Gender Assessment

FP314: Southern African Industrial Decarbonisation Facility (SIDF)

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GREEN CLIMATE FUND

Gender Assessment and Action Plan

Southern African Industrial Decarbonisation Facility



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Executive summary

The Southern African Industrial Decarbonisation Facility (SIDF) is being developed by CFM as a blended finance vehicle to support industrial decarbonisation and green industrial development in developing countries, with a focus on South Africa and Namibia. The Fund is expected to invest in low-carbon industrial solutions, including green hydrogen and renewable energy infrastructure, green ammonia, fertilizers, steel, methanol, commercial and industrial renewable energy, battery storage, and carbon capture, utilisation and storage. This Gender Assessment has been prepared as an annex to SIDF's funding proposal to the Green Climate Fund and identifies the main gender-related constraints, risks and opportunities relevant to the Fund's investment strategy.

The assessment finds that South Africa and Namibia both have relatively strong legal and policy commitments to gender equality, but that these commitments coexist with persistent structural inequalities in economic participation, labour market access, leadership, unpaid care responsibilities, gender-based violence risks, and limited access to productive resources. In both countries, women's lower participation in higher-value industrial sectors is not primarily explained by gaps in basic education. Rather, it reflects systemic barriers to entry, retention and advancement, including occupational segregation, hiring biases, weak school-to-work transitions, limited access to technical career pathways, and workplace cultures that remain strongly male-dominated. These constraints are particularly relevant for SIDF because the sectors in which the Fund is expected to invest draw heavily on engineering, construction, industrial operations, and technical management roles where women are currently underrepresented.

The core problem identified by the assessment is that women are systematically excluded from economic opportunities in the sectors most relevant to green hydrogen and industrial decarbonisation, while at the same time bearing a disproportionate share of the climate, energy and water access burdens that these industries are intended to address. Without deliberate gender-responsive measures, emerging green industrial value chains risk reproducing the exclusionary workforce, ownership, procurement and governance patterns of existing industrial sectors. This risk is especially important because many of the Fund's potential investments will involve long-lived assets and early-stage sector formation, meaning that workforce norms and benefit-sharing practices established now may shape these sectors for decades.

The problem analysis identifies four mutually reinforcing root causes: structural labour market barriers and sectoral exclusion; women's disproportionate unpaid care and domestic work burden; persistent gender norms and power imbalances, including gender-based violence; and unequal access to assets, resources, finance, and decision-making. These root causes manifest differently across SIDF's investment areas. The assessment also recognises that women are not a homogenous group and that intersecting factors such as disability, age, geography, poverty and Indigenous or traditional community affiliation may create additional barriers and vulnerabilities.

At the same time, the assessment identifies several practical gender opportunities for SIDF and its investees. These include active recruitment partnerships with engineering faculties, technical colleges and vocational programmes to reach qualified women candidates; mentorship and retention support for women in technical and operational roles; gender-responsive workplace policies and safe, accessible grievance mechanisms; GBV response and prevention measures during construction and operations; procurement approaches that support and develop women-owned suppliers where feasible; and project-level consultation processes that enable women in project-adjacent communities to influence the design of benefit-sharing, water, energy and environmental management arrangements. The assessment also recognises that community-level benefits

from improved water and energy reliability can be particularly important for women, especially where interruptions increase unpaid work burdens or constrain small-scale and home-based economic activity.

The Gender Action Plan translates these findings into four outcome areas: integrating gender-responsive systems at fund and project level; establishing inclusive workforce and skills pathways; implementing gender-responsive community engagement and benefit-sharing; and promoting safer and more inclusive workplaces and communities. Key actions include strengthening Fund Manager capacity, applying gender considerations throughout the investment process, requiring project-level Gender and Social Inclusion Action Plans, supporting investees with gender integration materials, promoting women's recruitment and skills development, establishing gender-responsive workplace and grievance systems, engaging women meaningfully in community governance, supporting women's economic empowerment through procurement and training where feasible, and monitoring gender-disaggregated results over the investment lifetime.

Overall, the assessment concludes that SIDF has a clear opportunity to support a more gender-responsive and socially inclusive industrial decarbonisation transition in South Africa and Namibia. If implemented effectively, the proposed measures can help ensure that women have more equitable access to employment, skills, procurement, decision-making and community benefits arising from SIDF-supported investments, while reducing the risk that climate finance reinforces existing gender inequalities.

1 Introduction and purpose

The Southern African Industrial Decarbonisation Facility (SIDF) is being developed by CFM as a blended finance vehicle to support industrial decarbonisation and green industrial development in developing countries. The Fund is expected to invest in projects that accelerate the deployment of low-carbon industrial solutions, including renewable energy, green hydrogen and related industrial applications, and other technologies that reduce greenhouse gas emissions in hard-to-abate sectors. In doing so, SIDF seeks to contribute to climate mitigation while supporting broader economic development, industrial transformation, and resilience outcomes in the markets where it invests.

This Gender Assessment has been prepared as an annex to SIDF's funding proposal to the Green Climate Fund. It responds to the Green Climate Fund requirement that funding proposals include a gender analysis or assessment and a corresponding Gender Action Plan, with gender considerations integrated into the design, implementation, monitoring, and evaluation of the proposed programme. The Green Climate Fund positions gender mainstreaming as a core element of climate finance, recognising that climate change affects women and men differently and that climate interventions are more effective when they take account of gender-differentiated needs, constraints, risks, and opportunities.

The purpose of this assessment is to identify the main gender-related constraints, risks, and opportunities relevant to SIDF's proposed investment strategy, with a focus on South Africa and Namibia as initial target markets. The assessment examines how existing gender inequalities intersect with the sectors in which the Fund is likely to invest, including green hydrogen production and renewable energy infrastructure, green ammonia and green steel, commercial and industrial renewable energy, battery storage, and carbon capture, utilisation and storage. It also considers how women and men may be differently affected by the climate, energy, water, labour market, and community-level dynamics associated with these investments.

The assessment is intended to serve three related purposes. First, it provides a contextual analysis of gender inequality in the target countries and sectors, including labour market participation, access to skills and employment, leadership and decision-making, unpaid care responsibilities, gender-based violence risks, and climate vulnerability. Second, it identifies the root causes and effects of gender inequality in relation to SIDF's investment areas, including the risk that emerging green industrial value chains reproduce the exclusionary patterns of existing industrial sectors if no deliberate action is taken. Third, it informs the design of the Gender Action Plan by identifying practical entry points through which SIDF and its investees can promote women's economic participation, strengthen gender-responsive safeguards, and ensure that climate and development co-benefits are delivered more equitably.

The assessment is not intended to present a standalone gender programme separate from SIDF's investment strategy. Rather, it identifies how gender equality and women's empowerment can be integrated into the Fund's investment processes, investee engagement, community consultation, environmental and social risk management, and monitoring framework. In this way, it supports SIDF in meeting Green Climate Fund expectations while also strengthening the Fund's ability to deliver gender inclusive and durable climate outcomes.

2 Country and sector context

2.1 South Africa

South Africa presents a complex gender landscape characterized by strong legal commitments to gender equality alongside persistent structural inequalities in economic participation, employment, and access to opportunities and high levels of gender-based violence. While progress has been made in education, health, and political representation, gender disparities remain pronounced in the labour market and in access to higher-value economic sectors.

Socioeconomic and demographic indicators

South Africa has achieved notable improvements in key development indicators over time. Maternal mortality has declined significantly to approximately 118 deaths per 100,000 live births in 2023 from 180 deaths in 2013.[1] Infant mortality has decreased from 32 to 24 deaths per 1,000 live births between 2013 and 2024[2]. Life expectancy has improved, with women living longer than men, approximately 70 years for women compared to 63 years for men.[3] These trends reflect improvements in healthcare access and service delivery.

