

Gender equality and informality in low-carbon transitions

A review of evidence to identify transformative outcomes

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Just transitions to low-carbon societies and economies are important areas of climate-changerelevant, post-pandemic and development policy and practice in the global North and the global South. These transitions present opportunities to transform gender equality. Now is the time to assess, negotiate and set gender-equality aims for genderjust transitions to low-carbon societies and to monitor outcomes. This working paper reviews the gender justice implications of current strategies and plans for low-carbon transitions. It proposes a framework that identifies gender-equality outcome domains (spheres of action and change) where the transformative potential of low-carbon transition pathways can be assessed and, wherever possible, strengthened.

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List of acronyms

AfDB	African Development Bank
CIF	Climate Investment Funds
CSW66	UN Commission on the Status of Women 66th session
EBRD	European Bank for Reconstruction and Development
GCF	Green Climate Fund
GGGI	Global Green Growth Institute
GIZ	German Agency for International Cooperation
ILO	International Labour Organization
ITUC	International Trade Union Confederation
JT	Just transition
NDC	Nationally Determined Contribution
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
VAWG	Violence against women and girls
WASH	Water, sanitation and hygiene
WEDO	Women's Environment & Development Organization
WIEGO	Women in Informal Employment: Globalizing and Organizing

Summary

Context and aims

Agendas for just transitions to low-carbon societies and economies, and more recently for post-COVID-19 recoveries, have emerged as important areas of climatechange-relevant, post-pandemic and development policy and practice in both the global North and the global South. Many such agendas build on theories of, and use the language of, transformation. Such transitions are opportunities to improve and potentially transform gender equality. So it is now timely to assess, to negotiate and to set gender-equality aims and outcomes for just (that is, equitable) strategies and plans and implementation approaches for lowcarbon transitions.

This working paper reviews the gender justice implications of current strategies and plans for lowcarbon transitions and should be read as background to the accompanying framework. The paper envisages the transformative goal as low-carbon societies and economies where major changes in gender equality will manifest as outcomes. It is the intention here to identify gender-equality outcome domains (spheres of action and change) where the transformative potential of low-carbon transition pathways can be assessed and, wherever possible, strengthened.

Gender-equality outcomes of just transitions to lowcarbon societies and economies need to be ambitious, well specified and measurable to generate and support effective collective action across a diversity of stakeholders.

Focus on economic informality

Economic informality is a critical issue in the context of just transitions to low-carbon societies and economies — and especially with regard to gender-equality outcomes, because of the concentration of women in informal economic activity. Informality can be a useful proxy and indicator of inclusive economic development. It is also an important factor in the assessment of the equality of outcomes and implementation feasibility of plans and pathways for just low-carbon transitions in developing economies.

Approach and methodology

The paper reviews the evidence and highlights new directions for assessing gender-equality outcomes

of just transitions towards low-carbon societies and economies. It considers a range of proposals and theoretical approaches on which to base the development and assessment of the gender-equality outcomes of just transition and recovery strategies and plans. The most relevant theoretical bases include feminist economics, decolonising and intersectional feminist perspectives, and feminist systemic critiques of carbon-intensive economic growth.

We apply a gender-equity continuum (from 'gender sensitive' to 'gender transformative') to map the directions of travel and incremental progress that the different strategies, plans and tracking systems of key organisations embody, represent or state as aims. We have selected for review the outputs of key intergovernmental and international non-governmental organisations that seek to address the gender-equality dimension of just transitions. This mapping comprises a review of advocacy documents or plans, organisational strategies or principles, and tracking frameworks for green COVID-19 recovery.

Findings and conclusions

Our review indicates that gender-equality aims of key organisations' just transition pathways are often high, but implementation and evidence of outcomes fall short of both general expectations and what is needed for transformative change in gender equality. Although the paper identifies promising practices, a wide gulf remains between aspiration and application.

Transformative change for gender equality needs a sound theoretical basis and practical measures for implementation at scale. These measures include strategic planning and implementation, and ways to assess and measure outcomes. Investments are needed in policy development, capacity building and experimentation to make gender-transformative implementation of just transitions to low-carbon societies and economies feasible, and we propose a number of outcome domains for gender-just transitions. These domains reflect what our review of evidence found and include engagement and agency, the policy agenda, centring care, the local environment, economic empowerment, safety nets, collective action, norms and discrimination, and structural enablers. Across each outcome domain we propose a set of questions through which to examine and strengthen aims and outcomes.

Introduction

There is limited evidence or shared understanding about of the nature of gender-equality outcomes of strategies and plans for transitions towards low-carbon societies and economies and related green recoveries (Stockholm Environment Institute, 2020; UNIDO, 2021). As UN Women stated recently: "Gender-just transitions would deliberately aim to create synergies between greater gender equality, social justice and environmental sustainability" (UN Women, 2021). However, just transitions cannot achieve gender and social equality unless they address structural drivers of inequalities within sociocultural and socioeconomic contexts (Johnson *et al.* 2020).¹

Gaps in evidence and understanding of gender-equality outcomes of just transition pathways are particularly significant in developing economies where informal economy conditions dominate many value chains and sectors.² Informal employment as a percentage of total employment is 89% in sub-Saharan Africa and 88% in South Asia (WIEGO, 2019). And informal employment as a percentage of total women's employment in developing countries is 93%, compared to 87% for men. The International Labour Organization (ILO) estimates that 2 billion workers are informally employed worldwide.

There are different theories and proposals regarding how the gendered dimensions of just transitions might play out. But research and practice are relatively fragmented across geographies and sectors, obscuring generalisable insights. A lack of synthesis and synergy across such theories and proposals hinders building a collective understanding and the development of further ambition for more gender-transformative outcomes. Gender inequalities are so unjust that they thwart the world's progress to sustainable development — only gender-transformative outcomes can address this.

This working paper reviews the evidence from diverse disciplines and areas of practice to highlight new directions for assessing gender-equality aims and outcomes of just transition plans and pathways with a focus on the informal economy.

First, the paper considers definitions of low-carbon transitions (Section 2). It then discusses the empirical evidence of gendered outcomes in the informal economy (Section 3). It goes on to consider how feminist theories and related proposals apply to low-carbon transitions and how these open up new questions for outcome analysis from a range of perspectives (Section 4). Section 5 reviews evidence from practice, assessing levels of ambition for gendered outcomes in key organisational strategies and principles, and exploring existing frameworks for assessing gender equality related to just transitions, and highlights available case examples. The paper then maps these areas on to each other to highlight gaps and introduces an initial framework for considering gender-equality outcomes of just transitions in developing countries (Section 6), before offering conclusions and reflections on next steps (Section 7).

¹ Here we use the term 'just transitions' to denote transitions towards low-carbon societies and economies that are socially just. Low-carbon transitions include the diffusion of new technologies and changes in user practices. They involve cultural discourses and broader political struggles. Transitions are therefore disruptive, contested and non-linear. See Geels *et al.* (2017).

²The informal economy is the diversified set of economic activities, enterprises, jobs and workers that are not regulated or protected by the state. Originally applied to self-employment in small unregistered enterprises, the concept has expanded to include wage employment in unprotected jobs. See WIEGO (b).

Our approach to the review is iterative and has sought to open up questions and areas for further work by bringing three main areas of theory, evidence and practice into dialogue with each other (see Figure 1). Through this juxtaposition of diverse and fragmented insights, we propose a prototype outcomes framework for testing and development. The nature of such a broad exercise means that our review is not exhaustive. We have sought to summarise a range of perspectives and evidence purposefully, to open up questions, and to identify new ways of approaching these issues, rather than to provide a systematic review.

Through this process we have identified a framework with outcome areas and illustrative examples. Figure 2 shows a high-level version of this framework, and we present the framework in full in Section 6.

Our key stepping-off points for the review are, first, to recognise that gender is not just one horizontal inequality but has major importance due to the way structural and organisational aspects of society reproduce it (Kabeer, 2015). Second, gender inequality has manifold forms that intersect, overlap and interact within complex hierarchical systems (Folbre, 2020). We take on board what Tandon (2012) warns of in the dangers of women transitioning into capitalist value chains that are fundamentally flawed and remain structured according to colonial inequalities (Vergès, 2021).

And the review deliberately looks at low-carbon transitions. These change processes inevitably have justice implications. The transformative goal is to achieve low-carbon societies and economies with resulting improvements in gender equality. The intention of this paper is to identify key social and economic sectors and points of focus where gender-equality outcomes are achievable and where building a collective vision might support action.

Figure 1. Approach to the evidence review

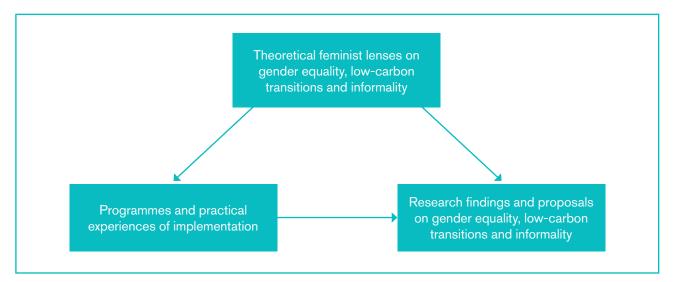


Figure 2. High-level framework

Outcome domains	Changes over time \rightarrow	
Engagement and agency		
Policy agenda		
Centring care		
Local environment	Ambition identified through a set of questions to open up new collective understandings (see information on changes within domains over time listed in Boxes 2 to 5)	
Economic empowerment		
Safety nets		
Collective action		
Norms and discrimination		
Structural enablers		

2 Defining low-carbon transitions

Low-carbon transitions, including to green economies, green growth and green recoveries, are closely related policy agendas but not synonymous. They arise from different policy contexts, and different policy actors define them in different ways (GIZ, 2021). This makes it challenging to map out their precise relationships to each other.

