



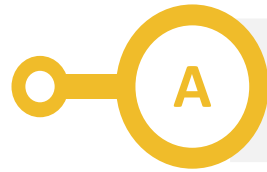
**VeraSol**

# **Quality Assurance for Modern Off-Grid Solar Solutions**

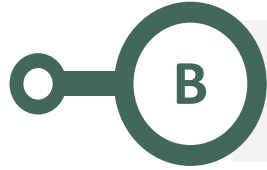
**Energy Access Relief Fund Help Desk Workshop**

**November 17, 2022**

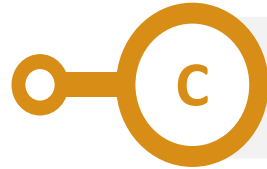
# CONTENT



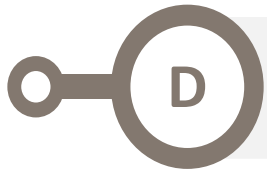
**Introduction to VeraSol**



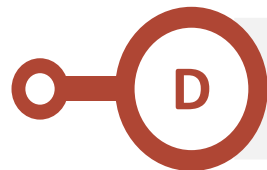
**Importance of Quality Assurance**



**Services Offered**



**Appliance Testing & Certification Overview**



**Available Resources and Q&A**



# About VeraSol

An evolution of Lighting Global Quality Assurance, VeraSol supports high-performing, durable off-grid solar products that expand access to modern energy services

[www.verasol.org](http://www.verasol.org)



# Who is behind VeraSol?

- CLASP manages VeraSol in collaboration with the Schatz Energy Research Center at Cal Poly Humboldt (Schatz Center).
- CLASP and the Schatz Center began their partnership implementing the Lighting Global Quality Assurance program in 2016 and now continue that work under VeraSol. The Schatz Center's involvement in the program began in 2007.



*CLASP improves the energy and environmental impacts of the appliances we use every day, accelerating our transition to a more sustainable world. [clasp.ngo](https://clasp.ngo)*



*Schatz Energy Research Center's mission is to promote the use of clean and renewable energy.*

*[schatzcenter.org](https://schatzcenter.org)*



# VeraSol



# Why Quality Assurance?



## Enable Smarter Decisions

Make it possible to identify good-quality products that will meet consumers' needs.



## Reduce Risk

De-risk investment and purchasing decisions.



