

**GNESD**

GLOBAL NETWORK  
ON ENERGY FOR  
SUSTAINABLE  
DEVELOPMENT

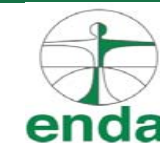
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# Global Network on Energy for Sustainable Development

***Partnering Solutions to  
Growing Energy Demands***



*Fifteenth Session of the Commission on Sustainable Development  
New York, May 2007*



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# Brief overview

## Global Network on Energy and Sustainable Energy

Launched at the World Summit on Sustainable Development Aug. 02 Johannesburg

Type II Partnership in the field of Energy

A UNEP facilitated Network

Knowledge network of developing world “Centres of Excellence” & partners  
(20 institutions)



## A Global Network Africa, Asia, Europe, America

### **AFRICA AND MIDDLE EAST:**

- **AFREPREN (Kenya)**
- **Environmental Development Action in the Third World, (Senegal)**
- **Energy Research Centre (South Africa)**
- **Mediterranean Renewable Energy Centre MEDREC (Tunisia)**
- **Energy Research Group, American University of Beirut (Lebanon)**

### **LATIN AMERICA**

- **Fundación Bariloche (Argentina)**
- **The University of São Paulo and the Federal University of Rio de Janeiro (Brazil)**

### **USA:**

- **National Renewable Energy Laboratory**
- **Stockholm Environment Institute – Boston Center**

### **EUROPE:**

- **International Institute for Industrial Environmental Economics, Lund University (Sweden)**
- **KFA Research Centre Jülich (Germany)**
- **Fraunhofer Institute (Germany)**
- **AEA Technology (UK)**
- **Institute of Energy Policy and Economics Université Pierre Mendès-France, (France)**
- **Energy Research Centre of the Netherlands (Netherlands)**
- **UNEP RISO Centre (Denmark)**

### **ASIA & PACIFIC:**

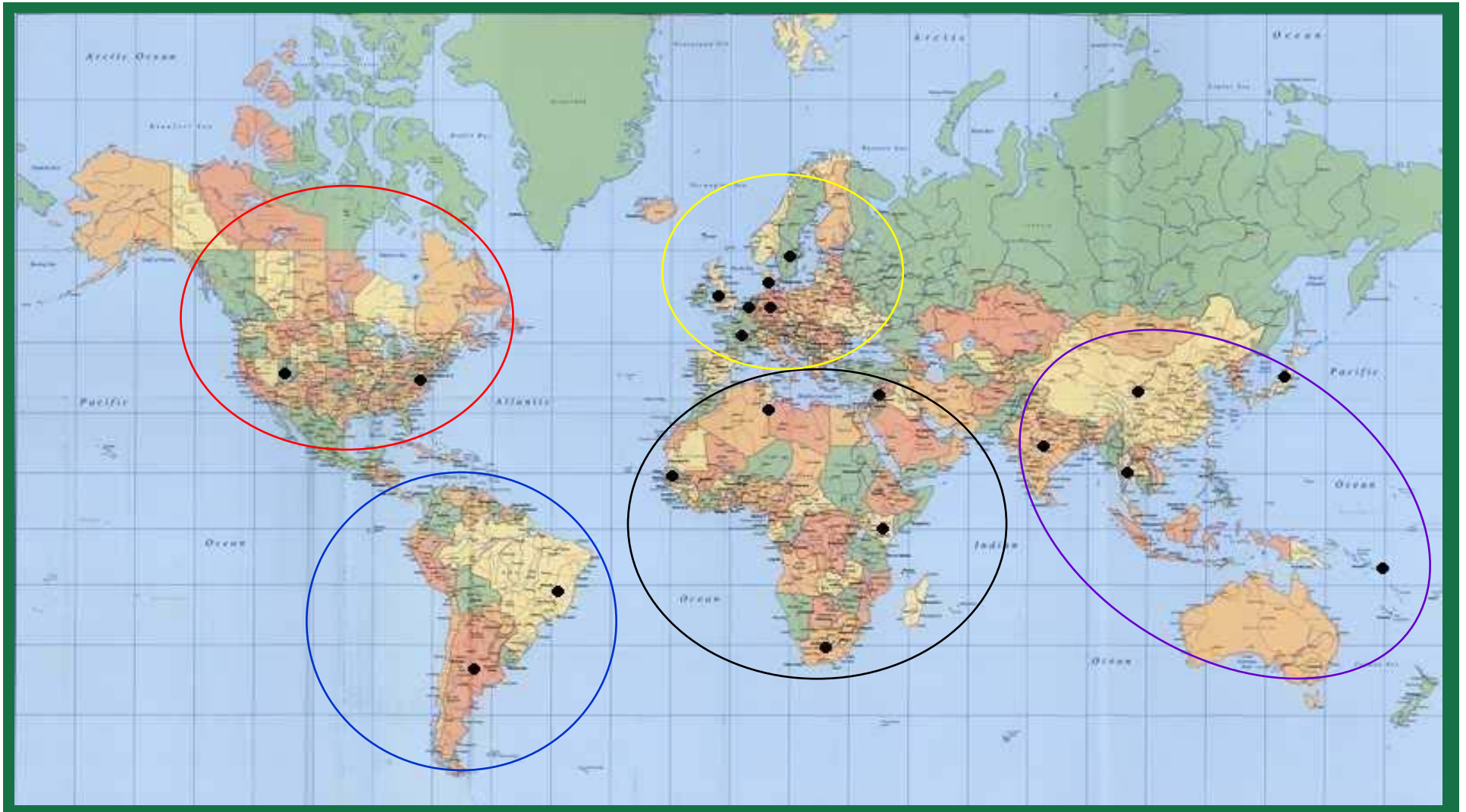
- **Asian Institute of Technology (Thailand)**
- **Institute of Energy Economics (Japan)**
- **Energy Research Institute (China)**
- **University of the South Pacific (Fiji)**
- **Energy and Resources Institute (India)**

