

Endesa experience in the development of CDM in Latin America

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ENEL-ENDESA

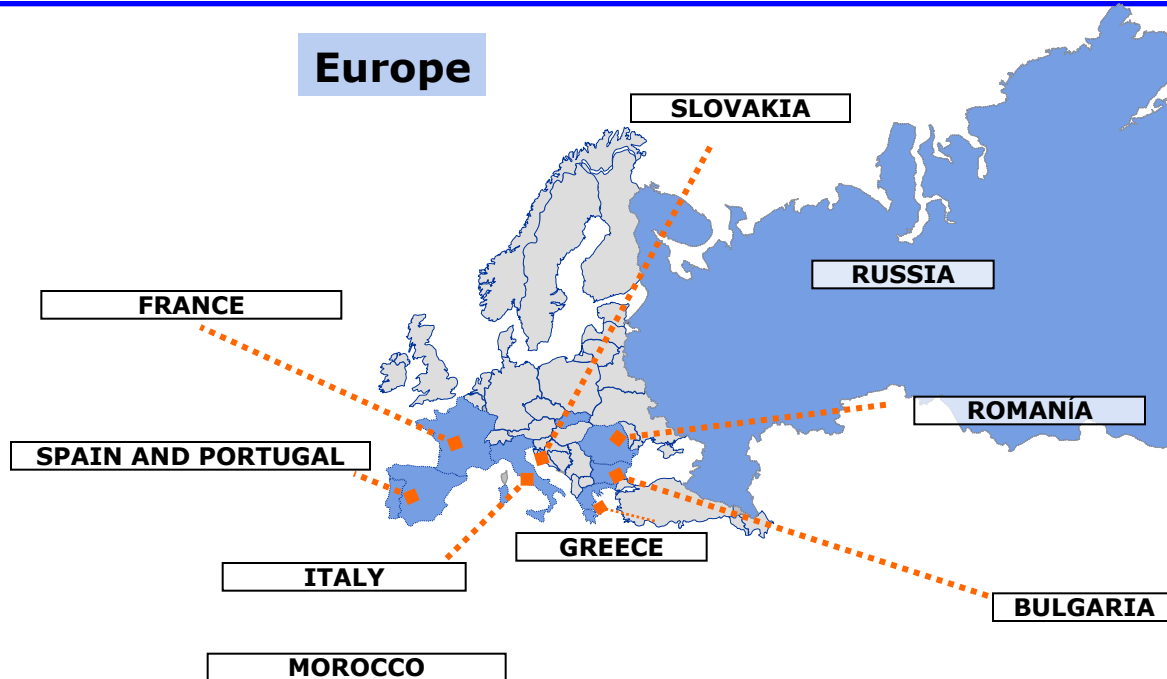
America

NORTH AMERICA



LATIN AMERICA

Europe



FRANCE

SPAIN AND PORTUGAL

ITALY

GREECE

MOROCCO

SLOVAKIA

RUSSIA

ROMANIA

BULGARIA

Installed capacity: 95,382 MW

Countries: 23

Customers: 60.9 million

Employees: 81,000

A global operator in power and gas

Present in 9 countries

Installed capacity: 40.141 MW

Clients: 25 millions

Employees: 24.732

Core business: energy

A leader company in the iberian market and the first multinational private power company in Latin America

Present in the whole value chain of power and gas

CHALLENGES

- Taking advantage of the presence of the company in the of Latin America countries, its goal is to become the largest buyer and developer of CDM projects in these markets.
- Take advantage of the contacts in the Administration to sign cooperation agreements.
- Aim CDM to a social component in LATAM



ENDESA CLIMATE CHANGE LEADERSHIP

As leaders in most of the countries where we operate, we are able to **offer effective solutions to increase energy efficiency and reduce emissions** in the energy sectors of developing countries. These solutions, which can be facilitated by the availability in public funding, including hydropower, other renewable energy sources, nuclear energy, CCS, smart grids and energy efficiency.



We support the establishment of a new global framework post Kyoto, in order to enable new and more effective private funding mechanisms of the carbon market. A “carbon market of private equity for sustainable development” should be able to promote a reform of the existing mechanisms and pave the way for the new mechanisms, which must be designed without any distortions or barriers and should be open to all technologies.

ENDESA CLIMATE CHANGE LEADERSHIP

Endesa is one of the biggest energy companies in the world and is able to provide a valuable contribution to strengthening the development and technology transfer.

We are one of the **main actors in the global carbon market** and we would like to achieve stable long-term conditions, in order to expand our projects based on generating reduction emission credits.



As part of Endesa's climate change strategy, we have the goal to reduce CO2 emissions and promote a model of sustainable growth in developing countries.

Endesa has achieved its goal through the acquisition of a large portfolio of JI / CDM projects. These projects make Endesa generation more efficient and competitive.