## Increase Impact

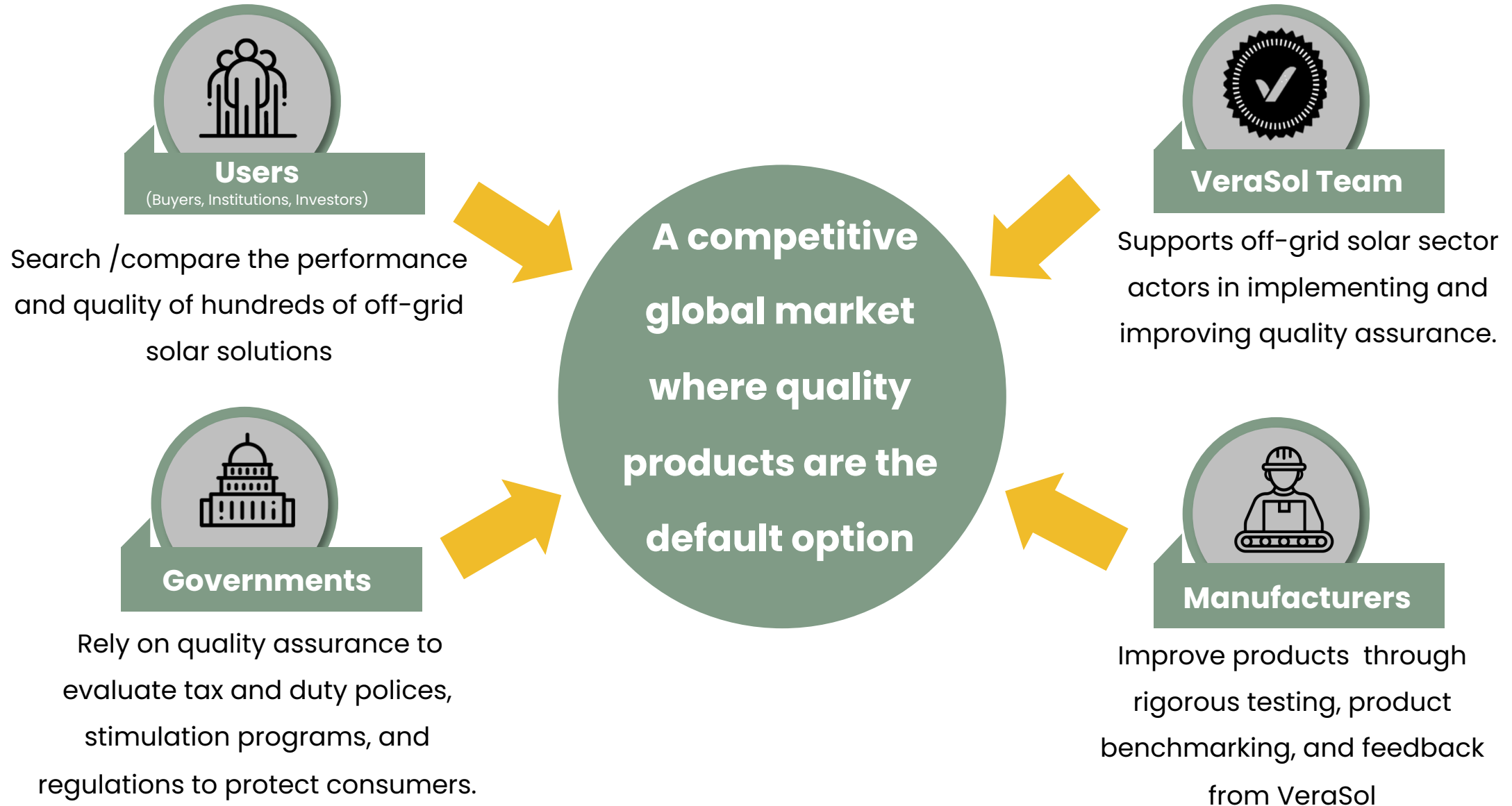
Ensure products perform as advertised, increasing consumer satisfaction and confidence.



## Improve efficiency

Merged quality assurance services for solar energy kits and off-grid appliances.

# Outcome-driven via Stakeholders



# Services offered



VeraSol

## Test Methods

Define how product quality is measured to provide a basis for performance claims



## Quality Standards

Help determine and set the baseline level of product quality for consumer protection



## Certification

Provide third party certification of products that meet international quality standards



## Appliance Testing

Define how product quality is measured to provide a common basis for performance claims



## Product Data Sharing

Generate comparable data to showcase quality products and enable faster decision-making



## Test Lab Capacity

Help improve global testing capacity through lab training and knowledge dissemination