At its heart, 'green growth' prioritises combining economic growth with environmental sustainability and the protection of natural assets and ecosystem services (OECD, 2011). This agenda gained momentum after the financial crisis of 2008–2009 when several countries such as China, South Korea and the United States focused on green stimulus packages called Green New Deals (Zysman *et al.* 2012). Since then, a variety of international organisations and national governments have focused on inclusive green growth and prioritised poverty reduction as part of this policy agenda (PIGE, 2019).

Aspects of equity are not intrinsic to all work defined under a green growth paradigm. GIZ has identified the 'gold standard' definition of green and inclusive growth as growth that "allows for a reduction of humanity's ecological footprint to a level that is in line with the Earth's carrying capacity, while disproportionately improving the opportunities of people living in poverty to partake in the process and outcomes of economic growth, thereby lowering inequality" (GIZ, 2015). 'Just transition' emerged within the area of climate change as an agenda to protect the rights of workers in 'brown' (pollution-producing) industries facing such industries' phase-out and closure due to shifts away from fossil fuels. The recent GIZ review asserts that "the historically accepted approach is a tripartite process of workers, employers, and governments that negotiate an economic transition in response to the aforementioned transformation. Building upon social dialogue and stakeholder engagement, they ensure that all parties share the costs and opportunities associated with the transition" (GIZ, 2021).

The concept of just transition has been used in two ways. The first refers to the state managing the effects on workers of shifts away from fossil fuels; and the second is a broader justice agenda arguing that all transitions towards a low-carbon future must be equitable and put the interests of disadvantaged groups first (Pinker, 2020). The ILO developed just transition guidelines in 2015, and the concept was incorporated into the Paris Agreement under the UN Framework Convention on Climate Change (UNFCCC).

The political economy of shifts away from fossilfuel-based and carbon-intensive development is complex. There is recognition that just transitions will be plural and differentiated according to countries' circumstances. They will require changes to the global system, because the dominant core is not aligned with countries on the periphery. Low-carbon development imposes winners and losers. Understanding the depth of the political economy implications of low-carbon transitions is central to democratising green development pathways to achieve greater inclusiveness and justice (Denton *et al.* 2021).

How just transitions are defined (whether broadly or narrowly) has implications for how success in such transitions is understood by and for women and girls. As Sharpe and Martinez-Fernandez (2021) argue:

"[S]pecific policies and investments are needed to get gender equitable outcomes. These include policies to ensure that Just Transition measures for new jobs and social protection cover women workers in the energy value chain, including clerical and service workers, and in energy regions more broadly. They also include measures to break down sectoral and occupational segregation, so that women can get the skills, training, and opportunities they need to get good new jobs in low emitting sectors. Sectors with majority female employment such as care continue to have worse wages, more precarity, and worse conditions than sectors dominated by men."

Both the green growth and just transition policy agendas emerged formally within developed country contexts and have been applied to developing countries through the support of international organisations and solidarity networks.³ This has implications for how well these agendas integrate the concepts, experiences and evidence around working with informality. The green growth agenda has often been introduced with the support of organisations such as the Global Green Growth Institute (GGGI). Just transitions are now gaining traction through their integration into multilateral agreements such as the Paris Agreement, the increased global focus on phasing out coal and its associated labour issues, and the resonance of the wider transition justice agenda. The history of these policy agendas has led GIZ to argue that "in countries where the notion of a just transition is not yet well understood, the concepts of green growth and green economy, which are more broadly familiar, can be considered as a gateway to a just transition. These related concepts should be considered in tandem and as complementary" (GIZ, 2021).

In many cases these two agendas are part of negotiations and policy processes involving governments, workers, social movements, and international organisations and funders. As policy rhetoric moves to bring these agendas together and to put justice and marginalised groups at the heart of their objectives, it is important to develop in parallel an understanding and focus on informal economies. The informal economy is a key dimension of any just transition in developing country contexts, and what happens to those involved in the informal sectors is a good indicator for understanding the feasibility, effectiveness and equity of such transitions.

We now go on to review what related research on gender and economic inequality might bring to develop a better understanding of the gendered dimensions of just transitions and low-carbon pathways.

³The principles of a green economy, however, have often been informally part of other national and local approaches for a long time: "many Global South countries are in fact ahead of the developed North in ecological resilience, social solidarity, and sustainable living" (Ghosh *et al.* 2021).

3 Gender equality and informality

There is an extensive literature on economic informality that draws from a range of disciplines and has often included a focus on gendered aspects. This literature offers both theoretical and empirical insights into how gendered aspects might play out within just transitions and low-carbon pathways. For example, Brown and McGranahan (2016) note the need to be attentive to gendered differences in informality, arguing that attempts at formalisation within programmes for the lowcarbon transition could "further increase the burdens on women if nothing is done to make the formal economy more supportive of them. Even if such attempts try to be more inclusive by engaging with women's informal and unpaid collective contributions to community management, they would need to take account of the severe time-poverty many women working in the informal economy face."

Although theoretical perspectives such as that above can open new viewpoints on the potential areas of gender-equality outcomes, empirical research on gender and informality can also highlight what is already known about policy transitions in these fields and their impacts on different groups of women. For example, women often concentrate in parts of the informal economy because it offers greater flexibility, allows them to combine income earning with caring responsibilities, requires lower levels of education and matches expectations of traditional gender roles, and as a result of gender discrimination (OECD and ILO, 2019). Female participation in the informal sector is associated with other gender-equality gaps such as in education, a lack of family planning services and high rates of early marriage (IMF, 2019).

3.1 Concept and theory

The research literature on economic informality highlights the need to be specific about the types of informal workers and economies being included within the policy agenda. There are a variety of workers and of types of employment that workers might have in informal value chains and sectors that just transitions in energy, waste or agriculture may address. Box 1 illustrates this variety of workers, who will have different needs in just transitions, while there will also be different gendered needs and outcomes.

Banks *et al.* (2020) highlight three theoretical perspectives on informality that shape the design of policy or programmes and how the relationship between the formal and informal spheres within a transition should be considered. They argue that these perspectives position informality within: (1) a dualist framing, as marginal economic activities for lowincome households separate from the formal economy; (2) a 'legalist' approach, as excluded from the modern economy due to legal frameworks; or (3) a 'structuralist' viewpoint, as activities that are adversely positioned relative to formal ones.

Brown and McGranahan (2016) point to the emergence of an inclusionist school of thought that understands the informal economy as a result of anti-poor approaches that exclude the poorest producers and traders from accessing formal urban services and systems. This type of approach focuses solutions on the political agency of poor informal urban residents and workers and their collective mobilisation.

BOX 1. TYPES OF WORKERS WITHIN THE INFORMAL ECONOMY

Chen (2012) breaks down workers in the informal economy into several categories:

1. Informal self-employment including:

- employers in informal enterprises
- own-account workers in informal enterprises
- contributing family workers in informal and formal enterprises
- members of informal producers' cooperatives.
- Informal wage employment: employees hired without social protection contributions by formal or informal enterprises or as paid domestic workers by households. Certain types of wage work are more likely than others to be informal, including:
 - employees of informal enterprises
 - casual or day labourers
 - temporary or part-time workers
 - paid domestic workers
 - contract workers
 - unregistered or undeclared workers
 industrial outworkers (also called homeworkers).

While a full review of the theories underpinning informality is beyond the scope of this paper, we recognise that this body of knowledge can enable deeper reflection on just transition strategies affecting people in informal economies and the relationships underpinning them.

3.2 The position of women in informal economies

Women concentrate in the most vulnerable areas of the informal economy such as home-based working and domestic work where they are often beyond the protections of a workplace or the state and have little control over their working patterns or conditions (OECD and ILO, 2019). This concentration in a highly vulnerable part of the informal sector affects women's employment outcomes.

For example, measures such as ability or availability to find full-time work show women often work fewer hours than men, which affects their entitlement to social and other forms of protection, while gender pay gap measures show women predominate in lower-paid informal roles and receive less pay than men in the same roles (OECD and ILO, 2019).

Income from the informal economy can be a secondary source of income for a woman or a household, or part of a diversification strategy (Benson *et al.* 2014; WIEGO *et al.* 2016).

There are a variety of policy responses to informality linked in part to the differentiated understandings of the informal economy outlined in the previous subsection. Chen (2012) argues the key policy aims should be: to create more jobs; to register informal enterprises and regulate informal jobs; to extend state protection to the informal workforce, especially the working poor; and to increase the productivity of informal enterprises and the informal workforce's income. The Sustainable Development Goals (SDGs) include reference to formalisation of enterprises (in Target 8.3) and the need for comprehensive social protection systems for all (in Target 1.3).

However, many approaches to formalisation do not take account of gender-specific risks and vulnerabilities and neglect women's needs (OECD and ILO, 2019). Formalisation has often lacked attention to the voluntary motives and structural context of informal female entrepreneurs as well as to how their preferences change over time (Xheneti *et al.* 2019). Empirical research with women entrepreneurs in Nepal supports this finding, showing that these women seek to manage both their social identities and their economic success when deciding whether or not to formalise (Karki *et al.* 2020).

In some countries there have been attempts to address the gendered dimensions of formalisation through, for example, top-up pension schemes and provision of maternity leave for domestic workers, such as in Brazil (Holmes and Jones, 2013). South Africa's Unemployment Insurance Fund provides cover for a variety of short-term disruptions to employment including for domestic, seasonal and informal workers (OECD and ILO, 2019). Besides economic informality, other barriers preventing women from benefiting from green opportunities include their exclusion from the financial system and from landownership (Miles, 2019). Landownership and finance can influence women's access to credit to develop green businesses.

In a review of 'what works' to support female economic empowerment (ICRW, 2011), including 136 evaluations, the authors demonstrate the evidence for a range of gender-specific measures such as female business support, women's landownership programmes and affordable childcare. They also highlight the importance of two mechanisms that support gender-positive outcomes: economic empowerment for women; and changing outcomes over time. Other work on women's economic empowerment highlights the complex range of factors at play and the need for programmes or policies to target specific dimensions. Outcomes could be in areas of resources, power and agency, economic advancement, or norms and institutions to contribute to overall economic empowerment.

