



SUSTAINABLE  
ENERGY FOR ALL

LATIN AMERICA  
AND THE CARIBBEAN

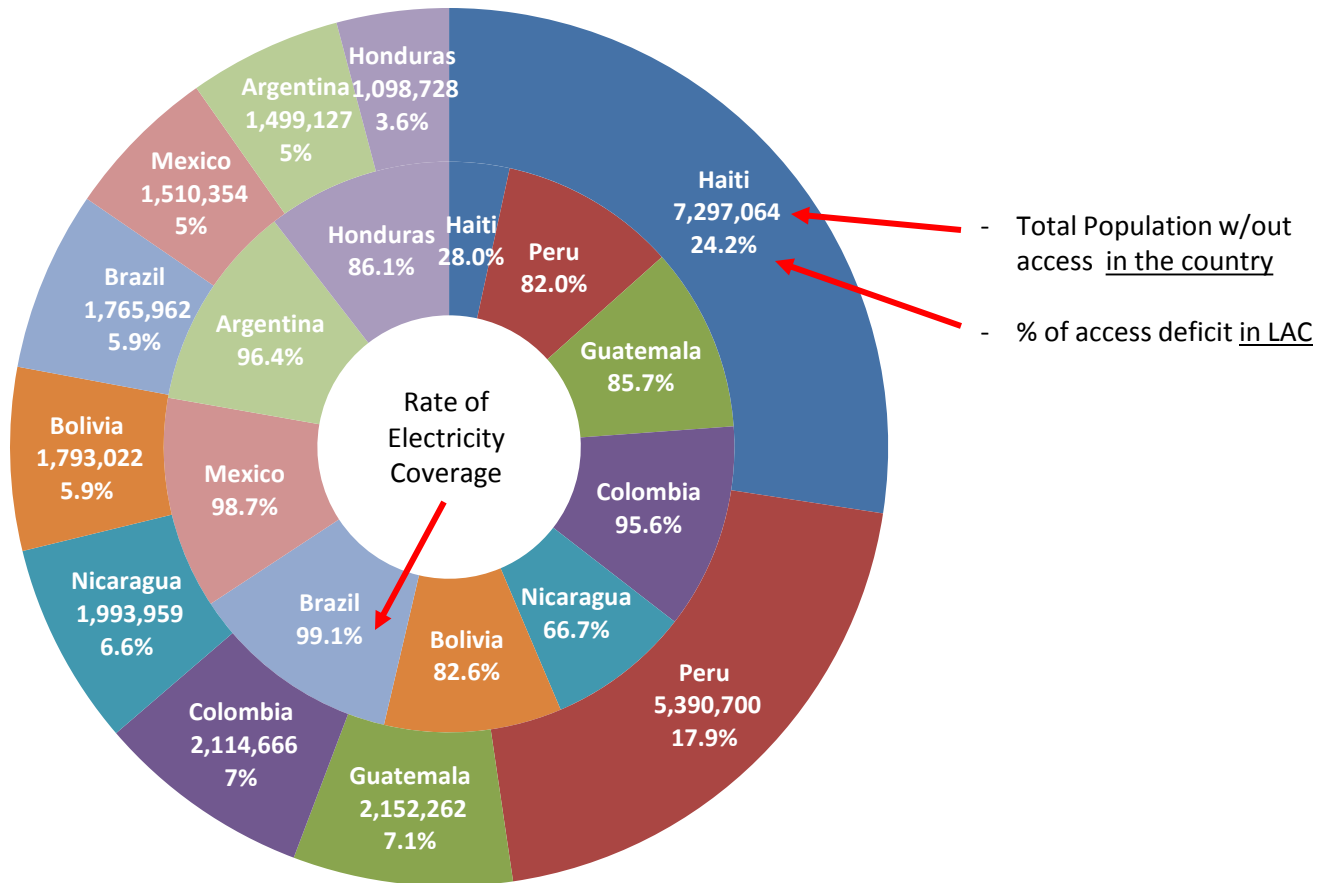
# Energy Access in Central America

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**Arnaldo Vieira de Carvalho**  
**Inter-American Development Bank – IDB**  
Energy Division  
Infrastructure and Environment Department  
Washington, DC  
[arnaldov@iadb.org](mailto:arnaldov@iadb.org); +1 202 623 1719