## Technical Assistance

Assist governments in the development and adoption of standards and policies

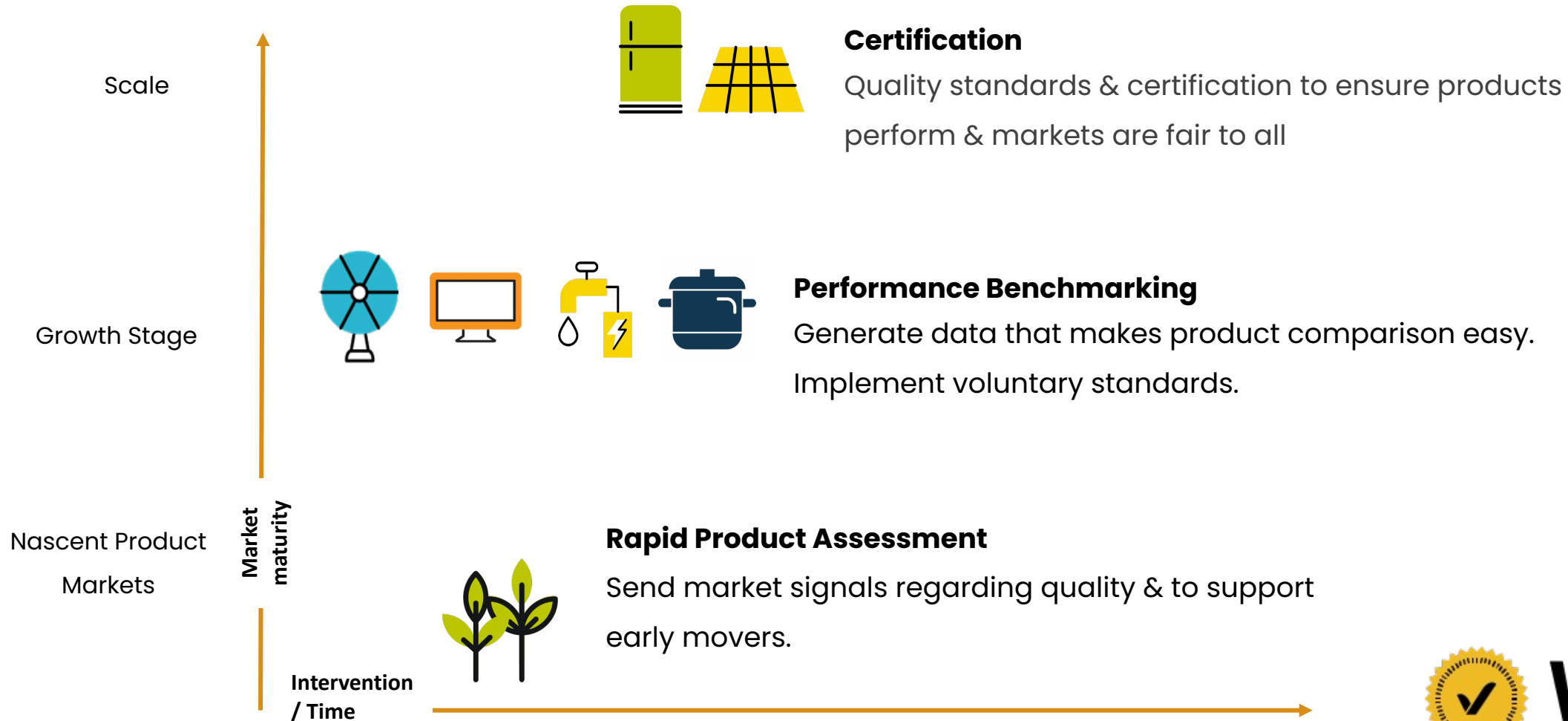


## Stakeholder Engagement

Communicate to the market about the importance and need for quality assurance



# Quality assurance needs vary based on market maturity



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# Certification: why is needed



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## SERVICE/ SOLUTION



The off-grid solar market is characterized by products with **varying levels of quality and durability**. Some are designed and manufactured well, but others fall short of expectations for safety, durability, and performance.

We **certify solar products to recognized standards for quality, durability, and truth-in-advertising**.

Thus, encouraging identification and confirmation of product quality.



## PROBLEM/ NEED

# About the Certification



VeraSol provides an independent, third-party evaluation to confirm whether a product meets relevant quality standards requirements.



## What we certify

- Solar energy kits with PV modules up to 350 W.
- Plug and play and non-plug and play kits



