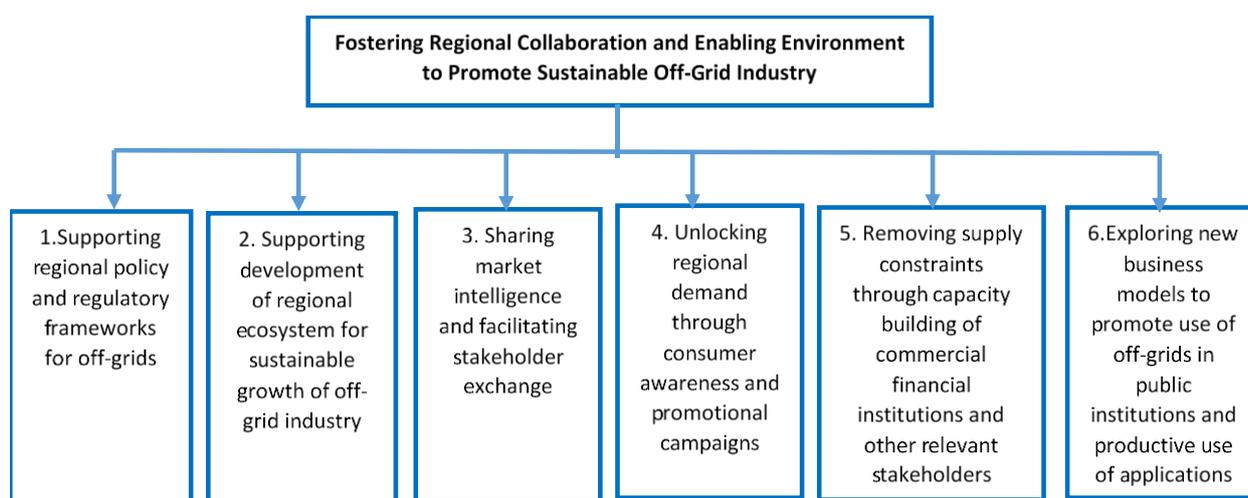


Component 1: Developing a Regional Market

Subcomponent 1A: Enabling Environment

1. The various activities that would be supported by ROGEP under the subcomponent are organized into the following six themes.

Figure 2.1. Pillar of Fostering Enabling Environment



A1. Supporting Regional Policy and Regulatory Frameworks for off-grids

Strengthening Regional Energy Access Policy

2. Industrial growth is usually attributed to clearer policies in any sector. Given the stage of development of the stand-alone solar systems industry and the smaller sizes of the countries in the West Africa region, the stand-alone solar systems industry players are clearly looking for an aggregated regional market in the West Africa and Sahel region. Having regional access policy in place therefore assumes significance. The challenges that the region faces in achieving access has caught the attention at the regional level. Acknowledging the importance of access to energy services in achieving the SDGs and boosting GDP growth, ECOWAS countries and regional institutions have launched the Regional Energy Access Policy, embodied by the White Paper endorsed by ECOWAS Heads of State and Government in January 2006 in Niamey. These policies were initiated when the stand-alone solar systems industry was at its infancy. The industry has evolved significantly since then. ROGEP through its regional engagement will promote stand-alone solar systems and their potential in terms of helping the region in achieving the SDGs with the ultimate objective of integrating stand-alone solar systems into the regional access policies. In this context, ROGEP will offer TA for analytical works, regional workshops, and exchange programs, where the policy makers and regional leaders could be provided with opportunities to understand and appreciate the broad range of services that the stand-alone solar systems can provide along with various business models from the delivery point of view.

Influencing National Energy Access Policies/Strategies through Regional Engagement

3. Governments around the world are developing renewable energy policies to support broader national goals such as increasing off-grid access, rural electrification, diversifying energy supply, enhancing energy security, fostering innovation, and addressing global climate change. While

these policies share key design elements across renewable energy technologies, the good practices and considerations can support policies tailored to expand solar deployment within the context of country-specific challenges and opportunities. Through the regional engagement and dialogue, ROGEP will create the necessary awareness and engage the policy makers at the regional level in exploring stand-alone solar systems as a feasible alternative to achieve their electricity access goals. Individual countries could learn from the regional exchange and put in place in-country policies that are aligned with the regional policies.

4. The top-down approach of engaging at the regional level first will create the necessary ground and momentum for country-level actions, playing complementary roles in this development space.

