

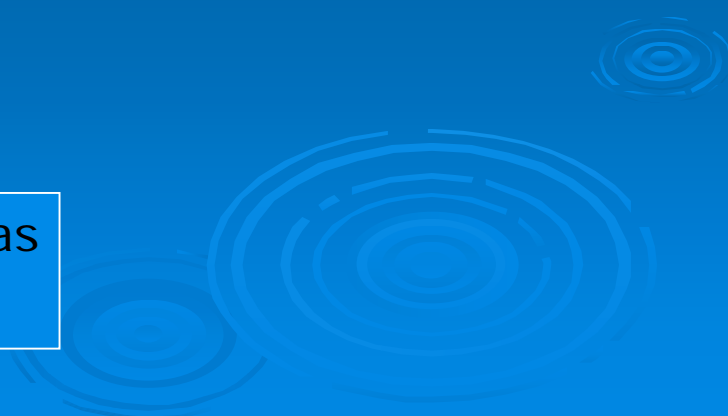
Enterprises such as  
TecnoSol (Nicaragua)



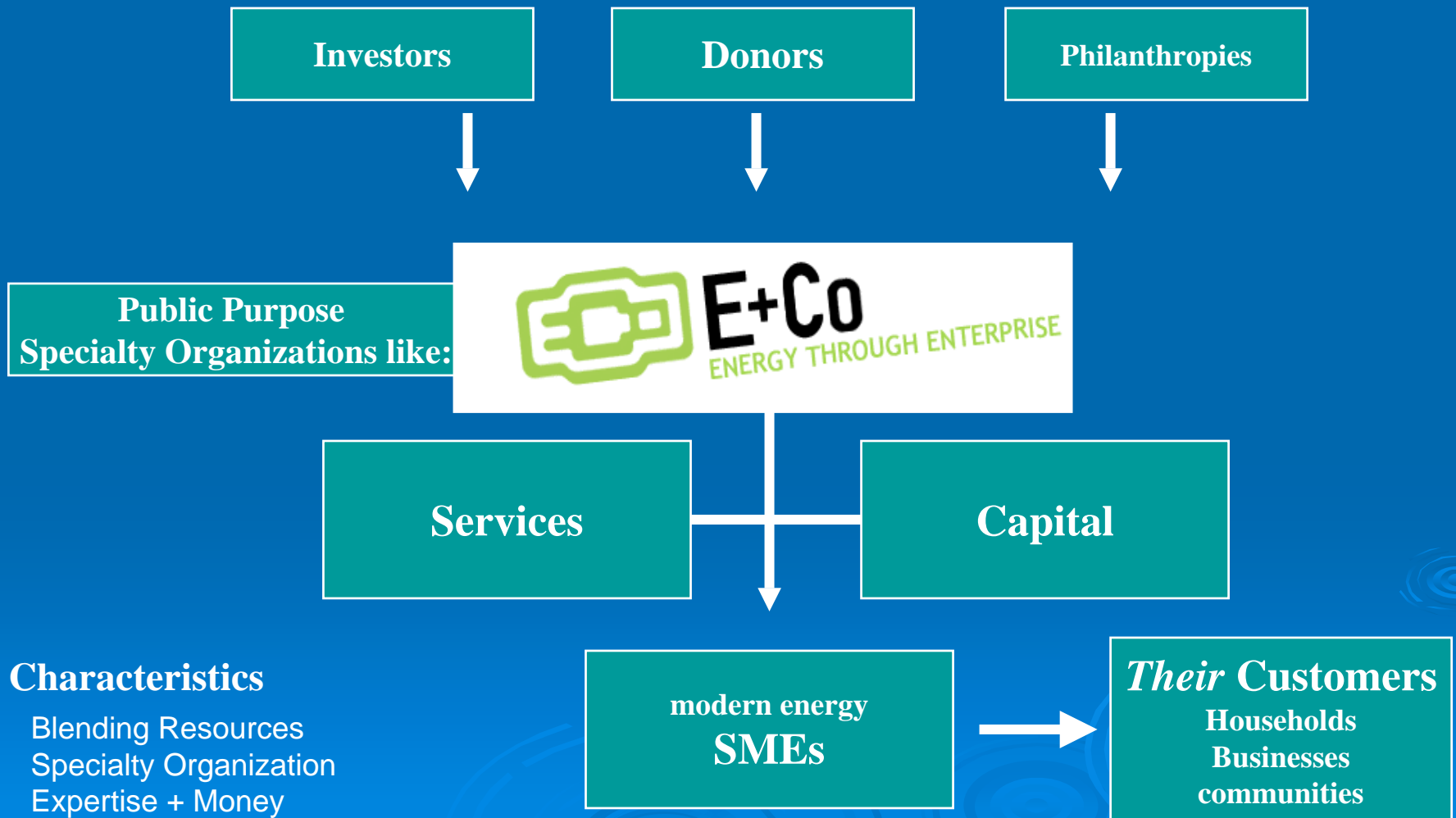
**Energy Poverty**  
**Opportunity**  
**Energy Waste**