## What we don't (yet) certify

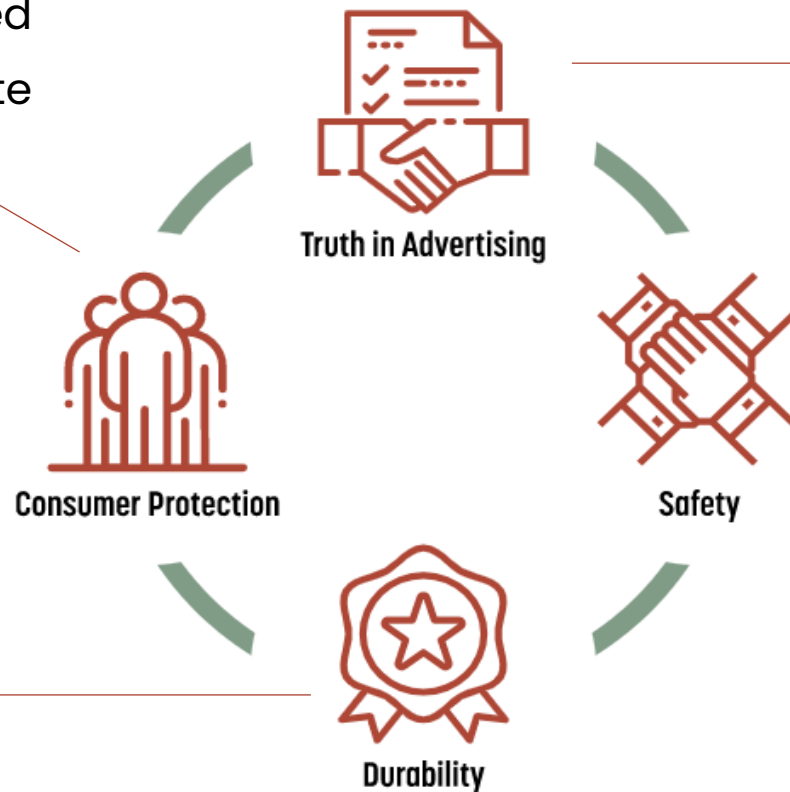
- Systems with A/C outputs/ outlets, inverters, AC appliances
- Component based systems
- DC appliances that are not part of a kit

# Quality Standards for Solar Energy Kits

**IEC TS 62257-9-8** contains four core aspects of product quality

Products contain a detailed user manual and adequate warranty coverage to protect against product failure.

Products must be built to last. This includes aspects such as lumen maintenance and workmanship quality.

