

# Country Report 2013 URUGUAY

## JICA TRAINING AND DIALOGUE PROGRAM – ENERGY POLICY (A)

Secretary of Energy (DNE)

Ministry of Industry, Energy and Mining

Eng. Santiago Sanguinetti

June, 2013



# INDEX

- OVERVIEW OF URUGUAY
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- ENERGY POLICY URUGUAY 2030
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



- **OVERVIEW OF URUGUAY**
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- ENERGY POLICY URUGUAY 2030
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



# OVERVIEW OF URUGUAY



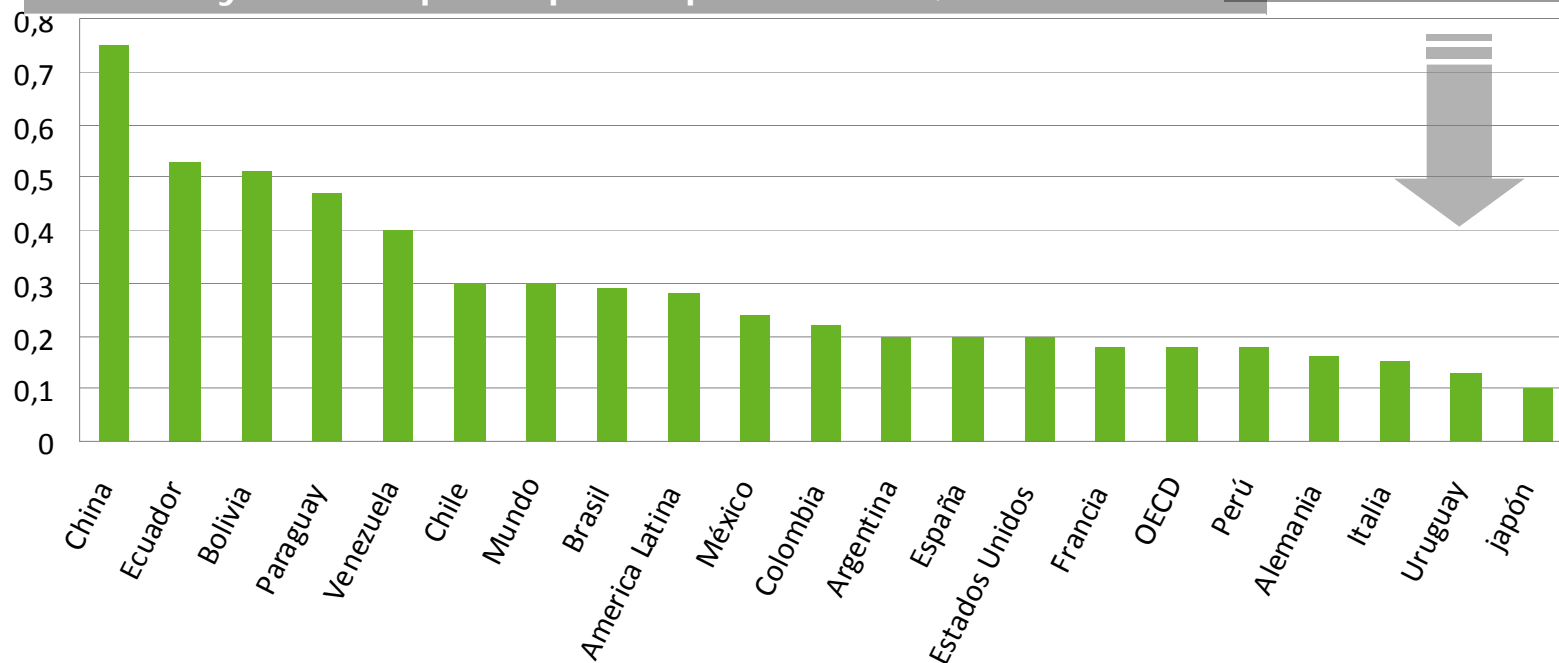
Country name:	República Oriental del Uruguay
Land area:	176,215 km <sup>2</sup>
Population:	3.4 million inhabitants
Annual growth rate:	0.3 %
Density:	19 inhabitants/km <sup>2</sup>
GDP:	USD 12,117/inhabitant (2010)
Life expectancy:	76 years
Infant mortality rate:	7.7/1000



# ENERGY FIGURES (2011)

Total Energy Supply	4,255 ktoe
Total Energy Demand	3,655 ktoe
Energy Consumption / inhabitant	1,124 toe/inhab
Electrification	98.7 %
Mean annual power demand (2012)	1,095 MW
Peak power demand (2012)	1,745 MW
Electricity consumption per capita	2,812 KWh

