



Integrated approach to meet rural household energy needs of Ethiopia

EU-HoA-REC&N Energy Project How to replicate in the horn

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Outline

- **Overview of Household Energy baseline situation in Ethiopia: challenges**
- **About the EU_HoA-REC&N Energy Project in Ethiopia**
 - Objectives
 - Targets
- **Achievements so far**
- **How to replicate in the Horn**

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An Integrated Approach to Meet Rural
Household Energy Needs of Ethiopia



Overview of Household Energy baseline situation in Ethiopia

...challenges...

❖ Source of energy: traditional

1. **Biomass for cooking** [fuel wood, agricultural residue, charcoal and dung][92% of the country's energy consumption]
2. **kerosene for lighting**

❖ Consumption

- For household uses [100% rural, 88% country level]
- **Services: HH** Cooking, baking and Lighting (in homes)

❖ Efficiency: very low

- **Three stone open fire** [<10%]

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Fuel wood transportation



Fuel wood in the market



Traditional three stone stove for injera baking



Horn of Africa
Regional Environment
Centre and Network



---challenges---

Very scattered rural settlement

Decentralized approach
is a solution



The HoA-REC&N-EU Energy Project

Integrated Approach to Meet Rural Household Energy Needs of Ethiopia

ACP-EU Energy Facility



- 10th European Development Fund
- **Total eligible cost of the action**
 - [EUR] 3,258,877
- **Amount from the EU**
 - [EUR] 2,444,15875%
- **Amount contributed by HoA-REC and partners**
 - [EUR] 814,719.....25%
- **Total duration of the action: 48 months [2011-2015]**

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An Integrated Approach to Meet Rural Household Energy Needs of Ethiopia



Overall objective:

- To contribute to economic prosperity, social well-being, environmental sustainability through creating access to sustainable energy in the rural and peri-urban areas

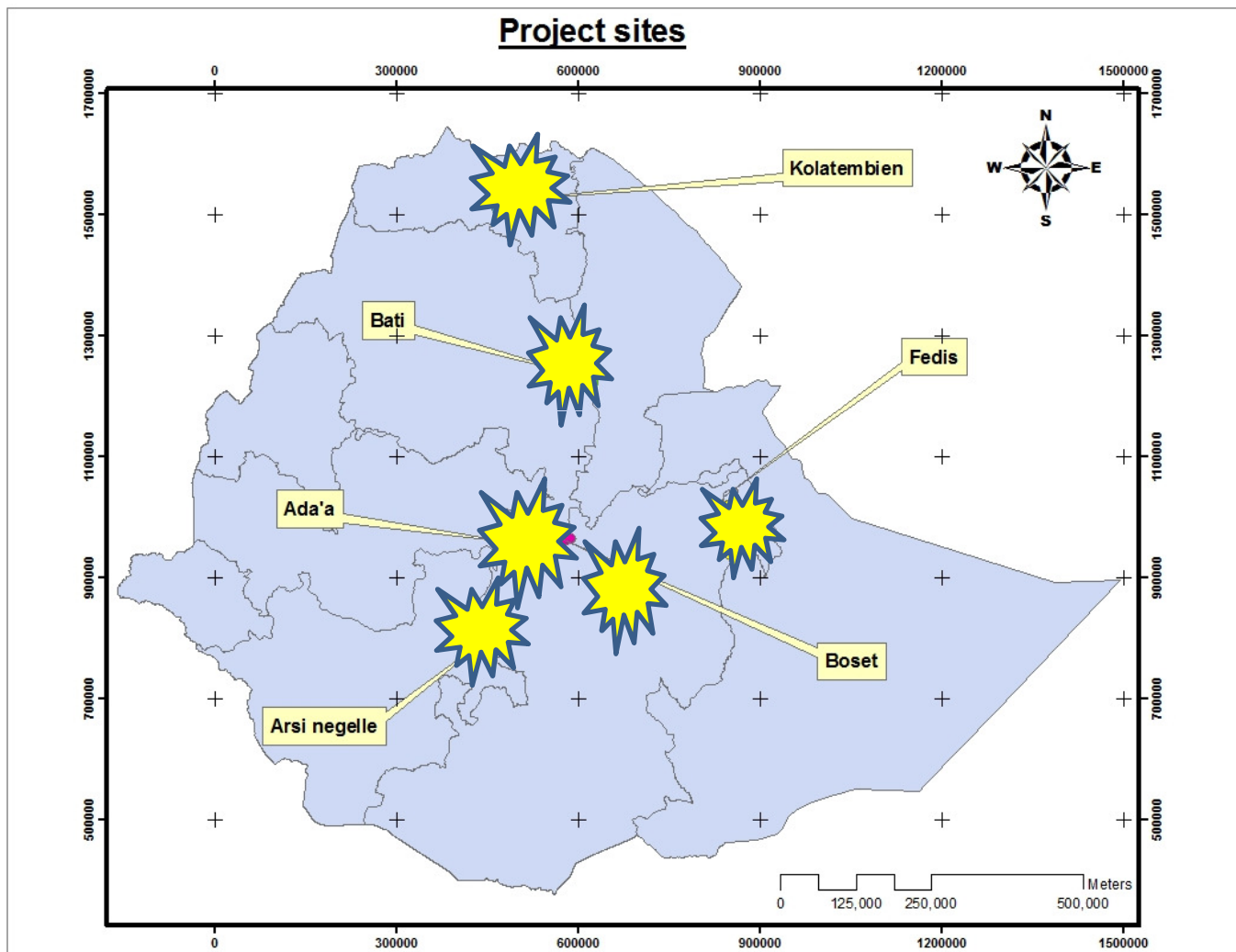
Specific objectives:

