Prof. Edgardo Ortuño, Viceminister
Ministry of Industry, Energy and Mining, Uruguay

Global NAMA Financing Summit
Copenhagen, Denmark – May 15-16, 2013
<table>
<thead>
<tr>
<th>Country name:</th>
<th>República Oriental del Uruguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land area:</td>
<td>176,215 km²</td>
</tr>
<tr>
<td>Population:</td>
<td>3.3 million inhabitants</td>
</tr>
<tr>
<td>GDP/cap:</td>
<td>15,000 USD</td>
</tr>
<tr>
<td>Density:</td>
<td>18.8 inhabitants/km²</td>
</tr>
<tr>
<td>Life expectancy:</td>
<td>76 years</td>
</tr>
<tr>
<td>Infant mortality rate:</td>
<td>7.7/1000 (22.8 in Latin Am)</td>
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</tbody>
</table>
Key NAMA elements

• *Create a revolving fund to finance solar equipment to new social houses of families with low income*

• 4,000 new Social houses will be provided with solar collectors every year.

• US$21 M would ensure the continuity of the fund over time

• GHG emission reductions of 1,000,000 tCO$_2$e over 30 years, with a cost of USD 14/tCO$_2$

• Families will pay them back with a portion of their monthly savings from the energy bill
NAMA alignment with national strategic objectives

- **Energy**: expansion of solar thermal energy in renewable energy strengthening framework
- **Industry**: national production of solar collectors
- **Housing**: new houses be delivered with sanitary and construction planning, necessary for future installation of Solar equipment
- **Social**: reduction of energy costs for low income households
- **Environmental**: mitigation actions
Uruguay: Sustainable Development Policy

Uruguay has enshrined in its laws the commitment to sustainable development and distinguished in the concert of nations as a natural country, from an economic, environmental and social perspective. (Law 17.283 – 2000)

The rulers have made a commitment to provide the country with modern tools of sustainable development policy to ensure the protection of the environment, social needs of communities and national economic development needs.
Uruguay’s Priorities in the scope of international negotiations on Climate Change

- Adaptation
- Adaptation and Mitigation financing support
- Will to make efforts regarding mitigation (NAMAs, CDM), established in the Fourth National Communication


- Total of national emissions: 36,280 kton CO₂ equiv.
  - 80% Agriculture sector
  - 12% Energy sector
  - 3% Waste sector
- Total of national removals: 10,348 kton CO₂ equiv.

National Communications to the UNFCCC:
1997 (Initial NC) 2004 (Second NC) 2010 (Third NC Mitigation measures proposed in the National Plan to respond to climate change were reported in this last Communication) and Fourth National Communication under elaboration
• **National System to Respond to Climate Change and Variability (SNRCC, 2009):** Cross sectional coordination of any action to be undertaken by public and private institutions.

• **SNRCC** is coordinated by MVOTMA

• **Coordination Group:** Ministries, National Emergencies System (SNE), Budgeting and Planning Office (OPP), National Mayors Congress.

• *Ad hoc Advisory Committee* integrated by experts from Ministries, academia, technical institutions, NGOs, production sector, national experts.

• **National Plan on Climate Change (PNRCC, 2010):** strategic framework that identifies actions and measures that society and the various sectors will have to implement to adapt to climate change and climate variability, as well as the efforts required to mitigate the greenhouse gases emissions.
• **CDM Projects in Uruguay**
Up to date, in Uruguay there are 29 projects and 1 Programme of Actividades with National Approval (energy generation from biomass, wind energy and others). 18 of them have been registered before United Nations

• **Strategies for low-carbon**
Uruguay is developing with support from the World Bank, a Study of Low Carbon Development in the sectorial ministries, under coordination of UCC

• **MAIN:** In this framework being developed additional NAMAs submitted by Uruguay at the Registry of the UNFCCC. The first NAMA in the housing sector submitted to the Registrar of the Convention, was developed with support from the CAF.

• **Action plan** for the development of NAMAs in Uruguay, with IDB support.

• **Future steps in the framework of the Working Group:** development of guidelines for approval, registration, monitoring, MRV.
There are 25 submitted NAMAs; 6 are from Uruguay:

- LNG Terminal with regasification capacity of 10,000,000 m³/d (Recognition)
- Promotion of renewable energy participation in the Uruguayan primary energy mix (Recognition)
- Sustainable production with low-emission technologies in agriculture and agro-industry production chains (support for preparation)
- High Integration Program of Wind Energy (support for preparation)
- Sustainable Housing Program (support for preparation)
- First introduction of Photovoltaic Solar Energy in the national electrical grid (Support for implementation)

Link to the Registry: http://unfccc.int/cooperation_support/nama/items/6950.php
ENERGY POLICY 2005 - 2030

- Multidimensional and integrated vision, including technological, economic, geopolitical, environmental, ethical and social factors.
- It’s based on four strategic guidelines.
- Have goals to achieve in the short, in the medium and long term.