## ENERGY INTENSITY (TOE/GDP)



# INDEX

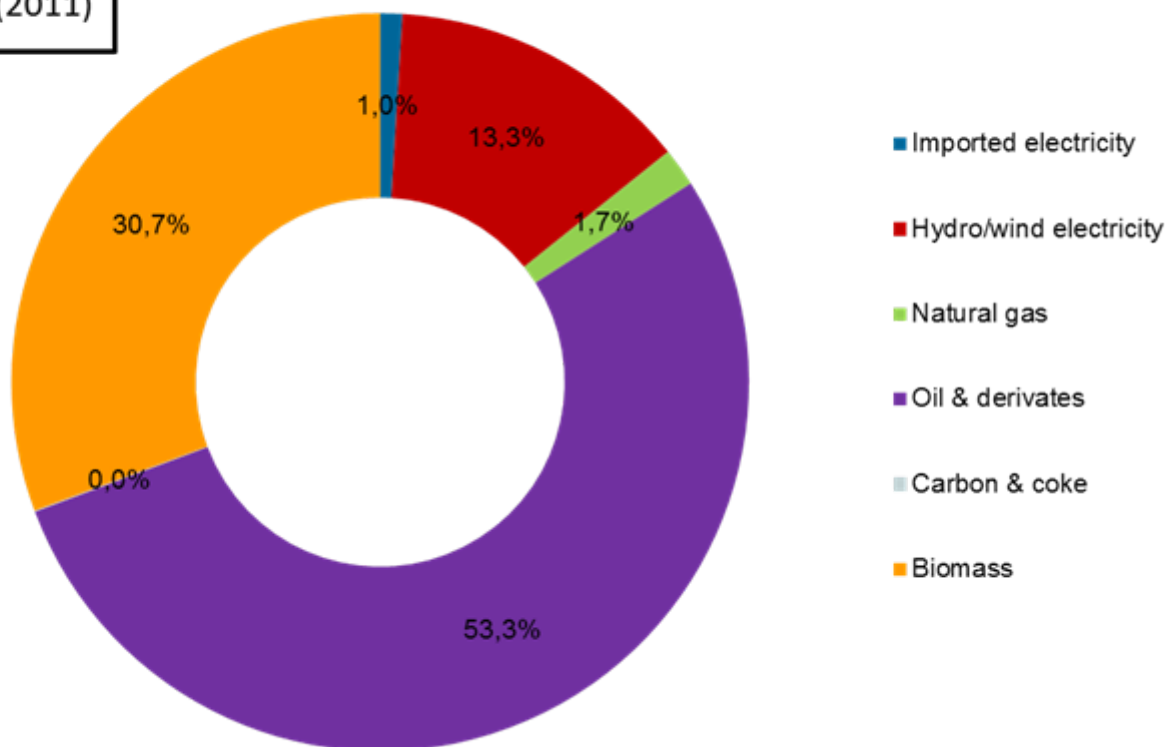
- OVERVIEW OF URUGUAY
- **THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY**
- ENERGY POLICY URUGUAY 2030
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



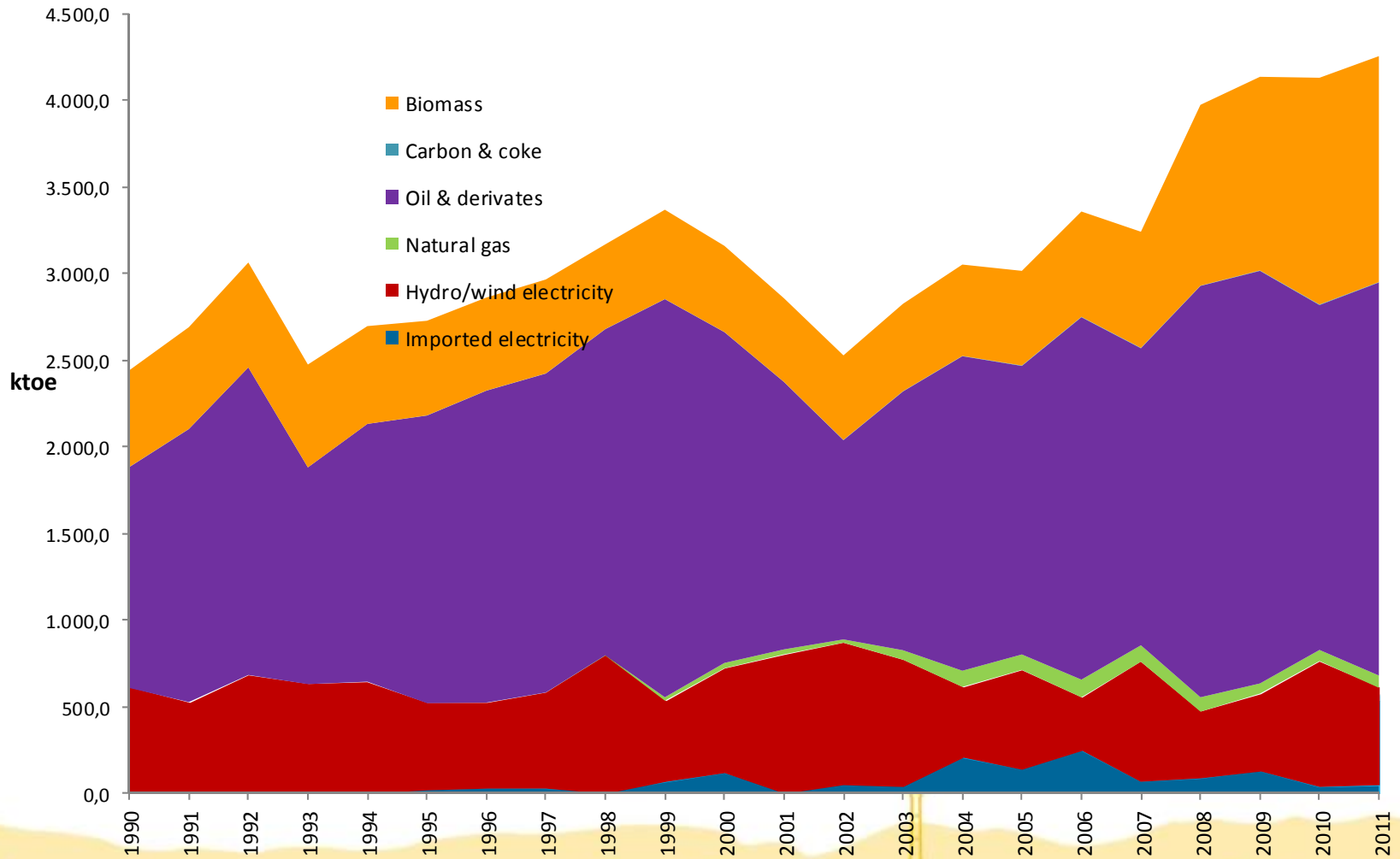
# ENERGY SUPPLY BY SOURCE (2011)

