

Lighting Global Quality Assurance

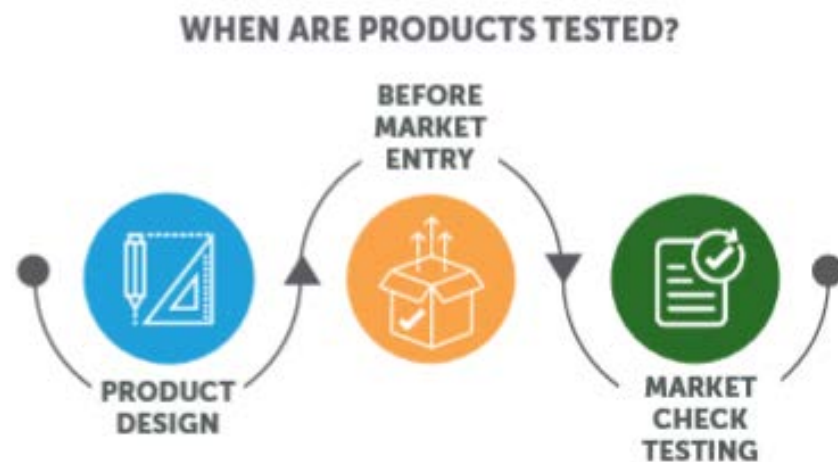
Developing Standards and Compliance Frameworks to Ensure Success

The Role of Testing



The Role of Testing

- Fundamental to creating and implementing policies for off-grid solar products
- Essential to guaranteeing quality and efficacy of products
- Enables governments and other stakeholders to accurately verify product performance and quality
- Ensures compliance with set standards at the three key stages in the product life cycle



Type of Testing Needed at Each Stage

1. **Product Design:** less rigorous, informative, in accredited or non-accredited lab.

2. **Before Market Entry:** more rigorous providing evidence of compliance, certifying product meets LG QA/ national standards, in an accredited lab.

3. **Market Check Testing:**

Initial screening tests less rigorous to target products for follow-up verification testing.

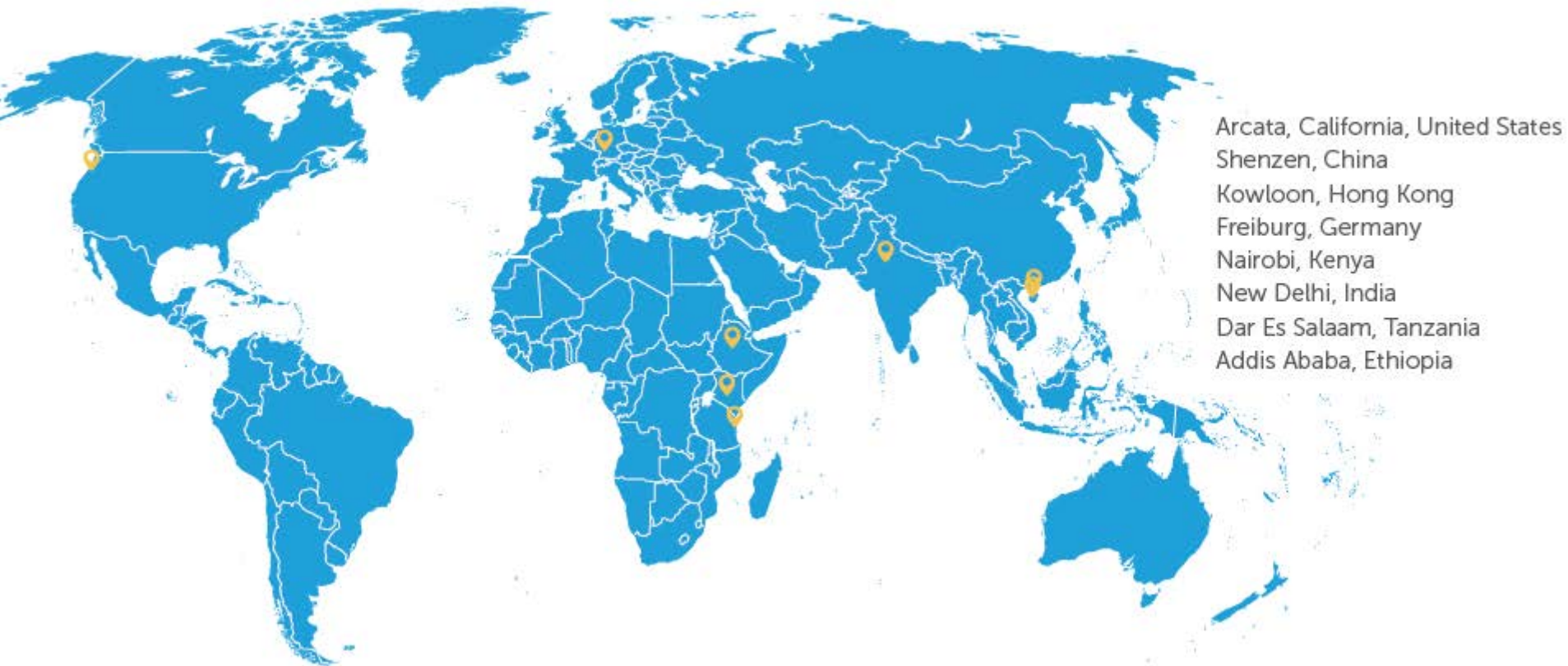
More rigorous testing and evidence needed to confirm product is non-compliant, done according to relevant test methods by accredited labs.



Where to Test Products

Consider needs, objectives, available resources, procurement policies, legal requirements, and other variables

Test laboratories qualified and trained by the LG QA program



Best Practice: Use Accredited Test Labs

Accepting test reports from accredited test laboratories around the world is the most efficient, cost-effective, least burdensome approach with multiple benefits for different stakeholders

- For governments:
 - Funding can be directed to other priority areas
 - Quicker implementation of standards
 - Burden of government reduced, they can rely on third party testing / LG QA verification process
- For industry:
 - Disruptive to test products at port of entry, but testing close to point of manufacturing prior to shipment – efficient delivery of products to the market
 - Testing in an accredited lab once – products able to enter multiple markets
 - Quicker supply of products to market
- For both:
 - Decreased and more competitive testing costs, as multiple test labs can bid for testing business
 - Test labs can deliver quicker, more volume, better quality testing

Building Test Labs is Expensive

- Requires significant investment
 - **Up-front** - building lab, purchasing equipment, building testing capability, hiring and training staff, seeking accreditation
 - **Long-term** - support ongoing operation, maintenance, new testing capabilities, new or renewed accreditation, training
 - **Time** – takes 12+ months to set up an accredited lab before any commercial testing can take place
- Investment justified by a continuous stream of business and strong business case, otherwise costs will be too high and investment cannot be recouped
- Typically recommended for large manufacturing markets – less cost-efficient for smaller import markets
- Inefficient and a potential market barrier for industry to test same products to same standards in multiple countries

Thank you!

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