Scaling-Up Renewable Energy Program

HONDURAS INVESTMENT PLAN

SREP Sub-Committee Meeting

Washington D.C., November 1st 2011

Mrs. Evelyn Bautista, Vice Minister of Finance

Outline

- IP Preparation Process
- Energy Sector Context
- National Energy Strategies
- Program Description
  - Component 1: Strengthening RE Policy Framework
  - Component 2: Grid-connected RE Development Support
  - Component 3: Sustainable Rural Energization
- Financing Plan

IP Preparation Process

Formulation of the Honduras Investment Plan

- Establishment of the National Board for SREP
- Alignment under GoH national and regional energy policies
  - *Plan de Nación*
  - Poverty Reduction Strategy
  - Central American Sustainable Energy Strategy 2020
- Identification of challenges facing the development of renewable energy in Honduras
- Preliminary draft presented to stakeholders in consultative sessions
- Updated version posted on SEFIN website for public comments
- Comments from external independent review considered for final version

IP Preparation Process

Consultative sessions with key stakeholders

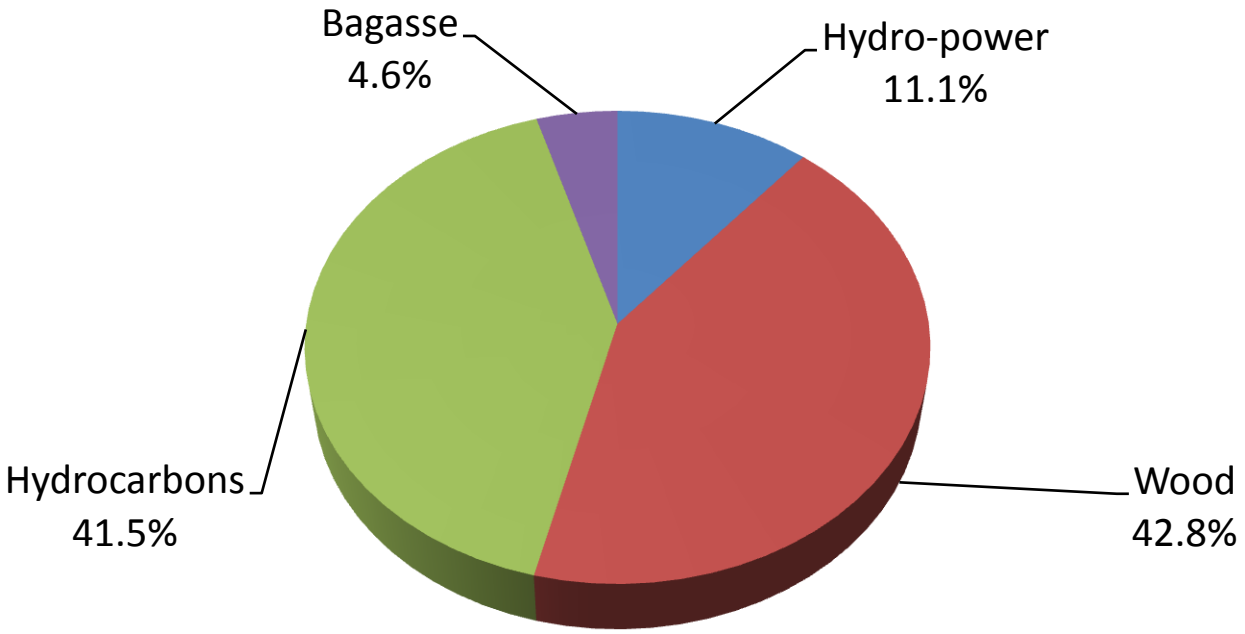
- Over 80 key stakeholder including representatives from:
  - Government
  - International Cooperation Agencies
  - Private Sector
  - Multilateral / Bilateral Agencies
  - Civil Society / NGOs

- Thematic discussions on issues and possible solutions for :
  - Barriers for RE development
  - Firewood dependency
  - Rural energization for remote areas
  - Gender