## Uruguay Energy supply (% , year 2011)

4.255 ktoe (2011)

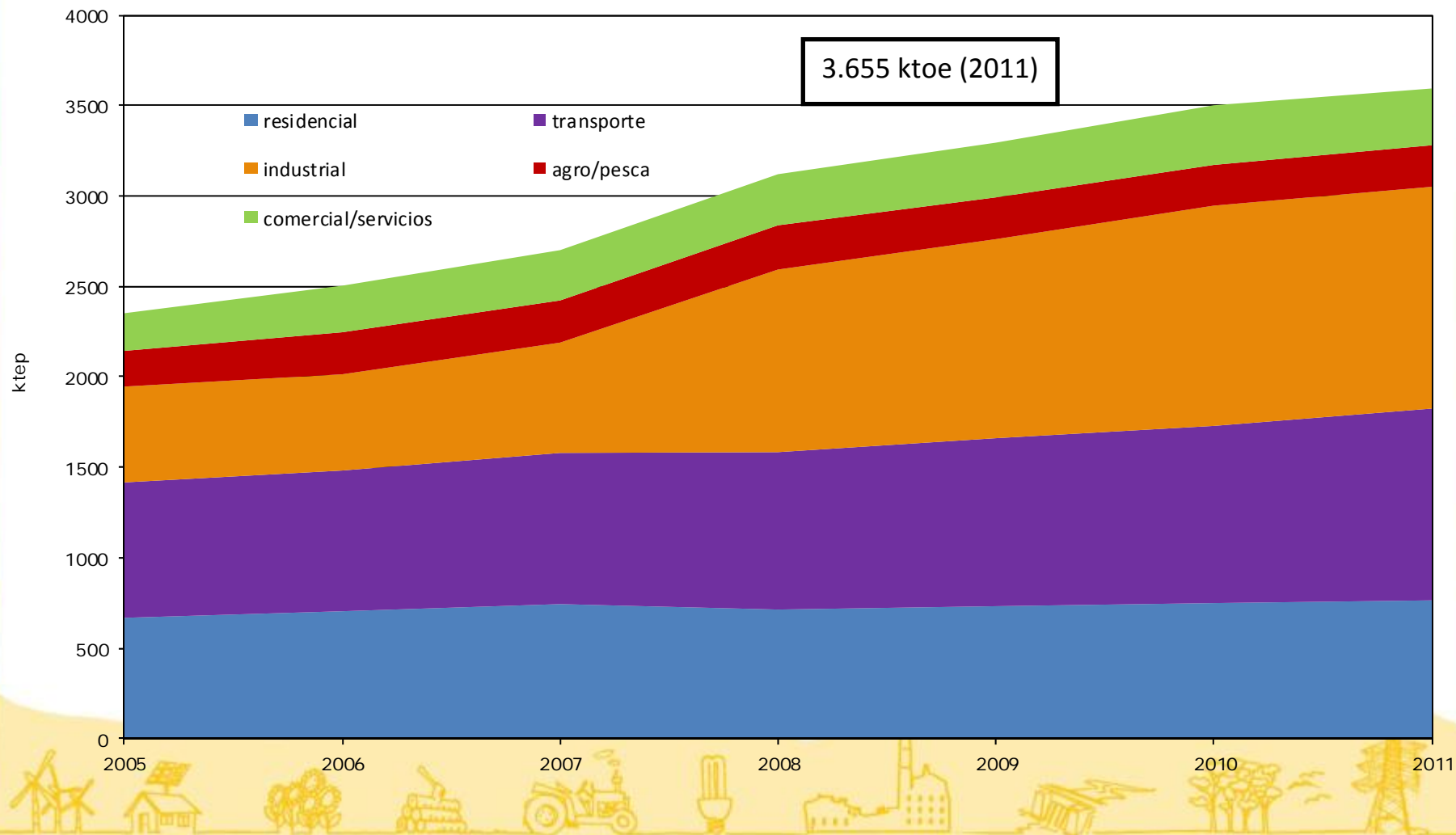


# ENERGY SUPPLY BY SOURCE



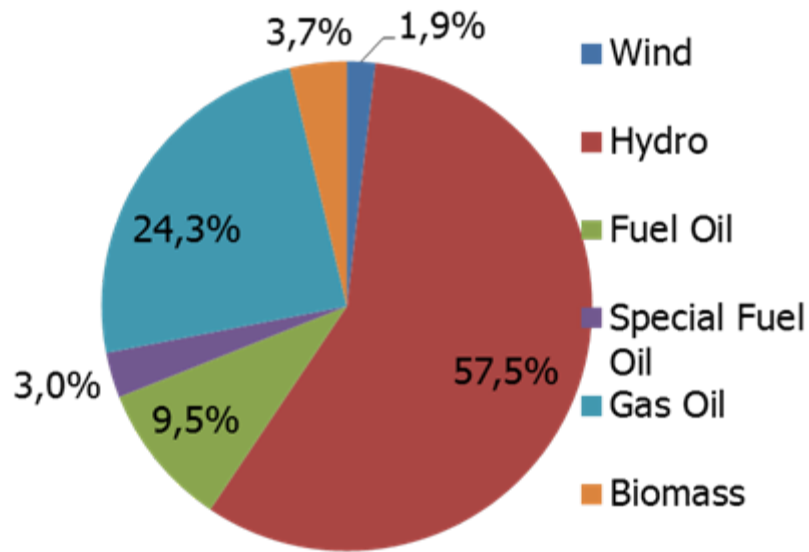


# ENERGY DEMAND BY SECTOR



# ELECTRIC SECTOR

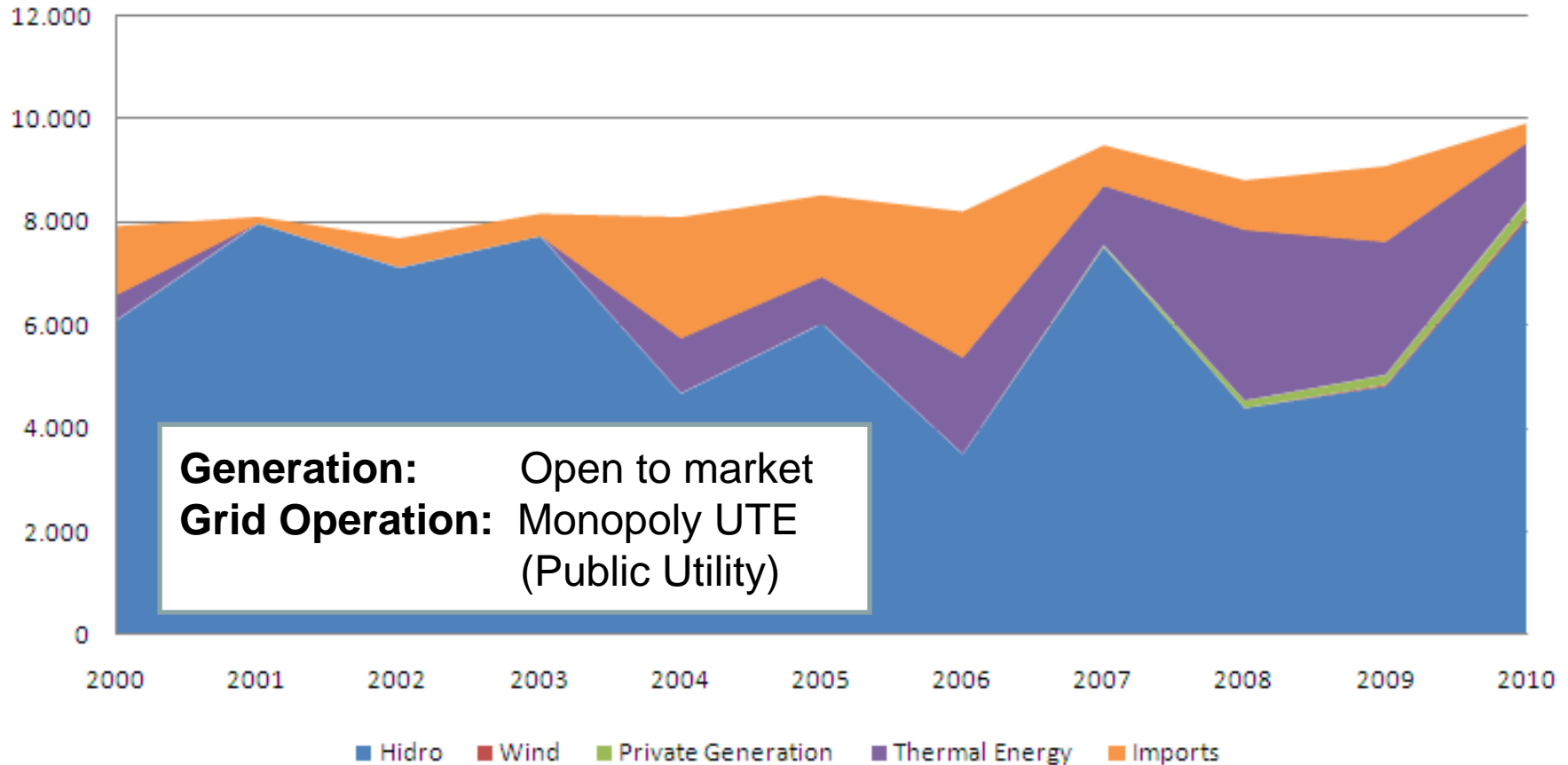
## Total installed capacity (MW)



Total installed capacity (MW)	2,673
Electric Energy demand (GWh)	10,050
Electrification	98.7 %
Mean annual power demand (2012)	1,095 MW
Peak power demand (2012)	1,745MW
Electricity demand per capita	2,812 KWh
Annual grow rate (%)	3.5



# ELECTRIC MIX BY SOURCE (GWh)



**Huge variations of hydropower!**



# INDEX

- OVERVIEW OF URUGUAY
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- **ENERGY POLICY URUGUAY 2030**
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



# FRAMEWORK AND HISTORICAL BACKGROUND

- Uruguay has no proven reserves of:
  - oil
  - natural gas
  - coal



- Almost no space for new large hydropower plants (75% of present electric mix)
- High dependency on imported oil, representing up to **27% of total imports** and **40% of total exports** of Uruguay



# ENERGY POLICY 2030



**2008:** Approval by Council of Ministers

**2010:** Ratified by actual Government & Special Committee including all Political Parties

- 4 strategic guidelines
- Short, medium and long term goals
- Over 30 action lines

