

BRIDGING THE GENDER GAP IN SKILLED TRADES

EMPOWERING WOMEN AND YOUTH IN NORTHERN UGANDA THROUGH
SUSTAINABLE SOLAR APPRENTICESHIP PROGRAMS.

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LIST OF ACRONYMS

- GRÓ GEST: Gender Equality Studies and Training programme
- AGIC: Athena Girls Innovation Compound
- DRE: Decentralized Renewable Energy
- IRENA: International Renewable Energy Agency
- MEMD: Ministry of Energy and Mineral Development
- RE: Renewable Energy
- SPIS: Solar-Powered Irrigation Systems
- UBOS: Uganda Bureau of Statistics
- UCE: Uganda Certificate of Education
- RE: Renewable Energy
- NDP: National Development Plans
- PUE: Productive Use of Energy
- ToT: Training of Trainers
- UVQF: Uganda Vocational Qualifications Framework
- SME: Small and Medium Enterprise
- VTI: Vocational Training Institute
- TVET: Technical Vocational Education and Training
- MoES: Ministry of Education and Sports
- UNAF: Uganda National Apprenticeship Framework

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EXECUTIVE SUMMARY

Northern Uganda continues to experience pronounced gender disparities within the renewable-energy sector, reflected most visibly with the very small number of women working as solar technicians. This underrepresentation highlights how structural, cultural and institutional barriers still limit women's entry into and hinder their progression within technical roles in the region.

In addition, Northern Uganda continues to grapple with widespread youth unemployment and significant energy deficits, challenges that are especially predominant in rural communities. These intersecting pressures limit economic opportunities, slow social development and constrain the region's ability play a substantive role in Uganda's growing renewable-energy economy.

Despite increasing demand for off-grid solar solutions across households, health facilities, agribusinesses and small enterprises, skilled decentralized energy service providers like solar technicians still remains low hence the relevant need to tackle both the technical skills gap and challenge the structural barriers that limit women's participation in the energy sector.

This proposed one-year pilot initiative by Athena Girls Innovation Compound aims to challenge the epistemic positionalities that have historically excluded women from technical domains. In parallel, the intervention will reduce high rates of unemployment, increase access to renewable energy solutions like solar energy and reduce the gender disparity between men and women in the renewable energy sector.

The intervention is anchored in a gender responsive training approach using a two-pronged capacity-building model that links Technical and Vocational Education and Training (TVET) institutions with Solar Small and Medium Sized Enterprises (SME). The apprenticeship training methodology will expose participants to theoretical and practical aspects of training on solar installation, maintenance and troubleshooting that will subsequently support climate smart agricultural practices, increase employable skills among the women and youth as well as avail mentored opportunities for business developments in the local community.

This integrated model will ensure graduates are not only technically competent but also capable of starting and sustaining a viable clean energy enterprise in the solar sector. By

encouraging more female participation, the project aims to reduce gender inequalities in the renewable energy space and increase women's economic empowerment hence improved livelihood and inclusive growth in our community.

Fundamentally, the initiative aligns with national development priorities on gender equality, renewable energy access expansion, youth employment and inclusive economic growth in Northern Uganda.

1. INTRODUCTION

1.1 Overview and background of the project.

Northern Uganda has endured decades of conflict and underdevelopment, this has led to high levels of youth unemployment and gender inequality with limited economic participation of women and youth in the solar energy space. Globally, the energy sector remains one of the most gender imbalanced sectors in terms of skilled employment.

In light of this, the insufficiency of women in leadership positions at all levels in the renewable energy space is considered to increase the difficulty in recruiting and retaining female leaders (EIGE, 2017). Similarly, young women and youth in Northern Uganda often face barriers in accessing training opportunities in technical fields within the clean energy space.

This is due to challenges with finances, dominant societal norms, communal perceptions and limited opportunities for entry points and pathways into technical fields. The widely male dominated solar energy sector further widen gender disparities, limits access to trainings for skills competency and sidelines women from decision making positions. These dynamic hindrances are at the intersection of limited financial position, geographical locations, sexuality and religion among others.

Legislatively, Uganda as a country has the 1995 constitution of the Republic of Uganda that has a mandate in establishing an appropriate energy policy and states that: "The State shall promote and implement energy policies that will ensure that people's basic needs and those of environmental preservation are met". (Energy policy for Uganda, 2023,pg 3).

In addition, Uganda has aligned its National Development Plan IV that run from 2025/26 to 2029/30 to the Energy Policy. One of the key goals of NDP IV is that it aims to increase household incomes with expansion of employment opportunities that subsequently lead to sustainable socio-economic transformation that align with sustainable employment, inclusive growth and wealth creation. (NDP IV, 2024)

This will increase sustainable production, productivity and value addition in climate smart agriculture and enhance human capital development hence support the private sector to drive growth and create green jobs. (NDP IV, 2024) Uganda's national development framework also aligns

to the SDGs and is committed to achieve the 17 Sustainable Development Goals (SDGs), which cover a wide range of issues, including partnerships, no poverty, reduced inequality, clean energy, education, and environmental sustainability through climate action. (UNSDCF, 2020).

Therefore, this project aims to bridge the gender gap in the renewable energy sector, particularly the solar sector through a skills apprenticeship pilot project that builds women and youth skills in collaboration with solar businesses and technical training institutes.

1.2 Relevant policies and multilateral agreements

According to the International Labor Organization, realignment to environmentally sustainable economies can be enhanced through skills development for the green economy. (ILO, 2025). Additionally, Martinez-Fernandez, 2013, notes that effective skills development is essential to capitalize on the employment potential of sustainable jobs and growth.

Through developing the capacity of women and youth with emerging employable green skills, this pilot project approach helps to bolster socioeconomic growth, strengthen environmental accountability and expedite the transition towards a climate resilient economy.

The Government of Uganda is committed to facilitating and attaining key Sustainable Development Goals. These include but not limited to universal access to clean energy for all, decent work and economic growth for all as well as gender equality among others by 2030. (SE4ALL, 2024). This is in consideration to the fact that Uganda is strategically located along the equator and has constant access to solar energy throughout the year as per the solar irradiation map of Uganda in **Figure. 1 (Solar GIS, 2021)**.

Northern Uganda is a strategically advantageous location for solar home systems, solar powered irrigation systems (SPIS) and solar photovoltaic (PV) systems for productive use of energy in the agribusiness sector as well as other entrepreneurial businesses. Statistically, 58% of the population are without access to electricity. This deficit predominantly affects rural population and this further broadens with urban growth and population increase. (Edomah, 2025).

Therefore, the government of Uganda looks to solar energy as an alternative energy option. The 2013 renewable energy policy and a research finding by the World Bank further confirm that Uganda has a solar energy potential of 200MW with the potential to transform the renewable energy sector in Uganda. (GIZ, 2023).

Additionally, according to the International Renewable Energy Agency (IRENA), Uganda's solar energy potential is estimated at about 5.1 kWh/m²/day, which demonstrates the immense untapped solar energy capacity within the Northern region as illustrated in **Fig. 1** showing irradiation intensity.