- 1. To increase access to appropriate renewable energy (RE) and Energy Efficiency Technologies (EETs) in the targeted areas
- 2. To enhance the capacity of the community and RETs enterprises
- **aimed at creating a sustainable market based clean energy project:**
 - provide rural off-grid households with affordable clean cooking and solar lighting

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Project sites



Access to alternative household energy technologies

Fuel shift
100% wood or kerosene
displacement

Efficient appliances
50% saving





• Target

- ❖ 10,000 households supplied with solar lighting and clean and efficient cooking appliances
- ❖ Construction of 20 RET centers in the rural off-grid areas
- ❖ Establishment 20 SMEs
- ❖ Capacitating the center enterprises
 - give training for 200 SMEs' members on FSS, biogas, solar PV, solar cookers, POC, business mgt,
 - equip the centers with production tools and transportation facilities
 - Assign one RE expert at each wereda/district
 - Train 50 DAs in the districts on renewable energy resources MGT
 - Facilitation of credit access [link to local MFIs]

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Decentralized approach: Achievements

RENEWABLE ENERGY
TECHNOLOGY CENTERS
20 RET centers



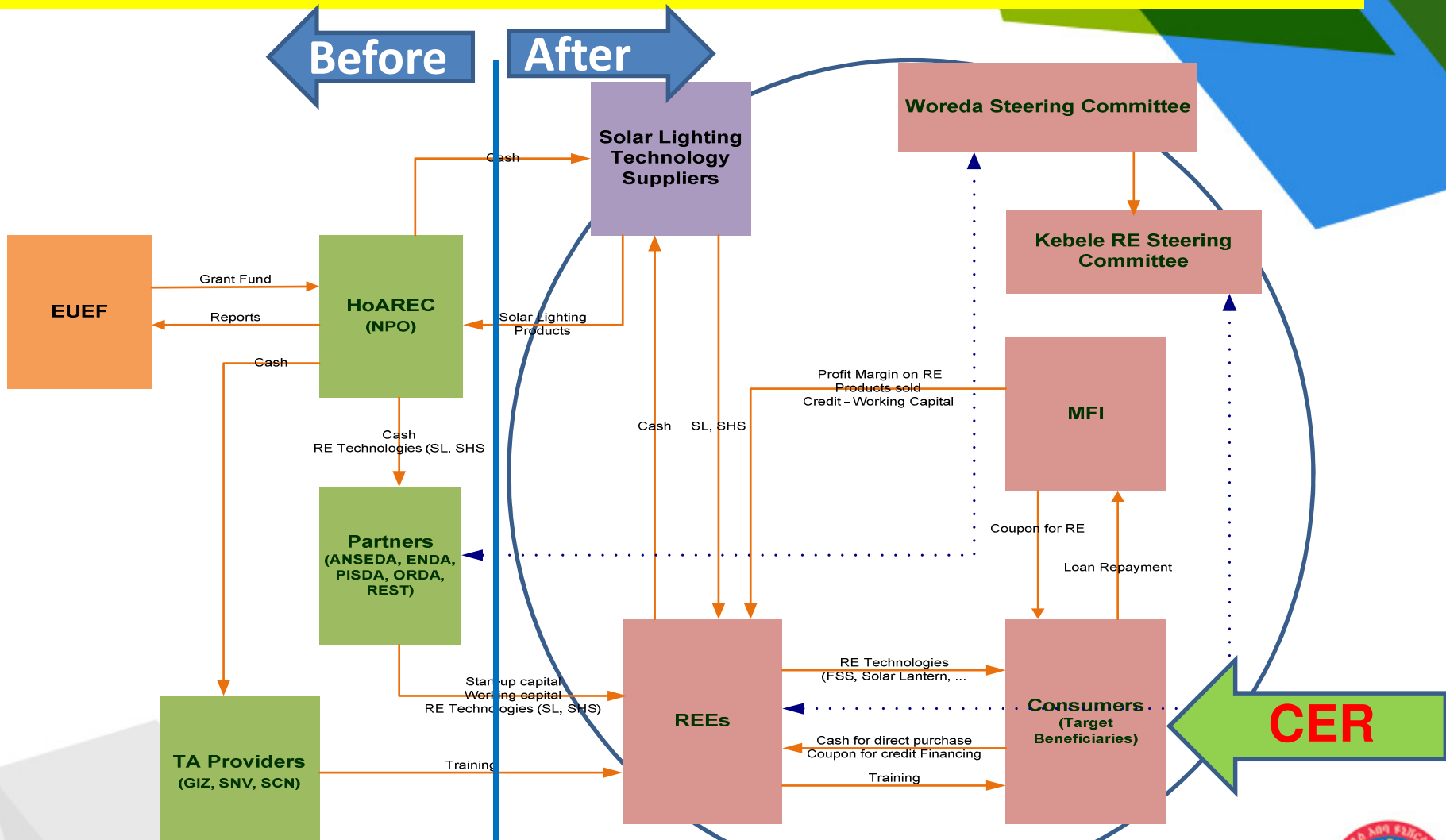
20 RET SMEs



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RET Business Model



Saving

- 10,000 households, considering FSS only

Baseline

- **3.6 tonnes of wood/y/HH**

10,000 stoves dissemination
50% saving

save

- **1.8 tonnes of wood/y/HH**
- **18,000 tonnes of wood/year in total**
- **450 ha of tree/year**
- **65,300tCO₂/year**
- **326,500USD/year CER**

- Reduction in Time/cost
