SUPPORTING JUST TRANSITIONS IN SOUTH AFRICA

JUST TRANSITION CASE STUDY - SEPTEMBER 2020

CIF
CLIMATE INVESTMENT FUNDS

The timing of the transition to a low carbon economy must be in a manner that is socially just and sensitive to the potential impacts on jobs and local economies.
It is in this context that engagements at global forums such as the G20 refer to 'Energy Transitions' and not 'Energy Transition' as a recognition that countries are different and their energy transition paths will also be different due to varying local conditions.

Integrated Resources Plan of South Africa 2019–2030[1]

Climate is also our issue because addressing it implies recognizing the need for a huge transformation in our societies, in our production and consumption systems, and therefore also on jobs ...
Unless we fight for making this transformation work for the people, ensuring a Just Transition towards a truly sustainable model, we will only see superficial changes towards more inequality and environmental degradation.

International Trade Union Confederation, 2011[2]

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The case study team comprised Michael Ward (Senior Sustainability Specialist and Lead Author), Neha Sharma (Evaluation Specialist and Project Lead), and Hugh Searight (Operations Specialist and Project Co-lead). The team benefited from the timely and strategic review offered by colleagues from the Climate Investment Funds (CIF), African Development Bank, International Bank for Reconstruction and Development, International Finance Corporation, Center for Strategic and International Studies, and Advisers for the Just Transition Initiative. These colleagues included Abhishek Bhaskar, Ali Sheikh, Andrey Shlyakhtenko, Anne Kuriakose, Ben Cahill, Daniel Morris, Ezgi Canpolat, Franz Gerner, Jonathan Walters, Joseph Dickman, Leonardo Beltran, Mafalda Duarte, Mary Margaret Allen, Matthew Harris, Mwila Musumali, and Tendai Madenyika.

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DISCLAIMER

Please send any questions or comments about this study to Michael Ward (mward@worldbank.org) or Neha Sharma (nsharma10@worldbank.org).

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EXECUTIVE SUMMARY

In recent years, there has been a growing focus on "just transitions" in local, national, and international responses to help achieve the economic and social changes necessary for sustainable development, while protecting workers and communities through a more socially equitable distribution of benefits and risks.

Since their early development in the labor movement in the 1990s, just transition concepts and practices have sought to integrate economic, social, and environmental justice concerns. Over time, they have been interpreted to reflect diverse advocacy and political interests, thus resulting in a range of positions, rather than a universally shared definition. However, central to all just transitions are considerations of how different groups are included in decision-making processes and how both benefits and losses are distributed in just and safe ways.

In South Africa, labor, government, civil society, and more recently, businesses have all acknowledged the importance of just transitions and prominently featured their implications in the country's trade union policies on climate change, National Development Plan (NDP), National Climate Change Policies, and Nationally Determined Contributions (NDC). During this time, the Climate Investment Funds (CIF) has used its programmatic approach to climate finance by working through partner Multilateral Development Banks (MDBs) — the International Bank for Reconstruction and Development (IBRD), African Development Bank (AfDB), and the International Finance Corporation (IFC) — to invest in solar, wind, and battery storage in the country with its Clean Technology Fund (CTF).

The need for just transitions is especially urgent in South Africa and is closely tied to the country's reliance on coal. Accounting for about 90 percent of South Africa's electricity generation and 74 percent of its total primary energy supply, coal has been a critical part of its economy for over 100 years. Nonetheless, market and policy signals, coupled with targets to reduce greenhouse gas emissions, indicate that the decline of the coal sector will be inevitable. Therefore, the need to manage an accelerated transition to cleaner energy in a country facing extreme inequality, unemployment, and poverty makes it all the more important for the transition to be inclusive and just.

This case study seeks to explore key elements of just transitions in South Africa and draw lessons on how CIF investments have interacted with efforts to ensure just transitions. The study uses an emerging framework developed under the Just Transition Initiative — a partnership between CIF and the Center for Strategic and International Studies (CSIS) — to illuminate and explore the diverse perspectives and approaches of the key actors involved in South Africa's just transitions. The framework highlights the importance of considering both the distributional effects of climate action, which includes the fair allocation of the benefits and harms associated with transitions, and the procedural elements that refer to the recognition of marginalized groups by including them in discussions and decision-making processes.

The framework enables reflections on CIF's contributions to the energy transitions in South Africa through both its programmatic approach that is underpinned by cross-sectoral dialogues and supported projects in South Africa. Although these projects were not originally designed with a just transition focus, they provide helpful examples of how programmatic concessional climate finance, delivered through CIF, supported the development of South Africa's renewable energy policy framework and national investment strategy over the past decade.

By reviewing the pressures of transitioning away from coal, recognizing the importance of ensuring that the energy transition in South Africa is just,

and examining the role that CIF and MDBs have played and can continue to play in these transitions, this case study identifies a number of implications and associated opportunities for supporting just transitions in South Africa:

- National planning: ***Socio-economic and climate modeling, together with transition planning, can inform and support long-term, organized just transitions.*** The early cross-sectoral engagement of CIF partners in the development of the Long-Term Mitigation Scenarios (LTMS) (2006–2008) and the South Africa Clean Technology Fund (CTF) Investment Plan (2009) was pivotal in informing the development of key energy transition policies and plans in South Africa. Through such partnerships modeling needs to be supported, made accessible, and used to inform just transitions to a low-carbon, resource efficient economy.

- Social inclusion: ***Initial social dialogues on just transitions, convened by the National Planning Commission (NPC), need to be taken forward and supported.*** Resourcing and implementing the proposed Presidential Climate Change Coordination Commission (PCCCC) would support inclusive social dialogue and planning for just transitions in South Africa.

- Financing: ***Concessional finance is critical for de-risking innovative investments and accelerating a just energy transition.*** The Sere Wind Farm and Xina Solar One concentrated solar power (CSP) projects, supported by CIF and MDB partners, illustrate the importance of concessional finance for de-risking initial investments and demonstrating at scale the viability of emerging technologies. When accompanied by the right social policies, they can help accelerate just transitions. Non-financial criteria such as local ownership, socio-economic development, along with enterprise development that are responsive to local contexts and distributional justice considerations, should be taken into account in procurement processes and financing considerations.

- Recovery programs: ***Ensuring that post Covid-19 recovery programs and stimulus packages are sustainable and inclusive can be supported by incorporating emerging just transition frameworks and tools.*** The experience gained in the development of large renewable energy projects in South Africa highlights a number of mechanisms for enhancing both the distributional and social inclusion dimensions of transition processes associated with infrastructure investments. This includes incorporating non-financial criteria in procurement processes that support socio-economic development, local enterprise development, and opportunities for local ownership.

- Skills development: ***Reskilling existing workers and proactively developing new skills required to implement new technologies/processes are both necessary to facilitate just transitions.*** The Sere Wind Farm and the Xina Solar One CSP projects offered a range of skills development interventions. However, there is a need to improve skills planning, and particularly skills anticipation at the national level, to ensure that the marginalized sectors of society are equipped to benefit from transition processes.

- Geographical focus: ***Research and planning that better articulates and distributes developmental benefits and losses across local, national, and international geographic scales need to be supported.*** The geographic concentration of coal mining, coal-fired power stations, and the related value chains suggests that relatively focused investments in economic diversification would make a significant contribution to just transitions for vulnerable regions, demographics, and commercial sectors in South Africa. Moreover, there is a disjuncture between the socio-economic benefits created in very concentrated areas adjacent to renewable energy projects being developed on one side of South Africa and the increase in the vulnerability of workers and communities dependent on the coal value chain on the other side of the country.

INTRODUCTION

ABOUT THE CLIMATE INVESTMENT FUNDS (CIF)

The Climate Investment Funds (CIF) were created in 2008 to provide scaled-up climate finance to empower transformations in clean technology, energy access, climate resilience, and sustainable forestry. CIF operates in 72 developing countries through six Multilateral Development Banks (MDBs)[3] as its main implementing agencies. It uses a programmatic approach that is focused on the development and implementation of country-led investment plans informed by multi-stakeholder consultations.

Over its first 12 years, CIF has operated as a laboratory for developing, implementing, evaluating, and learning from new approaches to climate investments. By lowering investment costs and risks, as well as providing a collaborative platform for strategic and operational coordination, CIF has enabled MDBs to address prevailing barriers to the commercialization of new technologies, engaged private investors in first-of-a-kind projects, and contributed to transformational change.[4]

Transformation, in this context, is defined as "strategic changes in targeted markets and other systems with large-scale, sustainable impacts that accelerate or shift the trajectory towards low-carbon and climate-resilient development".[5] These transformations, occurring at different scales ranging from individual to global, and addressing multiple, interconnected components of a system or value chain, often over extended time frames, are typically beyond the control of any one institution or intervention.

The ideas and practices associated with just transitions require broader transformations to be not only relevant to the urgent challenges that we face, but also supportive of deeper systemic change, occurring at the required scale, and sustainable over time, they **must also be socially inclusive and fair.**

As the challenges of climate change become more extreme and greenhouse gas emissions continue to rise, demands for the transition away from emission-intensive forms of energy production are intensifying. So too are the calls for these transitions to be inclusive and just. Despite the growing recognition of the importance of and urgency for deep systemic change, very few resources are available to help countries, investors, international development institutions, and civil society to access, finance, as well as implement tools and strategies, for achieving just transitions.

This case study is part of a broader effort by the CIF to help climate funds, MDBs, policymakers, the private sector, the civil society, and other stakeholders understand and support just transitions in development contexts. This broader effort also includes the Just Transition Initiative — an outreach and research initiative launched in March 2020 in partnership with the Center for Strategic and International Studies (CSIS). The case study draws on the emerging just transition framework being developed through this partnership and will inform the subsequent development of other case studies.

SOUTH AFRICA

South Africa, the second-largest economy in Africa, produces over 40 percent of the electricity on the continent.[6] Its development since the 1800s, which has been dominated by colonialism and apartheid, has been underpinned by its access to inexpensive coal.[7] This development has, however, had a significant impact on the natural resources and the people of South Africa, resulting in high levels of pollution[8] and the highest level of inequality globally. Recent studies have found that the top 0.01 percent of the adult population (3,500 people) control almost the same percentage of wealth (14–15 percent) as the bottom 90 percent (31.8 million people). This inequality continues to have a strong racial dimension: white-headed households earn 4.7 times more than black African-headed households. It is further exacerbated in terms of gender, with female-headed households being 10 percent more likely to be poor than male-headed households on average.[9]

South Africa needs to reorient its economy so that it serves its people more inclusively and equitably. At the same time, it needs to ensure that it is able to meet society's needs within the ecological carrying capacity of the country and the planet.

The just transitions lens offers important insights on how to do this within the interconnected dimensions of social inclusivity, as well as the fair distribution of benefits and harms associated with rapid and substantial change. Building on the early work of labor unions in the United States (US) and subsequent international labor initiatives on just transitions, **the labor movement in South Africa developed a just transition policy in 2011.[10] The term has since been included in national development plans and policies, as well as international commitments related to climate change.**

CIF and its partner MDBs engaged with the South African government on renewable energy and energy efficiency during the 2008–2011 period, during which time South Africa introduced key energy transition policies and renewable energy procurement processes. CIF's subsequent renewable energy investments in South Africa provide important insights on the intersection between just transitions and energy transitions in one of the top 15 CO_2 emitters in the world.[11]

OBJECTIVE AND INTENTION OF THE CASE STUDY

The South Africa and other forthcoming country case studies, along with the broader work in the Just Transition Initiative, intend to explore and guide how just transitions can be achieved alongside the transformational change necessary to address climate change in diverse contexts. The case studies will explore key elements of just transitions and share lessons on how CIF investments in specific countries have contributed to, or interacted with, efforts to ensure just transitions. The underlying assumption is that both the shortcomings and achievements of previous investments will provide insights that can be used to enhance the contributions of future policy support, investment planning, and investments to the implementation of just transitions.

It must be clarified that CIF projects were not developed with explicit just transitions objectives and frameworks in mind. The just transitions framework is thus not being retrospectively applied to projects with an evaluative intent, but rather as an opportunity to think through the implications of just transitions and how they may be supported and enhanced. Key insights, including contradictions, challenges met, and future opportunities, will also be synthesized across different case studies in order to learn from the CIF experience. This is in line with CIF's intent to serve as a learning laboratory for climate finance — to reflect and learn from 12 years of operations as one of the world's largest climate funds delivering multilateral finance at scale.

IMPORTANCE AND PRINCIPLES OF JUST TRANSITIONS

The term, "just transitions", is used to acknowledge that there are multiple framings of just transitions related to a variety of theories of change and world views. This has resulted in a situation, whereby there is no one clear definition of just transitions, but rather a range of positions, principles, and practices.

At the heart of the just transitions discourse(s) is the debate on whether addressing human-created environmental challenges, including climate change, inevitably requires choosing between protecting the planet or precarious jobs and the economies that sustain (and simultaneously exploit) people and nature. The falsity of the dichotomy is best summed up in the slogan: "There are no jobs on a dead planet."[12] The recent economic and social impacts of the Covid-19 pandemic, including massive job losses, have provided an illuminating example of the devastating effects of a global systemic shock. It is imperative for people to recognize that climate change has the potential to introduce or exacerbate similar systemic shocks. This is why attention to climate change and fundamental change at the global and local scales are of the utmost urgency and importance.

Just Transitions concepts and practices help to focus attention on important questions related to change, including:

- Who decides what kind of transitions are needed?
- How are different groups included in the decision-making processes?
- Who benefits and loses in change processes?
- How can benefits be distributed and losses mitigated in both safe and just ways?

By raising these questions, the concept of "just transitions" highlights the significance of encompassing issues of inclusivity and justice in change initiatives.

CASE STUDY APPROACH

This case study is based on an extensive literature review and key stakeholder interviews. The literature review involved tracing the history and practice of just transitions globally and in South Africa. It also helped identify the different and changing understandings of just transitions within stakeholder groups. Over 100 academic articles, book chapters, policy documents, popular articles, and newspaper articles were reviewed.