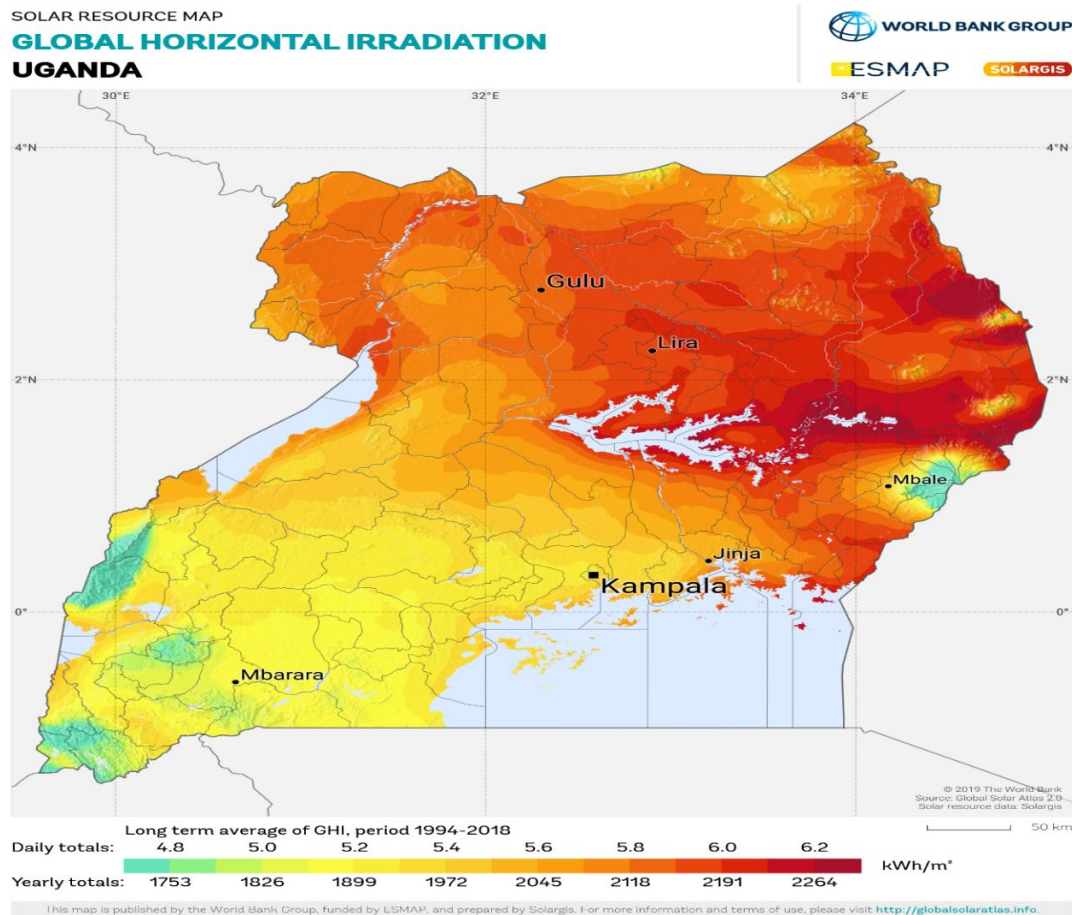


Figure 1. A map of Uganda showing global horizontal solar irradiation in Northern Uganda.

The Energy Policy for Uganda enacted in 2002, it was formulated with a goal **“To meet the energy needs of Uganda’s population for social and economic development in an environmentally sustainable manner”** with clearly defined performance goals. Some of the goals include; enhancing electrification to 57% incorporating on grid at (19%) and off grid that integrates solar energy at (38%).

This encompasses increased adoption of renewable energy technologies, such as solar PV plants, mini-grid solar systems, solar home systems among others that cannot be attained without skilled solar technical teams for installations and maintenance of the solar systems. (MEMD, 2023).

In addition, the government is dedicated to inclusive energy transition and this is guided by the Uganda's Energy Transition Plan (2023) that sets out a strategy to achieve universal access to electricity and climate neutral pathways by 2050. Uganda's vast solar resources are seen as a potential solution in the energy transition plan.

By capitalizing on this capacity through developing the solar energy sector technical skills, Uganda can address multiple challenges concurrently, gender inequality, youth unemployment, climate change and energy access in local communities.

The gender policy also has key macro-economic management hindrances that have been identified for attention including but not limited to; uneven benefits to women in trade expansion and growth, limited representation of women in formal employment like solar energy technical fields, discrimination against women in labor markets especially male dominated sectors among others. (The Uganda Gender Policy, 2007)

Therefore, this pilot project implemented by Athena Girls Innovation Compound proposes to implement a sustainable solar apprenticeship project to bridge the school-to-industry gap, empowering women and youth with skills for employment and entrepreneurship in the solar energy space.

Through capacity development on solar installation and maintenance, women and youth will be in a better position to strengthen climate smart agricultural practices through solar irrigation systems, there will be increased economic inclusion and reduced income inequality in a post conflict Northern Uganda.

Correspondingly, this intervention aligns with the Uganda National Apprenticeship Framework (2018) and national employment policies, addressing the growing demand for practical skills in the labour market while fostering hands-on expertise essential for employment and entrepreneurship. (Uganda National Apprenticeship Framework, 2018)

1.3 Problem analysis

Globally, research shows that women hold only 32% full time jobs in the renewable energy sector and this creates a labor supply gap when it comes to including women in the solar energy sector.

(IRENA, 2025). In Uganda, 85% which is a substantial part of the population does not have access to clean energy. This gap further widens with modernization and population increase.

Therefore, the government of Uganda looks to solar energy as a practical renewable energy option. The 2013 renewable energy policy and research finding by the World Bank further confirm that Uganda has a solar energy potential of 200MW with the capacity to totally transform the renewable energy sector in Uganda. (GIZ, 2023)

Furthermore, Uganda has a very high rate of youth unemployment that has gradually progressed from 12.7% in 2012/13 to 13.3% in 2016/17. (Journal of Labor Policy, 2021), this poses serious development obstacles as well as ongoing pursuits to poverty reduction. Skills development is also a highly gendered phenomenon. Distinctively, women and young girls in Uganda often face more challenges to accessing quality education and capacity training opportunities critical for green employment opportunities.

In addition, early school dropouts, dominant cultural norms, early marriages among girls normally inhibit them from continued educational training, which affects the level of skills acquisition for employment among women. According to UBOS, only 45% of girls successfully complete secondary education compared to 55% of boys, and women represent just 30% of participants in technical and vocational training programs (UBOS, 2022).

This gender disparity in skills development widens the economic inequality between men and women, hence coercing women to take on more unpaid labor roles with limited resting periods. The solar energy sector also misses out on easily accessible, detail oriented solar technicians that could support with technical issues in rural areas.

Furthermore, these gaps reinforce harmful masculinities that may lead to gender based violence within homes, limited productive paid work and limitations on the potential for economic transformation given the marginalized population like women and youth.

While renewable energy, particularly solar energy, presents a substantial opportunity for green job creation and economic empowerment, women entail very few numbers in STEM related roles for medium skilled jobs like technical specialists for solar installation. Also, the national youth unemployment rate for people aged 18-30 worsened post the COVID-19 pandemic.

This initiative will prioritize capacity development of women and youth in this Renewable Energy (RE) sector and will provide pathways to more employable skills, addressing the high labor shortage and demands for this sector. This ensures inclusive economic growth, more productive paid work and socio-economic stability and transformation. (IRENA, 2025).

In Uganda, while progressive actions have been taken to increase female enrollment within STEM programs, the percentage is still significantly low at 37% (NCHE, 2019). The low numbers are also derived from the intersections of gender, social background and geographical location of the marginalized youth and women from low-income regions whose education was disrupted due to school closure negative effects induced by COVID-19. (Datzberger, S. et al, 2023)

Despite the immense prospect to create employable skills for entrepreneurs in the clean energy space, there is a growing worry that women, who are already underrepresented in the energy sector, will become even more marginalized. This is due to the intersectionality of gender, employment as well as normalized societal expectations especially if gender equity policies and projects are not proactively planned and implemented.

Furthermore, without appropriately focused trainings, apprenticeships, supportive policies, employment placements and financial acumen, transitioning to clean energy may enhance existing gender inequities and constrain global poverty alleviation goals, access to clean energy among others including the SDGs. (CEDCA, 2025). The demand from the modern workforce rapidly evolves.

Consequently, governments and institutions remain under immense pressure to formulate new models and approaches for skills development to ensure decent jobs for the majority of working age populations. (Jagannathan, S. et. al, 2012)

Women and youth still remain inadequately represented in technical roles within the industry (IRENA, 2025) and men mainly dominate the sector. Thus the need to engender the solar technical field by empowering women and youth to become solar technicians and leaders in the field.

This will significantly reduce unemployment, reduce economic inequalities and improve productive paid labor through an apprenticeship project to bridge the competency skills gap. The cost of economic exclusion of women and youth would be significant economic constraints, lost quality productivity and inclusive innovation towards the economy.

2.0 PROJECT JUSTIFICATION

This pilot intervention is justifiable because it aims to tackle gender disparity and bias in skilled technical trades within the renewable energy sector, notably solar energy. Through including and increasing women's and girls' involvement in trainings on solar installation, energy audit and maintenance of systems, the project aims to challenge gender and societal stereotypes that usually frame the field as male-dominated.

In parallel, through community engagement and awareness creation, the intervention will partner with solar companies, technical vocational training institutes among others to promote the gender-responsive project implementation and monitoring hence advancing gender equality across the solar energy sector in Northern Uganda.

2.1 Literature review

The global perspective on renewables like solar is experiencing a paradigm shift towards sustainability. This is due to the immediate need to mitigate climate change and ensure sustainable energy reliability. (Mundu et al, 2024). In spite of the significant need for competency and skills development in the solar energy field, findings indicate that women make up only 6% of technical staff, only 1% make up top management and only 4% are decision-makers in the energy sector (UN Women, 2012).

Additionally, despite unemployment being high among female and male youth, it is noted that the prevalence rate is much higher among women. This is because of the societal norms, cultures and patriarchal expectations of women being natural caregivers for the family and men being the breadwinners of the home. (Bray-Collins et al, 2022; Mayombe, 2021)

In Germany and Organization for Economic Cooperation and Development (OECD) countries, it is assessed and estimated that the renewable energy field jobs held by women are mostly the low cadre paying roles like administrative roles, communications roles and sales roles, which is only 20–25% of the jobs. (Pearl-Martinez, [2015](#)).