From this high-level review, a number of questions emerge on gender and informality for just transitions to low-carbon societies and economies. We set these out in Box 2.

BOX 2. QUESTIONS ON GENDER AND INFORMALITY FOR JUST TRANSITIONS TO LOW-CARBON SOCIETIES AND ECONOMIES

- What types of informal workers are affected by the transition and in what ways?
- How do social protection measures support different groups of women?
- How is the relationship between the formal and informal sectors understood in the transition and how does this affect women?
- How does formalisation support or exclude women? Do women want formalisation in this context and under what conditions?
- To what extent do women benefit from skills development and productivity support for green enterprise?
- To what extent do social and cultural norms support better working conditions and roles for women?
- Do women have access to assets they need to benefit from the transition such as land or financial systems?

4

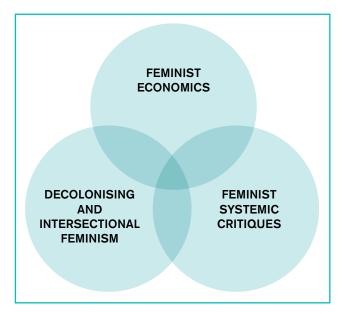
Feminist proposals for gender-just transitions

Building on the empirical work on gender relationships and economic informality, we now turn to feminist theoretical perspectives that help highlight and open up gaps for further work within and between current approaches and understanding on just transitions and low-carbon pathways. There are a variety of feminist proposals for better gender relations and gender-equality outcomes of low-carbon transitions, and we build on the work of Cohn and Duncanson (forthcoming) in our analysis below. These feminist perspectives include:

- Widening the lens from a narrow focus on the types of green jobs created to the role of care work within an understanding of green economies
- Focusing on the full lifecycle of any low-carbon technologies and forms of renewable energy, and
- Questioning the concepts of economic growth, capitalist markets, and the relationships between nature and society.

These proposals afford different entry points for analyses of gender equality and for defining viewpoints of success. We summarise below feminist approaches to the related aspects of economic development, decolonisation and systemic critiques. We examine the relevance of these approaches for assessing gender-equality outcomes in the context of economic informality. As Figure 3 indicates, the feminist approaches and proposals we have identified overlap. Some scholars have developed ideas within several threads and/or theoretical propositions within multiple approaches. However, we find it useful to distinguish between these broad types of feminist critique to open up the differing entry points for analysis.

Figure 3. Feminist proposals to make low-carbon transitions more gender just



4.1 Feminist economics

A classical approach drawing on core concepts of feminist economics can apply to the low-carbon transition agenda to bring attention to more diverse roles that support the green economy (Kabeer, 2015; Bradshaw *et al.* 2017). Feminist economists originally focused on making visible women's unpaid care work and on demonstrating the importance of women's reproductive and other roles, which classic economic analysis has often overlooked. The objective of some of this work has been to make unpaid care work valued within the current economic system by assigning it an economic value (Dengler and Lang, 2022).

Based on a focus on gendered experiences of poverty within development, Bradshaw et al. (2017) argue that even within current development practice there is a gap between the theoretical understanding of the gendered nature of poverty and the official statistics and concepts used in the international system, which simplify gendered poverty to income measures: "measures which seek to understand causes, such as the 'power poverty' women within male-headed households may face [...] are even more difficult to formulate, not least since they demand that research enters the household and engages with unequal power in intimate relations". In any case, poverty is not synonymous with the suppression of women, and gendered outcomes cut across class and socioeconomic background (Jackson, 1996). These debates highlight the challenges in seeking to capture the complexities of the gendered changes within just transition and low-carbon plans, and the need to move beyond an over-restrictive focus on indicators.

While feminist economists agree that deprivation and/or inequality is the result of intersectional identities, Kabeer (2015) argues that gender is not just one horizontal inequality among many but has key importance due to the way "gender inequality is structured into the organisation of social relations in society, as fundamentally as class is in capitalist societies, as race was in apartheid South Africa, and as caste is in India [making it] central to the nexus between economic growth and human development".

Some scholars have applied these ideas directly to concepts of the green economy and green growth (see a review in Cohn and Duncanson, forthcoming). This lens highlights the gendered nature of the jobs often included in policy approaches such as Green New Deals and a focus on just transition.

An approach based on valuing and making visible unpaid care work and identifying women's interests would bring to the fore the questions set out in Box 3. We can use these in setting gender-equality aims and outcomes for just transitions.

4.2 Decolonising and intersectional feminism

A decolonising approach is one rooted in "the continuous process of recognizing and dismantling oppressive and exploitative relations between colonizing and colonized societies in ways that enhance the latter's capacity to enact political and socio-economic self-determination and support cultural integrity" (Gram-Hanssen *et al.* 2022). Bringing together the core concepts of feminist economics with decolonising

BOX 3. QUESTIONS ON VALUING AND MAKING VISIBLE UNPAID CARE WORK AND IDENTIFYING WOMEN'S INTERESTS FOR JUST LOW-CARBON TRANSITIONS

- What formal and informal roles do women undertake within the sector? What roles are envisaged for them in the transition?
- What roles are envisaged for care work and community responsibilities within the shift to a green economy or the just transition?
- Who participates and has power and agency in the household and community and in democratic decisions that allow such shifts to take place?
- What roles are valued and paid for?
- Who takes on the care work shifted and redistributed as a result of some women doing less?
- How does working in the informal economy support women in undertaking their other roles and what would change if these roles were formalised?

approaches directs the focus to reimagining relationships between groups in different countries, as well as a more intersectional analysis including other marginalised groups such as Indigenous communities (Ghosh *et al.* 2021; Sultana, 2021; Tandon, 2012).

Ghosh et al. (2021) argue that a decolonising approach to understanding transitions in the global South involves a focus on everyday struggles and resistance, local power dynamics, and meaningful and empowering participatory research. The focus on everyday struggles would, they argue, "imply a deeper understanding of informal institutions that are in constant contestation, negotiation and resistant to formally imposed rules, in a complex steering of the transition agenda at the very grassroots level". Cohn and Duncanson (forthcoming) argue such an approach also broadens a focus to the lifecycle of 'green' energy and technologies including where the raw materials are extracted and where the waste goes, and to a focus on the relationships between people of the global North and the global South as part of the agenda.

Decolonising feminist perspectives have tended to take a more intersectional lens, seeing the discrimination women face as part of a broader identity including other aspects of discrimination and sometimes privilege (Daniel and Dolan, 2020). As Folbre (2020) argues, "exploitation ... can take manifold forms, intersecting, overlapping, and interacting within complex hierarchical systems where actors often find themselves in somewhat contradictory positions ... [These can] shape processes of cooperation and conflict that reach beyond capitalist dynamics ... encouraging the explicit negotiation of alliances based on principles of economic justice." Sultana (2022) in her seminal work on decolonising climate action highlights the importance of solidarity as part of a decolonising approach:

"[C]ritical climate justice can only be achieved through working with others in collectives, both local and international. Accountability and feedback loops, and collaboration and co-learning, facilitate transitions away from current structures that historically produced and contemporaneously reproduces climate injustices [Critical climate justice] helps to unearth and redress root causes instead of seeking out quick technomanagerialist solutions. It confronts patriarchy in communities, institutions, and policy-making, and thereby recognises the importance of intersectional gender analysis, disaggregated data collection, ethical research designs, collaborative planning, and critical reflexivity."

Sultana (2022) also emphasises that support for transition or addressing climate change is not 'charity' but part of reparations for responsibility for harms caused: "Even solutions like GND [Green New Deal] can reproduce climate colonialism and exacerbate gendered burdens if not undertaken ethically and carefully. A feminist climate justice approach fosters integration of different conceptual and tactical aspects to intentionally and inclusively address climate reparations."

The decolonisation debate raises questions for just transitions that can help in setting gender-equality outcome goals (Box 4).

BOX 4. QUESTIONS FOR JUST TRANSITIONS FROM DECOLONISING AND INTERSECTIONAL FEMINIST PERSPECTIVES

- What is the full lifecycle of 'green sectors' proposed in the industrialised economies?
- How are women and Indigenous Peoples enrolled in the full lifecycle of these technologies?
- What relationships of (re)production do the 'green sectors' set up within the contexts of postcolonial economies (such as purely extractive or reciprocal)?
- How do intersectional identities shape how different groups of women are positioned within the green agenda?
- What are the opportunities for solidarity, selfdetermination and collective action to shift away from the patriarchal extractive system?
- How are historically marginalised voices centred in debates about just transitions in postcolonial economies and how are powerful voices decentred?
- How is global racial justice included in the just transitions agenda?

4.3 Feminist systemic critiques

Some feminist theorists argue that accepting unlimited economic growth as part of the low-carbon agenda ignores the fact that growth has ecological limits, and no low-carbon growth agenda will fully transform the economy. This perspective highlights the significant challenges of decoupling growth from carbon emissions, the role that economic growth plays in deepening inequalities, and the underlying nature of the multiple crises we face, such as biodiversity loss and the climate crisis, which feminists and others argue is not compatible with continued growth.

Cohn and Duncanson (forthcoming) argue that "for many feminists ... the economy should be organized to serve the purpose of care for both humans and ecosystems. More than valuing caring labor, this perspective takes care as a central ethic; it recognizes that care is at the heart of what we all need to survive and thrive". Dengler and Strunk (2018) argue that "degrowth not only promotes the alleviation of environmental injustices but also calls for a recentering of society around care". Bringing degrowth and feminist theorising together, Dengler and Lang (2022) refer to the "economy of socio-ecological provisioning" that embraces and addresses both devalued care work and undervalued ecosystems.

Wider theoretical work on labour and capitalism shows two perspectives that could be useful in the context of green growth. One framing of social exclusion conceptualises the relationship between women, other marginalised groups and those living in poverty as being excluded from the system, networks and opportunities that would enable them to thrive (Hickey and du Toit, 2007). The solution to this issue is to bring them into the system, that is, 'inclusion'.