# GNESD

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## A Global Network Africa, Asia, Europe, America



## The GNESD main objective

**To work for reaching the Millennium Development Goals  
Through  
Sustainable Energy**

**Sustainable Energy for the Achievement of the  
Millennium Development Goals**

**Sustainable Energy  
for Poverty  
alleviation**

**Sustainable Energy  
Production and  
Consumption**

## GNESD Approach

### **Approach based on Actions, directed to:**

Promote sustainable development and poverty alleviation by expanding the knowledge base about environmentally sound provision of energy services.

### **Through the promotion of:**

- ✓ Information and knowledge exchange;
- ✓ Research, Analysis & Study on pertinent, new and less understood subjects
- ✓ Thematic programs;
- ✓ Policy dialogue and impacts;
- ✓ Capacity building;
- ✓ Advocacy for development and poverty alleviation

# Priority thematic Programs & revolving coordination by Centres (I)

## ✓ ENERGY ACCESS THEME: Electricity Reforms/impacts/access of poor

**Research Phase >> Dissemination phase >> Policy Phase**

Technical reports by 9 participating centres, Comparative assessment, Summary for Policy Makers, Flyers and newsletter

3 Regional Workshops (Thailand, **Asia** + Barazil: **L. America** + Nairobi, **Africa**)

Reports on Workshops findings

## ✓ RENEWABLE ENERGY THEME: RETs for poverty Alleviation

**Policy Research phase >> Policy options phase**

Technical reports by 10 participating centres, Comparative assessment, Summary for Policy Makers, Flyers and newsletter