**Multidimensional and integrated vision, including technological, economic, environmental, ethical and social issues**



# STRATEGIC GUIDELINES

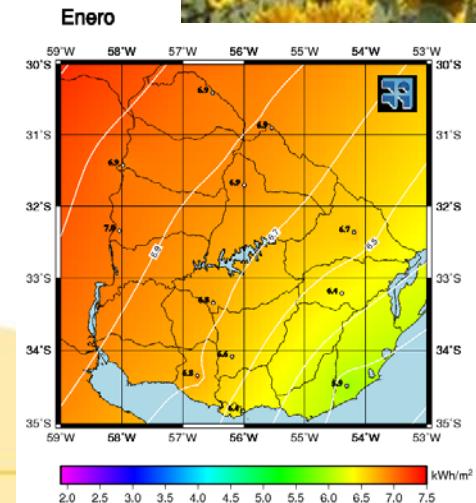
## Institutional

- Government defines and coordinates energy policy
- Public utility (UTE) and NOC (ANCAP) as the main tools
- Enhanced participation of private companies
- Transparent and stable regulatory framework



## Supply

- Energy mix diversification (sources and suppliers)
- Reduce share of imported oil
- Increase share of domestic sources
- **Strong support to renewables, with no subsidies**
- Building local capacities (technology transfer)
- Keeping low carbon footprint



# STRATEGIC GUIDELINES



## Demand

- Strong support to energy efficiency in all energy sectors and all activities (transport, building, industry)
- The State as a paradigmatic example
- Promoting a cultural change

<b>Energía</b> Fabricante Marca  Modelo Capacidad nominal (litros) Presión nominal (MPa)	CALENTADOR ELÉCTRICO DE ACUMULACIÓN
Más eficiente  Menos eficiente	<b>A</b>
CONSUMO DE ENERGÍA MENSUAL (kWh) Corresponde a un vaciado y a un llenado diarios	
POTENCIA NOMINAL (kW)	
TIEMPO DE CALENTAMIENTO (h)	
Norma UNIT 1157	
<small>¡IMPORTANTE! EL CONSUMO REAL VARIA DEPENDIENDO DE LAS CONDICIONES DE USO DEL APARATO Y SU LOCALIZACIÓN. LA ETIQUETA SÓLO PUEDE SER RETIRADA POR EL USUARIO.</small>	<small>CERTIFICADO</small>   

## Social

- Adequate energy access to all citizens as a human right
- Energy policy embedded in national social policies to face vulnerability





# SHORT TERM GOALS (2015)

- **50% OF RENEWABLE ENERGY IN THE GLOBAL PRIMARY ENERGY MIX**

Including:

- **25%** of electricity from non-conventional renewable sources
  - **30%** of agroindustrial & urban waste used to produce energy
  - **15%** decrease of oil in transport
- **LNG REGASIFICATION CAPACITY**
  - **100% ELECTRIFICATION**



# INDEX



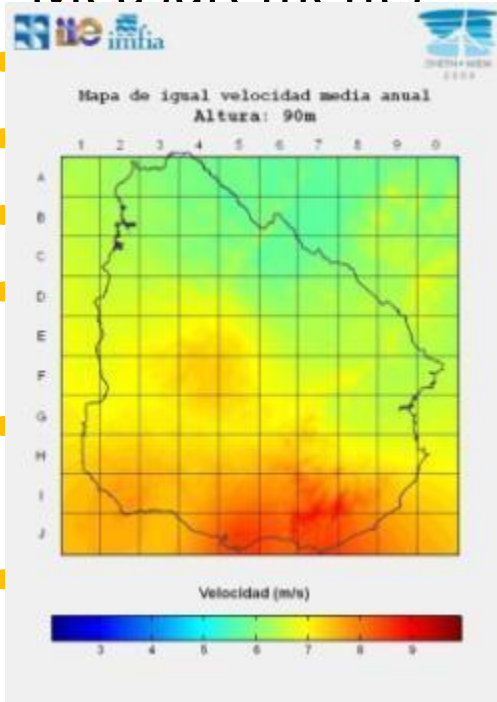
- OVERVIEW OF URUGUAY
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- ENERGY POLICY URUGUAY 2030
- **WHAT HAVE WE DONE? WHAT ARE WE DOING?**
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



# WIND POWER

2015 GOAL: **1000 MW INSTALLED**

- Measurements



l map

sis

installed

demand)