Energy Sector Context

Honduras Energy Balance 2009

•High share of energy use from hydrocarbons (e.g., fuel oil, gas, diesel) and firewood

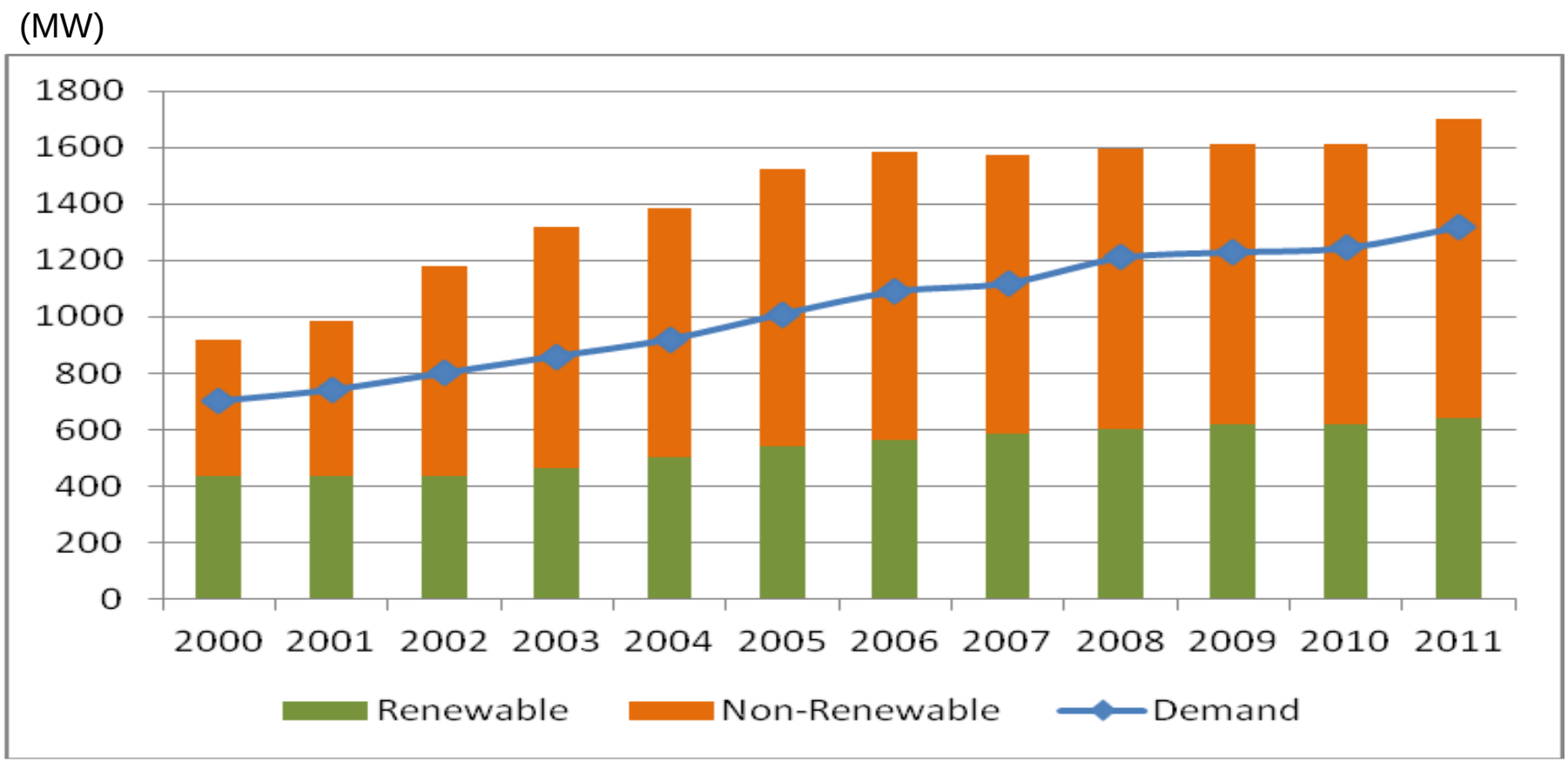


Source: DGE-SERNA

Energy Sector Context

Electricity Supply and Demand (MW) (2000-2011)