Educational outcomes indicate gender parity. Girls have higher completion rates in secondary education than boys (91% to 85%), and adult literacy rates are high and nearly equal between women and men (91%).[4] This indicates that gender disparities in South Africa are not primarily driven by gaps in basic education, but rather by structural barriers that emerge later in economic participation. While men dominate the numbers in the tertiary STEM and technical vocational qualifications, the share of women with such qualifications employed in physical, mathematics, and engineering fields over the decade to 2024 rose from 22% to nearly 30%,[5] reflecting a slow but measurable improvement in the pipeline of women entering technical careers.

Despite these gains, poverty remains widespread, with a significant share of the population living below the national poverty line. Female-headed households, representing a large proportion of all households (42%), particularly in rural areas (48%), face heightened vulnerability due to lower income levels, limited access to assets, and reduced economic opportunities.[6]

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[1] Maternal mortality ratio (modeled estimate, per 100,000 live births) – South Africa, World Bank Development Indicators https://data.worldbank.org/indicator/SH.STA.MMRT?end=2023&locations=ZA&start=2002

[2] Mortality rate, infant (per 1,000 live births) - South Africa, World Bank Development Indicators https://data.worldbank.org/indicator/SP.DYN.IMRT.IN?locations=ZA

[3] Life expenctancy at birth, female / male – South Africa, World Bank Development Indicators https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=ZA
https://data.worldbank.org/indicator/SP.DYN.LE00.MA.IN?locations=ZA

[4] South Africa Profile, World Bank Gender data Portal https://genderdata.worldbank.org/en/economies/south-africa

[5] Statistics South Africa (2024) *Gender Gaps Persist in SA Labour and Leadership Roles*. 29 August. Available at: https://www.statssa.gov.za/?p=17597

[6] According to Statistics South Africa's Income and Expenditure Survey 2022/23, female-headed households had an average annual income of R158,481 compared to R239,590 for male-headed households, a gap of over 33%. https://www.statssa.gov.za/?p=17995
Furthermore, Statistics South Africa's Marginalised Groups Indicator Report 2024 (Table 3.5.1) reports that female-headed households were more likely to experience hunger, reporting a hunger incidence of 14.1% compared to 11.5% for male-headed households. https://www.statssa.gov.za/publications/03-19-05/03-19-052024.pdf

Labour market dynamics

The labour market is one of the main sites of gender inequality in South Africa. Women experience lower labour force participation, higher unemployment rates, lower employment levels compared to men.

Recent data indicates that women's labour force participation remains significantly below that of men, while unemployment among women is consistently higher. These gaps have persisted over time, reflecting structural barriers to entry and retention in the labour market. According to Stats SA Labour Force Survey Q1 2026 data,[7] 64% of working-age men were participating in the labour force compared to 54% of women: a gap of 10 percentage points that translates into millions of women remaining outside the economy. Notably, over a decade this gap has narrowed by only 2.2 percentage points. The unemployment rate for women stood at 36%, compared to 30% for men. Among young women aged 15–24, the NEET rate (the share not in employment, education, or training) was 39.2%, increased by 1.7 percentage points year-on-year. The equivalent rate for young men was 36%, a decrease of 0.7 percentage points over the same period, meaning the youth gender gap is actively widening rather than narrowing.

South Africa's labour surveys show that the overwhelming majority of those outside the labour force citing homemaking responsibilities are women: in the Q2 2025 survey, 2.4 million people cited "homemaker" as their reason for not being in the labour force, of whom 2.1 million (88.2%) were women.[8] This indicates a structural constraint reflecting the disproportionate burden of unpaid care and domestic work, compounded by inadequate childcare infrastructure. These deeply entrenched gender role norms were confirmed by the Commission for Gender Equality's (CGE) 2024 report on women in the South African economy.[9]

The South African economy exhibits strong gender-based occupational segregation. Women's employment remains heavily concentrated in a narrow set of sectors. In Q1 2026, women accounted for 62% of employees in community and social services, with significant additional concentrations in trade and finance, and the vast majority of private household (domestic) workers (74% of total). By contrast, women's representation remains low: in in mining (19%), construction (10%), utilities (19.5%), and manufacturing (33.5%).

Leadership disparities further reinforce inequality. In the private sector women make up 25% of private sector top management and 36% of senior management roles, according to the Commission for Employment Equity Annual Report 2022–2023.[10] Women remain significantly underrepresented in top management across key industrial sectors, accounting for around 19% of top management in construction, 20% in mining and quarrying, and 21% in manufacturing, with somewhat higher representation in utilities-related sectors (26%).

Legal framework

South Africa has one of the more progressive legal frameworks for gender equality in Africa and globally, ranking 18th out of 146 countries on the World Economic Forum's 2024 Global Gender Gap Index.[11] Section 9

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[7] Quarterly Labour Force Survey, Quarter 1:2026. Stats SA https://www.statssa.gov.za/publications/P0211/P02111stQuarter2026.pdf

[8] Statistics South Africa (2025) *Gender Gaps Persist in South Africa's Labour Market*. Data Story, 12 August 2025. Pretoria: Statistics South Africa. Available at: https://www.statssa.gov.za/?p=18668

[9] Commission for Gender Equality (2024) *Women in the South African Economy 2024*. Johannesburg: Commission for Gender Equality. CGE_Report_Women_in_the_South_African_Economy.pdf

[10] Commission for Employment Equity (CEE) 2023, *23rd Commission for Employment Equity Annual Report 2022–2023: Transformation Makes Business Sense*, Department of Employment and Labour, Pretoria, South Africa 23rd Annual CEE Report.pdf

[11] World Economic Forum (2024). Global Gender Gap Report 2024. Geneva: World Economic Forum. Global Gender Gap Report 2024 | World Economic Forum

of the Constitution guarantees that everyone is equal before the law and prohibits the state from unfairly discriminating, directly or indirectly, on grounds including gender and sex. Complementary legislation, including the Employment Equity Act, the Promotion of Equality and Prevention of Unfair Discrimination Act (PEPUDA), and the Domestic Violence Amendment Act, reinforces this constitutional commitment and provides legal recourse for women experiencing discrimination in employment and other spheres.

In addition to gender-specific legislation, South Africa's Broad-Based Black Economic Empowerment (B-BBEE) framework seeks to address historical patterns of economic exclusion stemming from apartheid. Through incentives linked to ownership, management participation, skills development, enterprise development and procurement, the framework promotes the inclusion of historically disadvantaged groups in the economy. Black women are recognised as a priority beneficiary group, with specific provisions intended to strengthen their participation in business ownership, management, skills development and economic opportunities.

Despite this enabling legal framework, implementation challenges remain. Women continue to face barriers in access to productive assets, including land and property, particularly in some rural and customary contexts where social norms and customary practices can limit the effective realization of statutory rights. [12] These constraints can affect women's ability to participate fully in entrepreneurship, access finance, and benefit from emerging economic opportunities.