Other scholars also argue that women are actively involved in productive work in almost all sectors of the economy like agricultural and service sectors as compared to other technical sectors

that include equipment installation, manufacturing and construction due to lack of competent skills. ([Adom, 2014](#); [Adom and Williams, 2012](#))

In East Africa, precisely Kenya, irrespective of women and youth being composed of 23% decentralized renewable energy human resource, they still remain marginalized in the leadership and technical roles within the renewable energy sector (IDRC, 2025).

Societal norms and obstacles further reinforce gendered stereotypes and trends of unpaid care work, limited access to capacity development programs at vocational level and private sector level hence continuously hindering equitable engagement in technical fields like solar energy.

In the Ugandan context, the government of Uganda is actively developing the renewable energy sector to facilitate the economy's growth. With only about 42% of the population having access to electricity, the government is proactively working towards increasing energy access for the people with 12% coming from solar energy. (Edomah, 2025).

This progressive increment in solar energy utilization to address productive use of energy needs underscores the necessity for capacity development of solar technicians to ensure stable supply of skilled workforce in the sector. As a front runner for Sustainable Energy for All (SE4ALL), Uganda has an energy transition plan with a framework to achieve the country's strategic goal of achieving substantial energy needs and drive socioeconomic development for its people by 2040. (IEA, 2023)

According to Pietschmann (2019), Uganda's most productive population group which includes women and youth, lack the technical capability required for the workplace. This relates to the trainee lack of exposure to on-the-job training through apprenticeship programs. As a result, scholars like Otto (2022) recommend the adoption and implementation of practical skills training experience hence reducing economic constraints, improving and changing current employment conditions. This will contribute to more gender inclusive and long-term sustainable workforce. Moreover, such structured training and mentorship programs strengthen trainee's mastery of skills and higher retention of learnings from the field (Or C, 2024).

To develop expertise of theoretical and practical knowledge from vocational training institutes and private sector companies respectively on solar installation and maintenance as well as employable skills, the pilot aims to adopt the recently developed and ratified National Apprenticeship Framework (UNAF). (Ministry of Gender, Labor and Social Development (MGLSD, 2018)

Through this intervention, the pilot project will empower women to start their own small solar enterprises and contribute to increased productive labor with good pay in the renewable energy field.

2.2 Theoretical framework.

This pilot project is underscored by the human capital theory that posits that society and individuals derive their economic benefits from investment in people through areas like education. (Becker, 1964). This theory approach seeks to understand the key factors reinforcing gender inequality and market challenges for women and youth in the solar sector.

This framework also illuminates on the operational dynamics of the training program to enable women and youth skills development and skilled labor contribution to the solar sector.

Through the human capital theory technique, we have better insight on how through training and capacity development, women impact on technical workforce outcomes, influence household incomes and societal economic conditions positively. In addition, through competence and capacity development in technical skills, they are more prepared for the technical world of work.

This consequently bolsters more gender inclusion in technical fields, reduces female isolation, discrimination and contests societal norms and stereotypes.

Conversely, the Feminist human capital theory (Folbre, 1994; Waring, 1992) evaluates and assesses the assumption that for the standard human capital theory, gender operates independently of work force processes and procedures. The intersection between gender, class, age and race among others highlights unrecognized unpaid care work, societal constraints such as social norms, segregatory recruitment practices and devalued women's capability to leverage skill development to improve economic outcomes.

Therefore, the feminist theory prescribes for policies that promote fair allocation of childcare and tackle structural inequalities at the work place (Bergmann, 2011).

2.2.1 Theory of change

Component	Proposal Content
The Impact	Gender inclusion, equity and sustainable socioeconomic transformation where women and youth lead transition to green economy, specifically the solar energy sector in Northern Uganda.
The Outcome	1. Increased leadership of certified women and youth solar technicians supported through mentorship and business development trainings 2. Increased adoption of solar energy alternatives (solar home lighting systems/solar powered irrigation systems/ solar for PUE) in communities.
The Outputs	1.1 Certification of at least 60 women and youth trainees as solar technicians after the training program. 1.2 Apprenticeship placement and employment of certified women and youth solar technicians within Solar SME businesses during and after the training program. 1.3 Mentorship program for trainees and graduates. 2.1 More awareness and demonstration campaigns for community sensitization on benefits of using solar powered systems and training female solar technicians 2.2 Stakeholder validation of gender responsive training module using the two-prong approach.
The Activities	<u>Summary of Activities output 1.1</u> • Training, mentorship and certification of participants. <u>Summary of Activities for output 1.2</u> • Stakeholder workshop on gender responsive solar employment placements and training <u>Summary of Activities for output 1.3</u>

	• Selection of qualified expert solar trainers, mentors and adaptation of the existing training curriculum. <u>Summary of Activities for output 2.1</u> • Sensitization and awareness-raising campaigns for community support leading to the onboarding of the participants <u>Summary of Activities for 2.2</u> • Stakeholder validation workshop for the adapted curriculum
The Logic (The "Punch")	IF we provide technical solar apprenticeship training using a two-prong approach where trainees have theoretical and practical pedagogical learning with a blend of mentorship as well as business development programs, THEN women and youth in Northern Uganda will acquire competent skills as solar installation technicians hence bridging gender gaps and barriers that hinder progress to green employment access. The community engagement strategies will realign societal and structural stereotypes that limit progress of gender equity in the solar energy sector BECAUSE the community-based trainings will create market linkages for trainees through placements and full transition to employment in this sector.
Key Assumptions	1. Community engagement enhances acceptance of the idea of female technicians hence high numbers in enrollment and participation. 2. Solar companies are employing the certified female technicians. 3. Northern Uganda's post-conflict stability remains conducive for business growth.

The log frame in Annex 1, underscores the main aim of the pilot project which is to bolster gender equity and sustainable socioeconomic inclusion in the solar space through skills development of employable skills for at least 60 women and youth through a pilot apprenticeship program for solar technicians in Northern Uganda.

This articulates the results chain logic highlighting how inputs like finances, human resource and materials required are key to facilitate activities that drive the achievement of tangible output like certified female solar technicians at the end of the training, facilitate placement of trainees and graduates with solar companies as well as catalyze mentorship programs within private sector solar companies.

Furthermore, the project aims to see long-term progress after the pilot like increased adoption and uptake of solar energy technologies by the population with increased access to female solar technicians in rural areas that will facilitate and strengthen transfer of knowledge efforts as well as more gender inclusion and equity in the renewable energy space.

The log frame also reinforces the gender – responsive transformative approach to be used during project implementation. This is supported by gender sensitive indicators like adoption and absorption of female solar technicians by solar businesses, female mentors for trainees and practitioners in the solar installation field. Field monitoring and verifications will be done through interviews with technicians at the solar companies.

2.2.2 Gender approach

The term gender is defined by Joan Scott as an essential aspect of societal interrelations and relationships based on recognized disparities between sexes and a driving force for structuring authority dynamics (Scott, 1986). It is key to note that gender heavily shapes the manner in which respective individuals view and experience their world.

Most often, toddlers learn gendered societal norms and roles as a part of their social formation and development at a very tender age. This varies widely across cultures.

According to the (World Bank, 2011), Education is one of the main forces advancing women's socio-economic empowerment. This is reiterated in the "Gender Equality and Development Report 2012" (World Bank, 2011).

The project will integrate an inclusive gender focused approach during trainings by onboarding some of the female instructors in the field to carry out trainings as a mindset shift strategy for participants and communities on the perceived notion of solar being a male dominated field. Through embracing the idea that female trainer technicians are also capable as well as inspire choice in the participants to become mentors in the solar field too.

Furthermore, the project will operationalize a comprehensive and phased gender-responsive approach that will initially map and assess participant needs to ensure inclusion during field and class training programs for example having a nursing unit available to support breast feeding mothers at the training ground.

For an inclusive, refined and validated training manual, key stakeholders like solar technicians, vocational training institutes, Ministry of gender, labor and social development and Ministry of education among others will be involved and consulted accordingly.

Henceforth, the project will take on a gender responsive competency based training approach that will use a two-pronged training methodology for knowledge transfer and practical mastery. This will be implemented through mastery of the solar installation which comes in two approaches, the first being 50% vocational-theoretical learning at a technical vocational educational institution and the 50% practical learning taking place at a solar company or enterprise.(Herasymenko, 2021)

The trainings will involve at least 60% female participants. Furthermore, some of the facilitators will be female instructors and business mentors. For thorough and practical understanding, the training approach will include theoretical learning, observation on practical activities as well as practical learning incorporated with field tests to encourage practice based mastery. (Wolf, 2005)

2.3 Collaboration with other players, stakeholders and actors in the field

Key partners at the national level includes government bodies inclusive of Ministry of Gender, Labor and Social Development and Ministry of Education and Sports as the project aligned to the gender and education policy. (GEP, 2009). Furthermore, vocational institutions and solar private sector companies will be critical for the success of this project.

