

Gender Sector Brief: Off-Grid Solar



How to Apply a Gender Lens to the Evaluation of Off-Grid Solar Investments

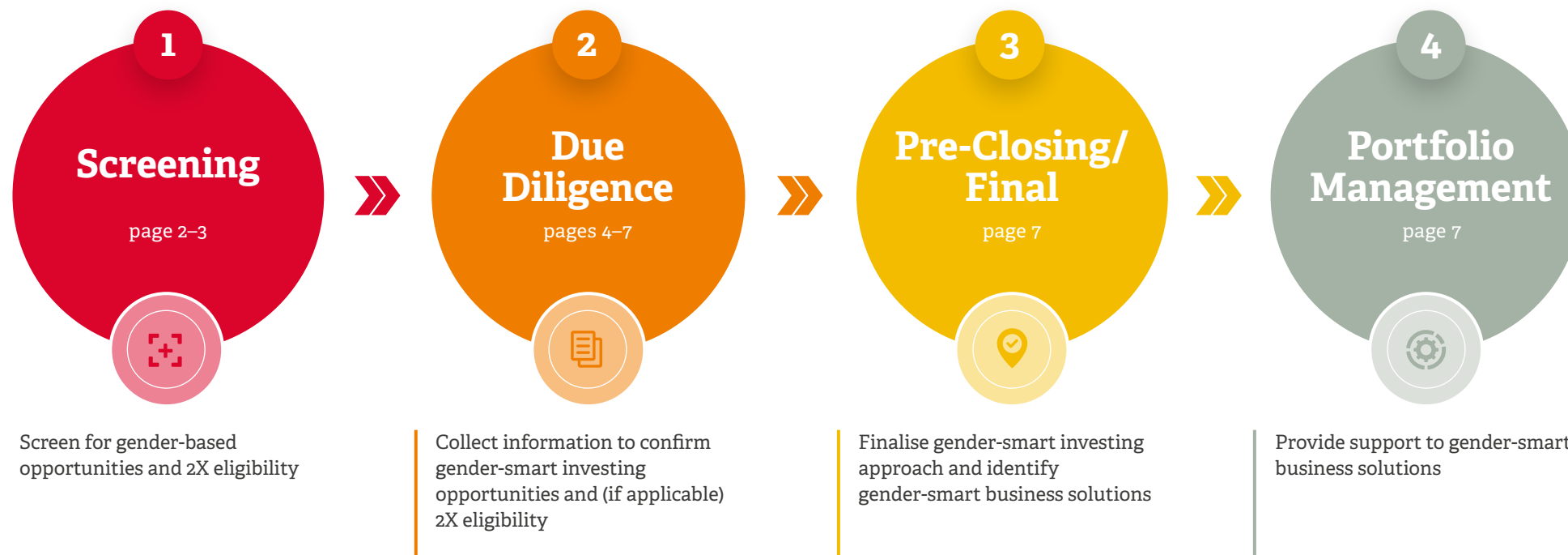
This is a sector-specific diagnostic guide to support investors and fund managers to identify existing and future opportunities for gender-smart investing in the off-grid solar (OGS) sector. The guide focuses on standalone products, systems and services which supply energy to people living beyond the reach of the grid power supply.

This guide contains questions for investors to ask during screening and due diligence, and suggests possible actions to take depending on the answers to these questions. Depending on the structure of your organisation, responsibility for covering gender impact opportunities in due diligence and portfolio management will vary and can be led by investment, environmental, social and governance (ESG), impact, or gender teams. It is down to the investor or fund manager to determine where responsibility sits.

Gender-smart investing is smart business. We know off-grid energy companies that perform well on gender inclusivity return greater profit. We also know that decentralised clean power solutions such as OGS can play a role in addressing women's limited access to electricity in rural and peri-urban areas, and enhance women's equal access to economic opportunity. This highlights a significant business and impact opportunity.

Additional information on the rationale for taking a gender-lens to OGS investments and relevant trends in the sector can be found within this brief.

Click on each stage of the deal process to access relevant information:



The investor should answer these screening questions before the deal is submitted for approval. The questions explore gender-based opportunities and focus on the company's smart inclusion of women across its workforce and supply chain, and its efforts to serve female customers.