•Increasing dependency on non-Renewable sources of energy for power generation

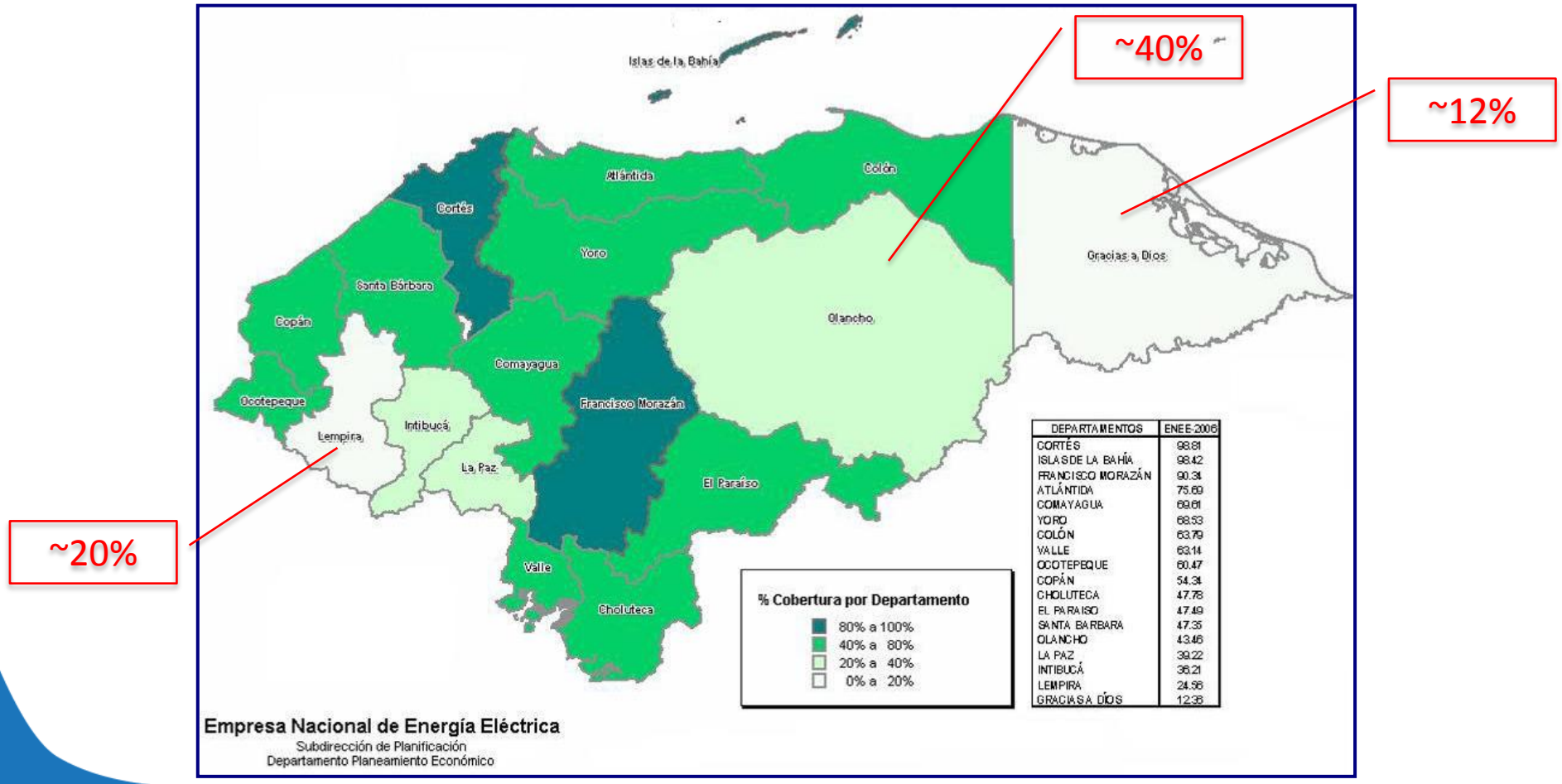


Source: ENEE

Energy Sector Context

Grid Coverage Map

- Grid coverage 81.27% (urban: 99.94%, rural: 63.36%)
- Off-grid renewable energy solutions needed for 10% of rural households (80,000 homes)



