

## SESA Demo-site and Living Labs outcomes

SESA Demo-site and Living Labs were real-life test beds in five African countries (Kenya - Demo site, Ghana, Malawi, Morocco, and South Africa Living Labs) for innovative energy solutions, which enabled the project to experiment in different environments.

Energy users and providers were actively involved to co-create innovations and have tested the effectiveness of the technologies and services. They achieved to answer to users' needs, implement sustainable solution and adapt to each specific local context by the end of the project.



The innovations presented here are the direct result of a close collaboration between local energy providers, authorities, businesses, and European industry. This cooperative effort from our partners, has led to the successful development and testing of solutions with measurable outcomes, that include:

- Direct benefits for local communities
- Increased sustainability and energy efficiency
- Financial gains
- Technological innovation





## Kenya – Katito Demo-site outcomes



### Solar PV hub with battery banks

- 2884 Kg/year of CO<sub>2</sub> emissions reduced



### E-waste collected

- 1.3 tons of electronic waste



### Battery swapping for EV two-wheelers

- 1583 battery swaps
- 620 Kg/year of CO<sub>2</sub> emissions reduced
- 534 Kg/year of PM reduced



### Gender balance

- 1/7 of of electric two-wheelers riders is female



### Coverage

- 347 000 km of cleaner urban mobility



### Solar water ATM

- 3.7 Kg/year of CO<sub>2</sub> emissions reduced



## Kenya – Kisegi Demo-site outcomes



### Solar PV hub with battery banks

- 1163 Kg/year of CO<sub>2</sub> emissions reduced



### Jobs created (combined with Katito)

- 6 direct jobs



### Solar Fishing lanterns

- 304 119 Kg/year of CO<sub>2</sub> emissions reduced.
- 30 users



### Gender balance

- 20% of solar fishing lanterns users are women
- 96% of users of solar cold room are women



### Solar cold room

- 4000+ Kg of fresh products stored
- 187 local fresh products vendors benefited
- 135 Kg/year of CO<sub>2</sub> emissions reduced



### Solar water ATM

- 21 Kg/year of CO<sub>2</sub> emissions reduced



### Clean water provision

- 900 000+ L of clean water (combined with Katito)

NOTE: Reported CO<sub>2</sub> emissions represent Scope 2 (indirect) emissions



## Ghana Living Lab (Kumasi) outcomes



### Clean cooking & waste utilization

- 62 238 Kg/year of CO<sub>2</sub> emissions reduced
- over 12 454 ha local deforestation avoided through reuse of waste products

## Ghana Living Lab (Berdaabuo, Kwamedwaa, Beposo) outcomes



### Rural electrification & productive use

- 51 815 Kg/year of CO<sub>2</sub> emissions reduced
- 12 050 tons of lithium-ion batteries repurposed
- 82 subscribers to the micro-grids
- 554% increase in income



### Capacity Building & Skills Development (combining both Living labs)

- 189 participants engaged
- 300 participants trained on solar PV installation
- New BSc Renewable Energy programme developed



### Jobs created

- 24 direct jobs created, 33% held by women
- 30 indirect jobs in waste collection, 33% held by women

## Malawi Living Lab (Mchinji) outcomes



### MIG BioCooker (solar PV/power bank) & Briquette Production

- 20 MIG BioCookers distributed to 20 households
- Cooking time reduced by 50% on average
- 778 Kg/year of CO<sub>2</sub> emissions reduced
- 24.3 Kg/year of PM2.5 emissions reduced
- 10 selling agents, 100 customers



### Capacity Building & Skills Development

- 5041 participants engaged, 74% female
- 23 people trained

## Malawi Living Lab (Karonga) outcomes



### Solar-powered irrigation

- 3564 Kg/year of CO<sub>2</sub> emissions reduced
- 25 solar-powered irrigation systems deployed
- 101 new customers
- 46 Karonga Smallholder farmers trained, 40% female
- 11.85% economic growth



### Capacity Building & Skills Development

- 46 participants engaged
- 1 person trained



### Jobs created

- 11 direct jobs (combining both living labs)

NOTE: Reported CO<sub>2</sub> emissions represent Scope 2 (indirect) emissions

## Morocco Living Labs (Marrakesh, Casablanca, Agadir, Fez, Benguerir) outcomes



### Electric scooters

- 40 pieces deployed
- 42 535 Kg of CO<sub>2</sub> emissions avoided
- 600 users
- over 30% of users utilized the e-scooters daily



### Accessibility

- Subsidized e-scooters for female students at roughly 25% of the original price in Marrakesh



### Gender Balance

- 40% female and 60% male utilization



### Capacity Building & Skills Development

- 100+ participants trained



### Jobs created:

- 5 direct jobs

## Morocco Living Labs (Benguerir) outcomes



### Solar PV systems for productive and households use

- 2502 Kg/year CO<sub>2</sub> emissions reduced by replacing diesel pump
- 22 167 Kg/year, replacing grid power
- 100 users received access to electricity



### Capacity Building & Skills Development

- 15+ community member trained

## South Africa Living Lab (Alicedale) outcomes



### Micro-utility EV

- 1434 Kg/year CO<sub>2</sub> emissions reduced
- 457 trips done



### Coverage

- 10 738 km of cleaner mobility



### Capacity Building & Skills Development

- 85 participants engaged in capacity building activities



### Solar off-grid containerized hub for productive use

- 20 kWp PV canopy system integrated with 30.6 kWh of second-life EV batteries deployed
- 4462 Kg/year of CO<sub>2</sub> emissions reduced
- 218.8 Kg of e-waste avoided
- 642 customers



### Jobs created

- 5 direct jobs

NOTE: Reported CO<sub>2</sub> emissions represent Scope 2 (indirect) emissions