This guide focuses on gender-based opportunities and gender-smart investing as an investment strategy. For gender-smart investors, screening for gender-based risks and negative impacts is an important aspect of ESG due diligence; guidance on gender-based ESG screening and due diligence is provided in the BII ESG Toolkit.¹

Screening questions will determine:

1. If the deal meets thresholds and/or qualifies under the 2X Challenge.²
2. If there are potential gender-based opportunities to be explored further in due diligence.

¹ Improper screening and poor management of gender-based risks can prevent effective gender-smart investing and have a detrimental impact on a company's performance in terms of operational costs, reputational damage, stakeholder engagement, employee productivity and loss of confidence. [Access the BII ESG Toolkit.](#)

² The 2X Challenge is a global initiative launched in 2018 by BII and development finance institutions (DFIs) from the G7 countries to direct \$3 billion to investments that help advance women's economic empowerment. To do this, 2X Challenge's members built a qualifying framework and defined a set of gender metrics adopted today by 15 DFIs and defined as industry standard by other investors. The 2X metrics are now used by the GII N IRIS+. [Learn more about 2X and IRIS+ indicators.](#)



2X-related questions

1. OWNERSHIP. Was the business founded by a woman or do women own a majority share of the business?

YES	NO	Current %	No data/unclear

Notes

2. BOARD. Do women represent 30% of the board or more?

YES	NO	Current %	No data/unclear

Notes

3. SENIOR MANAGEMENT. Do women represent 30% or more of the senior management team?³

YES	NO	Current %	No data/unclear

Notes

4. EMPLOYEES. Do women make up 30% or more of the workforce?⁴

YES	NO	Current %	No data/unclear

Notes

5. CUSTOMERS. Does the business specifically target female customers, or design products or services tailored to women's needs, preferences and behaviours?

YES	NO	Current %	No data/unclear
		N/A	

Notes

Opportunities for gender-smart business solutions

6. Is there commitment or capacity to create significant jobs for women, refine product or service offerings to better serve female customers, and to undertake workforce gender diversity efforts?

YES	NO	Current %	No data/unclear
		N/A	

Notes

ANSWERS

?

No information or unclear answer for any question

YES

Yes – if data indicates room for meeting 2X Challenge thresholds and/or gender-based opportunities

NO

No to all Q1-7; indicates none or extremely limited gender-based opportunities

NEXT STEPS

Ask question(s) again in due diligence stage

- Prepare documentation request
- Collect further information at due diligence
- Flag in the Investment Committee (IC) paper

Continue to assess the deal using ESG requirements related to gender-based risks

³ Room for judgment: Investees in unique sectors, especially across infrastructure industries, may require case-by-base consideration.

⁴ Ibid.

Gender due diligence is the process of gathering gender-related data and information from the potential investee company for analysis to determine whether gender gaps present opportunities that may impact performance and affect an investee company's operations and financials. Deal teams can integrate these questions into existing due diligence workstreams (e.g. ESG, impact, commercial).

The investor will collect the due diligence information and proceed to:

- Confirm 2X qualification (as applicable).
- Confirm gender-based opportunities to determine whether to take forward compared to other impact investing themes.

2 Due Diligence



Leadership

1. Does the board and/or senior management have strong oversight and a clear governance process to support gender diversity and inclusion? Are there any commitments to promote women's leadership?

Rationale: Confirms commitment and ability to launch initiatives to drive greater gender diversity and inclusion for better corporate performance; identifies opportunities to provide guidance on governance structures and processes.

YES	NO

Notes

Workforce

2. Are there specific policies and programmes to support inclusiveness of both men and women at work? If so, what are they? For example, specific HR policies that go beyond basic regulatory requirements (e.g. childcare support, flexible work, and standardised pay rates for each role).⁵

Rationale: Determines the level of inclusiveness of existing policies, facilities and programmes, and how this will affect key business performance indicators, such as retention, absenteeism, turnover, and maternity return rate; highlights opportunities to support the business case for inclusive workforce improvements.

YES	NO

Notes

3. Building on recent or existing data, are there differences between the roles/responsibilities/functions/levels/grades undertaken by male and female workforce, including permanent, contracted, seasonal staff (if relevant, contractor construction and maintenance staff)?