A complementary perspective, adverse incorporation, refers to a theoretical position where these groups are in fact incorporated into the social and economic system, but in ways that force them to accept a subordinate role and an inferior reward than they aspire to, and that prevent them from accessing the strategic opportunities they need to move out of poverty (Wood, 2000). And as Tandon (2012) argues in the context of the green economy and potential adverse incorporation: "in pushing to place women in the 'global value chain', we may effectively 'chain' them to a system that is fundamentally flawed".

Emerging from these feminist systemic critique perspectives, the questions in Box 5 can help set gender-equality outcome goals.

Table 1 summarises the feminist critical approaches discussed above.

The paper so far has reviewed empirical evidence and feminist theories to identify questions that need to be asked within just transition and low-carbon planning processes to understand the wide-ranging impacts on women and girls, particularly in the context of economic informality. We now move on to draw lessons and identify gaps in just transition and low-carbon programmes and plans, seeking to consider how well current practice reflects the questions our review has identified.

BOX 5. QUESTIONS FOR JUST TRANSITIONS FROM FEMINIST SYSTEMIC CRITIQUES

- How have women engaged in defining the purpose of the transitions agenda itself, not just shaping implementation?
- What would the impacts of continued growth on the planet's ecosystems mean for the sustainability of the transition?
- How and how well is care work centrally integrated into the transition agenda?
- How are women's aspirations met in the transition agenda?
- What are the opportunities for collective action to move to new systems of consumption and production?
- How are women and other marginalised groups enrolled in the agenda?

Table 1. Summary of main theoretical approaches

THEORETICAL LENS	FOCUS WITH REGARD TO GENDER-EQUALITY OUTCOMES
Feminist economics	 Role of women in green jobs or sectors Skills, training and opportunities for women in these sectors Role of unpaid care work in supporting green sectors Women's roles in social, economic and community spheres
Decolonising and intersectional feminism	 Lifecycle of green investments or sectors includes parts of the lifecycle of global North green investments as well as national policies
	 Role of social protection and opportunities in wider sectors that support greening
	 Relationships between women and other marginalised groups and the systems of green production and consumption
	 Praxis of solidarity and collective action
	 Centring marginalised voices and decentring powerful ones Global racial justice
Feminist systemic critiques	 Participating in defining the purpose of the green economy Care work and ecosystem functions as 'provisioning' the system as a commons Rethinking relationship between nature and society Exploring roles women play in current system — adversely incorporated or excluded?

5

Mapping directions of travel in strategies, plans and tracking systems

Montmasson-Clair (2021) asserts that, to be effective and transformative, just transitions need to bridge the three dimensions of transitional justice via an agenda that integrates social, environmental and economic justice. He concludes that "achieving a just transition will be an incremental process made of small progress, important breakthroughs and some setbacks".

In this section, we present a mapping of current practice and experience that assesses to what extent key organisations working on just transitions towards low-carbon societies and economies have been able to make progress in considering gender equality and where glimpses of important breakthroughs might lie.

The mapping covers three dimensions of current practice and experience:

- Organisational documents and strategies
- Metrics or frameworks
- Promising practices and implementation.

We use the gender equity continuum Pederson *et al.* have developed to identify how gender equality is addressed (Pederson, Greaves and Poole, 2015). This framework, which United Nations Children's Fund (UNICEF) has operationalised, calibrates approaches to gender equality as exploitative (gender blind), accommodating (gender aware/responsive) or transformative (gender responsive/transformative — that is, addressing the causes of gender-based inequalities and working to transform harmful gender roles, norms and power relations) (UNICEF, undated).

Two relevant reviews provide background and context for our analysis that show both the multiplicity of views around the level of ambition on these issues and also the real need for more focus on gender. First, a complementary review of post-COVID-19 green recovery approaches shows that gender-equality outcomes tend to be forgotten in the rush to recovery. The Green Economy Coalition (GEC) point out that inclusive green recovery approaches that integrate gender are important for fairness and for just transition reasons and to improve the effectiveness of public and private spending. To achieve this, gender audits, stronger SDG alignment and attention to the gender composition of green jobs programmes need to be part of structural reforms (Hopkins and Greenfield, 2021). Montmasson-Clair (2021) sets out an assessment of ambition associated with processes of just transitions to green economies using three dimensions of transitional justice: procedural justice — form and aims to achieve an inclusive process; distributive justice — distribution of risks, responsibilities and impacts of transitions; and restorative justice — rectifying damage to individuals, communities and the environment. Montmasson-Clair reviewed policies for just transitions but found little if any agreement on the degree of ambition. Just transition policies have sought marginal reform and in some cases more transformational outcomes. However, in some cases maintaining the status quo rather than just transitions objectives predominated.

5.1 Mapping organisational approaches and ambition

The first stage of our analysis was to map the language and intent in organisational documents and strategies to identify the level of ambition. We reviewed selected key organisations' programming documents addressing gender equality and economic informality in the context of green growth and just transitions. The three main types of documents we reviewed were:

- Advocacy documents or plans: For example, UN Women (2021) published a feminist recovery plan for the COVID-19 pandemic for advocacy purposes.
- Organisational strategies or principles: Organisations such as GGGI and the Climate Investment Funds (CIF) have gender strategies to inform programming, and the ILO has developed guidelines for the just transition that include elements of gender equality.
- Tracking frameworks for COVID-19 recovery:⁴
 For example, the Organisation for Economic Cooperation and Development (OECD) Green Recovery Database (2021) has used criteria to categorise policies as 'gender sensitive' in addressing challenges or risks that women and girls faced during the COVID-19 crisis.

For each document, we analysed the approach to gender equality on a spectrum from gender sensitive, to responsive, to transformative, and the alignment with the theoretical positions we discussed in Section 4, to identify the types of ambitions that key organisational positions embody. Table 2 lists the organisations' documents included in our analysis.

This was an initial scoping analysis. Further work could draw out more nuance in these organisational positions and be more comprehensive in the number of organisations and documents reviewed.

Table 2. Organisations' documents analysed

CIF (2016) Gender action plan (revised) — phase 2.

EBRD (2021) Gender & inclusion: strategy for the promotion of gender equality 2021-2025.

GGGI (2020b) Gender equality and social inclusion strategy 2021-2025.

ILO (2021) User's manual to the ILO's Guidelines for a just transition towards environmentally sustainable economies and societies for all.

OECD (2021) The OECD Green Recovery Database — examining the environmental implications of COVID-19 recovery policies.

UNDP, NDC Support Programme, Gender responsive NDC planning and implementation.

UNDP and UN Women (2020-21) COVID-19 global gender response tracker.

UNIDO (2021) Policy assessment for the economic empowerment of women in green industry: synthesis report of the country assessments in Cambodia, Peru, Senegal and South Africa.

UN Women (2021) Beyond COVID-19: a feminist plan for sustainability and social justice.

UN Women and ILO (2021) Policy tool: how to assess fiscal stimulus packages from a gender equality perspective.

WEDO (2022) Toward a gender-transformative agenda for climate and environmental action: a framework for policy outcomes at CSW66.

WIEGO (2021) The triple crisis: impact of COVID-19 on informal workers' care responsibilities, paid work and earnings; WIEGO *et al.* (2016) Informality and inclusive green growth.⁵

⁴As well as documents dealing directly with the green or just transition, some rapid responses to the COVID-19 recovery framed as part of a green recovery offer insight into how a change programme focusing on green growth or just transition might assess gendered outcomes. ⁵Figure 4 does not map WIEGO *et al.* 2016, because this document makes no explicit link with gender and a green recovery.

We found that these documents varied greatly in their level of detail about programme implementation stages and effectiveness. The documents have different purposes, such as for advocacy, for programming or to track progress elsewhere. In some cases we analysed more than one document developed by the same organisation, and there are very few 'organisational positions' as such, with different levels of ambition within and between documents. But we can see directions of travel in the positions put forward for different purposes.

The mapping shows that the ambition for gendered outcomes is high in many organisational strategies and principles, and often gender transformative in some of the language. However, the focus on informality varies across documents reviewed. The tools and trackers that organisations have designed to assess practice are less ambitious and look for signs of what can be termed gender-sensitive or gender-responsive activities.

The documents we reviewed are mainly founded on feminist economics perspectives, looking at women's relationship with unpaid care work and their role in different parts of the economy, rather than opening up broader questions around women's relationships to other parts of the world, the role of solidarity and collective action, and broader systemic critiques. The tools for advocacy or higher-level plans, such as UN Women's 'Beyond COVID-19' feminist plan for sustainability and social justice, do address these more systemic critiques. Figure 4 shows how the positions that these key documents take relate to each other in terms of their approach to gender equality and their links to the theoretical lens set out in Section 4. We can draw from this analysis that there is a relatively high level of ambition for gender-transformative outcomes within some organisations and strategies. The question then remains to what extent these ambitions are currently being realised.

5.2 Mapping implementation and practice

Having noted that the ambition level and aspirations are high within strategies and plans for gendertransformative outcomes, we now consider how much this ambition has been translated into monitoring and evaluation frameworks that could track if these aspirations are being met. Following this, we discuss implemented projects and programmes.

The fragmented examples in these two subsections are drawn from web searches, direct engagement with stakeholders and requests for input from peers in the Green Growth Knowledge Platform Gender Expert Group. We have selected these examples for their inclusion of elements of gender and informality in the

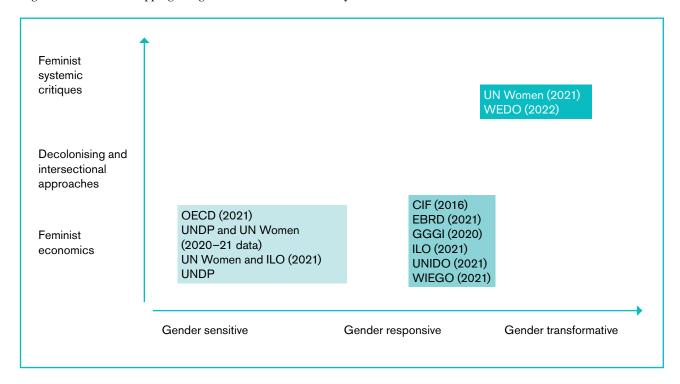


Figure 4. Illustrative mapping of organisations' documents analysed

context of low-carbon transitions and have identified both examples that focus on defining outcomes and also those that show promising instances of implementation. A core challenge involved in analysing examples more systematically is the fragmented nature of these promising practices in terms of how they are documented, described and shared. This is something we return to in Section 7.

