



Energy Access

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

“Situation in Latin American and the Caribbean Countries”

Daniel Hugo Bouille

Bariloche Foundation



Scope

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

- Access to affordable **modern** forms of energy (Electricity, Natural Gas, LPG, Oil Derivatives) in order to satisfy a broader set of Energy Services.
- Sustainable Biomass, PV and associated technologies as a **transition** phase.
- A good knowledge of the **energy needs** to provide the adequate combination of energy and associated technology and a knowledge of the **main barriers**.
- Policy for Energy Access as a **component** of the policy for equitable growth and development.
- Access to modern energy as a **contribution** to poverty alleviation.



What is the meaning to be energy poor in LA&C?

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

- Less useful Energy and more money spent by useful unit.
- High percentage of the income spent in Energy.
- Low efficiency in final energy consumption.
- Limited number of energy services satisfied.
- Energy services satisfied poorly.
- Low quality of the energy sources used.
- Inadequate combination of energy services/energy source/equipment.



Access to Electricity

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

7.8 COBERTURA ELÉCTRICA TOTAL (%)
TOTAL ELECTRICITY COVERAGE (%)

Países / Countries	COBERTURA COVERAGE
ARGENTINA	95,00
BARBADOS	98,00
BOLIVIA	89,00
BRAZIL / BRAZIL	97,89
CHILE	99,00
COLOMBIA	94,00
COSTA RICA	98,98
CUBA	95,00
ECUADOR	99,40
EL SALVADOR	95,50
GRENADA	82,00
GUATEMALA	83,50
GUYANA	82,00
HAITI	34,00
HONDURAS	75,41
JAMAICA	95,00
MEXICO	96,62
NICARAGUA	83,40
PANAMA	83,00
PARAGUAY	96,70
PERU	78,10
REPUBLICA / DOM. REP.	95,70
SURINAME	97,00
TRINIDAD & TOSAGO	92,00
URUGUAY	98,00
VENEZUELA	97,00

2008
(OLADE)

Due to

Urban Area: Nearly 100%
Rural Area: 70% (Average)
Urban population: 80%

Urbanization process; Rural electrification Programs; Subsidies; Availability of energy sources; Political commitment (Targets and actions); Adequate long term financing mechanisms; Appropriate institutional framework (Public Utility Role); Economic Growth; Income distribution policies; Consumers self organization (Cooperatives); Regional Integration and Cooperation;...



Access to Electricity

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

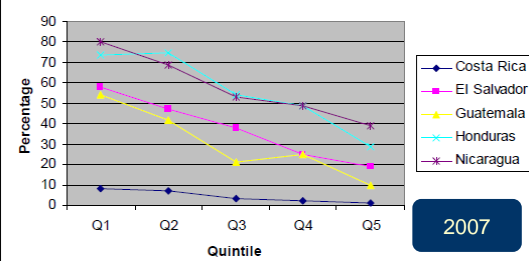
Facilitated by UNEP

Country	Poor population without Electric Service (thousand hab.)	Non Poor Population without Electric Service (thousand hab.)	Total population without Electric Service	% poor in total population without Electric Service	Country share % in total population without Electric Service
Argentina	57	91	148	38%	0.5%
Bolivia	2,604	708	3,311	80%	12.2%
Brazil	5,123	2,753	7,875	65%	26.7%
Chile	62	198	231	27%	0.8%
Colombia	420	666	1,378	31%	4.7%
Costa Rica	34	18	52	65%	0.2%
Ecuador	51	15	66	77%	0.2%
El Salvador	751	191	942	80%	3.2%
Guatemala	2,569	667	3,256	79%	11.0%
Honduras	2,272	210	2,482	92%	8.4%
Nicaragua	1,377	219	1,596	86%	5.4%
Paraguay	510	75	585	87%	2.0%
Peru	5,204	1,982	7,240	73%	24.0%
Venezuela	16	15	35	45%	0.1%
Total estimate	21,410	8,092	29,501	73%	100.0%

**~30 millions without access to electricity
73% of them are poor**

Source: ECLAC-UNDP-GTZ Club de Madrid-UNDP (2010) Contribution of energy services to the MDG and to poverty alleviation in L&C.

Central America:
Rural Population
access to Electricity
by Level of income



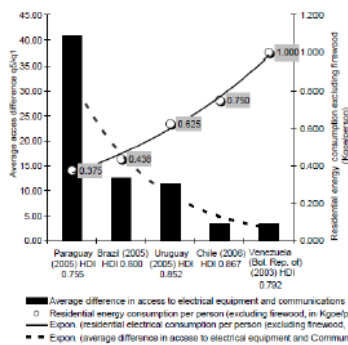
Access to Electricity = to access to Energy Services?