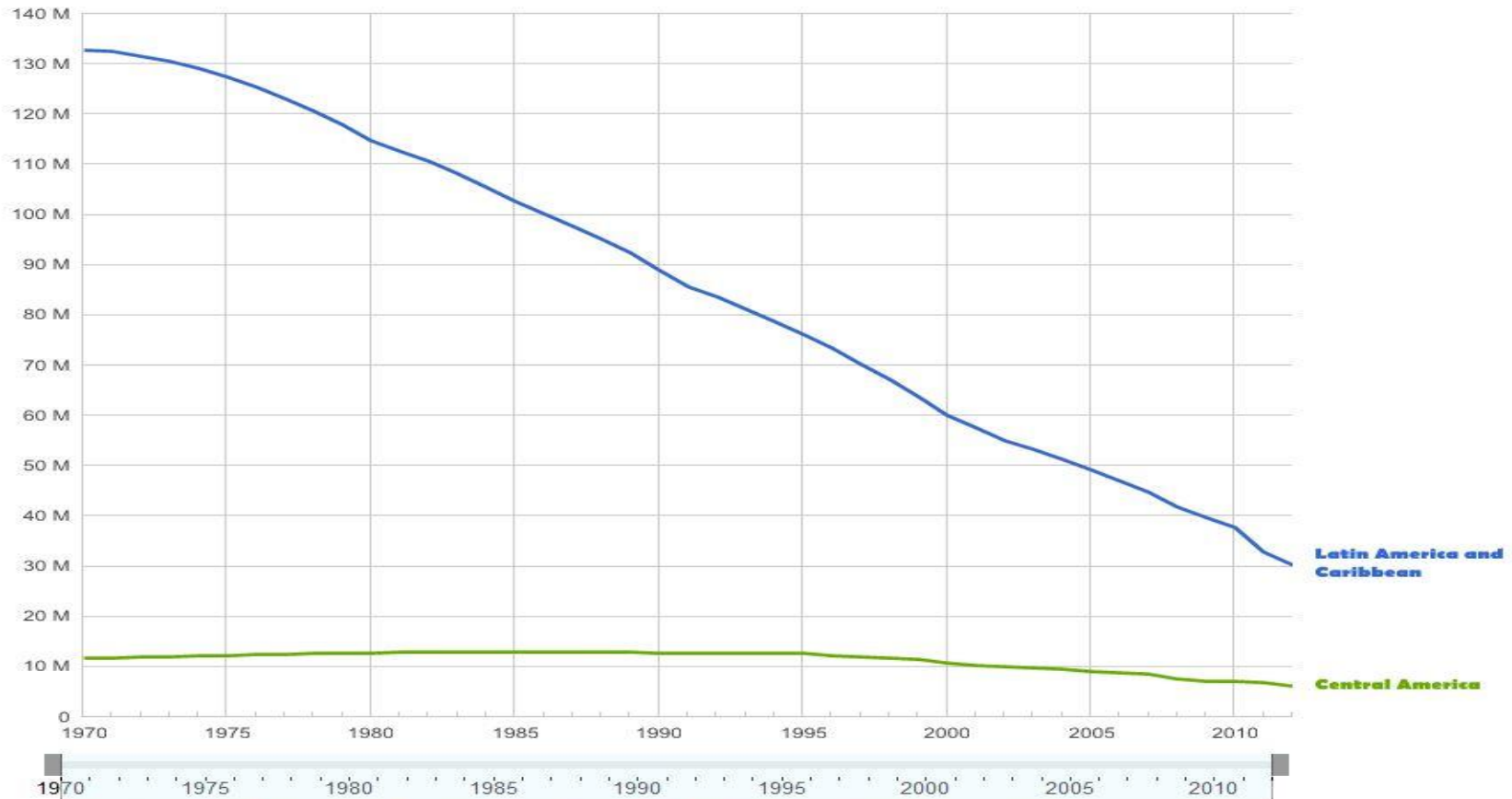
# Electricity Coverage in LAC, 2012



**10 Countries = 88.3% of the total deficit in LAC**  
**The 15 largest = 97.8% of the total deficit in LAC**

# Population without access to electricity in LAC 1970-2012

Population without electricity ?