3 Regional Workshops (India: **Asia**, Senegal, **Africa** + Argentina, **L.America**)

Reports on Workshops findings

## Priority thematic Programs & revolving coordination by Centres (II)

### **NEW THEMES:**

#### ✓ **URBAN AND PERI URBAN THEME:**

***Impacts of Energy reforms / Access to modern energy/urban & peri-urban***

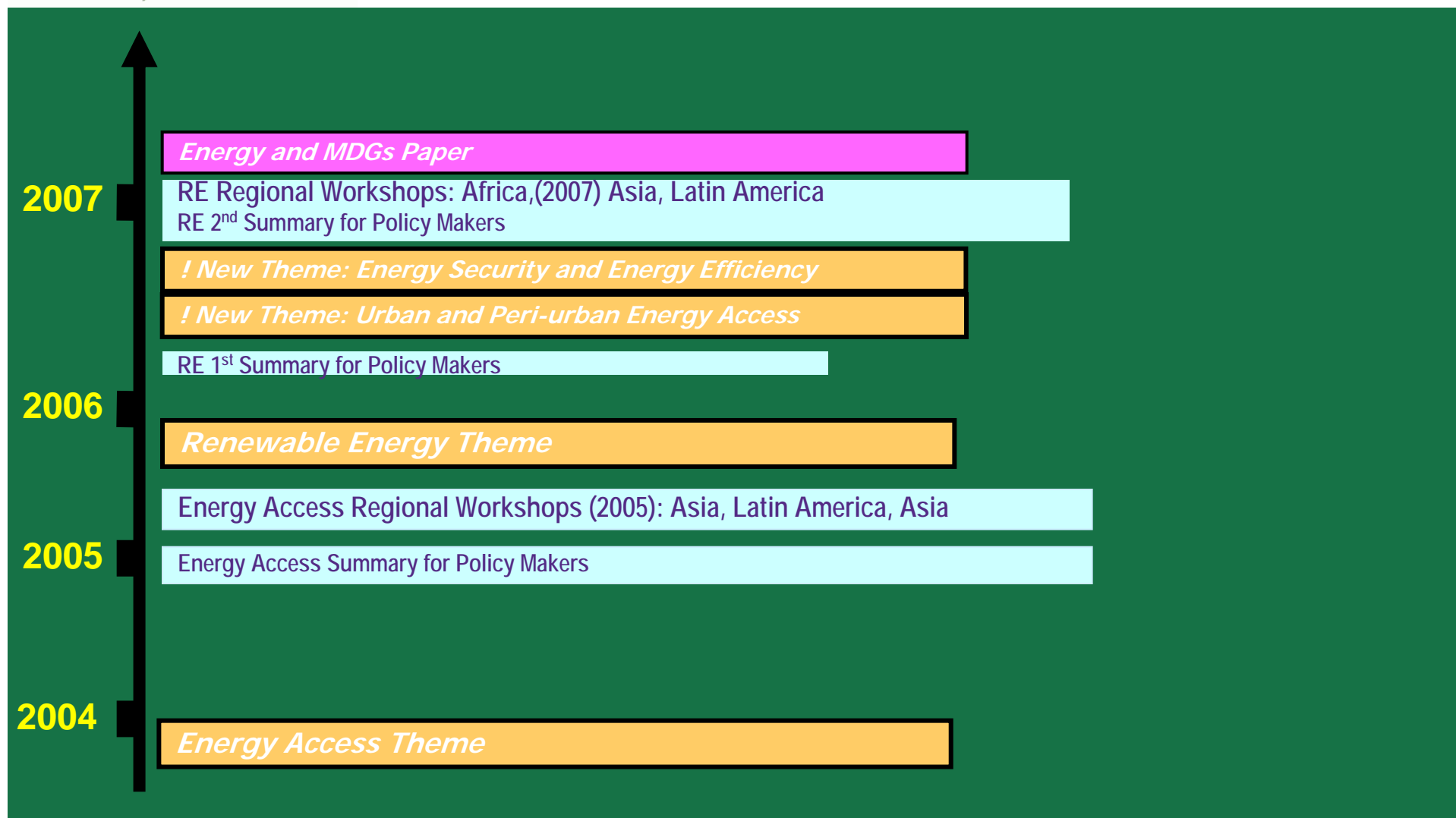
***Inception phase >> Research phase >> Policy phase (Ongoing)***

#### ✓ **ENERGY SECURITY AND EFFICIENCY THEME:**

***Inception phase >> Marco Economic analysis phase (Ongoing)***



## Priority thematic Programs and achievements progress



## Objectives

- Identification of the roles of RE options for poverty alleviation:  
Productive Use and job creation opportunities
- Evaluation of past approaches on RE projects & diffusion strategies
- Identification of the main barriers for RETs dissemination and sustainable use
- Proposition of policy guidance for the dissemination of RETs