The literature review was supplemented by and checked against the interpretations and positions of various groups through interviews with stakeholders working on just transitions, particularly in the energy sector in South Africa. **(See separate mindmap for an overview of institutions working on just transitions in South Africa. Those institutions interviewed for this case study are highlighted in the mindmap.)** Fifteen interviews were conducted with locally-based stakeholders. Moreover, additional interviews were held with representatives from CIF, African Development Bank (AfDB), International Finance Corporation (IFC), World Bank, and project implementers. (See Appendix 3)

In addition, project planning documents, particularly investment plans,[13] independent and in-house evaluations, as well as reviews of various dimensions of CIF's work over the past decade, were accessed from CIF's repositories. Notes and video footage gathered during visits to CIF projects in South Africa also informed this case study.

The CIF project portfolio in South Africa is concentrated on clean technology, particularly renewable energy. This has in turn influenced the focus of the case study that is centered on the relationship between South Africa's transition out of coal and the emergence of its renewable energy sector. This, by no means, implies that these are the only areas to consider in terms of just transitions. The projects do, however, provide grounded examples of dimensions of just transitions that were used in this report as the basis for reflection and learning.

CONTEXT

CLIMATE CHANGE AND JUST TRANSITIONS IN SOUTH AFRICA

This case study has been developed at a time of enormous significance for the concepts and practices associated with just transitions.

South Africa's history of colonial rule and apartheid means it is imperative that any plans seeking to address the challenges and opportunities to accelerate the transition to a low-carbon, climate-resilient society, especially following the Covid-19 pandemic, are inclusive, just, and sustainable. Transition pathways that do not acknowledge and address the past, present, and continued marginalization of large segments of the black population will exacerbate their vulnerability and result in legitimate resistance.

The concept and practices of just transitions in this context offer the possibility of ensuring that the implementation of the required changes for a transition to a low-carbon and resource-efficient economy does not leave anyone behind. More ambitiously, it is recognized that economic, social and environmental drivers leading to an inevitable phasing out of fossil fuels will generate opportunities for the creation of new livelihoods and jobs for existing and new workers. Particular attention needs to be given to supporting segments of society, which typically experience discrimination in terms of race, gender, and age. While the transition is inevitable, ensuring that it is "just" will require proactive and intentional action.

The application of the concepts and practices of just transitions is particularly relevant in South Africa, for it is rated the most unequal country in the world by both income and wealth.[14] It is also one of the highest emitters of CO_2. Despite the increasing availability of cheaper and less polluting alternatives, both locally and internationally, South Africa has continued to rely on an aging fleet of coal-fired power stations to provide over 80 percent of its electricity.[15] The impacts of climate change on biodiversity and water resources

have already negatively affected economic growth, jobs, and livelihoods in South Africa.[16] To accelerate economic growth and transformation, while using its environmental resources sustainably, South Africa will need to simultaneously and urgently address climate change.

The country has had a long and critical engagement with just transitions. This includes the early development of labor movement policies in 2011 and the inclusion of just transitions in the National Development Plan (NDP) in 2012. More recently, a commitment to a just transition was incorporated into the 2016 Nationally Determined Contributions that was aligned with the Paris Agreement and followed by a national consultation process on just transitions to inform the revision of NDP in 2019. As of 2020, the Presidency is forming the Presidential Climate Change Coordination Commission (PCCCC) to drive the clarification and implementation of a just transition in South Africa.

COAL IN SOUTH AFRICA – CHALLENGES AND OPPORTUNITIES IN TRANSITION

South Africa's development path has been strongly influenced by the relationship between mining and cheap, coal-based energy. Coal, central to South Africa's economy, lies at the heart of the mineral energy complex that has dominated economic and political development in the country for over 100 years.[17] South Africa relies on coal to generate over 80 percent of its electricity, with about 73 percent of its primary energy needs covered by coal. In addition, coal is one of the country's largest exports by value, with approximately 30 percent of South Africa's coal exported. This export of high-quality coal cross-subsidizes some of the mining operations that supply Eskom — South Africa's national state-owned electricity provider.[18]

Given the importance of coal and the integrated structures that have developed around the mining sector and power generation, any move towards alternatives has been strongly resisted by powerful economic and political actors. Resistance has also come from some labor unions and community groups that benefit from the extended value chains associated with coal. This value chain includes coal mining, coal transport, electricity generation, and petro-chemical production, as well as the formal and informal manufacturing, retail and service sectors, which have developed alongside coal industries.

Several recent national and international studies suggest that the energy transition in South Africa, and particularly the transition from coal, will likely occur far more rapidly than anticipated in the government's 2019 long-term energy plan — the Integrated Resources Plan (IRP).[19] This, in turn, suggests the need for far greater urgency in the planning for just transitions in South Africa.

> "The Integrated Resources Plan (IRP) is an electricity infrastructure development plan that is based on the least-cost electricity supply and demand balance. It takes into account the security of supply and the environment (thus minimizing negative emissions and water usage)."[20]

The key drivers for the accelerated transition away from coal include:

- Cost increases related to the use of coal;
- Availability of cheaper alternatives;
- The decommissioning of aging coal-fired power plants that will not be replaced;
- Reduction in electricity demand relative to projections;
- Challenges associated with the reliability of supply;
- Urgent need to mitigate greenhouse gas emissions; and
- Environmental concerns related to air quality, along with water quantity and quality.

Employment in the coal mining sector is likely to decline due to economic (least cost trajectories), technological (increased automation), and environmental (including nationally-determined contributions of CO_2 emissions and water scarcity) limits. Each of these factors is considered briefly below.


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INCREASED ECONOMIC COSTS

The real cost of coal to Eskom has increased by approximately 300 percent over the past two decades from USD7/ton in 1999 to UDS26/ton in 2017.[21] Although a current review of Eskom's procurement practices may secure some relief in terms of coal costs,[22] it is unlikely that this will be enough to keep the cost of coal-based electricity below the cost of renewable energy.

The relationship between the viability of coal mines supplying Eskom and the export of coal is complex. Several studies suggest that the demand for imported thermal coal is declining, or will fall, in all of South Africa's current markets (especially India, Pakistan, South Korea, and Europe). Although the mines exporting coal at present may be able to sell some of the coal to Eskom, it is unlikely that they will receive the premium secured on current exports, thus rendering some of these mines nonviable. This would leave Eskom either short of supply or having to pay more for the coal it is using.[23]

CHEAPER ALTERNATIVES

Alongside the rising cost of coal-based electricity is a decline in the cost of alternative sources of energy, including renewables. Internationally, new solar and wind projects are undercutting the levelized energy cost of existing and new build coal-fired plants. This trend is evident in the latest round of the Renewable Energy Independent Power Producers Procurement Program (REIPPPP) proposals in South Africa. The total planned contribution of renewable energy to the national grid has, however, been limited in the IRPs (2010 and 2019), in part, to protect the coal sector. For example, a broader consideration of storage options in the IRP, particularly low-cost and long-term electricity storage to help facilitate a growing share of variable renewable energy, would have allowed for the increased and potentially accelerated replacement of coal and gas.[24]

The Renewable Energy Independent Power Producers Procurement Program (REIPPPP) was established in 2011 to procure privately-supplied renewable energy for South Africa's energy system, while addressing the country's significant socio-economic challenges through various selection criteria built into the program. Through several rounds of competitive bidding, REIPPPP has, to date, attracted USD20 billion in new private investments, of which USD4.2 billion have come from foreign sources. It has, thus far, created 40,134 job years, of which approximately 90 percent have gone to South African citizens.[25]

RELIABILITY OF SUPPLY

South Africa has been through several rounds of "load-shedding" (rotational national power outages) over the past five years due to the inability of Eskom to provide sufficient electricity to the national grid. This unreliability of supply is the result of delays in new build projects, unplanned maintenance on aging coal-fired power plants, technical failures, and poor management. The Council for Scientific and Industrial Resources[26] estimated that load-shedding in 2019 cost South Africa between USD4 billion and USD8 billion. Supply issues and associated costs to the economy have necessitated an emergency Risk Mitigation Power Procurement Program. In addition, calls for the next bid window of REIPPPP to be opened have intensified from investors; nonetheless, it has been delayed to 2021.

REDUCED DEMAND

The combination of depressed economic conditions, rising prices, the insecurity of supply, embedded local generation, and most recently, the lockdown in response to the Covid-19 pandemic has resulted in a substantial reduction in total energy demand relative to projections. The previous IRP (2010) predicted an average annual growth rate of 3 percent in electricity demand for the 2010–2030 period. In reality, Eskom's sales have remained virtually unchanged from 207,319 gigawatt-hours (GWh) in 2006 to 208,319 GWh in 2019.[27] The decommissioning of more than 10GW of coal-fired power stations by 2030 (relative to the commissioning of just over 5GW over the same period), as laid out in the IRP 2019, will significantly reduce coal-based electricity production and the demand for coal.[28]

ENVIRONMENTAL PRESSURES

South Africa's reliance on coal for electricity has enormous environmental ramifications. In addition to CO_2 emissions, Eskom is under pressure to reduce sulphur dioxide, nitrogen oxide, and particulate matter emissions. In 2017, a study by economist Dr. Mike Hollard found that 2,239 people die per year from illnesses caused by pollution from Eskom's coal fleet, at a cost of about USD2 billion to the economy.[29]

The Department of Environment, Forestry and Fisheries (DEFF) has come under increasing pressure to hold Eskom accountable for these environmental impacts.[30] As a consequence, Eskom has recently been forced to close some of the most polluting units at the Kendal power plant in the Mpumalanga province for non-compliance with air quality standards.

Water pollution, particularly from mines, and water scarcity, exacerbated by the high water demands associated with coal fired power stations, are also major issues. It is projected that South Africa will have a water deficit of 17 percent by 2030, which will be worsened by periodic droughts caused by climate change. This is likely to put pressure on water-intensive power production.[31]

ACCESS TO FINANCE

One of the goals of the Paris Agreement is to "make financial flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development".[32] Globally, investor sentiment towards coal and coal-based energy generation is changing rapidly. It has been estimated that a bank, insurer, or other financial institution announced a restriction on coal financing on average every week in 2019.[33] In South Africa, substantial shareholder activist pressure at the Annual General Meetings of large banks has resulted in commitments to formulating accessible policies on fossil fuel investments. Large commercial banks have acknowledged that climate change is a material risk to their business and have committed to principles such as the UN Principles for Responsible Banking and the recommendations of the Taskforce on Climate-Related Financial Disclosures.[34] Despite these commitments, the transition out of coal and coal-related assets remains slow due to economic interlinkages, path dependencies, vested interests, and political sensitivities. There has, however, also been substantial support by commercial banks for REIPPPP projects, as their commercial viability becomes more apparent.

The state-owned Development Finance Institutions (DFIs) have been facing growing pressure to operate in line with the public policies and interests of the

current government. As private commercial banks move out of funding coal, DFIs have felt the push from the government to take up fossil fuel-related investments. This has, however, not precluded national DFIs from also making investments in REIPPPP, with a particular emphasis on supporting community ownership and transformation through their investments. Work is currently being done within both the commercial and development banks to clarify their positions regarding funding fossil fuel-related developments and reassess their exposure to climate-related physical and transition risks, as well as emerging opportunities in their portfolios.

The above drivers mean that there will be a transition away from coal for a range of economic, social, and environmental reasons. This, in turn, requires rapid and focused attention on how the benefits and harms of these transitions are managed to ensure just transitions. The most direct and obvious consideration in relation to just transitions is the immediate impact on workers in the coal mining and coal-fired power stations. Broader regional, national, and international implications of the transition to a low-carbon economy are, however, also important to consider and provide an essential context for the just transitions framework.

DECLINING EMPLOYMENT IN THE COAL SECTOR

The inevitable and rapid transition away from coal will have a significant impact on employment in the coal value chain, both nationally and internationally. According to the recently completed National Employment Vulnerability Assessment (NEVA) 2020, employment in South Africa's coal mining operations peaked at almost 140,000 in the early 1980s, declined to under 80,000 in 2015, and then rose to around 89,000 in 2019. The pay and employment benefits for workers in the coal mines, at a median pay of USD600 per month, compares well to other formal workers whose median pay is USD300 per month. The substantial risks associated with mine work and the relatively strong unions in this sector account for this pay disparity.

Employment in Eskom's generation division has remained relatively static at 12,000 workers, most of whom are employed at coal-fired power plants. These workers who have higher qualification levels than the coal miners earn a median pay of USD900 per month.

The current restructuring of Eskom into units focused on generation, transmission, and distribution may also exert an impact on employment in the energy sector; however, the actual impact is uncertain at this point. Nonetheless, what is certain is that employment in the coal mining sector will start to decline as power plants reach the end of their lifespans; it is increasingly unlikely that they will be replaced by similar coal-based technologies.[35]

Employment in the coal-related transport sector is spread across three forms of transport: rail (10 percent), conveyor systems (60 percent), and road (30 percent). According to NEVA, there are approximately 2,700 trucks split between small and large transport companies transporting coal (and other commodities), with approximately two drivers per truck.[36]

Collectively, coal miners, workers employed in coal-based power plants, and coal transporters constitute approximately 1 percent of total formal employment in South Africa. However, given a national unemployment rate of 30 percent, the availability of alternative employment is scarce.[37] The absorption of workers from the coal value chain thus requires the creation of decent[38] work, along with the substantial reskilling and upskilling of workers.

