

Improving Energy Access and Livelihoods through Mini-Grids

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Workshop on Mainstreaming and Implementing the Water-Energy-Nexus for Sustainable Development in the African Region



SACREEE

SADC CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY



Presentation Outlines and Key questions

Outline

- About SACREEE
- The SACREEE Nexus Approach
- Project activities and Implementing partners
- Link to Gender and Energy
- UNIDO NEXUS program

Key questions

- What are the challenges in mainstreaming and implementing water and energy nexus in Southern Africa region?
- What are important factors to tackle with these challenges to ensure water and energy nexus in the region?
- How does the SACREEE NEXUS approach stimulate economic development



SACREEE – THE SADC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY

- SACREEE was established in 2015 by the **SADC Energy Ministers** and endorsed by 35th SADC Council of Ministers Meeting -Decision 61 with a mandate to promote
 - increased access to modern energy services
 - improved energy security across the SADC Regionthrough the promotion of market based adoption of renewable energy and energy efficient technologies and energy services.
- In 2017, SADC Energy Ministers mandated SACREEE to support SADC Secretariat in monitoring the implementation of the **Regional Renewable Energy and Energy Efficiency Strategy and Action Plan (REEESAP)**.
- SACREEE is established on a sustainable basis through Member States contributions, Donor funding and cost recovery from services offered to projects.

Partnerships are key! The SACREEE core supporters



CENTRE FOR



AUSTRIAN
DEVELOPMENT
COOPERATION

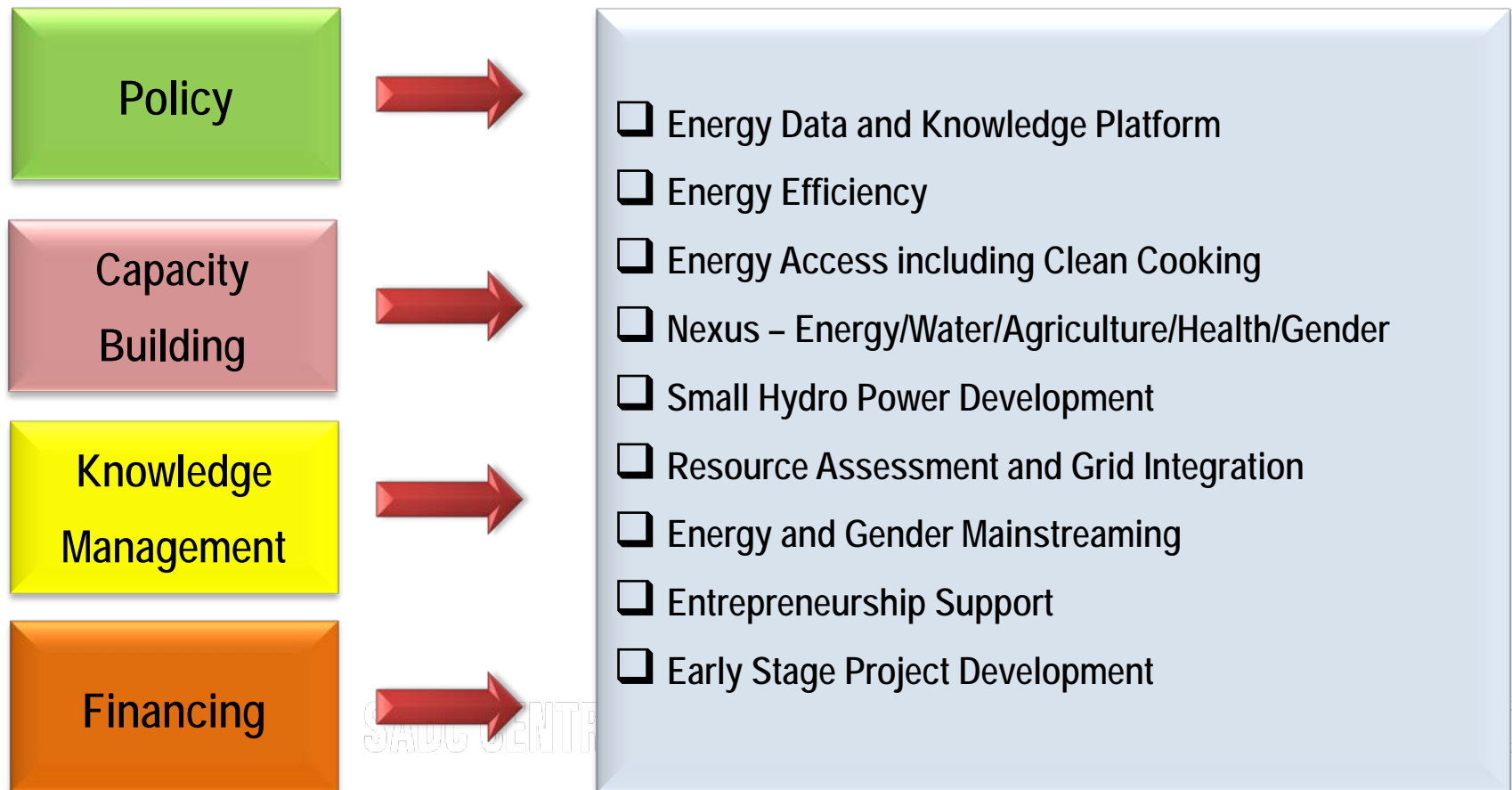


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SHORT-TO-MEDIUM TERM SACREEE FOCUS AREAS



