

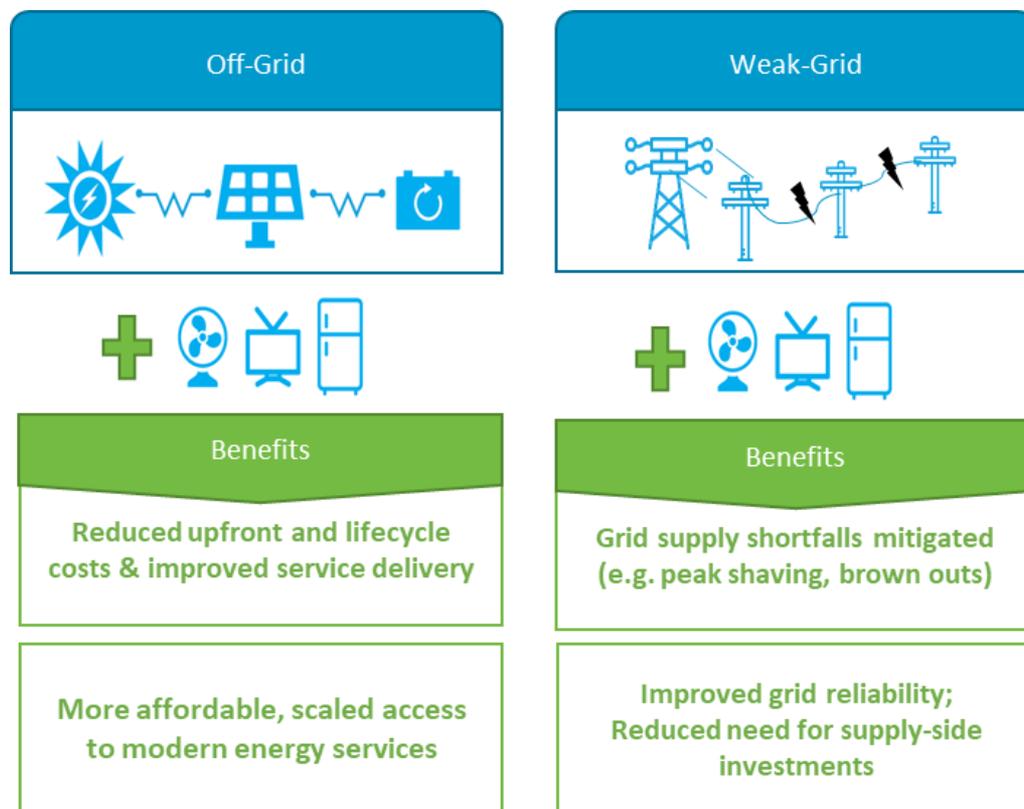
Productive use appliances for energy access