In addition to the direct employment outlined above, it must be noted that coal mining and power generation activities are extremely concentrated in one province (Mpumalanga), particularly four local municipalities. Coal accounts for almost half of the gross value added (GVA) in eMalahleni (44 percent); approximately a third in Steve Tshwete (35 percent) and Msukalingwa (33 percent); and slightly over a fifth in Govan Mbeki (22 percent). Over a quarter of the population in these municipalities is unemployed, with a high dependency on social grants. The municipalities struggle financially, with the mines and power stations often funding services normally

provided by local municipalities, including housing, water, sanitation, and road maintenance. The lack of diversity in the economies of these areas makes them extremely dependent on the mines and power stations. By comparison, the contribution of coal to GVA of the remaining eight provinces (excluding Mpumalanga) is 1 percent. In absolute terms, the employment of these four local municipalities accounts for approximately 76 percent of total employment in coal in the country.[39]

A study in 2017 of five large power stations approaching decommissioning (Camden, Grootvlei, Hendrina, Komati, and Kriel) provides further insights into the scale of employment and economic impacts of transition away from coal. The five power stations have a combined total of 3,013 permanent and temporary employees relative to an installed capacity of 8,634 megawatts (MW), or 18.7 percent, of the national energy grid. The estimated employment impact of these power stations in the local municipality, including employment in the coal mines and local coal transport, is 26,528 permanent and temporary jobs. This varies from 8.9 percent of the local municipal labor in Emalahleni and 1.2 percent in Dipaleseng. These mines also provide up to 10 percent of the local municipalities' gross domestic product.[40]

Recent interviews for NEVA suggest that many of the workers at the power plants will be offered transfers to the new plants of Madupi and Kusile, while those nearing retirement will be offered early retirement packages. Transition plans are, however, urgently needed for less-skilled workers employed at the mines, in coal transport, as well as in the formal and informal businesses of the region. The vast majority of these workers are black South Africans and migrant laborers from neighboring states. These groups are particularly vulnerable, as their ability to find alternative employment is limited.[41] The impact of the decommissioning can be mitigated by a range of options being considered including repurposing and rehabilitating power plants and associated coal mines.

Modeling by the Center for Energy Research indicates that employment in the coal mining and coal power generation sectors will decline, as power plants reach the end of their lives. Employment in these sectors will halve by 2045. According to a Cobenefits study (2019), jobs in the coal sector will decrease by 35–40 percent between 2020 and 2050. However, a shift to renewables, as outlined in the Integrated Resources Plan (IRP) (2019), will create a net increase (i.e., including job losses in the coal sector) of 150,000 new jobs in the power sector. Moreover, up to 1.6 million additional jobs can be created economy-wide through the power sector transformation by 2050. The challenge is that these jobs are not necessarily accessible to workers and communities currently dependent on the coal sector. This potential (mis)match highlights the importance of supporting just transitions at both the local and national levels.[42]

These impacts on employment (see box) illuminate the need to mitigate the local impacts of the transition in coal mining and power-producing communities, while simultaneously creating broader economic and development opportunities at the national level, through a transition to renewable energy.

JUST TRANSITION FRAMEWORK IN THE CONTEXT OF SOUTH AFRICA

Both globally and in South Africa, two interrelated forms of justice, namely procedural and distributive justice, are identified as being fundamental to achieving just transitions.

Procedural justice refers to the recognition of marginalized groups by including them in discussions and decision-making processes; enabling broad stakeholder participation such as the ability to shape the outcomes of change processes; and ensuring that governance structures are in place to influence local, national, and international transitions.

Distributive justice includes the fair allocation of the benefits and harms associated with the transitions including addressing issues of access, historical injustices (restorative justice), the current allocation of transition outcomes, and the consideration of future impacts of these transition processes.

The relationship between procedural justice and distributive justice provides a broad structure for understanding and deepening the potential of just transitions in different contexts.

Deep and complex transitions are required to achieve both procedural and distributive justice in responding to the urgent challenges of climate change and persistent inequality, unemployment, and poverty. This demands systems-level thinking and implementable solutions. It is exactly this level of engagement that has informed the establishment of CIF and its commitment to a programmatic approach as an important practice in country engagement and climate finance.

Since its early development in the labor movement in US in the 1990s, the concept of just transitions has sought to integrate economic, social, and environmental justice concerns. As the concepts and practices associated with just transitions spread, it has been reinterpreted to reflect the politics and interests of its various advocates.[43] This has resulted in a situation whereby there is no one clear definition

of just transitions, but rather a range of positions. In seeking to make sense of these varying positions, the Just Transition Initiative, drawing extensively on existing literature, has developed a broad framework that maps out diverse approaches, ideologies, and priorities along two continua.[44]

The Just Transition Initiative has used the general dimensions of **scope** and **social inclusion** to define concepts and practices informed by just transitions **(See Appendix 1).** These dimensions correspond broadly with notions of distributional justice and procedural justice, respectively.

Scope addresses the breadth of **distributional impacts** associated with transitions, as well as the **intentions** of transition planning and action. **Social inclusion** reflects the breadth and depth of **recognition**, along with the existence of governance structures and the capacity to participate within these structures, as required by **procedural justice.**

These dimensions of just transitions help to identify both the absence and inclusion of the different dimensions of justice in the energy transition planning, policies, and actions in South Africa over the past 40 years. Similarly, the framework helps to locate and understand the extent to which the participants in the interviews conducted for this case study are engaging with the different dimensions of just transitions.

In South Africa, the triple challenge of addressing inequality, unemployment, and poverty, identified as key focus areas in its NDP, will place certain parameters on what can be considered just transitions. In addition, the impact of climate change and resource depletion, particularly water scarcity, will impose specific constraints on how the country can go about addressing this triple challenge.

KEY MILESTONES – JUST TRANSITION DISCOURSE IN SOUTH AFRICA

(See Appendix 2)

The foundations of the work on just transitions in South Africa were laid during the collaboration of labor unions and civil society groups on issue-specific environmental justice campaigns in the 1980s and 1990s. The focus of this work shifted in the period after the 2008 financial crisis to the agenda of rebuilding the economy, while simultaneously responding to the increasingly urgent agenda associated with climate change. These interlinked challenges brought labor, civil society, business, and the government together around the shared notion of building a green economy.

In South Africa, several planning and policy documents explicitly tie the green economy to just transitions. First, the National Strategy for Sustainable Development (2011)[45] and the National Climate Change Response White Paper (2011)[46] set out the country's "vision for an effective climate change response and long-term, just transition to a climate resilient and low carbon economy and society". The Green Economy Accord (2011)[47], however, makes no reference to just transitions, highlighting the fact that these terms should not be conflated. When business and government interests coalesce around narrow economic growth and capital accumulation, it is possible to create an unjust green economy.[48] At the same time, the Congress of South African Trade Unions (COSATU) published a detailed policy on climate change, entitled "A just transition to a low carbon and climate resilient economy" (2011).[49] Energy issues were also coming to the fore as the country suffered from recurrent "load shedding" or rotational blackouts. This gave impetus to the development of an energy plan for the country, which included commitments to renewable energy and a carbon emission cap.

Beginning in 2012, South Africa started implementing an internationally acclaimed renewable energy procurement program. At the same time, management issues at Eskom, aging coal-fired power stations, and

a changing energy market resulted in the threats of decommissioning coal power plants and job losses in the coal sector. This led to tensions between labor and the environmental movement, thus revealing fault lines within the just transitions and green economy discourses[50] that Cock[51] described as the tension between a shallow just transition and a deep just transition. While the former focuses on job preservation, the latter seeks to initiate a deep transformation of the prevailing economic structures and their impact on workers, society, and the environment. These different positions are evident in the labor action of 2017/2018. For instance, the 2017 protest action of the Coal Transporters Forum "against the recent commitment by the country's authorities to procure billions of rands of renewable energy, a decision which will bring crippling job losses in many sectors" exemplifies a shallow just transition focus.[52] In contrast, the 2018 approach of the National Union of Metal Workers of South Africa (NUMSA) to prevent the Minister of Mineral Resources and Energy from signing renewable energy production contracts reveals a deeper commitment to transformation:

> *As far back as 2011 NUMSA called for a socially owned renewable sector that achieved service provision, met universal needs, decommodified energy, and provided equitable dividends to communities and workers directly involved in the production and consumption of energy … we were and remain committed to a socialist vision of RE [Renewable Energy], not a capitalist vision.*[53] *(NUMSA)*

A Presidential Jobs Summit in 2018 provided an opportunity for business, labor, the civil society, and the government to find some common ground. The agreement from this summit resulted in the commitment to set up PCCCC to drive just transitions in South Africa.[54] In 2019, the labor movement played a leading role in putting forward a plan to address the challenges at Eskom. Although the plan has not yet been accepted, there is evidence that a number of just transition coalitions linking labor, business, civil society, and the government are currently being formed to take the just transition agenda forward.

UNDERSTANDING JUST TRANSITIONS IN SOUTH AFRICA USING THE JUST TRANSITION FRAMEWORK

The Just Transitions Framework provides a useful lens for understanding how issues of social inclusion and scope are shaping the different points of view, plans, and policies in South Africa. The framework also helps to identify blind spots, omissions, or contested understandings, which may have resulted in protests against renewable energy in the country. The analysis below highlights some of these nuances under the broad dimensions of social inclusion and scope, as well as describes their relevance to the current and future dialogues on just transitions in South Africa.

SOCIAL INCLUSION

Recognition

Four intersecting forms of discrimination have resulted in marginalization along the lines of gender, age, race, and class. Female workers and employees represent 12 percent and 25 percent of the coal mining and the coal-based energy generation sectors, respectively. By comparison, 43 percent of the national workforce is female. Furthermore, youth unemployment in the coal-based municipalities is extremely high, with some areas approaching 50 percent — almost double the rate of older workers. Racially, there are almost no white people in the coal mining workforce.[55] The massacre of striking platinum miners at Marikana in 2012, where 34 miners were killed when police opened fire on striking workers, is a reminder that working-class black people in South Africa remain an extremely vulnerable group in the face of state and business power.[56]

In response to the phenomenon of marginalization, research, advocacy, and community mobilization work is being done to highlight the role of marginalized groups within mining communities and build the capacity of these groups to influence policies and other decisions that affect them.[57] A civil society group working with women in these communities stated: "When water is contaminated or energy is too expensive, it is the women who look for water or alternative energy sources, women have unique

experiences, it is their time, their risk that needs to be considered."[58] Substantial work is still required to engage at the community level and strengthen the voices of these marginalized groups in just transition dialogues.

Participation

How just transitions are framed has implications for who gets to participate in shaping the energy transition in South Africa:

> If framed as a technological transition from coal to renewables, then participation is skewed towards engineers and scientists. If, however, just transitions are framed as a political process with implications across all sectors of society, then broad inclusion across business, the government, labor, and civil society is required.

"You can't have a just transition if the process is not just, these must be inclusive and participatory processes."[59] (Interview: Government Representative) Recognizing the importance of participation, NPC in 2019 convened dialogues on just transitions, which brought together civil society, labor, business, and government representatives at local, provincial, and national levels.[60] This work that needs to be taken forward in the revised NDP must also inform the work of PCCCC that is currently being established.

Governance

> A Presidential Jobs Summit in 2018 led to an agreement from business, labor, the civil society, and the government to set up the **Presidential Climate Change Coordination Commission (PCCCC)** to drive the clarification and implementation of a just transition in South Africa. This body, made up of representatives from relevant departments across the State, social partners, experts from civil society, and relevant research institutions, provides a significant opportunity to examine the impact of climate change on jobs and contribute to unlocking an inclusive green economy.[61]

Recognition and participation require setting up formal institutions within which sectors of society can influence and enact policies and decisions concerning development pathways. A recurrent comment during the interviews was that "there is nowhere to go for coordination and collaborative work". Some felt that PCCCC would be an important space for government representatives, business, labor, and civil society to come together to work on just transitions. There was a concern that this should not be a commission filled with eminent persons and academics with no implementation arm.[62] Despite few reservations, the broad consensus is that PCCCC will fill a void, in terms of creating a cross-sectoral institution at an appropriate level within the Presidency to take forward just transition processes in South Africa.

At the intersection of recognition, participation, and governance are deep-seated issues of politics, power, and the political economy. Understanding how political forces influence economic outcomes is central to possibilities for just transitions in South Africa: "The exercise of power by state and corporate elites [...] can block change until such time as the interests of capital in general are perceived to be served by an alternative energy base."[63] Hence, imminent transitions can be slowed down, or worse, occur in haphazard, painful ways, if the centers of powers react to crisis, instead of making strategic decisions with a long-term vision to ensure the safety

and justice of those impacted. With a long history of power associated with a mineral energy complex in South Africa, careful attention needs to be given to building the capacity and influence of marginalized and emerging social and economic groups in the pursuit of low carbon and climate-resilient futures.

SCOPE

Scope refers to both the breadth of distributional impacts and depth of the transformational intention. In South Africa, several distributional considerations are being raised.

Present distribution

Different interest groups bring in various perspectives in terms of scope. The National Union of Mineworkers (NUM) and the Coal Transporters Forum are largely focused on securing the employment of their members. This leads to an important, but relatively narrow, approach to distribution within the coal mining and power generation sectors.

> *There is a need to show how the just transitions discussion impacts other sectors such as the construction and the retrofitting of public buildings. We need to challenge the mineral-energy complex by showing the economy-wide implications of a just transition…*[64]
> *(Interview: Labor Union)*

The above quote focuses on the potential distribution of benefits and the mitigation of prospective disadvantages by taking a broader view across the economy. This view is evident in the support that NUMSA expressed for a socially-owned and locally-focused renewable energy program in South Africa. It is also evident in NEVA and the Sector Jobs Resilience Plans (SJRP), which explore the possibilities for addressing distributional issues through a broader economic expansion that allows for the absorption of displaced mineworkers and employment creation in the context of extremely high levels of unemployment.[65] These considerations on the scope of distributional impacts help one to understand the perceived incongruity of working on renewable energy projects and focusing community benefits around these projects in one part of the country, as the impacts of transitioning away from coal are felt in distant regions.

The Just Transitions Framework can thus help to position different distributional interests at the local, national, and international scales, and therefore, open possibilities for dialogues on broader distributional and developmental considerations, along with more inclusive change.

