



WWF for a living planet®

# WWF-UCO 5th Annual Energy Symposium

## “Addressing barriers to universal access to renewable energy technologies in rural areas”

**WWF-UCO is supporting households and social institutions to adopt modern energy services for cooking, lighting, phone charging and other energy needs.**

### Background

World Wide Fund for Nature (WWF), the global conservation organization's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

Pursuant to this mission, WWF-Uganda Country Office (UCO) operates through three key thematic areas, that is, Forest and Biodiversity, Energy and Climate and Freshwater. The work on increasing energy access therefore falls within its Energy and Climate thematic area and aims to ensure that the use of renewable natural resources is sustainable; and there is a reduction in pollution and wasteful consumption.

**WWF-UCO: Demonstrating universal access to clean and renewable energy technologies in Kasese, Arua and Masindi.**

### Approaches to addressing renewable energy access in Uganda - The Champion District Initiative.

The Champion District Initiative (CDI) aims at contributing to the broader national and international initiatives to address energy challenges in Uganda and beyond. The CDI is designed as a district-led (Local administrative units) approach where different partners at local, national and international level collaborate towards increasing clean energy access in a single district (Kasese District). Kasese District (The Champion District) has become a model for 100% renewable energy access by 2020 in Uganda for a single district. Lessons learnt and best practices from Kasese are being replicated and scaled to other districts in Uganda and around East and Central Africa.

### Who the target beneficiaries of the CDI?

Households, businesses and social institutions

### What makes CDI a sustainable approach?

- It is a Local Government led initiative
- Supply and distribution of the renewable energy technologies is demand-driven
- Involvement and participation is not exclusive but rather inclusive of multi-stakeholders



**Cross section of Stakeholders on a learning visit to the Champion District**

### Intervention Theory of Change.

With Uganda's population increasing at an annual rate of 3% (UBOS, 2014), this growth is exerting pressure on the country's natural biomass. This is because most of the population depend on biomass to meet their energy needs. In addition, majority also use inefficient biomass based cooking appliances. An estimated 81.6% and 15.4% of the households use firewood and charcoal respectively, to meet their energy needs. This is also coupled with over dependence of kerosene for lighting by rural households. Only 20% of Uganda's population have access to grid electricity (UBOS, 2014).

WWF hopes to contribute to addressing the drivers of forest deforestation and use of kerosene for lighting by addressing some of the known barriers to adoption of efficient renewable energy alternatives amongst the rural poor. Some of the barriers

include the high upfront costs, availability of alternatives, knowledge gaps among others.

Adoption of modern energy services by the rural poor will not only improve on the social and economic conditions but will also reduce on pressure exerted on the woody biomass cover and the environment.

### What renewable energy technologies have been promoted?

- Solar home systems of 6W to 30W for households and enterprise lighting, phone charging and running other electrical appliance
- Solar pico systems of 2.5 W for lighting and phone charging
- Solar mini-grids (5kW to 10 kW) to provide electricity for lighting and other household and enterprise energy needs
- Improved cook stoves for clean cooking in households and institutions
- Biogas systems for clean cooking in household and institutions



**Kayanzi solar micro-grid Community Management Team in Kasese**

### Stories of Change: Community Voices

1. Mr. Wilson Sinendirya is much more relaxed than he has previously been. The reason he gives is that there is less expenditure pressure in his home and this is because of the adoption of clean energy technologies. As the household head of eight children and all still dependent, plus a wife, his responsibilities and expenditure on kerosene and firewood high at UGX 20,000 per month and saving UGX15,000 per month due to the switch. Mr. Wilson also remarked. "It is not (just) about the money only but these days the firewood is very scarce too."
2. I adopted a solar PV home system of 6Wp for lighting and can now save up to UGX 7,000 a week (UGX 364,000/year) which I used to earlier purchase paraffin, my children are now motivated to study their school home work during night.  
**Mr. Bayimba Jimmy, a father of three in Kacungiro Village, Kasese District**
3. I adopted an institutional cook stove for cooking and I can now save UGX 10,500 a week (UGX 546,000/year), earlier spent on firewood, I have utilized this improved cook stove for 2 years now and a meal that could be prepared for 2.5 hours with a three-stone fire place can now be prepared in 1 hour.  
**Ms. Flora Matte, a mother of five in Kacungiro Village, Kasese District**

### What lessons have been learnt that can enhance replicated or scaled?

- **Need to prioritize a bottom-up approach:** With active participation and engagement of local communities facilitates a quicker behavioral change approach towards adopting renewable energy technologies amongst households.
- **Need to set up supporting systems and frameworks:** Ensuring that there are systems and frameworks for increased energy access at district level is critical decentralized interventions. Besides District strategies on renewable energy, also establishment of improved cook stoves and solar PV distribution centres, marketing and

maintenance centers by the private sector at various levels increases reach of the technologies to communities and builds confidence in after-sales services.

- **Public Private Partnerships are vital:** Public private partnerships as an approach towards increasing universal energy access is vital in achieving scale and sustainability of renewable energy access at all levels.
- **Leveraging on existing community social groupings:** Savings Associations and Credit Organizations (SACCOs) and Village Savings and Loan Associations (VSLAs), women groups, youth groups and available mobile communications platforms enhances community reach and adoption of RETs. These platforms facilitate access to credit by group members for financing RETs.

### Key milestones

36,870	Households access improved cookstoves and benefiting from clean cooking
9,647	Households access stand alone Solar Home Systems (SHS) and benefiting from clean lighting and charge phones
120	Households benefiting from electricity generated from a solar mini-grid
3041ha	No. of trees saved as a result of switching to ICS
116,036	Equivalent CO2 emissions avoided as result of adopting solar lighting and improved cookstoves for cooking
6	Village Saving and Loan Associations and SACCOs engaged in extending credit to members to acquire improved cookstoves and Solar Home Systems
289	No. of women and men trained in construction and maintenance of improved cookstoves
55	No. of women and men trained in solar home systems installation and maintenance
20	CSOs with capacity strengthened to engage, advocate and promote use of clean and efficient cooking and solar lighting technologies amongst communities
20	No. of institutions that have adopted solar PV systems
706	No. of indirect and direct jobs created in construction and maintenance of improved cookstoves and distribution and maintenance of solar home systems



**5kw solar micro-grid providing electricity to 120 Households in a fishing village, Kasese**

### Challenges to overcome.

- Low-income levels amongst communities; Community income-levels still remain a major challenge towards universal adoption of renewable energy technologies
- Weak regulatory mechanisms on managing influx of poor quality renewable energy products in to the market, hence affecting adoption
- Inadequate budget allocations by District council to natural resources management issues hence affecting budget allocations towards renewable energy development and utilization

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Contact Us:  
**WWF Uganda Country Office**  
**Plot 2 Sturrock Road, Kololo**  
**P.O. Box 8758, Kampala**  
**Tel: 256-041-540064/5**  
**Fax: 256-041-531166**  
**Email: kampala@wwfuganda.org**