DEPARTAMENTOS	ENEE-2006
CORTÉS	98.81
ISLAS DE LA BAHÍA	98.42
FRANCISCO MORAZÁN	90.34
ATLÁNTIDA	75.69
COMAYAGUA	69.61
YORO	68.53
COLÓN	63.79
VALLE	63.14
OCOTEPEQUE	60.47
COPÁN	54.34
CHOLUTECA	47.78
EL PARAISO	47.49
SANTA BARBARA	47.35
OLANCHO	43.45
LA PAZ	39.22
INTIBUCÁ	36.21
LEMPIRA	24.56
GRACIAS A DIOS	12.35

Energy Sector Context

Firewood sub-Sector

- High firewood dependency for cooking
- Health, welfare, economic and environmental impacts
- Improved cookstoves as solution
- Links to watershed management and small-hydro development

Firewood for Cooking


Traditional Cookstove


Improved Cookstove

National Energy Strategies

National and Regional Plans

- Country Vision National Plan
  - 60% share of RE in the electricity generation matrix by 2022
  - 80% share of RE in electricity generation matrix by 2038

- Poverty reduction Strategy
  - 85% electricity coverage by 2015

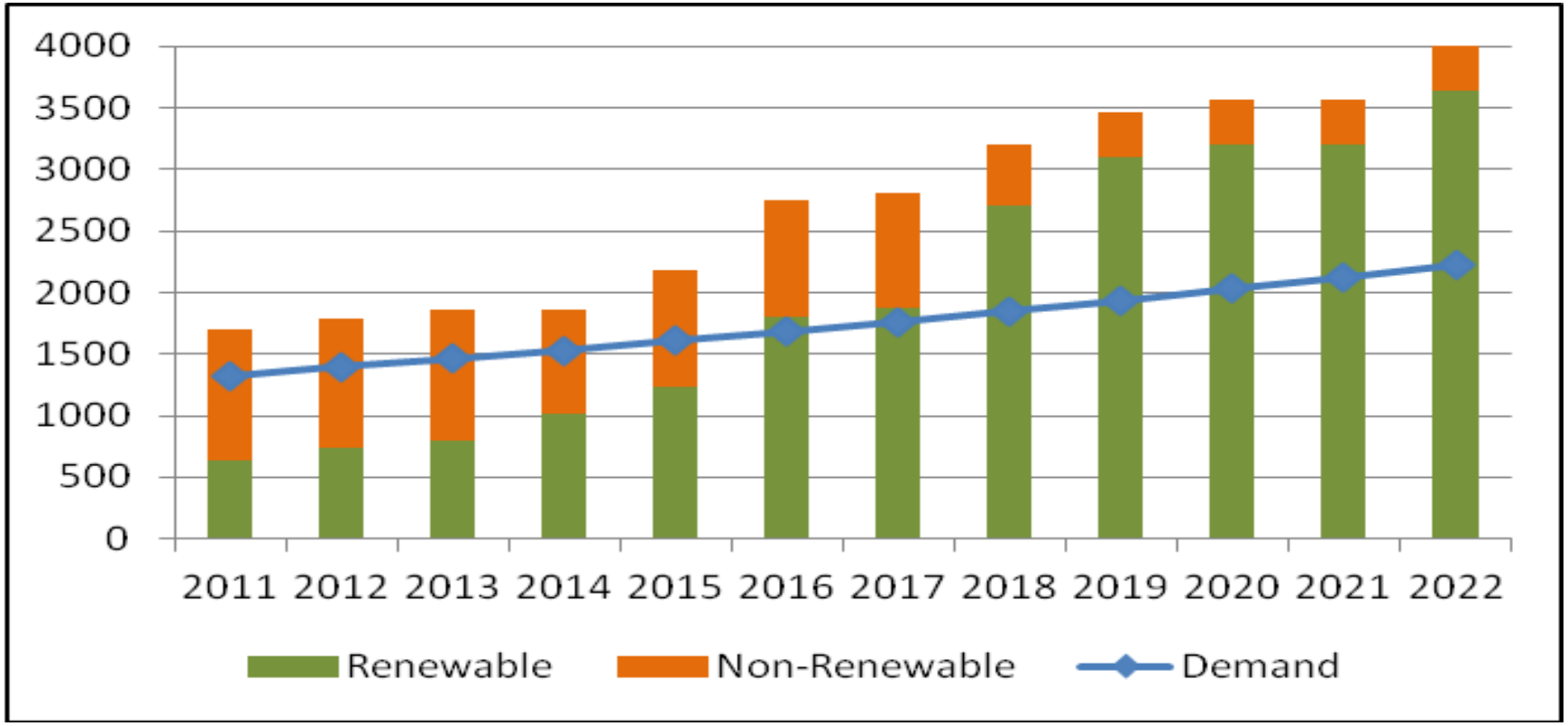
- Central American Sustainable Energy Strategy 2020
  - 90% electricity coverage by 2020
  - 10% of firewood consumption for cooking reduced (1 mln efficient cookstoves)
  - 11% increase in RE share for power generation in sub-regional electricity markets
  - 20% reduction in GHG emissions from originally expected level by 2020