Access and affordability

Poverty levels in South Africa have remained stubbornly high, with the number of people living below the lower bound poverty level (LBPL) (just over USD2 per day) increasing from 39 percent in 2009 to 40 percent in 2015 (the latest available statistics).[66] This figure is likely to have risen further during the COVID-19 pandemic.

Although over 90 percent of households have access to electricity, LBPL means that households have to choose between buying food and other basics, including electricity. This makes the intersection of the energy system with poverty an important consideration in supporting a just energy transition. For example, households without access to affordable electricity may be pressured into eating less nutritious foods based on cooking times. Access to affordable electricity (or clean, healthy energy) was highlighted by a civil society group working with resource-poor communities in South Africa: "In South Africa the power cables are passing over the people but the people cannot afford the power so they are not connected to the grid or there is a lot of debt." [67] There is a concern among the government, labor, and civil society groups that the privatization of the energy sector during the energy transition will raise the cost of electricity, thus reducing access and undermining affordability for poor and marginalized communities and municipalities. The development of decentralized energy production and distribution grids is receiving significant attention nationally, although the legal frameworks are still restrictive. Issues of equitable access and impacts on Eskom and municipal revenue remain contentious.[68]

Restorative justice

Restorative justice has been used in the context of climate change to refer to the need to rectify injustices caused by energy activity or transitions. It thus addresses both the historic carbon emissions of developed countries and the current/future requirement that developing countries, in particular, leave fossil fuel resources in the ground.

This concept also requires consideration at different levels. South Africa has, for example, emphasized within its NDC under the Paris Agreement.[69] That its mitigation commitments will be "enabled and supported by significant climate finance and investment, accessible, and affordable technology and substantial capacity building commitments".

CIF is directly linked to this North-South dialogue: its investments are in the global South and its donors are from the global North. At the local level, there are also assumptions that those affected by race- and gender-based discrimination should not be further excluded during the energy transition. This highlights the need for affirmative support for emerging black and women-owned businesses, as well as resource poor, predominantly black communities in the transition processes.

ENABLING AND CONSTRAINING FACTORS

In addition to the dimensions and aspects of the just transitions identified above, a number of key enabling and constraining factors that are shaping the discourse in South Africa were mentioned in multiple interviews. These broad systemic factors are considered to be important levers for change.

FINANCING JUST TRANSITIONS

The following key points and concerns have emerged, in terms of financing just transitions:

- The role of private finance and shareholders requires focused attention due to their power and influence. The need to shift the focus of this sector from short-term profits to long-term value creation is a recurrent suggestion.[70]

- The lack of independence from political influence in national development finance institutions to make decisions on climate-related risk in their portfolios was highlighted during the interviews.[71]

- The inability to transform ownership and support emerging local businesses was identified as a major shortcoming of current investment and finance arrangements.[72]

- A recurrent comment from national and international banks and investors is that it is the shortage of bankable projects, rather than the availability of capital, which is the limiting factor. Two questions require further clarification in this regard. What value do we include in deciding whether a project is bankable? What is required to unlock finance for bankable projects?

- Linked to the point above, the need for concessional finance that de-risks innovative and transformational technologies to support just transitions was identified in the interviews as an important role of both international and national development finance institutions.[73]

- The National Treasury has released a technical document on sustainable finance, which aligns investment with environmental and social considerations, including just transitions. This document concludes that "sustainability and making a just transition towards a lower-carbon economy need to inform all financial decision-making".[74] In order to achieve this, there is a need to: support capacity building in all financial sectors; adopt and disclose relevant performance measures; and build an understanding of sustainability and just transitions, which promote consistency and credibility. Similar points are made with regards to MDBs in a new publication (in press) by Vivid Economics and London School of Economic.[75]

AGGREGATING AND SCALING FOR IMPACT

A number of dimensions related to scale and scaling were mentioned in the interviews.

> Commonly acknowledged features of scale include the *horizontal* dimension of geographical coverage, the *vertical* dimension of policy engagement across departments and sectoral silos, and the *functional* dimension of increasing the scope of activity, i.e., adding interventions to an existing package or expanding into other areas.

While many social investment initiatives associated with renewable energy projects focus on local community development within 50 kilometers (km) of the project sites, many of the impacts of the transition will be felt in the coal-dominated regions on the other side of the country. Therefore, the focus of the just transition should be spread across geographic areas — the horizontal dimension of scale, which points to the need for improved policies and policy alignment, in terms of the environmental and social implications of transition initiatives.

As an example of the vertical dimension of scale, NEVA and SJRP also suggest scaling beyond the energy sector to recognize the potential of regional manufacturing, environmental rehabilitation, circular economy initiatives related to waste products within the coal value chain, and tourism.

With regards to the functional dimension of scale, the current requirements of REIPPPP are being contested in terms of local ownership and broader social benefits. Suggestions include calls from unions for a socially owned renewable energy program, the inclusion of decent work criteria in the REIPPPP, and a greater focus on the creation of local manufacturing jobs. This will require a greater emphasis on sustainable public supply chain management and procurement processes.

This level of scaling across multiple dimensions requires a "convening space" that brings together key stakeholders with a broader national and even regional mandate. CIF's programmatic approach and the call for the establishment of PCCCC are two examples of such "convening spaces". Through these kinds of initiatives, it should be possible to aggregate the many disparate projects being implemented by the government, business, the civil society, and labor into large-scale programs. This would enable the demonstration of just transitions at scale and reduce the transaction costs of implementing many small projects.

SKILLS ANTICIPATION AND DEVELOPMENT

Skills development — reskilling or upskilling — is required to enable workers in sectors that are being phased out to access new employment and livelihood opportunities in current and emerging sectors.

Much of the existing skills planning in South Africa is based on "Workplace Skills Plans" completed by predominantly large employers in 21 different sectors. These skills plans are often based on existing skills needs in a particular company; therefore, they are not focused on anticipating new skills required in an emerging sector.[76] However, anticipating new skills will become all the more important in post-COVID-19 recovery efforts and economic restructuring, as countries seek to build more resilient, equitable and sustainable futures. Anticipatory skills intelligence

and proactive skills development within and across sectors is thus required to equip prospective and existing workers for new or different employment and livelihood opportunities.[77]

As is evident in the CIF-linked project cases that will be described below, individual projects are investing in skills development to equip local community members for employment in renewable energy projects. However, had this skills development been done earlier through national skills planning and implementation, it could have resulted in more South Africans having the skills needed to build, operate, and maintain renewable energy projects. This national-level anticipatory skills planning was highlighted as important for building a sustainable economy and reskilling people who will lose their jobs/livelihoods in the transitions processes.

Furthermore, the development of skills is also required to support social inclusion and particularly meaningful participation in transitions processes. The latest gender action plan in CIF highlights the link between gender and education.[78] In 2019, civil society groups working with women in mining communities supported the latter in engaging with the development of IRP and making presentations to the national portfolio committees in parliament during the public consultation processes. These processes require both new skills development, along with the recognition of existing knowledge and skills, as valid and important in the energy transition dialogues.

VESTED INTERESTS

A review of the energy transition in South Africa reveals that powerful interests have built up around the ability to extract profit and rents from the projects associated with coal-based energy and state-owned companies such as Eskom, in ways that have not been possible to date in the more competitive and transparent bidding processes associated with the REIPPPP.[79] These powerful actors have had strong interests in delaying the transition to a low-carbon economy.[80] Therefore, there is a need for development finance institutions, government, business, labor, and civil society institutions with a commitment to 'just transitions' to find strategies to address such constraints.

CIF IN SOUTH AFRICA

CIF entered South Africa at a critical point in the country's energy history and national planning processes. A Cabinet Decision in 2008 and the subsequent Voluntary Agreement at the Conference of the Parties (COP) in Copenhagen in 2009 committed South Africa to reducing its CO_2 emissions. At the same time, South Africa was experiencing significant electricity shortages as a result of economic growth and increased household connections, that was coupled with a lack of new generation. This stimulated the finalization of the National Energy Efficiency Strategy (2009) and the establishment of the Renewable Energy Feed In Tariff (REFIT) program to incentivize the development of renewable energy projects. At the same time, two large coal-fired power stations were being developed with funding from the International Bank for Reconstruction and Development (IBRD) and AfDB. It was in this context that the South African Clean Technology Fund (CTF) Investment Plan[81] was presented to, and approved by, the CIF Trust Fund Committee in October 2009.

Over the next two years, the renewable energy sector and the national planning frameworks, along with policies in South Africa, underwent fundamental changes with the introduction of REIPPPP and the publication of NDP. A number of CIF partners, including IBRD, AfDB, and IFC, were involved in these changes through both the multi-sectoral engagement with the South African government and Eskom, as well as the commitment to increasing renewable energy and reducing carbon emissions across the energy sector.

The Long-Term Mitigation Scenarios (LTMS), developed between 2006 and 2008 with support from IBRD and the Global Environment Facility (GEF), provided a detailed modeling of the implications of different mitigation pathways. Overseen by the Department of Environmental Affairs (DEA), with substantial stakeholder participation, LTMS has been described as a turning point in South Africa's climate policy.

Table 1
SUMMARY OF CIF PROJECTS IN SOUTH AFRICA

NAME OF PROJECT AND APPROVAL DATE BY TRUST FUND COMMITTEE	PARTNER MDBS	PLAN DESCRIPTION	PROJECT AND SIZE	CTF VALUE (USD MILLION)	CO-FINANCE BY CIF PARTNER MDBS (USD MILLION)	TOTAL COST (USD MILLION)
Eskom Renewable Support Project (ERSP) (2010)	AfDB & IBRD	Sere Wind Farm Upington CSP	Sere Wind Farm 100MW (2015) Re-orientated to battery storage	90	32	**266**
Sustainable Energy Acceleration Program (SEAP) (2010; 2013)	AfDB & IFC	Support to REIPPPP CSP	Xina CSP 100MW Kaxu CSP 100MW Khi CSP 50MW (2015)	44 42	147 200	**649** **1,300**
Restructured ERSP – Battery Storage	AfDB & IBRD	Battery storage	Approved by CIF TFC, not yet submitted to AfDB board for approval	57	Co-financing TBD	
TOTAL				**233**		

Source: Project financing figures are best estimates created with data from project documents, interviews, and direct feedback from MDBs.

Drawing on the information provided by the Long-Term Mitigation Scenarios (LTMS), the South African CTF Investment Plan highlighted the potential to reduce South Africa's CO_2 emissions, while generating economic, social, and environmental co-benefits. These included industrial development, job creation, and reduced air pollution. With these considerations in mind, the South African CTF Investment Plan identified the following as priorities: private sector-led, grid-connected solar, thermal, and large wind power projects; as well as private sector and municipality-led solar water heating and energy efficiency, including demand-side management. The investment plan recognized that the absence of a precedent for bankable power purchase agreements, a lack of grid integration for renewable energy, and technological risks associated with innovative technologies created barriers for renewable energy projects. By providing concessional finance to pioneer projects to create a track record and lower the real costs and risks for future developers, the plan noted that CTF "could have a transformational impact on the market".[82]

Two broad program areas with specific project proposals were subsequently developed by IBRD, AfDB, and IFC based on the approved investment plan. IBRD and AfDB put forward the Eskom Renewables Support Program (ERSP) that focused on the development of a CSP plant in Upington and wind power (Sere Wind Farm). Building on the work in the Clean Development Mechanism to unlock finance for energy efficiency, IFC and AfDB put forward the Sustainable Energy Acceleration Program (SEAP). In addition, IFC developed a proposal (the Energy Efficiency Program) related to unlocking finance for energy efficiency initiatives. Given the timing of these proposals in the aftermath of the financial crisis, these projects were aligned with the government's objectives of a recovery that emphasized accelerated and shared growth, reduced unemployment and poverty within a minimum time frame, as well as the maintenance of a stable and sustainable macro-economic framework.

In early 2011, the South African government promulgated IRP to set out the long-term electricity demand and details on how it would be met. For

the first time, IRP incorporated a carbon emission cap and included renewable energy commitments. Incorporated in the plan was a renewable energy capacity of 17.8GW, or 21 percent of all its capacity, by 2030.[83] The Sere Wind Farm (100MW) and the CSP plant in Upington (100MW) were included in the list of projects in IRP. At the time, two very small wind power initiatives and no CSP projects were operational in South Africa. Eskom had tried for a number of years to develop both the Sere Wind Farm and the CSP project in Upington, but had been unable to secure private sector interest in these innovative technologies. The projects proposed by and supported through CIF, therefore, had significant transformative potential, in terms of providing large-scale demonstration projects and integrating them with the national grid.

The South African government and MDBs, along with other partners, worked and continue to work closely with one another to develop and unlock the renewable energy and energy efficiency sectors in South Africa. The close alignment between the developing policy framework and the project proposals offers evidence of the ongoing dialogues. For example, the MDB partners worked with the South African government and Eskom to develop the South Africa CTF Investment Plan, while Eskom collaborated with the World Wildlife Fund of South Africa on renewable energy and the National Business Initiative on energy efficiency.

However, there is also evidence that country consultations on renewable energy have been compromised by concerns about the IBRD and AfDB investments in the Medupi coal plant. From the perspective of MDBs, this inclusion signaled the need to open up alternatives to coal. However, tensions filtered into the renewable energy debates, as the inclusion of the Sere Wind Farm and the CSP project in Upington in the Medupi investment plan were seen as greenwashing by several civil society groups and some academics.[84] At the time, the government, labor, and business were focused on getting the economy back on track and addressing the severe electricity constraints in the country. This led to broad support for energy generation infrastructure development that included both coal and renewable energy.

Just as the initial CIF projects were being approved, South Africa terminated the REFIT program and launched REIPPPP. This shift from feed-in tariffs to competitive bidding undermined confidence in the government's consistency and commitment to renewable energy.