Makena Ileri
02/07/2019

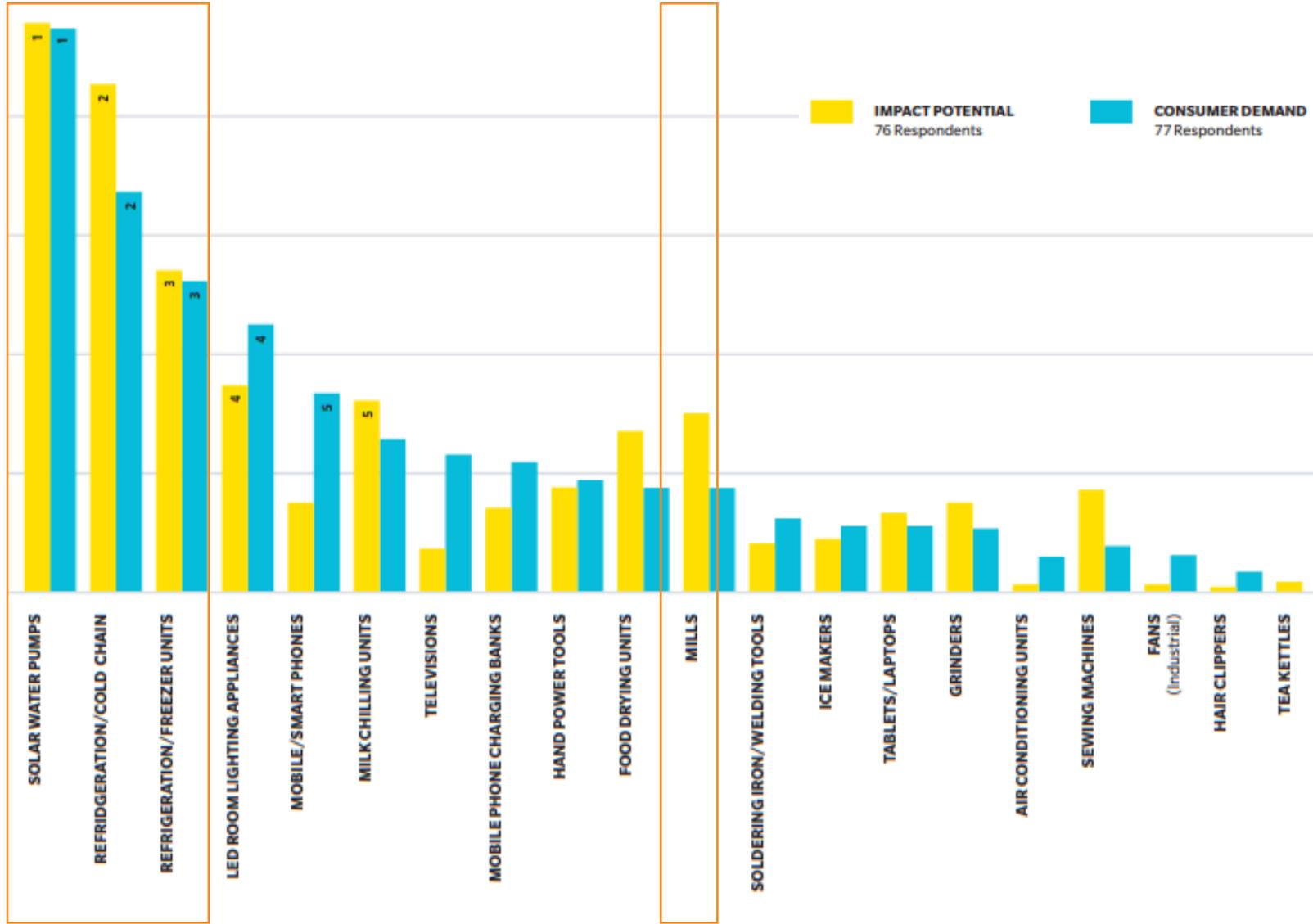


Theory of change

Appropriately-designed and highly energy-efficient appliances fundamentally improve the economics of energy access, maximizing the value of every available watt and putting modern energy services within reach of millions worldwide.