More broadly, these barriers illustrate a persistent gap between the legal protections available to women and their ability to exercise those rights in practice. This gap is evident not only in unequal access to economic opportunities and productive assets, but also in the continued prevalence of gender-based violence (GBV), which remains one of the most significant obstacles to women's safety, economic participation, and social mobility in South Africa. The country has one of the highest rates of gender-based violence globally. Over 42,000 rapes were reported in 2022/23, equivalent to more than 115 cases per day.[13] Underreporting means the true prevalence would likely be higher. Femicide is a critical concern: approximately three women were killed every day by an intimate partner during 2020–2021, corresponding to an intimate partner femicide rate of 5.5 per 100,000 women – among the highest rates globally.[14] Entrenched gender power imbalances underpin these patterns: survey data indicate that 7 in 10 men believe women should obey their husbands, reflecting social norms that reinforce GBV risks and limit women's ability to report or exit violence.[15]

An additional dimension around gender risk relates to the broader social impacts of the just energy transition itself. Stakeholders consulted during the preparation of this assessment highlighted that the transition away from carbon-intensive industries could create economic disruption for workers, many of whom men, and communities that currently depend on these sectors for employment. Where livelihood losses are not accompanied by adequate reskilling, upskilling, social support, or access to alternative economic opportunities,

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[12] Gaddis, I., Lahoti, R., & Li, W. (2018). *Gender gaps in property ownership in Sub-Saharan Africa* (Policy Research Working Paper No. 8573). World Bank. World Bank Document

[13] UN Women (n.d.) *Data on Reported Rape Cases 2022/2023: South Africa*. Global Database on Violence against Women and Girls. Available at: Measures Details | UN Women Data Hub

[14] UN Women (2024) *Tackling femicide in South Africa through laws, policies, and better policing*. UN Women, 22 November. Available at: Tackling femicide in South Africa through laws, policies, and better policing | UN Women – Headquarters and UNODC and UN Women (2024) *Femicides in 2023: Global Estimates of Intimate Partner/Family Member Femicides*. Vienna: United Nations Office on Drugs and Crime. Available at: Femicide_Brief_2024.pdf

[15] United Nations South Africa (2024) *From Tradition to Transformation: Accelerating Gender Equality in South Africa*. United Nations in South Africa, 8 August. Available at: From Tradition to Transformation: Accelerating Gender Equality in South Africa | United Nations in South Africa

household-level economic stress may increase. Evidence suggests that financial insecurity and unemployment can exacerbate existing household tensions and vulnerabilities, including risks of gender-based violence.[16] This dynamic is particularly relevant in South Africa given the scale of the coal sector workforce transition anticipated under the Just Energy Transition Investment Plan. This highlights the importance of ensuring that industrial decarbonisation pathways are accompanied by inclusive workforce development and transition measures. The gender implications of the transition therefore extend beyond labour influx and project-site risks to include the wider socio-economic impacts experienced by workers, households and communities affected by structural economic change.

Political participation

Women's political representation in South Africa is relatively high compared to global standards. Women hold a substantial share of seats in the National Assembly positions (45% in 2024), reflecting strong national-level inclusion.[17] However, representation is lower at local government level where in 2021, 39% of senior positions were held by women, and only 25 out of 257 municipalities meeting the 50% target. This indicates that decision-making power remains unevenly distributed across governance levels.[18] Decisions on land use, community benefit distribution, and infrastructure permitting are made predominantly at the municipal level, meaning the governance bodies closest to project sites and project-affected communities remain the least gender-equitable.

Climate vulnerability and gender

Gender intersects with climate vulnerability in important ways in South Africa, with women, particularly those in low-income and rural households, disproportionately exposed to climate-related risks through three interconnected pathways. The most relevant angles for this assessment concern energy insecurity, water access, and the reliance on climate-sensitive livelihoods and limited adaptive resources.

South Africa's prolonged electricity crisis has had gender-differentiated impacts that extend well beyond industrial productivity. South Africans experienced 335 days of load-shedding in 2023 – the worst year on record – before partial improvement to 83 days in 2024.[19] Women working in informal and self-employed livelihoods, sectors where women are overrepresented, are disproportionately affected, as income losses from power outages cannot be recovered through backup systems or insurance that larger employers can access.

Water insecurity has a strong gender dimension in South Africa. Women, particularly in rural areas, bear a disproportionate share of responsibility for securing and managing household water supplies. This burden can limit time available for education, income-generating activities and participation in community life, while

[16] The World Bank's coal-sector just transition analysis notes that when unemployment rises among male miners, women may experience higher levels of domestic violence, food insecurity, and declining social status. World Bank (2022) *Just Transition for All: A Feminist Approach for the Coal Sector*. Washington, DC: World Bank. Available at: https://www.worldbank.org/en/topic/extractiveindustries/publication/just-transition-for-all-a-feminist-approach-for-the-coal-sector

[17] Equality in Justice and Society (EJS) Center (2024) *#SADecides2024: Is Progress on Women's Representation in South Africa Stalling?* Available at: https://ejscenter.org/sadecides2024-is-progress-on-womens-representation-in-south-africa-stalling/

[18] Futurelect (2025) *The Gender Gap in Political Leadership Ends Here: Futurelect Calls Women to the Frontlines of Political Power ahead of Local Elections in 2026*. 30 May. The Gender Gap in Political Leadership Ends Here: Futurelect Calls Women to the Frontlines of Political Power ahead of Local Elections in 2026

[19] FTI Consulting (2025) *Out of the Darkness: The Lasting Economic Costs of Load-Shedding*. Available at: https://www.fticonsulting.com/insights/articles/out-darkness-lasting-economic-costs-load-shedding

unequal access to water resources continues to constrain women's economic opportunities and social mobility. Women remain significantly underrepresented in water governance and control of water resources, holding only 10.5% of water licences compared with 89.5% held by men.[20] Research on the gendered effects of water scarcity on rural livelihoods in South Africa finds that women bear a disproportionate share of the costs of water insecurity, including intensified unpaid labour burdens, reduced income-generating opportunities, and increased exposure to health and wellbeing risks.[21] Climate change is expected to compound this burden: a study published in Nature Climate Change (2024) found that a 1°C temperature rise historically increased daily water collection times by approximately four minutes, and projects that daily collection times for women without household water access could increase by 30% globally and up to 100% in some regions by 2050 under high-emission scenarios.[22] A study of female-headed rural households in South Africa's Limpopo and Eastern Cape provinces found that water interruptions significantly reduce food security, with a measurable indirect effect operating through reduced energy access.[23]

[20] Phakathi, S., Sinyolo, S. and Ndinda, C. (2023) *Gender and Water Access in South Africa: Status, Trends and Policy Implications*. HSRC Policy Brief. Pretoria: Human Sciences Research Council. https://hsrc.ac.za/wp-content/uploads/2024/08/16-PB_Gender-and-water-access-in-SA.pdf

[21] Makhanya, M. et al. (2025) *Gendered effects of water scarcity on rural livelihoods in South Africa: a feminist political ecology perspective*. *Gender & Behaviour*. Available at: https://www.ajol.info/index.php/gab/article/view/303697

[22] Carr, R., Kotz, M., Pichler, P.-P., Weisz, H., Belmin, C. and Wenz, L. (2024) 'Climate change to exacerbate the burden of water collection on women's welfare globally', *Nature Climate Change*, 14, pp. 700–706. Available at: https://doi.org/10.1038/s41558-024-02037-8

[23] Mazenda, A. and Nkwana, H.M. (2025) 'Water, sanitation, and energy as determinants of food security among rural women-led households', *Discover Sustainability*. Available at: https://doi.org/10.1007/s42108-025-00368-6

Key takeaways and implications for the Fund

- *Significant share of women in South Africa are educated as men but face higher unemployment, lower participation, and concentration in low-value sectors.* They are not strongly represented in the industrial and technical sectors which are the focus of this Fund . This suggests that gender-neutral hiring practices at investee level are unlikely to produce equitable outcomes, and that the Fund's pre-investment screening and agreements with investees would be an important lever to encourage more deliberate approaches to recruitment and workforce development.
- *Energy insecurity and water scarcity impose a disproportionate economic and time cost on women in informal livelihoods and rural households.* The Fund's investments in renewable energy and water treatment infrastructure co-located with hydrogen production can help address these burdens, provided that community distribution mechanisms are designed with women as intended beneficiaries rather than assumed incidental recipients.
- *Despite strong national representation, fewer than 10% of South African municipalities meet the 50% women in senior positions target, and land use, permitting, and community benefit decisions are made at this level.* While this is beyond the Fund's direct influence, it underscores the importance of gender-responsive community engagement at the project level to help ensure women's interests are represented in local decision-making processes that affect project-adjacent communities.
- *South Africa has extremely high rates of gender-based violence a documented association between large industrial labour influx and elevated GBV incidence in project-adjacent communities.* This mean that GBV prevention and response is a material project risk across the full investment lifecycle of the Fund.

