



Proposed SADC  
Centre for Renewable  
Energy & Energy  
Efficiency (SACREEE)



**SACREER** – For increased access to modern energy services and improved energy security across the SADC Region through promotion of market based adoption of renewable energy and energy efficient technologies and energy services

## SUSTAINABLE ENERGY AND SOCIO-ECONOMIC DEVELOPMENT IN SADC

Access and efficient use of modern energy drives economic growth by improving standards of living and industrial productivity, thereby providing the basis for social and economic development for all.

The current impressive GDP economic growth rates in the Southern African Development Community (SADC) Region, averaging 5% over the last ten years, is already outpacing the development of energy services, which is growing at an average of only 3% annually over the same period.

The lack of a consistent supply of cost-effective energy is holding back the socio-economic development prospects of the Region. New investments in energy intensive industries such as mining and manufacturing can only be commissioned if there is proof of energy source.

The average population growth within the SADC is nearly 2%. Across the Region, less than a quarter of the population has access to grid-based electricity, while the use of traditional biomass, mainly firewood comprises about 37% of the total energy used for cooking and space-heating contributing substantially to local deforestation and, subsequently, to climate change. Chronic respiratory diseases caused by indoor air pollution lead to loss of life, especially that of women, who do most of the cooking, and children, who remain indoors for a lot of time.

## TOWARDS A COMMON AND SUSTAINABLE ENERGY MARKET

The establishment of SADC Centre for Renewable Energy and Energy Efficiency (SACREER) is premised on the broadly agreed principle of promoting regional cooperation in the energy sector as captured in the SADC Protocol on Energy (1996) and subsequent policy decisions related to the subject. Leading from these principles is the fact that regional cooperation and integration is an effective way to address the energy challenges that obtain in the SADC Region. There is no doubt that the renewable energy and energy efficiency sectors can play crucial roles in increasing energy access and security across the SADC Region. In addition, these two technologies are still new to the Region that all stakeholders, including Member States (MS), the private sector, power utilities, regulators, etc. still need a substantial level of support to establish and operationalize a market environment to promote the adoption of these technologies across the Region as a whole and in individual SADC MS. SACREER will ultimately promote investment in Renewable Energy and Energy Efficiency sectors in SADC.



## RELEVANT SADC GOVERNANCE INSTRUMENTS



## BARRIERS AGAINST SUSTAINABLE ENERGY MARKETS IN SADC

POLICY AND REGULATION	TECHNICAL	CAPACITY	MARKETS, INFORMATION AND KNOWLEDGE	FINANCING
<ul style="list-style-type: none"> <li>• Energy policy developed in isolation leading to disharmony</li> <li>• Standards and labeling of equipment are not harmonized across the region to allow an integrated market</li> <li>• Need to integrate into the post-2015 Inclusive and Sustainable Industrial Development (ISID) agenda highlighting the importance of energy</li> </ul>	<ul style="list-style-type: none"> <li>• Weak and limited electricity grid infrastructure that limits possible grid connection of RE generated electricity</li> <li>• Knowledge and experience not shared across boundaries</li> <li>• Low local content of technology leading to high RE equipment maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>• Limited capacity and awareness of the technical and economic possibilities of RE/EE technologies and their applications</li> <li>• Low R&amp;D capacity and funding and little regional cooperation between R&amp;D institutions</li> <li>• Technical capacity for installation, and operation and management of RE systems is limited</li> <li>• Limited capacity to initiate, implement and manage Public-Private Partnership (PPP) projects effectively</li> <li>• Limited capacities to identify, develop, and implement innovative RE/EE projects</li> </ul>	<ul style="list-style-type: none"> <li>• Limited information on availability of RE resources on which to base decision to invest</li> <li>• Potential EE improvement technologies not widely known in the Region</li> <li>• Limited information on the social and environmental impacts and acceptability of the technology</li> <li>• Markets for RE/EE technologies and energy services fragmented along national boundaries</li> <li>• Lack of knowledge at vocational and university level</li> </ul>	<ul style="list-style-type: none"> <li>• Limited support available for bankable project preparation</li> <li>• Limited exposure of local Financial Institutions to RE/EE investment projects</li> <li>• Limited experience on special purpose soft loans for RE/EE projects for SMEs and low income sections of the population.</li> <li>• Perceived risky nature of the RE/EE projects</li> </ul>