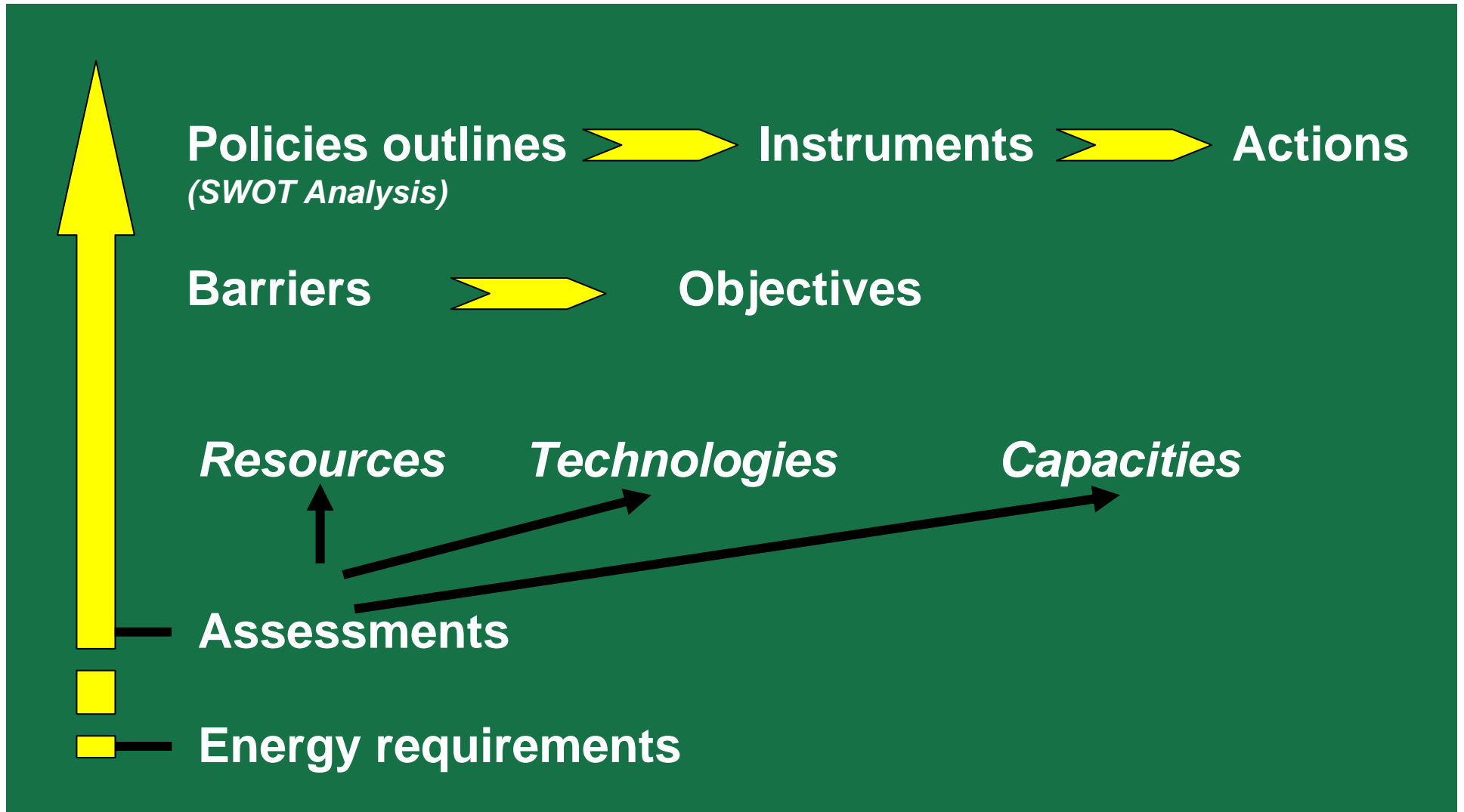
- **Policy Analysis**

- Initial Assessment (Resources, technologies, capacities)
- General diagnosis and prioritization of problems
- Formulation of Policy outlines for overcoming barriers
- Identification of potential RE niches: Productive use & job creation

- **Policy Recommendations**

- Selection and detailed assessment of main RE niches
- Policies and instruments for main niches promotion
- Recommendations necessary to take concrete actions in order to develop specific renewable niches

## Formulation of Policy outlines



# RE Niches Assessed

Niche: Technology, needs, local capacities, potential impacts for social & productive use

Main REs Niches identified	Africa			Asia			Latin America		Middle East
	Kenya Tanzania	Senegal	South Africa	Thailand	China	India Nepal	Brazil	Argentina	Lebanon Jordan Syria
Wind pump, treadle pump, hydraulic ram pump	a	r, p						a	
Photovoltaic		r			a	a			s
Biofuels (biodiesel, bioethanol, oils)			p, s				a	p	
Solar Water Heaters		r, s	a					a	a
Sustainable firewood / Improved Cookstoves		r	r						
Solar Dryer		p		p					
Charcoal production with biomass residues		r		p					
Biogas		r		p	r			a	
Small-Micro Hydro					a	a	a		
Biomass (Gasifier or steam cycle)						p, s	a	a	
Wind turbine		r, p				p, s	a	a	p

r = residential

p = productive

s = services

a = all

## Renewable & Poverty Alleviation

### Some Key Problems Identified:

- High cost and lack of affordability by poor population
- Lack of adequate policies, planning and regulation
- Lack of adequate O&M infrastructure and project sustainability
- Lack of coordination institutions and qualified staff
- Lack of adequate R&D and local RETs Industry
- Exclusion of poor population in policy objectives and lack of opportunities
- Lack of awareness or negative perception about RETs
- Conventional Energy Policy Framework
- Lack of coordination between stakeholders
- Inadequate RE resource management / lack of access