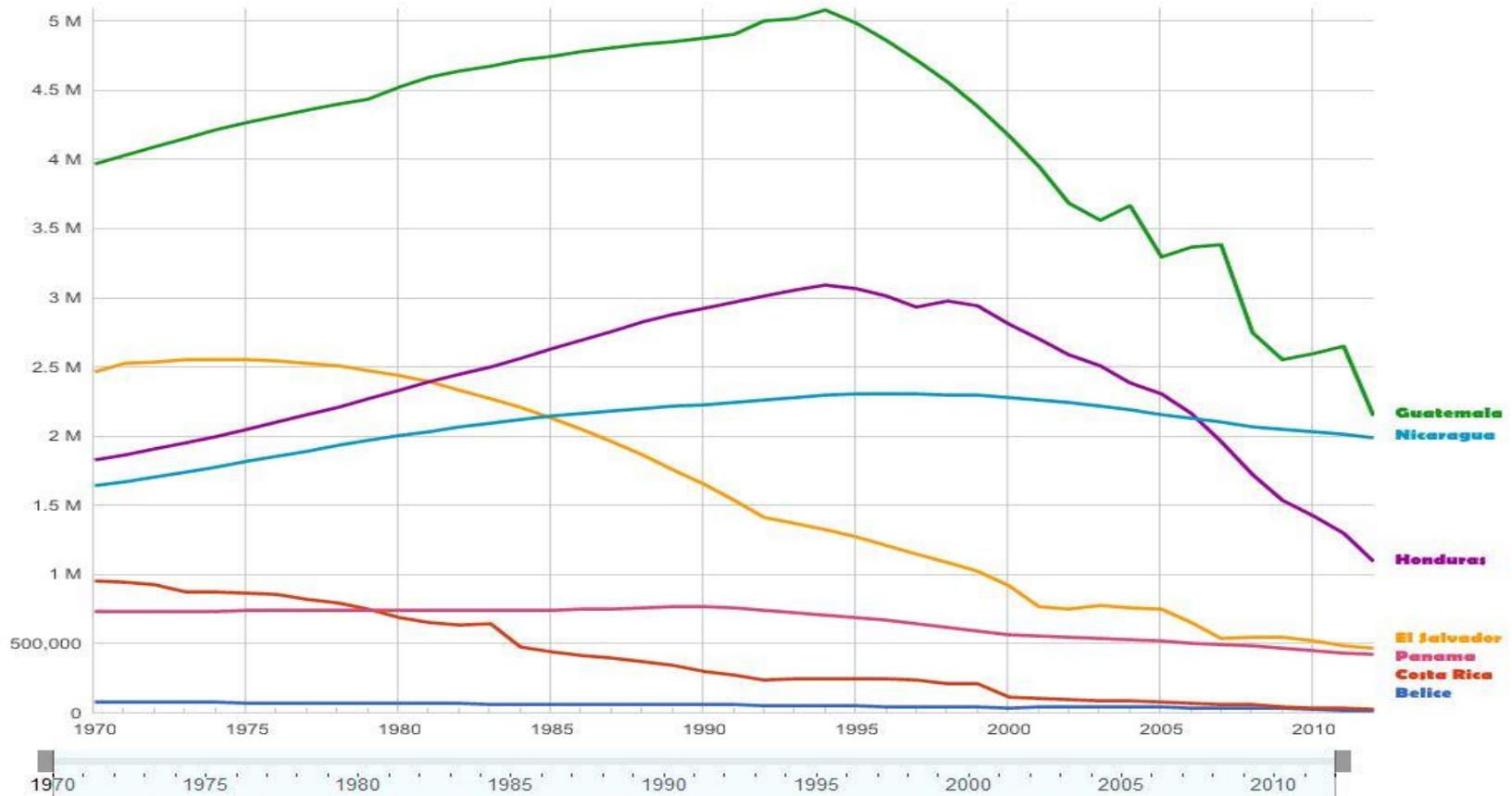


Data from InterAmerican Development Bank and Latin American Energy Organization Last updated: Dec 23, 2013  
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# Population without access to electricity in Central American countries, 1970-2012

Population without electricity ?



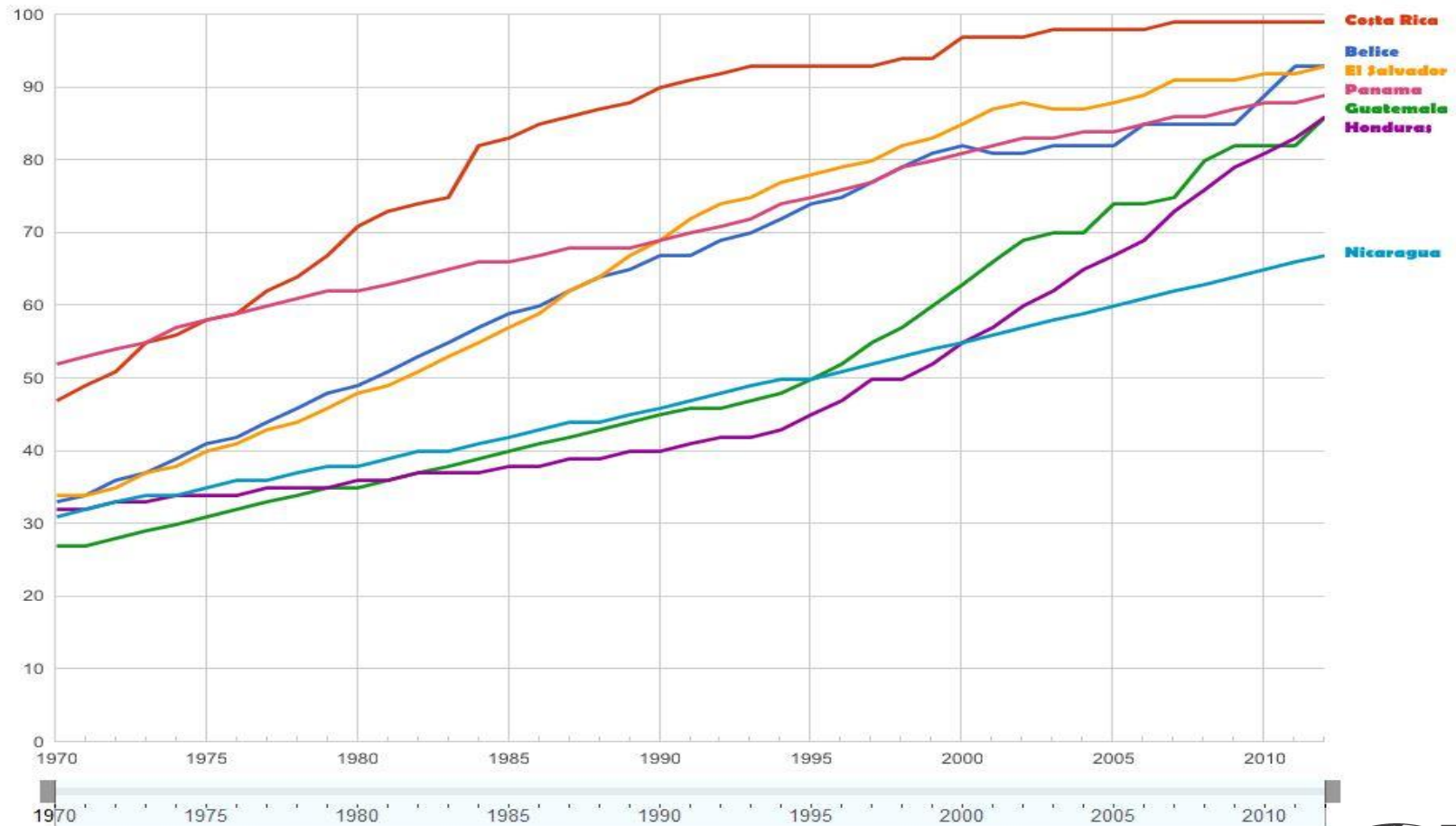
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Source: <http://kp.iadb.org/LAC.SE4ALL/en/Pages/graphic.aspx>

