



Energy Efficiency for Energy Access

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Bureau of Energy Resources

Energy Diplomacy

➤ Managing the geopolitics of the energy economy through reinvigorated energy diplomacy with major energy producers and consumers

Energy Transformation

➤ Stimulate markets that will sustain transformational energy policies in terms of alternative & renewable energy sources, electricity, development, and reconstruction

Energy Transparency and Access

➤ Increase transparency and improve commercially viable and environmentally sustainable energy services



United States Department of State

Over 1 billion people globally lack access to electricity

Latin America: 20m

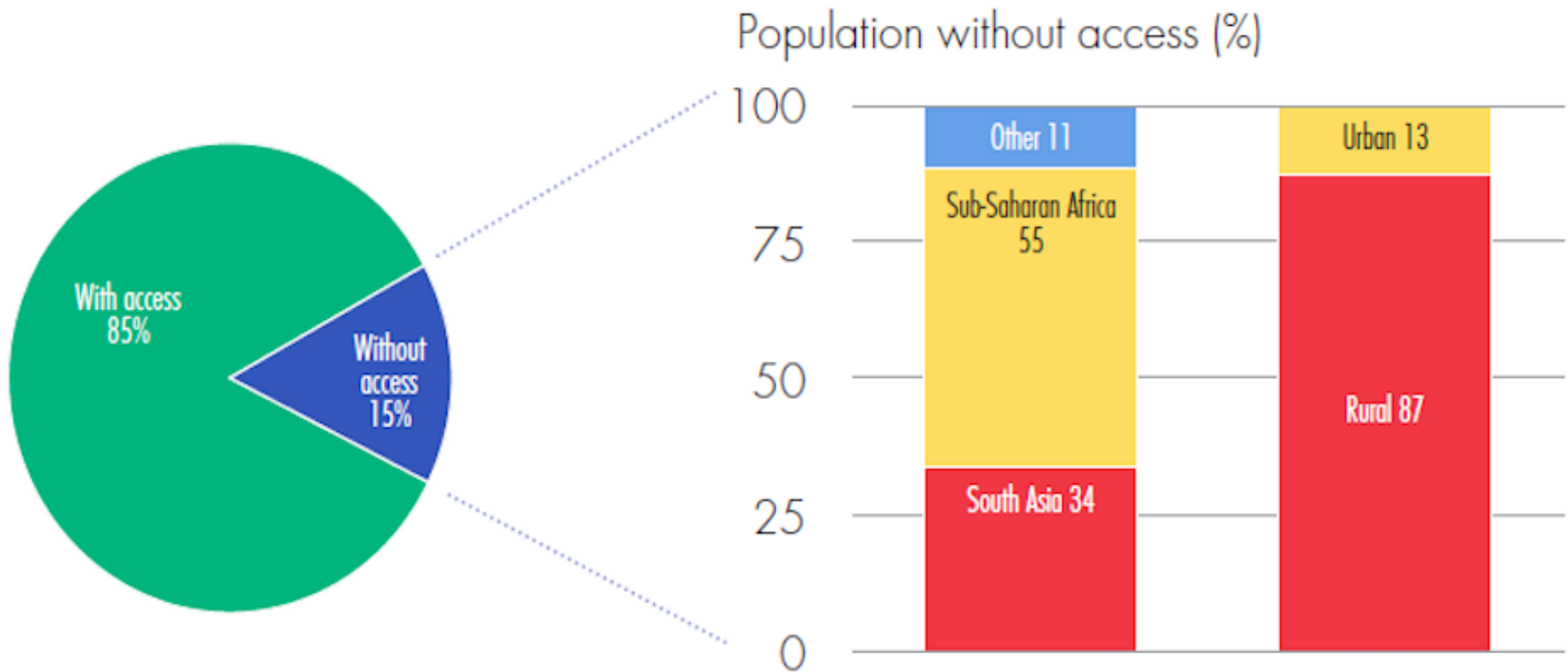
Africa: 600m

Asia:
500m

...and another billion lack reliable access.