Programs under implementation

SADC Renewable Energy Entrepreneurship Support Facility – with IRENA

Renewable Energy Resource Assessment and Zoning study for the Africa Clean Energy Corridor (ACEC) – with IRENA, SAPP and RERA

SADC Program on Gender and Sustainable Energy – with NREL

Development of the SADC Industrial Energy Efficiency Programme (SIEEP) – with EU TAF

SADC regional EE lighting and appliances initiative – with UNIDO and Sida

Regional Status Report on Renewable Energy and Energy Efficiency – with UNIDO and REN 21

SACREEE is partner in the Global Network of Regional Sustainable Energy Centers (GN-SEC) – coordinated by UNIDO





SACREEE with us...
...for regional coordination

**SACREEE NEXUS Approach - Improving Energy
Access and Livelihoods through Mini-Grids**



The SADC Water, Energy and Food Security Nexus Dialogue Programme

- To enhance coordination in planning amongst the sectors
- To facilitate a nexus framework that would assist in prioritising nexus investment in the region
- Phase 1 (from 2015 to 2018): development of a Regional Nexus Framework, and identification of Nexus projects
- Phase II(2019 to 2022): implementation of identified nexus projects.

collaboration with the Global Water Partnership

More information on the SADC program → [HERE](#)

A Water-Energy-Food (WEF) Working Group is currently formalised, comprising Directorates responsible for Water, Energy, Food Security and Industrialisation at the Secretariat in order to drive coordination – will report annually to respective sectoral Ministers.

The SACREEE NEXUS project directly contributes to the implementation of the nexus framework of SADC.



SACREEE Program on ENERGY- AGRICULTURE-WATER-FOOD NEXUS

Objectives of the Program

1. To promote an **integrated energy–water-food nexus** approach to **energy access** through renewable energy powered and well managed mini-grids;
2. To improve livelihoods and contribute to the attainment of SDGs in remote communities in the SADC Region through pilot projects, and,
3. To establish links with other agencies dealing with energy, water and food nexus including health.



Partners

DFID, SADC Water Desk, Rural
Electrification Agencies



The approach



Identification of
Project Sites



Piloting of Nexus
Projects on the
Sites



SADC wide
prioritization of
NEXUS
investment
projects



Policy discourse
on NEXUS and its
adoption

- Institutionalisation of
sectoral decision
making and planning



Project Activities – Focus areas

- The activities are centred around **4 focus areas**:

Integration of renewable energy and water supply technologies

Creation of sustainable management structures

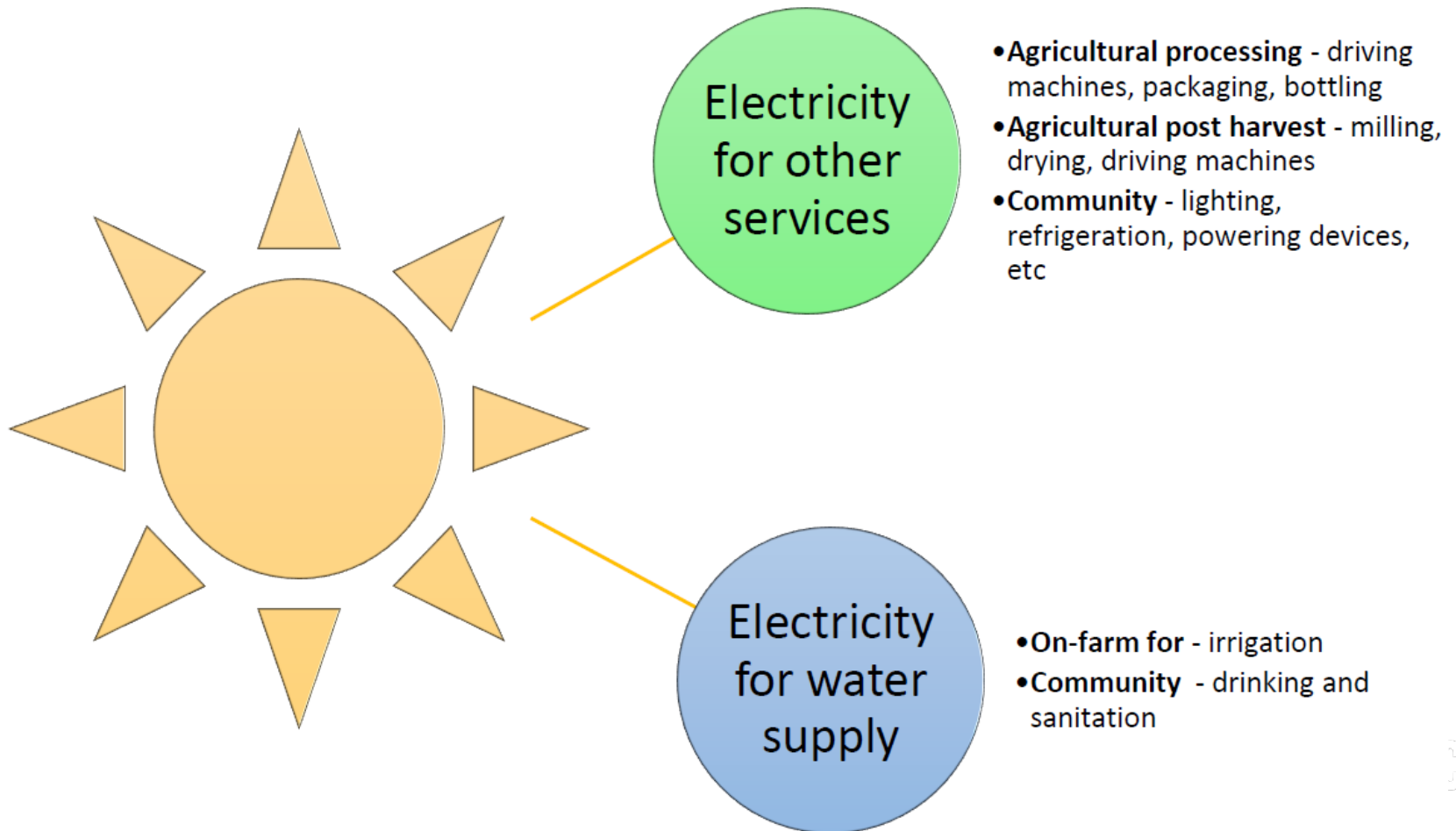
Creation of sustainable value chains of agricultural produce to markets