Rationale: Highlights opportunities to support recruiting, advancement or efforts to support women in leadership roles. If women are segregated into only a subset of roles and are therefore underutilised, or if certain teams, functions or levels are dominated by one gender, the business may underperform due to lack of diversity.

YES	NO

Notes

4. Does the company collect and monitor gender-disaggregated staff data (e.g. average salary, turnover, absenteeism, retention, and promotion)? How is the data analysed and to what extent is data used for decision-making on gender-related efforts?

Rationale: Highlights a commitment to understanding gender diversity and measuring improvements; helps identify the opportunity to improve data collection and identify areas to support the company and further its strategic priorities.

YES	NO

Notes

5. Does the company have any skills development or training programme in place to help address skills gaps or promote internal mobility? Are they targeted at support women in the workplace?

Rationale: Determines whether the company invests in their human capital and stands to benefit from gains of skilled female workforce and gender-diverse leadership.

YES	NO

Notes

2 Due Diligence



Supply Chain

6. Does the company have any initiative to recruit and source women entrepreneurs to sell and distribute the company's products and services?

Rationale: Determines if there is a market opportunity to support the inclusion of women-owned business in the company's supply chain.

YES	NO

Notes

7. What proportion of sales and distribution agents are women? Does the company collect gender-disaggregated on performance of agents? How is the data analysed and to what extent is data used for decision-making?

Rationale: Determines whether the company is building a sales team responsive to a female client base and female preferences; highlights a commitment to serve and sell to the company's female customer base, and demonstrates the company is proactive and responsive to sales data, and how it may be impacted by gender differences.

Notes

Products and Services

8. Does the company consider women in the design, development and delivery of OGS products? Has the company surveyed prospective or existing customers, by gender? If so, are there notable differences between men and women in customer experience or feedback?

Rationale: Determines company engagement and understanding of customer segment; highlights opportunities to capture market share through improved design and delivery of OGS products.

YES	NO

Notes

9. Does the company offer any community engagement or customer support programme that help increase women's economic opportunities as they access OGS energy? (e.g. financial literacy, entrepreneurship, climate resilience, clean cooking)

Rationale: Determines if the company has a good working relationship with the community it serves; highlights opportunities to grow customer base.

YES	NO

Notes

USEFUL DATA AND DOCUMENTATION

- Gender-disaggregated data on internal staff (including ownership, board, senior management, middle management, technical roles (e.g. STEM) and all employees (as appropriate) including seasonal and contractors).
- Gender-disaggregated supply chain data - by total # and \$ procured.
- Organisation diagram/chart by gender.
- Gender or inclusion strategies and policies; actions plans; HR policies to support women in the workforce (e.g., parental leave policy).
- Documentation on initiatives to advance gender diversity in the workforce (e.g. mentorship programmes, childcare provision, gender-inclusive procurement clauses).
- Documentation related to product design and/or service provision, including affordability, technical, pre-feasibility and feasibility studies (e.g. impact study, affordability assessment, household surveys on usage and needs).
- Documentation related to products and services targeted to women-owned businesses, supply chain and community members.

2 Due Diligence

3 Pre-Closing/ Final

Gender-smart business solutions to consider

If opportunity identified based on response to Q1:

Advancing Management's Commitment to Gender & Women's Leadership Intervention through efforts to drive gender diversity on boards and increase women's representation in senior management

If opportunity identified based on response to Q2–8:

Driving Gender Diversity and Inclusion in the Workforce
Through initiatives that promote women's employment and entrepreneurship opportunities as distributors.

If opportunity identified based on response to Q9–10:

Improving Access to Off-Grid Solar Energy for Women and Girls through human-centered and customer-centric product design and solutions

Next steps

- Identify, align and further develop gender-smart business solutions
- Discuss proposed opportunity and approach with investee
- Where required, develop a Gender Action Plan (GAP), including targets, roles and responsibilities, allocated resources and timelines

Action as relevant:

- Integrate agreed gender-smart business solutions into the deal structuring
- Include gender metrics in reporting template
- Write-up case for gender within the Investment Committee (IC) paper

For more guidance on the investment cycle and portfolio management, including BII case studies, please refer to the BII Gender Toolkit.

