

Smart Solutions for Africa - SESA

SESA is a Research and Innovation Action project funded by the EU Framework Programme Horizon 2020.



SESA Objective

To mitigate climate change and avoid lock-in situations while improving access to sustainable energy under affordable, reliable conditions.

• With a **cross-sectoral**, **interdisciplinary** and **collaborative** approach SESA will harness the potential, and the existing opportunities present on the African continent - such as the highest solar irradiation in the world and combine them with **technical** and **financial innovations** to support the development of leapfrogging sustainable energy solutions substituting fossil-fuel-based energy.

• SESA will help provide access to reliable, efficient and sustainable energy services for all, by creating business opportunities and developing affordable solutions.



Actions based on four pillars







SESA in practice

- The co-developed **demonstration** actions will be initially tested in the Kenya living lab
- Various aspects of the tested innovations will be **validated** in living labs in different socio-economic operating environments in Ghana, South Africa, Malawi and Morocco.
- The learning from the validation living labs will strengthen the applicability and replicability of the technologies as well as the basic business concepts.
- The **replication** process in four additional partner countries: Namibia, Nigeria, Rwanda and Tanzania



INDICATORS OF SUCCESS





SESA Work Packages

| WP No. | WP Title |
|--------|---|
| WP1 | Toolbox and evaluation |
| WP2 | Capacity building, city-to-city cooperation, and professional development |
| WP3 | Technical and business partnerships, models and implementation plans |
| WP4 | Comparative demonstration and replication actions |
| WP5 | Scale-up, bankability, commercialisation, and Institutionalisation |
| WP6 | Exploitation and Dissemination |
| WP7 | Project coordination and Management |
| WP8 | Ethics |
| WP9 | Ethics requirements |



Living labs

Co-developed Living Lab

Demo Title:

Sustainable energy access through Solar PV Hubs and development of productive user cases to strengthen the Lake Victoria Economy and livelihoods - Western Kenya (Rural- Homabay, Urban- Kisumu)

Validation

Demo Title:

Development of renewable energy systems (Biogas for cooking and solar energy for lighting) in Second Cycle Educational Institutions in Ghana - *Ga North Municipal Assembly (urban) and Atwima Nwabiagya Municipal Assembly (rural)*

Demo Title:

BioCooker-A circular energy solution for clean cooking, clean water and agriculture in *rural areas, Malawi*

Demo Title:

Li-ion batteries as energy storage for solar energy and electric mobility in *Marrakech, Morocco*

<u>Demo Title:</u> Second-life Electric Vehicle (EV) batteries for solar energy storage -*Alicedale, South Africa*





Replication

Demo Title:

Introduce unconventional alternatives of energy systems considering the economical, social and ecological contexts of under-resourced rural sites in *remote Namibia*,

Demo Title:

Mobile solar water pumps for irrigation and Productive use of energy for livelihood support alongside InfoSpots, deployed at community centres in both the *rural and urban regions of Tanzania*.

Demo Title:

Solar irrigation and solar mini-grids including second life EV batteries adapted to the socio-economic conditions in *Rwanda*

<u>Demo Title:</u> **Solar irrigation and test the leasing of Power packs** to increase viability of solar mini-grids in *rural Northern communities in Nigeria*



THANK YOU

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