

LOW-ENERGY INCLUSIVE APPLIANCES (LEIA) PROGRAMME

A research and innovation programme that aims to double the efficiency and halve the cost of electrical appliances suited for off- and weak-grid households, small businesses and industrial consumers.

Credit: Futurepump

The Low-Energy Inclusive Appliances (LEIA) programme is the foundational programme under the Efficiency for Access Coalition¹ that aims to increase the affordability and efficiency of a range of electrical appliances and solar-powered technologies suited to developing countries with limited electricity access. Programmatic activities help improve electricity access and livelihoods through more jobs, boost household savings and stimulate business income generation. It is supported by funding from UK aid and the IKEA Foundation and co-manged by CLASP and Energy Saving Trust.

Since its launch in 2017, LEIA has committed itself to promoting the uptake of affordable, high-performing appliances, with the ultimate aim of:

- **Expanding energy access**
- **Increasing incomes**
- **Reducing greenhouse gas emissions**
- **Improving reliable access to health services**

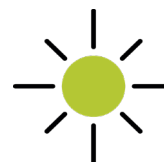
Our Impact to Date



12 million
Solar products sold



12.7 million
People with improved
energy access



122,500
Tonnes of CO₂ avoided



+9,800
Jobs created



897,000 USD
In household savings generated
from energy-efficient appliances



39.7 million USD
In income generation from
productive use of LEIA appliances

¹The Efficiency for Access Coalition is a global coalition to accelerate clean energy access through affordable, high-performing and inclusive appliances. The Coalition is coordinated jointly by CLASP, an international appliance energy efficiency and market development specialist not-for-profit organization, and Energy Saving Trust, which specializes in energy efficiency product verification, data and insight, advice and research. Learn more about Efficiency for Access at efficiencyforaccess.org

LEIA Activities



Promote Best-in-Class Products

LEIA's Global LEAP Awards is an international competition that identifies and promotes the world's best-in-class, most energy-efficient off-grid appliances. Over the past five years, we have held **four Global LEAP Awards competitions** for solar water pumps, refrigerators, off-grid cold chain and electric pressure cookers.



Catalyse Innovation

Delivered with the support of Engineers Without Borders UK, the Efficiency for Access Design Challenge is a global, multi-disciplinary competition that empowers teams of university students to help accelerate clean energy access. We have hosted **three Design Challenges** that brought together students across 30 universities.



Appliance Testing

Market scoping and product testing is foundational to LEIA. LEIA has conducted **11 country surveys, tested 585 products and developed six quality assurance (QA) frameworks**. VeraSol, our QA programme, has helped set a baseline level of quality to help buyers, financiers and consumers access high-quality products.



Educate & Communicate

Under the umbrella brand of Efficiency for Access, we translate programmatic research and market intelligence into engaging communications products for a range of stakeholders to expand awareness on the benefit and application of weak- and off-grid appliances. To date, we have held **9 communications campaigns**, which have achieved over 28.46 million potential Twitter impressions.



Knowledge Dissemination

As a research and innovation programme, LEIA strives to be the primary knowledge resource on appliance efficiency and technology innovation in the off-grid sector. The LEIA publication library includes over **120 knowledge products** on market scoping, technology briefs, consumer impact tracking, field testing guides and much more.

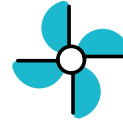


Research & Development

LEIA invests funding into research and development (R&D) projects with the aim to accelerate the availability, affordability, efficiency and performance of a range of low energy appliances. The R&D Fund has supported **17 technologies and 38 projects, and distributed £5.17m over the course of five years**.

Technology Highlights

Cooling



Refrigerators – Our research team assessed the uses and impacts of refrigerators through consumer data in a report co-authored with 60 Decibels.

Fans – In a communications effort, we shared the impacts of solar fans on consumers in Pakistan and Bangladesh in our first Human Success Story.

Milking machines – Alongside SELCO Foundation, we are field testing milking machines in India to learn about the performance and consumer impacts of this productive use of energy application.

Agriculture



Solar water pumps – Our testing and quality assurance team designed and implemented testing guidance for the product performance of solar water pumps.

Egg incubators – Our VeraSol team developed a Rapid Product Assessment framework for productive use appliances and beta-tested it on solar egg incubators.

Cold chain – We ran two Global LEAP Awards Off-Grid Cold Chain Challenges in 2019 and 2022.

Women's Empowerment



Solar Mills – Through our Research & Development Fund, we supported the development of a solar-powered, small-scale mill.

Electric pressure cookers – We have supported young people in their designs of innovative electric pressure cookers through the Efficiency for Access Design Challenge.

TVs – Our team has created standardised impact metrics for televisions to ensure energy access decision-makers understand the transformational potential of high-performing appliances.

Enabling Technologies



Interoperability – Our research team has tested remote performance monitoring technologies for a range of high-performing appliances.

Information & Communication Technology – Through the Research & Development Fund, we supported the development of a solar computer.

Permanent magnet motors – Our team conducted research and published findings on the benefits and potential of permanent magnet motors in our 2021 series, Solar Appliance Technology Briefs.

LEIA Partnerships

Forming partnerships within and across sectors is a primary goal of LEIA in enhancing the uptake of appliances.

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Donor Coalition Members

Since inception, the Efficiency for Access donor roundtable has grown to 20 members. By engaging with Efficiency for Access, stakeholders become part of a global community working together to achieve shared goals.

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Programme Partners

Efficiency for Access works in partnership with a number of influential amplifiers, media outlets, industry representatives and specialists. These programme partners provide advice and review of activities, as well as support on communication and dissemination activities.

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Investor Network Member Organisations

Efficiency for Access and Acumen co-host the Investor Network, a group of leading investors who have expressed interest in companies working on 'productive use' appliances, but want to gain stronger markets insights before making an investment.

Technical Working Groups

Our Technical Working Groups (TWGs) bring together stakeholders and help accelerate the industry's growth and impact, through research and innovation. The TWGs are organised by EforA to bring together stakeholders and to help accelerate the industry's growth and impact, particularly through research and innovation.

We have two TWGs for solar water pumps and refrigerators. These TWGs meet a few times a year to identify and discuss the most pressing technical and market issues.

To inquire about joining a TWG, contact info@efficiencyforaccess.org.

The Quality Solar Solutions Working Group (QSSWG) brings together a diverse group of project implementers running programmes such as results-based financing programmes and bulk procurements. The QSSWG convenes to discuss how to identify products and companies that their programmes can support, share knowledge about product technologies and exchange ideas on best practices for product quality assurance.



www.EfficiencyforAccess.org | [@EforA_Coalition](https://twitter.com/EforA_Coalition) | info@efficiencyforaccess.org

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