# Electricity Coverage in Central American countries, 1970-2012

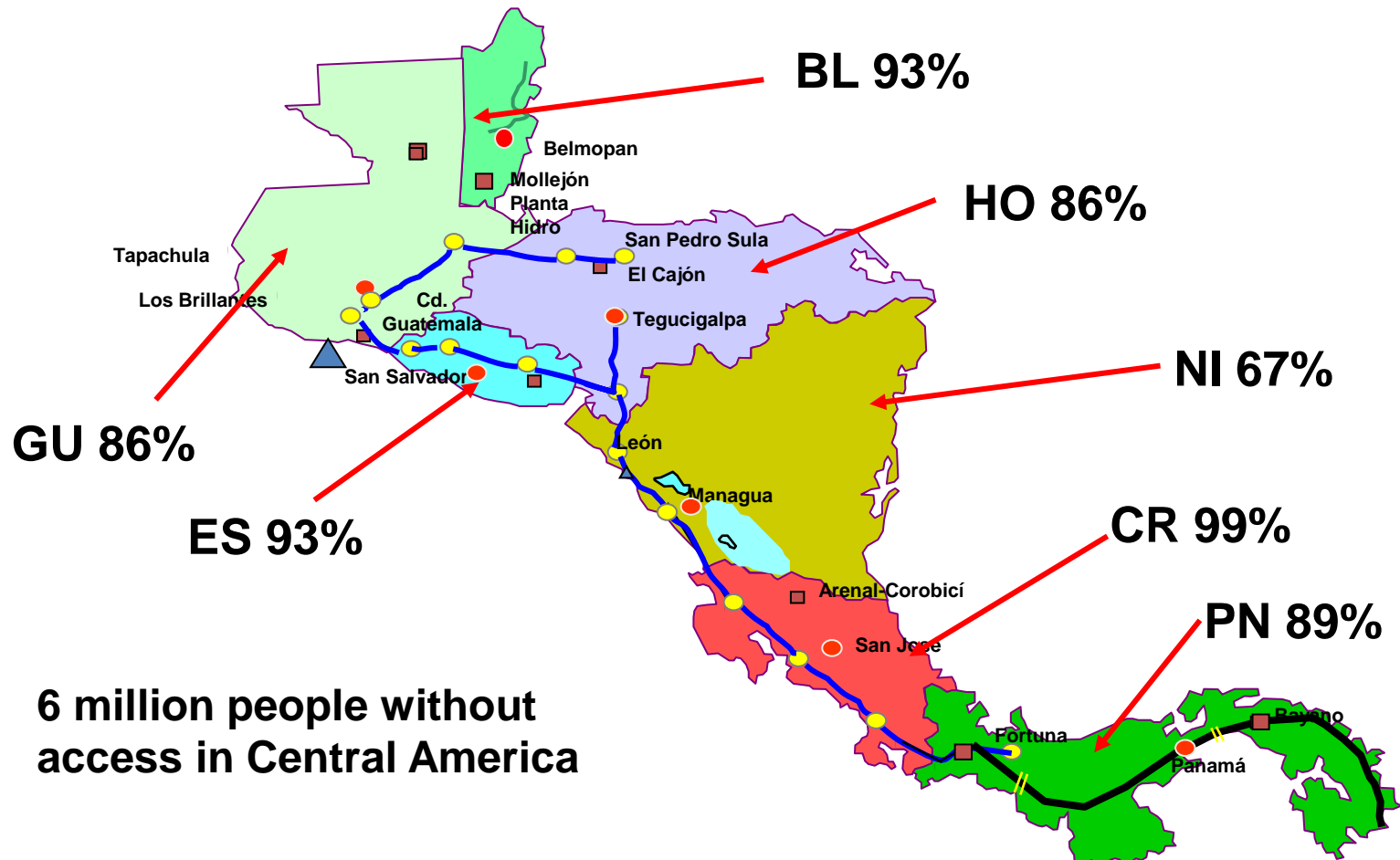
Rate of Electrification ?



Data from InterAmerican Development Bank and Latin American Energy Organization | Last updated: Dec 23, 2013

Source: <http://kp.iadb.org/LAC.SE4ALL/en/Pages/graphic.aspx>

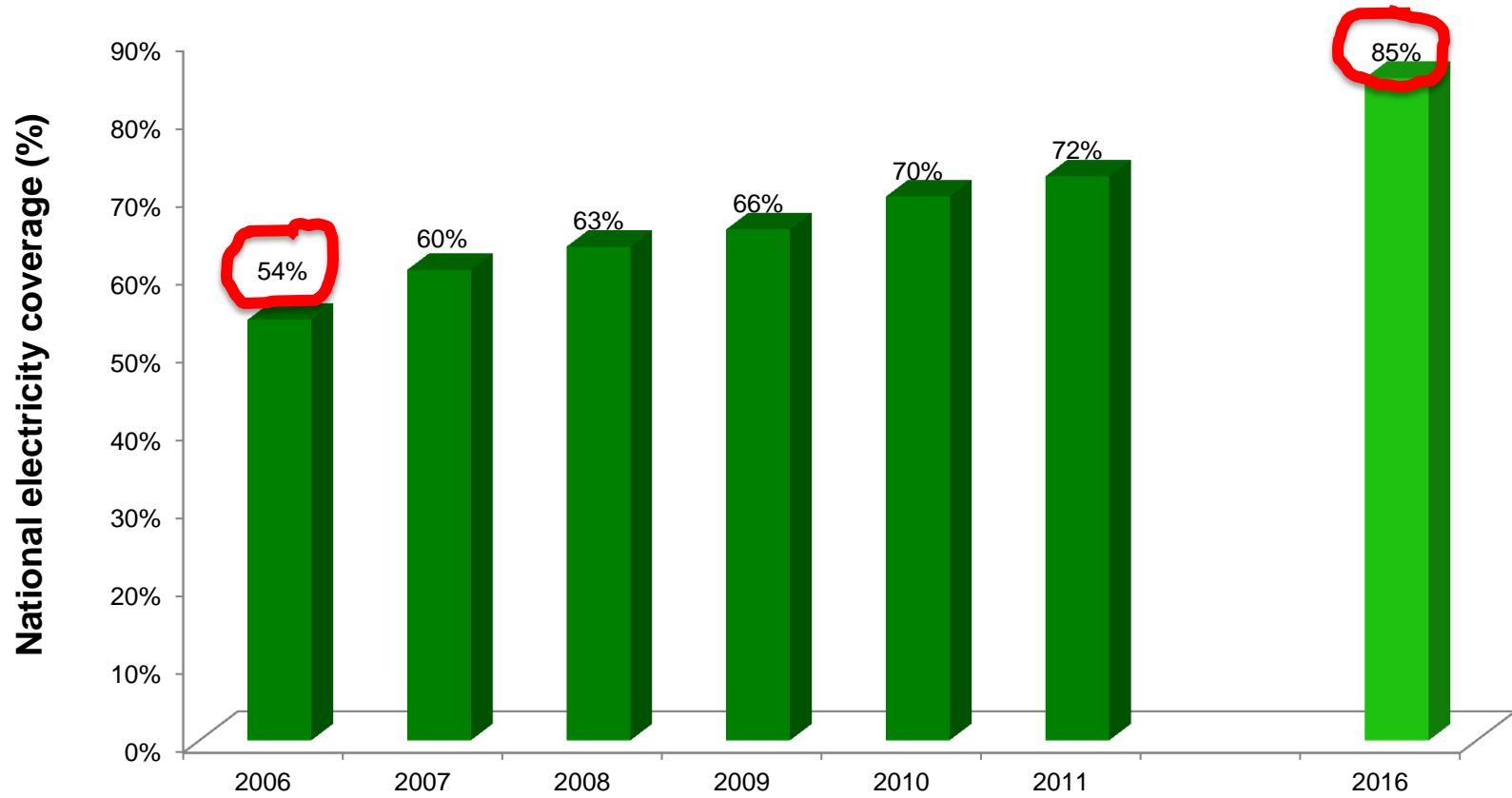
# Electricity Coverage in Central America, 2012