For synergy and collaborative implementation, a partnership with the Uganda Solar Energy Association (USEA), similar-minded, women led organizations and solar enterprises will support with key stakeholder mapping, identification of relevant linkages to the respective solar companies as well as facilitate apprenticeship placements. This is because outcomes are reliant on linked efforts with key stakeholders hence activated pathways for skills refinement through on and off the job training.

To support certification and accreditation process of competent solar technicians, the focal partner will be the Directorate of Industrial Training (DIT). DIT is a Ugandan quality assurance directorate that coordinates quality assurance services and field verification in vocational and business technical training colleges. (MoES, 2019)

The table below shows the respective key stakeholders and how to collaborate with them for this project initiative.

Table 1: Collaborative relationship with stakeholders.

Stakeholder	Key roles	Collaborative relationship	Organization's Actions	Stakeholder Actions
Ministry of Gender, Labor & Social Development (MGLSD) and Ministry of Energy & Mineral Development (MEMD)	✓ Policy alignment and approval. ✓ Budget allocation for RE skills development	✓ Policy engagement meetings ✓ Lobbying for budget allocation ✓ technical work group meetings for synergy ✓ Apprentice placement coordination	Share reports and update on milestones.	✓ Provide policy guidance and collaboration pathways ✓ Facilitate apprentice placements in government and private sector.

Local Governments & Community Structures	✓ Community sensitization and awareness on gender sensitive topics. ✓ Support recruitment process for trainees.	✓ Community engagement forums and approaches	Conduct sensitization campaigns. Involve the local community structures in the stages of the project to strengthen sustainability and ownership	✓ Mobilize community members ✓ Community influencing
Technical training colleges and TVET Institutions	✓ Provide theoretical training on solar installation and maintenance using gender sensitive pedagogical training methods.	✓ Capacity-building partnership ✓ Access to training center for theoretical training.	✓ Provide solar training curricula, kits & milestone achievement schedules	✓ Deliver theoretical training

Uganda Solar Energy Association (USEA) and Solar Companies	✓ Provide linkages to private sector solar companies.	✓ Placement contracts for apprentices. ✓ Mentorship contracts for mentor, mentee relationships.	✓ Provide solar equipment for training ✓ Provide curricula and milestone schedule.	✓ Deliver practical trainings to apprentices. ✓ Provide mentors and practical on-job training
Directorate of Industrial Training (DIT/UVQF/MoES)	✓ Quality assurance and certification	✓ Curricula refinement. ✓ Standards alignment meetings and certification	✓ Ensure curriculum alignment to UNAF and UVQF	✓ Certify and accredit trainees

2.4 Capacity to implement the project

Athena Girls Innovation Compound is a community-based organization in Lira district situated in Northern Uganda. Athena's main goal is to empower young women and girls with the capacity and skills to create a community and network of entrepreneurs and innovators reshaping socio-cultural and economic inequalities through technological innovation.

Athena carries out capacity development programs, leadership and mentorship programs and uses gender centric approaches to empower and equip women and girls in entrepreneurship skills, technology and innovation among others. Athena has carried out capacity development projects in the renewable energy field by training women and youth on briquette making as an alternative to fossil fuels.

This has unlocked the community's potential and capacity in driving youth and women's economic empowerment through opening of small businesses that have subsequently improved their livelihood. Athena has also been selected to participate in the Renewable Energy Business Incubator (REBI) program which will enable the organization have more impact in the clean energy space in Northern Uganda.

The REBI Program is designed to coach and mentor small business enterprises on increasing access to affordable and sustainable energy alternatives through networking, knowledge management and capacity strengthening to ensure growth and expansion of sustainable energy solutions.

2.4.1 Previous projects implemented

In the past, Athena led the "Athena Girls Economic Empowerment Project" that support women and girls in Northern Uganda to overcome poverty, avoid early marriage and build sustainable livelihoods while protecting the environment.

In the communities where limited education and income earning opportunities enhance vulnerability to gender based violence, the project provides hands-on skills in low-carbon emission briquette making that enable girls have small business, earn income to support their families and gain economic independence in their communities.

Beyond income generation, the activity strengthens women and youth empowerment, improves leadership and authority in decision-making, hence, uplifting girls to support their families and remain involved in education while transitioning to entrepreneurs plus eco-system caretakers. One of the other projects Athena has done is "Why mobile story telling matters". In post-conflict communities like Northern Uganda, many young women grew up within war torn regions with post-conflict trauma with no access to rehabilitation opportunities or safe spaces to express their traumatic experiences due to societal perceptions, cultural norms and the post-effects of displacement.

Mobile storytelling in this project offered a substantial pathway for empowerment by enabling girls to use safe spaces to document and share their realities through audio, photography and videos to support their healing journey. Through weekly school meetings and community

programmes, girls confide about issues such as early marriage effects, denied education access, negative effects of climate change and community disregard.

Athena's ethical storytelling processes ensure protection of participant's identity through privacy clauses and informed consent approaches. These shared stories raise awareness, influence community attitudes and encourage positive social change in a post conflict society hence resilient and integrated communities.

3.0 PROJECT GOAL

The project aims to advance gender inclusion, equity and sustainable socioeconomic sectoral transformation in the solar sector through capacity development and pilot solar apprenticeship for at least 60 women and youth in Northern Uganda within one year.

3.1 Specific objectives

- i. Train and certify at least 60 women and youth trainees as solar installation and maintenance technicians.
- ii. Placement of solar technicians with solar companies for apprenticeship, mentorship and job integration.
- iii. Raise more awareness on inclusive solar technical training in the renewable energy sector.
- iv. Increased uptake of solar technology alternatives within the communities through community sensitization activities and exhibitions.

3.2 Project outcomes

1. Increased leadership of certified women and youth solar technicians supported through mentorship and business development trainings.
2. Increased adoption of solar energy alternatives (solar home lighting systems/solar powered irrigation systems/ solar for PUE) in communities.

3.3 Project outputs

3.3.1 Output 1.1

Certification of at least 60 women and youth trainees as solar technicians after the training program.

Activities:

- Training mentorship and certification of participants.
- ToT meetings to support mentorship programs.
- Graduation ceremony and certification of trainees. .

3.3.2 Output 1.2

Employment and placement of certified female solar technicians within Solar SME businesses during and after the training program.

Activities:

- Stakeholder workshop on gender responsive solar employment placements and training.
- Stakeholder workshop on mentorship program supporting two-pronged apprenticeship trainings.

3.3.3 Output 1.3

Mentorship program for trainees and graduates (Project sustainability measure)

Activities:

- Engagement of qualified expert solar trainers and mentors
- Adaptation of existing training curriculum
- Twenty four practical mentorship training sessions in a year
- Business development training workshops

3.3.4 Output 2.1

More awareness through radio and demonstration campaigns for community sensitization on benefits of using solar powered systems and training female solar technicians.

Activities:

- Radio adverts for sensitization and awareness campaigns for community support leading to gender inclusion as well as onboarding of participants.
- Through community youth advocates, advertise on radio or print fliers calling for enrollment of solar technician training participants (women highly encouraged to apply)

3.3.5 Output 2.2

Stakeholder validation of gender responsive training module using the two-pronged approach

Activities:

- Stakeholder validation workshop for manual ratification.
- Recruit consultant for manual validation process.

4.0 TARGET GROUP

4.1 Description of project sites

The proposed pilot project site is positioned in Lira district within Lango sub-region in Northern Uganda. Located between latitudes 10 21' and 20 42' north of the Equator and longitudes 2053' and 3037' east of Greenwich, Lira district comprised of six main counties; Kyoga, Dokolo, Erute, Otuke, Lira municipality and Moroto.

The population tribal group across Lango sub-region is composed of the Langi ethnic community, with the Langi language widely spoken alongside English. According to the 2014 **National Population and Housing Census (NPHC)**, the **population size was projected at 474,200 people, with 228,400 males (48%) and 245,800 females (52%) by mid-year 2020.**

This highlights the national demographic trend where the women slightly exceeds the men in numbers. Henceforth, as a significant resource base central to both societal, economic production and social reproduction, women's role as key actors and beneficiaries of socio-economic development is irrefutable. (Lira District Local Government, 2018)

Additionally, data is disaggregated by gender reflecting persistent inequalities when it comes to education, employment, leadership and property ownership. Throughout the conflict period, large numbers of people were displaced into internally displaced persons (IDP) camps. This led to disrupted education systems, erosion of livelihood systems and prolonged socio-economic vulnerability especially for the women. (Laliberté, N. 2013; Lira District Local Government, 2015).