Developing and Adopting Regional Standards and QA Framework for Stands-alone Solar Systems

5. QA is a critical requirement for growth of the stand-alone solar systems industry. Consumers need to have confidence in the products and should have access to important information based on which they can take a decision to invest on solar products. A broader agreement on quality standards for solar lighting products among the Sahel and West African countries can benefit the private sector solar PV product manufacturers as they get access to a large contiguous market. Supported by favorable regional trade policies, this will increase trade between the countries in West Africa and the Sahel, creating jobs and incentive structures to support a sustainable market.
6. While globally acceptable QA standards are available for smaller size systems (for example, plug-and-play kits), no such standards exist for larger systems. QA standards developed by the Lighting Africa Program (and currently housed as Lighting Global Quality Standards¹) for the smaller systems are now widely adopted by companies. As a first step, ROGEP would provide necessary TA to support adoption of the existing standards and QA framework for the smaller size systems (up to 350 W) at the regional level. Subsequently individual countries will be supported to adopt these standards. This would involve significant engagement with the technical and political establishments at both the regional (for example, ECOWAS) and national levels.
7. For the larger systems (institutional and productive use applications), including component-based systems, ROGEP will support the development of technical standards through implementation of pilots. Country-based pilots will contribute to the development of standards and QA framework, which could be agreed upon at the regional level and then adopted at each country level. For the larger institutional systems, meant for use in schools, health clinics, public administration buildings, and so on, ROGEP will support the development of service-oriented QA framework instead of product quality to move the industry in the direction of providing long-term performance and service contracts rather than product sales only.
8. ROGEP through ECREEE will engage with the relevant regional and national stakeholders related with standards and energy, including ECOWAS Standards Harmonization Model (ECOSHAM,) Regional Standards and Labelling Technical Committee, ECOSHAM Technical Harmonization Committee (THC) on Electrotechnical (THC 5), ECOSHAM technical management committee TMC, ECOWAS ministers responsible for quality management and/or energy, and ECOWAS Council of Ministers to facilitate informed decision making on technical standards for solar stand-alone systems and equipment.

¹ <https://www.lightingglobal.org/quality-assurance-program/our-standards/>

Removing Trade Barrier and Moving Toward Simplified Tax Regime to Enhance Product Affordability

9. Evolution of new business models such as PAYGO has made it easy for households to pay for solar systems. However, the feasibility of such models depends upon several external factors and country conditions, and hence the PAYGO options are not available or offered everywhere. Many countries have adopted simpler tax regime, for instance, duty waiver on solar import, for the benefits of their larger population. ROGEP will provide necessary technical support to study and promote such measures to enhance the commercial attractiveness of stand-alone solar systems to the households. Moreover, taxing products at multiple entry points often makes the product too expensive for people living in smaller landlocked countries, such as those in the West Africa region included in ROGEP. Eliminating multiple taxation will facilitate easy movement of products across countries and enhance product affordability.
10. ROGEP will promote informed decision making on import duties in the framework of the CET at the regional level. In collaboration with the ECOWAS Directorate of Customs and with the participation of the relevant national and regional stakeholders related with customs/economy, industry, and energy, ROGEP through ECREEE will facilitate the informed decision making on import duties to be applied to stand-alone solar systems and equipment. This will be done by the tariff management regional committee, commerce and customs regional technical committee, and the ECOWAS Council of Ministers.
11. There is a need to develop/improve harmonized description codes for solar stand-alone systems and equipment in the context of the CET, and the ROGEP plans to support this development across the region. Combined with adoption of regional standards and QA framework described earlier, this would contribute to regional harmonization and enable the off-grid players to make long-term investment plans considering the West Africa region as a single regional market.
12. ROGEP will support countries to undertake necessary analytics to move toward rationalized energy sector subsidy policies to ensure level-playing field for on-grid and off-grid investments. This can open the sector for private investments and encourage development of new delivery models.

Enabling Mobile Money

13. Mobile money is gaining popularity across all segments and has also contributed to the growth of the stand-alone solar systems industry in many countries. Many of the ROGEP countries still do not have adequate policy and regulatory measures in place to make this work for the solar companies. ROGEP will offer TA to support initiatives to advance policy dialogue on mobile money to create necessary enabling conditions for proliferation of the stand-alone solar systems industry.