In October 2008, Endesa goes one step further and launched a new company, **Endesa Carbono**. The main objectives of this new company are:

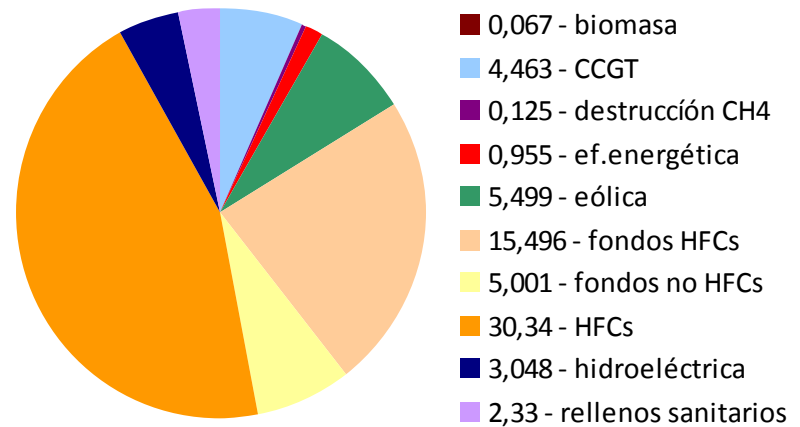
- ☐ Provide the necessary CERs / ERUs to Endesa in order to fulfill its objectives in the period 2008/2020.
- ☐ Find new business opportunities in emerging carbon markets worldwide.

Endesa Carbono is present in the entire value chain of the CO2 market. One of the main activities of the company is managing Endesa portfolio in all processes related to the carbon market.

Endesa project portfolio includes the following features:

- ☐ **38 projects** contracted
- ☐ **27 of them** registered
- ☐ **Participation in 7 Carbon Funds**
- ☐ **Hired about 65 million CERs**
- ☐ **Endesa has received so far about 40 million CERs**

Project Portfolio for technologies Mt



Projects in our own facilities



Perú*

Project	Technology	Status CDM	Implementation	Avoided CO2 Tons (per year)
Ventanilla	Combined cycle(490 MW)	Validation (registered 2012)	Operating (2006)	407.296
Callahuanca	Hydraulic (82,5 MW)	Registered (2008)	Operating (2006)	18.200
Curibamba	Hydraulic (162 MW)	PDD (registered 2012)	Under study (2011)	230.000
Huascacocha	Hydraulic (163 MW)	PDD (registered 2012)	Under construction (2012)	96.000
TOTAL	751.496 ton CO2/year			

*According to POA/PM 2011-2020



Chile*

Project	Technology	Status CDM	Implementation	Avoided CO2 Tons (per year)
Canela I	Wind Power (18,5 MW)	Registered (2009)	Operating (2007)	27.000
Canela II	Wind Power (60MW)	Validation (registro 2012)	Operating (2010)	90.000
Pirquiná	Hydraulic (6,1 MW)	Under evaluation	Under study (EIA) (2018)	13.000
TOTAL	130.000 ton CO2/year			



Colombia*

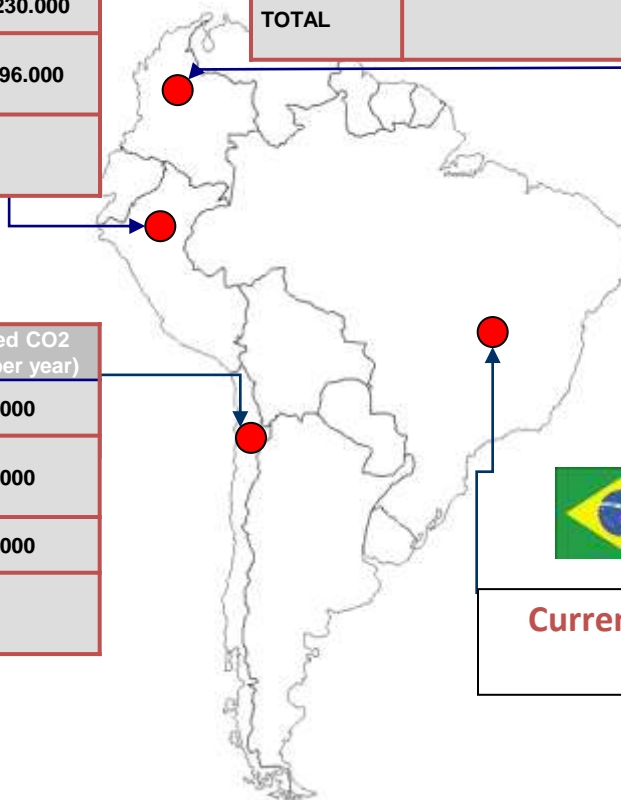
Project	Technology	Status CDM	Implementation	Avoided CO2 Tons (per year)
Quimbo	Hydraulic (400 MW)	PDD (registered 2012)	Under construction (2015)	637.000
TOTAL	637.000 ton CO2/year			

*According to POA/PM 2011-2020



Brazil*

Currently, in project evaluation



Canela Wind Power Plant

Clean technology generated in a wind power plant, helps mitigate environmental impacts by reducing greenhouse gases (GHGs).