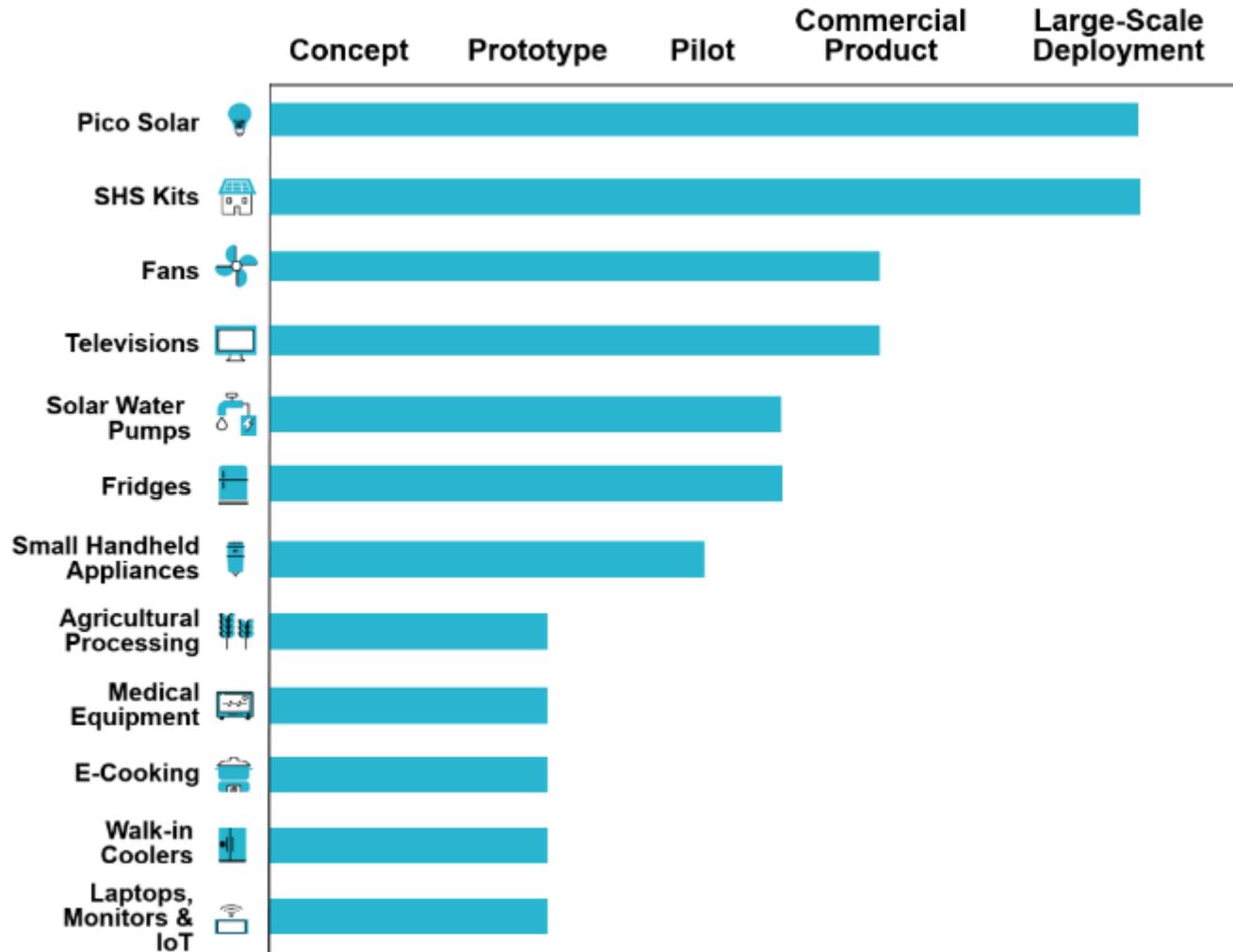


Demand & impact rankings (2018)



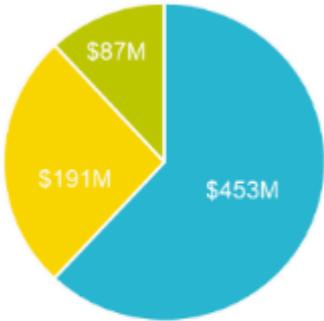
Relative maturity of selected appliances

Maturity of off-grid appliance technologies in East Africa

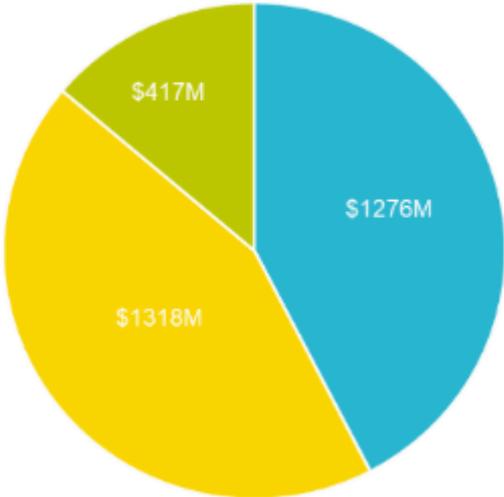


Market for solar agricultural equipment (Africa)