2.2 Namibia

Namibia presents a complex gender picture: strong performance on education and political representation coexists with persistent structural inequalities in labour market access, economic participation, and climate vulnerability, particularly for rural women.

Socioeconomic and demographic indicators

Namibia's 2023 Population and Housing Census records a population of 3 million, with women representing 51% and men 49%. The country remains almost evenly split between rural (50.5%) and urban settlement (49.5%) with approximately 756,300 households with an average size of 3.8 persons.[24] This urban-rural balance matters for gender analysis: rural livelihoods, household service access, and climate exposure differ substantially in these areas. Poverty remains highly gendered and geographically concentrated. Namibia's 2021 Multidimensional Poverty Index found 43% of the population multidimensionally poor, with rural poverty at 59% compared to 25% in urban areas (OPHI, 2021). Poverty incidence is higher in female-headed households (46%) than male-headed households (41%), and is especially severe among certain linguistic communities,

[24] Namibia Statistics Agency (2024) *2023 Population and Housing Census Main Report*. Windhoek: Namibia Statistics Agency. 2023 Population and Housing Census Main Report - Namibia Statistics Agency

both markets, electricity outages have imposed substantial costs on households and small businesses, many of which rely on expensive diesel generators or other backup solutions. With high diesel prices, the electricity generation cost related to such generators is much higher than grid electricity prices. Women operating home-based, informal or small-scale enterprises are often particularly exposed to these costs and disruptions. Similarly, interruptions to water supply increase the time and labour required to secure water for household needs, responsibilities that continue to fall disproportionately on women.

Renewable energy generation and water treatment infrastructure associated with the Fund's investments can contribute to reducing these reliability and affordability constraints for connected communities. Women are expected to benefit disproportionately from the resulting improvements. Reduced dependence on expensive alternative energy sources can support the productivity and resilience of women-owned enterprises, while improved water reliability can reduce unpaid care burdens and free time for education, employment and income-generating activities. These benefits may be particularly relevant in drought-affected or water-stressed regions where several green hydrogen developments are expected to be located, and can contribute to reduced time poverty, enhanced livelihood resilience and improved adaptive capacity among women in project-adjacent communities.

including Khoisan-speaking populations (93%), Rukavango-speaking populations (68%), and Zambezi-speaking populations (54%).[25]

Health outcomes show gradual improvement but continued risks, particularly in reproductive health. Maternal mortality declined from 402 deaths per 100,000 live births to 139 over a 10-year period up till 2023 (latest available data),[26] while adolescent fertility stood at 66 births per 1,000 girls aged 15–19 (down from 79 a decade ago), indicating that even though there is progress, reproductive health constraints continue to affect young women's educational and economic trajectories.[27] Life expectancy has recovered strongly: in 2023, women's life expectancy was 71 years compared to 63 years for men, up from a total of 61 years in 2013.[28]

Education is a strongest gender-equality area in Namibia and stands in contrast to the pattern seen in South Africa. Girls outperform boys at every level of the education system: primary completion rates stand at 89% for girls versus 74% for boys, lower-secondary at 59% versus 44%, upper-secondary at 37% versus 30%, and women account for 66% of tertiary graduates compared to 34% for men.[29] Adult literacy is near parity, with women at 87% and men at 88% in 2023.[30]

Labour market dynamics

Namibia's labour market is characterised by low absorption, high unemployment, youth detachment, and a persistent gender participation gap.

The 2023 Population and Housing Census Labour Force (PHCLF) module recorded an official unemployment rate of 37% among 867,247 people in the labour force. Gender differences in participation are pronounced: 51% of men versus 42% of women were active in the labour market in 2023, a gap of 9.2 percentage points.[31] World Bank estimates for 2025 show the same pattern persisting, with female labour force participation at 55% versus 63% for men.[32] The participation gap is compounded by geography: urban participation stood at 56.3% versus approximately 33% in rural areas, as per the 2023 PHCLF. Youth outcomes are especially concerning. The same report records youth unemployment at 44%, while 42% of youth aged 15–24 were not in

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[25] Namibia Statistics Agency (2021) *Namibia Multidimensional Poverty Index (MPI) Report 2021*. Windhoek: Namibia Statistics Agency. Namibia Multidimensional Poverty Index (MPI) Report 2021 | OPHI

[26] World Bank (2025) *Maternal mortality ratio (modeled estimate, per 100,000 live births) – Namibia (Indicator SH.STA.MMRT)*. World Development Indicators. Washington, DC: World Bank. Available at: https://data.worldbank.org/indicator/SH.STA.MMRT?locations=NA

[27] World Bank (2025) *Adolescent fertility rate (births per 1,000 women ages 15–19) – Namibia (Indicator SP.ADO.TFRT)*. World Development Indicators. Washington, DC: World Bank. Available at: https://data.worldbank.org/indicator/SP.ADO.TFRT?locations=NA

[28] World Bank (2025) *Life expectancy at birth, female (years) – Namibia (Indicator SP.DYN.LE00.FE.IN)*. World Development Indicators. Washington, DC: World Bank. Available at: https://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=NA

[29] African Development Bank (2025) *Brief on Gender Equality and Women Empowerment: Namibia*. February 2025. Abidjan: African Development Bank Group, Africa Gender Index. Available at: https://agi.afdb.org/sites/default/files/country/gender/2025-03/250213-GenderBrief-Namibia_En.pdf

[30] World Bank (2025) *Literacy rate, adult female (% of females ages 15 and above) – Namibia (Indicator SE.ADT.LITR.FE.ZS)*. World Development Indicators. Washington, DC: World Bank. Available at: https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?locations=NA

[31] Namibia Statistics Agency (2025) *2023 Population and Housing Census Labour Force Report*. Windhoek: Namibia Statistics Agency. Available at: https://nsa.org.na/document/2023-phc-labour-force-report/

[32] World Bank (2025) *Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate) – Namibia (Indicator SL.TLF.CACT.FE.ZS)*. World Development Indicators. Washington, DC: World Bank. Available at: https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=NA

employment, education, or training (NEET). AfDB's 2025 Gender Brief reports sex-disaggregated youth unemployment of 41% for young women versus 38.5% for young men, a gap that mirrors the pattern observed in South Africa and points to systemic barriers at the school-to-work transition stage.