## RE/EE INITIATIVES CURRENTLY IMPLEMENTED IN THE SADC

### SOLAR ENERGY



### BIOMASS ENERGY



### WIND ENERGY



### RE SOURCES



### BIOFUELS



### MINI-HYDRO



### GEOHERMAL





## SACREEE FOR RE/EE INTEGRATION IN SADC

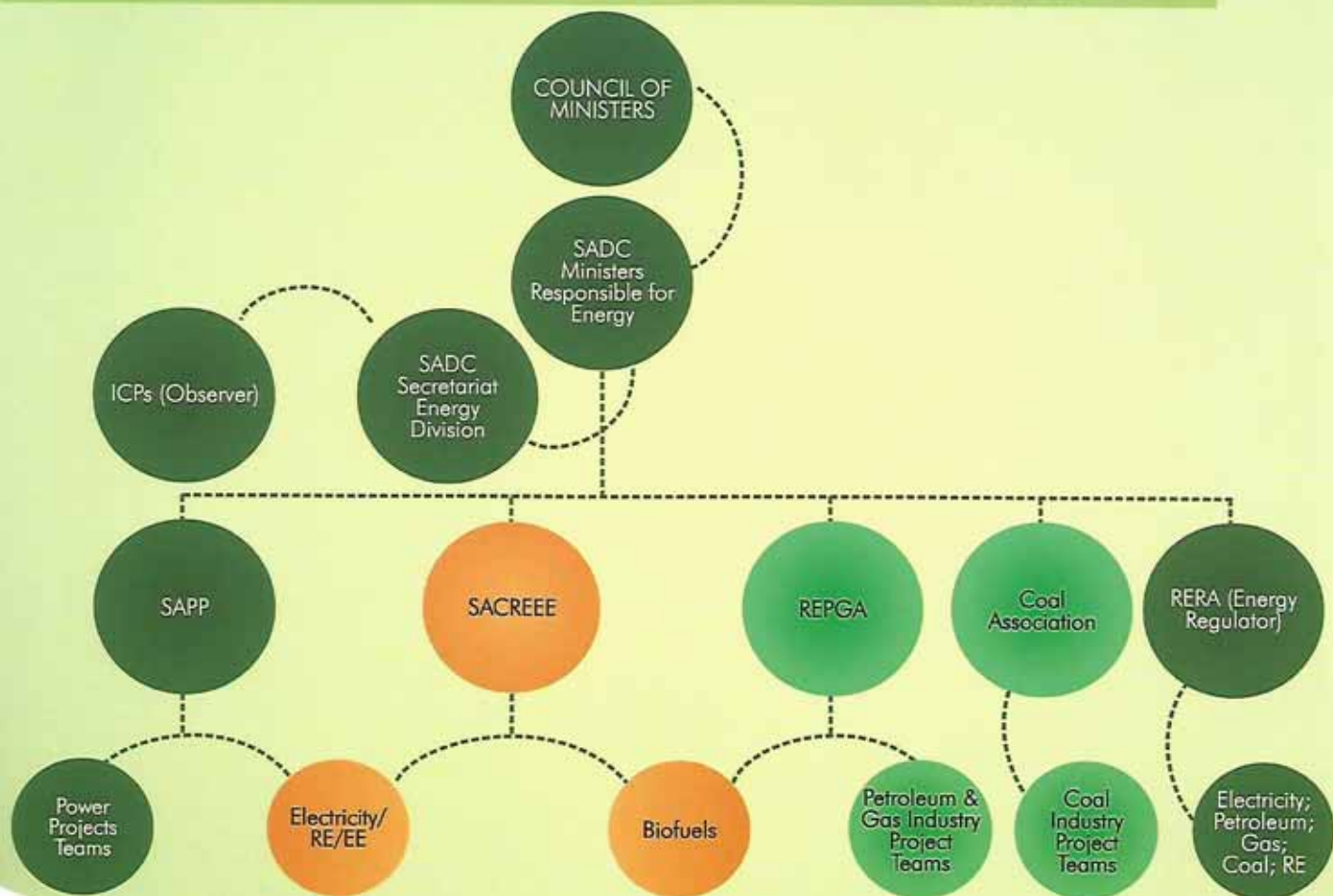
SACREEE is expected to address the challenges and barriers related to development and integration of RE/EE resources and technologies at regional level. This will contribute towards increasing access to modern energy services and improve energy security in the SADC.