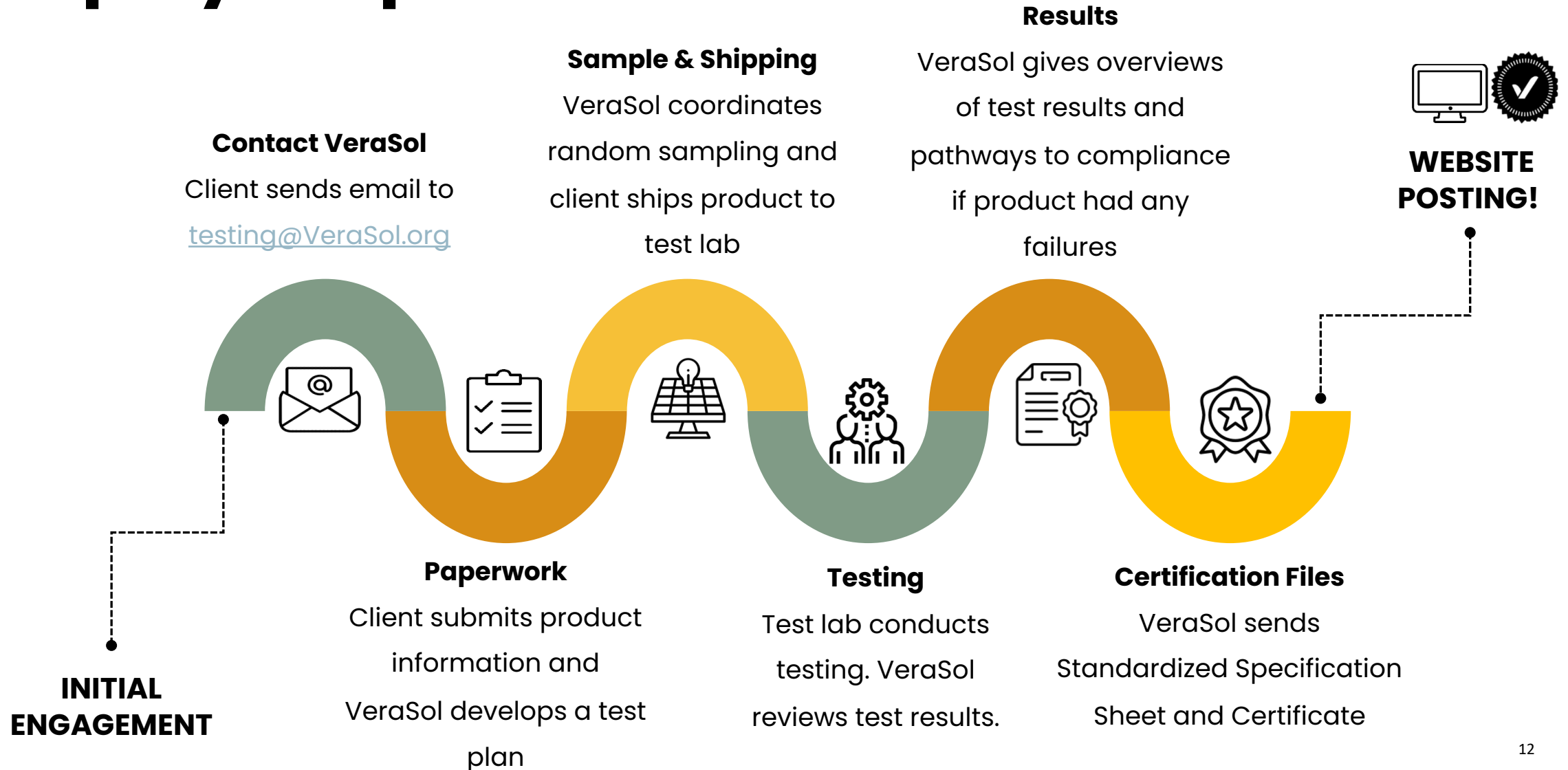


Product packaging contains sufficient & accurate information.

Products must meet minimum safety requirements to protect consumers against dangerous failures.



# Step by Step Process



# Certified Solar Energy Kits



# VeraSol

There are currently over **231 solar energy kits certified** by VeraSol  
from **72 manufacturers**



Pico-solar products: **90**

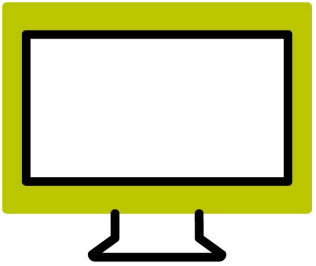


Solar home system kits and  
product families: **141**

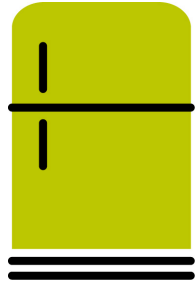
# Appliance Testing



VeraSol tests and generates consistent, comparable performance data for 7 off-grid appliance types to fill critical information gaps and inspire market competition.



TVs



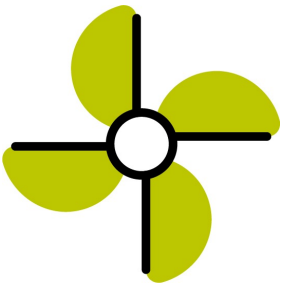
Refrigerators



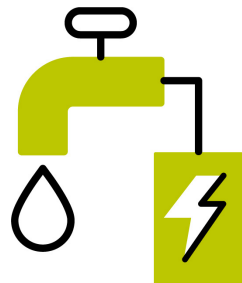
Electric pressure cookers



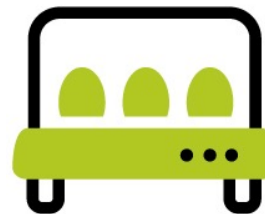
Solar milling



Fans



Solar water pumps



Egg incubators

# Appliance Testing: how it works



# VeraSol



## Product Sampling

Products are sampled from retail shops in off-grid markets across 11 key countries or randomly selected from manufacturers' warehouses

## Product Testing

Products are tested according to VeraSol's off-grid test methods at ISO-accredited labs.

## Review Test Results

VeraSol reviews the accuracy of the test results.

## Data Sharing

VeraSol provides improvement recommendations to the manufacturer & posts the product on the database.