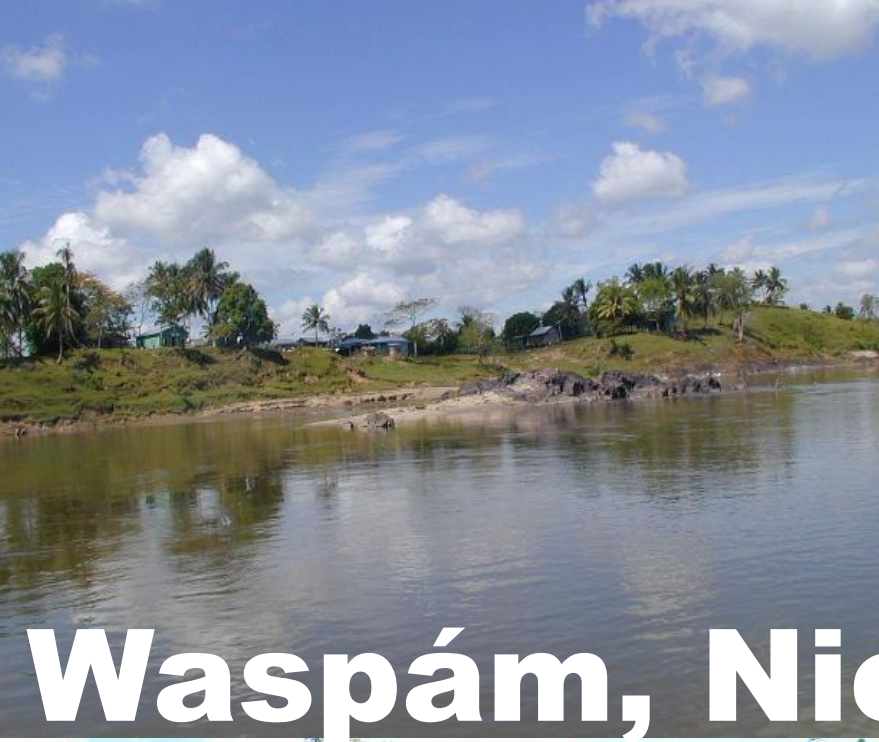
# IDB Energy Loans in LAC

- More than US\$12 Billion per year in general financing
- For past two years, nearly US\$1 billion approved per year for energy alone
- Currently US\$4.4 Billion in execution
  - ✓ Over 40 energy operations in execution across the entire region
- Historically, Rural Electrification is 15% of total IDB portfolio and 80 loans specifically for rural electrification from 1961-2013 mostly grid extensions
  - ✓ More than 10,000 solar home systems for isolated homes in past 10 years
- **Current energy access operations in Central America**
  - ✓ Guatemala: Multiphase Rural Electrification Program - Phases I and II
  - ✓ Honduras: Support for the Integration of Honduras in the Regional Electricity Market
  - ✓ Nicaragua: National Sustainable Electrification and Renewable Energy Program (**PNESER**) – Loans I, II and III
  - ✓ Costa Rica: Power Sector Development Program 2012-2016
  - ✓ Panama: Sustainable Rural Electrification Program - Phase I and II

# Electricity coverage plans for Nicaragua







# Waspám, Nicaragua



| TECNOSOL ENERGIA SOLAR  |                  |              | CONSORCIO ISOFOTON - TECNOSOL - PANAMA PANAMA   |                  |              |
|---|------------------|--------------|---|------------------|--------------|
| <small>Referencia: Honduras, 400 metros al norte de la calle "Tercera" C.A. 02001996-04444 / 080-90711<br/>                 Email: tecnosol@isow.com.ni - No. RUC: 0396203-9470</small> |                  |              | <small>Referencia: Honduras, 400 metros al norte de la calle "Tercera" C.A. 02001996-04444 / 080-90711<br/>                 Email: tecnosol@isow.com.ni - No. RUC: 0396203-9470</small> |                  |              |
| No. 12618   |                  |              | No. 12618   |                  |              |
| CLIENTE   | CONTRATO         | COMUNIDAD    | CLIENTE   | CONTRATO         | COMUNIDAD    |
| ( 0600 )  | 0001             | BULL CAMP    | ( 0600 )  | 0001             | BULL CAMP    |
| PABLO JOSE URBINA HERNANDEZ   |                  |              | PABLO JOSE URBINA HERNANDEZ   |                  |              |
| MES   | TIPO DE SERVICIO | CUOTA        | MES   | TIPO DE SERVICIO | CUOTA        |
| 15/Abr/2005   | RESIDENCIAL      | 4.90 US      | 15/Abr/2005   | RESIDENCIAL      | 4.90 US      |
|   |                  | 16.33 T/C    |   |                  | 16.33 T/C    |
|   |                  | 80.00 C\$    |   |                  | 80.00 C\$    |
|   |                  | Fact#: 16403 |   |                  | Fact#: 16403 |

# Energía solar para viviendas de Sonsonate

están en una de difícil zona de acceso, varios kilómetros al sur de Caluco, uno de los municipios identificados en el Programa Red Solidaria.