n recent

N

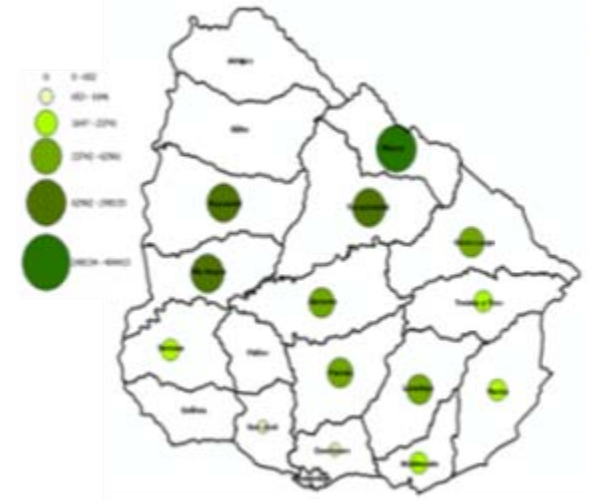
participation



# BIOMASS HEAT & POWER

2015 GOAL: **200 MW INSTALLED**

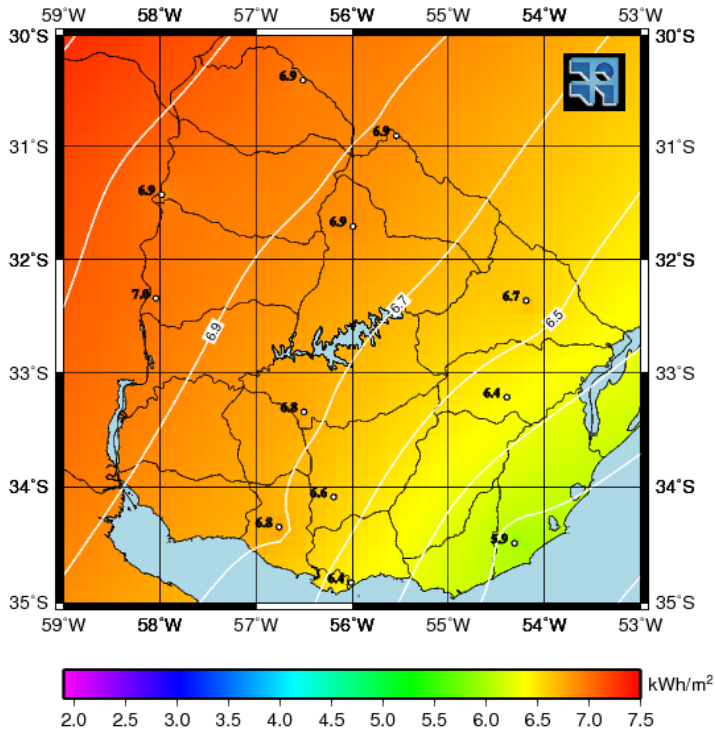
- Biomass potential map
- First 10 power plants already installed (16% of average power demand)
- Fuel: forestry, rice husk, bagasse, black liquor
- Externalities analysis
- 50-60% domestic participation
- Feed in Tariff Decree (**no subsidies!**)
- Cogeneration potential: **500 MW**



# SOLAR ENERGY



Enero



- Solar Thermal Promotion Law
- Solar potential map
- Photovoltaic plants bidding is process
- Water heaters replacement Program (Public Utility) for residential sector
- **2x500 kWp power PV Pilot Plant (JICA Cooperation)**



