



Developing and implementing rural energy service programmes

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**UNEP is placing increased emphasis on
the ENERGY SECTOR
as it contributes to the realization of a
SUSTAINABLE ENERGY FUTURE.**



Presentation overview

Part 1

How UNEP views the challenge of sustainable rural energy provision

Part 2

What is UNEP & partners doing about it



Sustainable energy services



Sustained delivery of adequate, safe and affordable energy services using sustainable technologies.

Sustainable technologies

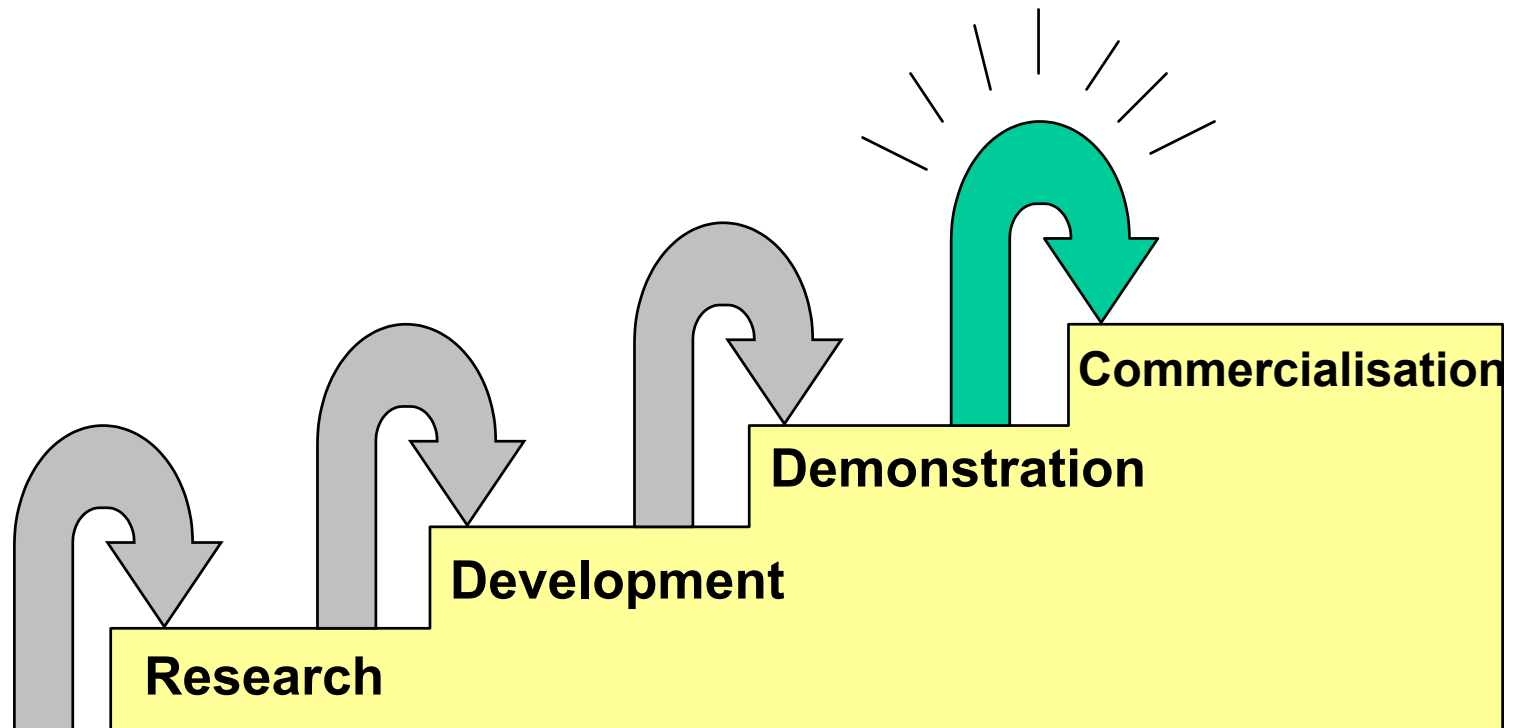


Renewable Energy Technologies (RETs)

- PV
- Wind
- Small hydro
- Biomass
- Etc.