The United Nations Industrial Development Organization (UNIDO) in conjunction with International Cooperation Partners (ICPs) led by Austrian Development Agency (ADA) is implementing a process to support SADC to operationalize SACREEE. Design process of SACREEE involved consultation of the MS compiling a Project Document (PD) that was validated by MS: in July 2013

SACREEE will be established as a *Specialist Institution* of SADC under the provisions of a *Subsidiarity Organization* guided by the particular instruments set out in the Guidelines Governing Relations between SADC and the Organizations Executing SADC Projects and Programs under the Principle of Subsidiarity.

The SACREEE Secretariat will be hosted by a selected National Focal Institution (NFI) of one of the Member States with whom the SADC Secretariat will sign a hosting agreement.

## PROPOSED SADC ORGANIZATIONAL STRUCTURE INCORPORATING SACREEE





## SACREE MANDATE, VISION AND MISSION

### VISION

Increase access to modern energy services and increase energy security by promoting the adoption of renewable energy and energy efficient technologies and energy services in SADC Member States, thereby supporting the Region's economic and social development in an environmentally benign manner.



### MANDATE

Support the achievements of the sustainable development objectives of SADC Member States by promoting the use of renewable energy and energy efficiency technologies and energy services.

### MISSION

Promote market-based adoption of renewable energy and energy efficiency technologies and energy services in SADC Member States thereby supporting the Region's sustainable development objectives through: resource mobilisation, policy, quality assurance, capacity building and knowledge management, communication, promoting investments in renewable energy and energy efficiency projects and programmes.

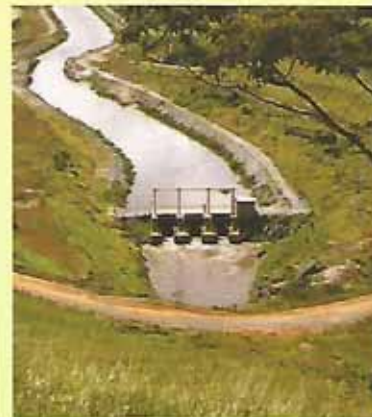
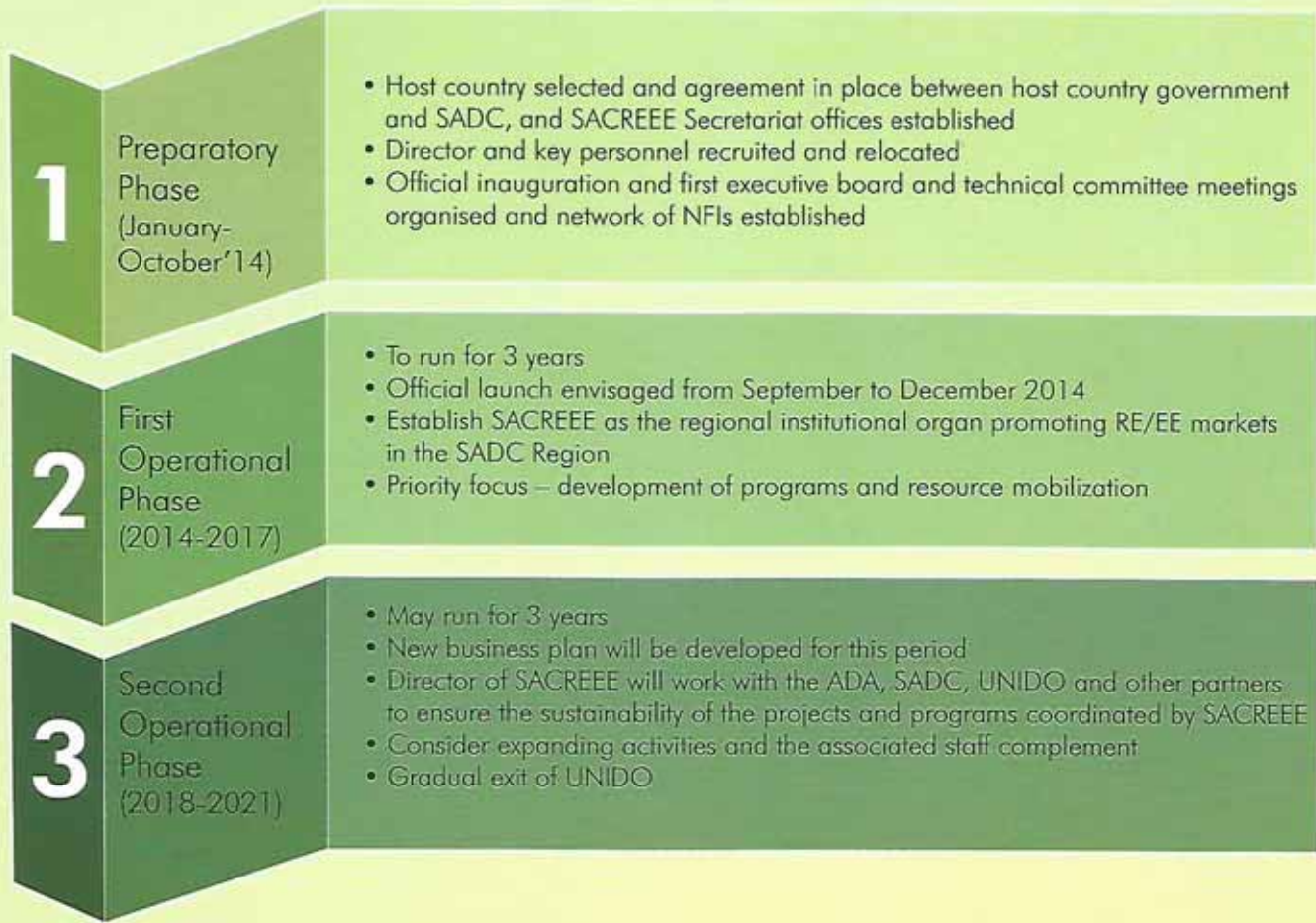
## BENEFITS OF RE/EE THROUGH A COORDINATED APPROACH TO MARKET DEVELOPMENT