Enterprises such as  
Clean Thai



# Enterprise Centered Model



## Characteristics

1. Blending Resources
2. Specialty Organization
3. Expertise + Money
4. Local Empowerment
5. Sustainable Businesses

Practical  
Application



AREED



Senegal

Mali

Ghana

Tanzania

Zambia



Services

Capital

Entrepreneurs  
e.g., Gladymannual,  
Translegacy

Their Customers

## Tecnosol Highlights

**Financing:** US\$300,000

**Term:** 6 years

**Jobs Created:** 9

**Impact:** PV systems replace use of kerosene and candles.

- Nicaragua: 50% of population has no access to any type of electricity services and 75% of the rural areas are still un-electrified.
- **TecnoSol**, promotes solar, wind and hydroelectric and provides **energy alternatives** for the lighting, refrigeration, water pumping and irrigation needs of businesses and communities.
- TecnoSol has installed almost 5000 systems, primarily on a cash basis. Over next 2-year period, plan to install >6400 systems.



### What Was Needed

#### **Enterprise development services**

assisted with the market study for the company's expansion; including accounting and business infrastructure.

**Seed capital** to finance additional inventory purchases to expand their market and provide short-term credit to its customers.

**Growth Capital** approved in November 2004 to open 4 branch operations in rural areas.

## Clean Thai and KWTE

### Highlights

**Financing:** US\$ 197,500

**Co-Financing:** US\$3,400,000

**Jobs Created:** 20

**Environmental Impact::**

8 million liters of fuel oil displaced annually, emissions reduced by 250,000 tons CO<sub>2</sub> per year



### Clean Thai Needed

**Start-up capital to advance project planning and negotiations.**

**A follow-on investment to support to market and design the specific proposal for the cassava factory.**

**Advice and “packaging” to attract equity investors and close project financing.**



- Clean Thai uses proven **anaerobic digestion technologies** to recover and convert organic waste into biogas.

- Thailand's largest cassava producer (SWI) uses the biogas to power its production boilers and to generate electricity to be used by the factory.

- The factory is displacing 8 million liters of heavy fuel oil, generating 30,000 MWh of electricity each year.

- The result is multimillion dollars of **savings in operating costs**, significant annual **carbon emission reductions** and **energy self-sufficiency**.

- And the elimination of this



## New Energies' Highlights

Financing: US\$250,000

Term: 4 years

Jobs Created: 5+

Environmental Impact:

Decreased use of fossil-fuel generated electricity results in a reduction of greenhouse gases.

- **New Energies** supplies **solar-heated water** to large institutions
- Traditional companies sell the solar water heating equipment to customers. The biggest market barrier for industrial customers is the upfront capital cost of the solar water heater.

- **New Energies' innovation** is to provide hot water via retrofitted solar water heaters at a cheaper price than current hot water costs.
- **New Energies** bears cost and maintenance expenses overcoming the prohibitive initial costs. The customer realizes **immediate and direct cost saving benefits**.