Energy Efficiency (EE)

Maturing technology





Barriers in Focus

“...the challenge of supplying rural energy services in developing countries is not the availability of technology...or ability to pay, it is the mismatch between the needs of the enterprise and the types of financing currently available.”



Some delivery models

SALES TO CUSTOMER

- **Cash sales**
- **Consumer credit by supplier**
- **Consumer credit by micro finance organization**
- **Consumer credit by development finance institution**

SERVICES

- **Regulated concession by existing utility**
- **Regulated concession by private firm competitively selected**
- **Unregulated open market**
- **NGO**



BARRIERS TO SUSTAINABLE ENERGY FINANCE



- **Unclear policy, regulatory environment**
- **High real/perceived risk**
- **Weak business operation data**
- **Financiers lack capacity to evaluate/negotiate projects**
- **High transaction costs of initial investments**



Conceptual Framework

Stage 1: Small and very risky [e.g. <1000 solar home systems]

Strategic priority: Demonstrate the market

Sources of Finance: Own funds and risk/soft capital

Investor Role: 'Hand holding'



Conceptual Framework

Stage 2: Medium size, still risky [e.g. 1000 - 10,000 solar home systems]

Strategic priority: Build the brand

Sources of Finance: Risk capital

Investor Role: When needed



Conceptual Framework

Stage 3: Investment grade [e.g. > 10,000 solar home systems]

Strategic priority: Economy of scale

Sources of Finance: Later stage capital and debt

Investor Role: 'Arms length'

Relevant UNEP Energy Programs



- Financial Services Initiative (FSI)
- RET Investment Advisory Facility (RET/IAF)
- Sustainable Energy Advisory Facility (SEAF)
- African Rural Energy Enterprise Development (AREED) Initiative



Financial Services Initiatives

Statement by Banks and Insurers on the Environment and Sustainable Development

Recognizing:

“...positive interaction between economic and social development, and environmental protection, to balance the interests of this and future generations.

“...collective responsibility of government, business and individuals” for sustainable development.



Financial Institutions' Strategic Response to climate change

1. LIABILITIES SIDE

- reduce their participation in CO₂ intensive projects
- develop an environmental code of conduct

2. OPPORTUNITIES SIDE

invest in climate change mitigating projects



RET/EE Investment Advisory Facility

provides contracted support to financing parties evaluating investments in specific RET or EE projects in developing countries



Supported by the Global Environment Facility



RET/EE Investment Advisory Facility

GOALS

- get RET / EE projects financed
- build capacity of financial decision makers

STRATEGY

- Support RET/EE champions within a bank to counter internal hurdles getting projects financed
- Adds clout to entry point (environmental dept?) for RET/EE projects



RET/EE Investment Advisory Facility

Services

- **Independent project assessments**
- **PPA contract negotiations**
- **O&M cost review**
- **environmental risk analysis**
- **Market sizing for a manufacturing operation**
- **legal reviews**
- **Financial risk analysis**
- **Independent valuations**



Caribbean Windfarm

- Client:** Financier
- Project:** Viability of emission reduction credits for a 25 MW wind farm
- Support:**
- evaluation the context and quantification of emission reductions
 - Securing and transacting emission reduction credits through 'early actions'
- Expected Result:**
- Financing for 25MW windfarm



Sustainable Energy Advisory Facility (SEAF)

PILOT PHASE OBJECTIVES

- provide rapid, targeted advisory services to support sustainable energy development activities
- strengthen institutional capacity for analyzing and implementing sustainable energy activities



Example SEAF services

- **information on successful programmes**
- **national and sectoral planning studies**
- **climate change mitigation analysis**
- **technology assessment and selection**
- **RET/EE project assessment**
- **facilitation of links to funding agencies**
- **support for national or regional workshops, training, and capacity building**



