

# *Clean Energy SMEs in Africa*

## *E+Co's path to scale via AREED*

GFSE,  
Vienna, 1 December 2006

- Services and Capital
- 135 clean energy enterprises
- 32 developing countries
  
- \$15+ million invested
- >\$135 million leveraged
- 8.4% portfolio return (ex costs)
  
- 3 million people served
- 2 million tons of CO<sub>2</sub> displaced
- 203,710 tons firewood displaced
  
- 9 Offices in Africa, Asia, Latin America, Europe, US

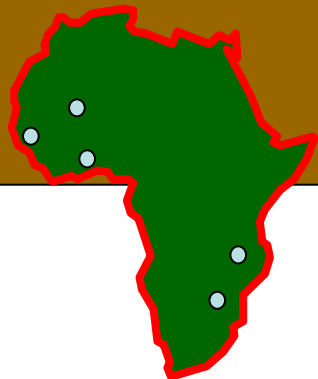


# E+Co Business Model

E+Co is **technology neutral** – technology must be appropriate, available and affordable to its end-users.

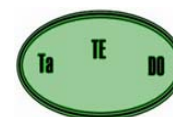
The **SME's Business Model** must be **appropriate** and **sustainable**, with **growth** and/or **replication** potential.

- Hydro
- Biomass
- Biogas
- Solar PV
- Natural Gas
- Solar Thermal
- Liquid Petroleum Gas
- Energy Efficiency
- Wind
- Cookstoves
- Biofuels



*Demonstrating that needed energy services can be delivered on a sustainable commercial basis by clean energy SMEs.*

- Enterprise Development Services (EDS) and seed capital to clean energy SMEs
- Capacitate local development organizations
- Engage local and regional financial institutions
- Capacitate local, regional and national governments to support private sector solutions
- Funded by United Nations Foundation via UNEP:
  - Grant-based Revolving Fund for Seed Capital
  - Operating budget for EDS and policy-work



## AREED Example Enterprises

### Usiss, Mali

- **Business:** Solar Crop Drying, Reduce Post Harvest Lost
- **Stage of Sector Dev.:** Very Early **proof of concept** phase
- **AREED Support:** \$19,665, 5 yr loan and enterprise development support
- **Status:** Operating. Repayments current.



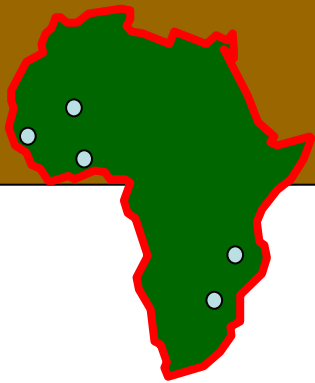
## AREED Example Enterprises

### Anasset, Ghana

- **Business:** LPG distribution for cooking to replace charcoal, kerosene, fuelwood
- **Stage of Sector Dev.:** replication phase
- **AREED Support:** \$38,000, 4 yr loan and enterprise development support from KITE and E+Co
- **Status:** Repayments current, expanding with bank financing.



## AREED Example Enterprises



### VEV, Senegal

- Repair and maintenance of wind powered water pumps for over 50 communities.
- Planned: manufacture wind water pumps.

### E+Co's role:

- Significant enterprise development support (EDS)
- Financing stock of spare parts and shorten repair-time.
- Extend credit to villages for immediate repair of pumps.