## New Energies Needed and Needs

**Seed capital** to finance the solar water heaters.

**Enterprise development services** focused on developing a growth plan for the company.

**Industry growth and financing plan (E+Co and IIEC)**



Financial	Social		Environmental		Clean Energy Promotion
Money E+Co Invested	Clean Energy Generated in MWH	Jobs Sustained	CO2 Offset Annually in tons	CO2 Offset for life of Project, tons of CO2	Clean Energy Technologies
\$ 11,771,786	374,071	1825	479,867	8,666,285	14
Money E+Co Leveraged from Entrepreneurs	Households served	Women Ownership/ Shareholding/ Micro-Entrepreneur	Reforested Land/number of trees planted	Value of CO2 Offsets for life of project	Geographic Distribution (# of countries)
\$ 14,691,316	412,791	9	36,168	\$ 43,331,427	35
Leveraged from 3rd parties	People with Access to Modern Energy Services	Entrepreneurs receiving EDS	Water Improvement/ liters of clean water	Households with access to clean water	Policy Activities
\$ 105,863,262	2,063,954	509	44,550,000	38,250	2
Potential Amount of Growth Capital	Improved Income	Entrepreneurs trained	Barrels of Oil Displaced	Dollar Value of Oil Displaced	Productive Use Companies
\$ 244,950,000	\$ 6,858,113	685	28,862	\$ 1,443,100	10
Financial Institutions trained on RE financing	Clean Energy Enterprises	Entrepreneurs Identified	Energy saved from EE initiatives MWH	Liters of Kerosene Displaced	Awards Received
95	102	1,173	99,724	6,084,597	3
Amount E+Co has repaid to investors	NGOs receiving capacity building	Manuals Developed in how many languages	Customers installing EE equipment	Firewood displaced in kg	Articles Published
\$ 3,100,000	10	3 manuals in 5 languages	79,715	76,378,641	8

# 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 a 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

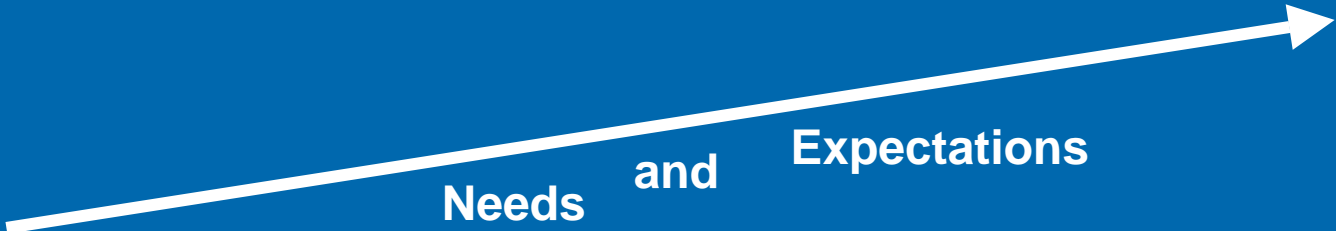
2010

PLANET



Declining  
Carrying  
Capacity

PEOPLE



Increasing  
Needs and  
Expectations



Freshwater-Fisheries-Oceans-  
Atmosphere-Energy-Climate-  
Pollution-Biodiversity-Waste-Land

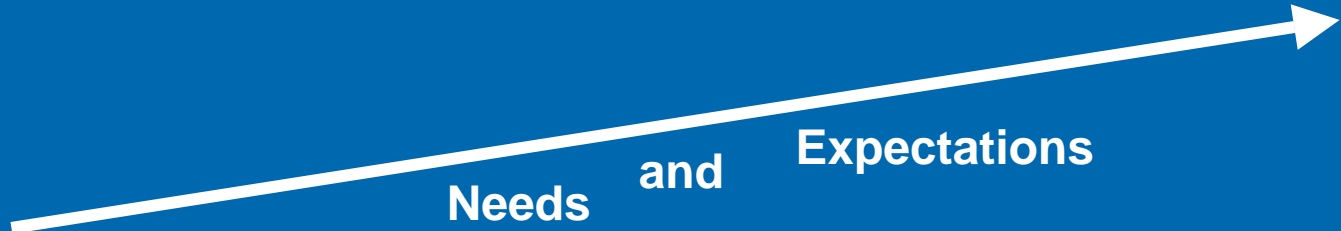
PLANET

**Declining**  
**Carrying**  
**Capacity**



PEOPLE

**Increasing**  
**Needs** and **Expectations**



Health-Employment-Housing-  
Education-Inequality-  
Literacy-Hunger



Freshwater-Fisheries-Oceans-  
Atmosphere-Energy-Climate-  
Pollution-Biodiversity-Waste-Land