2. Supporting Development of a Regional Ecosystem for Sustainable Growth of the off-grid Industry

14. The stand-alone solar systems industry, like any other industry, requires the supporting ecosystem for its survival and growth. The ecosystem includes manufacturing, assembling, distribution, repair and maintenance, after-sales services, and lending and microcredit businesses. In addition to supporting the industry, the ecosystem would result in creation of business and employment opportunities and contribute to the overall socioeconomic development of the region. To fully exploit the potential, ROGEP through ECREEE will support establishment of regional entrepreneurship development centers targeting the entire value chain of the stand-alone solar systems industry. These strategically located regional centers would develop standard materials and modules for Entrepreneurship and Business Training,

Customized Business Acceleration Support, Facilitation of Entry into Solar Business, and so on for the benefit of the entrepreneurs in the region. Entrepreneurs would benefit in several areas including understanding of the technology and its risks, initial business support, permits and licenses, taxes, small business administration, product logistics and inventory management, product quality and standards, financing, environmental requirements, and so on.

15. ROGEP will also support TA and tailor-made interventions to enable the less privileged categories of stakeholders, for example, women entrepreneurs to participate and take advantage of the opportunities offered through the stand-alone solar systems value chain. The overarching theme here is twofold: (a) to improve the supply side of the value chain through entrepreneurship support and development and (b) to improve the livelihoods of the poor and marginalized communities through private sector initiatives. This is done by offering disadvantaged groups equal opportunities such as access to markets and finance, by building capacity and improving public policy.
16. ROGEP will support the establishment and implementation of regional certification scheme for PV installers at the regional level. Such schemes would produce the much-needed skills and workforce to support the growth of the industry.

3. Sharing Market Intelligence and Facilitating Stakeholder Exchanges

17. The stand-alone solar systems industry is rapidly evolving both in terms of technology and business models. It is therefore important to have continuous stakeholder exchange to stay relevant and take maximum advantage of the innovations that the industry offers and be aware of the new challenges that the industry might face. ROGEP will support initiatives and activities that would foster industry collaboration with key stakeholders and promote meaningful dialogue for scaling up electrification through stand-alone solar systems solutions.
18. As mentioned earlier, the stand-alone solar systems industry largely remains a supply-driven industry and the private solar companies are engaged in promoting their products in specific customer segments. All the heavy lifting and market entry costs are borne by the companies themselves, resulting in increased cost of doing business. This is largely due to lack of data and intelligence on the market, especially on the demand in different customer segments. Availability of such intelligence and data on the demand side, as well as information on the supporting ecosystem including policy and regulatory provisions, would go a long way in bringing scale and predictability in the stand-alone solar systems space. ROGEP will offer TA to gather relevant data and market intelligence and disseminate the same regionally and nationally for the benefit of all companies. These studies will provide critical data to help manufacturers, distributors, and retailers to make informed business decisions. ROGEP has already supported a series of off-grid market intelligence/assessment studies in the ROGEP countries as part of the project preparation. These studies have assembled a wealth of data and information for the sector stakeholders, especially the private companies that have acknowledged the profound contribution made by these studies. ROGEP recognizes that gathering such market intelligence is not a one-time activity and would need to be carried out on an ongoing basis with targeted coverage to further guide investments in the sector and contribute to the overall development of the stand-alone solar systems industry.
19. In addition to supporting regional and national workshops as forums for stakeholder exchange, ROGEP will support industry coalitions and other platforms to engage the stakeholders in meaningful dialogue to promote the stand-alone solar systems industry.