A la inauguración asistió el Presidente de la Re-

## Presidente Elías Antonio Saca le cumple a Caluco!

Las casas de dos cantones de Caluco tienen desde ayer electricidad generada por celdas fotovoltaicas

EL DIARIO DE HOY

Ayer se inauguró el primer plan piloto de electrificación rural usando energía solar.

El proyecto es ejecutado por la Dirección de Energía Eléctrica del Ministerio de Economía y se benefician 70 familias de los cantones Las Flores y Cerro Alto de Caluco, Sonsonate.

Las viviendas fueron equipadas con una fotocelda con capacidad de generar 12 voltios, con la que alimentarán bombillos y algunos electrodomésticos como televisores y radios.

El proyecto es apoyado por la municipalidad de Caluco, el Banco Interamericano para el Desarrollo (con fondos del gobierno japonés), el Ministerio de



La zona no es apta para acceder al tendido eléctrico.

Economía, el Programa de Naciones Unidas para el Desarrollo y la población de las comunidades beneficiadas.

El costo de la obra asciende a 59 mil 400 dólares.

Las Flores y Cerro Alto

cos para la generación eléctrica.

De Gavidia explicó que la operación de la red eléctrica de Las Flores y Cerro Alto se hará por medio de una micro comercializadora operada por la misma comunidad.

Los beneficiarios pagarán cinco dólares mensuales por el servicio.



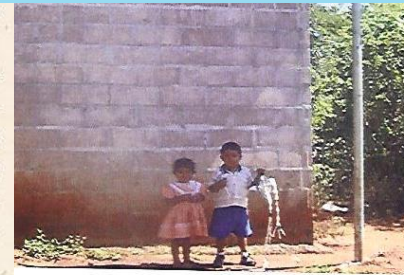
Las Flores y Cerro



proporcionada  
alación de

celdas solares.