Women's economic participation is not only lower than men's but also more precarious in quality. In 2023, half of employed women were in the informal economy compared to 43% of men, while vulnerable employment (defined as own-account and contributing family workers without formal protections) stood at 39% for women versus 25% for men.[33]

As in South Africa, Namibia exhibits strong gender-based occupational segregation, with women concentrated in services and significantly underrepresented in industry. On the positive site, AfDB reports that women account for 52% of managers, professionals, and technicians in Namibia. However, under a third of firms have a female top manager, and under half have women participating in ownership.[34] Furthermore, women employment is concentrated in services (72% of employed women compared to 52% of employed men), and unerrespresented in industry (8% of women versus 25% men).[35]

Afrobarometer's 2024 Namibia findings show broad public support for gender equality.[36] Nevertheless, significant intra-household and structural barriers persist. Around 19% of respondents report that women are often or always prevented from taking paid employment by spouses or other family members. Identified barriers to workforce entry include lack of relevant skills and qualifications, employer preference for hiring men, and lack of flexible or remote work arrangements. The latter are widely connected to family and childcare responsibilities. Namibia has no available national data for the SDG indicator on time spent on unpaid domestic and care work disaggregated by gender. However, qualitative and policy sources consistently identify care and household responsibilities as gendered: Namibia's National Gender Policy highlights women's unpaid household work and subsistence farming as part of the care economy, and notes that daughters fetch water in 36% of rural households compared to sons in 15%.[37]

Legal framework

Namibia has a comparatively strong legal framework for gender equality. Article 10 of the Constitution establishes equality before the law and prohibits discrimination on grounds including sex; Article 23 permits affirmative action for women who have suffered historical discrimination; and Article 95 directs the state to promote equal opportunity for women to participate fully in all spheres of society. Complementary legislation includes the Married Persons Equality Act, the Affirmative Action (Employment) Act, the Communal Land Reform Act, the Combating of Domestic Violence Act, and Labour Act protections on maternity and workplace discrimination.[38] According to the World Bank's Women, Business and the Law 2026 assessment, Namibia

[33] AfDB Gender Brief, 2025
[34] ibid
[35] ibid
[36] 74% of citizens support equal employment access for women and men, even when jobs are scarce. Keulder, C. and Stoman, L. (2024) *AD880: Namibians support equal access to jobs but say more needs to be done to protect women and girls from discrimination and harassment*. Afrobarometer Dispatch No. 880, 14 October 2024. Accra: Afrobarometer. Available at: AD880-Namibians-call-for-protection-from-gender-discrimination-and-harassment-Afrobarometer-14oct24.pdf
[37] Ministry of Gender Equality and Child Welfare (Republic of Namibia) (2010) *National Gender Policy 2010–2020*. Windhoek: Ministry of Gender Equality and Child Welfare. Available at: NATIONAL GENDER POLICY NAMIBIA (ZERO DRAFT RC 23 02 08)
[38] UN Women (2025) *Namibia: Constitution of the Republic of Namibia 1990, as amended to 2014*. Global Database of Gender Equality and Constitutions. Available at: Namibia

performs strongly in areas related to marriage, assets and pension rights, but gaps persist in areas affecting women's economic participation, including pay, workplace protections, parenthood and entrepreneurship. The report highlights shortcomings in measures supporting work-family balance and identifies continuing weaknesses in frameworks that promote equal economic opportunities for women.[39]

The institutional framework is evolving. Namibia's Third National Gender Equality and Equity Policy 2025–2035 sets objectives across twelve thematic areas, including economic empowerment, education, health, and legal affairs, through an action plan addressing poverty, harmful gender norms, and gender-based violence.[40]

Despite the strength of Namibia's legal and institutional framework on paper GBV remains one of the most visible indicators of this gap between formal commitments and lived experience. There are over 5,000 cases reported annually,[41] though, as in South Africa, underreporting is likely understating the magnitude of the issue. Approximately 33% of women aged 15–49 have experienced physical violence since age 15, and numbers of intimate partner violence are raising.[42]

Political participation

Women's political representation in Namibia is among the strongest in the region. Nandi-Ndaitwah became Namibia's first female president and was sworn into office in March 2025. Women's representation at the executive level is also high, with women holding 57% of ministerial positions in the current Cabinet.[43] In the National Assembly, women held 40.6% of seats following the November 2024 election, remaining well above regional averages despite a decline from the previous legislature.[44] Notably, women's representation at local government level stands at 45% of elected seats. However, Afrobarometer's 2024 findings suggest that high levels of women's representation in political institutions do not necessarily imply universal support for gender equality in public life. While 72% of Namibians support equal opportunities for women to be elected to public office, the survey also highlights the persistence of discriminatory social norms and barriers affecting women's participation and voice. These findings suggest that inclusive participation at community level should not be assumed solely on the basis of national representation figures.

Climate vulnerability and gender

Namibia is one of the most climate-vulnerable countries in Africa despite contributing less than 0.03% of global greenhouse gas emissions. The country is among the driest on the continent, with annual rainfall ranging from 25mm to 700mm. Climate change is projected to reduce groundwater recharge by 30–70% under worst-case

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[39] World Bank (2026) *Women, Business and the Law 2026*. Washington, DC: World Bank. Available at: Women, Business and the Law 2026

[40] Government of the Republic of Namibia (2025) *Third National Gender Equality and Equity Policy 2025–2035*. Windhoek: Ministry of Gender Equality, Poverty Eradication and Social Welfare. Available at: UNFPA Namibia | Third National Gender Equality and Equity Policy for Namibia (2025-2035)

[41] The Namibian (2024) *Over 5 000 GBV cases reported in Namibia annually*. The Namibian. Available at: Over 5 000 GBV cases reported in Namibia annually - Top Story 3 - The Namibian

[42] UNFPA Namibia (2024) *Hope shines bright as EU and UNFPA join forces to combat GBV in Namibia*. United Nations Population Fund (UNFPA) Namibia. Available at: UNFPA Namibia | Hope shines bright as EU and UNFPA join forces to combat GBV in Namibia

[43] Guchu, W. (2025) *Nandi-Ndaitwah shifts gears in Namibia's women-in-power journey*. Mail & Guardian. Nandi-Ndaitwah shifts gears in Namibia's women-in-power journey

[44] Inter-Parliamentary Union (IPU) (2025) *Namibia National Assembly November 2024 Election: Election Results*. IPU Parline Database. Available at: Namibia National Assembly November 2024 Election | Election results | Namibia | IPU Parline: global data on national parliaments

scenarios, reduce Kunene River flow by up to 25%.[45] These trends would likely affect hydropower, irrigation, and rural drinking water supplies that large portions of the population depend on.

As with South Africa, gender intersects with this climate vulnerability through three interconnected pathways most relevant to this Fund.

- *Energy access*: Namibia's energy vulnerability is primarily driven by limited rural electrification. Overall electrification stood at 57% in 2023, but only 34% in rural areas,[46] with some estimates suggesting fewer than 10% of rural households have reliable access.[47] While loadshedding is not as grieve a problem as in South Africa, Namibia still experiences substantial amount and duration of outages, that have only increased in the last decade.[48] In the absence of grid electricity, rural households rely predominantly on biomass for cooking, heating, and lighting – a burden that falls disproportionately on women and girls, who are culturally assigned firewood collection and household energy management. Climate change compounds this burden directly: as environmental degradation reduces nearby biomass availability, women must travel longer distances for firewood, increasing time-poverty and exposure to indoor air pollution from biomass combustion.

- *Water access and collection burden*: Women and girls are primary providers of household water in rural Namibia, as previously reported in this section. Climate change directly extends this burden: reduced groundwater availability and more erratic rainfall increase the time and distance rural women must travel to secure water, compounding time-poverty in communities that are already labour-constrained. Namibia's recent drought, described by UN reporting as one of the worst in more than a century, affecting more than half a million people, illustrates the acute manifestation of a long-standing structural vulnerability to climate shocks. Women and girls, including nursing and teenage mothers, women farmers, were disproportionately identified among those most severely affected.[49]

- *Livelihood and food security*: Agriculture employs over 70% of Namibia's rural population and is the primary livelihood for a significant share of rural women. Cereal production is projected to decline by 10–20% by 2050, and long-term agricultural productivity could fall by up to 50% under current climate trajectories.[50] Women in informal agricultural and subsistence livelihoods – already in the more

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[45] Shikalepo, H. (2025) *Strengthening Dialogue on Climate Change, Gender Equality, and Livelihoods in Namibia: An Overlooked Nexus?* United Nations Development Programme (UNDP) Namibia, 27 May 2025. Available at: Strengthening Dialogue on Climate Change, Gender Equality, and Livelihoods in Namibia: An Overlooked Nexus? | United Nations Development Programme