Mapping metrics and frameworks

We found limited experience and examples to draw from that shed light on experience assessing gender-equality outcomes within green transitions, especially in the context of economic informality. We draw together some fragmented insights here and highlight where other areas of practice with extensive experience of work on gender equality, such as water, sanitation and hygiene (WASH), may have something to offer.

Some frameworks identify domains that are useful to consider in relation to outcomes, but work on how to define and measure outcomes for all groups in just transitions is at an early stage. GIZ (2015), for example, has highlighted potential questions to ask in assessing outcomes of green growth strategies and the potential trade-offs with inclusion, such as how income, inequality, access to goods and services, and regions with high levels of poverty will be affected. In an attempt to define the parameters of outcomes, Sharpe and Martinez-Fernandez (2021) categorise three types of policy action that might support just transitions:

- Assess and respond to the employment implications of greening
- Develop skills and labour market policies for greening
- Create and enhance institutional arrangements to support greening and just transition.

The framework Sharpe and Martinez-Fernandez developed for what these policy areas might look like in practice suggests indicators around skills development, active labour market policies, occupational safety and health, social protection, and cross-cutting elements.

National and regional policies such as the Just Transition Framework in South Africa (Presidential Climate Commission, 2022) and the Just Transition Mechanism in the EU (European Commission) offer initial suggestions of outcome-evaluative frameworks but remain at early stages of implementation.

An example framework for South Africa shows promising practices in developing indicators to capture outcomes for all groups across the just transition (Synergy, 2021). The indicators operate across three time periods: mitigation, restoration and transformation. They are not prescriptive but represent a diverse range of principles that development actors should consider and pursue selectively in seeking to achieve the envisaged impacts specific to each just transition investment and its particular theory of change. The areas that the framework covers are jobs and skills, economy, infrastructure and services (including childcare), environment and land, and empowerment. Informality and needs of vulnerable groups are integrated across these categories, but gender equality is not an explicit focus.

In general, however, experience of including the informal sector in just transition plans and strategies is also at an early stage. Data from 2016 shows that only 15 of 60 countries with national strategies for a green economy prioritised the informal sector (WIEGO *et al.* 2021).

Providing an example of the use of a theoretical perspective to open up new questions for analysis, a civil society critique of a coal-fired power plant co-funded by the African Development Bank (AfDB) uses an explicitly ecofeminist perspective in its impact assessment that "brings questions of ecology and climate, women's rights, and alternative viewpoints about development into the evaluation process" (WoMin African Alliance *et al.* 2019). This critique focuses on four indicator areas, each of which has a set of standards: consent rights for affected communities and women; women's rights and ecofeminist analysis in project planning, implementation and monitoring; compensation and redress; and ecofeminist cost-benefit analysis.

Given the lack of experience so far, we find it useful to draw on work assessing gender-equality outcomes from a related sector, WASH. Nearly a decade ago, Carrard and colleagues developed a framework for exploring gender-equality outcomes from WASH programmes (Carrard *et al.* 2013). This framework considered both changes within individuals and changes in relationships between people in households and public arenas. Public arenas included local society and broader governance institutions.

This approach illustrates the utility of a dual focus on change and the domains of change important in genderequality outcomes (see Annex 2). While Carrard and colleagues (2013) draw attention to households and local communities in rural contexts, they also recognise the need to widen the focus to outcomes in urban areas and at local to national scales of governance. Any such frameworks also need to consider gendered outcomes across different stages of life, the experience of men and boys in changes of gender relations, and changes in discrimination and inequality derived from socioeconomic status, disability and ethnicity.

Mapping promising practices in implementation

There are many documented examples of gender mainstreaming in climate change projects and programmes.⁶ And recent review evidence highlights the challenges of mainstreaming gender equality in climate and development programmes.

A review of Green Climate Fund (GCF) programmes concluded: "the findings highlight the inability of many of the study sample's 30 GCF projects/programs to even adequately comply with and fulfil the basic gender mainstreaming obligations ... let alone some of the additional requirements that the study authors, using an independent ecofeminist evaluation framework, identified as necessary for comprehensive and meaningful gender integration in climate funding proposals" (Schalatek *et al.* 2021). This review assessed 'quality-at-entry' of gender integration, meaning the quality of gender considerations in the project or programme proposal.

A review by the Adaptation Fund highlighted the challenges in considering intersectional identities and concluded that most projects "have looked at single intersections of social identity (e.g., gender and age), as opposed to taking a more systematic approach that also considers the broader social and cultural structures" (Adaptation Fund, 2022).

These examples highlight the lack of progress or success of gender mainstreaming in project processes, without yet taking this to the next stage to consider implementation and the associated aspirations around gendered outcomes. This gap is even more apparent when the focus is on economic informality within green growth and just transition agendas.

Given the paucity of examples with publicly available evidence around outcomes, we now provide examples of what promising practices might look like relating to gender equality in low-carbon transitions where additional evidence would support effectiveness and ambition. Here we aim to ground the discussion and focus attention on what these ideas mean in practice. We return to the issue of systematising evidence and collective learning in our conclusions (Section 7). The Global Green Growth Institute displays some promising practices of addressing informal sectors in green growth strategies in the GGGI Gender Equality and Social Inclusion Strategy 2021–2025 (GGGI 2020b). These three examples relate to waste management:

- In Laos, GGGI is working with informal-sector actors collecting organic waste for biofertiliser plants.
 Waste pickers have become local champions in addressing waste issues and are working for inclusive transformation of informal sectors.
- In Nepal and Senegal, GGGI is providing sanitation services and has developed a safeguarding and inclusion framework. This framework aims to overcome the structural barriers to effecting solid waste management to benefit all and embraces socioeconomic benefits in terms of environmental health and employment.
- In Cambodia, GGGI engaged with formal and informal actors in the public and private waste-management sector in Battambang and assisted the municipality and local waste entrepreneurs in developing detailed options to establish a reliable supply chain comprising segregation, collection, transport and on-sell of products for recyclable waste. This created opportunities for formal and informal waste pickers to increase their revenue, as waste small and medium-sized enterprise (SMEs) in the city scaled up their business.

The International Trade Union Confederation (ITUC) shows promising practices in terms of the implementation of gendered dimensions of the transition (Koning and Smith, 2021), for example:

- South African trade unions have designed a blueprint for just transition in agriculture focusing on the role of women workers.
- Brazilian unions are working with women's organisations to shape a gender-responsive approach to climate and just transition.
- ITUC and the Self-Employed Women's Association (SEWA) in India, which works with rural women in informal occupations, are collaborating on just transition for informal women workers in coal-mining regions.

⁶ See, for example, African Development Bank Group (AfDB, 2019); Green Climate Fund, no date; and the UNFCCC.

Bringing the strands together

In this section we bring together our review of the empirical evidence on gender and economic informality, the feminist theoretical perspectives, and experience in practice, to highlight spaces for seeking more transformative approaches to gender-equality outcomes.

We build on these review areas to identify several outcome domains (spheres of action and change) to consider in achieving more transformative gender equality in just transitions to low-carbon societies and economies. We are particularly interested in domains that go beyond current practice and understanding as we have been able to review them in Section 5.

6.1 Mapping practice against theory and ambition

Through our iterative analysis and reviews in previous sections we have sought to understand how much the current ambition of key organisations and examples of frameworks and practice answered the questions we drew out from the theory and research, and then matched the differing levels of ambition around gender equality.

For each theoretical perspective (feminist economics, decolonising and intersectional feminism, and feminist systemic critiques) we considered evidence of practice addressing some of the concerns or opportunities identified in the review. We divided this evidence into three levels of ambition: gender sensitive, gender responsive and gender transformative. This allowed us to map where current action was occurring, and also which propositions identified through the review are potential opportunities for further collective action — that is, paths currently not taken, or possibly not even considered.

Overall, we find that approaches addressed in organisational documents and evidence of implementation cover some elements of all theoretical perspectives and some aspects of the genderambition spectrum.

Taking a feminist economics lens, for example, we identified examples of gender-sensitive practices seeking to engage more women in traditional (formal) green sector employment and to support women's participation in dialogues. We identified intent around gender-responsive strategies such as increasing women's skills and capacity in the formal and informal sectors, leading to higher income, and social protection and insurance extending to informal workers in gender-responsive ways. We identified some gendertransformative intent around the shifting or redistribution of unpaid care work.

Taking a decolonising and intersectional lens, we saw some intent to be gender transformative in prioritising and valuing care as a low-carbon sector. And taking a feminist systemic lens, we identified some genderresponsive intent around consultations on the purpose of growth and women's role within it.

Table 3 presents this analysis and shows where we did not find evidence or examples, that is, gaps where there is little or no evidence that development actors are currently considering or implementing gender-equality

THEORETICAL LENS	GENDER SENSITIVE	GENDER RESPONSIVE	GENDER TRANSFORMATIVE
Feminist economics	[Few gaps]	Formalisation is gender responsive Women's role in supporting formal economy through informal actions rewarded and recognised	Redistribution of unpaid care work Women engaged meaningfully in strategic questions around green sector and their roles Addressing social norms and discrimination
Decolonising and intersectional feminism	Women participate in discussions on lifecycle of green investments in green economy and Green New Deals to avoid harm	Better skills, productivity and income from informal sectors associated with just transitions towards green economy lifecycles Women shape green economy transitions to enhance informal outcomes Collective action for gender- responsive formalisation when needed/demanded Gender-responsive employment associated with green transition	Ecosystems valued as part of overall system Voluntary formalisation supports gender-transformative outcomes Collective action for local and national institutional change Meaningful engagement in shaping national and international policy agenda
Feminist systemic critiques	Impact of degrowth on women assessed Negative impacts on women of relationship between society and nature recognised	Identifying adverse incorporation of women and separating from inclusion	Integrated systems of paid care work and ecosystem management Women and marginalised groups defining the purpose of the economy Strategic inputs into rethinking relationship with capital

Table 3. Gaps in focus across theoretical perspectives and levels of ambition

outcomes. The areas set out in Table 3 represent potential opportunities for further extension of genderequality ambition in just transitions initiatives.