Institutionalisation of cross-sectoral decision making and planning at SADC level

EFFICIENCY



Project Activities - Mini-grids for livelihood development



Project Activities

- **Piloting phase:**
 1. Identify remote agricultural based communities (smallholder farmers) without access to energy and perennial water, one each in Madagascar, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe.
 2. Identify energy resources (small hydro, solar or wind energy) that will power the mini-grids.
 3. Design and build mini-grids (energy generation and distribution).
 4. Design and build irrigation systems.
 5. Design and empower management structures for both mini-grids and irrigation systems.
 6. Identify and strengthen value chains of produce to markets for the agricultural projects.
- **Long – term:**
 - Institutionalise the energy-water-food nexus planning and decision making process at SADC level
- **Estimated budget for the pilot phase: (6 sites *\$900,000 = \$5.4 million)**

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SELECTION CRITERIA FOR PILOT PROJECTS

- Phase 1: pilot projects in 6 countries;
- They have been selected based on having Rural Electrification Agencies and Energy Institutes involved with energy access
- Partnerships have already been discussed with these institutions

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Expected outcomes

- Increased access to clean and affordable renewable energy
- Increased access to clean water services
- Increased agricultural productivity due to access to irrigation facilities
- Improved livelihoods as a result of increased agricultural outputs, markets and incomes
- Cross-sectoral planning and decision making adopted and applied in infrastructure provision

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Strong linkages to the SADC PROGRAM ON GENDER AND SUSTAINABLE ENERGY

Objectives of the Program

The program contributes towards increased access to modern, affordable, and reliable energy services, energy security and environmental sustainability by tailoring national and regional policies, projects and programs to the energy needs of men and women.

Specific objectives:

1. Steer and support the development of gender-sensitive policies & strategies.
2. Improve knowledge management, awareness creation and advocacy on gender and energy issues
3. Build and strengthen capacities in gender mainstreaming in energy policies and projects
4. Implement gender-responsive investment and business promotion in sustainable energy development in the SADC region

Partners

NREL, UNEP's Africa Women Energy Entrepreneurs Framework (AWEEF)



THE GLOBAL NETWORK OF REGIONAL SUSTAINABLE ENERGY CENTERS (GN-SEC)

Joint meeting of all African Regional Sustainable Centres took place at the COP23 in 2017 in Bonn on the NEXUS topic



Joint NEXUS position paper has been agreed





UNIDO | IIASA | GEF PROJECT



INTEGRATED SOLUTIONS FOR WATER, ENERGY and LAND (ISWEL)

Project outputs

- **Tools and databases** with open access (such as scenario exploration, projections on water, energy and land use requirements), identifying synergies and tradeoffs
- Menus of **possible solutions** (context specific) to achieve Water_Energy_Food security within the context of sustainability and associated investments
- Resources to support **capacity strengthening** both within global and regional case studies in universities, ministries, transboundary organisations and financing institutions, and
- Cutting edge **scientific publications** (peer reviewed evidence) and associated 'digestible' communications
- **Technical Cooperation** (spin-off) **Projects** applying the Integrated Water-Energy-Land methodology (Cabo-Verde, South Africa, etc).





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