Currently, the situational political environment is highly militarized, tense and given the post-election period, there is a surge in violence and evident misuse of power by the state to "protect the people". According to the United Nations Human Rights Office (OHCHR, 2026) "Uganda's human rights situation continues to reflect a narrowing of democratic and civic space, marred by restrictive legislation, including amendments that curtail the exercise of human rights and in many cases facilitates the violation of rights." This situation further amplifies the fragility of women and youth in the region.

Currently, Lira district is an on-the-grid town that is a progressively growing hub for renewable energy especially solar energy due to the prevalent power black outs in the region. As a result of the low electrification levels across Northern Uganda, many households are mostly reliant on

biomass fuels, small powered batteries and kerosene for lighting, which have a negative impact towards climate change. (IEA, 2022)

Therefore, the electrification of the area especially via solar energy technology is facilitated by government initiatives like the Uganda skills development initiative to train solar technicians in partnership with private sector and vocational training institutes. Lira district further argues that, “community mobilization for development is important to address the general poor attitude towards work especially among the youth.” (LDLG, 2018)

In alignment with these, this pilot project initiative aims to implement an apprenticeship-based solar training program with emphasis on one rural community Lira municipality. The pilot initiative will concentrate on equipping young women and youth with technical knowledge and competencies in solar energy audit, installation and maintenance.

Additionally, the pilot project will partner with implementing partners, community leaders, solar energy businesses and vocational training institutes to strengthen gender equality and technical competencies in the renewable sector in Northern Uganda.

4.2 Target beneficiaries

The key beneficiaries for this solar apprenticeship training project will be women and youth between the ages of 18-35 years old with a ratio of 45women to 15men within Lira district. Selected participants should be able to read and write, completed primary or lower secondary school education.

Priority will be given to unemployed and underemployed applicants including low income earners, people with disability, single parents and GBV survivors, however, motivated informal workers may also apply. To ensure investment in the appropriate category of people, demonstrated interest in technical work, renewable energy, entrepreneurship or community service will be prioritized.

Ultimately, participants will be people with limited access to technical skills, decent employment and sustainable livelihood opportunities.

The project will apply a gender-responsive technique to build the capacity of participants, ensure empowerment as well as strengthen them with employable green skills. Furthermore, the key

beneficiaries will improve their livelihood opportunities economically and ensure the promotion of inclusive participation in the solar energy space.

To a greater extent, patriarchal societal systems often limit the participation and contribution of women and youth in technical fields. Cultural expectations, gendered stereotypes and unequal labor roles also restrict access to technical vocational and education training services. This project will therefore prioritize women and youth as the main beneficiaries.

Participants will acquire competency training in solar energy audits, solar installation techniques and system repair and maintenance. The initiative will also provide mentorship and apprenticeship opportunities to strengthen practical solar energy skills. These efforts will support entry into the renewable energy sector and encourage economic independence.

Secondary beneficiaries include local solar enterprise technicians, vocational institute instructors, community groups and training coordinators. Each category will receive training on gender responsive teaching methodologies. Technicians and instructors will advise and guide participants during the apprenticeship phase and provide mentorship.

Training will integrate classroom lessons with practical exercises. Participants will study key concepts and apply them through direct field practice. Technical experts will supervise fieldwork to ensure strengthened skills development. Participants will also receive support to improve business management ability.

Community leaders and youth groups will support the capacity development efforts and promote inclusive learning. They will lead dialogues that challenge harmful societal expectations and enhance readiness for mindset change. Cristiano Cislighi (2018) explains that lasting change often requires respected groups to guide shared understanding and collective action.

5.0 PROJECT IMPLEMENTATION

5.1 Project administration and implementation structures

The project administration and implementation framework will be multi-layered with strategic, tactical and operations levels. To deliver a successful project in local communities, the team needs to actively and effectively collaborate with multiple stakeholders like government, like-minded Non-governmental organizations, technical consultants, implementing partners, community team leaders and staff. (Golini & Landoni, 2014; Ika, 2012)

Effective project management will rely on clear accountability processes and systems, relevant key stakeholder inclusive participation and sustainable practices. Stakeholders come from different political, social, and institutional settings. Coordination is therefore essential. Implementation pathways will align to shared priorities and practical values. Stefan Steinfort (2010) notes that structured collaboration improves project outcomes.

At the strategic level, the project manager will lead overall oversight. This role will involve close collaboration and partnership with government agencies, private sector actors and vocational institute trainers. Government actors will help align project goals with national policy and development plans.

The project manager will also have oversight over and manage the budget and activity schedules with support from solar businesses and training institutes. Benjamin K. Sovacool (2016) highlights that collaboration among multiple actors strengthens renewable energy development and skills programs.

At the tactical level, the Project coordinator will coordinate key partnerships that will support long-term implementation. Athena will establish a collaborative working relationship with partners through execution of a memorandum of understanding with solar companies and vocational institutes that host apprentices. These agreements will define roles, responsibilities, and expected results.

They will also describe and lay out budget allocations and in-kind support from respective partners. The Directorate of Industrial Training will assess technical competence gained during the program. Training activities will follow the Uganda Vocational Qualifications Framework and the Uganda National Apprenticeship Framework while adapting modules to support gender sensitive

instruction. Joy Clancy (2004) reinforces that such collaborations can help address some of the barriers women are facing in male dominated energy sectors.

At the operational level, the team will include a project assistant, finance and administrative officer and monitoring and evaluation officer. Activities will follow the approved budget and work plan. Key actions will include community awareness dialogues, trainings and local engagement sessions.

These efforts will inspire discussions around social expectations and promote inclusive participation during dialogue sessions. Lori Heise (2020) explains that open dialogue can support gradual social change. Training workshops will also take place at vocational training institutes and solar enterprise companies to ensure adequate knowledge transfer and mastery in practical skill development. The operational team will follow organizational and donor guidelines to ensure compliance and transparency.

Table 2: Some of the key roles and responsibilities entailed in the project administrative and implementation structure are reflected below:

No.	Stakeholder	Responsibilities
1	Lira municipality	• Ensure project alignment to policies and advise on political climate. • Support for lobbying of government fund allocation toward project. • Mobilize community champions and participation for project.
2	Athena Girls Innovation Compound	• Lead project implementation, budget oversight, monitoring and ensure compliance during implementation. • Lead MoU signings with implementation partners.

		• Creating linkages between implementing partners and key stakeholders.
3	Vocational Training Institutes	• Lead theoretical capacity building trainings • Support with training space • Advertise for applications on training
4	Solar businesses	• Lead practical trainings for apprentices with technical expertise. • Provide practical placement opportunities for trainees. • Support with provision of pathways to employment for trainees.

5.2 Cost saving measures on the project

The project will utilize existing training curriculum manuals to support the two-pronged training approach instead of developing new curricula for this intervention. This will save time, resources in line with consultancy fees and curricula development procedures. Curriculum alignment will be done through engagement of relevant key stakeholders to incorporate gender responsive knowledge transfer practices and basic business development concepts in the manuals.

Through partnership agreements with implementing partners like the vocational training institutes and solar enterprise companies, costs will be saved through shared cost allocations like in-kind contributions such as training venues, access to practical site trainings and Personal Protective Equipment for trainees by the vocational training institutes (VTI) and solar companies respectively.

Additionally, stakeholder negotiations will be done with the VTI and solar company instructors to provide some free non-billable hours to support the training and support the mentorship program for the trainees.

For office space, Athena already has existing office space and therefore no need to include rent payment fees for this project.

5.3 Activity and resource plan

The activity resource plan reflected in **Figure 2**. Will enable the project team in tracking of the project activities, achieved milestones and budget tracking to ensure compliance, monitoring and accountability during the implementation process. Additionally, the tool will facilitate evidence-based decision making for project teams through transparency and verification of output and outcomes in the project system.

Therefore, with this structured activity and resource planning, clear verifications will be made to ensure that allocated funds are utilized to achieve expected goal in the project.