As can be seen, the gaps in outcome domains are more prevalent at gender-responsive and gendertransformative levels of gender-equality ambition. These gaps relate to the interface of economic informality and gender equality and to women's engagement and influence in shaping and framing just transition processes.

6.2 Proposing a framework for testing

We propose that an outcomes framework is needed to support practitioners and policymakers in identifying and acting on some of the gaps identified above in addressing gender equality in just transitions. Practitioners and policymakers could use such a framework to open up outcome domains (spheres of action and change) where the transformative potential of low-carbon transition pathways can be assessed and, wherever possible, strengthened. Even areas where we have identified some strategic intent or early evidence around the different levels of ambition and theoretical positions can often be strengthened and developed.

In the evidence review we have used the feminist theoretical perspectives and gender-ambition spectrum to open up a wider range of outcome areas and potential examples and to consider pathways that are currently unexplored or underexplored. In proposing a practical framework we find it more useful to frame outcomes through spheres of action and change that can be adjusted and understood in different ways. This allows for more flexibility around ambition and intention.

The framework we propose has three components: a series of outcome domains; three dimensions of time; and indicative examples drawn from our iterative mapping of the theory, ambition and practice.

The outcome domains are drawn from the theory, research and evaluative work investigating aspects of gender relations and women's empowerment in this review. We assessed those we have chosen for inclusion here as being often the focus of genderequality-oriented work and also those most relevant to just transitions. When people use the outcomes framework we fully expect that other outcome domains will be identified.

The outcome domains reflect the potential responses, outcomes and examples we identified in our review of evidence. We have restated them as: engagement and agency; policy agenda; centring care; local environment; economic empowerment; safety nets; collective action; norms and discrimination; and structural enablers. All the domains are important, and we understand the latter three to be achievable over a longer-term timeframe. Table 4 shows how we have developed these outcome domains through the analysis of theory and practice.

Table 4. Defining outcome areas

OUTCOME AREA	RATIONALE	EXAMPLE REFERENCES
Engagement and agency	Links to outcomes and gaps identified through decolonising and systemic critiques as well as research evidence on informality and female empowerment	Women's Empowerment in Agriculture Index, Oxford Poverty and Human Development Initiative
Policy agenda	Evidence in informality research in urban contexts on importance of policy and its relationship to informality and marginalised groups Concepts also developed through decolonising theory in terms of relationship between different groups and different states	Banks <i>et al.</i> (2020) Ghosh <i>et al.</i> (2021)
Centring care	Links to feminist economic theory around importance of care work and empirical research on the barriers women face around caring responsibilities	Kabeer (2015) OECD and ILO (2019)
Local environment	Systemic critiques show the importance of caring for undervalued ecosystems and devalued care work as systems that underpin a transition	Dengler and Strunk (2018) Dengler and Lang (2022)
Economic empowerment	Economic empowerment by women is essential from both a rights and a wider development perspective Gender-just transitions can help achieve this and achieve wider goals of inclusive economic growth, poverty reduction, health, education and welfare	ICRW (2011)
Safety nets	Social protection can help transform the lives of the poor, disempowered and marginalised Just transitions represent opportunities and risks to lives of poor women Effective gender equality and women's empowerment through just transitions require safety nets to ensure women's engagement	Holmes and Jones (2013) Ogando <i>et al.</i> (2021)
Collective action	Shown through the need for solidarity in decolonising approaches and the need for collective action in schools of thought around informality	Brown and McGranahan (2016) Sultana (2022)
Norms and discrimination	Research on gender equality shows the importance of changes within individuals and changes in relationships between people in households and public arenas Theoretical perspectives also open up norms around who is included and different forms of discrimination	Carrard <i>et al.</i> (2013) Folbre (2020)
Structural enablers	The structural barriers to women's engagement in, and fair benefits distribution from, just transitions are significant Enablers are needed to overcome barriers	Hickey and du Toit (2007) Tandon (2012)

OUTCOME	EXAN	IPLES ON DIFFERENT TIMES	CALES
AREA	IMMEDIATE	MEDIUM TERM	LONGER TERM
Engagement and agency	Women in informal sectors participate in diagnostics and design of just transitions to green economies	Lived experience of women affected by just transitions prioritised in reviews and evaluations	Social norms and gender discrimination no longer barriers to engagement and agency in just transitions to green economies
Policy agenda	Gender equality included as policy objective of just transitions to green economies Formalisation supports women	Gender-responsive approach to transition employment and agenda Impact of growth vs degrowth on women assessed Women able to choose to formalise or not	Policy agenda includes international dimensions of Green New Deals and sector lifecycles
Centring care	Recognised as crucial to equity of just transitions	Modalities for shifting burden of care and rewarding activities incorporated into just transition strategies	Genuine redistribution of resources and recognition of value created
Local environment	Women's stewardship of natural resources the basis for green economy strategies	Negative impacts on women of relationship between society and nature recognised	Just transitions regenerate natural environments and incorporate women's stewardship
Economic empowerment	How does the transition affect different types of informal workers? How do the formal and informal sectors interrelate and how does this affect women?	Formalisation of informality into economy with attention to specific gendered needs How far do women benefit from skills development and productivity support for green enterprise?	Women achieve equal economic security and empowerment
Safety nets	Equal access to benefits and entitlements Adequate responses to gender-specific needs	Social protection measures support different groups of women equally	Social protection minimises risks to women from just transitions to green economies
Collective action	Inclusive coalition building for designing just transitions	Enhanced women's and girls' empowerment	Women and marginalised groups can work together to challenge institutional barriers
Norms and discrimination	Knowledge of how far social and cultural norms support or inhibit better roles and working conditions for women	Women achieve improved psychosocial well-being and greater protection through enhanced voice and agency	Norms promote gender equality; discrimination abandoned
Structural enablers	Institutional changes enable women to have access to the assets they need to benefit from just transitions, such as land and financial resources	Women have legally supported tenure over resources and are eligible for state programmes Greater economic security and empowerment for women through low-carbon sectors	Green economies provide structures and institutions for gender equality

Table 5. Framework for gender equality in low-carbon just transitions

For each outcome domain, the framework suggests potential examples where outcomes can be examined on three different timescales: immediate, medium term and longer term, drawing on several examples we identified in the review that used a temporal dimension such as the South African just transition model (Presidential Climate Commission, 2022) and the reviews of women's economic empowerment (ICRW, 2011). We expect more gender-transformative outcomes in the longer term.

We have proposed illustrative examples within the framework, but we have deliberately avoided the temptation to rush into indicator specification. It will be for development actors involved in just transitions to green economies to prioritise the areas in which to examine outcomes, on what timescales and what indicators to use. To apply the framework, we suggest working through the questions in Boxes 2 to 5 (summarised in Annex 3), which should help elucidate a full range of potential outcomes and directions of travel, going beyond a narrow framing of what gender equality might mean. Table 5 shows the framework.

While the two-dimensional characteristics of Tables 3 and 5 imply that 'gender sensitive' and 'gender responsive' map on to 'immediate' and 'medium term', this is not strictly the case. However, from a pragmatic perspective, where gender sensitivity is lacking and needs to be addressed immediately, subsequent steps to ensure gender-responsive and then gendertransformative changes may be logical and sequential.

Conclusions and next steps

This working paper attempts to review and synthesise the fragmented body of work at the intersections of gender equality, economic informality, and just transitions to low-carbon societies and economies. We have drawn on feminist approaches to development economics and to decolonising development and on systemic critiques of carbon-intensive growth to frame our discussion of gender-equality outcome domains of just transitions.

Few current just transition strategies address the intersection of gender equality and informality, despite a strong body of evidence that informal economic sectors are important to the well-being of many women in developing countries and connect closely to key areas for low-carbon pathways. Equal opportunities for women and men in just transition sectors and genderequal formalisation processes should be priorities.

Similarly, emerging just transition strategies do not currently prioritise the centring of care, despite this being a key demand of feminists and others. As a major pathway towards gender equality, there is a need to find, develop, test and scale up modalities for shifting and redistributing the burden of care and for rewarding and incorporating care activities into just transition strategies.

The outcome domains we have proposed and discussed are intended to provide a way forward in building collective ambition among development

actors for more transformative outcomes. This is a first step along a pathway, and we welcome inputs and suggestions for improvements and to build a more robust evidence base.

Our review of evidence indicates that gender-equality aims and outcomes of low-carbon pathways and just transitions so far fall short of both what the development actors involved in the programmes expect and what women and girls facing gender inequalities need. Development actors should invest more time, resources, strategic thinking and creativity to make the planning and implementation of just transitions to low-carbon futures positive for gender equality.

Although we have identified promising practices, a wide gulf remains between aspiration and application. Transformative change for gender equality needs a sound theoretical basis and practical measures for implementation including strategic planning, strategic implementation and meaningful evidence-based assessment of results.

As a complementary activity and drawing from the development of this evidence review, we have developed a prototype framework to assess gender-equality outcomes of just transition pathways and processes and presented this in Table 5. Colleagues in GGGI and elsewhere are road-testing this prototype by applying it to different examples of just transitions pathways and processes.

