



Role of the industry in Greenhouse Gas Management

ARPEL 2009 Conference

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Contents

- Challenges for the *Oil & Gas* sector
- Carbon Strategy of Repsol YPF
- Catalog of Emission Reduction Opportunities (CORE)
- Energy efficiency
- Verification of the emission inventory in accordance with ISO 14064



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Challenges for the Oil & Gas sector

New challenges:

- ❑ Climate change is one of the most important challenges currently faced by the oil industry.
- ❑ There are new challenges resulting from the new regulatory frameworks:
 - Performance in emission markets
 - Search and implementation of CDM (Clean Development Mechanism) projects
 - Development of new technologies in the sector
 - Implementation of energy efficiency in industrial processes
 - Realization of emission inventories



Challenges for the Oil & Gas sector

New solutions:

- ❑ Repsol YPF is aware of the importance of this challenge and we are convinced that those companies that may respond more efficiently to these challenges will be rewarded with success.
- ❑ The lines of performance are developed with the approach of the **Carbon Strategy of Repsol YPF** which includes performance variables in emission markets, energy efficiency programs, reduction projects under the CDM scheme, and verification of GHG inventories of the company.



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Carbon Strategy of Repsol YPF

- Repsol YPF commitment regarding Climate Change was approved and published in 2002
- In taking this position, Repsol YPF considers that Climate Change and the European Directive on Emission Trading System (Directive 2003/87/CE), have implications for the entire company. The strategy is conceived comprehensively, considering all variables: markets, CDM projects, direct reductions, etc.
- At the end of 2003, the Management Committee of the Company decided to create a Climate Change Unit under the Department of Safety and Environment, with specialized resources both in Spain and in Argentina to develop the strategy and corporate planning and carbon risk management, approving the Repsol YPF Plan on Climate Change.

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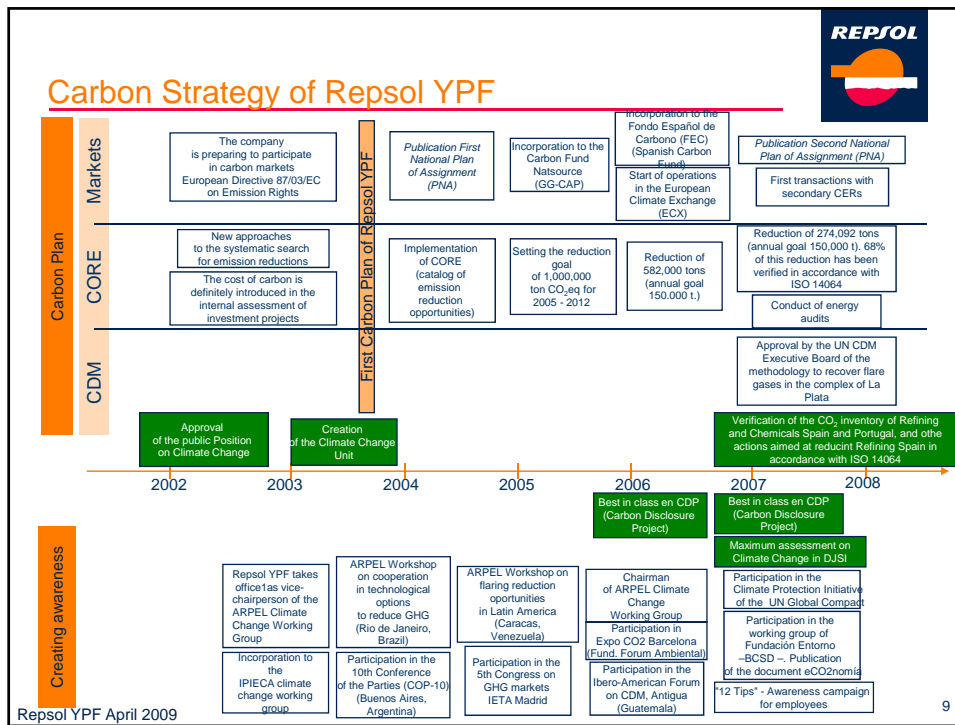


Carbon Strategy of Repsol YPF

- The key elements of the strategy are:
 - To coordinate the internal adjustment of CO₂ credit needs which optimize the company's resource management.
 - To manage market risk in the short (one year), medium (1st phase 2005-2007) and long term (2nd phase 2008-2012)
 - To promote a reduction of emissions and the identification of reduction opportunities.
 - Development of CDM projects through the Catalog of GHG Emission Reduction Opportunities (CORE).
 - To promote energy efficiency project.
 - Consideration of GHG emissions as cost/revenue in the assessment of new projects.
 - Prospect and/or development of new technologies with regard to GHG reduction.