2018 Market Size
USD \$732 Million



2030 Market Potential
USD \$3 Billion



 Solar Water Pumps  Ag Cooling and Refrigeration  Agro-processing

Current activities

Solar Water Pumps



Market, Consumer, and Impacts Research



Incentives to appliance manufacturers and off-grid solar distributors



Technology Roadmap



Global LEAP competition to identify top-performing products through lab testing



Test method development and market baselining



Sales Data Collection

Agricultural Cold Chain



Global LEAP competition to identify top-performing products through field testing

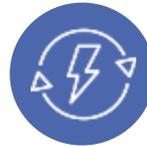


Deploy R&D grants



Identify segments of refrigeration market that are most ready to scale

Solar Milling



Conduct field trials to measure energy performance & consumer satisfaction for use cases



Conduct research to size the total addressable market

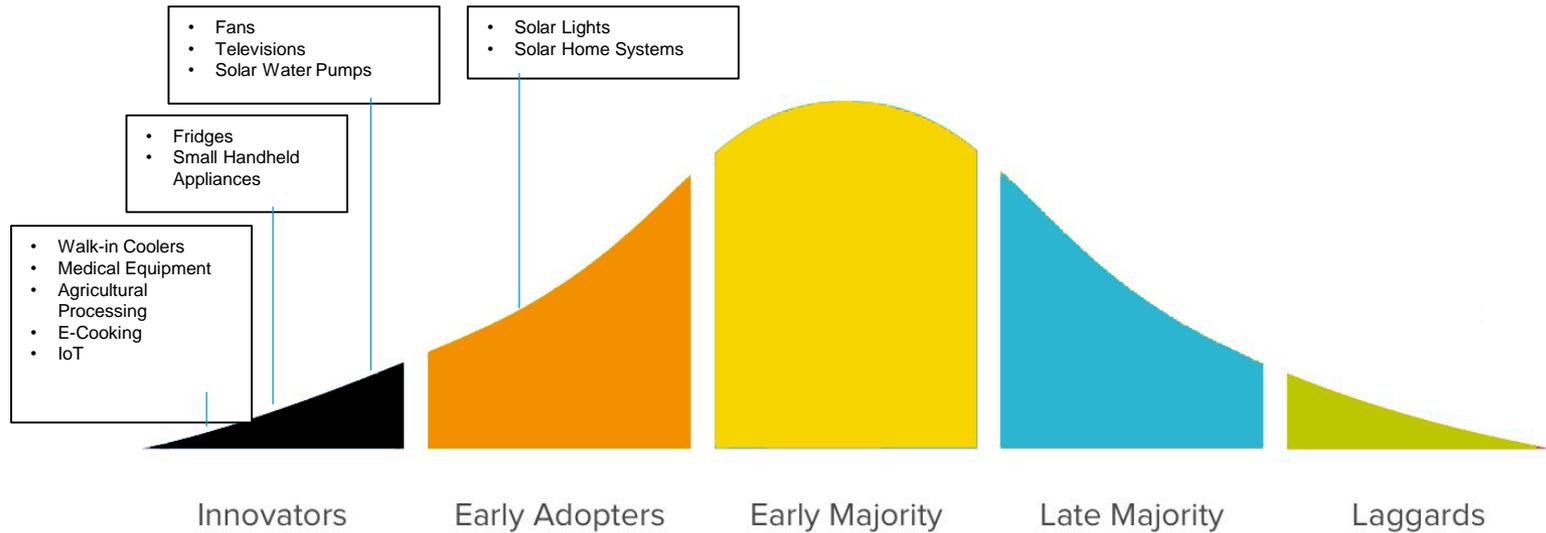


Deploy R&D grants

Solar Water Pumps



Market & policy interventions should match readiness



	Nascent	Early-Stage	Mid-Stage	Late-Stage
Technology	<ul style="list-style-type: none"> Awards & Prizes Research R&D Harmonised Test Methods 	<ul style="list-style-type: none"> Voluntary quality standards 		<ul style="list-style-type: none"> Minimum Energy Performance Standards (MEPS) Labelling Mandatory quality standards
Human Resources	<ul style="list-style-type: none"> Design Challenges Strong links with Universities & Students 	<ul style="list-style-type: none"> Technical Assistance, Training & Capacity Building Mentoring & Investment-Readiness Support to B2B partnerships e.g. with Agribusinesses 		
End-User Financing	<ul style="list-style-type: none"> Consumer Financing Innovation Grants 	<ul style="list-style-type: none"> Support to promising consumer financing mechanisms (e.g. SPVs, receivables financing etc) 		
Enterprise Financing		<ul style="list-style-type: none"> Business Model Innovation Grants Early-stage Equity Concessional Loans (both hard and local currency) 	<ul style="list-style-type: none"> Large-scale commercial financing 	
Policy & Enabling Environment	<ul style="list-style-type: none"> Consumer Awareness Campaigns Market Intelligence 	<ul style="list-style-type: none"> Low taxation Enabling regulatory environment Market Intelligence 		<ul style="list-style-type: none"> Subsidy mechanisms to reach the worst-off

Solar Water Pumps: Current interventions

- Poor-quality products diminish consumer confidence in off-grid solar & negatively influence markets (**longer consumer adoption**)
 - Incentivize quality appliances
 - 3rd party testing



Global LEAP competition to identify top-performing products through field testing



Test method development and market baselining



Conduct field trials to measure energy performance & consumer satisfaction for use cases

- More efficient, affordable appliances made available and targeted at the most “ready” market segments (**higher levels of energy access faster**)
 - Distributor/manufacture incentives