Estimated Annual Generation in Canela	Annual CO ₂ emission in a Coal Plant	Annual CO ₂ emission in a Natural Gas Plant
46,62 GWh/year	41.958 t CO ₂	19.114 t CO ₂

- ☐ Type: Renewable Energy/ Wind Power Plant
- ☐ Country: Chile
- ☐ MW: 18,15MW
- ☐ Emission Reduction:
 - ☐ Credit Period: 7 years (2009/2016)
 - ☐ CERs: 27,251 tCO₂e/year
 - ☐ Total CERs: 190,755 tCO₂e (7 years)



Hydroelectric Power Plant Repowering Callahuanca

Enhancing capacity of 7.5 MW from the hydroelectric plant, so move the thermal power generation to additional generation



- ☐ Type: Small Hydro
- ☐ Country: Perú
- ☐ MW: Increased of 7.5 MW
- ☐ Emission Reduction:
 - ☐ Credit Period: 7 years (2008-2015)
 - ☐ CERs: 18.189 tCO₂e/year
- ☐ Total CERs: 127.323 tCO₂e

Aditionality

Most projects which are not economically viable have still not to be even with the income of the CDM. Therefore, only the projects with initial good returns succeed. In the specific case of Latin America there are many proposed projects that need more than the incentive of the CDM to achieve its implementation.

In theory, this mechanism was created to assist and enhance these types of projects, but due to the uncertainties about the continuity of this mechanism in a global agreement, it is impossible take the risk of having a future income to save the profitability of the projects . The price of CERs generated by the CDMs is very volatile, with large fluctuations which make it impossible introduce them in a business plan that supports the decision to carry out the investment .



Financing:

Many developers of this kind of projects need a funding and/or advance payments because the development of CDM projects development involve high risk (registration, regulation, project operation, the price of CER, etc) In contrast, the buyer of CERs shows some reservations about investing beyond the exclusive purchase of the CERs, and at best, the buyer only takes care of transaction costs that, depending on the project, may represent a very high percentage. The most common result of such negotiations is that the CDM project is not usually find funding for its development.



Regulation:

At the global level, there is a great uncertainty about which will be the positioning and commitment adopted by Latin American countries in the post Kyoto period. Furthermore, following the end of the Kyoto Protocol commitment, the EU will only allow the use of CERs from the least developed countries (LDC) and those other countries which have specific agreements with the EU. Due to the uncertainty about which countries will sign these agreements, there is large insecurity that is stopping the interest about the investment in new CDM projects. The only way to ensure the near future development of these projects, is to obtain the largest number of registered projects before the end of 2012. That would ensure that the CERs generated by these projects could be used until 2020 in the EU, as long as the EU does not impose any qualitatively restrictions on them.



Distortion, lack of knowledge and experience in the development of such projects.

In some cases, in Latin America, there is ignorance about the implications that CDM involves, and in many cases there is no real commitment from the developers when is necessary to implement a the monitoring plan. It implies that the project runs the risk of not generating CERs, or generating less than it was expected. Ignore all the implications of CDM projects can result in the necessary inversion will be higher than the initially estimated inversion

Lack of institutional support:

The frequent rotation of government hinders the progress of CDM projects development. The region has different interests and sensitivities regarding the CDP instruments. Thus, institutional support is not very effective in some countries and different administrative difficulties can be produced. It make difficult and sometimes impossible the implementation of projects



THE FUTURE OF CDM:

Endesa maintain that, in order to be successful, international climate policies should aim at reaching **an agreement meeting five general requirements:**

- ☐ **global reach;**
- ☐ **reasonable and achievable caps and commitments;**
- ☐ **focus on economically efficient solutions to climate change;**
- ☐ **involvement of the private sector by allowing private investors to create value by reducing emissions;**
- ☐ **financing mechanisms to assist developing countries in the implementation of appropriate policies focused both on mitigation and adaptation**

Endesa maintain that to achieve this objective it is essential:

CARBON MARKET AND OFFSETS

- ☐ Can mobilize significant amounts of private financing
- ☐ Its capacity and scope should be widespread in a gradually way by using offsets as a bridging mechanism
- ☐ Clean Development Mechanism (CDM) still has significant potential so should be further developed, establishing a smooth transition to possible new mechanisms and avoiding retrospective applications of possible new rules
- ☐ Adequate incentives to the private entities to participate in Nationally Appropriate Mitigation Actions (NAMAS)
- ☐ Activate funding from private entities to boost the Reducing Emissions from Deforestation and Forest Degradation and Enhancement of Carbon Stock (REDD+)

THANKS FOR YOUR ATTENTION



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