However, many of the early developers that had sought to get projects approved under the REFIT program benefited from the first round of REIPPPP. **The work by the CIF partners on the Eskom CSP project that was never implemented and subsequently reoriented to a battery storage project paved the way for the development of the first CSP projects in South Africa under REIPPPP.** The background work on solar radiation mapping for CSP in South Africa, along with the business case development related to dispatchable electricity during peak demand periods, enhanced the acceptance of CSP in South Africa. The KaXU and Khi Solar One were developed with IFC and CIF support during the first round of REIPPPP, while the Xina Plant was developed during the third round of REIPPPP with AfDB and CIF support. Given the innovation, risks, and costs associated with CSP at the time, it is unlikely that these projects would have transpired without the background work of Eskom and the CIF partners, IFC, and AfDB. The Sere Wind Farm, although developed outside of REIPPPP, also provided an early large-scale project that set the foundation for a number of utility-scale wind developments under REIPPPP. Specifically, 21 wind generation projects and seven solar thermal projects have been completed under REIPPP, generating 1,988MW and 500MW of renewable energy for the national grid, respectively.[85]

Box 1

RENEWABLE ENERGY INDEPENDENT POWER PRODUCERS PROCUREMENT PROGRAM (REIPPPP) AND JUST TRANSITIONS

Requirements for bids

The development of REIPPPP coincided with the writing of NDP, thus resulting in a focus on inequality, unemployment, and poverty, with a substantial emphasis on job creation, community benefits, and local ownership within the procurement processes. These non-price criteria account for 30 percent of the scoring during the bid adjudication. Bidders and project managers are required to assess the needs of communities within a 50km radius of the project sites and prepare strategies covering these needs.[86]

The investment into these local communities is met through the following contributions:

- 1 percent of project revenue to socio-economic development;
- 1 percent of project revenue to black-owned enterprise development; and
- local ownership requirements, including a minimum 8% community shareholding in the projects.

A range of points of view

Too far. Not far enough.

The government highlighted the potential of REIPPPP to boost local manufacturing in a completely underdeveloped sector. It also noted that the distributed nature of renewable energy, particularly the potential to develop solar energy (both PV and CSP) in the Northern Cape, offers an unusually intense business focus on rural areas that otherwise may have had little potential to attract investment.

The broader development orientation of REIPPPP has been controversial. For bidders, it introduced unclear criteria that led to energy project developers and implementers needing to work in areas of socio-economic development where they were unfamiliar in many instances. At the same time, many communities and labor groups felt that the benefits from these "economic development" requirements did not go far enough. This difference of opinion culminated in NUMSA approaching the High Court to stop the Minister from signing 27 REIPPPP contracts in 2018.[87]

Links to CIF

Requirements that applied to all REIPPPP projects did not apply to the Sere Wind Farm, as the latter was Eskom-owned, and therefore, neither independent nor private. Given that a just transitions framing was not applied to REIPPPP projects at the time of their development, it is these requirements from the bidding and adjudication process that project developers and managers retrospectively referred to as "just transition" contributions during the interviews conducted for this case study.

PROJECT CASE 1

THE SERE WIND FARM PROJECT

The Sere Wind Farm project aimed to facilitate the accelerated development of large-scale renewable energy capacity in support of South Africa's long-term carbon mitigation strategy. The lack of wind power's proven performance on a large scale in South Africa created the perception of risk amongst potential private investors. The project thus sought to address this barrier by catalyzing private sector investment through decreasing risk and increasing transmission capacity by connecting Independent Power Producers to the national grid. Concessional finance proved to be the key to unlocking investment and completing the early wind farm development at scale in South Africa.

A final project proposal for the wind farm from Eskom was approved by CIF with the support of IBRD and AfDB in 2010. The total cost of the project — USD243 million — was fully financed with public funds from CIF, IBRD, AfDB, and Eskom.88 Eskom now owns and operates the Sere Wind Farm.

INSIGHTS FROM SERE IN RELATION TO JUST TRANSITIONS

It is important to note that the Sere Wind Farm was not developed with a just transitions framing in mind. Thus, any consideration of the dimensions of just transitions are applied with an interest in developing new insights, rather than as forms of judgement or evaluation.

The following connections to just transitions are evident.

Benefits to the local economy: Through a process of stakeholder engagement with community members and the local municipality, socio-economic concerns within a radius of 50km of the project site were identified and funded.[89] These included concerns focused on local employment opportunities, affordable school transport, opportunities for the youth, cultural activities, business and work, leadership development, community facilities and infrastructure, along with social services. The Eskom Development Foundation and the developers invested an estimated USD40,000 in addressing these needs. Contractors also employed laborers from the local community during the construction, utilizing 540 people at the peak of construction. Nine permanent jobs have been created for local community members. It is estimated that a further USD280,000 was spent on local contractors, thus directly benefiting the local economy. No formal community ownership program could be put in place due to the institutional context; however, development opportunities have been offered in a rural area with few such opportunities and a positive relationship with the community has been built.

Insight: *Social inclusion at the local level includes participation in defining socio-economic and skills development needs, as well as deciding on the allocation of funding to these needs. This can lead to the building of a positive relationship with the local community. However, the level of investment was significantly less than is required under REIPPPP.*

One of the conditions of the loan required Eskom to adhere to the World Bank procurement guidelines. This precluded the inclusion of supplier development and localization, which was part of the "Broad Based Black Economic Empowerment" regulations and preferential procurement requirements in South Africa. Although many of these aspects are covered in the Environmental and Social Safeguards (ESS) of the World Bank, they do not extend as far, in terms of affirmative or restorative intent, as the local regulations. The project was also not funded under the procurement conditions of REIPPPP, with requirements related to socio-economic development and local ownership. Commitments to local procurement, socio-economic development, and skills development were not part of the procurement evaluation criteria, but were implemented by Eskom and some of the contractors as "own funded packages".

Insight: *Where local procurement practices support aspects of distributive justice beyond those of an MDB, it may be appropriate to use local procurement regulations. The use of country standards related to the World Bank's ESS since 2016 provides a precedent for this approach.*[90]

Skills development: Skills development was included by Eskom in the four main contracts linked to the Sere Wind Farm. The contractors provided training on topics in line with the skills and knowledge required to maintain and operate a wind farm, offered bursaries to identified local college students, or made bursary funds available by way of a deposit in the identified college's account and monitored them to ensure the proper use of the funds. This skills development has enabled local workers, employed by Eskom, to progressively take over the maintenance and operation of the Sere Wind Farm.

Insight: *With regards to skills development, local staff need to be developed and trained to the skill level required before construction starts and it is important to develop a pipeline of the organizational structure and recruitment plan. Both these aspects reflect the need for anticipatory skills development.*

Multi-sectoral consultations and social inclusion: Social inclusion needs to be considered on two broad scales. The first relates to national consultations: here, it is clear that multi-sectoral discussions with stakeholders from the government, business, labor, and civil society, in relation to LTMS and energy planning, were reflected in the decision to pursue the early implementation of wind power in South Africa. The programmatic approach and the provision of concessional finance by CIF were important for identifying and unlocking finance for the Sere Wind Farm.

The second relates to social inclusion at the local level, that is, involving diverse groups in the local community and the local municipality. However, the impact of this local level participation was less pronounced due to the limited funds allocated to local socio-economic benefits. Issues of gender were also not mentioned in the project planning or close-out documents, or the interviews conducted; they did not appear to have been a serious consideration, in terms of recognition or participation.

Insight: *Social inclusion at the local level, supported by a broader programmatic approach at the national level, are important and potentially mutually reinforcing dimensions of social change. Within these processes, issues related to gender need more serious consideration, not only in the Sere project, but across all projects considered in this case study. The more recent gender action plan of CIF provide substantial guidance in this regard.*

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CASE CONCLUSION

As noted, the Sere Wind Farm was not developed with a just transition framing in mind. The issue of who benefits and who loses (i.e., the distributional intent in the process of energy transition) was also not a major consideration in the development of this project. The limitations placed on supplier development and localization by the Word Bank procurement guidelines, along with the lack of community or local ownership, have reinforced labor's concerns about the absence of local benefits associated with renewable energy.

Nonetheless, Eskom's requirement that contractors included a commitment to skills development has created opportunities for local workers to participate in the emerging renewable energy sector. A more strategic and anticipatory approach at the national level would contribute to greater local employment and a reduced reliance on overseas expertise.

This project has had many successes, including timeous completion under budget and the delivery of more renewable energy to the grid than originally planned. These successes have stimulated further interest in wind energy in South Africa and paved the way for substantial private sector investment through REIPPPP. However, a number of emerging insights suggest that, as just transitions become an important focus in the energy sector, there are opportunities to learn from cases such as Sere in order to deepen socio-economic inclusion, enhance the benefits created, and distribute benefits more fairly.

PROJECT CASE 2

XINA SOLAR ONE CONCENTRATED SOLAR POWER (CSP) PROJECT

The Xina Solar One plant features innovative renewable energy technology in the form of an integrated storage system that enables the plant to continue distributing power for 5.5 hours after sunset. Although expensive, this storage makes it possible to dispatch energy into the grid during the evening demand peak. In addition to meeting energy demands in the country and reducing harmful emissions, the project has supported black ownership with dividends flowing to a community trust; created local jobs; and used local suppliers for over 40 percent of project materials.

CIF contributed USD41.5 million in concessional finance to support the mobilization of over USD908 million through AfDB, DBSA, IDC, IFC, and South African commercial banks. The shareholders of the project are: Abengoa Solar SA (40 percent); the Industrial Development Corporation of South Africa Limited (20 percent); the Government Employees Pension Fund represented by Public Investment Corporation (20 percent); and a local community trust (20 percent).

INSIGHTS FROM XINA SOLAR ONE RELATED TO JUST TRANSITIONS

The Xina Solar One project was developed in response to the calls for bids under REIPPPP. As such, although it did not have a specific just transition framing, a number of the non-financial bid requirements of the REIPPPP process ensured that the project had significant socio-economic and enterprise development benefits. These benefits provide insights that are relevant to just transitions.

Benefits to the local economy: As a requirement of REIPPPP, 1 percent of revenue should be spent on socio-economic development within a 50km radius of the project. Programs in the community, which have benefited from the annual budget of approximately USD1 million generated, are as follows: after-school care for school children (23 percent) ; improvements of education in schools, bursaries, and internship programs for youths (20 percent); along with local agricultural projects to build sustainability in the local (50km radius) community (25 percent). Additional benefits included the creation of 1,300 positions during the peak construction period. South African citizens filled approximately 70 percent of the jobs created during construction, with South African women making up 6 percent of the total workforce. Further employment opportunities in the country were created through a requirement that a minimum level (40 percent) of materials and equipment be provided by local suppliers. During operations, the site employs 80 people from local communities.

Insight: *The requirements under REIPPPP have generated substantial benefits for the local community within the 50km radius of the project. The contributions are carefully tracked and reported by project implementers. The materials and equipment for CSP are more readily available locally than some other renewable energy technologies, which resulted in the local procurement*

requirements under REIPPPP being exceeded.

The REIPPPP bidding requirement stipulated a minimum stake of 8 percent to be held by a local community trust to support local economic development. In the case of Xina Solar One, the community trust owns 20 percent of the project. Dividends from this trust flow back to the community through local economic development beneficiary projects over the project's 20-year lifespan, once the initial loan used to establish the trust has been repaid. It is estimated that USD28 million will be invested in the community over the next 20 years. Projects decided by the local community (50km radius) include early childhood development; support for women in the local community; and the improvement of livelihoods through agriculture and food security.

Insight: *The inclusion of the local community in both the ownership and benefits produced by the project has created a meaningful platform for social inclusion and influence.*

Skills development[91]: Two dimensions of the skills development initiatives funded through the Xina Solar One project stand out. The first is the continuity forged between early childhood development, after-school care, the quality of basic education, post-school education opportunities, and on-the-job training: "Our main focus is on education due to the lack of quality education in our region, because once you have a proper education system in place, everything after that falls in place."

The second is the creation of a "skills hub" through the linkages between three CSP projects (KaXu, Khi, and Xina Solar One) that are being implemented by Abengoa in the area. Local interviews revealed that young interns are being given the opportunity to learn, while working on one of the CSP projects, which could then lead to the possibility of applying for permanent posts as they become available in the area. One young woman, an electrical intern, noted: "Working at a renewable [energy] plant is much better for me, because here, I'm not underground like at a mine where I would [have been]." In another instance, an intern at Khi moved to Xina Solar One to take up a position as plant engineer.

Insight: *The support for education, in conjunction with an emerging hub of solar energy in the Northern Cape, could support local employment and cultivate broader development opportunities.*

Multi-sectoral consultations and social inclusion: At the national level, the competitive bidding environment of REIPPPP has undermined opportunities for collaboration between project developers with regards to socio-economic development.[92] This has often resulted in duplication and missed opportunities, in terms of building coherent and cumulative programs in particular areas. In contrast, the Khai Ma municipality in the Northern Cape used the opportunity provided by the development of five solar projects, including Xina Solar One, to convene consultations between all the project developers and the local communities to plan local developments in the area. This resulted in more coherent local planning and benefits. For example, support for post-school education and training created a range of opportunities for the local youth, including internships and employment within the renewable energy sector in the region.

Insight: *National and local governments, MDBs, climate funds, and companies involved in multiple projects in a particular region need to play a cross-sectoral convening and strategic role to enhance the benefits, including the just transitions, of development initiatives.*

Environmental benefits: From an environmental perspective, the plant's output of 382.9 GWh/year has had a significant positive effect on carbon emissions, as it is expected to save about 400,000 tons of CO_2 emissions per year. In addition, the dry cooling technology has reduced water consumption by 80 percent relative to similar developments without this technology.

CASE CONCLUSION

Economically, the power plant has brought substantial development to an area that has had few other development opportunities, while also increasing the stability of the remote electricity network. The non-financial bid requirements in REIPPPP have created significant opportunities for social inclusion and made the benefits associated with the Xina Solar One power plant more explicit. The direct, ongoing investment in the local community, along with local ownership and local supplier development, has ensured the distribution of the benefits of renewable energy development to local communities. These benefits can be enhanced by more coordinated planning and implementation.