# BIOFUELS



Biofuels

+

Electricity

+

Human Food

+

Animal Food

+

Social

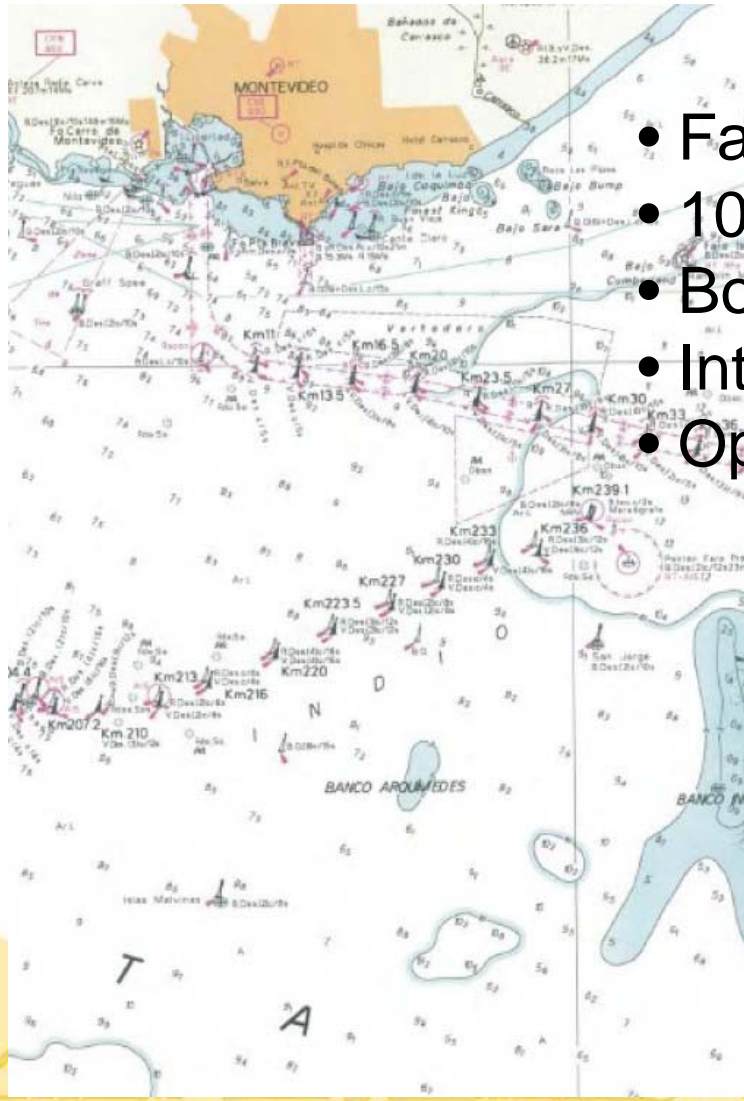
**Sustainability**

**2015 Goals: E10 / B5**



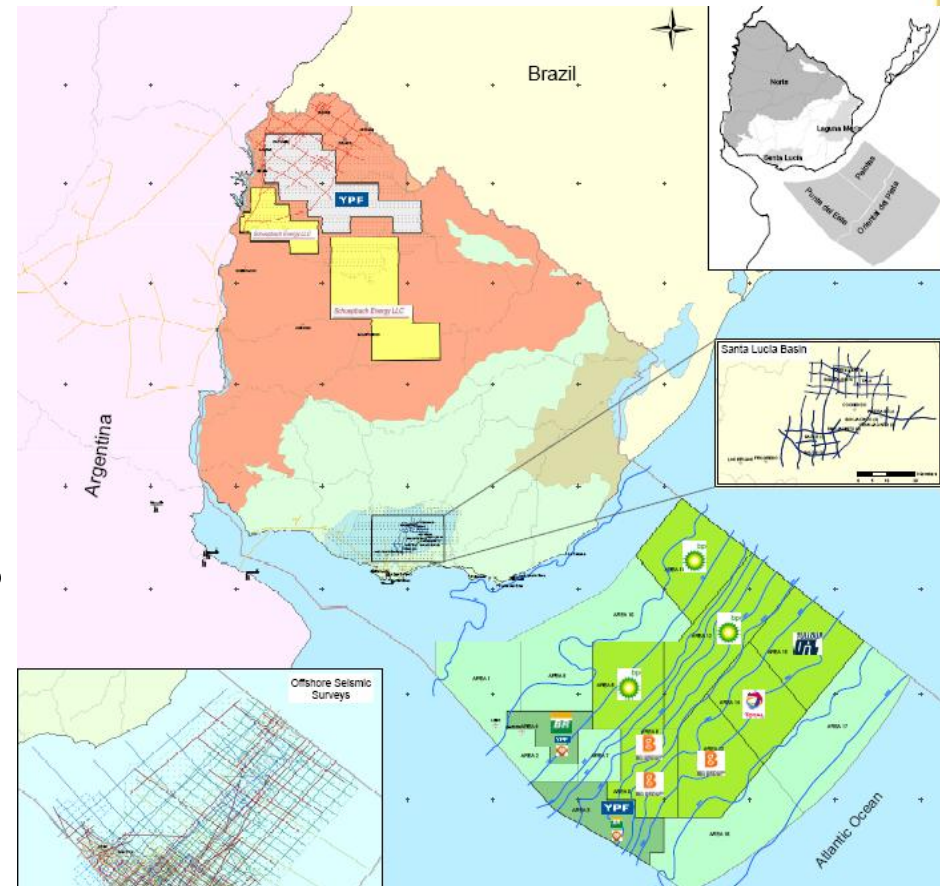
# LNG FLOATING REGASIFICATION CAPACITY

- Fast-track near Montevideo
- 10 Mcm/d
- Both Uruguay and Argentina ´s demands
- International bidding in process
- Operation beginning: end 2014



# OFF SHORE GAS & OIL EXPLORATION

- NOC (ANCAP) made 10000 km seismic surveys (2006-2011)
- Uruguay Round I (2008):  
2 blocks awarded
- Uruguay Round II (2012):  
8 blocks awarded (BG, BP, Total and Tullow Oil)
- Investment: 1550 MMUS\$ (2013-2015)
- On-shore shale gas prospects