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
**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

**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) (partial)

- **50% of renewable energy** in the global primary energy mix and 90% of renewable energy in power generation

Including:

- 25% of electricity generation from unconventional renewable sources
- 30% of agroindustrial and urban waste used to produce energy
- 15% decrease of oil use in transport

* LNG regasification capacity
* 100% electrification
PRIMARY GLOBAL ENERGY MIX (2001-2007)

- Oil: 56%
- Hydropower: 20%
- Wood: 17%
- Natural Gas: 2%
- Electricity imports: 5%
GLOBAL PRIMARY MIX 2015

- Solar: 1%
- Biofuels: 3%
- Wind: 7%
- Biomass (heat): 15%
- Biomass (generation): 5%
- Biomass (others): 10%
- Hydro: 14%
- GNL: 5%
- Oils & derivatives: 40%

55% RENEWABLE
SHARE OF POWER GENERATION BY 2015

- Hydro: 51%
- Wind: 24%
- Biomass: 18%
- GNL: 6%
- Oil: 1%

93% RENEWABLE
Home Energy Policy discussion with the participation of all stakeholders.
Formulation of strategic guidelines

Council of Ministers approve Energy Policy 2005-2030

- Solar Map
- Solar Chamber
- New Solar Standards
- Solar PV, Net Meteering
- Decree of Solar Law
- Decree State Purchases
- Solar Research
- Solar Pilots
- Industrial Fund
- New Solar Standards
- Solar Thermal Law
- Decree Investment Promotion
- Solar Standards
- Solar laboratories
- Solar web
- New Solar Standards
- Solar PV 0.5 MWp
- Solar Plan

“Solar round table” Institution
Survey Sources and uses of energy

Special Committee including all Political Parties

2005

2008

2010

2013
Background

Uruguay Solar Thermal Installations

$m^2/1,000$ hab
Current Policy Context

• Solar Thermal Law 18.585

All new & comprehensive reforms of:
• public buildings,
• health-care institutions,
• hotels
• sports facilities

where at least 20% of the total energy consumption is used for water heating, will have to meet 50% of the water heating demand through solar thermal collectors.
Background

- Residential sector share of electricity is 41%
- 37% of residential electricity use is for water heating
- Solar water heaters can save up to 60% of a household’s electricity consumption for water heating
Current Policy Context

Solar Plan for residential sector

commercial finance barriers

- Knowledge of the technology
- Finance
- Lack of sanitary and construction planning for future installation of solar thermal collectors.
Key NAMA elements

• 4,000 new Social houses will be provided with solar collectors every year.

• Families will pay them back with a portion of their monthly savings from the energy bill.

• GHG emission reductions will be achieved through displacing Fossil fuels power generators used when hydropower, wind & Biomass production doesn’t meet planned quantities.
Proposed policy changes

- A mandate of the Ministry of Housing, Territorial Planning and Environment will require all new houses built with public funds or tax breaks to be delivered with sanitary and construction planning, necessary for future installation of Solar equipment.

**Financial mechanism**

**NAMA** US$ 21,000,000

**UTE**

**FUND**

- Investment: US$ 1,500
- Payment of monthly installment
- Feedback

**Equipment suppliers**

**HOUSEHOLDS**

Unique income:
Creation of a fund of US$ 21,000,000 administered by UTE

**Table:**

<table>
<thead>
<tr>
<th>Year</th>
<th>FUNDS NEEDED</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Fund total</th>
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<tbody>
<tr>
<td>Year 0</td>
<td>6,000,000</td>
<td>5,000,000</td>
<td>4,000,000</td>
<td>3,000,000</td>
<td>2,000,000</td>
<td>1,000,000</td>
<td>21,000,000</td>
</tr>
<tr>
<td>Year 1</td>
<td>1,000,000</td>
<td>2,000,000</td>
<td>3,000,000</td>
<td>4,000,000</td>
<td>5,000,000</td>
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**RECOVERY THROUGH REPAYMENT**
Expected outcomes

• GHG emission reductions of 1,000,000 tCO$_2$e over 30 years, with a cost of USD 14/tCO$_2$

• After year 30, we will continue have a GHG emission reduction of 50,000 tCO$_2$e per year

• After year 20, with this NAMA, we’ll achieve a solar Capacity of 33 kWth/ 1000 inh. (or 48 m$^2$/ 1000 inh.)

• Dissemination of success stories, that help overcome cultural barriers ➔ Increase in applications for Solar Plan
Expected outcomes

• Contribution to national renewable energy objectives

• Families of low income achieve a save of money every month

• First step, to make a mandate for all new houses be delivered with sanitary and construction planning, necessary for future installation of Solar equipment

• Showcase for other countries in the region
Support Requested

- US$21 M would ensure the continuity of the fund over time
- Uruguayan Public Energy utility, UTE would provide US$5 M
- US$2 M as a contribution from the Uruguayan Energy-Saving and Efficiency Trust Fund (FUDAEE).
- Remaining US$14 M are requested from donors for immediate implementation

Main uses: Create a revolving fund to finance solar equipment to new social houses of families with low income
Links

- [www.miem.gub.uy/web/energia](http://www.miem.gub.uy/web/energia) - Ministry of Industry, Energy and Mining (MIEM) - Nationale Directorate of Energy (DNE)
- [www.mvotma.gub.uy](http://www.mvotma.gub.uy) - Ministry of Housing, Land Planning and Environment
- [www.energiasolar.gub.uy](http://www.energiasolar.gub.uy) - Official Solar web site
- [www.mesasolar.org.uy](http://www.mesasolar.org.uy) - “Solar Round Table” institution
- [www.camarasolardeluruguay.com.uy](http://www.camarasolardeluruguay.com.uy) - Uruguay Solar Chamber
- [www.ursolar.org](http://www.ursolar.org) - University solar resource research
- [www.unit.org.uy](http://www.unit.org.uy) - Solar Standards
- [www.uruguayxxi.gub.uy/](http://www.uruguayxxi.gub.uy/) - Country presentation for investors
Thank you for your attention ...
Uruguay Solar Thermal NAMA

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