The establishment of SACREE will:

- Create regional RE/EE markets, to form economies of scale, which will make the SADC Region more attractive to investors through the removal of certain barriers by introducing consistent policies and clear legislation as well as the promotion of potential quality projects and reliable contacts in the SADC Region.
- Enable the SADC Secretariat and MS to develop and execute energy policies more effectively using experiences from other regions and countries;
- Formulate coherent SADC positions to be presented in international energy and climate policy processes, as well as lead the engagement of the Region in the post-2015 'United Nations' development negotiations;
- Work towards the reduction of barriers to the dissemination and usage of sustainable energy technologies with reference to regional knowledge exchange, capacity building and awareness raising on a wide range of key RE/EE market enablers;
- Cooperate with Southern African Power Pool (SAPP) and Regional Energy Regulators Association (RERA), particularly on the issue of RE grid integration and grid losses management;
- Contribute towards coordinating the relevant activities in the SADC and harmonise participation of ICPs in line with the Paris Declaration on Aid Effectiveness;
- Be responsible for the introduction and maintenance of effective regional minimum standards for RE/EE equipment or appliances harmonised to international (global) standards and best practice; and
- Valuable contribution to the nexus debate addressing water-energy-food issues.



## PHASES OF ESTABLISHMENT OF SACREEE

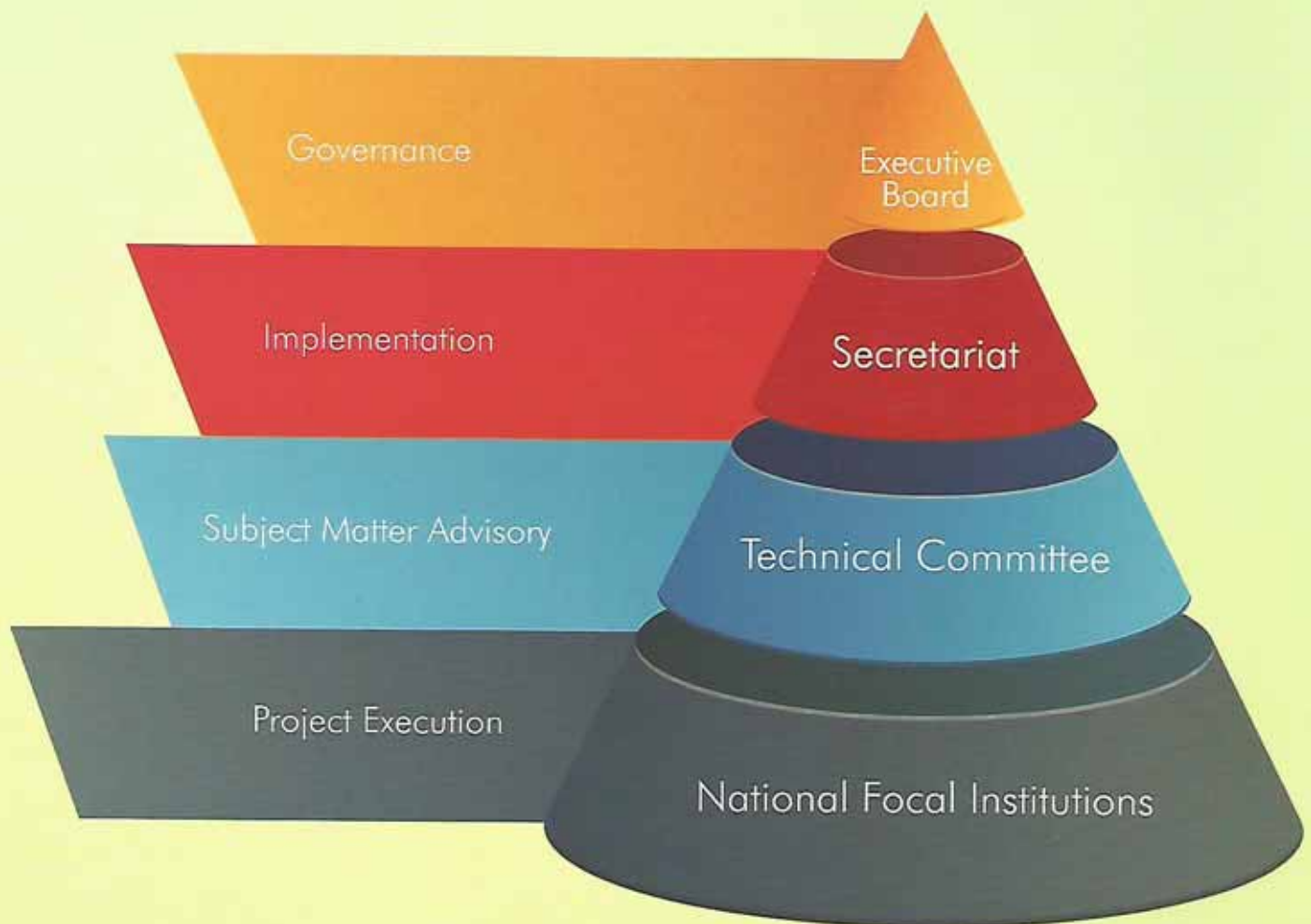




## SACREEE GOVERNANCE AND OPERATIONS

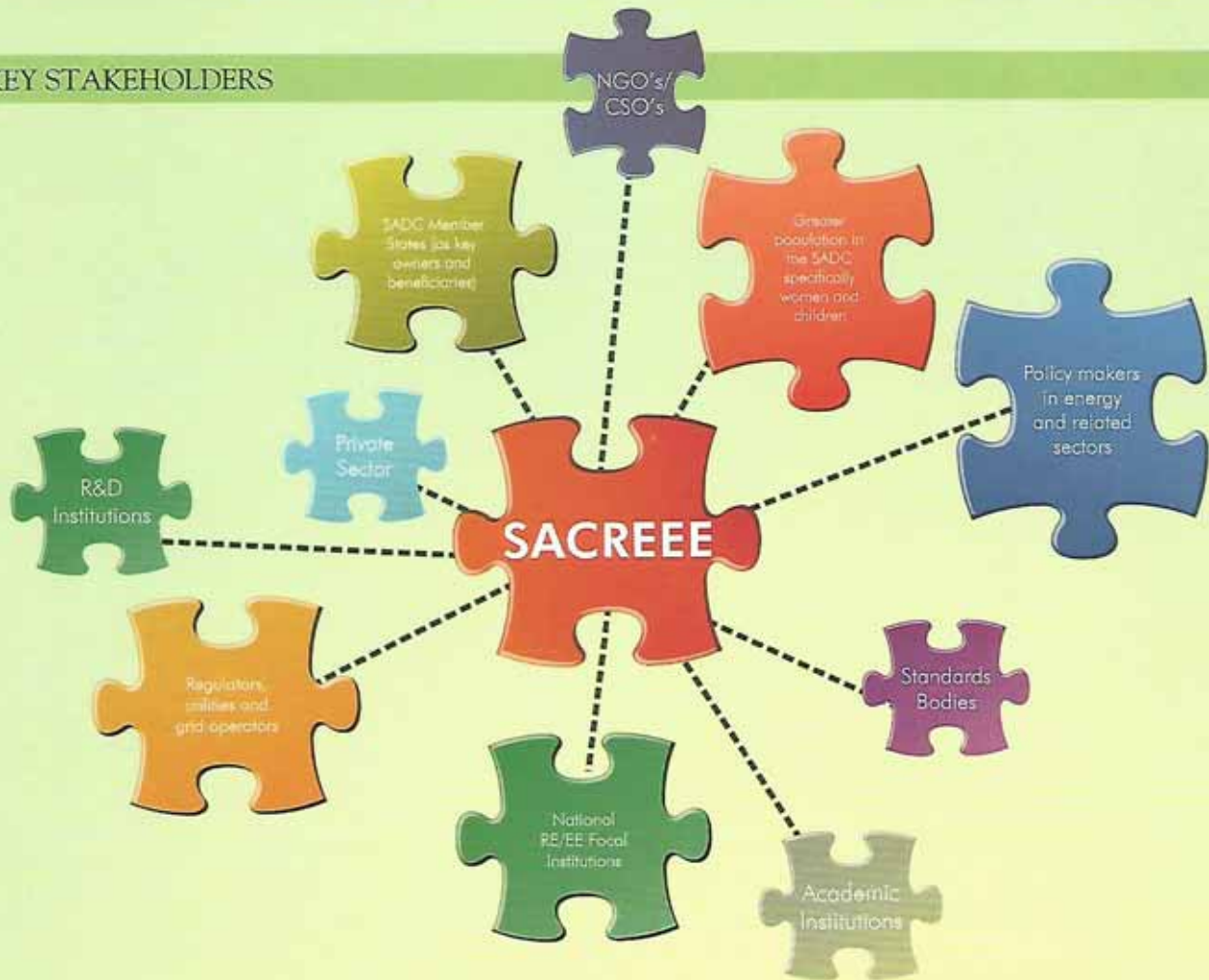
- SACREEE will be governed through an Executive Board (EB) constituted from various members as agreed by the MS.
- The content of SACREEE thematic areas will be guided by a Technical Committee (TC) of the EB.
- The management team of SACREEE will be headed by an Executive Director (ED) appointed by the EB.
- The management team will consist of various levels of staff to be employed and located at the SACREEE Secretariat complemented by consultants and seconded international staff as may be deemed necessary from time to time.
- The management team will implement and execute an approved annual budget and work-plan, respectively.

## PROPOSED SACREEE GOVERNANCE STRUCTURE AND RESPONSIBILITIES





## KEY STAKEHOLDERS



## SACREEE SCOPE OF WORK

SACREEE will be a Centre of Excellence and a Hub for RE/EE and Energy Services with the following features:

- Sustainable supply and demand for clean cooking fuels: efficient appliances, improved biomass cookers sustainable charcoal production and alternative fuels, including liquefied petroleum gas (as a relatively clean fuel)
- The scope of work of the Centre will include RE/EE technologies and services with the exception of nuclear and larger hydro power.
- Focus will be on software interventions that demonstrate high relevance for leveraging investments in RE/EE infrastructure, services, local businesses and industry.
- Will position itself more as a regional RE/EE promotion agency rather than an implementer at micro- and grass-root levels.
- The Centre will not compete with National Institutions, but support and coordinate their activities.
- Able to implement projects especially at the regional level, and also national projects at the request of MS (in case of absence of national entities, or for other strategic reasons).





## SACREEE MANDATE

### RENEWABLE ENERGY

- Grid-connected renewable energy resources including solar photovoltaic (PV), concentrated solar power (CSP), wind, biomass co-generation, hydropower up to 30 MW, biomass, biomass co-firing with coal: and geothermal;
- Off-grid renewable energy resources for mini-grids (including hybrids, e.g., renewable-diesel combination);
- Independent (decentralized) such as solar-PV based systems for household, small businesses, industry, and/or agricultural applications;
- RE applications for remote social services such as health centres, schools, community centers, water supply and sewerage treatment;
- Biofuels projects that prove to be sustainable with specific reference to second generation biofuels not competing with food crops for available land;
- Biogas (domestic and industrial scale): and waste to energy systems;
- Biomass for industrial electrical and thermal applications;
- Solar thermal systems for water heating for use in buildings as well for industrial process heat and cooling purposes; and
- Ocean related RE forms.