[46] World Bank (2025) *Access to electricity, rural (% of rural population) – Namibia (Indicator EG.ELC.ACCS.RU.ZS)*. World Development Indicators. Washington, DC: World Bank. Available at: Access to electricity, rural (% of rural population) - Namibia | Data

[47] International Trade Administration (2024) *Namibia – Energy*. Country Commercial Guide. Washington, DC: U.S. Department of Commerce. Available at: Namibia - Energy

[48] While no official data exists on outages for household, a proxy metric is the outages experienced by firms, as reported by the World Bank. In 2014, 27% of firms reported experiencing electrical outages, while that number stood at 54% in 2024. For small and medium firms, that varies between 50 and 63% of the firms. World Bank (2025) *Firms experiencing electrical outages (% of firms) – Namibia*. World Development Indicators. Available at: World Bank (2025) *Firms experiencing electrical outages (% of firms) – Namibia*. World Development Indicators. Available at: https://data.worldbank.org/indicator/IC.ELC.OUTG.ZS?locations=NA

[49] United Nations Sustainable Development Group (UNSDG) (2025) *Namibia's Drought Crisis: Building Resilience for Women and Girls*. 30 January 2025. Available at: Unsdg | Namibia's Drought Crisis: Building Resilience for Women and Girls

[50] UNDP 2025

vulnerable segments of the labour market as documented above – face the most direct and least-buffered exposure to these productivity losses, with limited access to insurance, savings, or alternative income sources to absorb climate-driven shocks.

Key takeaways and implications for the Fund

- *Namibia has a strong female educational attainment and professional representation but the industrial sector gap remains a binding constraint.* Women account for 66% of tertiary graduates and 52% of managers, professionals, and technicians: a deeper talent pool than South Africa's figures. However, women's employment in industry – where the Fund is likely to be generating jobs – stands at under 8%. Active recruitment and pipeline partnerships, as well as likely trianings and skills development programs (rather than passive hiring) would be needed to capture this talent for green hydrogen, green ammonia, green steel, renewables and other industrial projects. Any recruitment and training efforts should account of the practical barriers that prevent women from accessing sector opportunities, such as childcare, transport, scheduling flexibility, intra-household constraints.
- *Water scarcity and limited electrification present an acute climate-gender nexus for Namibia, and the Fund's excess electricity sharing and water deselination can be responsive to it.* Groundwater recharge is projected to decline by 30–70%, rural women bear the primary water collection burden, and recent droughts illustrate the acute form of a chronic structural vulnerability. In parallel, fewer than one in three rural Namibians has reliable electricity access, with women disproportionately carrying the biomass energy burden. Water treatment infrastructure co-located with green hydrogen production and renewable energy powering industrial operations could contribute to addressing both burdens for communities near project sites. Realising these co-benefits requires deliberate distribution mechanisms designed to reach rural women in project-adjacent communities, rather than assuming proximity to infrastructure translates automatically into access.
- *Namibia has relatively stronger local government representation of women, but community-level gender inclusion cannot be assumed from national figures alone.* Women hold 45% of local government elected seats, implying an enabling environment for gender-responsive engagement at project sites. However, discriminatory social norms persist, and community consultation processes should be designed to actively create space for women's voices rather than relying on representative structures to do that work automatically.
- *A third of Namibian women have experienced physical violence and a quarter – intimate partner violence.* The high prevelence of GBV, compounded by labour influx during construction in rural and peri-urban communities that already have limited social support infrastructure, creates a risk for women in project-adjacent areas that requires attention from the Fund across both construction and operational phases.

3 Problem analysis

In accordance with GCF guidance on gender mainstreaming and the terms of reference for this assessment, a problem tree analysis was conducted to identify the root causes and downstream effects of gender inequality in the context of green hydrogen and industrial decarbonization in South Africa and Namibia.

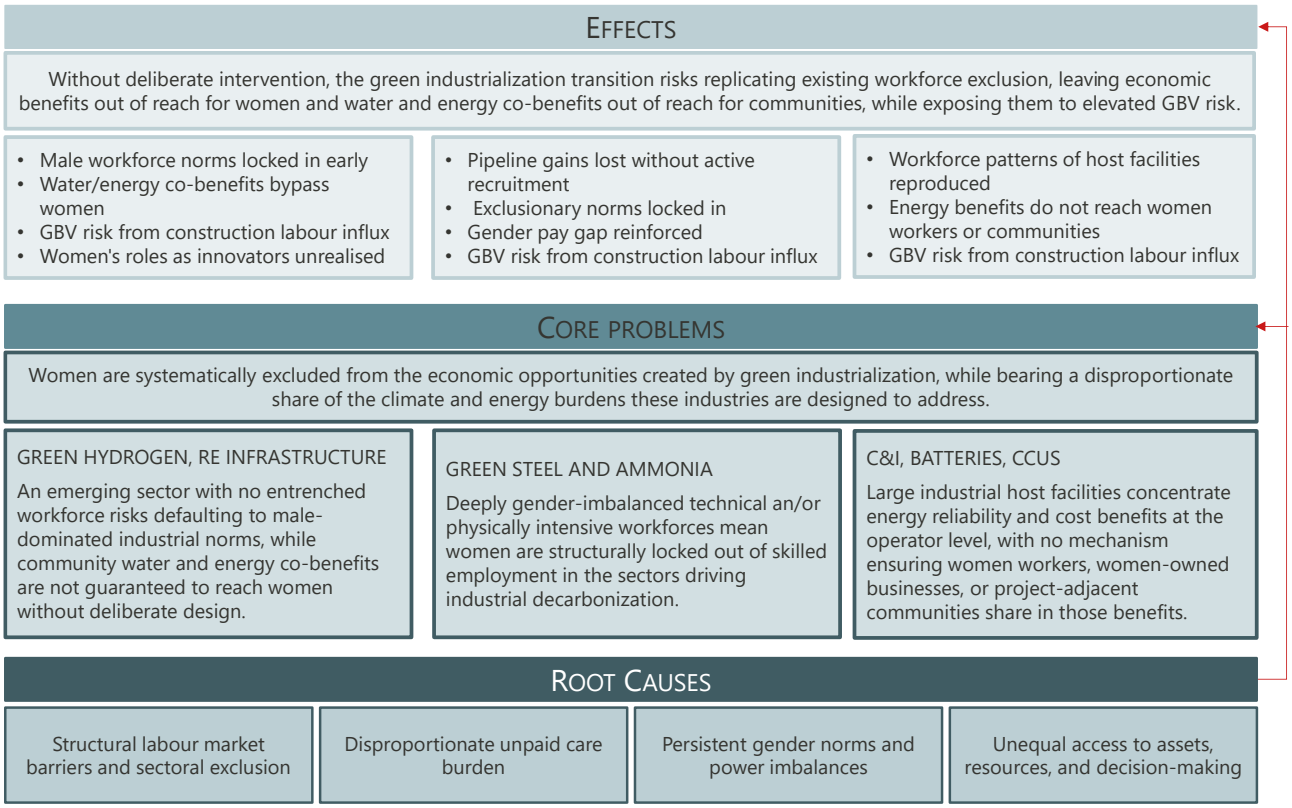

Figure 1: Overview of the main findings of the analysis

3.1 Root causes

The gender inequalities documented in Section 2 across South Africa and Namibia share a common set of structural drivers that cut across all sectors relevant to the Fund's investment portfolio. Four mutually reinforcing root causes underpin the sector-specific problem analyses that follow:

1. **Structural labour market barriers and sectoral exclusion**: Women's lower participation in the labour market is not necessarily driven by education gaps. Women in both countries participate and in and graduate at secondary and tertiary level similar or above the levels of men. The root cause issues are systemic barriers to entry, retention, and advancement in higher-value sectors, including occupational segregation, hiring biases, limited access to technical career pathways, and weak school-to-work transitions, particularly for young women.