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Carbon Strategy of Repsol YPF

The Clean Development Mechanism in Repsol YPF strategy

- Within its strategy on Climate Change, in addition to the direct emission reduction in industrialized countries, Repsol YPF is committed to the use of the Flexibility Mechanisms of the Protocol, especially the CDM.
- The goal is to promote the execution of domestic CDM projects generating credits as a way to reach the objective of global reduction of GHG emissions, using resources efficiently and contributing to technology transfer and sustainable development.
- It is essential to purchase CERs generated by CDM projects carried out in countries where the company operates, in order to promote the sustainable development of those countries



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Catalog of Emission Reduction Opportunities (CORE)

- ❑ The objective is to assure compliance with the Health, Environment and Safety Policy and the Company's Position on Climate Change through the execution of internal CDM projects as part of the portfolio of greenhouse emission rights of Repsol YPF.
- ❑ The CORE is managed by the Climate Change Unit and includes all the reduction opportunities detected by Units operating in those countries that have ratified the Kyoto Protocol and are not included in its Annex B.
- ❑ All Units must provide information on the emission reduction opportunities identified in the project analysis and approval processes.
- ❑ In addition to the identification of opportunities among investment proposals, an analysis of facilities should be made in order to find new opportunities not detected up to now.

Catalog of Emission Reduction Opportunities (CORE)



□ Main tasks:

- To make a preliminary assessment of the documents of each opportunity in order to determine which ones are more likely to be CDM.
- To develop knowledge of purchase contract models for GHG inventory CER of the company and of adjusted emission projections
- Knowledge of the process to develop a CDM project and to obtain CERs. Monitoring of new requirements.
- Participation in all phases of a CDM project: PDD preparation, procedures before the National Designated Authorities (NDA), Validation, Registration, Verification, Certification and CER Issuance.

Catalog of Emission Reduction Opportunities (CORE)



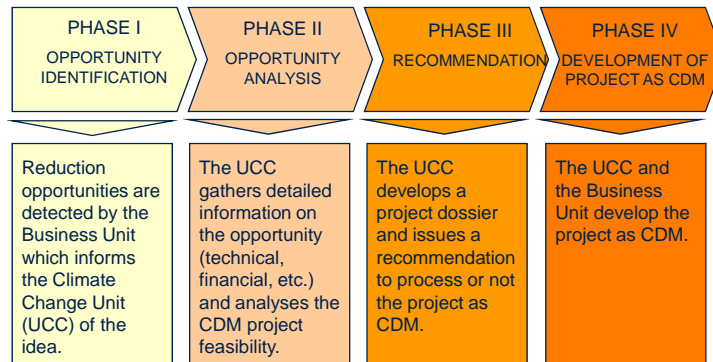
□ Departments involved:

- Operation plants/Processes
- Technology
- Engineering
- Legal Department

Catalog of Emission Reduction Opportunities (CORE)



□ CORE: 94 Opportunities since 2005



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Energy efficiency

- ❑ The company's strategic objective is to have a global system for energy efficiency management to be able to set goals related to improvement of energy efficiency, consumption reduction, and emission decline and reduction.
- ❑ Energy efficiency programs have been implemented in:
 - **Refining:** refineries of A Coruña, Cartagena and Petronor in Spain
 - **Chemicals:** Puertollano and Tarragona in Spain.
 - **Exploration and Production** Vizcacheras, Barrancas and Los Perales in Argentina; Barrancas area in Venezuela, and compression platform of the field Samaan in Trinidad.



Energy efficiency

- ❑ In 2008, the company established the organizational structure necessary to strengthen good practices in management. This structure is designed to achieve the following objectives:
 - Aligning management practices with those of the most advanced companies in the sector.
 - Establishing minimum management standards in the different businesses and areas of the company.
 - Disseminating experiences and good practices.
 - Integrating dispersed initiatives and coordinating the agents with impact on consumption.
 - Contributing to the deployment of the Carbon Strategy for 2008-2012-2020.
 - Contributing to compliance with the Directive on Fuels.
 - Improving the capacity to identify and materialize potential cost savings.
 - Quantifying current consumption and improvements achieved.



