnerable, - this is a result of the intersections between social and cultural norms and unequal power dynamics. Gender also intersects with other factors such as class, age, (dis)ability, sexual orientation and gender identity, ethnicity, religion to multiply the impacts of climate change. These interactions vary in different locations and institutions.	Tools: FCDO Gender Equality How to Note (Section 2, Part 1) (FCDO internal link) Case studies and tools for gender analysis in different sectors and for different types of investors (GenderSmart)
ADDRESS GENDER SPECIFIC CONSTRAINTS AND ENABLERS	Promote women's leadership in climate processes and in business	Women's leadership in climate policy increases the effectiveness of climate funding by addressing women's different needs and building on women's agency, and delivering stronger climate policies. Women's leadership in business strengthens climate innovation and delivers stronger climate, environmental and business outcomes and more sustainable business practices. Gender quotas can improve climate outcomes and more diverse teams are more likely to create solutions that all stakeholders find acceptable.	Example: The Inter-American Development Bank launched the Emerging Women Leaders program to increase women's leadership in STEM fields, including training, leadership coaching and a platform for women role models (p.27-35). WEDO Women's Delegates Fund, supported by governments, UNDP, IUCN and GGCA, provided travel support for women (particularly to LDCs) to attend climate negotiations along with leadership skills and a platform for networking. The Women's Forum G7 Manifesto promotes gender quotas cites the example of Italy increased percentage of women on boards from 7.4% in 2011 to 27.6% in 2015, and percentage of companies with diverse boards from 51.7% in 2011 to 98.7% in 2015.

Engage women's organisations in climate processes	Women's knowledge and experience, especially indigenous women, can help design more effective policy that supports women's access to assets, employment and income generating activities <i>and</i> climate adaptation and resilience.	Example: WEDO recommendations for the Climate Investment Funds (CIF) include: dedicating funding to engage women and gender-related groups in CIF project planning and implementation; engagement of women's groups in government-led climate and CIF processes; engage diverse groups and stakeholders in monitoring and accountability; collection and analysis of sex-disaggregated data on gender and climate change.
Change the rules and challenge social norms that create barriers to WEE and climate resilience	Due to social norms and unequal power dynamics, women are more likely to die in a climate disaster, be displaced by climate change, or die from pollution. Norms related to women's dress, mobility, menstruation, and caregiving roles all affect women's health and survival in a climate disaster. Social norms, power dynamics, and gendered rules, intensified by the effects of climate change, also lead to policies and workplace practices that create barriers to Women's Economic Empowerment such as unpaid care and work burdens, gender segregated occupations, wage gaps and gender-based violence.	Examples: The World Bank administered Energy Sector Management Assistance Program (ESMAP) in Ethiopia provided child-care facilities, addressed occupational sex-segregation across the utilities sector, supported STEM education and management and leadership training for women, prevented and responded to GBV in the work place and project sites, and promoted female entrepreneurship in the off-grid market, as well as removing productivity constraints of female entrepreneurs (access to finance). The World Bank's database for the Women, Business and the Law 2021 report includes data on discriminatory laws and finds positive correlations between more equal laws relating to women in the workforce and more equal labour market outcomes, such as higher female labour force participation and a smaller wage gap between women and men. Research on a SwimSafe drowning reduction programme in Bangladesh identifies ways to address social norms around mobility, equal pay and menstruation that prevent girls from learning to swim. Responding to evidence from the Tsunami in 2004 and that women were two or three times more likely to die than men as they were less likely to be able to swim or climb to safety.