2. **Disproportionate unpaid care burden: a**cross both countries, women bear a disproportionate share of unpaid care and domestic work, which directly limits their availability for paid employment, training, and community participation. This burden is reinforced by limited childcare infrastructure, inflexible work arrangements, and intra-household decision-making norms.

3. **Persistent harmful gender norms and power imbalances:** deeply entrenched social norms continue to shape gender roles, limit women's economic agency, and underpin gender-based violence. GBV both reflects and reinforces women's constrained participation in economic and public life, and creates material risks at project sites through labour influx effects during construction and ongoing power imbalances during operations.

4. **Unequal access to assets, resources, finance, and decision-making:** despite strong legal frameworks in both countries, women face practical barriers to accessing land, finance, water, and economic infrastructure, and remain underrepresented in governance structures that control land use, resource allocation, and community benefit distribution, particularly at the local level in South Africa. Stakeholders highlighted that decarbonization projects frequently affect marginalised and indigenous communities who bear disproportionate environmental and social risks without receiving proportionate benefit. Women within these communities face a compounded disadvantage: they are often excluded from community-level negotiations and governance processes, and are the least likely to benefit from compensation and benefit-sharing arrangements even where these are formally in place.

Across these root causes, gender inequality is likely to intersect with other forms of disadvantage. Project-affected women and men may face different barriers depending on factors such as land tenure status, disability, Indigenous or minority identity, migrant status, rural poverty, reliance on customary or insecure resource use, and access to formal documentation. These factors can influence whether individuals are able to access construction and operational employment opportunities, participate in procurement and supplier-development initiatives, engage meaningfully in consultation and decision-making processes, receive compensation or livelihood restoration where land or resource access is affected, benefit from community development initiatives, or access grievance and protection mechanisms in practice. The significance of these intersecting constraints will vary across investments and locations and should therefore be assessed further through project-level assessments and stakeholder engagement.

Overall, these root causes manifest differently across the Fund's investment sectors, and at varying intensities. The subsections below set out how they translate into sector-specific problems and effects.

3.2 Core problem

Women are systematically excluded from economic opportunities in both markets. The same holds for the employment, skills development, entrepreneurship opportunities (to be) created by green hydrogen and industrial decarbonization in South Africa and Namibia. At the same time, women, especially in rural areas, bear a disproportionate share of the climate and energy access burdens that these industries are designed to address. Without intentional gender interventions, the green industrialization transition risks replicating the exclusionary workforce and ownership patterns of the industrial sectors it seeks to transform, at scale and over long asset lifetimes.

3.3 Sector-specific problem analysis

The following sub-sections describe how the shared root causes manifest specifically in each sector and what the downstream effects would be if the issues are left unaddressed. The section focuses on the three most concrete clusters of potential investments.

Green hydrogen production and renewable energy infrastructure

Green hydrogen and the renewable energy infrastructure powering it represent an emerging sector with no deeply entrenched workforce in either country. Without deliberate intervention, hiring will default to the patterns of adjacent industrial and engineering sectors, where women's representation is consistently below 20% in both South Africa and Namibia. At the community level, women in project-adjacent areas bear primary responsibility for water and fuel collection, a burden that hydrogen-linked desalination and grid-connected renewable energy could help address, but only if distribution mechanisms are designed with women as

intended beneficiaries rather than assumed incidental recipients. Construction phases carry a specific additional risk: labour influx into remote or peri-urban project locations in both countries introduces elevated GBV exposure into communities where rates of violence against women are already among the highest in the world.

Effects if unaddressed:

- The emerging green hydrogen sector establishes male-dominated workforce norms before they can be challenged, foreclosing the early-mover opportunity that currently exists and locking in exclusionary patterns over long asset lifetimes
- Community water and energy co-benefits do not reach rural women in project-adjacent communities, leaving the Fund's adaptation outcomes undelivered for the population most exposed to water and energy access burdens
- Labour influx during construction elevates GBV risk in communities with limited social support infrastructure, compounding documented country-level vulnerabilities
- Women's potential as owners, innovators, technicians, and community stakeholders in the green hydrogen value chain goes unrealised, reducing the overall inclusivity and effectiveness of the transition

Green ammonia and steel

Green ammonia (as well as other potential projects such as green fetrilizers and methanol) production draws on chemical and process engineering workforces that are among the most gender-imbalanced in both countries. Despite a gradually improving STEM educational pipeline (particularly in South Africa), these gains have not yet translated into equitable representation at the plant operations and senior technical levels where green ammonia projects will recruit. The recruitment and retention challenge is real but addressable: it requires active intervention rather than an assumption that pipeline improvements will translate automatically into gender-responsive employment outcomes.

Green steel represents a substantially more entrenched challenge. A century-long male-dominated, patriarchal workforce culture, physical working conditions, cultural norms, and the geographic remoteness of many facilities compound structural barriers in ways that go significantly beyond the pipeline issue in green ammonia. These problems require sustained engagement across the investment period and realistic expectations about the achievable pace of change.

Both sectors involve significant construction phases, introducing labour influx GBV risks analogous to those described for green hydrogen, particularly where facilities are sited in or near rural or peri-urban communities.

Effects if unaddressed:

- Pipeline gains for women in STEM do not translate into employment in green ammonia without active recruitment and retention mechanisms at the investee level
- Green steel reproduces the most entrenched form of capital-intensive sector gender exclusion in a new value chain, with asset lifetimes of thirty or more years locking in exclusionary workforce norms
- Women's share of skilled technical and management employment remains disproportionately low relative to educational attainment, reinforcing income inequality in economies where the gender pay gap is already documented as widening

- Construction-phase labour influx elevates GBV risk and exploitation in project-adjacent communities in both countries without proactive prevention mechanisms

C&I renewables, battery storage, and CCUS

As the sector analysis showed. large existing industrial facilities in both South Africa and Namibia – where the Fund's investments in this segment are likely to be focused – have deeply male-dominated workforces, particularly in operational and technical roles: women account for approximately 19% of mining workers and 10% of construction workers in South Africa, and industry overall employs only 8% of working women in Namibia. Renewable energy and storage installations at these facilities will generate construction and operational employment that, without active intervention, will follow the same sectoral patterns. CCUS is additionally a nascent sector in both countries with no sex-disaggregated workforce data currently available, meaning gender inequality is structurally present but invisible in measurement terms. At the community level, potential construction of new facilities could be associated with labour influx effects that elevate GBV and exploitation risk in project-adjacent communities, compounding existing vulnerabilities documented in Section 2.

Effects if unaddressed:

- Construction and operational employment generated by C&I renewable and storage installations at large industrial sites reproduces male-dominated workforce patterns, with women concentrated in administrative and support functions rather than technical and operational roles
- The energy reliability and cost reduction benefits of C&I-plus-storage accrue to industrial operators without generating gender-differentiated outcomes for women owners, workers, suppliers, or project-adjacent communities
- Construction-phase labour influx elevates GBV and exploitation risk in project-adjacent communities without proactive mitigation, compounding documented country-level vulnerabilities in both South Africa and Namibia

4 Gender Opportunities

Recruitment and workforce development

The improving STEM educational pipeline in both countries creates a genuine opportunity for the Fund's investees to access a growing pool of qualified women candidates that passive hiring through established networks will not reach. Active recruitment partnerships with engineering faculties and technical colleges targeting women graduates, combined with structured mentorship and retention support, offer investees the opportunity to access talent that their competitors are not yet systematically pursuing, while supporting progress toward greater gender balance where feasible: a business case argument that complements the gender equity rationale. Creating an inclusive working environment also requires attention to workforce health, safety and wellbeing considerations, including measures related to workplace culture, harassment prevention, appropriate facilities, safe transport and accessible reporting and grievance mechanisms.