Energy Access Deficit

A large majority of those without energy access are in rural areas.



Data for 2012

Source: World Bank Global Electrification database 2015 (World Bank 2015)

Benefits of Access to Modern Energy Services

Economic

Health

Environmental

Education

Social

It is critical to meeting the global
Sustainable Development Goals

**Access to electricity enables students to study at night,
improving grades and graduation rates**



Access to electricity facilitates irrigation,
increasing production, and food security

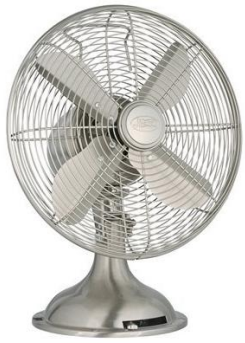


Efficient Off-Grid Technologies Enable Increased Energy Services

Global Tracking Framework – Tiers to Count Electricity Access

Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Task lighting and phone charging	General lighting, and TV, and fan	Tier 2 and any low power appliances	Tier 3 and any medium power appliances	Tier 4 and any high power appliances

(Source: SE4All Global Tracking framework)



Efficient & High Quality Energy Services and Appliances

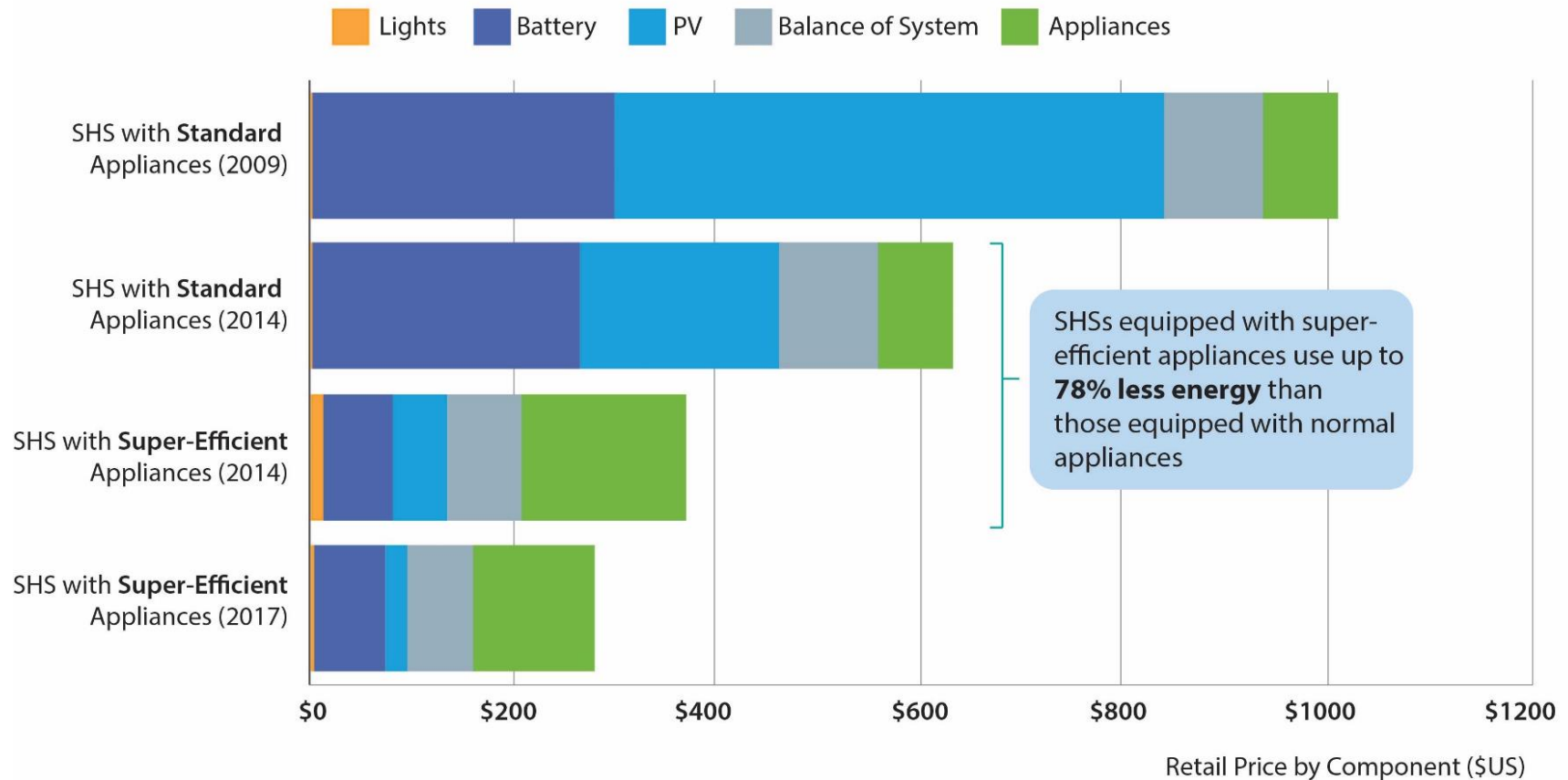


- Can *reduce the total cost* of providing off-grid energy by *as much as 50%*.
- Ensure that un- and under-electrified homes and businesses can *make the most out of off-grid energy*.
- They are *essential to the growth of off-grid markets*, as they create demand for off-grid energy systems, and reduce costs and risks for consumers and businesses.
- Are critical to capturing the full potential of off-grid energy by *cost-effectively extending the range of energy services*.
- *Confidence in product quality is essential* to the development of the off-grid market.