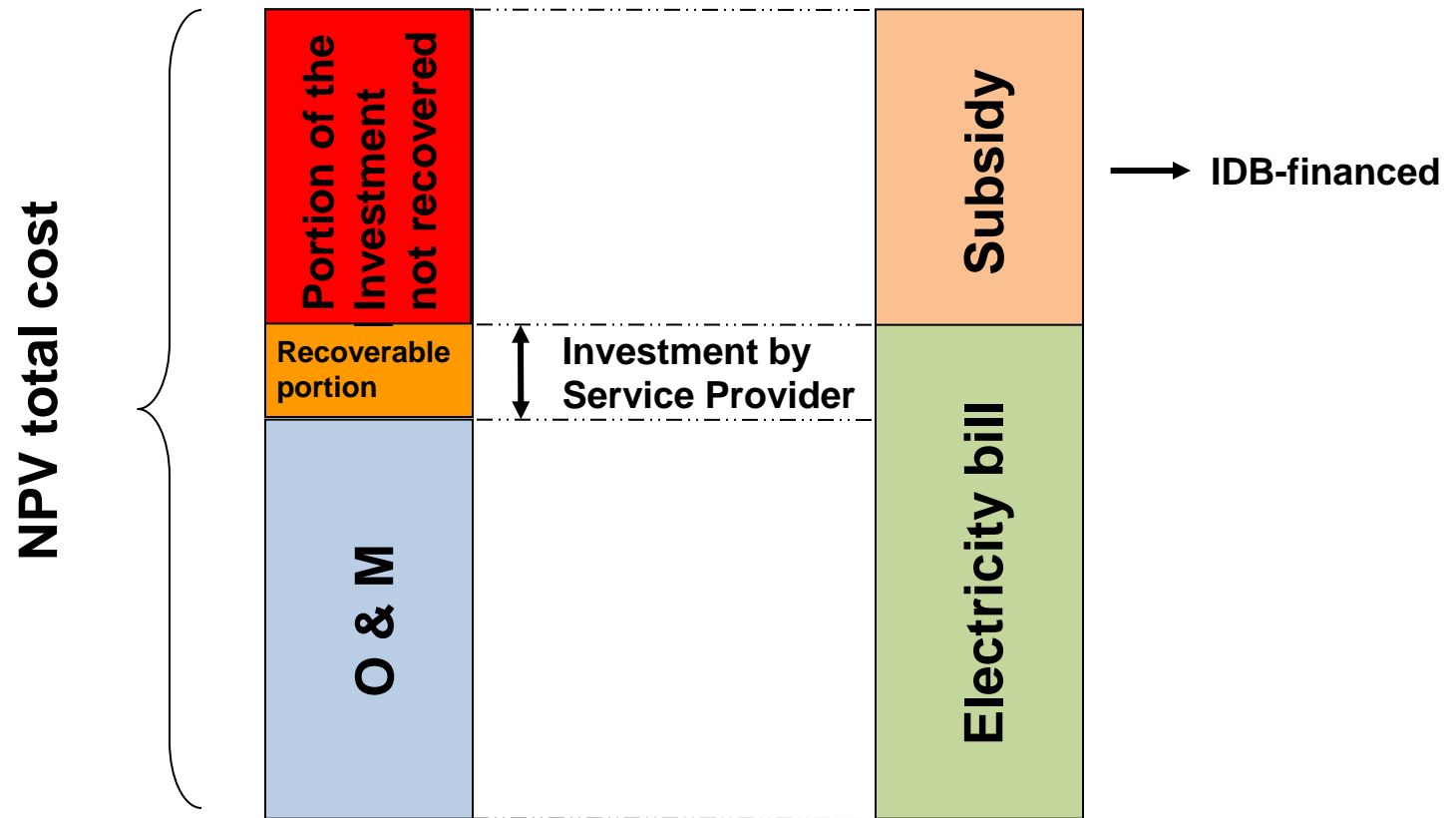
Costo total del proyecto  
\$59,437.59



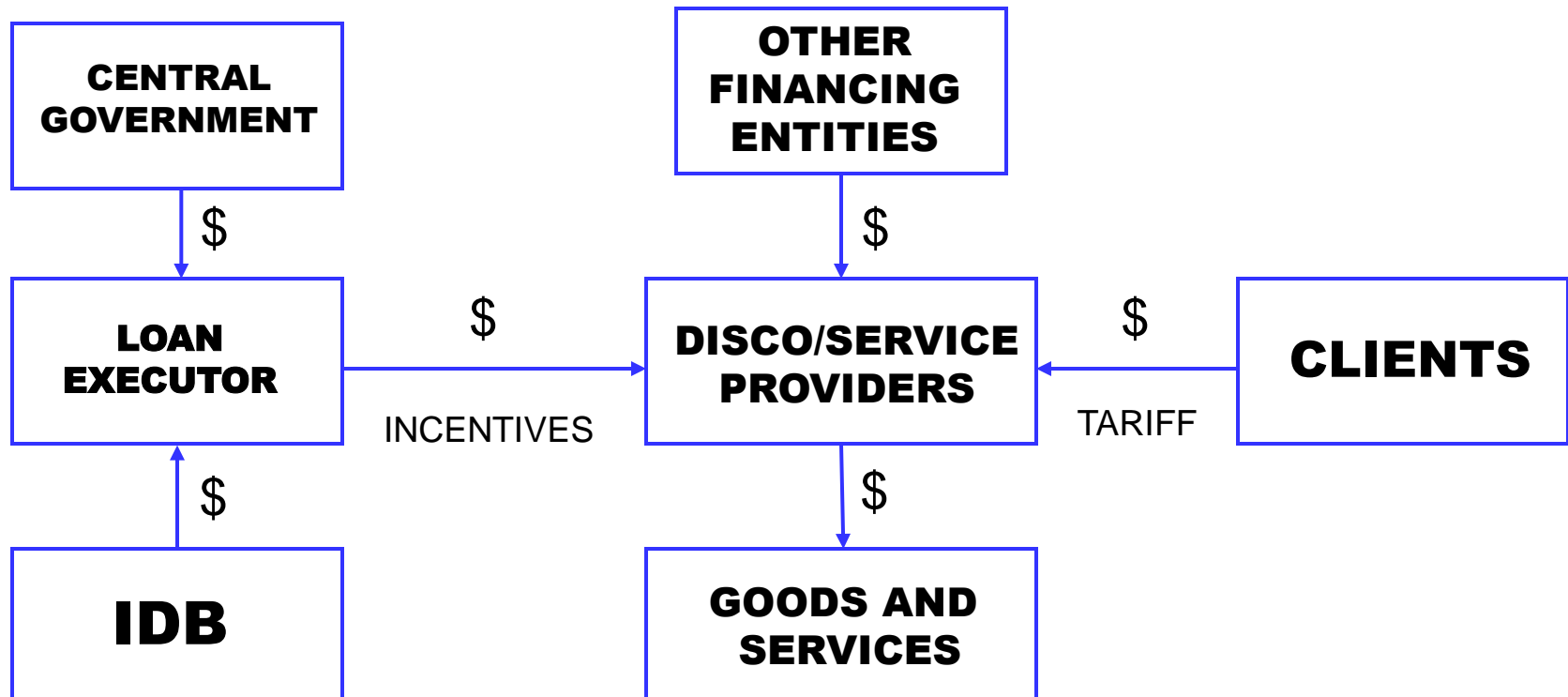
Obra financiada por Ministerio de Economía / BID / Gobierno de Japón y Alcaldía de Caluco



## Calculation of required Incentive to the Service Provider (subsidy to the client)



## RURAL ELECTRIFICATION FINANCING SCHEME



# SE4ALL 2030 Objectives



Guarantee  
**Universal Access**  
to Modern Energy



Double  
**Renewable Energy**  
in Global Energy Mix



Double  
**Energy Efficiency**  
Rate of Improvement Globally

|               | Guarantee Universal Access to Modern Energy   | Double Renewable Energy in Global Energy Mix   | Double Energy Efficiency Rate of Improvement Globally  |
|---------------|---|--|--|
| <b>GLOBAL</b> | <ul style="list-style-type: none"> <li>▪ <b>1.3 billion people</b> without access to electricity</li> <li>▪ <b>2.7 billion people</b> without clean cooking facilities</li> </ul> | <ul style="list-style-type: none"> <li>▪ <b>13% in 2011</b> to 26% in 2030</li> <li>▪ 27% needed by 2035 for IEA WEO 2013<sup>1</sup> 450 ppm<sup>2</sup> scenario (2°C increase)</li> </ul> | <ul style="list-style-type: none"> <li>▪ <b>2.4%</b> annual reduction in energy intensity by 2030, compared to <b>1.2%</b> from 1970 to 2008 as measure of energy efficiency</li> </ul>          |
| <b>LAC</b>    | <ul style="list-style-type: none"> <li>▪ <b>30 million people</b> without access to electricity</li> <li>▪ <b>85 million people</b> without clean cooking facilities</li> </ul>   | <ul style="list-style-type: none"> <li>▪ <b>Already 30% in 2011</b></li> <li>▪ 44% needed by 2035 for IEA WEO 2013<sup>2</sup> 450 ppm scenario</li> </ul>                                   | <ul style="list-style-type: none"> <li>▪ LAC energy intensity reduced only <b>0.43%</b> during 1970-2012</li> <li>▪ Major effort needed</li> <li>▪ Means there are many opportunities</li> </ul> |