What is less explicit is how these benefits could also be extended to those workers and communities impacted by the phasing out of coal. While this is not necessarily a project-level responsibility, it does require attention at the national level.

CIF IN SOUTH AFRICA: INSIGHTS FOR AN EMERGING FOCUS ON JUST TRANSITIONS

CIF and partner MDBs have worked broadly at two levels in South Africa. At the national level, there is evidence of support for planning and policy through socio-economic and climate modeling, along with cross-sectoral dialogues. At the local level, there is direct support for low-carbon energy projects, and in particular, renewable energy based on wind and solar. By reflecting on insights emerging from this engagement, as it relates to an evolving just transitions framework found in international literature, there are a number of gaps, challenges, and opportunities that can be identified.

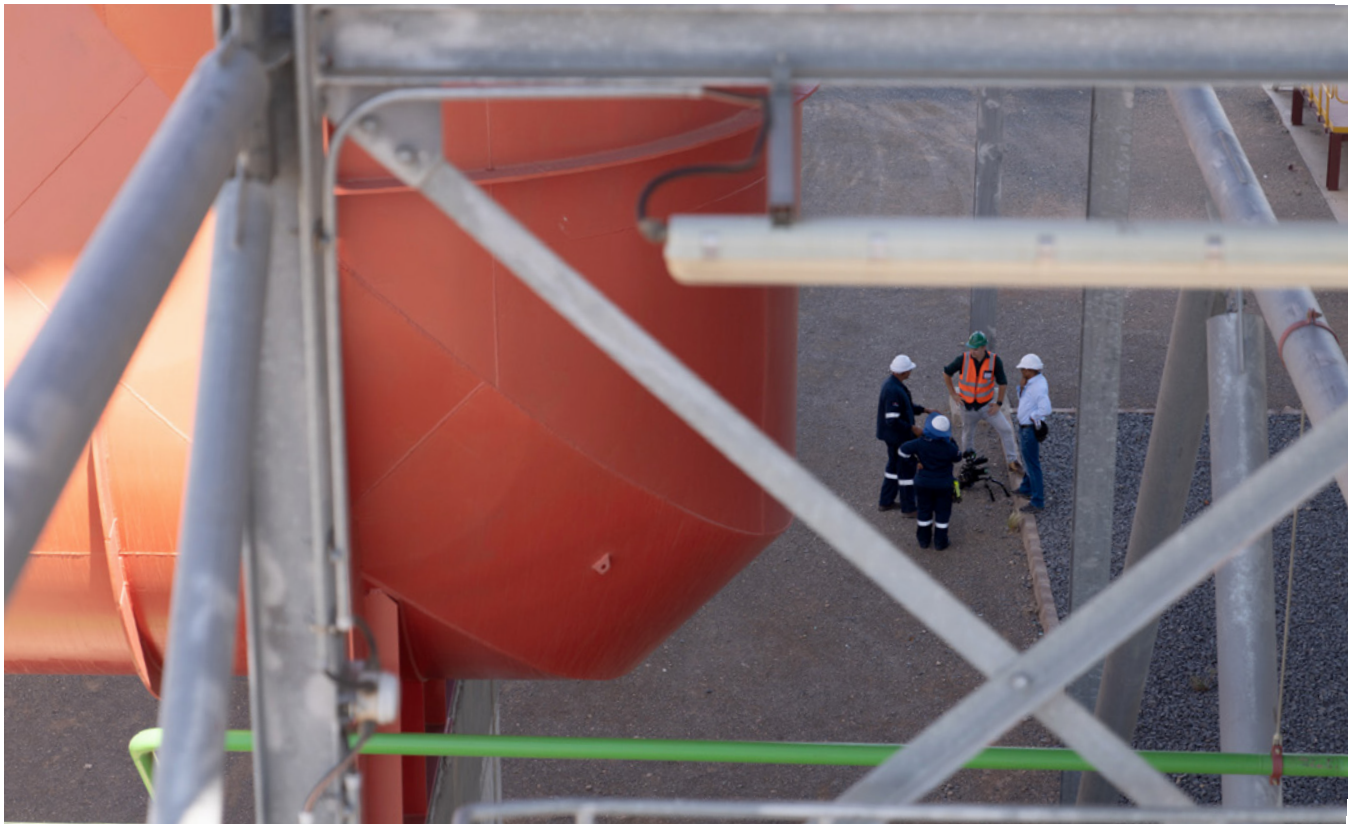
The participatory development of key plans has led to positive outcomes related to social inclusion, participation, and governance. However, overall recognition and procedural justice elements can be strengthened by extending participation and representation more broadly and deeply in future investments. At the national level, the participatory development of LTMS, the engagement with national stakeholders on renewable energy and energy efficiency, as well as the development of the Country Investment Plan, were supported by CIF and the MDB partners. These engagements in the period from 2007 to 2012 (when the investment plan and individual projects were being formulated) suggest that aspects of social inclusion, participation, and governance, as articulated in the just transitions framework, were present.

However, it also becomes apparent that, moving forward, opportunities exist to improve the levels of recognition and empowerment in these national processes. The participation of a broader range of stakeholders within the LTMS processes could be replicated and enhanced. The recent national consultations on just transitions by NPC provide both a process and content, which can inform national-level consultations on investment plans and country partnership agreements. In order for this social dialogue to take place, there is a need for transparent governance structures that allow for business, the government, labor, and civil society to come together and engage with each other and international stakeholders such as CIF and MDBs.

Diverse perspectives on the depth of transformation, vital for just transitions with regards to both distributional impact and systems change, require careful attention, dialogue, and potentially compromise. In South Africa, past and present inequalities require restorative justice or an affirmative approach to local ownership and economic empowerment. This goes beyond the risk mitigation functions of most of MDB's ESS. It implies the use of country policies that allow for, or positively support, greater distributional benefits to previously and currently marginalized groups, as well as greater depth in the transformation of socio-economic systems.

This was the case with REIPPPP's non-financial bid requirements on socio-economic development, local content, and community ownership. The World Bank's 2016 decision to allow countries to use their own environmental and social policies within the procurement processes, when they exceed the World Bank guidelines, allows for greater contextual considerations including restorative justice. For much of the labor constituency, as well as some government and civil society groups, REIPPPP has failed to achieve any significant distributional impact or system change. Demands for a socially-owned renewable energy sector that secures access to electricity and provides equitable dividends to communities and workers directly involved in the production and consumption of energy remain unmet and the basis for substantial opposition to the REIPPPP. Therefore, it is evident that just transitions demand difficult and foundational conversations with substantial implications at the level of the political economy and systemic change.

An expansive scope when considering distributional impacts can lead to a broad range of benefits through value chains and beyond immediate areas where development is situated: At the local project level, there is a stark divide between the benefits being created within 50km of the project sites and the perceived harms created for local communities linked to the coal value chain. The negative impacts



of coal are likely to decline with the planned decommissioning of old coal power stations and the generation of economic and environmental advantages of renewable energy; these impacts need to be better communicated.

Therefore, in addition to promoting local ownership and benefits near the renewable energy projects, socially inclusive dialogue and locally beneficial development should also be taking place in the coal regions of South Africa. In particular, the four municipalities that account for almost 80 percent of the employment in coal mines, power stations, and coal transport will require urgent attention.

Without this engagement, it is likely that protest action at the local and national levels will exert a negative impact on the country's transition to a low-carbon and climate-resilient society. This **broader development perspective** requires labor unions to consider benefits beyond their direct members, while simultaneously pushing the government and businesses to take a broader systemic view on **the impact of renewable energy projects beyond the immediate area within which the development is situated.** There is little evidence that CIF or MDBs have engaged at this level to date.

The current oppositionalization of the interests of coal value chains and renewable energy value chains is putting both coal-dependent communities/regions and the renewable energy sector at risk. The catalytic investments in the renewable energy sector now need to be expanded in South Africa to open up new green economies that can both diversify the economy and create decent jobs. However, if this is not done with a strong focus on both social inclusion and distributional justice, it could reinforce and even exacerbate inequality, unemployment, and poverty in some areas, despite creating new developmental opportunities for others. Stakeholders including CIF and MDBs could consider insights gained to date to support deeper development pathways at the global, national, and local levels.

IMPLICATIONS AND OPPORTUNITIES

The review of national literature on just transitions and the interviews that informed this case study have provided many insights into, and revealed numerous opportunities for, supporting just transitions in South Africa. Drawing on these insights, this section presents a set of conclusions and recommendations targeted at three key stakeholder groups actively engaged and/or impacted by energy transitions: 1) seldom recognized local-level stakeholders, particularly those impacted by energy transitions; 2) national actors and institutions with the capabilities to inform and regulate policy and finance decisions; as well as 3) development and climate finance institutions, including climate funds and MBDs, which provide concessional finance and shape investments in ways that contribute to just transitions.

Transparent and participatory socio-economic modeling that provides foresight into long-term inclusive and sustainable development plays an important role in better informed policy and finance decisions. The contribution of IBRD, through the Energy Sector Management Assistance Program (ESMAP) and GEF to the development of LTMS (2008) in South Africa, informed the development of key energy transition policies and plans in the country. The participation of business, labor, the government, civil society, and academics in the development of LTMS, supported by MDBs and climate funds, created national-level support for the plans and policies that resulted. Future modeling, scenarios, and transition planning should be informed by and shared with local-level stakeholders to enable meaningful participation in just transition pathways, as this is often neglected or considered as an afterthought.

A focus on cross-sectoral dialogues, along with social inclusion and participation, is vital at the local, national, and international levels of planning. MDBs, through their ongoing work with national governments, are well-positioned to initiate and support such dialogues. It is important to explicitly consider who is involved in the dialogues such that

stakeholders at all levels contribute to the discussion on the distribution of benefits and harms.

The CIF experience is a useful example to draw upon here, given that substantial cross-sectoral dialogues were supported by CIF in the development of South Africa's investment plan. This approach — often referred by CIF as the "programmatic approach" involved the Department of Environmental Affairs (DEA), Eskom, the National Energy Regulator of South Africa (NERSA), the Department of Energy, the Department of Public Enterprises, and the private sector. However, local-level stakeholders and marginalized groups also need to be recognized and supported to participate in planning processes to ensure procedural and distributive justice.

For this reason, PCCCC, first proposed in 2018, is a significant opportunity for providing a platform to sustain cross-sectoral dialogues. It needs to be established and supported with clear responsibilities, along with an implementation arm. PCCCC will be important for taking forward national and regional consultations conducted under NPC, as well as the work on NEVA and SJRP.

Concessional finance is critical at the early stages of innovation for de-risking initial investments and demonstrating at scale the viability of emerging technologies that can help accelerate a just energy transition. Climate funds and MDBs have a vital role to play in unlocking and crowding in private and public investments. Although both the Sere Wind Farm and the CSP project in Upington had been approved by Eskom, they were unable to attract finance or provide a comprehensive and bankable business plan. The early investments of IBRD, AfDB, and IFC in wind power and CSP in South Africa offered a scaled demonstration of the potential of two key renewable energy technologies in South Africa. The timely and cost-effective completion of the Sere Wind Farm affirmed the business potential of renewable energy technologies and likely contributed to subsequent wind power development in the country.

Unfortunately, while economic barriers for investment in some renewable energy technologies may have been surmounted, externalities and political vested interests continue to block just transition pathways. Therefore, concessional finance and innovative funding mechanisms are still needed to provide transformational support in overcoming these hurdles in the meantime.

Procurement processes need to recognize non-financial criteria such as local ownership, socio-economic development, and enterprise development. REIPPPP has shown that, if well-designed and implemented, non-financial criteria can enhance social inclusion and support distributional, access-related, and restorative justice. Stakeholder engagement and local capacity need to be supported to ensure both realistic expectations of local ownership, as well as the good governance and accountability of community trusts.

Skills development is central to supporting a just transition, both in terms of reskilling existing workers and proactively developing the skills needed for innovative, and in some instances, untried sustainable technologies and processes. The CIF-supported projects in South Africa have contributed to skills development through bursaries, internship programs, and on-the-job skills transfers by foreign contractors. Learning from this experience, rather than funding ad-hoc skills development linked to particular projects, climate funds should look to systematically supporting anticipatory skills planning and development for emerging sectors that contribute to just transitions. At the country level, the Department of Higher Education and Training, in collaboration with the Sector Education and Training Authorities in South Africa, can support social inclusion, employment, and livelihoods in the context of climate change and just transitions. These foci for skills development need to be more explicitly aligned with SJRP and included in the Sector Skills Plans. Furthermore, the National Environmental Sector Skills Planning Forum (hosted by DEFF) and the work done by the Green Skills Programme could feed into PCCCC to inform anticipatory skills planning for a just transition.

By adopting a regional focus that supports repurposing and rehabilitating coal mines, economic diversification, and investments in built and ecological infrastructure, there is potential to create a flagship example of a just transition. NEVA and SJRP, along with other modeling and research in South Africa, are providing insights into how geographically-focused transition risks are in the energy sector. Local stakeholder engagement processes are required to incorporate this new knowledge into a clear plan and just transition pathway for the four municipalities in South Africa most affected by the decommissioning of coal-fired power stations and associated coal mines. National stakeholders from the government, business, labor, and civil society need to situate this regional just transition within national plans, policies and actions. Climate funds and MDBs are well-positioned to assist local municipalities in this effort through investment plans for place-based investments that support just transitions.

The work on just transitions offers significant insights into how to shape post-COVID-19 recovery programs and stimulus packages. Local-level socio-economic modeling, as well as low-carbon and resource-efficient planning, developed in partnership with those impacted the most, need to form the basis of pandemic recovery investment packages. In South Africa, NDP and IRP, informed by NEVA, provide an important direction for an inclusive recovery. A co-benefits analysis indicates that substantial net job creation is possible through the implementation of IRP, and particularly, the implementation of renewable energy targets. The inclusion of both distributional and procedural justice criteria at the local and national scales in the allocation of post-COVID-19 stimulus packages can significantly enhance its effectiveness, while also providing an opportunity for finance institutions to contribute to and benefit from the work being done on just transitions globally and locally.