# Appliances Tested



Televisions: **158**



Fans: **134**



Refrigerators: **99**



Solar Water Pumps: **49**



Electric Pressure  
Cookers: **24**

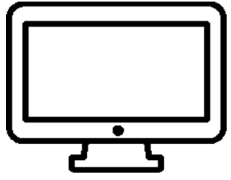


Egg incubators: **2**



Solar mill: **1**

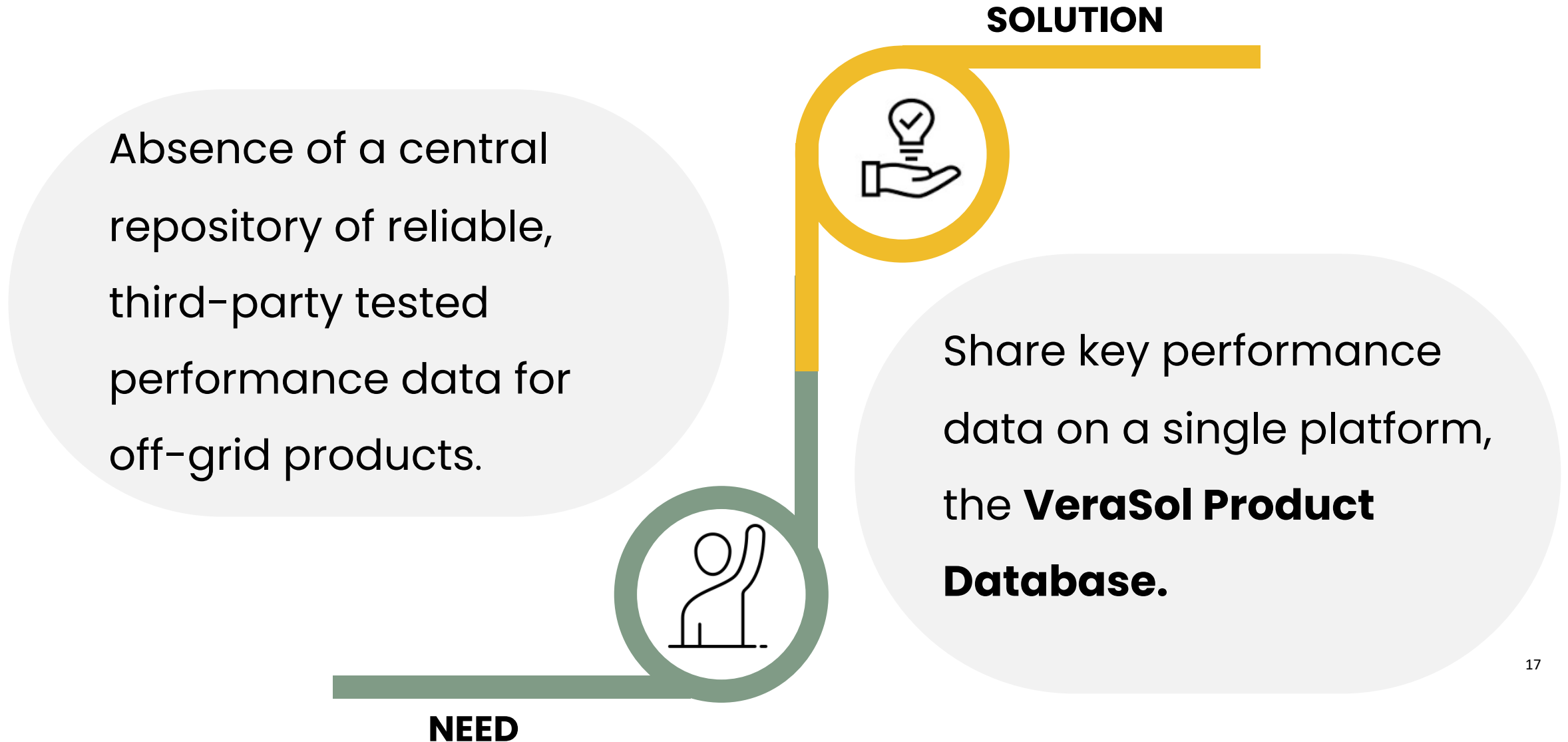




# Data Sharing: why it matters



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# Product Database



- Free and easy access to data on 600+ tested and/or certified off-grid products.
- Users can sort, filter, view, and download data depending on their needs. View the database: [data.verasol.org](https://data.verasol.org)

RESULTS: 49 OUT OF 238 SOLAR ENERGY KITS


TABLE VIEW SORT BY

FILTER BY

- 3 PRODUCT TYPES
- 4 PV MODULE MAXIMUM POWER
- 1 POWER SUPPLY TYPE
- 3 AVAILABLE DAILY ELECTRICAL ENERGY
- 3 NUMBER OF LIGHT POINTS
- 3 APPLIANCES
- 72 BRAND

