Key Findings from the Baseline Assessment on Existing Solar QI Frameworks and Management Systems in EAC and SPC

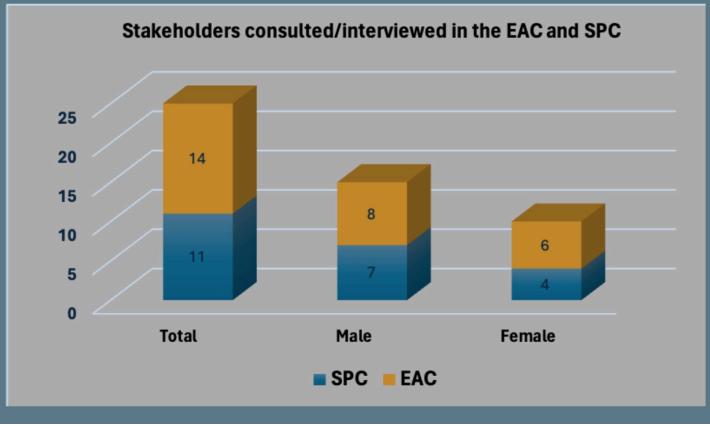
The increasing demand for reliable and efficient solar photovoltaic (PV) systems has highlighted the importance of robust Quality Infrastructure (QI) frameworks across the globe as an essential prerequisite for economic development and competitiveness. QI frameworks play a pivotal role in ensuring the quality, safety, and sustainability of solar products and services. Recognizing the critical role of QI in achieving sustainable development goals, and within the framework of the project, a baseline assessment was conducted to assess the existing regulations, standards, stakeholders, and capacities in the two target regions, the East African Community (EAC) and the Pacific Community (SPC). The findings of the baseline assessment will guide the development of regional solar QI frameworks for the EAC and SPC, which will serve as crucial roadmaps to enhance QI capacities, foster collaboration, and promote international best practices in solar energy management.

The key findings of the assessment differ across region. In the EAC region, the following were observed:

i. Despite an understanding of the importance of a quality infrastructure and each country having a Bureau of Standards, challenges still exist in the adoption and enforcement of standards, which hinders harmonization across borders.
ii. Testing facilities in some countries, such as Uganda, have significant discrepancies in availability and capacity.
iii. The Accreditation processes differ significantly across countries within the region.
iv. There is a noticeable shortage of human resources dedicated to regional standardization efforts.
v. One major challenge faced by the domestic solar energy sector is the lack of support from the government.

In the Pacific Community (SPC), the following observations were noted:

i. There is a significant gap in established technical regulations governing the quality of solar PV products and services.
ii. Crucially, key bodies such as national standards, accreditation, and conformity assessment bodies are absent in many Pacific countries.
iii. The lack of robust metrology infrastructure in the Pacific region further creates additional obstacles in ensuring quality standards for solar products.
iv. The outdated legal metrology program raises concerns about measurement standards enforcement and product integrity.



Summary of the findings from the interviews conducted with key stakeholders in the SPC region

STANDARDS/TECHNICAL REGULATIONS IMPLEMENTED

- Ineffective regional QI frameworks based on a SEIAPI standard.
- Certificate of Compliance (CoC) issued for completed solar power installations.
- Variation in standards application across the region, with some countries adopting US-based standards.
- Regulatory measures in Samoa include Energy Efficiency (EE) Acts and Building Code for solar PV installations.
- Lack of awareness regarding specific solar PV standards development in the region.
- Perceived complexity of standards for solar controllers

TESTING PROCEDURES AND FACILITIES FOR PV PRODUCTS

- Scarcity of testing for solar PV system components in the region
- Lack of local testing for parts or components of solar PV systems
- Lack of awareness regarding testing procedures and facilities for PV products in the Pacific region.

ACCREDITATION PROCESS FOR CONFORMITY ASSESSMENT BODIES AND PV CERTIFICATION

- Absence of regional conformity assessment bodies for solar PV products.
- Certification processes typically handled through the CoC process.
- Accreditation process for conformity assessment still in the developmental phase.
- Existing certifications for PV products based on internationally recognized frameworks.
- Regional specialization in solar PV accreditation is lacking

CHALLENGES AND NECESSARY INTERVENTIONS

- Limitations in human capacities, small market challenges, absence of test facilities, weak enforcement and monitoring, lack of awareness, inadequate regulation, lack of accreditation and conformity assessments are critical challenges in regional implementation of QI framework.

Summary of the findings from the interviews conducted with key stakeholders in the EAC region

STANDARDS/TECHNICAL REGULATIONS IMPLEMENTED

- Transfer of IEC standards to AFSEC standards upon general assembly acceptance, with a focus on local language translation.
- Adoption of IEC standards in Uganda, including recent developments such as national standards for PV plug and play SHS and a code of practice by UNBS.
- National-level adoption of IEC and ISO standards for solar products, with regional conformity assessment facilitated through VeraSol and CLASP.
- Kenya's implementation of a code of practice for PV installers.

TESTING PROCEDURES AND FACILITIES FOR PV PRODUCTS

- Presence of specialized testing labs for solar products, such as those operated by CREEC, certified by UNBS according to ISO 17025:2017.
- Lack of testing facilities for inverters and batteries, particularly in the offgrid sector.
- Initiatives by organizations like CLASP and Kijani contributing to testing and certification efforts in the region.
- Challenges with some testing labs listed on the VeraSol website, with some locations currently non-functional.
- Existence of UNBS labs for Solar Home Systems (SHS), with a gap in small SHS component standards.
- Privately run labs like CREEC at Makerere University focus primarily on lighting rather than solar products.

ACCREDITATION PROCESS FOR CONFORMITY ASSESSMENT BODIES AND PV CERTIFICATION

- Existence of regional testing and accreditation bodies like AFRAC for Africa, particularly in the context of solar water heaters.
- Accreditation for conformity assessment bodies generally inactive with national standard bodies.
- Implementation of a mandatory certification scheme by KEBS, collaborating with other EAC countries for mutual recognition of certifications.
- Accreditation pending for the entire UNBS lab, with efforts underway to align regional conformity assessment with IEC standards.
- Challenges with information dissemination and functionality within the EAC's standards office regarding pre-conformity checks.
- Accreditation processes for conformity assessment bodies vary across countries in the region.

CHALLENGES AND NECESSARY INTERVENTIONS

- Lack of human capacity for regional standardization efforts.
- Limited awareness and capacity building among stakeholders.
- Deficiency in governmental attention and funding.
- Challenges in metrology and testing, including limited facilities and lack of clarity in certification processes.
- Market surveillance challenges include information dissemination issues and rampant smuggling of solar products.