

H1 HOLDINGS Scatec





Kenhardt **Solar Project:** Lessons from women in the construction workforce

## About Kenhardt

The Kenhardt Solar Project is one of the world's largest hybrid solar and battery storage facilities. It generates 540 megawatts (MW) of solar energy and 225 MW/1,140 megawatt hours (MWh) of battery storage. The project was awarded to a consortium of Scatec and H1 Capital under South Africa's Risk Mitigation Independent Power Producer Procurement Programme (RMI4P) launched in 2020.

## About this case study

We joined Standard Bank to provide initial financing for the project's construction in 2023. During our ongoing monitoring, we noted a high number of women in the workforce during the construction phase. This project challenged traditional assumptions on women's ability to take on male-dominated roles. It also revealed business and community benefits of having more women in the workforce. We hope this case study will help set new standards and lessons for inclusivity in renewable energy projects.

## Impact highlights

- Women were praised for the quality of their work, which increased productivity, made inspections smoother and ensured tasks were finished on time.
- Women demonstrated greater reliability and were less absent than male workers.
- Women's work ethic and dedication had a positive impact on workplace culture.
- Some contractors retained women technicians after the project finished, recognising their contributions and despite many having no previous industry experience.

### **Setting the scene**

Kenhardt, a small town in South Africa's Northern Cape Province, is home to approximately 5,000 residents. Like many rural areas, it faces economic challenges, particularly in terms of employment and poverty.

As of 2024, the unemployment rate at the provincial level stood at 27.4 per cent, and nearly half of the population lives below the poverty line. The town also has a high dependency ratio, meaning a significant portion of children and the elderly rely on a smaller working-age population. Recent data for the Northern Cape indicates a ratio of approximately 52 per cent - higher than the national average of 48 per cent. Educational attainment also presents challenges, with only 22.8 per cent of residents having completed high school and just 1 per cent holding higher education qualifications, limiting employment opportunities.

Despite these challenges, Kenhardt is a town of resilience and determination. The community is driven by an entrepreneurial spirit, with local businesses, artisans, and small enterprises creating opportunities and contributing to economic activity. Like many communities facing financial hardship, Kenhardt also contends with social challenges such as substance abuse and gender-based violence. However, its residents remain committed to building a better future, demonstrating resourcefulness and a strong sense of community.

Against this backdrop, the project developers of the Kenhardt Solar Project saw an opportunity to not only deliver electricity to South Africa, but to also work alongside the community to unlock local economic growth. Through collaboration with local stakeholders, the project aimed to create job opportunities, support skills development, and strengthen the foundation for long-term prosperity in Kenhardt.

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I was not working for months, so when I heard that there was this opportunity I came to work here, and I am glad I did because I learnt so much from this project.

– Kenhardt employee



### Female representation in the project

The construction phase of the Kenhardt Solar Project challenged assumptions on women's ability to take on historically male-dominated roles:

- 489 female workers (13 per cent of total workforce) were employed throughout the project (vs. South Africa's national average of 10 per cent). This was the highest level of women's participation for any of the developer's projects in the region.
- Contractors employed women in different areas of construction with most notable representation in fencing (32 per cent female), Project management (26 per cent female) and electrical roles (22 per cent female).
- Women-led SMEs<sup>i</sup> secured 48 per cent of overall sub-contracting opportunities and some were offered multiple opportunities across electrical work, operations and maintenance (O&M) building, and mechanical work.

### Why were so many women involved in the project?

The unusual levels of female participation in the Kenhardt project's construction were due to a combination of (1) social and economic factors, (2) local regulation, and (3) specific recruitment strategies.

- 1 Social and economic factors: High unemployment and poverty in the local region drove many women to seek jobs to support their family. Also, compulsory substance tests during recruitment found that 10 per cent more men tested positive than women, making women more reliable job candidates.
- 2 Local regulation: Broad-based Black Economic Empowerment (B-BBEE) is a South African government policy that aims to advance economic opportunities for historically disadvantaged groups including women, disabled individuals, and Black South Africans. Some contractors preferred working with black women-owned enterprises due to the benefits on their B-BBEE scorecards.