1) International Energy Agency's World Energy Outlook 2013  
2) Parts Per Million

# IDB Commitment to SE4ALL



U\$ 5 Billion  
in 5 Years



Pres. Moreno  
Member of  
Global  
Advisory Board



IDB as  
Regional Hub  
for SE4ALL





# Planning is Key

- National Action Agendas:
  - ✓ Review all plans in the country related to SE4ALL Goal – for example in biofuels, access to electricity or cooking fuels, or energy efficiency policy
  - ✓ Identify the gap between goals of current country plans and those of SE4ALL
  - ✓ Suggest steps for addressing the difference
  
- National Plans for Universal Access to Modern Energy (announced June 5<sup>th</sup>, 2014 at SE4ALL Forum/Advisory Board Meeting)
  - ✓ Will address access in both electricity and thermal uses such as cooking fuels

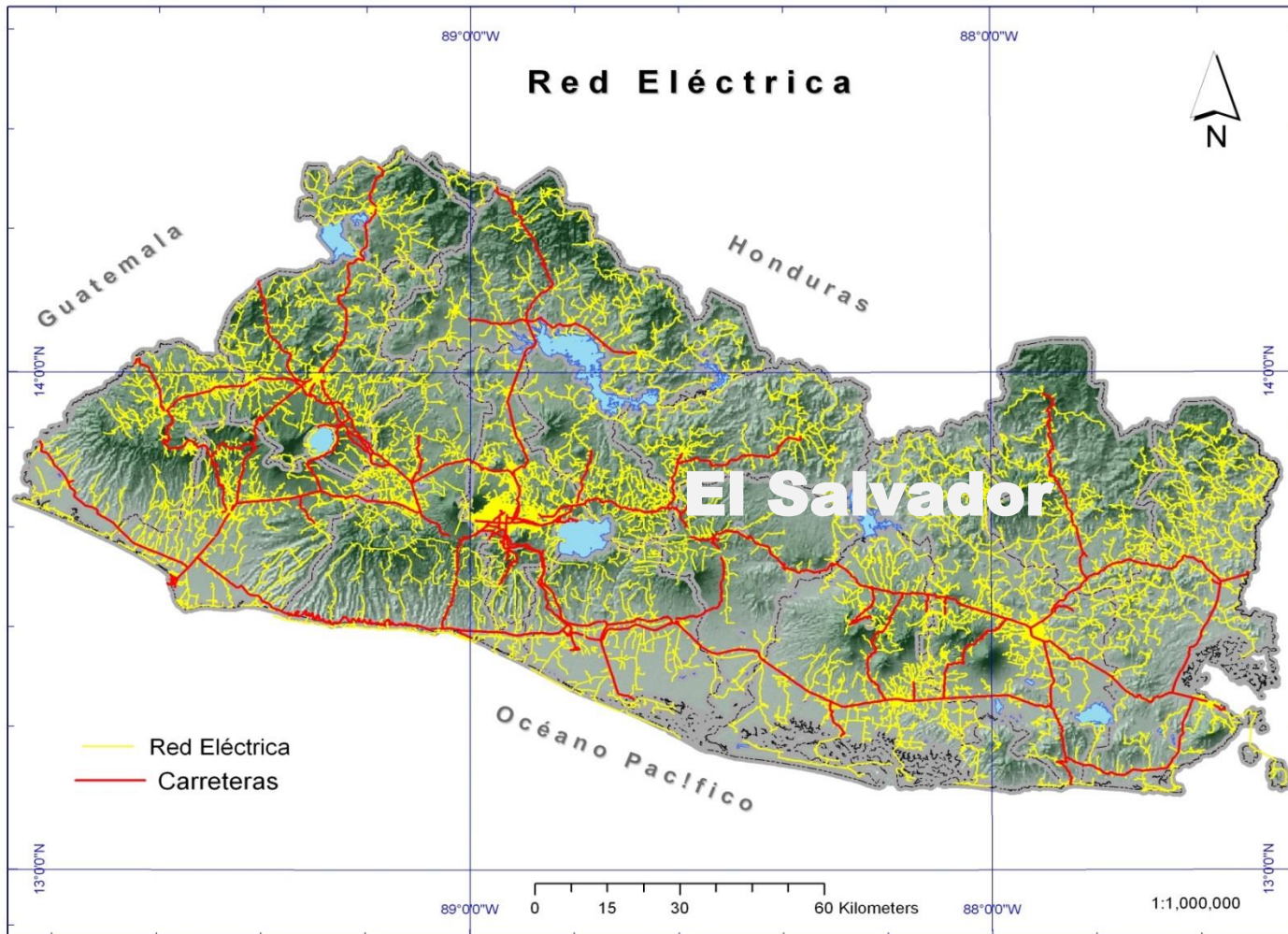


## Supporting National Universal Access Plans

- IDB will support any member country that wishes to generate *National Plans for Universal Access to Modern Energy*
- Support would be for planning that:
  - ✓ Addresses, at a minimum, access to electricity and cooking fuels
  - ✓ Uses information systems like GIS allowing for the optimization of investment and design solutions
  - ✓ Maximizes existing renewable resources en each country
  - ✓ Clearly and objectively defines the areas that should be attended to with off-grid and on-grid



# GIS to be employed for Universal Access Plans





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**Merci!**  
**Thank you!**  
**¡Gracias!**  
**Obrigado!**



<http://kp.iadb.org/LAC.SE4ALL/en/Pages/Home.aspx>