Super-Efficient Technologies Reduce Costs of Off-Grid Energy Services

SHS Purchase Price Based on Appliance Type

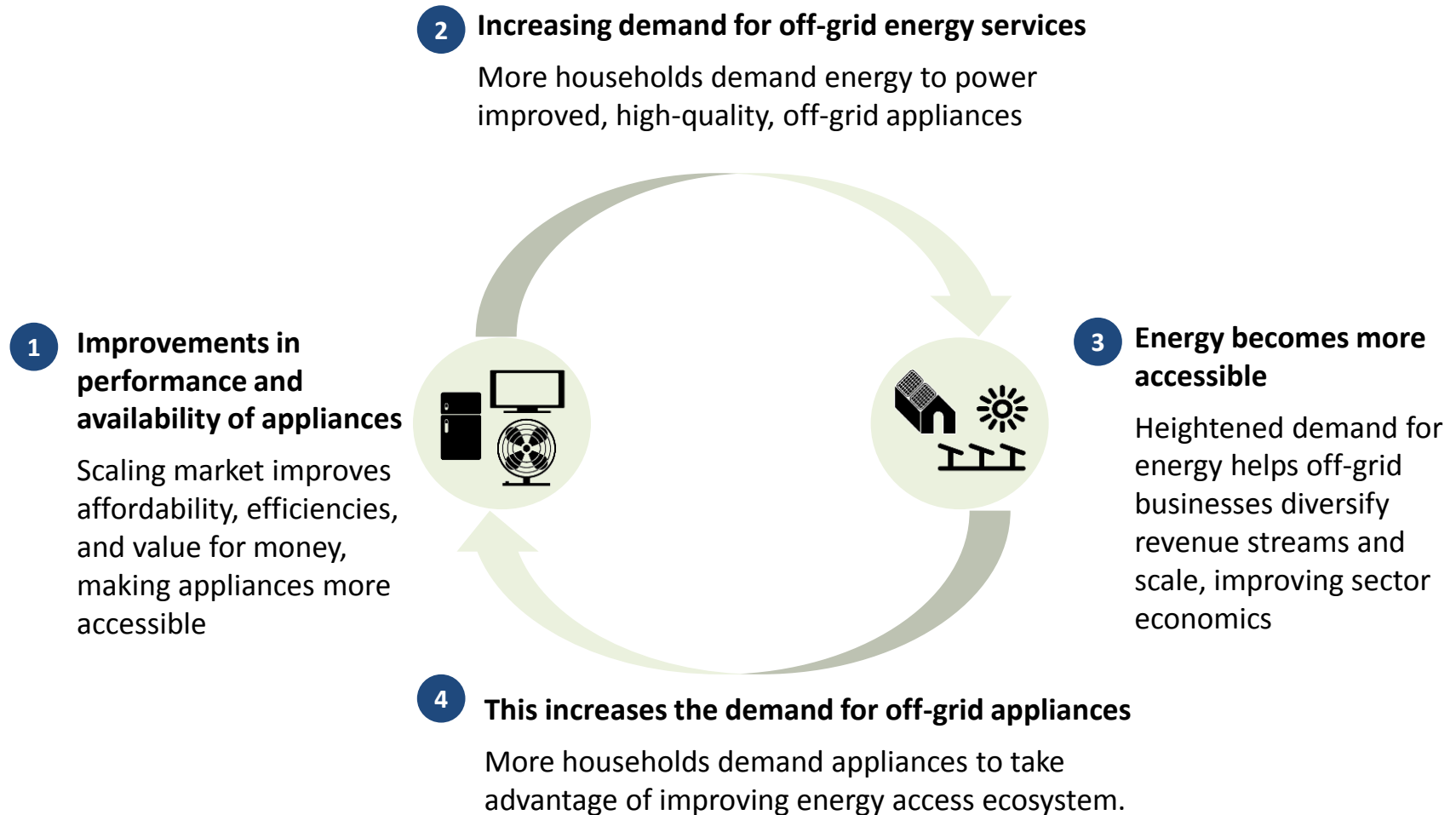


*Systems provide energy for 4 lights, a 19" color TV, a radio, and mobile phone charging

* Appliance use assumption: lights = 4hrs/day, TV = 3hrs/day, radio = 6hrs/day, mobile phone = 1 charge per day

Source: "A Home Energy System in just 25 Watts: Super-Efficient Appliances Can Enable Expanded Energy Access Using Off-Grid Solar Power Systems" (1.usa.gov/1K6yfyn)

Efficient Off-Grid Appropriate Appliances Spark a Virtuous Circle in Clean Energy Access Markets



Critical Barriers Inhibit Off-Grid Appliance Market Growth

The global off-grid clean energy market **needs a complementary market of high-quality, super-efficient off-grid appliances** to reach its full potential, but **significant barriers inhibit that market's development**:



Off-Grid Energy Service Companies struggle to identify and source super-efficient, high-quality, and affordable appliances.



Appliance Manufacturers often are not familiar enough with the off-grid marketplace to design and market their products effectively.



Investors & MFIs lack reliable benchmarks against which to target investment or evaluate and incentivize appropriate appliance procurement



Policymakers lack the market and product performance data to target and scope market transformation policies or programs

These barriers **inhibit growth** in the global off-grid clean energy market and **exclude off-grid communities** from the socioeconomic, health, and environmental benefits of improved and expanded modern energy services

Targeted Interventions Will Accelerate Market Development

Global LEAP's recent market research report identifies the following changes that can help catalyze the off-grid appliance market:

- Continued technology innovation specific to the off-grid market
- Access to enterprise finance.
- New consumer financing solutions
- Stronger distribution partnerships between appliance manufacturers and off-grid energy service providers
- Bundled product offerings
- Improved consumer awareness
- Increased market intelligence
- Product quality assurance frameworks
- Tariff reform
- Targeted incentives for manufacturers
- Performance standards.