Resources

Results

<u>Resources/Input</u>	<u>Activities</u>	<u>Output</u>	<u>Outcome</u>	<u>Goal</u>
• Finances • Human resource including training facilitators at company and VTI • Training materials and toolkits • Baseline survey • Awareness and promotional	• Training of participants • ToT meetings to support mentorship programs. • Graduation and certification. • Stakeholder workshop on empowerment of female certified technicians. • Stakeholder workshop on mentorship program supporting two fold apprenticeship trainings in solar.	<u>Output 1.1:</u> Certification of at least 60 women and youth as solar technicians after the training program. <u>Output 1.2:</u> Employment and placement of certified female solar technicians within Solar SME businesses after training program. <u>Output 1.3</u> Mentorship program for trainees and graduates	<u>Outcome 1:</u> Technically competent and certified female solar technicians within mentorship programmes <u>Outcome 2:</u> Increased adoption of decentralized renewable energy use through field installations (lighting/solar pumps/solar	Increased gender inclusion, equity and sustainable socioeconomic transformation in the solar sector through capacity building and pilot solar apprenticeship for at least 60 women and youth in Northern Uganda within one year.

campaign materials	• Recruitment/on boarding of qualified expert solar trainers and mentors • Practical mentorship training sessions • Business development pathway training workshops • Radio adverts for sensitization of the community on gender inclusion training in solar energy field. • Advert/call for enrolment of solar technician training participants (women highly encouraged to apply)	(Project sustainability measure) Output 2.1: More awareness on female inclusion in the solar technical field of solar installation and maintenance. Output 2.2: Stakeholder validation of gender responsive training module using the two-prong approach	powered irrigation systems/PUE).	
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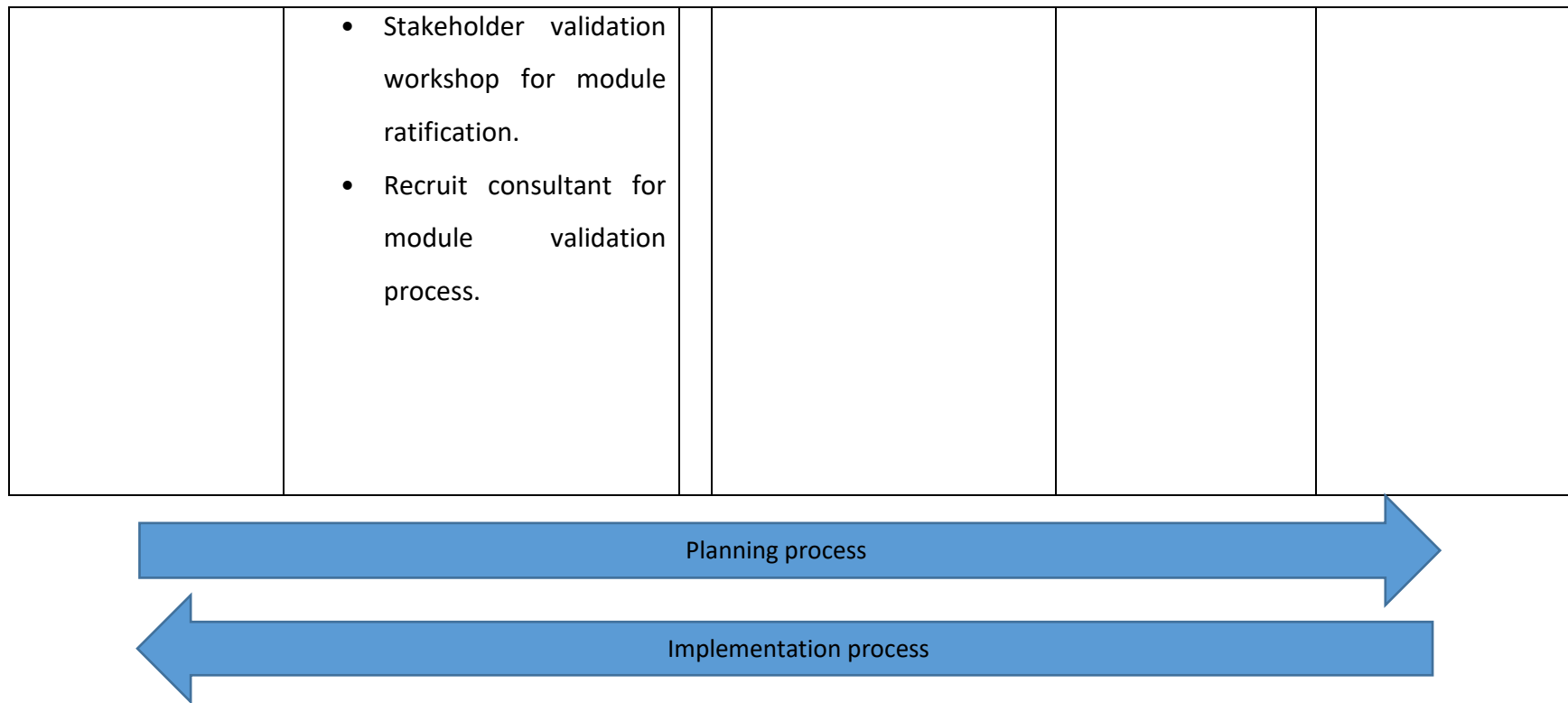


Figure 1: Activity and Resource Plan for the Solar Apprenticeship Pilot Project. (July 2026 - June 2027)

5.4 Risk analysis table.

Risk	Probability of occurrence	Impact	Mitigation measures	Assumptions
Community resistance to Project implementation	Medium	Medium	- Awareness and sensitization campaigns and workshops - Engaging local leaders and male champions as part of the project from inception and during implementation.	People are more open and have buy-in into the project supporting capacity building of women in the solar technician field.
Discrimination and harassment of women during apprenticeship training for being in a male centered technical field	Medium	Medium	- Bring on board female trainers for male mind-set alignment. - Ensuring available sexual harassment policy and clear reporting and accountability channels.	Solar companies to participate in apprenticeship training have an enforceable sexual harassment policy
High dropout rates due to societal and cultural expectations on the girl child (Home care work, child care and housework)	Medium	Medium	- Having child-care support facilities during training to encourage mothers with children to participate. - Engaging house hold leads like husbands and parents to support the participation of the	Through community dialogues and engagement, the male-figures in their lives, partners and parents allow the girls to take part in these trainings

			women and girls in the training	
Injury of trainees during field training	Medium	Medium	• Providing PPE for trainees during trainings • Have Occupational Safety and Health trainings for trainees before field visits.	• Solar companies to provide PPE equipment for trainees during field installation visits.
Political instability post-election	Medium	Medium	• Build strong trustworthy alliances for reliable information and flexible training. • Follow security protocol	• The conflict does not take long • Available clear communication channels remain open.

Table 3: Risk Analysis table.

5.5 Project sustainability

The project will ensure sustainability through community engagement and sensitization involving dialogue talk shows on the radio and Parent Teacher Meetings (PTA) for project buy-in. Community members will be enlightened on the importance of supporting and empowering a woman with employable skills as this would ensure improved household incomes and improve their livelihood.

In addition, Athena will include business development trainings in the modules for agency of the trainees in their communities as well as financial management skills that will support growth of their business enterprise. Furthermore, Athena will play a role in creating linkages between financing institutions and trainees as well as coordinate collaboration with VTI's and solar companies for access to finance hence supporting skilling and business development initiatives.

For continued mentorship, the project will collaborate with the existing VTI's and Solar company facilitators, including successful business mentors for continued agency and transformation of individual's skillset through strengthened collaborative partnerships, relationships and pathways developed during the life-span of the project.

It is important to note that sustainability in projects is vital to ensure the initiative not only delivers in one dimension of economic value but also contributes to positive societal benefits and environmental preservation. Molaei et al., 2020 argues that sustainability encapsulates the triple bottom line that include the social, economic and environmental success when it comes to project planning and execution.

6.0 BUDGET

The budget amount presented below is an overview of the training costs during the pilot period including operational expenditure, personnel expenses and other administrative costs required for the project's smooth operation and implementation. A detailed breakdown of the budget is reflected in the Annex 2.

Cost (UGX)	Cost (USD)
37,700,000	10,000

Table 4: Budget Overview

7.0 MONITORING AND EVALUATION

7.1.1 Participatory monitoring and evaluation

A comprehensive baseline assessment will be conducted before implementation of the intervention. The baseline survey will include current data on energy sources used, awareness of solar products, barriers faced by women and current market access. Secondary data sources from evaluations from USEA, 2024.

The Uganda national census shall be used to determine the current uptake of solar products and services, women's involvement in the technical operations of solar entrepreneurship and solar technician roles. The competency and attitude of women solar entrepreneurs and technicians will be assessed using a participatory approach.

The project monitoring and evaluation officer will be responsible for conducting the baseline survey which will gather primary and secondary data on the current PUE (Productive Use of Energy), income, solar products and living conditions of targeted women in Northern Uganda, as well as their knowledge around solar energy.

Monitoring for this project will be carried out to track change towards intended results determined from the baseline study. The Project's participatory monitoring methods and evaluation (M&E) tools gather field data on key performance indicators (KPIs). A midline survey will be conducted to assess the progress of the project, identify implementation challenges and to inform strategy adjustments to execute the project.