Energy efficiency

- ❑ One purpose of energy efficiency audits is to detect possible sources of inefficiency in facilities. These audits are designed to obtain savings in costs and raw materials, lower energy consumption and, consequently, lower emissions, and to identify possible CDM projects.
- ❑ In the refining and chemical facilities in Spain, numerous opportunities to reduce energy consumption have been identified.
- ❑ Audit programs have also been carried out in refining and chemical facilities in Argentina, e.g. in the Ensenada petrochemical complex.



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Verification of the emission inventory in accordance with ISO 14064



- ❑ The Strategic Lines for 2008-2012 included the need to start the verification process of GHG inventory and GHG reduction projects of Repsol YPF in accordance with ISO 14064.
- ❑ Repsol YPF considers that by adopting this standard:
 - Consistency, transparency and credibility among stakeholders involved in GHG quantification, monitoring and reporting processes are assured.
 - GHG-related identification, and risk and opportunity management is improved.
 - The standardization of the methodology for the design, development and implementation of GHG emission reduction opportunities and programs is promoted.
 - Credibility in the development of baselines in facilities that may develop CDM is provided and guaranteed.

Verification of the emission inventory in accordance with ISO 14064



- ❑ The ISO 14064 Standard for the accounting and verification of greenhouse gas emissions was published on March 1, 2006 to give credibility and ensure quality of emission reporting and GHG emission reduction statements.
- ❑ It consists of three parts under the title "Greenhouse Gases"
 - Part 1: Specification and guidance for the quantification, reporting and organization emissions and removal of greenhouse gases.
 - Part 2: Specification and guidance for the quantification, monitoring and reporting of project emission or increase in removal greenhouse gases.
 - Part 3: Specification and guidance for validation and verification of greenhouse gas statements.

Verification of the emission inventory in accordance with ISO 14064



Part 1, ISO 14064-1:

- ❑ It specifies the principles and requirements for the quantification and reporting of organization emissions.
- ❑ It contains the requirements to:
 - Quantify the organization GHG emissions
 - Identify specific actions in the organization to help improve GHG management
 - Determine the limits of GHS emissions
- ❑ It also includes requirements and guidance for:
 - Management of inventory quality, reporting and internal audits
 - Responsibilities in the verification activities

Verification of the emission inventory in accordance with ISO 14064



Part 2, ISO 14064-2:

- ❑ It is focused on GHG projects or on activities based on projects specifically designed to reduce GHG emissions.
- ❑ It specifies the principles and requirements, and provides guidance for quantification, monitoring and reporting of project GHG emission reduction.
- ❑ This part of the ISO standard deals with the concept of additionality, requiring GHG project to result in an emission reduction, in addition to what would have occurred in the absence of such project.
- ❑ It includes the principles and requirements to determine baseline scenarios and to monitor, quantify and report the project performance as compared to the baseline scenario.

Verification of the emission inventory in accordance with ISO 14064



Part 3, ISO 14064-3:

- ❑ It specifies the principles and requirements for the verification of GHG inventories and for the validation or verification of GHG projects.
- ❑ It provides principles, requirements and orientation for those that conduct the verification of information on GHG.
- ❑ It describes the process for verification related to GHGs, and specifies components such as verification planning, assessment procedures and assessment of statements of the organization or project on GHG. The organization or independent parties may use this standard to validate or verify GHG statements.
- ❑ The requirements of this part describe a process to assure users that statements of the company or project on GHS is complete, accurate, consistent, transparent and with no remarkable discrepancies.

Verification of the emission inventory in accordance with ISO 14064



Verification of the emission inventory of Repsol YPF:

- ❑ In 2008, 52% of the CO₂ inventory was verified in accordance with ISO 14064.
- ❑ All refineries in Spain, all chemical plants in Spain and Portugal, and for the first time the chemical center of Ensenada in Argentina, have been verified. New facilities in Latin America will be verified shortly.
- ❑ In addition, 83% of CO₂ reduction was verified in 2008.



Thank you for your attention



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