- IAP

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9 Partners

4 Associates

Ministry of
Water and
Energy



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Oromiya Water,
Mineral &
Energy Bureau



*If we take care of the Earth,
the Earth will take care of us.*



Partnership with Other institutions

- **TERI –The Energy and Resource Institute-India**
- HoA-REC&N and TERI partnered in May 2012 to jointly implement a Clean Energy Access Program in Ethiopia with funding support from DFID
- aimed at creating a sustainable market based clean energy project:
 - provide rural households with affordable clean cooking and solar lighting
 - Will be implemented in line with HoA-REC&N/EU Energy Project and other similar projects ongoing in Ethiopia
- **Technical support on Standards, testing and benchmarks for improved cook stoves**
- **TERI has similar projects and partners in other countries in Africa: Kenya, Tanzania, Uganda, Sierra Leone, Ghana, Mozambique, Togo, Cape Verde, and other ECOWAS countries**

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TERI forced draft stove adopted in Ethiopia

40% efficiency



The original TERI stove imported from India



The HoAREC-TERI stove manufactured in Ethiopia



How to replicate in the Horn of Africa

- Required:
 - Respective country's
 - Household energy baseline document
 - Conducive policy environment from the government side and priorities
 - Track record of Energy related activities and practices
 - Assigned Energy experts
 - Selected sites
 - Co-applicants PADOR

Develop shared concept note and full proposal

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Thank you

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