Annexes

Annex 1. Extracts of key organisational documents

KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONALORGANISATIONSAPPROACHES TO GENDER AND INFORMALITY OUTCOMES ORAND DOCUMENTSPROGRAMMING⁷

ILO

'Guidelines for a just "F transition' (2015) dii 'User's manual to ge the ILO's Guidelines for a just transition' Th (2021) gr

'Gender, labour and a just transition towards environmentally sustainable economies and societies for all' (2017) Two approaches to the JT: the process and the outcome.

"Policies and programmes need to take into account the strong gender dimension of many environmental challenges and opportunities. Specific gender policies should be considered in order to promote equitable outcomes" (ILO, 2015).

The ILO Guidelines highlight the need to pay particular attention to certain groups of workers, not only in the formal economy but also in the informal economy. The Guidelines call for the establishment of targeted programmes in sectors where a significant proportion of workers and enterprises are informal, with a view to promoting formalisation and awareness of social, economic and environmental policies. The Guidelines also call on governments and social partners to address the occupational safety and health impacts of informality, and to facilitate the transition towards the formal economy, in activities related to the greening of the economy, such as materials recovery and recycling, through training, capacity building, certification and, if necessary, legislation.

The ILO sees the JT as an opportunity to end sectoral and occupational segregation, eradicate wage and skills gaps, establish inclusive social dialogue, improve working conditions, and enhance social protection. At the same time, transformations and redefinition of jobs and workplaces can further improve skills and reduce health and safety risks, which are often worse for women. Creation of new labour market opportunities can facilitate formalisation of women's informal economy jobs.

Factors increasing women's concentration in informal jobs include their unpaid care burdens, inadequate social protection, weak measures to balance work and family, poor access to infrastructure and services and to labour-saving home technology in some countries, and gender norms perpetuating women's lack of access to decent jobs outside the home. These factors contribute to increasing women's workloads and exacerbating their disadvantaged labour market position. Undervaluation of care work, both paid and unpaid, perpetuates poor working conditions for women, who form the vast majority of the employed care workforce, from domestic workers to nurses. Intersectional realities, such as Indigenous and tribal identity or migrant status, also play a role in pushing women into informal working arrangements in the care economy.

Proposition and principles. Less on outcomes though some in gender briefing.

RESEARCHERS'

NOTES

JT as an opportunity for transformation and reworking of care economy.

⁷ Please note these sections are extracts from the documents listed, summarising the approach. Where needed these have been lightly edited for clarity.

ORGANISATIONS AND DOCUMENTS	KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONAL APPROACHES TO GENDER AND INFORMALITY OUTCOMES OR PROGRAMMING	RESEARCHERS' NOTES
GGGI 'Gender equality and social inclusion strategy 2021– 2025' (2020b)	 GGGI sees the transition to green growth as an opportunity to accelerate gender equality and women's empowerment by leveraging women's roles in green growth and climate action as decision makers, entrepreneurs, workers and consumers. Inclusive formalisation can lead to enhanced labour conditions and benefits for workers and communities, and to improved access to formal financial and business services for entrepreneurs, allowing business upscaling and reinvestment in sustainable models. It will also broaden the tax base and thereby help improve public services. Platforms for the exchange of needs and experiences between the formal and informal sectors can enable informal workers to be represented and to participate in inclusive governmental policy-development processes. GGGI recognises the informal sector's role in service provision (eg in agriculture, waste and thansport) and will promote inclusive approaches to sector-level transitions and the development of circular economies that benefit informal workers. In waste management, evidence is growing that inclusive sector formalisation should lead to improve dworkers' benefits, health and safety. Waste-picker associations lead to more sustainable outcomes. Inclusive sector formalisation should lead to improved workers' benefits, health and safety. Waste-picker associations and informal micro, small and medium-sized enterprises (MSMEs) can play an important part in sustainable transformations of the sector. Giving support to leadership of women and youth in the process is a way to recognise their important roles in the sector. Corporate Results Framework (CRF): The intention of GGGI's current CRF indicators do not yet have performance targets, which will be included later once gender baselines are developed. 	Gender and informality built into approach to inclusive green growth. 'Inclusive formalisation'. Indicators about targeting and programme reach rather that outcomes per se. Results area under empowerment.
CIF 'Gender action plan (revised) — phase 2' (2016)	 CIF's gender strategy itself focuses on internal processes and emphasises implementing role of MDBs. Many focus areas carry over from Phase 2. CIF's 'Gender action plan phase 3' (CIF, 2020) aims to support systems change towards gender-transformative outcomes through liaison with formal and informal institutions including government and community organisations, rather than only defining outcomes in terms of individuals' livelihood improvements. Goal: Women's improved assets, voice, and resilient livelihood status through gender-responsive institutions and markets. 	Moving to systemic perspective. Works through strategies of MDBs as implementing partners.
EBRD 'Gender & inclusion: strategy for the promotion of gender equality 2021–2025'	Section on green economy notes women's unequal access to resources, concentration in informal agriculture and barriers to working in the green sector, and gender-blind finance mechanisms.	Passing reference but not strong focus on informality. Linked to geographical focus.

ORGANISATIONS AND DOCUMENTS	KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONAL APPROACHES TO GENDER AND INFORMALITY OUTCOMES OR PROGRAMMING	RESEARCHERS' NOTES
UNIDO 'Policy assessment for the economic empowerment of women in green industry' (2021)	UNIDO's Economic Empowerment of Women in Green Industry project aims to initiate in four demonstration countries a significant push to improve women's leadership and participation as entrepreneurs and industry professionals, and to advance gender equality and green industrialisation in line with the SDGs. The project will focus on identifying needs and gaps to improve women's leadership and participation through strengthened integration of gender and green industry policies.	Green jobs focus includes entrepreneurship and informality.
	The project defines women's economic empowerment as combining women's ability to succeed and advance economically and their power to make and act on economic decisions. To succeed and advance economically, women need the skills and resources to compete in markets, and fair and equal access to economic institutions. To have the power and agency to benefit from economic activities, women need the ability to make and act on decisions and to control resources and profits.	
	Taking these definitions as a starting point, the project conceptualises women's economic empowerment as requiring advancement and transformation:	
	 Advancement includes increased resources such as income, employment, human capital (education, skills, training), financial capital (loans, savings), social capital (networks, relationships, mentors) and physical capital (land, machinery, tools, inventory). 	
	 Transformation necessitates women having the power and agency to make decisions over control and use of newly gained skills and resources. 	
	Women entrepreneurs face many barriers, including lack of technical skills and specialised knowledge, lack of awareness about policies and programmes designed to benefit women and/or encourage participation in green industry, lack of access to technology to start green businesses or upscale existing businesses, difficulty in finding and hiring skilled workers, lack of social capital, lack of access to financial capital and to collateral and credit resources, and lack of access to markets to sell their products. Discriminatory norms and hiring practices, sexual harassment, and caretaking responsibilities also constrain women's economic empowerment in green industry.	
UN Women 'Beyond COVID-19: a feminist plan for sustainability and social justice' (2021)	 Calling for a new social contract that is: Feminist, aimed at shifting gender power relations and tackling multiple forms of discrimination. Based on social justice, addressing pervasive inequalities and rebalancing economies towards the rights and needs of the majority. Eco-social, recognising that humans are not disconnected from nature but part of the Earth's ecosystem that needs to be preserved and regenerated. Global, based on solidarity and the common good, acknowledging the world's interdependence and that no one is safe until everyone is safe. 	Eco-social contract. Wider social reform.
	Alternative metrics must not only pay greater attention to inequalities and the strengthening of human capabilities but also capture the value and contribution to economic and social progress of non-market domains, notably unpaid care work and ecosystem services. To date, the Genuine Progress Indicator (GPI; see Cobb <i>et al.</i> 1995) is the most promising approach but it is yet to be taken up by governments.	

ORGANISATIONS AND DOCUMENTS	KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONAL APPROACHES TO GENDER AND INFORMALITY OUTCOMES OR PROGRAMMING	RESEARCHERS' NOTES	
UNDP	Contains:	Broad gender	
'Gender responsive	Gender responsive indicators	focus without	
NDC planning and	Gender checklist	explicit attention to	
implementation'	The areas, sectors or lines of intervention of the Nationally Determined Contribution (NDC), policy, plan or strategy:	informal economy.	
	 Recognise gender-differentiated vulnerability to climate change and gender-differentiated contributions to emissions reduction, as well as increased resilience. 		
	 Address relevant gender considerations for all strategic areas or priority sectors. 		
	 Recognise the gender-differentiated positive and negative effects of sectoral actions. 		
	 Recognise gender-differentiated needs and how sectoral actions can contribute differentially to the economic empowerment, social status and leadership of men and women. 		
	 Recognise access to technology and new green jobs through specific actions to promote gender equality and women's empowerment. 		
	The sector-specific targets and indicators of the NDC, policy, plan or strategy:		
	 Include gender-responsive targets related to adaptation. 		
	 Include gender-responsive targets related to mitigation. 		
	 Recognise the differentiated contributions of men and women to emissions reduction and propose targets and indicators to highlight and promote such contributions. 		
	 Recognise the differentiated contributions of men and women to resilience and propose targets and indicators to highlight and promote such contributions. 		
	 Recognise the differentiated vulnerability of men and women and propose targets and indicators to highlight and reduce such vulnerability. 		
	 Include climate targets that contribute to the reduction of gender inequalities or to the increase of women's empowerment and indicators that measure this change. 		
WEDO 'Toward a gender- transformative agenda for climate and environmental action' (2022)	WEDO's demands for the UN Commission on the Status of Women 66th session (CSW66) "build from our engagement at COP26 and through the Women and Gender Constituency of the UNFCCC, and have been outlined in collaboration with the Women's Rights Caucus, a global coalition working to advance women's human rights in their communities and together at the United Nations".	Wider social change. Rights-based perspective.	
	WEDO's framework of demands calls for:		
	" a just and equitable energy transition, shifting from a fossil-fuel based economy to a low-carbon and renewable energy system that upholds women's human rights and advances social and environmental justice.		
	 Reverse fossil fuel subsidies and redirect public money from military and carceral systems toward a just and equitable transition, including by funding women's rights organizations. 		
	 Ensure that all climate programs and projects are informed by ex-ante and ex-post women's human rights impact assessments, to ensure effective and inclusive decision-making and accountability" 		
	And it urges guarantees for the "equitable participation of women and girls in all their diversity in climate change policy process and programming, including at the country level".		