Beyond direct hiring, there is an opportunity to contribute to the broader green skills pipeline in project-adjacent communities by supporting or co-funding technical training programs for women that extend beyond the investee's own workforce needs. Existing vocational qualifications and scholarship program provide institutional frameworks that investees can align with and strengthen, generating a contribution to national workforce development that also supports the Fund's paradigm shift narrative.

Gender policies and grievance mechanisms

Large industrial investees that implement gender-responsive workplace policies (such as anti-harassment policies, accessible grievance mechanisms, maternity leave provisions meeting or exceeding legal minimums, and safe facilities for women) create working environments where women who are hired are more likely to stay, progress, and perform. The opportunity here is retention and advancement as much as recruitment: the Fund's investment relationships create a channel through which good practice on workplace gender policy can be introduced into sectors where it is currently underdeveloped.

Given the documented rates of GBV in both countries, there is also a specific opportunity to require GBV prevention and response provisions across all investment clusters for both construction (where relevant) and operational phases: worker codes of conduct, women-accessible grievance channels, and community awareness programs. Establishing these mechanisms proactively and timely (e.g. before construction begins) is significantly more effective than responding to incidents after the fact, and protects both the community and the investee from reputational and operational risk. Stakeholders consulted during this assessment emphasised that the design of grievance mechanisms is as important as their existence. A grievance channel that women do not trust or feel safe using provides limited protection in practice. Key considerations include strong confidentiality protections, survivor-centred handling of GBV-related complaints, and meaningful female representation in grievance and decision-making structures. Regular engagement with workers and communities can further strengthen awareness, trust and uptake of available grievance mechanisms.

Staff engagement programs and dedicated gender-champion that equip male managers and supervisors to actively support women's inclusion offer a complementary opportunity that is often more effective in deeply male-dominated industrial environments than women-targeted programs alone. In sectors like green steel where cultural norms are deeply entrenched, shifting the behaviour of gatekeepers may be as important as expanding the pipeline of women candidates.

SIDF adopts a zero-tolerance approach to sexual exploitation, abuse and harassment (SEAH), with prevention, reporting and response measures integrated into project-level management systems and community engagement processes.

This assessment notes that the high prevalence of GBV in South Africa and Namibia is an important contextual factor for SIDF, as it reflects wider gender power imbalances, the normalisation of violence, and barriers to reporting that might affect workers and project-affected communities. However, country-level GBV prevalence should be distinguished from project-related sexual exploitation, abuse and harassment (SEAH) risk. While national GBV trends help to inform the overall risk context, project-related SEAH risk is also shaped by project-specific factors, including workforce composition, contractor and subcontractor arrangements, workplace hierarchy and supervision, interactions between workers and communities, security arrangements, worker accommodation and transport, and control over access to employment, procurement opportunities, compensation or community benefits. These factors could create risks that are not captured by country-level GBV indicators alone and therefore require project-specific assessment. The detailed assessment and management of SEAH risks are addressed through the SIDF Environmental and Social Management System (ESMS), including project-level screening, due diligence and mitigation measures.

Procurement and supply chain

Local procurement requirements that direct a defined share of construction and operational contracts toward women-owned suppliers (in catering, cleaning, security, transport, waste management, and community services) create an opportunity to generate economic benefits for women-owned businesses that does not depend on women entering the technical industrial workforce directly. These are sectors where women-owned SMEs are realistically present in both South Africa and Namibia, and where procurement covenants are straightforward to monitor through standard contract management processes. These examples are illustrative rather than exhaustive, and where opportunities exist, projects should also consider approaches that support the participation and development of women-owned enterprises in higher-value technical, operational and supply-chain activities.

Women-owned enterprises may face several practical constraints in accessing SIDF-related procurement opportunities. These can include limited access to working capital and finance to meet contract requirements, difficulties obtaining required certifications or maintaining formal registration, gaps in technical capacity or prior experience with industrial supply chains, tender packages that may be too large or specialised for smaller local suppliers, payment terms that create cash-flow pressures, and limited access to timely information on upcoming procurement opportunities. These constraints may be particularly relevant for construction and operational procurement, where women-owned businesses are often more visible in lower-value service categories but may be less able to compete for larger or more technical supply packages without targeted supplier development support.

Stakeholders cautioned that ideally procurement approaches should go beyond low-value service contracts where women-owned businesses are already present. These entry points are a legitimate and realistic particularly given that women-owned businesses with the capacity to participate in substantial supply chain roles for large industrial facilities may be scarce in the areas where the Fund's projects are likely to be located. However, stekholders suggested that the aspiration should be to progressively expand women's procurement participation where supplier capacity exists or can be developed. Where investees have supplier development programs, these represent an opportunity to actively build the capacity of women-owned local businesses over the investment period rather than treating procurement as a static target to be met at the point of contract award.

Project-level procurement actions should therefore consider how women-owned enterprises can be identified early, informed of upcoming opportunities, supported to meet relevant requirements where feasible, and

progressively included in supplier-development initiatives rather than being considered only for lower-value contracts.

Engagement of women in project design and knowledge generation

Standard community consultation processes tend to surface male voices disproportionately. Women are often present in community meetings but less able to speak freely or influence outcomes due to entrenched norms around gender and public decision-making. Women in project-adjacent communities represent an underutilised source of knowledge and expertise that can meaningfully improve project design and outcomes. Their direct experience managing household water access, energy use, and community resources gives them practical insight into local conditions, use patterns, and distribution constraints that technical project designers working from the outside often lack. Actively engaging women in the design of water treatment distribution mechanisms, community energy access structures, and environmental monitoring processes creates an opportunity to improve the effectiveness of these investments. Purpose-designed engagement processes with women's focus groups, women community liaison officers, or partnerships with local women's organisations create the conditions for women's knowledge and priorities to genuinely inform project design rather than being recorded as consultation attendance and set aside. Consultation and engagement processes should recognise that some groups could face additional barriers to participation, access to information, compensation, employment opportunities or project benefits. Depending on the project context, this may include persons with disabilities, Indigenous or minority communities, migrant populations, people affected by land or resource-access changes, individuals lacking formal documentation, and households experiencing rural poverty. Engagement approaches should be adapted to support their meaningful participation.

Beyond design, there is a clear opportunity to ensure women are not just consulted but recognised as co-beneficiaries with a meaningful role in project governance: represented in community liaison committees, environmental monitoring bodies, and benefit trust fund structures in sufficient numbers to influence decisions over time. Where this is achieved, women's continued engagement throughout the investment lifecycle helps ensure that benefit distribution mechanisms remain responsive to community needs, creating a feedback loop between community experience and project management that improves outcomes for all stakeholders.

Water and energy access for communities

While workforce participation, skills development, procurement and women's participation in project decision-making represent the Fund's primary gender pathways, certain investments may also create opportunities for indirect gender benefits through improvements in water and energy reliability. These benefits are expected to be highly project-specific and will depend on technical design, regulatory arrangements and local infrastructure conditions. Given the Fund's mitigation focus and the uncertainty regarding the extent to which such benefits may materialise across the future portfolio, they are not treated as a core Fund-level gender outcome.

Selected green hydrogen, renewable energy and associated infrastructure projects within the Fund's portfolio create an opportunity to contribute to improved water and energy security in communities located near project sites. While the primary purpose of these investments is to support industrial decarbonisation and green industrialisation objectives, some projects may include associated renewable energy generation, desalination facilities, water treatment assets, transmission infrastructure, or other utility systems capable of generating broader community benefits beyond the immediate needs of the industrial facility.

The most credible pathway is through improving the reliability, resilience and effective affordability of existing services for rural and peri-urban communities that have historically been underserved. Communities located near industrial investment sites in South Africa and Namibia often have some level of access to electricity and water infrastructure, yet service disruptions remain common, as the analysis in Section 2 has highlighted. In