National Energy Strategies

National and Regional Plans

- Energy generation matrix with increasing share of renewable energy sources
- Envisions export of electricity to regional markets

(MW)



Source: ENEE

Investment Plan

Component 1: Strengthening the RE Policy Framework

Component 2: Grid-connected RE Development Support

Component 3: Sustainable Rural Energization

Program Description

Component 1: Strengthening the RE Policy and Regulatory Framework (FOMPIER)

Objective: Further develop regulatory framework to improve the conditions for production and use of renewable energy, through the development of:

- Long-term energy policy
- Low Carbon Plan
- Incentives and regulations adequate to each non traditional RE technology
- Standards and specifications for each RE technology

SREP investment: $1.7M (+ $0.7M leveraged from GoH)

Program Description

Component 2: Grid-Connected RE Development Support (ADERC)

Problem: Various technical and financial barriers preventing the implementation of grid connected RE projects.

- Shortage of investment in transmission infrastructure for RE
- Access to equity
- Limited access to adequate financial instruments (project finance)
- Weaknesses in the financial management capacity of some new developers

Program Description

Component 2: Grid-Connected RE Development Support (ADERC)

Proposed Investments

- **Expansion of transmission infrastructure** to ensure access to identified RE projects **(SREP $4M/ other $52.5M)**

- **Risk capital fund** to supplement private equity and enhance access to finance. **(SREP $10M/ other $10M)**

- **Training** to project developers and banking sector to enhance capacity to develop and finance RE projects **(SREP $1.2M/ other $0.2M)**

SREP investment will be **leveraged by**:

- MDBs and private sector financing ($120 M)
- private equity ($20M)
- Fiscal support for RE ($14.5M)

Program Description

Component 2: Grid-Connected RE Development Support (ADERC)

Expected direct results

- Installation of 60 MW of RE generation.
- Enhanced transmission infrastructure (7 existing substations to be expanded, 4 new substations, and 207 km of new transmission lines)
- Reduction of GHG emissions 152,424 Tons CO2e / year

Transformative and catalytic effects

- Enhanced capacity to develop and finance RE projects
- Increased rate of new investment in RE capacity (from $20M to $50M per year)
- Expanded access to RE generation potential (208MW)
- Improved energy security

Program Description

Component 3: Sustainable Rural Energization (ERUS)

Problem

- Limited access to sustainable energy services in rural areas, especially in indigenous and Afro-Honduran communities.