### ENERGY EFFICIENCY

- Adaptation of cleaner and more efficient technology systems for domestic cooking, space heating and lighting;
- Design, components and construction methods for improved energy efficiency buildings;
- Industrial heat applications (brick-making, lime, cement, agro-processing, food industry);
- Electricity generation, transmission and distribution, including demand-side management;
- Industrial processes (electric motors, furnaces, refrigeration, etc.);
- Domestic appliances and user behaviour awareness, e.g., regional appliance labelling system;
- Capacity building and demonstration on energy management system based on ISO 50001, and on energy system optimization, such as compressed air, pump, steam, fan, etc.;
- Adoption of ISO 50001, institutional capacity building for conformance certification;
- Capacity building and demonstration on EE implementation in energy intensive sub-sectors common to SADC;
- Advisory on national EE institution set up and EE policy; and
- Adoption of Cleantech principles and best practice in the localization of preferred RE/EE Technologies.



## PARTNERS FOR PREPARATORY AND FIRST PHASE

### SADC SECRETARIAT

- Empower SACREEE through recognizing it as an official agency of the SADC
- Active participation in the Executive Board of SACREEE
- Raise awareness of SACREEE and its activities in its relevant meetings and conferences

### SADC MEMBER STATES

- Are the key owners and beneficiaries of the activities of SACREEE and will have a stake in the continued operations and relevance of its activities
- Will be represented on the Executive Board (rotating membership)
- Nominate NFIs with a nominated individual contact person to facilitate access to networks of key practitioners and stakeholders in their own countries

### GOVERNMENT OF THE HOST COUNTRY

Will provide office space and furniture, communication and other logistical support for SACREEE

### AUSTRIAN DEVELOPMENT AGENCY

Will channel the funding through UNIDO as the key technical partner of SACREEE  
ADA may also second an expert to participate in the implementation of the project

### UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

- Facilitate the design of SACREEE
- Provide technical assistance to SACREEE to ensure quality delivery
- Provide in-kind contributions as shown in the budget
- Work towards sustainability of and the ability for SACREEE to receive direct funding from other donors "cost-recovery services offered"
- Assist with the development of new projects and programmes and mobilize resources
- Use its networks to assist SACREEE to establish partnerships with other international players so that SACREEE could leverage their expertise and technologies

### EUROPEAN UNION ENERGY INITIATIVE PARTNERSHIP DIALOGUE-FACILITY (EUEI-PDF)

Provided support to the Feasibility Study for the establishment of SACREEE under the Africa-EU Renewable Energy Cooperation Program (RECP) in the framework of the Africa-EU Energy Partnership (AEEP)