Three Objectives by 2030

1. Ensure universal access to modern energy services

2. Double the global rate of improvement in energy efficiency

3. Double the share of renewable energy in the global energy mix





A campaign to drive universal energy access beyond lighting.

www.Efficiency4Access.org

WHAT

E4A Coalition is global campaign to harness the game-changing power of energy efficiency to **drive universal access to enhanced energy services beyond lighting by 2030.**

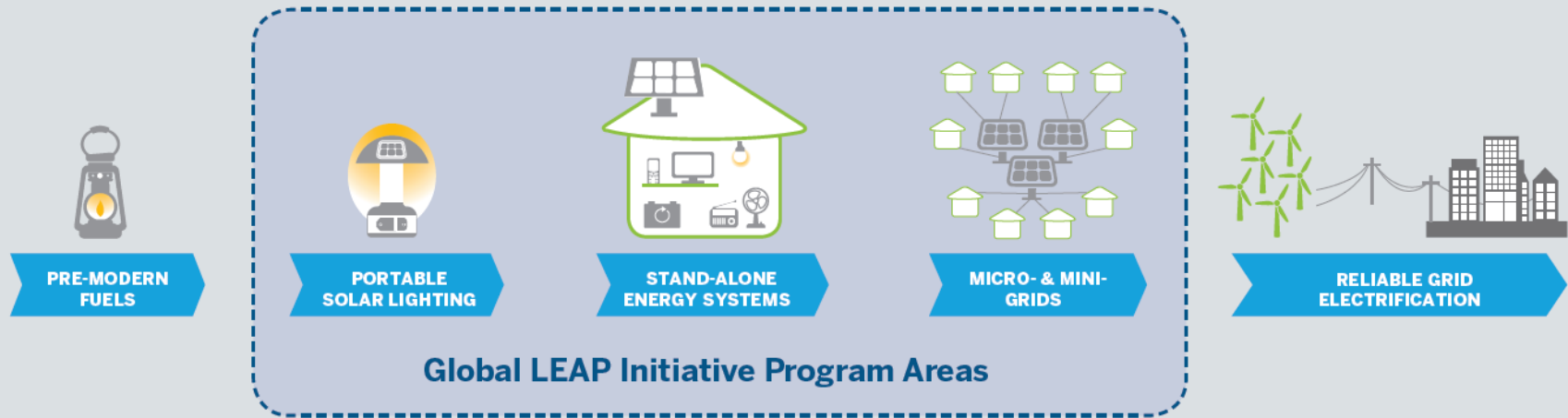
WHY

Super-efficient appliances, equipment, and other end-use technologies **increase the affordability of energy services by radically reducing the cost** of the required off-grid energy supply.

HOW

E4A is leading a Year of Action in 2016 to mobilize commitments from public- and private-sector partners to **(1) raise awareness of EA+EE opportunities (2) support the development and deployment of super-efficient end-use technologies.**

Promotes global markets for quality assured off-grid solar lighting and appliances.



Core efforts

- Supporting **quality assurance frameworks** for off-grid energy products and services
- Enabling the uptake of **super-efficient off-grid technologies**
- Facilitating **programmatic, policy, and research partnerships**

2015-16 Global LEAP Awards

Off-Grid Television and Fan Competition Results



Winners

- d.light
- Metropolitan Electrical Appliance Mfg. Co.
- NIWA



Finalists

- BBOX
- Bright Renewables
- fosera
- Maks
- Mobisol
- Omnivoltaic
- Super Star Group
- Versa Drives

Detailed information about all 2015-16 Global LEAP Awards Winners and Finalists, including product performance data and sales contact information, is available in the **2016 Global LEAP Awards Buyer's Guide**: GlobalLEAP.org/Awards

Global LEAP Awards
Outstanding Off-Grid
Appliances



Core Elements for Successful Market Transformation

Leverage partnerships to enable cross-cutting action at the required scale

Market Research
& Intelligence

Technology
Development &
Innovation

Policy Frameworks
& Enabling
Environments

Finance

Industry
Engagement &
Support

Consumer
Awareness

Thank you

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