Just transitions require a sensitivity to context and the acknowledgement of, in some circumstances, the need for restorative justice to address past and current inequalities. Many developing countries are facing difficult choices between mitigating climate change and benefiting from untapped fossil fuel resources. These countries are highlighting the need for common, but differentiated, responsibilities within climate change-related transitions. These notions of differentiated responsibilities and restorative justice have not been given adequate attention in just transitions frameworks.

In countries with high levels of entrenched inequality, unemployment, and poverty, there is a need to better align broader transformational change, at scale and at a systemic level, with climate change responses and sectoral transitions. The current work that CIF is carrying out on just transitions, including the Just Transition Initiative and country case studies, can support greater coherence between international commitments, national policies, and a range of local stakeholders. CIF's commitment to its 'learning laboratory mandate' has led it to explore, through dialogues and research, various themes related to transformational change, local stakeholder engagement, socio-economic development outcomes, and inclusive growth. This exploration has helped break down silos by bringing together diverse stakeholders and perspectives to unite behind a shared interest in sustainable development at multiple levels. The continued development of relevant tools, strategies, and policies that support the line of sight between just transitions and appropriate transformational change at the systemic level is vital for ensuring the durability of change initiatives.

Although this case study is centered on energy due to the urgency of the coal transition in South Africa and the focus of CIF projects in the country, there are increasingly calls for an economy-wide just transition. As other country case studies are developed, which include energy efficiency, forestry, other nature-based solutions, as well as urban systems and industry, it will be important to build a more holistic picture in order to achieve a more systemic understanding of just transitions.

CONCLUSION

CIF seeks to support transformational change towards more sustainable development. There is increasing global recognition that, in addition to the urgent need to address climate change, all changes need to be just. Concepts and practices of just transitions suggest that this will require both procedural justice and distributive justice across multiple sectors, geographic scales, and time horizons. By clarifying both the processes and outcomes required by just transitions, CIF and its partners aim to contribute to the broader development agendas associated with achieving the Sustainable Development Goals. In particular, CIF and the work of its development partners provide an important space for innovation and learning with regards to the potential contributions of concessional finance and a programmatic approach to transformational change that is relevant, at scale, just, and sustainable.

South Africa's history has resulted in relatively high levels of development in many sectors, but this development is unevenly distributed, resulting in the triple challenge of inequality, unemployment, and poverty. The transition out of well-developed sectors such as coal mining and coal-fired power plants is being driven by a number of economic, social, and environmental pressures. The ongoing modeling of these drivers suggests that this transition is occurring far more rapidly than anticipated in policy and planning documents, and amongst many people in business, the government, labor, and civil society. The resulting shifts towards innovative renewable energy away from the coal value chain are creating opportunities for some sectors of society, while posing threats to others. Some groups, such as coal and coal-fired power plant workers, women in coal mining communities, as well as formal and informal workers in coal-dominated economic regions, are particularly vulnerable to the transition away from coal. Concomitantly, there are also many economic sectors and communities that can benefit from carefully planned projects such as renewable energy projects with robust commitments to socio-economic development, local enterprise development, and community ownership.

CIF, IBRD, AfDB, and IFC contributed to informed decision-making, innovation, and the mobilization of investment during a period of significant change in the energy sector between 2009 and 2011 in South Africa. The cross-sectoral dialogues, supported by the development of LTMS, has helped to shape South Africa's global commitments in terms of addressing climate change, while also shaping its energy policy and planning. This included the development of IRP (2010) with specific targets related to renewable energy. By providing concessional finance to Eskom for the Sere Wind Farm and further research into CSP, CIF built interest and confidence in innovative renewable energy in the country. This timing was significant, as South Africa was introducing REIPPP. This program has attracted investment, valued at approximately USD20 billion, which led to the creation of a generation capacity of 6,422MW, the added benefits of reducing CO_2 emissions by 36.2 metric tons, and the production of 40,134 job years for South African citizens.

Ongoing modeling and the recent release of the revised IRP (2019) suggest that the shift to renewable energy, away from coal, is likely to accelerate in the coming years. While this creates multiple benefits at the global, national, and local levels, it also threatens deeply-entrenched power structures and interests associated with the mineral energy complex in South Africa. In addition, vulnerable workers and communities in the extended coal value chain are at risk of being further marginalized, resulting in deepening inequality, unemployment, and poverty in particular regions, demographics, and economic sectors.

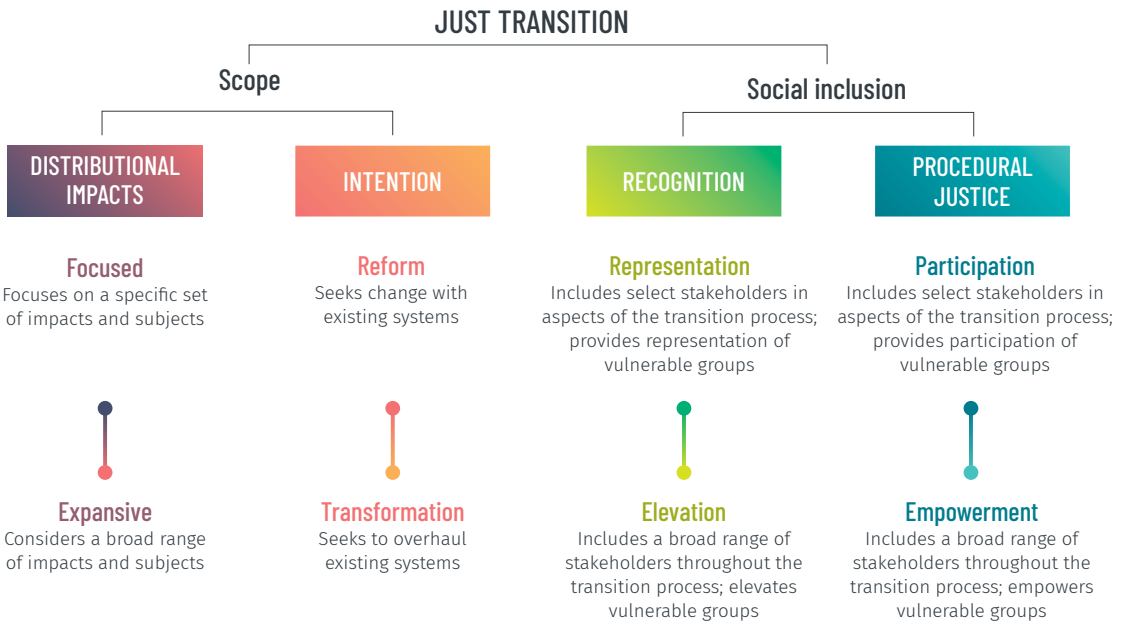
The recently finalized NEVA and SJRP provide important tools for planning just transitions for vulnerable communities, regions, and economic sectors. PCCC needs to provide a space for dialogues on how to use emerging insights to support just transitions in South Africa. This commission can build on regional consultations such as those initiated by NPC to bring together representatives from business, labor, the government, and the civil society. The output from this commission can be incorporated into dynamic investment plans to support development pathways that are both safe and just.

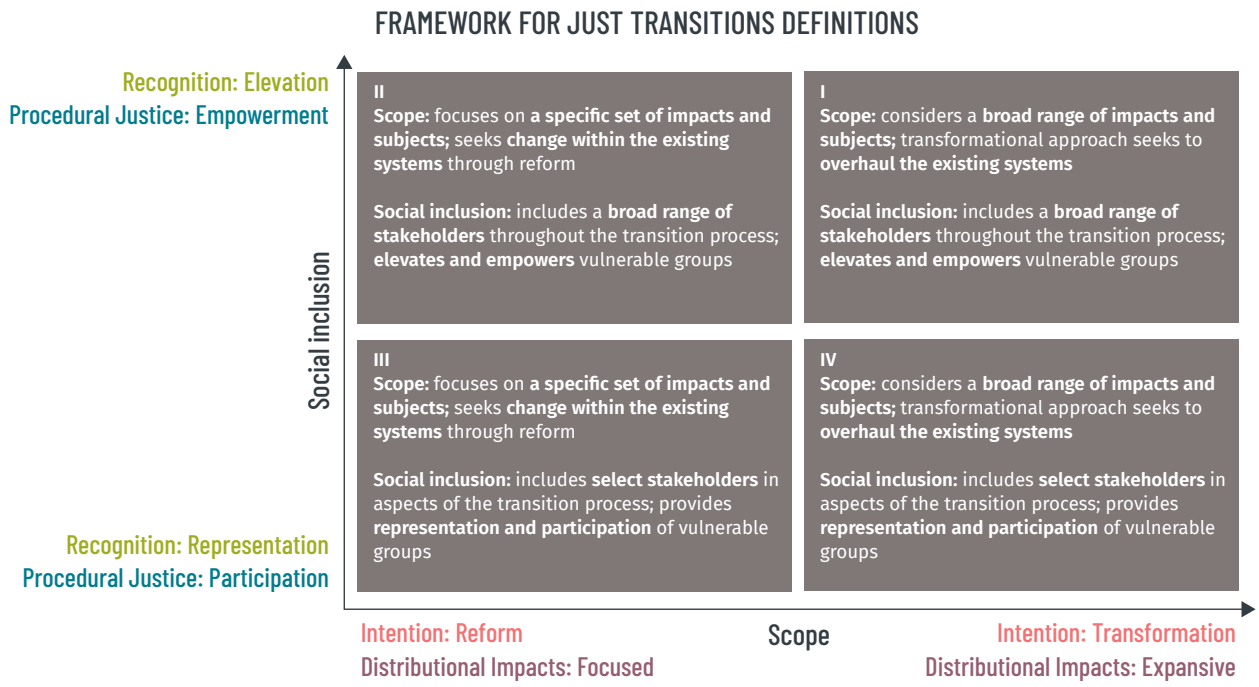
In much the same way that CIF was able to contribute to the planning in South Africa after the 2008 financial crisis, there is a window of opportunity to support and shape South Africa's planning and development initiatives in the post-COVID-19 recovery period. There is substantial interest in South Africa to engage in a large infrastructure development program and broad commitment to ensuring that this development is sustainable, inclusive, and just.

However, as deep-seated power structures, interests, and behavior across all social and economic sectors in the country could get in the way of addressing the triple challenge of inequality, unemployment, and poverty, CIF and MDBs could continue to play an important and timely role in just transitions in South Africa by supporting:

- Long-term modeling and planning;
- Social dialogues;
- Investments in innovation that have not been commercially proven as yet;
- Sustainable access to finance;
- Anticipatory skills development;
- Transitions in particularly vulnerable regions, demographics, and sectors; and
- Research into transitions across multiple geographical scales.

APPENDIX 1: JUST TRANSITION FRAMEWORK





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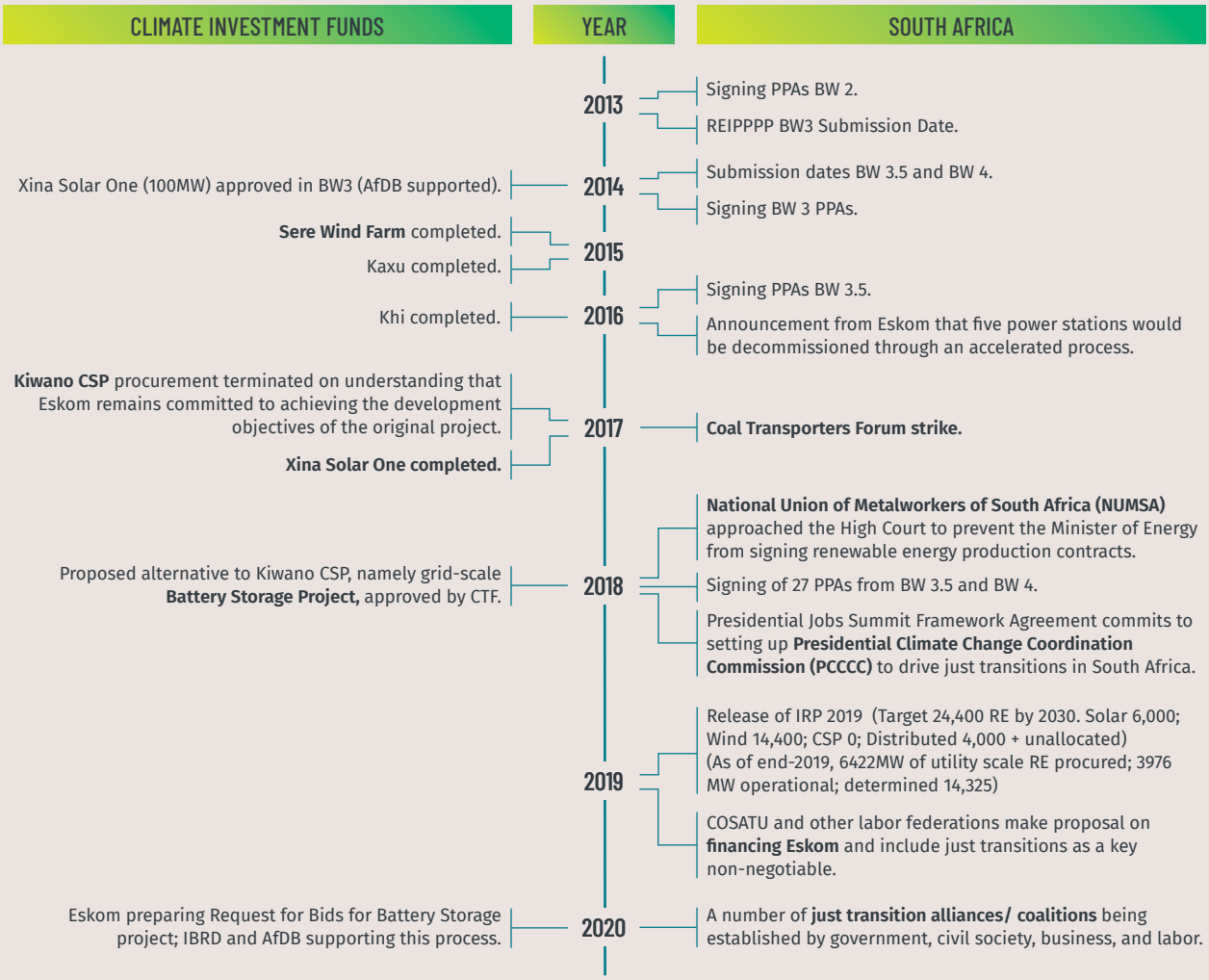
CIF CLIMATE INVESTMENT FUNDS