#### 3 Recruitment strategies:

- Creating a project labour agreement and a stakeholder engagement plan helped introduce fairer employment standards. The agreement set guidelines for work conditions, health and safety, and labour relations, ensuring fair and consistent treatment for all workers. Although they didn't specifically mention gender diversity, the focus on fair and equal treatment helped create an inclusive environment with equal opportunities for all.
- A centralised employment database gave contractors access to a database of more than 10,000 registrations from local communities, emphasising the project's commitment to inclusivity and fair recruitment. A centralised procurement process for SME selection was used which ensured every registered SME had equal access to information and opportunities. This encouraged women-led businesses to bid on an equal footing with male-led businesses. Stakeholders also reported that female SMEs were appointed due to their competitive pricing and track records.

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This project had many women involved, which is something you normally do not see, and the women were doing the same jobs men did. It was good to observe that females have the same abilities as males. As someone in the industry for a couple of years, I find seeing more women in this space inspirational. It gave me hope that more females will be involved in projects like this one, especially in small, underdeveloped towns like Kenhardt.

- Female Quality Controller



i Female SMEs refers to Exempted Micro Enterprises or Qualifying Small Enterprises, which have 51 per cent Shareholding and Control by Black People or Black Women; or any other enterprise that has 51 per cent Shareholding and Control by Black People or Black Women, with a B-BBEE Recognition Level of between Level 1 and Level 4, as determined by and in terms of the B-BBEE Codes, but excludes any initiatives or contributions carried on through, or which benefit, the entity or entities through which the Seller meets its Committed Obligations in respect of Shareholding by Local Communities in the Seller; SMEs where women hold at least 50 per cent of the ownership.



### **Delivering impact for business and communities**

Women's involvement in the project contributed to its success while also benefitting the women and the wider community.

### **Business benefits:**

- **Quality of work:** Women workers were praised by the contractors for the quality of their work, particularly in precision tasks such as cable termination and structural work. Their approach to quality assurance resulted in increased productivity, smoother inspection processes and the timely completion of work.
- Employee engagement: Women employees demonstrated higher levels of commitment during construction. Workforce data reveals that 91 per cent of male employees who left the project were dismissed, compared to 62 per cent of female employees. Engagement reports showed the males were often dismissed for reasons such as absenteeism, not showing up for work, or substance abuse. The pattern suggests female employees were more reliable, present, and maintained better work habits.
- Workforce dynamics: Women in the workforce, especially those travelling long distances from other communities, demonstrated their commitment and positive contribution to the project. Anecdotal evidence suggests their presence not only increased productivity but also contributed to a healthier workplace culture, marked by eagerness to learn and a strong work ethic.
- **Retention:** In appreciation of their valuable work, some contractors kept some women technicians employed after the project ended, including some who had no previous industry experience. Those employees, mostly young locals from Kenhardt, had a strong desire to learn and showed great potential for long-term careers in the industry.

### Social benefits:

- Benefits for households: Feedback from project employees and subcontractors showed that employing women had a noticeable impact on local households, particularly in how finances were managed. Reportedly women spent their earnings on children's education, food, savings, and home improvements.
- **Developing skills and professional growth:** Women involved in the project gained valuable skills through training in machinery operations such as Excavators, Tractor-Loaded Backhoes (TLB), and Skid steers. These skills will enhance their future employability and career prospects. Some women were also promoted to roles such as Team Leaders and Quality Controllers during the construction phase.
- **Changing perceptions:** The project helped change attitudes about women working in the construction industry, a sector traditionally dominated by men. Stakeholders, including employees, subcontractors, and project managers, reported a notable change in mindset, challenging the outdated belief that women are not suited for this type of work.



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The project made men in our community realise that women can do the work as well. You know there is a perception that females cannot work in the construction industry, this project changed that perception, and to my surprise the males were very helpful toward the females. Kenhardt Solar Project: Lessons from women in the construction workforce





### Lessons for investors and infrastructure developers

This case study is notable for its unusual levels of female participants and the positive impact this has had on both the project and the women involved. It offers insights for infrastructure developers and investors interested in achieving similar outcomes in their own projects. We hope this will help set new standards and lessons for inclusivity in renewable energy projects.



#### Transition planning for the post-construction phase

The end of the construction phase led to a loss of income for many families, including those headed by women. During the project, women contributed to their household finances, often investing in their children's education and healthcare. After the project ended, those gains were at risk as the community faced renewed financial instability. The impact is particularly severe in places like Kenhardt, where job opportunities are limited. As projects transition from construction to operation, there is usually less demand for labour, which often affects women more. Women are typically employed in lower-skilled or temporary construction roles, and their underrepresentation in specialist technical roles during the operational phase makes this problem worse. To address these challenges, projects must have comprehensive transition plans that account for potential job losses for women.

