

EFFICIENCY
FOR
ACCESS

Solar Water Pumping

Global Market Development Roundtable
Workshop Report
May 2018



BACKGROUND

The **Efficiency for Access Coalition** is scaling up and bringing together a range of institutional efforts that use energy efficiency as a tool for driving rapid and sustainable progress in delivering clean energy access to the world's poor. Due in large part to the improved efficacy and cost of the super-efficient LED, the quickly emerging off-grid solar market has delivered energy access to tens of millions of off- and weak-grid households and businesses globally.



Coalition members recognize the latent demand for more and greater modern energy services and are seizing this opportunity to **scale up markets and reduce prices for new super-efficient products** (including fans, televisions, refrigerators, water pumps, and more), **supporting technology innovation, and improving sector coordination.**

Among the products with the greatest potential impact, highly efficient water pumps promise to change the lives of millions. Solar water pumps (SWPs) deliver modern irrigation and drinking water services to off-grid populations. **A full 40% of the global population relies on agriculture as its main source of income**, and improving farm productivity has a direct impact on poverty alleviation. Studies show that a **10% increase in agricultural productivity for smallholder farmers in Africa leads to a 7% reduction in poverty.**



Scaling the commercial market for SWP technology will make **modern irrigation more accessible and cost-effective for the nearly 500 million small-scale farmers worldwide.** SWPs also present a far-reaching opportunity to reduce the labor burden on women and girls who commonly bear the brunt of agriculture and water-ferrying work in rural areas, while simultaneously increasing farm-related incomes and improving educational, nutritional, and economic outcomes.

On 17-18 April 2018, the Efficiency for Access Coalition hosted its first **“Global Market Development Roundtable”** in Nairobi, Kenya to discuss opportunities to advance markets for SWP technology.

WORKSHOP OUTCOMES

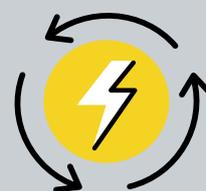
The two-day SWP global market development roundtable brought together over 40 industry leaders, product designers and distributors, technology specialists, agriculture sector experts, and others to engage in deep-dive discussions of the many challenges and opportunities facing the SWP market. Discussions focused around eight topic areas, and participants collectively identified and prioritised actions in each area for the Coalition to take forward. These are summarised below, with highest-priority activities listed first:

Consumer & Market Intelligence



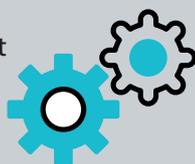
- Conduct research to size the total addressable market and segment by geography, customer type, and willingness to pay
- Develop GIS resources to better understand differences in soil, water, demographics, climate & crops in key markets
- Conduct research on the social and economic impacts of SWP access
- Develop methods to aggregate and package data generated by SWPs to make it more available to customers and other stakeholders

Distribution, Installation & Service



- Conduct research on costs associated with customer acquisition and after-sales service
- Create a supplier competency checklist and identify “champion” service technicians
- Facilitate partnerships and collaborations around product installation and service
- Develop supplier pre-qualification tools and services

Design & Development



- Support R&D for low-cost sensors and controls
- Develop standard specifications for end-to-end system design
- Support R&D for portable, durable small-scale SWP power systems
- Support R&D for generic low-cost controllers (hybrid input, simple, market appropriate)
- Develop open-source data collection and reporting tools/software/standards
- Support R&D to improve saline water tolerance

Financing & Business Support



- Develop a revolving credit facility for FIs and in-house financing
- Create and disseminate stakeholder segmentation by country to facilitate partnerships and specialisation
- Facilitate R&D investments for pilot technologies that will de-risk lending, i.e. sensors
- Create a product performance data aggregation platform that will improve credit appraisal process

Testing & Quality

- Build a typology of the most common pump use cases (e.g. different heads, environmental factors)
- Develop industry-wide test standards and protocols
- Conduct research on a broad suite of external factors that impact SWP performance (e.g. agricultural practices)



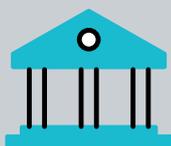
Capacity Building

- Educate and enable farmer cooperatives to teach members about good vs bad pumps and related information
- Build test lab capacity
- Cross train energy supply designers and water extraction engineers for system design optimisation