ACCESS TO DECENT WORK AND CONTROL OVER WORK RELATED DECISIONS	Ensure women get decent jobs in green sectors and the transition to net zero	Women are overrepresented in the lowest paid and informal jobs which are at greater risk from climate variability and climate shocks. Green growth is not necessarily inclusive, and without policy intervention women are less likely to benefit as new jobs are created, jobs change and jobs disappear. Labour standards, health and safety rules and opportunities for women to collectively organise could support women – including women of different ages, in urban and rural settings and women with disabilities – benefit from potential opportunities in the green economy.	Examples: ILO suggest equality of opportunity for women and men should be established as a specific goal from the outset to ensure that sectoral and occupational segregation is not perpetuated, wage and skills gaps are eradicated and working conditions are improved. Under the IFC's Respectful Workplace Program, 13 companies in Solomon Islands have begun to implement a structured approach to supporting staff who are affected by domestic violence and are reporting notable differences in workplace gender equality (p.17-25).
	Enhance education and skills for women workers in the green economy	Many occupations in green sectors are traditionally male-dominated and many of the potential new jobs will require highly skilled workers. Education and training for women can address skills shortages and ensure women benefit from new and changing decent jobs in the transition to net zero. Transitioning to the job opportunities that will be available in green sectors will require significant upskilling for women in low-paid, low-skilled jobs. Solutions include investing in STEM skills for women, challenging social norms that perpetuate occupational segregation, and ensuring women are protected from violence, exploitation and harassment.	Examples: The World Bank has published several case studies focussed on 'Stepping Up Women's STEM Careers in Infrastructure', which include initiatives such as scholarships for women, addressing domestic violence in the workplace, and investing in women's leadership. ILO worked with JPMorgan Chase Foundation in Asia on the 'Women in STEM Workforce Readiness and Development Programme' to provide women with skills and mentorship for STEM related jobs. UNDP suggest setting green jobs indicators to identify green jobs and develop training and skills development programmes targeting women with certification to guarantee high standards and job transferability, whilst working closely with employers and industry associations to meet emerging labour demand, and promoting green technology innovation and transfer.

	Champion women innovators and entrepreneurs in the green economy and transition to net zero	Women entrepreneurs and women-led start-ups can support climate innovation and women's economic empowerment. Supporting women entrepreneurs and women-led start-ups in green sectors and supply chains, with access to finance <i>and</i> mentoring, ownership of assets such as land, and access to markets and supply chains can contribute to both women's economic empowerment and help diversify value chains, reduce risk, increase competitiveness and enable climate-responsive innovation.	Examples: IFC's Women Entrepreneurs Finance Initiative (WeFi) helped Dr. Wandee Khunchornyakong Juljarern raise \$8 million to launch Thailand's first private solar energy company through the IFC Clean Technology Fund. Her company built 36 solar farms, creating 20,000 jobs during construction and 1,000 permanent jobs, reducing 200,000 tons of CO₂ emissions. The IFC has invested in the Digital Gender-Ethiopia Program to increase the participation of women in the digital labour force in Ethiopia. The programme includes seed funding for female digital entrepreneurs. Women and Gender Constituency (WGC) supports gender just climate solutions through their Gender Just Solution Awards, actively supporting women leaders and entrepreneurs.
ACCESS TO AND CONTROL OVER ECONOMIC ASSETS	Ensure women have access to and control over natural and communal assets	Women are disproportionately reliant on land-based resources and have less secure rights to land than men, which makes them more vulnerable to the effects of climate change. Indigenous women play significant roles in sustainable management of agriculture and forestry but tend to be excluded from governance and decision-making. Secure land tenure and equal participation in land governance decision-making, especially for indigenous women, would increase climate resilience and improve climate and environmental outcomes.	Example: The World Wildlife Fund helped women in Oshwe, Democratic Republic of Congo, secure land titles which meant they could secure their livelihood and contribute to reducing deforestation.
	Ensure women have access to and control over digital technology	Women tend to have less access to digital and agricultural technologies which means climate change can worsen disparities in crop production or increase women's dependency. Access to digital and technological assets can help women to manage climate risk, respond to climate variability and access support and information during climate shocks.	Example: IFAD, FAO and the World Bank provide cases studies on Interactive Radio for Delivering Climate Services in Tanzania and Malawi, and Using Tablets to Reach Women with Plant Health Advice which works in 34 countries around the world to give smallholder farmers access to high-quality advice on plant health issues (p.69).

Build women's resilience to climate shocks	Social protection improves women's resilience to climate-related shocks, addresses barriers to economic participation and has positive effects on household productivity and labour market participation. Women tend to have less access to credit that can be used to smooth income in the face of climate variability or a climate shock. Social protection can complement climate adaptation and disaster risk management programmes by reducing vulnerability and reliance on negative coping strategies in the event of shocks, providing a stepping-stone towards climate-resilient livelihoods.	<i>Example: The Kenya Hunger Safety Net Programme provides shock responsive safety nets through bank accounts and cards to provide money to cushion beneficiaries against damage caused by drought or floods.</i>
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