4. Unlocking Regional Demand through Consumer Awareness and Promotional Campaigns

20. Although the stand-alone solar systems industry has seen significant transformation globally in the last few years, the potential it offers in terms of addressing the energy access needs of households, businesses, and public institutions/facilities remains underexploited. This is largely due to lack of awareness among the key stakeholders, especially the potential beneficiaries, the policy makers, and the funding agencies about the innovations made on technology and business model fronts. So far, the solar businesses are largely supply driven. Creating demand through awareness and promotional campaigns, as well as policy actions such as link to national energy access strategies, can bridge the gap and complement the ongoing efforts of the players in the stand-alone solar systems industry.
21. ROGEP will support country-level initiatives to address the awareness barrier with the objective of enhancing demand and creating vibrant market for stand-alone solar systems. Based on experience from East African engagements through Lighting Africa and based on stakeholder consultations carried out in the West Africa region as part of ROGEP preparation, the following elements are determined to be needed for a successful campaign: face-to-face, experiential events such as forums, training of trainers(TOT) sessions, roadshows and mass media, print, mass distribution activities such as local vernacular radio, and educational material/posters. Actions to be undertaken could include market research on awareness levels in the underserved countries to determine appropriate messaging, determine specific channels (which radio stations, which county officials are best placed to carry the messaging, and so on) to utilize, develop a preliminary plan (including timing and human and financial resource allocation), identify TOT beneficiaries, pilot campaign and identify improvements, develop full-scale rollout plan. Consumer awareness activities will extend to education, health, and water sectors both for the benefit of Government agencies and beneficiaries to facilitate electrification of public facilities.
22. The proposed project will inform the potential end users on the many benefits of high-quality stand-alone solar systems through producing consumer awareness materials and conducting consumer awareness campaigns in project countries aimed at behavioral change toward stand-alone solar systems familiarity and adoption.
23. Given the nature of the solar industry and its early stage of entry into the West Africa region, ROGEP will adopt a flexible approach to identify the capacity-building needs of the various stakeholders including the policy regulatory bodies, utilities, REAs, and other line ministries, which could potentially benefit from the stand-alone solar systems and support them on an ongoing basis, based on discussion with its implementation partners.

5. Removing Supply Constraints through Capacity Building of CFIs and Other Relevant Stakeholders

24. The stand-alone solar systems market in West Africa is less developed than those in East Africa and elsewhere. Furthermore, the 19 countries covered by ROGEP vary widely in terms of country risk and the level of financial sector development. The CFIs such as banks, institutions MFI, leasing companies, and so on are often reluctant to lend to SMEs in the stand-alone solar systems market due to several factors including perceived borrower credit risk, insufficient track record, insufficient collateral to secure loans, and smaller ticket sizes for transactions. At the same time, the CFIs also lack capacity in terms of understanding the solar industry, its supply chain, and its evolving nature and accompanying innovations. ROGEP through its subcomponent 1B would offer capacity-building support to the CFIs to enable them to understand the nuances of the solar industry and its structure. More targeted capacity-building programs focusing on different stages of solar companies, their capital structure, funding needs, and risk profiles would be offered with the objective of crowding in commercial financing to the sector. Based on the regional and national workshops and initial rounds of consultations carried out with the CFIs

as part of the market assessments, the following capacity-building needs have been identified to be supported by ROGEP: (a) stand-alone solar systems energy project due diligence, (b) meeting environmental requirements, (c) portfolio supervision, and (d) hedging. ECREEE will fund activities that will inform the CFIs on the new opportunities in the stand-alone solar systems market and attract potential stand-alone solar systems investors in the region.

6. Exploring New Business Models to Promote use of off-grids in Public Institutions and Productive Use Applications

25. The solar industry has evolved significantly over the last decade. Larger stand-alone systems are now available that can fulfill the electricity needs of public institutions and facilities, as well as other productive applications. Unlike households and SMEs, public institutions and facilities however pose higher payment risks to the private companies, given their public nature. Consultations with the solar companies indicate that if adequate payment risk mitigation arrangements are put in place, the companies could be interested in making investments to electrify public institutions and facilities. Moreover, given the lack of capacity of the public institutions to maintain the systems, it is desirable that private companies are engaged in long-term service contracts than just installation of systems. Given the huge potential in this space, ROGEP will support development of service-oriented standards and QA framework as well as new delivery models supported through appropriate payment risk mitigation arrangements to attract private investments. In this context, ROGEP will support several pilot activities and, based on the pilot experience, develop standard models that would benefit all countries in the West Africa region and as required, carry out works for the installation of equipment.

Entrepreneurship Development Support

26. ROGEP support will be designed to remove market barriers and to attract new players to the stand-alone solar system market. The project design will avoid subsidization of what large businesses can do on their own. The objectives of subcomponents *1B* and *1C* are to attract reputable solar companies to the West African market, attract existing and established businesses operating in the non-solar space to engage in providing electricity service through stand-alone solar systems, and support local entrepreneurs to set up energy service companies to provide electricity services to make available universal electricity access in ROGEP countries, thus tackling the electricity access challenge and creating employment opportunities in the process. Subcomponent *1D* is to ensure equitable development in countries with challenging business environments, such as Sahel countries.

27. Funding for subcomponent *1D* is expected from the Government of the Netherlands (DGIS) through ESMAP and CTF Grants. Funding to support this initiative from other development partners would be sought to support similar initiatives under subsequent ROGEP SOPs.

