NS-4 - High Integration Program of Wind Energy

Uruguay

NAMA Seeking Support for Preparation

A Overview	
A.1 Party	Uruguay
A.2 Title of Mitigation Action	High Integration Program of Wind Energy
A.3 Description of mitigation action	This NAMA consists on the creation of a Program focused on high integration of wind power, over 1,000MW of installed power, ensuring adequate levels of service and product quality. At present, due to the excellent wind resources in the country, Uruguay is in the process of installing 1,000MW of wind power in the next 3 years. This means that by 2015, 20% of the electricity demand will be supplied by wind energy. In the future, the increase of wind power installed capacity involves major technical challenges in a country like Uruguay with high variability of hydropower supply. The goal of this Program is to have a full analysis of the electric system expansion in Uruguay with high levels of wind power. It will be considered a participation of wind energy in the supply mix of electricity demand of 20%, 25% and 30%. It is noted that each additional MW of wind generation that can be installed, under the conditions described above, will contribute to the reduction of GHG emissions due to the replacement of fossil generation. The activities proposed for this Program are the following: a) Review of successful experiences in countries that already have a high integration of wind power, such as Denmark, Spain, Portugal and Germany. b) Analysis of existing regulations in Uruguay and identification of rules to be developed. c) Cooperation in the development of appropriate grid codes. d) Identification of critical scenarios that should be considered when making the system planning studies. e) Training in tools for network studies and wind farms modelling (static and dynamic). f) Development of studies and analysis of results. g) Critical analysis of the expansion plans of the Uruguayan electric system, according to the results obtained. h) Capacity analysis of the electric system to meet the demand peaks and fluctuations in wind generation (static and dynamic). i) Analysis of existing tools in the world and in Uruguay regarding weather and wind generation forecasts. j) Review of operational planning methodologies in countries with high wind power integration. Critical analysis of operational planning system in Uruguay and identification of changes to be made to integrate high levels of wind generation. k) Visit to control and dispatch centers from systems with high wind integration around the world. Capacity building regarding operation and system dispatch with high levels of wind integration.
A.4 Sector	[X] Energy supply [ ] Residential and Commercial [ ] Transport and its Infrastructure

	buildings ☐ Agriculture ☐ Waste management ☐ Industry ☐ Forestry ☐ Other
A.5 Technology	☐ Bioenergy ☐ Energy Efficiency ☐ Hydropower ☒ Wind Energy ☐ Carbon Capture and Storage ☐ Land fill gas collection ☐ Cleaner fuels ☐ Geothermal Energy ☐ Solar Energy ☐ Ocean Energy ☐ Low till / No till ☐ Other
A.6 Type of action	☐ National/ Sectoral goal ☐ Strategy ☒ National/Sectoral policy or program ☐ Project: Investment in machinery ☐ Project: Investment in infrastructure ☐ Project : other ☐ Other
A.7 Greenhouse gases covered by the action	☒ CO2 ☐ N2O ☐ PFCs ☐ CH4 ☐ HFCs ☐ SF6 ☐ Other

B National Implementing Entity

B.1.0 Name	Secretary of Energy; Ministry of Industry, Energy and Mining
B.1.1 Contact Person 1	Dr. Ramón Mendez (National Director of Energy)
B.1.2 Address	Mercedes 1041 - 2nd floor, Montevideo, CP: 11.100
B.1.3 Phone	+598 2900 6919
B.1.4 Email	director@dne.miem.gub.uy
B.1.5 Contact Person 2	
B.1.6 Address	
B.1.7 Phone	
B.1.8 Email	
B.1.9 Contact Person 3	
B.1.10 Address	
B.1.11 Phone	
B.1.12 Email	
B.1.13 Comments	

C Expected timeframe for the preparation of the mitigation action

C.1	Number of months for completion	24

D Currency

D.1 Used Currency	AED Conversion to USD: 1

E Cost

E.1.1	Estimated full cost of preparation	1250000
E.1.2	Comments on full cost of preparation	

F Support required to prepare the mitigation action

F.1.1 Amount of Financial support	750000
F.1.2 Type of required Financial support	[X] Grant [ ] Loan (sovereign) [ ] Loan (Private) [ ] Concessional loan [ ] Guarantee [ ] Equity [ ] Carbon finance [ ] Other
F.1.3 Comments on Financial support	The financial support required constitutes the 60% of the costs estimated to develop the hole Program during the time frame expected. This amount would be used to: - Consulting services: USD 500,000.00 - Building capacity in Uruguay and technical visits abroad: USD 150,000.00 - Equipment: USD 50,000.00 - Publications and others: USD 50,000.00 (Salaries of technical staff participating in the Program: USD 500,000.00; constitutes the 40% of the full cost of preparation and will be provided by national government.)
F.2.1 Amount of Technical support	
F.2.2 Comments on Technical support	Technical support is considered in the financial support requested.
F.3.1 Amount of capacity building support	
F.3.2 Type of required capacity building support	[ ] Individual level [ ] Institutional level [ ] Systemic level [ ] Other
F.3.3 Comments on Capacity Building support	Capacity building support is considered in the financial support requested.
F.4 Financial support required	[ ]
F.5 Technological support required	[ ]
F.6 Capacity support required	[ ]

G Relevant National Policies strategies, plans and programmes and/or other mitigation action

G.1 Relevant National Policies	Energy Policy: http://www.miem.gub.uy/gxpsites/hgxpp001?5,6,584,O,S,0,, “Wind Energy Program in Uruguay” (PEEU): http://www.energiaeolica.gub.uy/
G.2 Link to other NAMAs	

H Attachments

H Attachments	**Title** **Description** NAMA cooperation Uruguay Spain.pdf
H.1 Attachment description	
H.2 File	Browse...

I Support received

I.1 Outside the Registry	Please refer to H.2
I.2 Within the Registry	**Support provided** **SupportType** **Amount** **Comment** **Date** Spanish NAMA Platform Financial 11/28/2014 12:00:00 AM