

Quality Assurance for Off-Grid Solar Products: An Emerging International Framework

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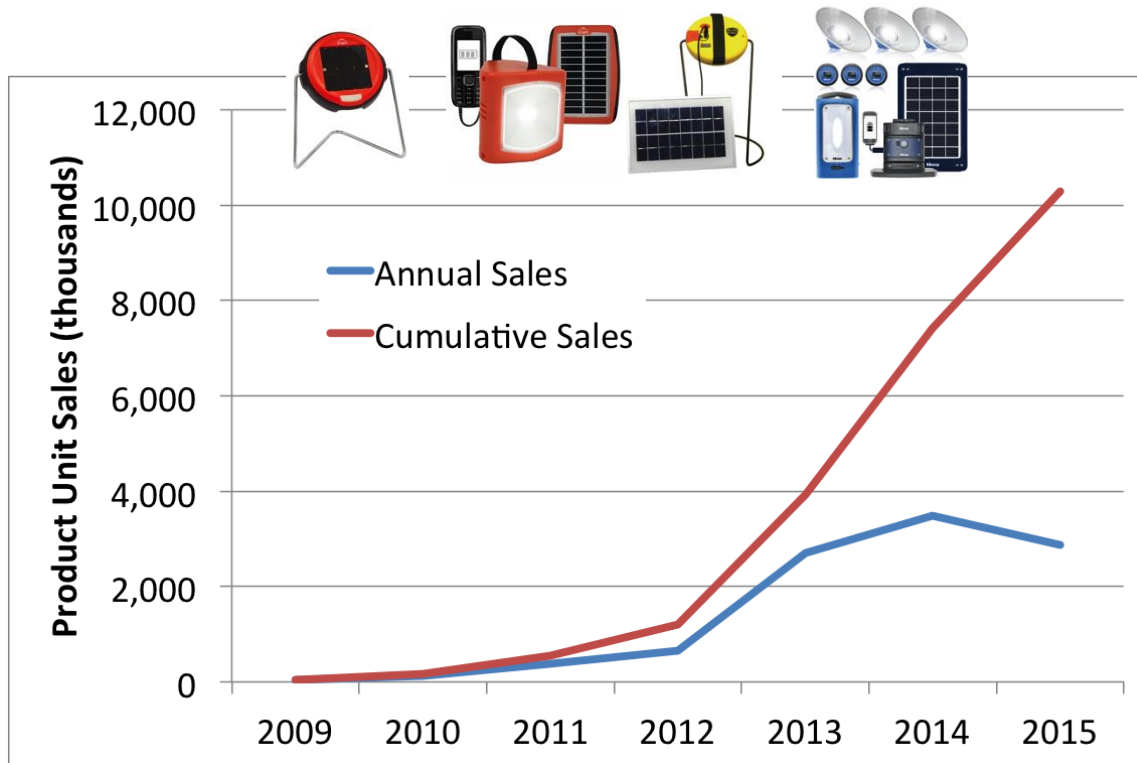
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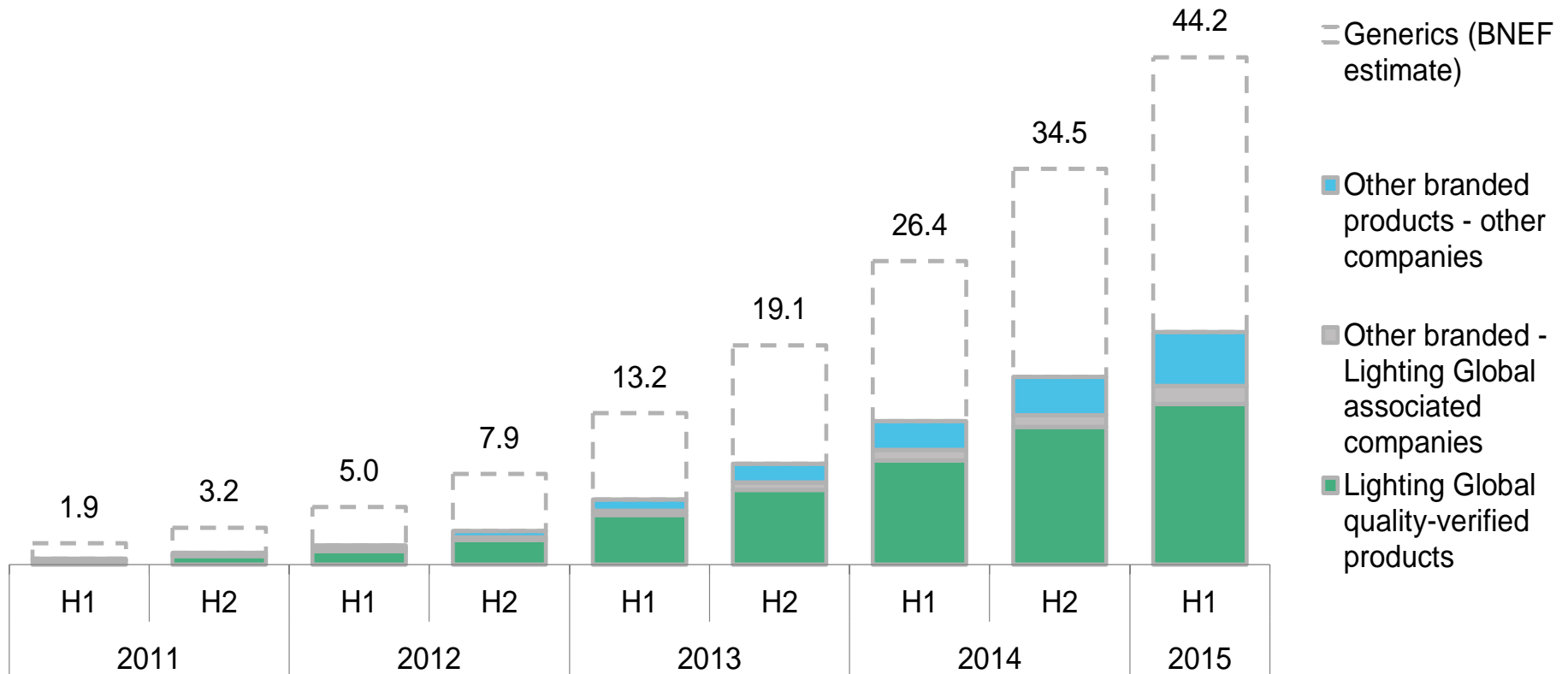