Rural Energy Enterprise Development

African Rural Energy Enterprise Development Initiative

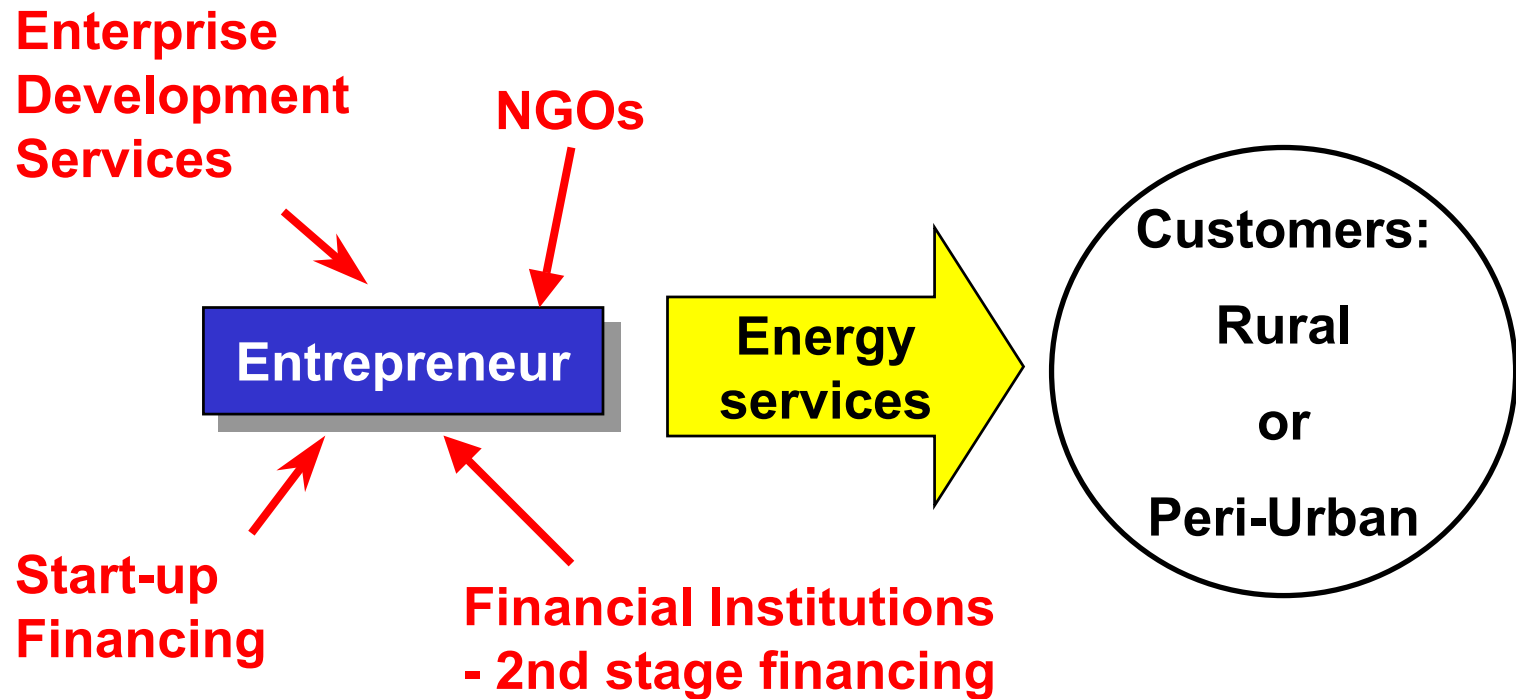
Partners: UNF, E&Co

....a practical approach to promoting **sustainable development** whilst mitigating **climate change**....

- building capacity of the private sector to implement sustainable projects
- to improve the provision of clean energy services
- In partnership with local stakeholders
- which are ready for investment (e.g. CDM).



Rural Energy Enterprise Development Model





Analytical Tools and Training Resources

- Toolkit for Energy Entrepreneurs
- Handbook for Financial Professionals
- Analytical Software – RETCREEN - for Project Developers



UNEP works with, and through...

- * Environment and Energy Ministries**
- * Non-governmental Organizations**
 - * Energy Industry**
 - * Financial Institutions**
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