- high level of inefficient and unsustainable firewood use to supply basic energy needs, affecting the environment and health of - specially - women and children.

Objective: Develop sustainable models of rural energization based on renewable energy through:

- Off grid electrification **(SREP $6M/ other $18M)**
- Improved cook stoves **(SREP $2M/ other $5.5M)**

Program Description

Component 3: Sustainable Rural Energization (ERUS)

Expected direct results

- Double the number of people in rural remote areas with access to electricity generated by RE (from 100,000 to 200,000).
- 50,000 additional households with access to efficient cook stoves. (estimated 60% reduction firewood consumption and related emissions).

Transformative and catalytic effects

- Demonstration effect of the design and implementation of sustainable energization models.
- Benefits for women by reducing time dedicated to collect firewood.
- Reduced deforestation pressure.
- Improved health of families depending on wood.

Program Description

Expected Program Co-Benefits

- Reduction of the impacts of fuel imports on Honduras' economy
- Reduction of the exposure to fuel price volatility risks for the electricity system
- Reduction of the emission of local pollutants in fossil fuel-fired power plants
- Creation of direct (RE industry) and indirect jobs due to the more labor-intensive nature of RE technologies
- Creation of SMEs and new productive activities due to the access to new business opportunities
- Better life conditions from better lighting and communication services
- Forest, soil and water conservation

Financing Plan

Component	SREP (USD)	Others (USD)	Total (USD)
Component 1: Strengthening the RE Policy and Regulatory Framework (FOMPIER)	1.70	0.70	**2.40**
Component 2: Grid-Connected RE Development Support (ADERC)	16.70	217.40	**234.10**
Component 3: Sustainable Rural Energization (ERUS)	10.20	24.60	**34.80**
General preparation and operation expenses	1.40	0.20	**1.60**
Total USD	**30.00**	**242.90**	**272.90**


……Muchas Gracias!!!

APPENDIX

Component 3: Sustainable Rural Energization (ERUS)

Why improved firewood stoves?

- Honduras (as well as other Central American countries) is an intensive firewood user. Health, welfare, economic and environmental impacts
- Improved cook-stoves are the most appropriate solution
- So far isolated efforts; need to develop appropriate, sustainable business models that enable scale-up (and mobilize other sources of financing)
- Unlike Asia and Africa, Central America has received limited resources from the international community (for example it is not included on the list of priority areas for the Global Alliance for Clean Cookstoves)
- Double mitigation impact: improved stoves reduce GHG emissions due to (i) incomplete combustion of firewood (ii) deforestation
- Close links with small hydropower projects: watershed management, and improvement of living conditions of local communities
- Indispensable to include cooking technologies when implementing a rural energy strategy with a gender approach and a poverty reduction objective

From this

to this!

Financial Plan

Component	Private/ local investors	SREP Grants	Other SREP-con-cessional finance	MDBs	Bank loans	NGOs	ICAs	GoH	Total (MUSD)
General preparation and operation expenses									
IP Preparation Grant		0.375							**0.375**
Operation expenses for in-vestment preparation (5yrs)		1.025						0.2	**1.225**
Component 1: Strengthening the RE Policy and Regulatory Framework (FOMPIER)									
Sub-total		*1.7*					*0.4*	*0.3*	***2.4***
Component 2: Grid-Connected RE Development Support (ADERC)									
Component Preparation		(0.3)							**0.3**
Sub-total	*20.0*	*6.7*	*10.0*	*120.0*	*60.0*		*0.3*	*17.1*	***234.6***
Component 3: Sustainable Rural Energization (ERUS)									
Component preparation		(0.3)							**0.3**
Sub-total	*8.0*	*10.2*		*6.0*		*1.0*	*7.0*	*2.6*	***34.8***
Total (SREP Stage 1)	**28.0**	**20.0**	**10.0**	**126.0**	**60.0**	**1.0**	**7.7**	**20.2**	**272.9**

High SREP funding leverage factor of 1:9