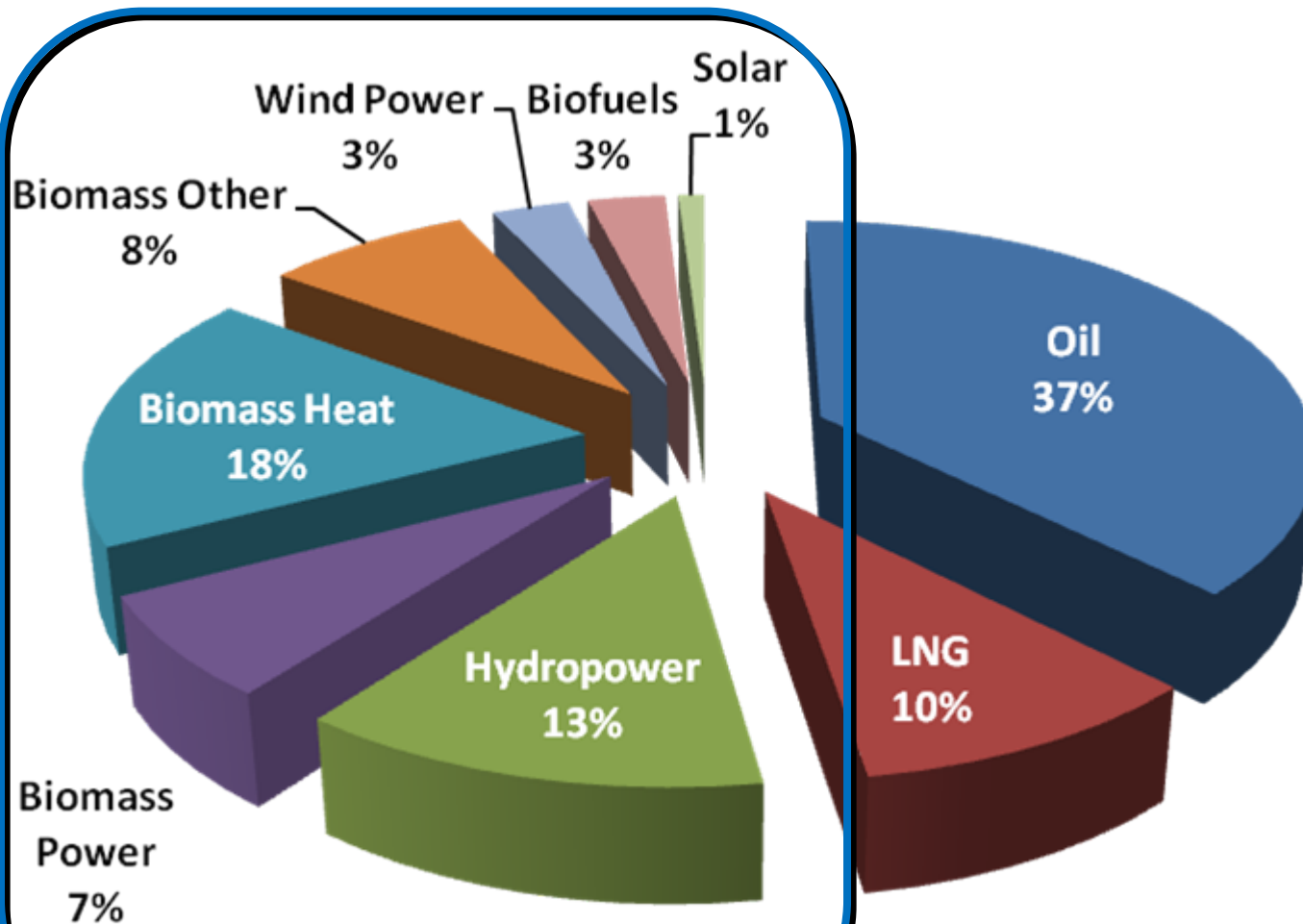


# INDEX

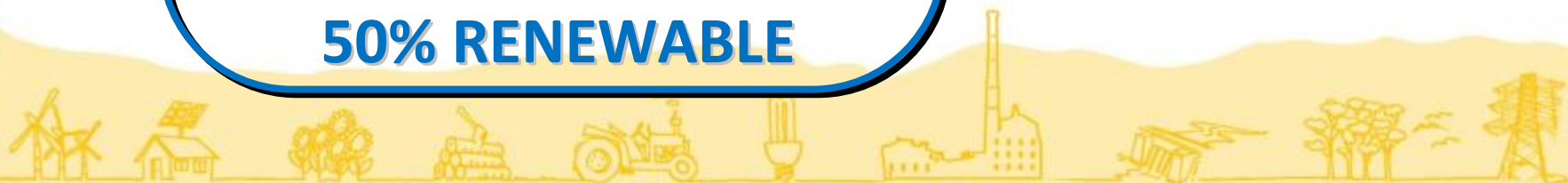
- OVERVIEW OF URUGUAY
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- ENERGY POLICY URUGUAY 2030
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- **EXPECTED IMPACT OF THESE POLICIES**
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



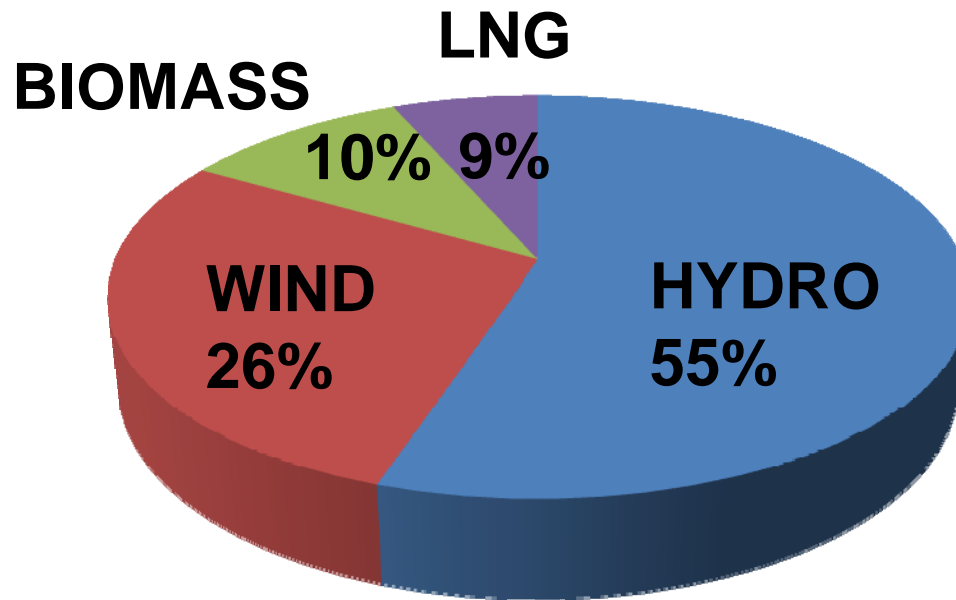
# TOTAL PRIMARY MIX 2015



**50% RENEWABLE**



# SHARES OF ELECTRICITY GENERATION BY 2015



**91% RENEWABLE**



# INDEX

- OVERVIEW OF URUGUAY
- THE ENERGY SECTOR IN A STRONGLY GROWING COUNTRY
- ENERGY POLICY URUGUAY 2030
- WHAT HAVE WE DONE? WHAT ARE WE DOING?
- EXPECTED IMPACT OF THESE POLICIES
- MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE



# MAJOR BOTTLENECKS AND SUBJECTS TO ANALYZE

- Diversifications strategies on the energy supply in small countries, like Uruguayan Energy Sector
- Identificate most convenient industries areas to focus the development of local contents (technologies and services)
- Revision the environmental implications of the energy sector.
- How to Increase energy security supply and reduce oil dependence



***Thank you for your  
attention ...***

***See you in  
Uruguay!***



***santiago.sanguinetti@rne.miem.gub.uy***