The annex contains:

1. Further information on the business and impact case for taking a gender lens to OGS investments and relevant trends facing the sector.
2. Screening and due diligence questionnaires and data and information request form. These can be sent directly to the potential investee if remote or desktop-based due diligence is being used.

- **We know OGS investments can directly and indirectly impact women's economic empowerment:** directly through jobs creation within the formal and informal sector; indirectly through either increasing women's access to the job market or through facilitating women in (household) tasks which lowers the time they spend on unpaid work.⁶
- **Applying a gender lens to OGS investments presents a significant business and impact opportunity.**

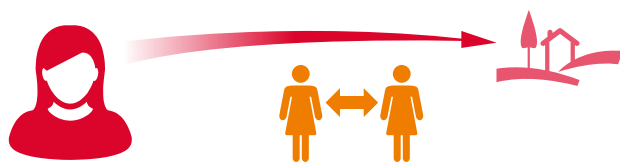
CAPTURING NEW CUSTOMER SEGMENTS

Women tend to have substantial influence over decisions to purchase new lighting devices within the household.



Nonetheless, many solar home systems (SHS) companies overlook this influence or assume that men and women access information and make consumer decisions in the same way, designing gender-blind marketing and distribution strategies. Ensuring marketing, distribution, financing and after-sales efforts are adapted to women's preferences is therefore critical in effectively targeting women as a primary customer segment.

Engaging female sales and distribution agents can help companies access hard-to-reach households and utilise woman-to-woman marketing techniques.



Women may be trusted promoters of products among their peers, and are frequently organised in networks that can diversify distribution channels and access vast new market segments.

DRIVING IMPROVED PRODUCT UPTAKE

In addition to exerting significant influence over consumer decisions,



women are also the primary users of clean cooking and lighting products, both at the level of the household and as entrepreneurs operating small retail kiosks

which benefit from improved lighting for extending working hours and minimising security risks. Integrating a gender lens into research and development can ensure that the needs of female customers are taken into consideration when designing products and services. This can ultimately increase sales, adoption, and customer satisfaction. Also, applying a gender lens to after-sales service helps companies ensure female end-users remain satisfied and loyal customers. Female customer service representatives may be particularly valuable in contexts where traditional gender norms impede interactions between men and women.

Women's repayment rates on pay-as-you-go (PAYGo) products is often higher than that of men,



meaning that, through targeting a female consumer base, SHS companies can drive increased repayment rates and reduce the administrative costs associated with chasing non-payments.

ENHANCE PRODUCTIVITY, ATTRACTIVENESS AND TEAM PERFORMANCE

In the infrastructure sector, the global share of the female workforce is very low:



2% of CEOs are women,

and women occupy



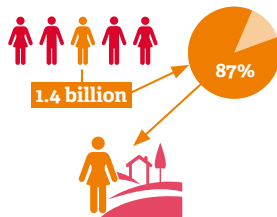
A recent survey found 61% of women look at the gender diversity of the employer's leadership team when choosing where to work.⁸



Beyond engaging women in the salesforce, attracting and retaining women in professional roles allows SHS companies to capitalise on the diversity dividend in their management and employee teams. Gender diversity and inclusion can enable men and women to do their job better, which can in turn translate into a more productive, loyal and satisfied workforce. Creating a supportive environment for female workers can positively impact their attendance and retention, resulting in significant cost savings.

INCREASING ACCESS TO ELECTRICITY FOR ALL

Globally, 1.4 billion people (one in five) lack access to modern electricity¹⁰, with 87% of these individuals estimated to live in rural areas, predominantly in sub-Saharan Africa and South Asia.¹¹



Around 2.7 billion people (40% of the global population) also rely on wood and charcoal as their primary source of energy.¹² In Africa, 600 million people – 70% of the population – live without access to electricity. Many of these people live in rural or peri-urban zones, and are unlikely to be connected to grids in the near term. They have no choice but to use kerosene, candles or batteries to meet their energy needs. Even when connected to the grid, many residential, commercial and industrial customers suffer from unreliable supply characterised by daily load shedding.

Poor women, particularly rural women, are disproportionately affected by the lack of access to clean, efficient energy solutions. This is because, in most off-grid households across the globe, women are primarily responsible for the collection and use of energy resources.¹³



In addition, poor women tend to participate in the informal economic sector, which relies strongly on biomass as its main energy source, which, in turn, does not feature heavily in national energy policies.¹⁴

REDUCING WOMEN'S TIME POVERTY AND EXPOSURE TO HEALTH RISKS

Women in off-grid households tend to bear the (substantial) time and labour burden associated with collecting wood.



