



SUSTAINABLE
ENERGY FOR ALL



Empowered lives.
Resilient nations.

Regional meeting on Sustainable Energy for LDCs

Implementation of SE4ALL initiative in Tanzania (2017-2022)

06 Dec 2016

Dr. Balasankari

UNDP Consultant

SE4ALL INITIATIVE FOR TANZANIA: Challenges

- ❖ Low electricity access (*<20% of population**)
- ❖ Inadequate capacity and awareness (*knowledge, skill and attitude*)
- ❖ Expensive technologies
- ❖ High poverty (*ranked 152nd out of 182 countries***)
- ❖ Availability of cheap and sub-standard products in the market



* Tanzania SE4ALL Action Agenda

** [https://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(PPP\)_per_capita](https://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)_per_capita)

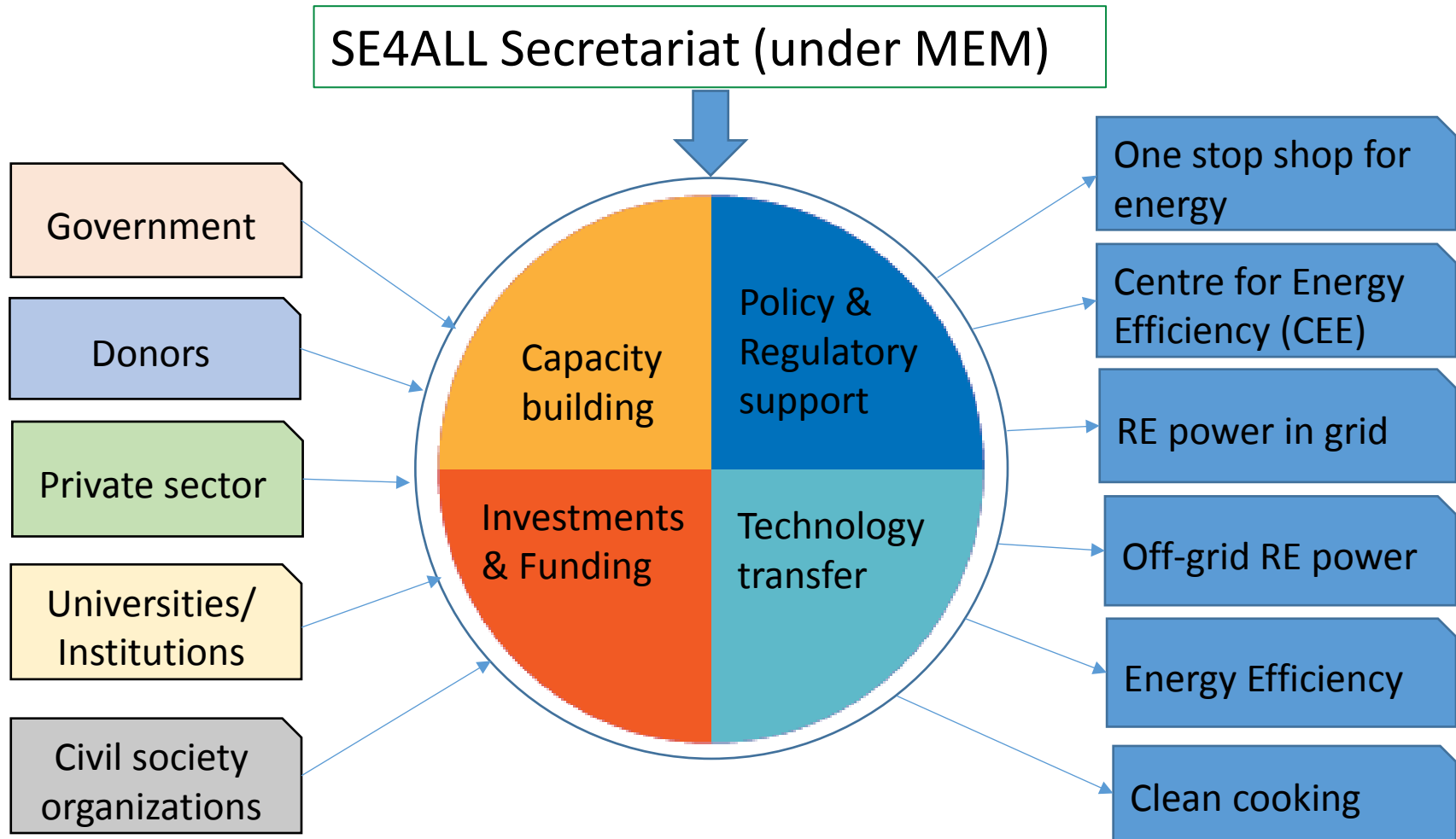
SE4ALL INITIATIVE FOR TANZANIA: Programme Strategy