### VEV's Highlights

**E+Co Investment: US\$22,395**

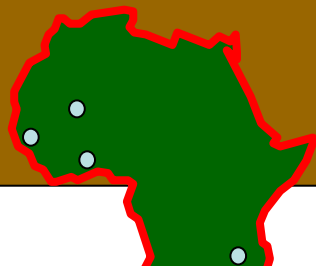
**Loan Terms: 5 Years**

**11% Interest Rate**

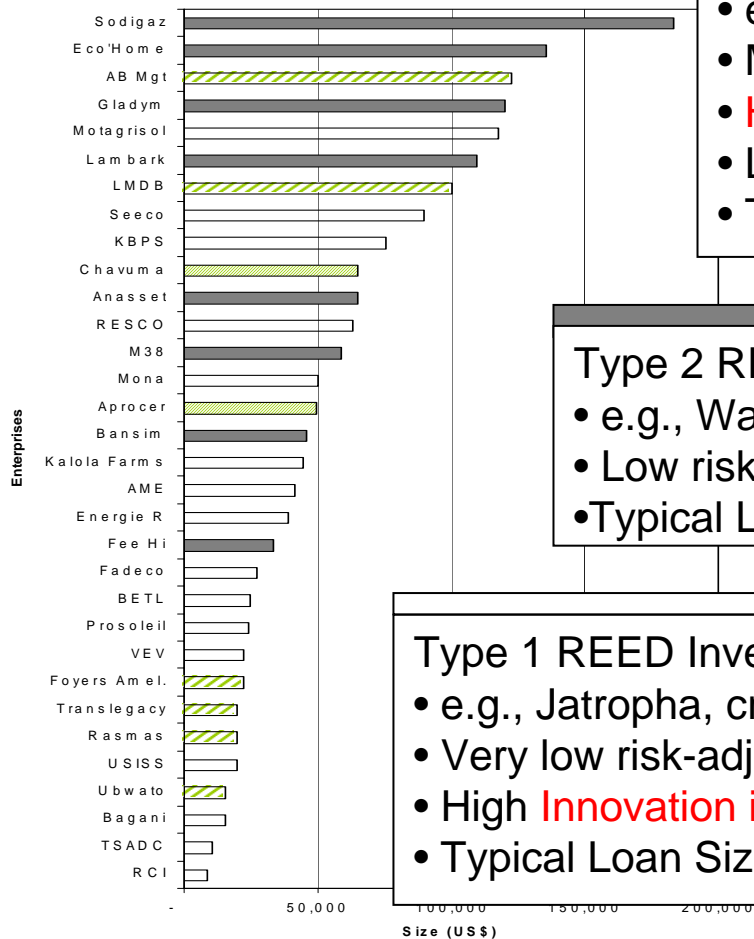
**Jobs Sustained: 13**

**Households with Water: 8,250**

# Segmenting the AREED Portfolio



AREED Investments 2000 - 2006



## Type 3 REED Investment: **Replication**

- e.g., Urban LPG, efficient lighting
- Moderate risk-adjusted returns
- **High direct impacts**
- Low Innovation impact
- Typical Loan Size: \$130,000

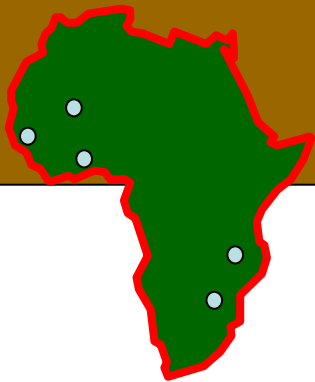
## Type 2 REED Investment: **Commercialization**

- e.g., Waste to energy, rural LPG
- Low risk-adjusted returns
- Typical Loan Size: \$70,000

## Type 1 REED Investment: **Proof of Concept**

- e.g., Jatropha, crop drying, PV mills
- Very low risk-adjusted returns.
- High **Innovation impact** on sector dev.
- Typical Loan Size: \$25,000

## Portfolio Observations



- **3% to 5%** Financial returns are achievable
- Non financial returns can also be significant
- Enterprise development **costs are high**
  - 20 to 50 cents on each dollar invested
- Public Perspective
  - After costs, we still see a **positive cash flow model**
- Private Perspective
  - Enterprise development can be a less costly means of generating project **pipeline**

Supporters: UN Foundation, GEF, German BMZ, SIDA, Dutch FMO, US AID

## AREED Results

- For All: Performing Investment Portfolio
- For E+Co:
  - '**Serial Investing**' and '**Value Chain Investing**'
  - The need to **focus** and **scale** via Funds and Affiliates
  - Foundation for financing via e.g. GTZ (BMZ+DGIS)
  - Basis for GEEREF (EC - Triodos - E+Co)
- For Local Partners:
  - Performance based business model
  - Brand recognition and goodwill
- For UNEP:
  - Seed Capital Assistance Facility (SCAF)

# Serial Investing

## From Early Stage to Replication:

1. Seed capital: high risk, moderate amounts for start-up
  2. Follow-on financing for in-company growth
  3. Replication in new regions, technologies or projects
- 
- High costs of early stage services and capital
  - Credibility and track record along the way
  - Financial and social returns grow over time
  - E+Co as lead financier comforting co-investors

# Family Business Provides Solar Energy to Local Community

- Mona, once an electrical supply company, is now a successful PV-supplier
- Serial Investing:
  - 2002: 1st loan for proof of concept and 'learning by doing'
  - 2004: 2nd loan for growth
  - 2006: 3d loan for diversification



## Mona's Highlights

**E+Co Financing:** US\$152,000

**Jobs Created:** 25

**Impact:** Clean energy to over 2,100 households in rural Tanzania.

## Energy Enterprise Development: *The Path to Scale*

Significantly expanding participation  
in the value chain

Filling gaps in and gaining experience with the  
Value chain

Engaging others to adopt both business and service  
investment models; building participants in value chain

Elaborating energy SME business model and service  
+ investment models into systems and experience...  
creating a value chain.

Experimenting with service + investment models and  
identifying those that work.

Identifying energy SME business models that work.

**1990** ════════════ **2000** ════════════ **2010** ════════════

# E+Co Focus in Africa 2007 - 2008

- Intensify cooperation with **Partners In The Value Chain**:
  - Local banks and Financial Institutions and other co-investors
  - Micro Finance Institutions for end-user financing
- Develop Regional Investment Facilities for **Scaling Up**:
  - Solar PV and Cooking fuels in Ghana, Mali and Senegal (serial investing)
  - Mini and micro hydropower in West and East Africa
  - Solar Water heating in South Africa
- Explore **New Alliances**

# Thank you!

[www.EandCo.net](http://www.EandCo.net)

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