Over the past five years, the use of pico-solar products for applications such as lighting and mobile phone charging has grown rapidly in off-grid areas of Africa and South Asia.



Sales of Quality Assured Pico-Solar Products in Africa

Cumulative Sales of Pico-Solar Products in Sub Saharan Africa and South Asia (millions of units)



The sales numbers are even larger when non-quality assured products are included

Key Issues for Successful Implementation of QA in Countries with Large Off-Grid Populations

- Quality assurance is critical for the success of off-grid solar sector; existing QA efforts by LG and IEC have supported market development.
- African governments, including Kenya, Tanzania, and Ethiopia, have adopted or are adopting national standards for off-grid solar products.
- As governments adopt, it is critical to ensure that they use test methods and standards that are harmonized with IEC and Lighting Global.
- National adoption of quality standards provides an opportunity to reduce the presence of low quality products in those markets, but implementation issues must be addressed to achieve success.



Lighting Global Quality Assurance Program Status

Off-Grid Solar QA Partners



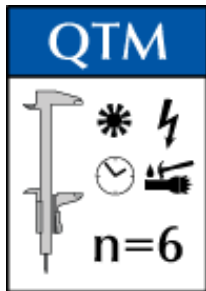
Lighting Global Test Laboratory Network



Lighting Global Quality Assurance Primary Program Elements

Lighting Global QA Framework

Test methods and standards

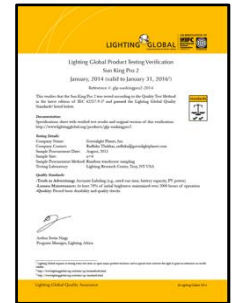
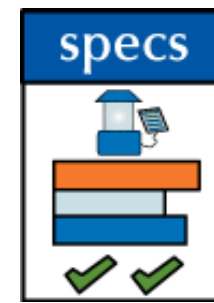


Testing, Verification, & Surveillance



ISO 17025 accreditation using
ILAC affiliated organizations

Communicating Quality to Market



www.lightingglobal.org/products

Stakeholder Engagement
Consumer Awareness Campaigns

Country Adoption of Pico-Solar Quality Assurance



Kenya



Ethiopia



Bangladesh



Nepal

Countries and country programs that have referenced IEC TS 62257-9-5 and/or LG QA



Tanzania



Uganda

We have had discussions on adoption in Tanzania and Uganda



ECOWAS Countries:

Benin, Burkina Faso, Liberia, Gambia, Ghana, Guinea, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo, and Cape Verde.