ORGANISATIONS AND DOCUMENTS	KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONAL APPROACHES TO GENDER AND INFORMALITY OUTCOMES OR PROGRAMMING	RESEARCHERS' NOTES
OECD 'Green recovery database' (2021)	 Identifies approaches as gender sensitive if they include.: Unpaid care work (ie increased household and care responsibilities): Measures related to social protection and the labour market, such as cash transfers specifically targeting women affected by climate change and environmental degradation, or sustainable and gender-sensitive social infrastructure. Women's economic security: Social protection, labour market, and fiscal and economic measures understood to support the overall empowerment of women in societies. Examples include gender-differentiated support to promote green innovation and green jobs; targeted training for low-skilled and unemployed women; and measures to mitigate the differentiated impact of carbon taxes on women and men. Violence against women: Measures aimed at addressing gender-based violence or violence against women. 	Care and economy focus of tracking system, and violence against women and girls (VAWG). Includes elements of informal economy.
UNDP and UN Women 'COVID-19 global gender response tracker' (2020– 2021)	 Four policy areas: Social protection measures. Labour market measures. Fiscal and economic measures. Violence against women. Targets women-dominated sectors or occupations. Addresses unpaid care, women's economic security and violence against women. 	Tracking focusing on care and economy as well a VAWG. Approach to identify women- dominated sectors/ occupations.
UN Women and ILO 'Policy tool: how to assess fiscal stimulus packages from a gender equality perspective' (2021)	 UN Women and the ILO suggest the key areas of focus should be specific measures to address impacts on women's employment and conditions of work including regulatory measures. The policy tool notes how gaps in social protection provision affect informal workers who might not reach minimum income conditions for social assistance and lack other forms of social insurance. These include large numbers of women. The policy tool suggests increasing coverage and benefit adequacy and simplifying eligibility rules and administrative procedures for women in informal employment and for those outside the labour market working in unpaid care and domestic contexts. Several dimensions of the policy tool have particular relevance for assessing interventions in the informal economy: Public employment and employment-guarantee programmes: What percentage of the fiscal package is devoted to public employment and employment-guarantee programmes? How many jobs will such measures create? Active labour market policies: What percentage of the fiscal package is devoted to covering the cost of active labour market policies such as assisting workers to find employment or retrain? Coverage of informal workers: Have unemployment and income-replacement benefits been extended to the informal sector, the self-employed, and part-time and freelance workers such as artists and musicians? Training and employment services: Does the fiscal package support firms in strengthening training and skills acquisition, and do women have equitable access to such training? Do fiscal packages include employment services such as assistance in finding employment and in relocation? 	Checklist for gender and informality within national recovery programmes.

WIEGOGender-specific needs for COVID-19 recovery:Main focus on informality but includes a briefing on informal workers' care responsibilities, paid work and earnings' (2021)Ambitious investments towards universal social protection and accessible public services, including childcare, healthcare and care for older people, are central to enabling livelihood recovery among women informal workers, creating new decent work opportunities in the care sector and addressing poverty among informal workers' households.Main focus on informality but includes a briefing on gender.'Informal worker demands during COVID-19 crisis' (WIEGO b)For women informal workers to benefit equally, targeted support to micro and small enterprises in the informal economy and public employment programmes must provide access to quality childcare services.Wide range of research and documentation in a variety of urban contexts, with some advocacy positions.'Informality and inclusive green growth' (WIEGO et al. 2016)Women's increased unpaid care work will affect their participation at multiple levels, including within their worker organisations. Without support their current capacity to lead, provide relief, disseminate information and connect with government services will be compromised.Waste picking linked to green economies.	ORGANISATIONS AND DOCUMENTS	KEY DOCUMENT EXTRACTS OUTLINING THE ORGANISATIONAL APPROACHES TO GENDER AND INFORMALITY OUTCOMES OR PROGRAMMING	RESEARCHERS' NOTES
	'The triple crisis: impact of COVID-19 on informal workers' care responsibilities, paid work and earnings' (2021) 'Informal worker demands during COVID-19 crisis' (WIEGO b) 'Informality and inclusive green growth' (WIEGO	 Ambitious investments towards universal social protection and accessible public services, including childcare, healthcare and care for older people, are central to enabling livelihood recovery among women informal workers, creating new decent work opportunities in the care sector and addressing poverty among informal workers' households. For women informal workers to benefit equally, targeted support to micro and small enterprises in the informal economy and public employment programmes must provide access to quality childcare services. Women's increased unpaid care work will affect their participation at multiple levels, including within their worker organisations. Without support their current capacity to lead, provide relief, disseminate information and connect 	informality but includes a briefing on gender. Integration and recognition of informal workers. Wide range of research and documentation in a variety of urban contexts, with some advocacy positions. Waste picking linked to green

Annex 2. Synthesis and typology of gender outcomes

		PUBLIC ARENA	
INDIVIDUALS	HOUSEHOLD SPHERE HOUSEHOLD AND FAMILY NETWORKS	LOCAL PUBLIC ARENA SOCIAL AND COMMUNITY NETWORKS	BROADER PUBLIC ARENA GOVERNANCE INSTITUTIONS AND BEYOND
 Changes in self/individuals Includes changes for women or men Includes changes relating to roles as well as self- perception and attitudes 	 Changes in: Access and use of resources Attitudes on gendered household roles and responsibilities Distribution of gendered household roles and labour Time allocated to types of work Discretionary time Self-confidence Self-awareness Mobility Income opportunities and skills 	 Changes in: Self-confidence Education outcomes Awareness of women's rights Women in public office Women voicing expectations Mobility Personal safety Income opportunities and skills 	 Changes in: Women in influential roles Women in technical roles Women voicing expectations Women's leadership
 Changes in relationships Includes changes in relationships between women/men and within gender groups 	 Changes in: Negotiating power Financial status Communications Decision-making Respect, conflict and harmony 	 Changes in: Status of women Trust and respect Women and men cooperate Solidarity among genders Social norms for gender equality Social attitudes and practices Women in decision- making Recognition of women's rights Positive gender role models 	 Changes in: Social norms on women's roles Trust and respect for women Policies and programmes to support gender equality Positive gender role models Sectorial invest in gender equality Media and public debate Consultative bodies and boards National, regional and global commitments to gender equality

Source: Adapted from Carrard et al. (2013).

Annex 3. Questions to ask in developing outcomes around gender equality in just transitions

Questions on gender and informality for just transitions to low-carbon societies and economies

- What types of informal workers are affected by the transition and in what ways?
- How do social protection measures support different groups of women?
- How is the relationship between the formal and informal sectors understood in the transition and how does this affect women?
- How does formalisation support or exclude women? Do women want formalisation in this context and under what conditions?
- To what extent do women benefit from skills development and productivity support for green enterprise?
- To what extent do social and cultural norms support better working conditions and roles for women?
- Do women have access to assets they need to benefit from the transition such as land or financial systems?

Questions on valuing and making visible unpaid care work and identifying women's interests for just lowcarbon transitions

- What formal and informal roles do women undertake within the sector? What roles are envisaged for them in the transition?
- What roles are envisaged for care work and community responsibilities within the shift to a green economy or the just transition?
- Who participates and has power and agency in the household and community and in democratic decisions that allow such shifts to take place?
- What roles are valued and paid for?
- Who takes on the care work shifted and redistributed as a result of some women doing less?
- How does working in the informal economy support women in undertaking their other roles and what would change if these roles were formalised?

Questions for just transitions from decolonising and intersectional feminist perspectives

- What is the full lifecycle of 'green sectors' proposed in the industrialised economies?
- How are women and Indigenous peoples enrolled in the full lifecycle of these technologies?
- What relationships of (re)production do the 'green sectors' set up within the contexts of postcolonial economies (such as purely extractive or reciprocal)?
- How do intersectional identities shape how different groups of women are positioned within the green agenda?
- What are the opportunities for solidarity, selfdetermination and collective action to shift away from the patriarchal extractive system?
- How are historically marginalised voices centred in debates about just transitions in postcolonial economies and how are powerful voices decentred?
- How is global racial justice included in the just transitions agenda?

Questions for just transitions from feminist systemic critiques

- How have women engaged in defining the purpose of the transitions agenda itself, not just shaping implementation?
- What would the impacts of continued growth on the planet's ecosystems mean for the sustainability of the transition?
- How and how well is care work centrally integrated into the transition agenda?
- How are women's aspirations met in the transition agenda?
- What are the opportunities for collective action to move to new systems of consumption and production?
- In what ways are women and other marginalised groups enrolled in the agenda?

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Xheneti, M, Madden, A and Karki, ST (2019) Value of formalisation for women entrepreneurs in developing contexts: a review and research agenda. *International Journal of Management Reviews* 21(1): 3–23. https://bit.ly/3EgJaaS

Zysman, J, Huberty, M, Behrens, A, Colijn, B, Tol, RSJ, Ferrer, JN, Aglietta, M and Hourcade, JC (2012) Green growth. *Intereconomics* 47(3): 140–164. https://bit.ly/3Ct8k4V Just transitions to low-carbon societies and economies are important areas of climate-change-relevant, postpandemic and development policy and practice in the global North and the global South. These transitions present opportunities to transform gender equality. Now is the time to assess, negotiate and set gender-equality aims for gender-just transitions to low-carbon societies and to monitor outcomes. This working paper reviews the gender justice implications of current strategies and plans for lowcarbon transitions. It proposes a framework that identifies gender-equality outcome domains (spheres of action and change) where the transformative potential of low-carbon transition pathways can be assessed and, wherever possible, strengthened.

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