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

DIFFERENCES IN AVERAGE ACCESS TO EQUIPMENT, AVERAGE PER CAPITA CONSUMPTION OF ENERGY FROM MODERN SOURCES AND HUMAN DEVELOPMENT INDEX



Access to modern energy as a condition for more and better satisfied energy services

**Appliances?
Energy Efficiency?**

- Lack of basic equipment
- Limited access to communication and information technologies



South America Charcoal Consumption

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

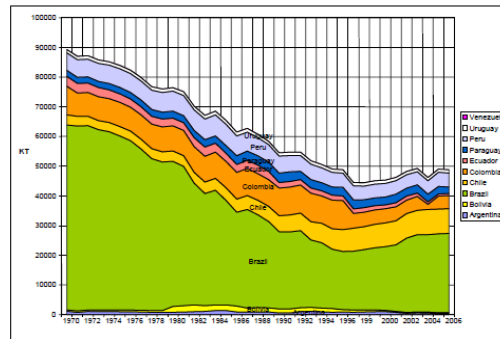


Figure 19.28 Evolution of Firewood Consumption in the South American Household Sector.
Source: Based on estimates with data from OLADE's SIEE, 2008.

Urbanization process and penetration of Oil Products, NG and LPG reduced Charcoal consumption in South America.
Structural reforms and privatization processes change the trend?



Gas Fuels: two examples

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Table 19.8 Energy Sources used for cooking according to income quintiles

Argentina	Q1	Q2	Q3	Q4	Q5
Natural Gas	56.6%	57.8%	66.9%	76.4%	89.7%
LPG	40.2%	40.0%	32.3%	23.4%	10.3%

Brazil	Q1	Q2	Q3	Q4	Q5
LPG	43.5%	52.4%	58.9%	62.9%	72.2%
Firewood	47.5%	40.3%	37.6%	33.3%	26.2%
Charcoal	8.7%	7.0%	3.0%	3.3%	1.2%

Source: Based on information from ECLAC and OLADE

As in Electricity, access to Natural Gas and LPG were the result of Governmental programs, with subsidies to both fuels. NG Program in Argentina began in the sixties, LPG Program in Brazil in 1973.
It is very clear the replacement process as level of income increases
Paradox: FWp > LPGp > NGp



LA&C: Some Remarks



- Although efforts, the **energy gap persists** in several countries. Still, mainly a rural problem.
- The past positive results were the result of **political commitment and public investment** programs implemented, mainly, by Public Utilities.
- The **structural reforms did not contribute** to increase access.
- Prices of **equipments and up-front costs** are in many cases the main **barriers**.
- To expand access in **rural areas** will need to be **subsidized**.
- The importance of the access to **appliances and energy efficiency** should be considered.
- **No single institutional model and strategy** is universally valid.
- **Microfinance did not play** and it is not playing a role
- **National circumstances** are very **dissimilar** and also the solutions.



Current New Regional Framework



- Structural reforms (nineties) created a new environment ~~and new~~ challenges for public policies.
- Specially there was and there is a lack of investment in infrastructure.
- Political changes in the main countries increased the importance of the focus on equity.
- Countries are trying to recover the control of Non-Renewable Energy Sources.
- The need to look for a new integration and cooperation model, not based in short term business opportunities, but in long term objectives.
- The region is trying to recover the role of some regional energy institutions that were very important in the past: OLADE, CIER, ARPEL.
- New political and financing institutions have a growing importance: UNASUR, CAF.



The way forward: What is needed

GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

- A **comprehensive and broader approach** with a specific focus on the poor: **commitments and targets.**
- Clear **diagnosis** (information, priority needs and barriers)
- Adequate **Subsidy System** (oriented, transparent, flexible,...)
- Guarantee of **Financing Mechanisms at low costs** (Up-front costs and infrastructure)
- Changes in **Regulatory Framework** (Oriented to poor)
- **Capacity development and reinforcement** (individually, institutional and systemic)
- **Energy Policy in line with sustainable development policies**
- Assessment of potential **role of regional integration and cooperation.**



GNESD

GLOBAL NETWORK
ON ENERGY FOR
SUSTAINABLE
DEVELOPMENT

Facilitated by UNEP

Thank you!!