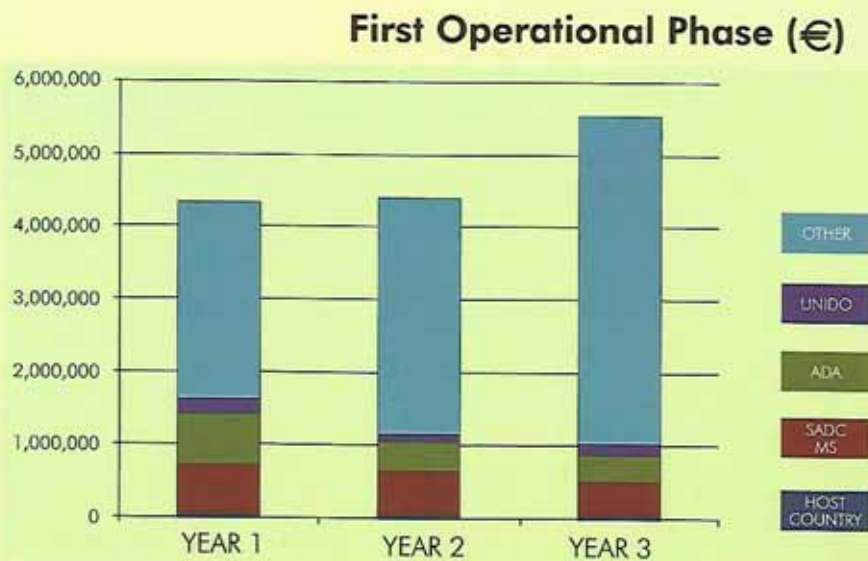
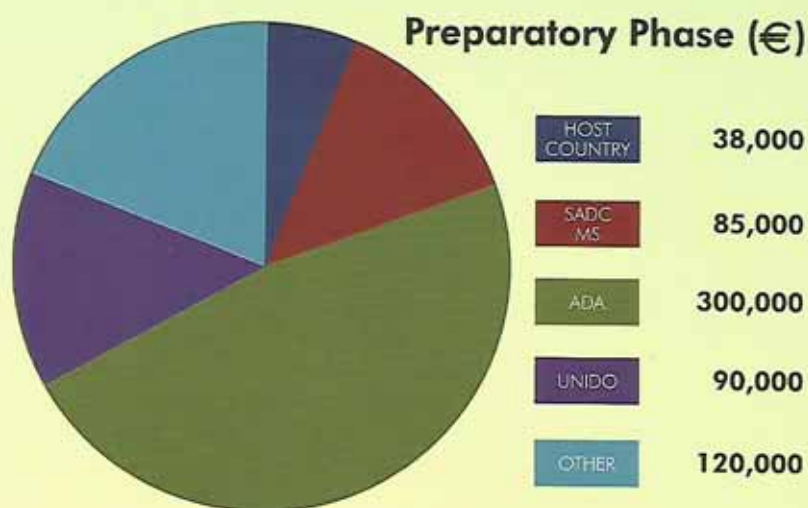




## OVERALL BUDGETARY REQUIREMENTS

The budget required for a fully operational SACREEE and the implementation of the technical programme is estimated as €14,938,000. This estimate covers the 6-8 months Preparatory Phase and the First Operational Phase of 36 months. The running cost of SACREEE for this period is estimated at €2,723,360. This amount is around 18% of the overall budget. The running cost includes staff costs, office costs and cost of the Executive Board and Technical Committee meetings. The budget required to implement the full technical programme as presented in the Project Document is €11,581,640.

## CURRENT AND PROJECTED SOURCES OF FUNDING





## SUSTAINING SACREEE

SACREEE will be established on a sustainable basis and the sources of support will be as follows:

- Cost recovery from services offered to projects.
- Donor funding
- MS contributions

## RESOURCE MOBILISATION

Resource mobilization will be a continuous and cross-cutting activity of SACREEE. The Centre will start with a core budget and streamlined structure commensurate with available resources.

The resource mobilization strategy of SACREEE will be strengthened by:

- Projecting SACREEE as an independent platform/body for all development partners to support regional projects in SADC;
- Integrating regional RE/EE projects and programmes into regular funding cycles of development partners like the European Development Fund, SE4ALL, etc.;
- Consistent and thorough awareness raising and communication of SACREEE activities;
- Engaging SADC MS in developing self-financed projects that SACREEE will manage but also engage MS as potential donors to projects and programmes;
- Consistently focusing on projects that are in the interest of SADC MS; and
- Projecting SACREEE as a service provider that can engage all stakeholders from SADC MS, the private sector, civil society, academia, etc. all in the interest of developing RE/EE in the Region.

## CONTACT DETAILS

For more information please contact:

### SADC:

Executive Secretary  
Private Bag 0095  
Gaborone, Botswana  
Tel: +267 3951 863  
Fax: +267 397 2848  
Attention: Mr Odala Matupa  
Email: [omatupa@sadc.int](mailto:omatupa@sadc.int)

### UNIDO HQ:

Mr Alois Posekufa Mhlanga  
Vienna International Centre  
P.O. Box 300  
1400 Vienna, Austria  
Tel: (+43-1) 260026 5169  
Email: [a.mhlanga@unido.org](mailto:a.mhlanga@unido.org)

### UNIDO REGIONAL OFFICE:

Mr Nokwazi Moyo  
77 Meintjies Street  
Sunnyside  
Pretoria  
0132  
South Africa  
Tel: +27 12 394 5544  
Email: [n.moyo@unido.org](mailto:n.moyo@unido.org)