PLANET

Declining

Carrying

Capacity

Technology Deployed

PEOPLE

Increasing

Needs

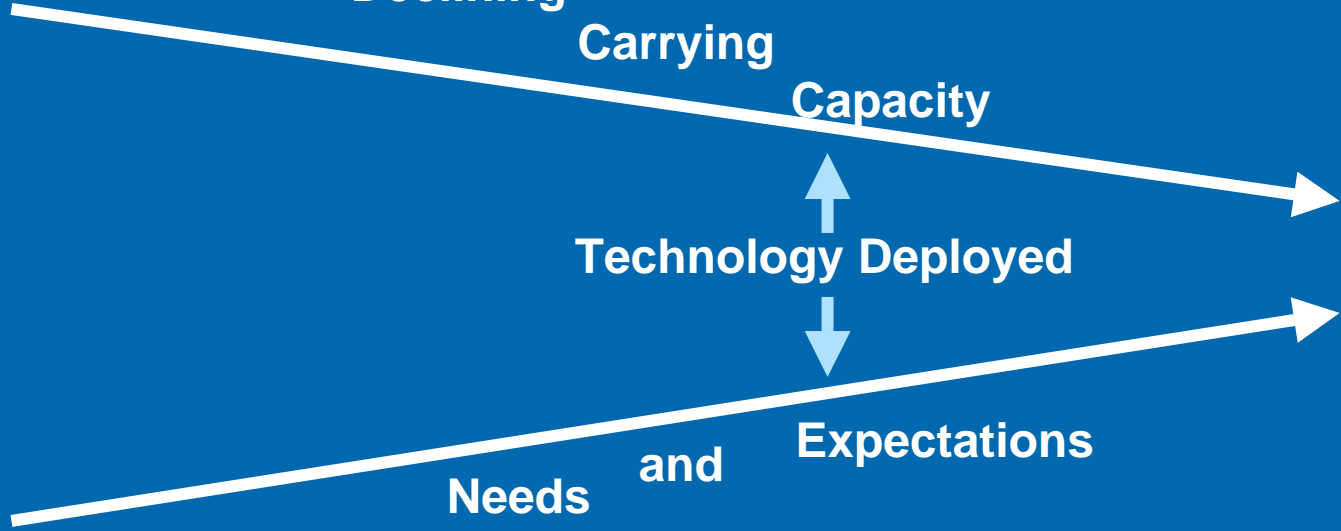
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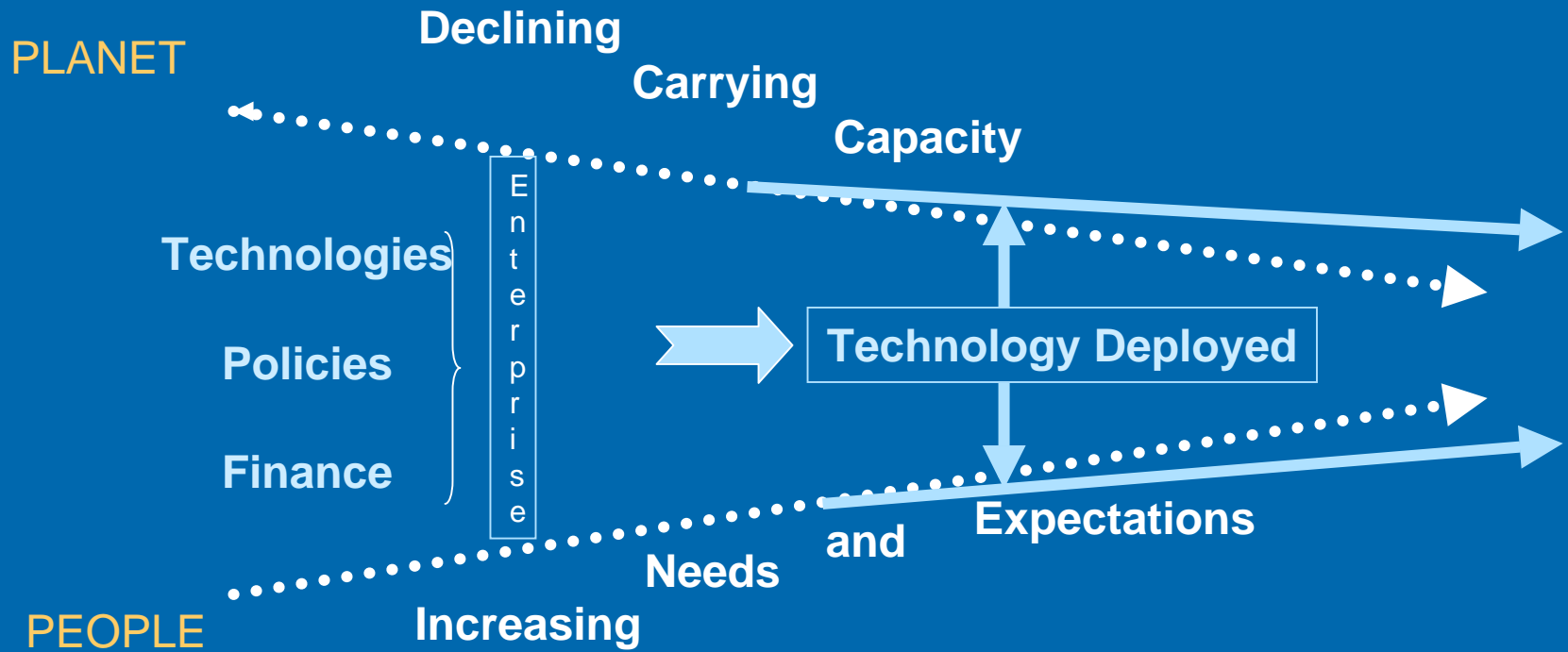
Expectations