They are also disproportionately affected by health problems associated with toxic smoke arising from inefficient cooking methods and lighting solutions.

Indeed, 2 million people – the majority of whom are women and children – die annually because of the burning of biomass indoors.¹⁵



This means that SHS companies are particularly important for women. In addition to improved health outcomes, these companies enable women to reduce or be flexible with the time spent undertaking domestic activities, which can, in turn, be converted into economically or socially empowering activities. Finally, there is also evidence that SHS enable children – in particular, girls – to extend their time spent on education, by being able to study after dark.¹⁶

EXPANDING PATHWAYS TO WOMEN'S ECONOMIC AND FINANCIAL INCLUSION

SHS using the PAYGo consumer finance model provide an innovative and commercially viable option to deliver modern, clean energy to millions of men and women, while also promoting other key development objectives, such as financial inclusion.



Likewise, rooftop or ground-mounted solar solutions are increasingly providing customers with a cost saving solution to expensive and unreliable energy.

SDG INVESTING

Adopting gender as an investment strategy can help investors align their impact with the United Nations Sustainable Development Goals (SDGs). There is significant potential for investors to shape gender outcomes in line with SDG 5 on gender equality, SDG 13 on climate action, SDG 11 on sustainable cities and communities, and SDG 7 on ensuring access to affordable, reliable, sustainable and modern energy for all.



EMERGING GENDER AND OFF-GRID SOLAR ENERGY TRENDS

**Net-Zero Economy Transition:**

Providing access to clean and reliable energy to off-grid populations represent a large market opportunity within the net-zero economy transition. OGS can provide women, often the primary caregivers, with access to the energy and technologies necessary to undertake domestic work in a clean and safe environment (e.g. access to clean drinking water through solar powered filters, power for cooking, etc.). In addition, OGS can provide women entrepreneurs with the energy they need to strengthen and expand their business models (e.g. opening hours, storage). As the OGS industry expands, women are at risk of not benefiting from accessing the same new employment and supply chain entrepreneurship opportunities, due to lack of targeted up-skilling and job placement opportunities that have a gender lens. This can be addressed by partnering with local and national TVET institutions and universities, and encouraging awareness-raising activities for women on careers in the OGS industry.

**Digital IDs:**

OGS products are frequently purchased on credit. Access to credit is more difficult for women in developing countries – Global Findex shows that worldwide, 42% of women are unbanked compared with 35% of men. Digital IDs are an important step towards financial access from formal institutions, providing women with a credit history by ensuring women's borrowing activities are linked to a digital record.

**Urbanisation:**

OGS technology is a frequently-used source of electricity for peri-urban and slum households, providing women with access to labour-saving devices that reduce time burdens associated with domestic responsibilities. As urbanisation continues, an increasing proportion of OGS users are likely to be in cities.

ADDITIONAL RESOURCES

The following resources should help investors and fund managers further develop their gender-smart investing approach in the sector.

World Bank

Mini-Grids and Gender Equality: Inclusive Design, Better Development Outcomes (2017)

Lighting Africa

Expanding Women's Role in Africa's Modern Off-Grid Lighting Market (2011)

Energia

Female Microenterprise Creation and Business Models for Private Sector Distribution of Low-Cost Off-Grid LED Lighting

ICRW

Gender-Smart Investing Resource Hub: Off-Grid Energy

World Bank

Energy Access and Gender: Getting the Right Balance (2017)

Gender Screening Questionnaire: Off-Grid Solar

This questionnaire is to be completed by investees and/or clients during the screening stage of the deal process to enable potential investors to better understand the current level of gender diversity and inclusion, initiatives to support women entrepreneurs, and efforts to serve female users and customers. Some of the questions are derived from the 2X Challenge.