## Renewable & Poverty Alleviation

Problems specific to the RE area	Africa			Asia			Latin America		Middle East
	Kenya Tanzania	Senegal	South Africa	Thailand	China	India Nepal	Brazil	Argentina	Lebanon Jordan Syria
1. Lack of adequate R&D and local RE industry	x	x		x	x	x	x	x	x
2. High cost of RETs and lack of affordability by poor population	x		x	x	x			x	x
3. Lack of adequate policies, planning and regulation	x	x			x		x	x	x
4. Lack of adequate O&M infrastructure and project sustainability	x			x	x	x		x	
5. Lack of strong institution coordinating activities and of qualified staff		x		x	x			x	
6. Conventional energies issues and environmental issues			x	x		x	x		
7. Exclusion of poor population and lack of opportunities			x		x	x		x	
8. Lack of coordination of activities and communication between stakeholders		x						x	x
9. Lack of awareness or negative perception	x		x	x			x		
10. Bureaucracy hampers coordination and implementation				x		x			
11. Lack of a genuine market for RETs		x	x						
12. Inadequate RE resource management / lack of access	x		x			x			

## Renewable Energy Policy Outlines

### ***Problem: High cost of RETs and lack of affordability by poor***

- High initial cost and long payback period of RETs
- In some countries, a large proportion of the population do not have access to conventional energy and cannot afford the cost of RETs
- In other countries, poorer part of the population has access to conventional energies, which further reduce RE penetration possibilities
- Lack of specific financing schemes from private and public sectors to widespread RETs



***Problem: High cost of RETs and lack of affordability by poor***

## ***Main set of policy outlines***

- Reduction of taxation
- Incentives and attractive financing schemes (grants, credits lines, subsidies, etc)
- Initial support for RE industry (RE competitiveness)
- R&D and technology adaptation
- Quality standards/assurance to the private sector

## Renewable Energy Policy Outlines

### ***Problem: Lack of adequate policies, planning & regulation***

- Broad spectrum of issues ranging from lack of policies to incorrect application or limited scope / instruments
- Usually compounded by lack of coordination, and lack of coherence of legal and regulatory framework
- In some countries: lack of consistent & specific RE policies
- In other countries: some components of RE policies are in place but further elements are needed (e.g. resources for correct implementation)
- RE Initiatives with low impacts: Isolated projects, domestic use (lighting, TV & Radio)
- Lack of capacities in this area

## ***Problem: Lack of adequate policies, planning & regulation***

### ***Main set of policy outlines***

- Development of national strategies and action plans with specific targets for RETS
- Capacity building of involved institutions
- Promotion of Public-Private Partnership
- Improvement of existing legal and regulatory framework
- Promotion of investment
- Promotion of R&D to develop local industry market

## ***Problem: Lack of adequate O&M infrastructure & project sustainability***

- **Lack of highly skilled & experienced technicians in many countries (particularly in Africa)**
- **Lack of adequate maintenance infrastructure**
- **Absence of quality of equipment and installation (absence of standards)**
- **Low involvement of communities in project management**

***Problem: Lack of adequate O&M infrastructure & project sustainability***

## ***Main set of policy outlines***

- Low maintenance technologies
- Community management
- Involvement & capacity development of technicians
- Users awareness and education
- Improvement of the quality of equipment & installation procedures/standards and industry support
- Development of maintenance infrastructure

## ***Problem: Lack of adequate R&D and local RE industry***

- **Lack of Technology adaptation and local manufacturing**
- **Clack of coordination between stakeholders**
- **Needs of Technology transfer and industrial capacity development**

## ***Problem: Lack of adequate R&D and local RE industry***

### ***Main set of policy outlines***

- **Involvement of universities and research institutions in developing RETs research and training programs:  
Reduce costs, facilitate RETs transfer**
- **Identification of feasible projects that suit needs of poor**
- **Coordination and synergy between stakeholders**