28. These subcomponents will offer (a) TA to enhance the capacity, skills, and expertise of the businesses and (b) financial incentives to contribute to the businesses' growth and facilitate the creation of their track record, thus increasing their bankability and eventually sustainability. The entrepreneurship support will be coordinated with the ECOWAS certification scheme for PV installers/technicians and will be framed within the ECREEE private sector support facility that ECREEE has successfully operated since 2015.

29. These subcomponents will provide differentiated support to entrepreneurial businesses across the enterprise development life cycle (startup-up, early stage, growth, and maturity). This support will be targeted based on general categories of businesses outlined in table 2.4. Entrepreneurship support will include both technical and financing assistance to the businesses

as outlined in table 2.5.

Table 2.1. Categorization of Businesses

Stages	Growth Stage	General Description
Stage 1	Start-up	<3 Full-time employees (FT Equivalents) <300 SHS or <1,500 lanterns sold <US\$100,000 annual revenues Has not accessed outside finance (except personal loans), may have a business bank account
Stage 2	Early stage	3–25 FTEs 300–30,000 SHS or 1,500–50,000 lanterns sold US\$100K,000–US\$3M million annual revenues Has a business bank account, maybe some outside funding (for example, crowdfunding)
Stage 3	Growth/mature	>25 FTEs >30,000 SHS or >50,000 lanterns sold >US\$3 million annual revenues Has a credit line at a bank and financial statements (possibly audited), likely raising equity or other outside financing

Note: Existing businesses operating in sectors other than solar would be categorized based on FTE employees and revenues, rather than solar products sold.

Table 2.2. Technical and Financing Intervention to Businesses

Business Type (Stage)	Technical Intervention	Financing Intervention
Stage 1 (Start-up)	Entrepreneurship and business training	Matching Grants (Subcomponent 1C)
Stage 2 (Early stage)	Customized business acceleration support	Market Entry Grants for challenging markets (Subcomponent 1D) Performance Grants for challenging markets (Subcomponent 1D) Line of Credit (Subcomponent 2A) Contingent Recovery Grants to CFI (Subcomponent 2B)
Stage 3 (Growth/mature)	Facilitation for businesses to expand into the solar industry or into challenging markets	Market Entry Grants for challenging markets (Subcomponent 1D) Performance Grants for challenging markets (Subcomponent 1D) Line of Credit (Subcomponent 2A) Contingent Recovery Grants to CFI (Subcomponent 2B)

30. ECREEE has strengthened its in-house team with a private sector coordinator to oversee the entrepreneurship technical support program. It will also draw upon an external consulting firm to implement various TA activities including the ongoing capacity development of national partners. The main activities of this consulting firm would include the following:

- Developing training materials for solar industry training programs
- Providing TOT on solar industry training programs
- Ongoing capacity building of national incubators to implement solar intro courses and incubation of local businesses
- Organizing regional training workshop/boot camp annually
- Managing call for business plan competition and review of applicants

- Organizing investment day during the annual ECOWAS Sustainable Energy Forum (ESEF)
 - Scouting for Stage 2 businesses for customized business acceleration support program
 - Ongoing engagement and management of network of business incubators
31. ECREEE has appointed a financial sector expert to oversee the financing activities of the component. Under this person's oversight, a consulting firm will be hired to implement the entrepreneurship financing support program. The consulting firm will need to have the financial expertise to manage the program and will also need to understand the stand-alone solar business models in the region to evaluate the viability of the businesses applying for support. In addition, the firm will be required to conduct outreach to early-stage investors active in the solar sector that are already present or looking to enter the ROGEP countries as investors. The main activities of this consulting firm would include the following:
- Marketing and outreach of financing programs
 - Engagement with private investors
 - Scouting for potential interested businesses
 - Management of calls for applications
 - Review of applications
 - Structuring of grant agreements and accounting and management of disbursements and assessing achievements against agreed milestones by grant recipients
32. The following activities are currently being undertaken at the preparation phase of the project:
- Identification of a network of organizations with existing capacity to support entrepreneurs and deliver managerial training programs
 - Extensive engagement with the business incubators, accelerators, and training providers to assess the capacity of these organizations and develop collaboration modalities. This assessment will review the various models of incubation used by each organization that can inform the level of funding from ROGEP for training and incubation activities.
 - Identification of qualified institutional investors (registered fund or investment business) to partner with in the provision of co-investment grants
 - Identification of Stage 2 firms to make use of the TA and financing instruments as soon as the implementation phase begins, and they become available