CLEAR ALL APPLY FILTER

Quality Verified




SOLAR ENERGY KITS

**Shenzhen LEMI Technology Development Co., Ltd.**

Magic Solar Family

Brand	Shenzhen LEMI Technology Development Co., Ltd.
Product Name	Magic Solar Family
Model Number	Modular

Quality Verified




SOLAR ENERGY KITS

**M-KOPA Solar**

M-KOPA 6 Solar Home System

Brand	M-KOPA Solar
Product Name	M-KOPA 6 Solar Home System
Model Number	M-KOPA 6
PV Module Maximum Power [W]	14

Quality Verified



SOLAR ENERGY KITS

**Greenlight Planet**

Sun King Home 400 easybuy

Brand	Greenlight Planet
Product Name	Sun King Home 400 easybuy
Model Number	SK-503/ SK-505
PV Module Maximum Power [W]	38
Number of Light Points	5

# Database User & Usage Scenarios



## **Manufacturers**

Benchmark the performance and quality of your product against others.



## **Distributors**

Make faster, informed sourcing and procurement decisions.



## **Investors & Development Institutions**

Validate product quality and inform the due-diligence process when assessing which products or companies to support.



## **Governments**

Easily access certification documents, key performance metrics.

# Links to resources



# VeraSol



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RESOURCES



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TECHNICAL NOTES



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QUALITY STANDARDS & POLICIES

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Featured Publications

Explore the latest Technical Notes, policies, and resources on quality assurance for modern off-grid solar solutions.

BROWSE FULL ARCHIVE

Governments and other institutions

Jun 02, 2020


This Technical Note summarizes the transition from the Lighting Global Quality Standards to the IEC standards and outlines important considerations for governments and other institutions.

Summary of Requirements in IEC TS 6257-9-8:2020


Jun 02, 2020

This document provides a summary of the requirements and additional test methods in International Electrotechnical Commission (IEC) Technical Specification (TS) 6257-9-8.


Featured Collections



**Resources for Energy Access Practitioners**  
A collection of useful resources for energy access practitioners, including an introduction to quality assurance, materials from past events/webinars, and key program policies.



**Resources for Manufacturers**  
A collection of program policies and documents related to the testing and certification process for pico-solar products and solar home system (SHS) kits.



**Technical Notes Library**  
A collection of resources on how to design, develop, distribute, and promote, high-quality off-grid solar solutions.

View Collection →

● ● ●

FILTER BY

Publication Type

Technical Notes

Eco Design Notes

Stakeholder Feedback

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Resources for Manufacturers

Guidance Documents

Language

Chinese

English

French

Region

Global

Sub-Saharan Africa

Technology

RESULTS 10 OUT OF 138

Newest

**VeraSol Certification Program Rules and Procedures**  
Jun 04, 2020 | Policies, English  
This document outlines the screening procedure VeraSol uses to assess a manufacturer's eligibility for its certification program...

**Finding the Sweet Spot: Identifying Affordable Quality Solar Products for the Last Mile**  
Jul 07, 2020 | Resources for Practitioners, English, Sub-Saharan Africa  
This report brings together findings from 6 months of research on the quality of best-selling non-quality-verified products in Kenya...

**Guidelines for Market Surveillance and Enforcement**  
Jul 06, 2020 | Resources for Practitioners, English  
A 33-page document from the European Union ECOPLANT project, providing guidance for market surveillance authorities on monitoring, verification, and enforcement of ecodesign policies...

**Compliance Protects Energy Efficiency Policies**  
Jul 06, 2020 | Resources for Practitioners, English  
A two-page overview from CLASP of key considerations when setting up a standards compliance framework, with a focus on energy-efficiency...

**Memorandum of Agreement with Test Lab**  
Jun 26, 2020 | English  
This Memorandum of Agreement (MOA) sets out the terms by which the Parties will work together to develop and implement the Quality

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# Questions >>



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[testing@verasol.org](mailto:testing@verasol.org)



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