Participatory monitoring methods will include data collection and analysis, focus group discussions (FGDs), participant observation and semi structured interviews. Lastly, an end of project evaluation assessment will be done to assess whether any benefits resulting from the project have led to an improved inclusive solar energy sector in the area as well as increased uptake of solar energy alternatives.

All findings from evaluations will be shared with key project stakeholders including the beneficiaries, funders and implementing partners. An annual and financial report will be provided to the donor on a quarterly basis comparing achievements vis-à-vis intended targets. The rationale for significant variances will be explained in the final report.

The project will aim to answer the following learning questions:

- ✓ Number of train and certified women and youth trainees as solar installation and maintenance technicians.
- ✓ Barriers to placement of solar technicians with solar companies for apprenticeship, mentorship and job integration.
- ✓ Raised awareness and distribution channels on inclusive solar technical training in the renewable energy sector.
- ✓ Uptake levels of solar technology alternatives within the communities through community sensitization activities and exhibitions.

Learning and documentation of knowledge will be gained through the following mechanisms

- ✓ Quarterly reflection sessions
- ✓ Case studies of successful women solar entrepreneurs
- ✓ Market feedback learning events/sessions.

To consolidate all Athena project findings, an end line survey shall be conducted to measure project outcomes, assess the impact and sustainability of the interventions. In addition, documentation on learning will be made. This will include the use of a household survey and market analysis of change of behavior on both actors in the supply and demand of solar products and services.

7.1.2 Results Framework Table.

#	Indicator	Target	Disaggregation	Unit of Measure	Data Source & Collection Method	Reporting Frequency
GOAL: The project aims to foster gender inclusion, equity and sustainable socioeconomic transformation in the solar sector through capacity building and pilot solar apprenticeship for at least 60 women and youth in Northern Uganda within one year.						

#	Indicator	Target	Disaggregation	Unit of Measure	Data Source & Collection Method	Reporting Frequency
1	Percentage of women and youth who have received solar installation and maintenance training in the gender responsive practical and theoretical teaching methodology.	45women 15men		Percent	Partner reports	Annual
2	Percentage of technically skilled employable women and youth on the solar installation and maintenance.	42women 12men		Percentage	S: Partner firms and farms M: Survey	Annual
3	Number of employed female technicians in the solar sector supporting in apprenticeship programs with solar companies	30women 10men	Sex, Age and district	Number	S: Employment analysis records M: Review of new firm employees contracted and/or earning	Annual

#	Indicator	Target	Disaggregation	Unit of Measure	Data Source & Collection Method	Reporting Frequency
4.	Number of competent and skilled female solar technical mentors in rural communities	35women 10men	Age, sex, skilling area	Number	Training completion records, certification records, technical assessment reports	Quarterly
Result 1: Competency and certification of female solar technicians improves through access to mentorship programmes						
5	Number of certified female technicians as installers in solar companies	40women 10men	Sex, type of technical skill	Number	Mentorship program records, trainee reports, field verification	Quarterly
6	Number of female mentors enabling transfer of skills to solar apprentices at VTI or Solar company.	12women 5men	Sex, area of skilling	Number		Baseline, midline, and end line
Result 2: Increased adoption of decentralized renewable energy use through field installations (lighting/solar pumps/solar powered irrigation systems/PUE						

#	Indicator	Target	Disaggregation	Unit of Measure	Data Source & Collection Method	Reporting Frequency
7	Percentage of businesses with PUE (70% in one year) 2b: Percentage of people in pilot community and surrounding villages with uptake of solar energy equipment for SHS and SPIS (70% in one year)	15 businesses	Type of solar products/services provided	Number		Annual
8	2.1a: Enrollment of more female participants for the solar training of installation and maintenance technicians. 2.1b: High participation rates of female trainees during the training workshops	100 women		Number		

Table 5: Results Framework table.

8.0 REPORTING

The Athena project will have quarterly progress reports for the organization and key donors. These reports will document project activities implemented, outputs achieved, challenges encountered and lessons learned. The report will also be a tool for tracking financial expenditure against the project approved budget as well as ensure transparency, compliance and accountability during the project implementation process.

Additionally, the quarterly reports will be supported by monitoring systems and tools such as attendance sheets, training reports and field monitory visit reports. This will help with tracking and measurement of indicators for assessment on achievements in alignment to expected results for the project.

A periodic report will be shared with facilitators and key implementing partners to ensure tracked progress, identification of challenges during implementation and trainings as well as devise mechanisms on addressing challenges faced during implementation.

Conclusively, the final pilot project report will compile achievements, outcomes, outputs, financial accountability, learnings and recommendations that will inform decision making for scaling of the project in future.

Annex 1: Logframe

Objectives	Indicators	Means of verification	Assumptions
<u>Goal:</u> The project aims to foster gender inclusion, equity and sustainable socioeconomic transformation in the solar sector through capacity building and pilot solar apprenticeship for at least 60 women and youth in Northern Uganda within one year.	1a: Percentage of women and youth who have received solar installation and maintenance training in the gender responsive practical and theoretical teaching methodology. 1b: Percentage of systems installed by female solar technicians after six months.	- Project reports - Interviews with female participants.	- The government policies are accommodative of gender responsive training. - There is community buy-in and embracing of female solar technicians.
Activity 1: Capacity of certified trained women and youth solar technicians.			
<u>Outcome 1:</u> Technically competent and certified female solar technicians within mentorship programmes	1a: Number of employed female technicians in the solar sector supporting in apprenticeship programs with solar companies 1b: Number of skilled female solar technicians being mentored in rural communities	- Project report - Pictures - Solar company data and information	- Solar companies are employing the certified female technicians - Rural communities have embraced female technicians

Objectives	Indicators	Means of verification	Assumptions
<u>Output 1.1:</u> Certification of at least 60 women and youth trainees as solar technicians after the training program.	1.1a: Number of certified female technicians as installers in solar companies 1.1b: Number of female mentors engaged	- Certificates issued - Pictures - Agreement between mentor and mentee	- Solar companies and TVET institutes have adopted the two-fold training approach - Solar companies are employing the certified female technicians for mentorship programs.
<u>Activities for output 1.1</u> 1.1 Training of participants 1.2 ToT meetings to support mentorship programs. 1.3 Graduation and certification	<u>Input for output 1.1</u> 1.1.1 Venue hire fees for meetings, Adaption and printing of training materials 1.1.2 Consultant recruitment fees.. 1.1.3 Printing of certificates fees, procurement of solar installation toolkit, procurement of banners and tier drops.	Attendance sheets Printed certificate copy.	- The vocational institutes will provide space for some of the trainings and meetings in-kind.
<u>Output 1.2:</u> Employment and placement of certified female solar	1.2a: Number of women and girls employed in the solar	- Female to male ratio of	- High uptake of female technicians by solar companies.

Objectives	Indicators	Means of verification	Assumptions
technicians within Solar SMEs businesses after training program.	sector by the small solar businesses 1.2b: Number of businesses started after the training period	technicians at the solar company - Project report	- Certified technicians have the financial capacity to open up new solar businesses
<u>Activities for output 1.2</u> - Stakeholder workshop on empowerment of female certified technicians. - Stakeholder workshop on mentorship program supporting two-prong apprenticeship training.	<u>Input for output 1.2</u> 1.2.1 Venue fee for meeting space, printing of training materials 1.2.2 Consultant recruitment fees. 1.2.3 Printing fees for training module, procurement of banners and tier drops.	- Attendance sheets	- Government policies support gender responsive training through private sector and embraces our training approach.
Output 1.3 Mentorship program for trainees and graduates (Project sustainability measure)	1.3a: Number of mentors engaged for the initiative 1.3b: Number of women and youth mentored on solar business	- Project report - Field report by mentor	- Conducive work environment at solar companies for mentorship

Objectives	Indicators	Means of verification	Assumptions
			- Full participation of mentorship program by trainees
<u>Activities for output 1.3</u> Engagement of qualified expert solar trainers and mentors Practical mentorship sessions Business development training	<u>Input for output 1.3</u> 1.3.1 Facilitator fee 1.3.2 Solar panels, installation kits and equipment for training 1.3.3 Employment placement officer among energy service providers	Attendance sheet.	- Experienced mentors - Solar businesses are willing to take on new graduates as associates.
Activity 2: Two-prong training approach for selected participants			
Outcome 2: Increased adoption of solar energy alternatives (lighting/solar pumps/solar powered irrigation systems/PUE) in communities.	2a: Percentage of businesses with PUE (70% in 8 months) 2b: Percentage of people in pilot community and surrounding villages with uptake of solar home systems	- FGD with community members and solar businesses.	- The political and security situation remains stable allowing community-level actions to be carried out.
Output 2.1: More awareness and demonstration campaigns for community sensitization on benefits of using solar powered systems and	2.1a: Percentage of more female participants for the solar training. 2.1b: Percentage of female participants who fully completed the training and were certified	- Project report - Attendance sheets	- Community engagement strategies increases the acceptance of female solar technicians evidenced by high

Objectives	Indicators	Means of verification	Assumptions
training female solar technicians			numbers in enrollment and participation
Activities for output 2.1 - Through community youth engagement leads, advertise and sensitize the community on gender inclusion training in solar energy field. - Through community leads, advertise/call for enrollment of solar technician training participants (women highly encouraged to apply)	Inputs for output 2.1 2.1.1 Radio advert and announcement fees. 2.1.2 Through community engagement teams, advertise for the gender-responsive solar technician training.	Pictures	- Successful community dialogues - Wide listenership of the radio for announcements.
Output 2.2: Stakeholder validation of adapted gender responsive training curriculum	2.2a: Adoption of the adapted two-prong training curriculum by private sector and VTIs for solar training. 2.2b: Validated two-prong training curriculum from the	- Attendance sheet - Project report	Private sector and VTIs embrace the two prong training approach and support validation process of training curriculum.