BII is a founding member of the 2X Challenge, a DFI initiative to mobilise \$3 billion by 2020 for investment in business activities that benefit women. To qualify, investments must meet the criteria for female entrepreneurship, leadership, employment or consumption. More details on the 2X Challenge can be found at 2xchallenge.org

	YES	NO	Current %	No data/unclear
1. OWNERSHIP. Was the business founded by a woman or do women own a majority share of the business?				
Notes				
2. BOARD. Do women represent 30% of the board or more?				
Notes				
3. SENIOR MANAGEMENT. Do women represent 30% or more of the senior management team?				
Notes				
4. EMPLOYEES. Do women make up 30% or more of the workforce?				
Notes				
5. CUSTOMERS. Does the business specifically target female customers, or design products or services tailored to women's needs, preferences and behaviours?			N/A	
Notes				
6. [FOR OGS-FOCUSED FUNDS ONLY]. Do 30% or more of portfolio companies answer yes to at least one of the questions 1-5?			N/A	
Notes				
7. OPPORTUNITIES FOR GENDER-SMART BUSINESS SOLUTIONS. Is there commitment or capacity to create significant jobs for women, refine product or service offerings to better serve female customers, and to undertake workforce gender diversity efforts?			N/A	
Notes				

Gender Due Diligence Questionnaire: Off-Grid Solar

This questionnaire is to be completed by investees during the due diligence stage of the deal process. Its aim is to enable investors and fund managers to understand the current level of internal gender

diversity, inclusion and women in leadership, to identify initiatives to support women entrepreneurs, and acknowledge efforts to serve female clients and users.

Leadership

1. Does the board and/or senior management have strong oversight and a clear governance process to support gender diversity and inclusion? Is there any initiative in place to promote women in leadership?

YES	NO
Notes	

Workforce

2. Are there specific policies and programmes to support inclusiveness of both men and women at work? If so, what are they? For example, specific HR policies that go beyond basic regulatory requirements (e.g. childcare support, flexible work, gender targets for construction and maintenance, standardised pay rates for each role).

YES	NO
Notes	

3. Building on recent and/or existing data, are there differences between the roles/responsibilities/functions/levels/grades undertaken by male and female workforce, including permanent, contracted, seasonal staff as well as contractor construction and maintenance staff?

YES	NO
Notes	

4. Does the company collect and monitor gender-disaggregated staff data (e.g. average salary, turnover, absenteeism, retention, and promotion)? How is the data analysed and to what extent it data used for decision-making on gender-related efforts?

YES	NO
Notes	

5. Does the company have any skills development or training programme in place to help address skills gaps or promote internal mobility? Are they targeted at support women in the workplace?

YES	NO
Notes	

Gender Due Diligence Questionnaire: Off-Grid Solar

Supply Chain

6. Does the company have any initiative to recruit and source women entrepreneurs to sell and distribute the company's products and services?

YES	NO

Notes

7. What proportion of sales and distribution agents are women? Does the company collect gender-disaggregated on performance of agents? How is the data analysed and to what extent is data used for decision-making?

Notes

Products and Services

8. Does the company consider women in the design, development and delivery of OGS products? Has the company surveyed prospective or existing customers, by gender? If so, are there notable differences between men and women in customer experience or feedback?

YES	NO

Notes

9. Does the company offer any community engagement or customer support programme that help increase women's economic opportunities as they access OGS energy? (e.g. financial literacy, entrepreneurship, climate resilience, clean cooking)

YES	NO

Notes

USEFUL DATA AND DOCUMENTATION

- Gender-disaggregated data on internal staff (including ownership, board, senior management, middle management, technical roles (e.g. STEM) and all employees, seasonal and contractors); data at contractor and sub-contractor levels as relevant
- Gender-disaggregated supply chain data - by total # and \$ procured (if available)
- Organisation diagram/chart by gender
- Gender or inclusion strategies/policies; gender actions plans; HR policies to support women in the workforce (e.g., parental leave policy)
- Documentation on initiatives to advance gender diversity and inclusion in the workforce and supply chain (e.g. mentorship programmes, childcare provision, learning and development)
- Documentation related to product design and/or service provision, including affordability, technical, pre-feasibility and feasibility studies (e.g. impact study, affordability assessment, household surveys on usage and needs).
- Documentation related to products/services targeted to women-owned businesses in the supply chain and community members.

For questions 6-7, the commercial and sales heads would be the relevant counterpart. For questions 8-9, the relevant company counterpart to ask the question would be product, engineering and service teams.