APPENDIX 2: SUMMARY OF SOUTH AFRICA'S POLICY AND ACTIVITY, ALONG WITH CIF/MDB ENGAGEMENT IN SOUTH AFRICA

CLIMATE INVESTMENT FUNDS	YEAR	SOUTH AFRICA
The International Bank for Reconstruction and Development (IBRD) [through the Energy Sector Management Assistance Program (ESMAP) and the Global Environment Facility (GEF)] supported the development of the **Long Term Mitigation Scenarios (LTMS)** in South Africa. The International Finance Corporation (IFC) (through the Clean Development Mechanism) worked with financial intermediaries in SA to unlock funding for **energy efficiency** projects.	2007	Development of LTMS.
Formation of the **Climate Investment Funds (CIF).** IBRD and the African Development Bank Group (AfDB) supported Eskom's **capital expenditure investment plan** including building of Medupi (large coal-fired power plant).	2008	Global Financial Crisis.
Investment plan for South Africa submitted to and approved by the Clean Technology Fund (CTF) of CIF.	2009	National Energy Efficiency Strategy. COP 15 – South Africa commits to reducing carbon emissions by 34 percent by 2020.
Sere Wind Farm project approved for support through CTF. **Upington (Kiwano) Concentrated Solar Power** (CSP) — provisional support by CTF.	2010	The publication of the Integrated Resources Plan (IRP) (2010) included a carbon emission cap and allocations for renewable energy (RE): Target 17,800MW RE by 2030 – Solar 8,400; Wind 8,400; CSP 1,000; distributed generation 0.
Sere Wind Farm loan agreement signed between CTF, AfDB, IBRD, and Eskom.	2011	**National Strategy for Sustainable Development and Action** — includes commitment to just transition. **Green Economy Accord (GEA)** — between Business, Labor, Government, and Civil Society. **National Climate Change Response White Paper** — Presented vision of just transition to climate resilience and low carbon future. **Congress of South African Trade Unions** (COSATU) Policy on Just Transitions. **Renewable Energy Independent Power Producers Procurement Program (REIPPPP)** established. **GEA** REIPPPP Bid Window (BW) 1 Submission Date.
Kaxu (100MW) and Khi (50MW) approved in BW1 (IFC supported both projects).	2012	National Development Plan (NDP) — Published with a chapter on just transitions. REIPPPP BW2 Submission Date. Signing PPAs for BW1.


CLIMATE INVESTMENT FUNDS
YEAR
SOUTH AFRICA
2013
Signing PPAs BW 2.
REIPPPP BW3 Submission Date.
2014
Xina Solar One (100MW) approved in BW3 (AfDB supported).
Submission dates BW 3.5 and BW 4.
Signing BW 3 PPAs.
2015
Sere Wind Farm completed.
Kaxu completed.
2016
Khi completed.
Signing PPAs BW 3.5.
Announcement from Eskom that five power stations would be decommissioned through an accelerated process.
2017
Kiwano CSP procurement terminated on understanding that Eskom remains committed to achieving the development objectives of the original project.
Xina Solar One completed.
Coal Transporters Forum strike.
2018
Proposed alternative to Kiwano CSP, namely grid-scale Battery Storage Project, approved by CTF.
National Union of Metalworkers of South Africa (NUMSA) approached the High Court to prevent the Minister of Energy from signing renewable energy production contracts.
Signing of 27 PPAs from BW 3.5 and BW 4.
Presidential Jobs Summit Framework Agreement commits to setting up Presidential Climate Change Coordination Commission (PCCCC) to drive just transitions in South Africa.
2019
Release of IRP 2019 (Target 24,400 RE by 2030. Solar 6,000; Wind 14,400; CSP 0; Distributed 4,000 + unallocated) (As of end-2019, 6422MW of utility scale RE procured; 3976 MW operational; determined 14,325)
COSATU and other labor federations make proposal on financing Eskom and include just transitions as a key non-negotiable.
2020
Eskom preparing Request for Bids for Battery Storage project; IBRD and AfDB supporting this process.
A number of just transition alliances/ coalitions being established by government, civil society, business, and labor.

APPENDIX 3: LIST OF INTERVIEWEES

Over 70 individuals from 25 different institutions, representing the government, research/academia, labor congress and labor research affiliates, civil society organizations, renewable energy associations and broader business initiatives, the private sector, development finance institutions, and knowledge partnerships, were consulted for the development of this case study. The insights from these interviews are reflected in the case study in relation to the stakeholder group represented.

Although the original intent was to conduct project site visits, this was not possible due to COVID-19 and the national lockdowns. A media and communications visit to one of the CIF-funded projects, which included video footages and transcribed interviews with local communities and project managers, was used to fill in some of the gaps at the level of local project implementation. This was supplemented by virtual interviews with project managers and their teams.

ORGANIZATION	INTERVIEWEES
Abengoa (Xina Solar One)	Christiaan Van Rooyen, José David Cayuela Olivencia
African Development Bank (AfDB)	Anders Pedersen, Farai Kanonda, Gareth Phillips, Gerald Njume, Herbert Hungwe, Jimmy Adegoke, Leandro Azevedo, Matthew Harris, Mwila Musumali, Seaga Molepo, Sonia Borrini
Climate Investment Funds (CIF)	Abhishek Bhaskar, Andrea Carega, Anne Kuriakose, Daniel Morris, Dora Cudjoe, Ezgi Canpolat, Mafalda Duarte, Nicoletta Forlano
Congress of South African Trade Unions (COSATU)	Matthew Park
Development Bank of South Africa (DBSA)	Libby Dreyer
Department of Environment, Forestry and Fisheries (DEFF) and CIF Trust Fund Committee Member	Zaheer Fakir
DEFF	Mactavish Makwarela, Pandelani Dzhugudzha
Department of Trade, Industry and Competitions	Khathutshelo M Sikhitha
Eskom	Luchen Reddy, Gertrude Molokoane, Darlene Adams, Mandy Rambharos
International Bank for Reconstruction and Development (IBRD)	Chandrasekar Govindarajalu, Nadia Taobane, Franz Gerner, Frederic Verdol, Monyl Toga
Institute for Economic Justice (IEJ)	Carilee Osborne, Gilad Isaacs

ORGANIZATION	INTERVIEWEES/CONTRIBUTORS/REVIEWERS
International Finance Corporation (IFC)	Andrey Shlyakhtenko, Neelam Patel, Tendai Madenyika
Just Share	Tracey Davies
Mapungubwe Institute for Strategic Reflection (MISTRA)	Khwezilomso Mabasa
National Business Initiative (NBI)	Steve Nicholls
National Planning Commission (NPC)	Tasneem Essop
Current – University of Cape Town **Previous - South African Wind Energy Association, South African Renewable Energy Council, Planning Commission Consultations**	Brenda Martin
Public Affairs Research Institute (PARI)	Tracy Ledger
South African Photovoltaic Industry Association (SAPVIA)	Nivesh Govender
Trade & Industrial Policy Strategies (TIPS)	Gaylor Montmasson-Clair
University of Cape Town	Jesse Burton
WOMIN	Trusha Reddy, Caroline Ntaopane
WWF-South Africa	Louise Naude, Louise Scholtz
350.org	Ahmed Mokgopo

ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
CIF	Climate Investment Funds
CO_2	Carbon dioxide
COP	Conference of the Parties
COSATU	Congress of South African Trade Unions
CSIS	Center for Strategic and International Studies
CTF	Clean Technology Fund
DEA	Department of Environmental Affairs
DEFF	Department of Environment, Forestry and Fisheries
DFI	Development Finance Institutions
ERSP	Eskom Renewable Support Project
ESMAP	Energy Sector Management Assistance Program
ESS	Environmental and Social Safeguards
GEF	Global Environment Facility
GVA	gross value added
GWh	gigawatt-hours
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IRP	Integrated Resources Plan

LBPL	lower bound poverty level
LTMS	Long-Term Mitigation Scenarios
MDB	Multilateral Development Bank
MW	megawatts
NDP	National Development Plan
NERSA	National Energy Regulator of South Africa
NEVA	National Employment Vulnerability Assessment
NPC	National Planning Commission
NUM	National Union of Mineworkers
NUMSA	National Union of Metal Workers of South Africa
PCCCC	Presidential Climate Change Coordination Commission
RE	Renewable Energy
REFIT	Renewable Energy Feed In Tariff
REIPPPP	Renewable Energy Independent Power Producers Procurement Program
SEAP	Sustainable Energy Acceleration Program
SJRP	Sector Jobs Resilience Plans
UN	United Nations
US	United States
USD	United States Dollar

ENDNOTES

1 Department of Energy South Africa, 2011.
2 Newell and Mulvaney, 2013.
3 African Development Bank (AfDB), Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IDB), the World Bank Group's International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC).
4 Hölscher, Wittmayer, and Loorbach, 2018.
5 CIF and ITAD, 2020.
6 "Energy in South Africa", Wikipedia, 2020; International Energy Agency, 2020.
7 Fine and Rustomjee, 1996.
8 Yelland, 2020; groundWork, 2018.
9 Chatterjee, Czajka, and Gethin, 2020."
10 COSATU, 2012.
11 International Energy Agency, 2020.
12 International Trade Union Confederation (ITUC), "Climate Justice: There Are No Jobs on a Dead Planet."
13 Country Investment Plans are developed through local consultations and owned by country governments. The plans are responsive to local contexts and designed to help achieve the national development objectives. The investment plans, once approved by CIF, provide the broad programmatic framing within which individual projects are developed and funding considered.
14 Chatterjee, Czajka, and Gethin, 2020.
15 International Renewable Energy Agency, 2016.
16 Ward and Mudombi, 2018.
17 Fine and Rustomjee, 1996.
18 Strambo, Burton, and Atteridge, 2019; Burton, Caetano, and McCall, 2018; Nicholas and Buckley, 2019.
19 Bridle, 2018; Strambo, Burton, and Atteridge, 2019; Burton, Caetano, and McCall, 2018, Climate Policy Initiative, 2020.
20 Department of Energy South Africa, 2019.
21 Burton, Caetano, and McCall, 2018.
22 Creamer Media, 2020.
23 Nicholas and Buckley, 2019; Strambo, Burton, and Atteridge, 2019.
24 IRENA, 2020.
25 GreenCape, 2020.
26 Creamer Media, 2020.
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28 Department of Energy, 2019.
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32 United Nations, 2015.
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34 Ward and Naude, 2018.
35 Strambo, Burton, and Atteridge, 2019; TIPS, 2019.
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37 Moody's Analytics, 2020.
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45 Department of Environmental Affairs, NSSD1, 2011.
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47 Department of Economic Development, 2011.
48 Death, 2014.
49 COSATU, 2012.
50 Death, 2014.
51 Cock, 2018; Cock, 2020.
52 eNCA, 2017.
53 Cloete, 2018.
54 SA Government, 2018.
55 TIPS, 2019.
56 Boëttger and Rathbone, 2016; News 24, 2019.
57 WoMin and 350.org, 2020.
58 Civil society group, Interview.
59 National government, Interview.
60 National Planning Commission, 2019.
61 SA Government, 2018.
62 Jobs Summit in 2018.
63 Baker, Newell, and Phillips, 2014.
64 Labor unions, Interview.
65 TIPS, 2019; TIPS, 2020.
66 Statistics South Africa, 2015.
67 Civil society group, Interview.
68 Davie, 2020; Kotzen, n.d.
69 Government of South Africa, 2015.
70 Principles for Responsible Investment, 2018; Twidell and Cabot, 2003.
71 Development finance institution, Interview; Civil society group, Interview.
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73 Business initiative, Interview.
74 Department of Environmental Affairs and National Treasury, 2020.
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76 Rosenberg, Ramsarup, and Lotz-Sisitka, 2020.
77 Ramsarup and Ward, 2017.
78 Gender CIF Action Plan (FY21-24)
79 Baker, Newell, and Phillips, 2014.
80 Creamer Media, 2020, Maqhina, 2020.
81 South Africa, 2009; South Africa, 2013.
82 South Africa, 2009.
83 Department of Energy, 2019.
84 groundWork, 2018; Hallowes, 2009; Hallowes, 2020.
85 Department of Environmental Affairs and National Treasury, 2020.
86 Eberhard and Naude, 2017; Eberhard, Kolker, and Leighland, 2014.
87 Halsey, 2018; Cloete, 2018.
88 The Sere Wind Farm was approved by the Eskom board in 2006 but procurement processes during 2007 and again in 2008 were non-responsive. In October 2009, the country investment plan that included the Sere Wind Farm was approved by CIF and in 2010 a more detailed project proposal was approved by CIF with the support from IBRD and AfDB.
89 Although this project was not implemented under the auspices of the REIPPPP some non-financial criteria from the REIPPPP informed the community engagement. This includes the reference to the 50km radius in relation to work with communities.
90 Dann and Riegner, 2019; African Development Bank, 2013.
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The Climate Investment Funds (CIF) were established in 2008 to mobilize resources and trigger investments for low carbon, climate resilient development in select middle income and developing countries.
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