**Training and upskilling:** The project developers focused on training and upskilling initiatives during the construction phase to increase the employability of workers for future projects. These programmes, covering technical skills such as equipment handling and quality control, were designed to enhance workers' capabilities and improve their prospects for employment beyond Kenhardt. The developers also supported local economic development by engaging SMEs, including female-owned businesses, as subcontractors, which contributed to building local capacity and fostering resilience within the community.

Also, targeted initiatives should focus on improving women's skills and qualifications for roles in the operational phase, increasing their chances of staying employed in the next phase of the project or chances for future employment. This could involve partnerships with educational institutions and technical training programmes that meet the needs of the operational phase of renewable energy projects. By ensuring women remain economically active after construction, renewable energy projects can reduce the negative impacts on women-led households and help create more long-term financial stability in the communities they serve.

**Employee Consultations:** A structured demobilisation process was implemented, ensuring consultations were held with employee representatives before any workforce reductions. These consultations informed employees of the anticipated number of job terminations and the criteria used for selection. This transparent and fair process was consistently applied across all contractors, providing workers clear communication and support during the transition.

**Community needs assessments:** Transition plans should include ongoing community needs assessments and engagement strategies like those used in the Kenhardt project. Post-construction, a community needs assessment was conducted to better understand the socio-economic landscape and inform future development initiatives during operations and maintenance. Insights from this assessment will help shape targeted socio-economic and community development efforts, supporting long-term stability and growth in the Kenhardt area.



#### Multi-level stakeholder engagement

The project showed how important it is to involve various stakeholders to ensure relatively high female participation. A project labour agreement and a stakeholder engagement plan were created that promoted inclusive employment practices. By working closely with local communities, the recruitment process was kept fair and transparent, and a central employment database created equal opportunities for all potential employees.

The project also highlighted the importance of involving men early on, to understand and address barriers women face. Some anecdotal evidence suggested women faced resistance from their partners when applying for jobs. This echoes wider research showing women entering male-dominated roles can cause conflicts at home or the local community. This highlights the need to engage men in challenging and addressing deep-rooted views on gender roles and behaviours. Educational programmes and workshops can help male employees understand why gender inclusivity is important, and give them the tools to support their women colleagues. Also, involving men in conversations about the barriers women face encourages shared responsibility for creating an inclusive work environment.



I started out as a General Worker, and within two months, I was promoted to Team Leader working in the pre-assembling, and installation of the panels. My main responsibility was to lead and supervise a team assigned to me, ensuring that they completed their work efficiently and effectively. I also received training in skid steer operation.

– Female Team Leader reflecting on skills development opportunities offered through the project

#### Setting clear goals for gender inclusivity

The project revealed several business and operational benefits from involving women workers. Women showed higher levels of commitment, reliability, and quality in their work. Contractors noted that their attention to detail improved tasks such as cable termination and structural work, leading to increased productivity. Also, the women contributed to a healthier workplace culture, marked by a strong work ethic and eagerness to learn. The involvement of women-owned SMEs was beneficial as these businesses secured a significant share of subcontracting opportunities while delivering strong, competitive performance.

The positive business and operational results from the Kenhardt project show how important it is to include gender inclusivity goals in renewable energy projects. Setting clear goals for hiring, retaining, and promoting women, ensures efforts to include more women become intentional. Additionally, developing gender-sensitive policies that ensure safe working conditions and prevent discrimination is critical.



#### Enhanced monitoring and knowledge sharing

The project highlighted the importance of collecting and reporting on gender-specific data. Although female participation wasn't initially a target or strategy, the data provided valuable insights into the roles and impact of women, and also demonstrated the social and operational benefits of having more women involved. Although the available data was limited, having more women actively involved brought clear benefits and showed why it's important to have better systems in place to track and evaluate their contributions in future projects. The lack of gender-specific data in the industry worsens the gender gap by creating misleading perceptions about the true extent of inequality. This makes it harder to conduct accurate assessments that are crucial for developing effective gender inclusivity policies and setting meaningful diversity targets.

Along with thorough monitoring, promoting knowledge sharing and adopting best practices are vital for increasing women's participation in renewable energy projects. By documenting and sharing lessons and best practices from successful projects such as this one, other developers can be inspired to adopt similar measures. These examples show what's achievable in changing the industry's perceptions on gender diversity.