# Policy Outlines for main potential Niche - The case of Africa -

## **Main Niche: Improved Biomass through dissemination of IS**

**Traditional Biomass: 35 % of total energy consumption (Senegal), 60% Avg. Africa  
Up to 70% of households' energy consumption (Senegal)**

## **Main Barriers to large scale diffusion of Improved Stove**

- **Institutional & regulatory constraints: Dispersion of initiatives, weak capacity of the domestic fuels body, lack of adequate coordination, lack of quality standards**
- **Financial barriers: Weak financial capacities and absence of financial assistance mechanisms**
- **High involvement of informal and non professionalized actors**
- **Weak professional capacities of actors at local level**
- **Lack of sensitization and communication**



## Policy Outlines for main potential Niche - The case of Africa -

### **Main Niche: Improved Biomass through dissemination of IS**

#### **Main objectives:**

- **Capacity building of the coordination body of the domestic energy sub sector**
- **Quality standards for marketing quality IS**
- **Development & strengthening of partnerships between actors**
- **Setting up of proximity manufacturing network**
- **Adoption of a fund and financial mechanisms to boost IS production & dissemination**
- **Capacity building of local actors**
- **Sensitization and communication campaign**

## Policy Outlines for main potential Niche - The case of Africa -

### **Main Niche: Improved Biomass through dissemination of IS**

#### **Main Policy outlines:**

- Professionalize the improved stove field through SMEs develop.
- Apply quality standards in the manufacturing process
- Develop partnerships in the field
- Incorporate the IS dissemination into Domestic energy strategy
- Enhance coordination capacities
- Sensitize the users on economic, environmental benefits
- Raise the financial institutions' awareness on opportunities
- Create a sustainable fund for large scale dissemination

## Outputs from RETs thematic

- **Sub-regional technical reports (Africa, Asia, L. America)**
- **Synthesis and comparison reports**
- **Summary for Policy makers (RETs I & II)**
- **Regional Policy Workshops**
- **National policy dialogues**
- **International and national events**
- **Side events (CSD 14 and 15)**
- **Publications and online forums**

## Cooperation and Synergies with other partnerships

➔ To maximise the impact of the work carried out in GNESD

➔ To create synergies across the partnerships

### The Global Village energy Partnership (GVEP):

GVEP: Voluntary Partnership that brings together developing and industrialized country governments, public and private organizations, multilateral institutions, consumers and others >> to ensure access to modern energy services by the poor.

### The Renewable Energy and Energy Efficiency Partnership (REEEP):

REEEP is a coalition of governments, businesses and organisations committed to accelerating the development of Renewable and Energy Efficiency Systems

### The EU Energy Initiative (EUEI):

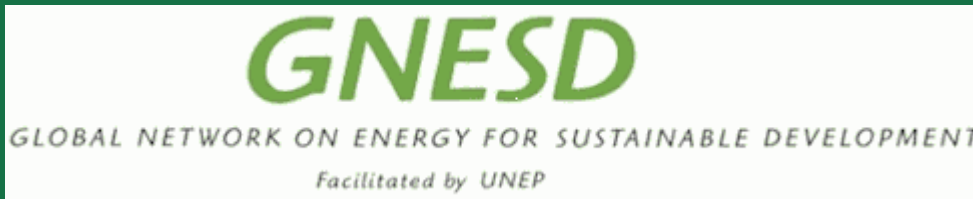
EUEI works together in partnership with the private sector, financial institutions and civil society to achieve effective improvement of the energy situation in partner countries.

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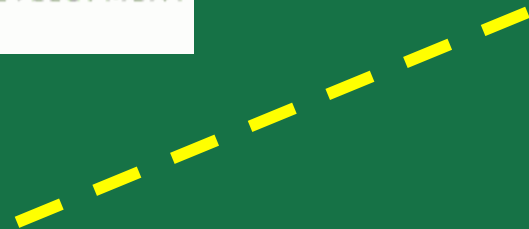
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## Cooperation and Synergies with other partnerships



**African GNESD  
Centre**



✓ **Project review support**

✓ **Joint workshops**

✓ **Policy analysis result implementation and analysis needs feedback**

✓ **Regional information & Outreach**

✓ **Support project development for EU Energy Facility**



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**Thank you**

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