Policy Environment

- Create policy & technical assistance programmes for governments
- Share & collate good-practice case studies and lessons learned from other countries
- Come up with an agreed definition of a (good) solar water pump



Environmental Sustainability

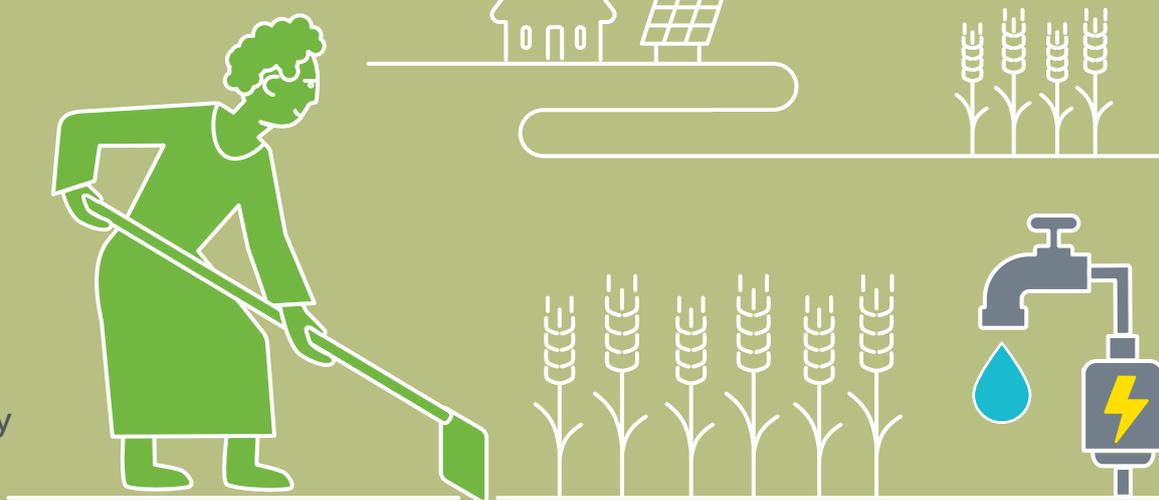
- Promote software/hardware innovations and policy measures that mitigate over-extraction
- Develop tools for monitoring water sources
- Educate consumers on sustainable irrigation practices



PARTICIPANT EXPERIENCE

80% of attendees rated the event as **excellent**

93% said their **expectations were fulfilled**, signalling the **value of convening players** in the nascent but rapidly evolving market.



Attendees reported that **issue-specific breakout sessions**, in which small groups identified the action items listed above, were **the most useful part** of the event.

LOOKING AHEAD

The priorities identified by workshop participants will inform a wide range of SWP market support activities to be implemented by the Efficiency for Access Coalition in the months to come. Coalition plans include the following:



Convene a SWP Technical Working Group. Initial work activities to include refinement of a standard test method and development of a R&D Roadmap. All interested stakeholders are invited to participate. To sign up or for more information contact info@efficiencyforaccess.org.



Launch a competition to assess the energy efficiency, service delivery, and value of SWP products currently available on the market. This competition will be part of the **2019 Global LEAP Awards**. More information about the competition will be made available soon.



Partner with SWP companies on the ground to research the needs of potential and existing customers and the socioeconomic impacts of SWPs. If you would like to be a research partner contact info@efficiencyforaccess.org.



Conduct a market landscape assessment for SWPs to better understand existing and potential demand and market viability in African & South Asian countries.

Interested parties are encouraged to sign up for email updates on the Efficiency for Access website (efficiencyforaccess.org) & follow [@EforA_Coalition](https://twitter.com/EforA_Coalition) on Twitter. EforA Coalition members are currently engaged in a variety of ongoing SWP-related activities. Please contact info@efficiencyforaccess.org to learn more.



UK aid, Power Africa, Lighting Global, Rockefeller Foundation, Shell Foundation, Sida, EnDev, Good Energies Foundation, and more join together under a scaled-up Efficiency for Access – **a coalition promoting energy efficiency as a potent catalyst in global clean energy access efforts.**

The Efficiency for Access Coalition is coordinated jointly by **CLASP**, an international appliance energy efficiency and market development specialist not-for-profit organisation, and UK's **Energy Saving Trust**, which specialises in energy efficiency product verification, data and insight, advice, and research.