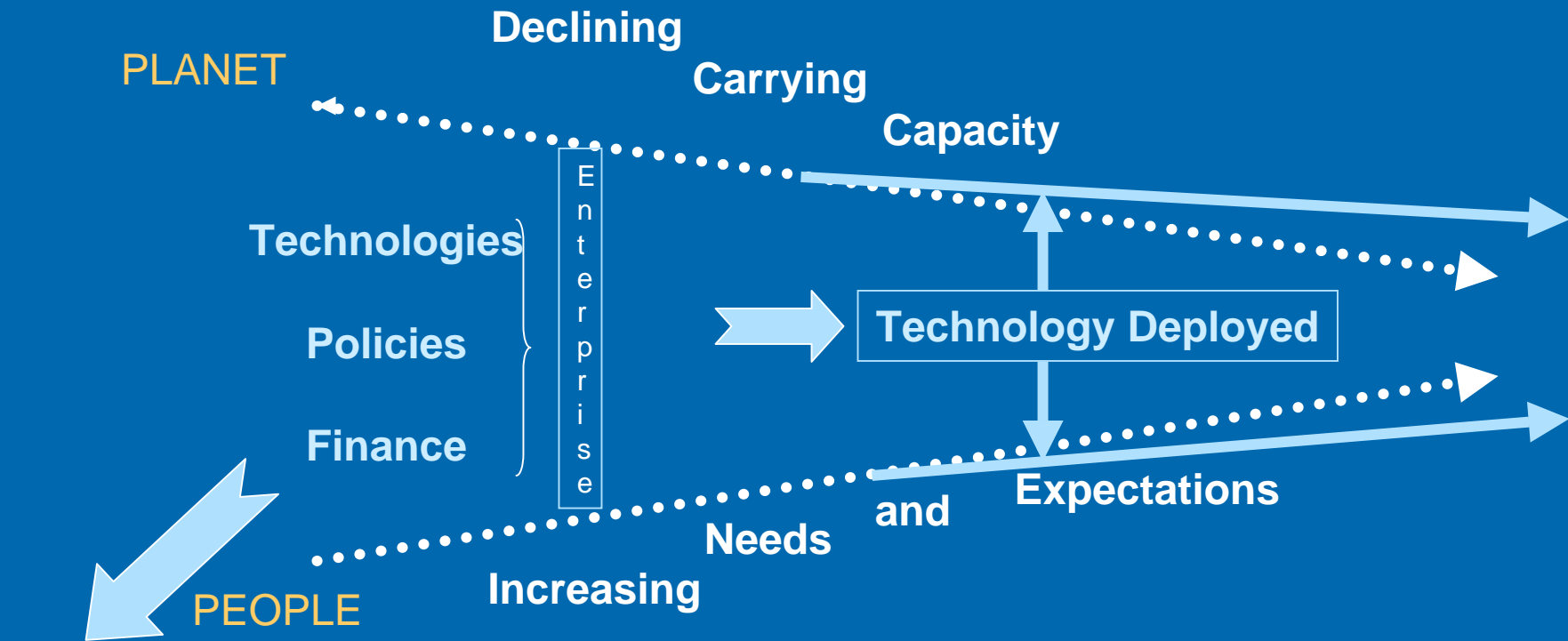
Health-Employment-Housing-

Education-Inequality-

Literacy-Hunger







**Macro**

--specialized funds and programs to mobilize capital

**Meso**

--targeted support to increase local capacity to deploy capital

**Micro**

--revised investment strategies and tactics  
 --capacity building of critical actors