- ❖ Human and institutional capacity development
- ❖ Improving policy and regulatory environment
- ❖ Promoting partnerships between public, private & international agencies
- ❖ Encouraging private sector to provide customized technical & business solutions
- ❖ Engaging CSOs and LGAs for grass root level reach



SE4ALL INITIATIVE FOR TANZANIA : SE4ALL Secretariat

“single umbrella structure”



SE4ALL INITIATIVE FOR TANZANIA : Programme Outputs



Capacity building & knowledge management



Policy & regulatory framework development



Scale up & roll outs with sustainability



Market development



Capacity building & Knowledge management

Key initiatives

- ❖ One stop shop for energy
- ❖ Quality assured trainings/certifications
- ❖ Centre for Energy Efficiency (CEE)

TENTATIVE INVESTMENT NEEDED: USD 9,000,000



Policy and regulatory framework development

Key initiatives

- ❖ Draft policies/regulations supporting RE, EE & alternative clean energy
 - *grid expansion and mini-grid installations*
 - *Tax exemptions for RE components*

- ❖ Quality standards and testing regulations
 - *Testing facilities solar PV, LEDs, modern cook stoves*

- ❖ Performance labelling programme under CEE
 - *Energy star labelling in product covers*

TENTATIVE INVESTMENT NEEDED: USD 7,500,000



Scale up and roll outs with sustainability

Key Sectors

- ❖ Increased electricity access through grid connected RE projects
 - ❖ Increased RE mini-grid projects
 - ❖ Decentralised electricity access through RE
 - ❖ Reduction in energy intensity through energy efficiency measures
 - ❖ Roll out of modern alternative clean cooking solutions (BLEN)
-

Scale up and roll outs with sustainability

Increased electricity access through grid connected RE projects

- Minimum of 10 MW grid connected RE power plant installations
- Efforts to reduce issues in synchronization related to RE based IPPs when connected to grid

TENTATIVE INVESTMENT NEEDED: USD 30,500,000



Scale up and roll outs with sustainability

Increased RE share in mini-grid

Technology	Capacity (MW)
Solar PV	5
Wind	5
Small hydro	19
Biomass	5
Total	34

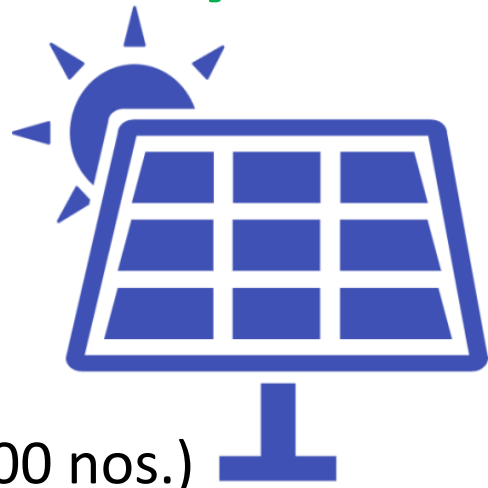


TENTATIVE INVESTMENT NEEDED: USD 87,600,000



Scale up and roll outs with sustainability

Decentralized electricity access through RE



- Promotion of SHSs (~ 200,000 nos.)
- Promotion of solar lanterns/Pico PV units (~ 200,000 nos.)
- Promotion of community biogas units (~6 MW thermal/electrical)