ECOWAS recently adopted a QA frameworks that references IEC TS 62257-9-5; individual countries can now consider how to use the framework in national regulation

Lighting Global has Expanded its QA framework to include solar home system kits



Mobisol



Zimpertec



Omnivoltaic



Zimpertec



Fosera

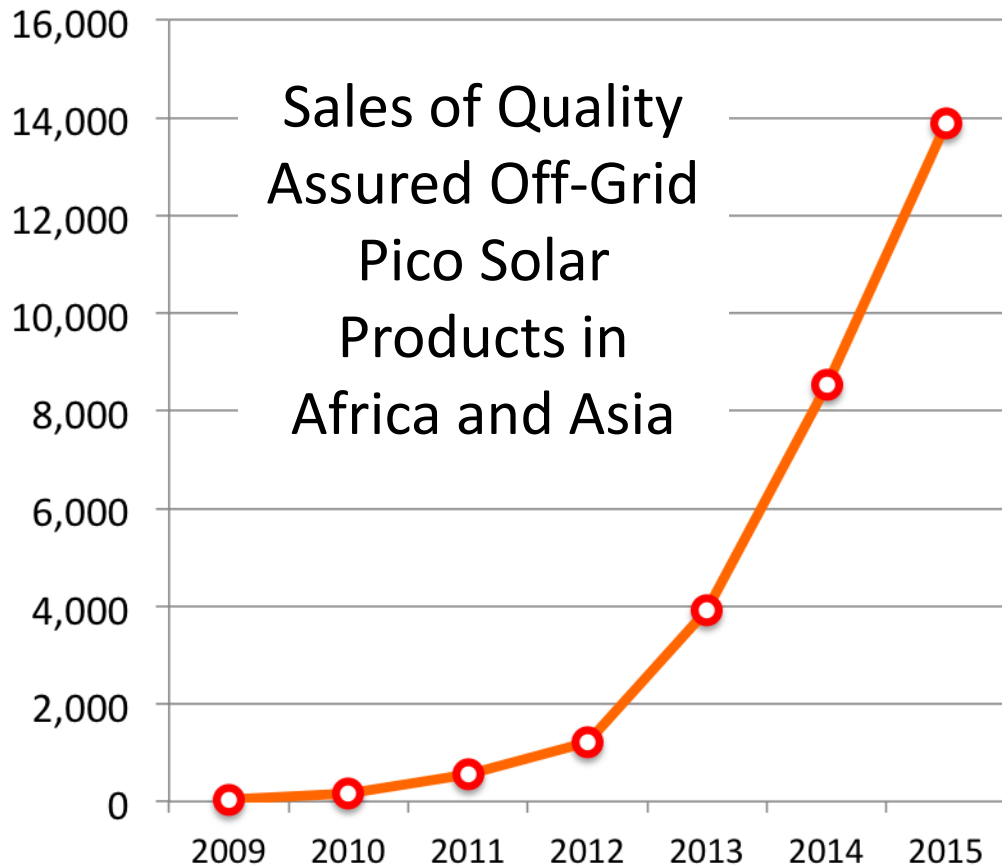


SolarWorks

- Lighting Global's focus is on plug-and-play solar home system (SHS) kits
- The preliminary framework has been pilot tested on 10 products
- Six products have met the standards and are listed on the Lighting Global website; additional tests are ongoing
- Methods will be submitted to IEC for review and adoption later this year

Rigorous and Harmonized QA Effort is Essential for Long Term Off-Grid Solar Success

Sales of Quality Assured Off-Grid Pico Solar Products in Africa and Asia



Harmonized QA means:

- ✓ QA programs utilize single set of (IEC) test methods and standards
- ✓ Companies test their products once at a qualified lab and then can enter multiple markets



Harmonization benefits companies, governments, & end-users by keeping costs low & allowing innovative products quick market entry

Thank You!



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