 - Research



Results Based Financing: New window opening in Aug/September 2019



- Sales Data collection
- Sizing the market for SWP
- Socio-economic Impact of SWP on users



- Technology Roadmap
- Deploy R&D grants
- Market, Consumer, & Impacts Research

Global LEAP Awards + Results Based Financing



Global LEAP Awards : An international competition to identify and promote the **world's best off-grid appliances**, accelerating market development and innovation.

The 2019 Global LEAP Awards Off-Grid Refrigerator and Solar Water Pump Competitions: received a total of **80 nominations – 38 off-grid refrigerators and 42 solar water pumps – from 21 countries**. Announcement of winners and finalists anticipated in July 2019

RBF provides financial incentives to participants in the Global LEAP Awards and off-grid solar distributors that partner to distribute large quantities of award-winning products in key national off-grid markets.

The RBF program has had a substantial impact on the growth of commercial markets for off-grid appliances:

- **Market Scaling for Impact:** Facilitated the procurement of over 245,000 best-in-class off-grid TVs, fans, and refrigerators by 27 companies across East Africa and Bangladesh, supporting the delivery of new or enhanced energy access to over half a million individual beneficiaries to date.
- **Early Stage Market Growth:** Catalyzed the first-ever wholesale procurement of off-grid refrigerators by two of the leading PAYGO solar home system companies and one leading mini-grid developer.
- **Market Diversification:** Increased market share for high-quality, energy efficient off-grid appliances relative to competitor products
- **Consumer Insights:** CLASP surveys samples of RBF customers, generating valuable market intelligence and consumer insights

Recent and Upcoming Market Intelligence and Research



Recently Published

- **GOGLA Global Off Grid Solar Market Report** – We partnered with GOGLA to collect sales data for TVs, fans, refrigerators, and solar water pumps
- **Off-grid Appliance Performance Testing: Results and Trends for Early-stage Market Development**
- **State of Play and Innovations in Off-grid Refrigeration Technology:** Lessons Learned from Current Initiatives
- **Use and Benefits of Solar Water Pumps** in Kenya, Tanzania and Uganda
- Solar Water Pump and Off-grid Refrigeration **Technology Roadmaps**
- **Tanzania Market Snapshot:** Horticulture Value Chains and Potential for Solar Water Pump Technology

Upcoming Publications

- **State of the Off-grid Appliance Market Report** – Publication in July
- **Solar Water Pump Market Snapshot: South Asia and Sub-Saharan Africa** – Publication in July
- **Bangladesh Off-grid Appliance Market Trends** – Publication in July
- **Use-Case Segmentation for Off-grid Refrigeration Systems** – Publication in August
- **Impacts of Fans** – Publication in August



Nairobi Garage, 9th Floor Pine Tree Plaza,
Kamburu drive, Nairobi, Kenya

E mireri@clasp.ngo
W clasp.ngo