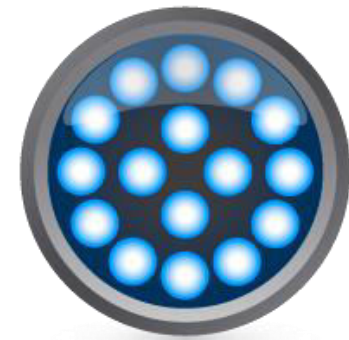
TENTATIVE INVESTMENT NEEDED: USD 66,500,000



Scale up and roll outs with sustainability

Reduction in energy intensity through energy efficiency measures

- Promotion of sustainable charcoal production in ~200,000 ha & ~200,000 ICSs retailed
- Promotion of LED/CFL (~200,000 nos)
- ~100 products tested and certified for energy performance rating
- Promotion of performance labelled products under CEE
- Approval of energy audit firms and conduct of energy audits in industries of designated consumers



TENTATIVE INVESTMENT NEEDED: USD 34,000,000



Scale up and roll outs with sustainability

Roll out of modern cooking solutions

- Roll out of household biogas digesters (~20,000 nos.)
- Roll out of LPG stoves (~200,000 nos.)
- Promotion of NG for cooking (~ 50,000 nos.)



TENTATIVE INVESTMENT NEEDED: USD 128,200,000



Market development

Promotion of RE industries

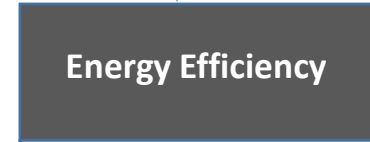
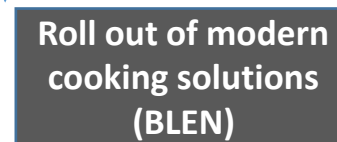
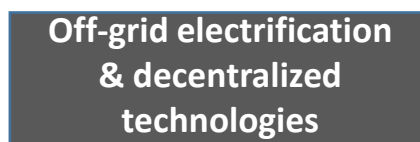
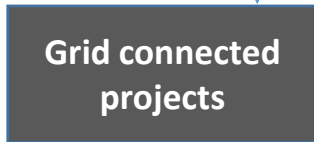
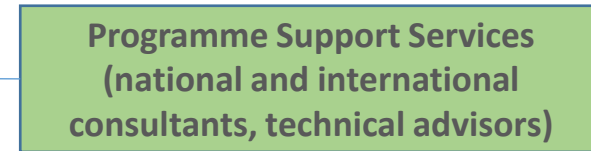
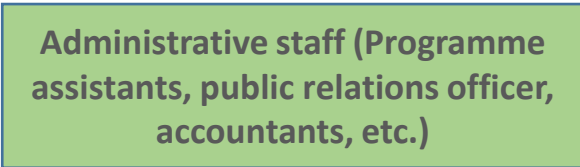
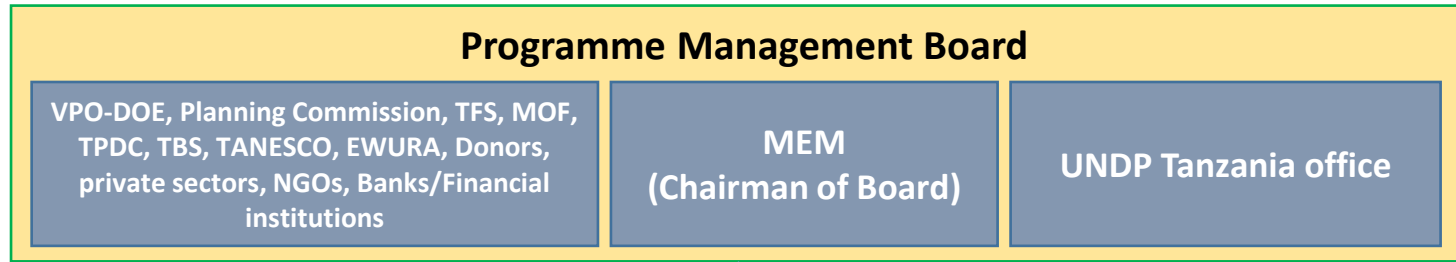


- Developing a part of planned EPZ at Bagamoyo under SE4ALL
- RE industries/businesses can use this opportunity to have business centres in EPZ area