Objectives	Indicators	Means of verification	Assumptions
	stakeholder validation workshop.		
Activities for 2.2 Stakeholder validation workshop for training curriculum	Input for output 2.2 2.2.2 Venue charges, program printing and curriculum printing fees	Project report	- The consultant fees are within budget. - The right stakeholders with knowledge are part of the validation process.

Annex 2: Detailed Budget:

Project Title: Bridging the Gender gap in skilled trades - Empowering Women and Youth in Northern Uganda through sustainable Solar Apprenticeship Programs.									
Project location	Lira District								
Project period:	12 Months								
Requested amount	USD		10,000			37,700,000			
						Exchange Rate used	3,770		
Outputs	Activities	Inputs	Description	UNIT	Unit cost	QTY	Freq	AMOUNT (UGX)	AMOUNT (USD)
1.1 Certification of at least 60	Training of participants	1.1.1 Venue hire fees for meetings,							

women and youth trainees as solar technicians after the training program.	procurement of training materials							
	Venue hire	Quarterly	Hotel venue	400,000	1	4	1,600,000	424.40
	Facilitator fees (8 theoretical and 8 practical sessions)	Sessions	External facilitators	50,000	1	16	800,000	212.20
	Transport for project coordinator (8 practical and 8 theoretical sessions)	Sessions	Transport facilitation to training venue	30,000	1	16	480,000	127.32
	Training equipment		Solar panels, wiring	2,700,000	1	1	2,700,000	716.18

				system and switch board					
		Meals and refreshments	Quarterly	Break snacks @ 5,000 & Drink @2,000	7,000	60	4	1,680,000	445.62
	ToT meetings to support mentorship programs.	1.1.2 Consultant recruitment fees, consultant's fee, Per diems.						-	-
		Facilitator fees	Quarterly	Facilitati on to trainers	50,000	1	4	200,000	53.05

		Meals and refreshments	Quarterly	Breakfast @ 7,000	7,000	20	4	560,000	148.54
	Graduation ceremony and certificate printing	1.1.3 Printing of certificates fees, procurement of solar installation toolkit, procurement of banners and tier drops.						-	-
		Printing of graduation certificates		Design and printing of graduation certificates	7,000	60	1	420,000	111.41

			tes for participa nts @7000 per certifica te					
	Venue hire		Hire of hotel	400,000	1	1	400,000	106.10
	Meals and refreshments		Lunch snacks and drinks @7000	7,000	100	1	700,000	185.68
	Venue branding (banners and tier drops)		Tear drop @200,0 00 pull up banner	400,000	4	1	1,600,000	424.40

				@200,000					
		Videography and photography		Photography @250,000	250,000	1	1	250,000	66.31
		Transport for project coordinator		Transport facilitation to graduation venue	30,000	1	1	30,000	7.96
Subtotal								11,420,000	3,029.18
1.2 Apprenticeship placement and employment	Stakeholder workshop on empowerment of female	1.2.1 Venue fee for meeting space, procurement							

of certified female solar technicians within Solar SME businesses during and after the training program.	certified technicians.	of training materials							
		Venue hire	Quarterly	Hotel hire for workshop sessions	400,000	1	4	1,600,000	424.40
		Meals and refreshments	Quarterly	Breakfast @10,000 lunch @15,000	25,000	20	4	2,000,000	530.50
		Transport for project coordinator	Quarterly	Transport facilitation to workshop venue	30,000	1	4	120,000	31.83

		Facilitator fees	Quarterly	External facilitators	50,000	1	4	200,000	53.05
	Stakeholder workshop on mentorship program supporting two prong apprenticeship trainings in solar	1.2.2 Consultant recruitment fees, consultant's fee, Per diems.						-	-
		1.2.3 Printing fees for training module, procurement of banners and tier drops.						-	-
		Printing costs		Design @300,0	30,000	50	1	1,500,000	397.88

				00 and Printing of training module @ 30,000 per copy	300,000	1	1	300,000	79.58
		Venue hire	Quarterly	Hotel hire for worksho p sessions	400,000	1	4	1,600,000	424.40
		Meals and refreshments	Quarterly	Breakfas t @10,00 0 lunch @15,00 0	25,000	20	4	2,000,000	530.50

		Transport for project coordinator	Quarterly	Transport facilitation to workshop venue	30,000	1	4	120,000	31.83
		Facilitator fees	Quarterly	External facilitators	50,000	1	4	200,000	53.05
Sub total								9,640,000	2,557.03
1.3	Procurement of qualified expert solar trainers and mentors	1.3.1 Facilitator trainer fee						-	-
Mentorship program for trainees and graduates.		Advertisement costs		Print, digital and social media position advertising	565,000	1	1	565,000	149.87

				ng costs. Online @ 250,- 000 & Newspa per @ 315,000					
		Interview costs		Breakfas t @ 10,000 and lunch @ 15,000 for the intervie w panel	25,000	5	1	125,000	33.16
	Practical mentorship training sessions	1.3.2 Solar panels, installation kits and						-	-

		equipment for training							
	Business development pathway training workshops	1.3.3 Employment placement officer among energy service providers			50,000	1	4	200,000	53.05
								890,000	236
2.1 More awareness and demonstratio n campaigns for community sensitization on benefits of using solar	Radio adverts for sensitization of the community on gender inclusion training in solar energy field in	2.1.1 Radio advert and announceme nt fees.						-	-
		Advertisemen t costs	Monthly	Developi ng script, editing and voice	520,000	1	1	520,000	137.93

powered systems and training female solar technicians	alignment with youth community leads			over for Radio adverts @ 500,000					
				DJ mentions @ 20,000 per mention	20,000	15	4	1,200,000	318.30
	Advert/call for enrollment of solar technician training participants (women highly	2.1.2 Advertisements fee for the gender-responsive solar technician training.						-	-

	encouraged to apply)								
Sub total								1,720,000	456
2.2 Stakeholder validation of gender responsive training manual using the two-prong approach.	Stakeholder validation workshop for manual ratification.	2.2.1 Facilitator fees						-	-
		Venue hire	Days	Hotel venue hire fees for 2 days	400,000	1	2	800,000	212.20
		Meals and refreshments	Plate	Breakfast @ 10,000 lunch @ 15,000	25,000	15	2	750,000	198.94
		Facilitator fees		Facilitation to	50,000	6	2	600,000	159.15

			external partners					
	Transport for project coordinator		Transport for project coordinator to venue	30,000	1	2	60,000	15.92
Recruit consultant for manual validation process.	2.2.2 Venue hire fees, program printing and existing module printing fees, per diem fees						-	-
	2.2.3 Recruitment fees for consultant to support			70,000	1	14	980,000	259.95

		validation process							
								3,190,000	846
								26,660,000	7,072
		Project Assistant	Monthly		110,000	1	12	1,320,000	350.13
		Project Finance Officer	Monthly		140,000	1	12	1,680,000	445.62
		M&E Officer	Monthly		170,000	1	12	2,040,000	541.11
		Project Coordinator	Monthly		190,000	1	12	2,280,000	604.77
								7,320,000	1,942
								-	-

		Printing and other costs	Monthly		80,000	1	12	960,000	254.64
		Internet	Monthly		70,000	1	12	840,000	222.81
		Bank charges	Monthly		60,000	1	12	720,000	190.98
		Water	Monthly		50,000	1	12	600,000	159.15
		Electricity	Monthly		50,000	1	12	600,000	159.15
								3,720,000	987
								11,040,000	2,928.38
								37,700,000	10,000

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