TENTATIVE INVESTMENT NEEDED: USD 20,000,000

SE4ALL INITIATIVE FOR TANZANIA : Programme Management



- Ministries
- Universities
- RE institutes
- Banks/financial institutions
- Service providers
- Donors
- Equipment suppliers
- NGOS/CSOs

- TANESCO
- EWURA
- Banks/financial institutions
- Service providers
- Donors

- REA
- EWURA
- TANESCO
- Banks/financial institutions
- Donors
- RE institutes
- Project developers
- NGOs, CSOs
- Retailers & End-users

- REA
- EWURA
- Banks/financial institutions
- Donors
- RE institutes
- Project developers
- NGOs, CSOs
- Retailers & End-users

- Energy audit firms
- Designated consumers
- Product manufacturers
- Banks/financial institutions
- Donors
- RE institutes
- Project developers
- NGOs, CSOs
- Retailers & End-users

SE4ALL INITIATIVE FOR TANZANIA : Monitoring & Evaluation

- Quarterly reviews of project progress
- Annual Project Review/Project Implementation

Reports

- Visits to project sites, power plants and households
- Mid-Term Review
- End of project Evaluation



SE4ALL INITIATIVE FOR TANZANIA : Gender Mainstreaming

To ensure that both women and men are provided with equal opportunities to access, participate and benefit from the project

- Gender-sensitive recruitment at all possible levels
- Gender responsive TORs for consultants and experts.
- All decisions to consider gender dimensions.
- Promote participation of women in training activities, both at managerial and technical levels.



SE4ALL INITIATIVE FOR TANZANIA : Programme Beneficiaries

Output	Activities	Beneficiaries
Capacity building and knowledge management	<ul style="list-style-type: none">• Around 500 trainers trained cumulatively from all focus sectors*• Setting up of minimum 15 training centres cumulatively from all focus sectors	<ul style="list-style-type: none">• Trainings provided to at least 10 financial institutions• Minimum 10 NGOs/CSOs including 3 women development organizations• Minimum of 100 personnel from government ministries, departments, local body authorities• Minimum 3,000 personnel from private sector and interested entrepreneurs• Minimum 15,000 skilled labours/artisans

* Focus sectors – Solar PV, wind, hydro, small hydro, mini-grids, energy efficiency, lighting, charcoal production and use, modern cooking solutions

SE4ALL INITIATIVE FOR TANZANIA : Programme Beneficiaries

Output	Activities	Beneficiaries
Scale up & roll outs with sustainability	10 MW RE based grid power plants	~ 3,000 households
	34 MW RE based mini-grids	~ 15,000 households
	6 MW community biogas digesters	~ 10 municipal abattoirs
	200,000 SHSs retailed	~ 200,000 households
	200,000 solar lanterns retailed	~ 200,000 households
	500,000 LED/CFL lamps distributed	~ 50,000 households
	Conduct energy audit in industries and commercial buildings	~ 50 industries and commercial buildings
	Promotion of efficient and modern cooking solution	~ 800,000 households

SE4ALL INITIATIVE FOR TANZANIA : Additional Resources Required



International/local expert assistance

(for design of various project activities, resource assessment, feasibility study and business plan preparation, etc.)

Partnerships with international / regional / national agencies / institutes



Funds for programme initiation and implementation as grants, loans and investments

DISCUSSIONS





SUSTAINABLE
ENERGY FOR ALL

Thank You



SE4ALL INITIATIVE FOR TANZANIA : Focus sectors



Grid infrastructure development, rehabilitation and expansion

- *Grid connected solar/wind/hybrid/biomass power plants*
- *Proper synchronization of renewable energy power plants with the grid*



De-centralized renewable power generation

- *Mini-grids (solar, small hydro, wind, biomass, hybrids)*
- *Solar home systems (SHSs), solar lanterns, etc.*
- *Biogas based power generation*



SE4ALL INITIATIVE FOR TANZANIA : Focus sectors



Promotion of energy efficiency

- *Improved cook stoves (ICSs) for charcoal and wood*
- *Efficient lightings (CFLs, LEDs)*
- *Energy conservation in industries and commercial buildings*
- *Performance labelling of products*
- *Designated consumers*



Roll out of modern clean cooking solutions

- *Biogas, LPG, Ethanol, Natural gas (BLEN)*

