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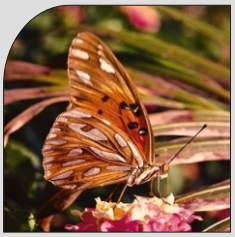
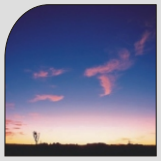
REGIONAL ASSOCIATION OF OIL AND NATURAL GAS COMPANIES IN LATIN AMERICA AND THE CARIBBEAN






ARPEL Views towards Climate Change Policy

Clean Development Mechanism - Challenges and Opportunities for Latin America and the Caribbean





The Regional Association of Oil and Gas Companies in Latin America and the Caribbean (ARPEL) has produced this document in order to highlight the key policy issues to be considered in the architecture of the Kyoto Protocol after 2012, allowing the Clean Development Mechanism (CDM) to become an increasingly effective tool to mitigate climate change.

CDM provides the framework for ARPEL membership to support worldwide efforts to reduce greenhouse gas (GHG) emissions in Latin America and the Caribbean while contributing to sustainable development initiatives in the Region.

In 1999, ARPEL created the Climate Change Working Group (CCWG) with a view to enhancing the capacity of the Region's industry and governments to develop projects and implement technologies for GHG emissions reductions that can qualify for credits under the Kyoto Protocol, taking advantage of the existence of regional and international schemes for emissions trading. The goal is to make projects attractive to investors while at the same time benefiting the countries of the Region.

In light of ARPEL's proactivity on GHG emissions reductions, the Association has been accredited as of December 2004- as an Official Observer to the United Nations Framework Convention on Climate Change. In this condition, ARPEL participates as Official Observer of the Conferences and Meetings of the Parties to the Kyoto Protocol and its Subsidiary Bodies.

The CCWG prepared this document "*ARPEL Views towards Climate Change Policy: Clean Development Mechanism Challenges and Opportunities for Latin America and the Caribbean"*, which was formally approved by the ARPEL Assembly of Representatives on July 6, 2006 in Cartagena, COLOMBIA.

The CCWG has the following objectives:

To provide the expertise on the development of potential Clean Development Mechanism processes and criteria;

To facilitate the sharing of best practices among companies;

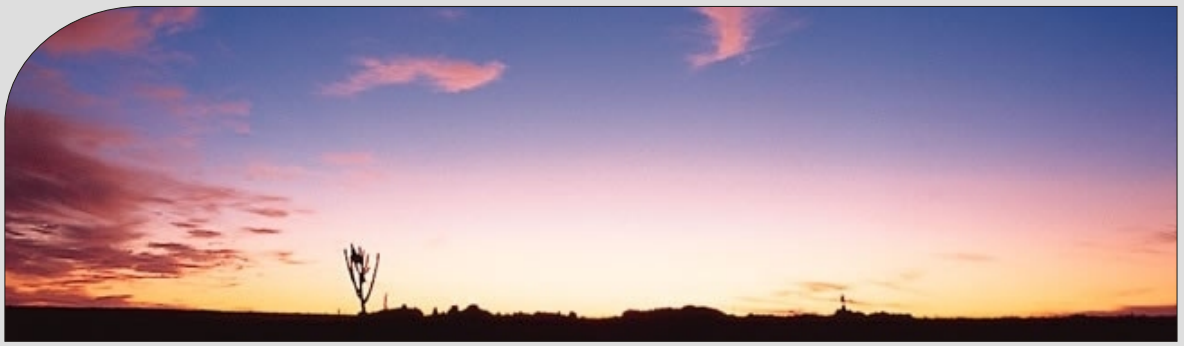
To raise awareness and provide education on key aspects of the climate change issue; and

To serve as the expert group communicating with scientific experts, government policy makers, and other opinion makers.

ARPEL Member Companies participating of the ARPEL Climate Change Working Group include: Chevron, ECOPETROL, ENAP, ExxonMobil, Pan American Energy, PDVSA, PEMEX, PETROBRAS, PETROTRIN, RECOPE, RepsolYPF, Statoil and Total.

ARPEL, November 2006

Designed and layout: Susana Muñiz



Key Messages

The mechanisms of the Kyoto Protocol are important to assist the oil and gas companies in Latin America and the Caribbean to manage greenhouse gas (GHG) emissions. At present, existing Clean Development Mechanism (CDM) procedures are extremely complex and burdensome, leading to delays and transaction costs that increase the risk for investors. The CDM projects approval process can be improved to reduce the processing time of projects, to stimulate new projects initiatives and to minimize transaction costs. Further, the establishment of a long term, market-based policy framework will provide investors in infrastructure and climate change mitigation technologies with confidence in the long term value of their project investments. To explore the real potential of GHG emission reduction under the CDM, the Member Companies of ARPEL (Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean) recommend that the following approaches be considered by parties of the United Nations Framework Convention on Climate Change in future negotiations:

Make CDM work effectively

- Encourage the national climate change offices of Latin America and the Caribbean to clearly indicate their sustainable development priorities and build the capacity of key stakeholders aiming at the elaboration of CDM projects that can be efficiently processed.
- Expedite policy-based and sectoral CDM projects that would allow for a focus on sectors where a strong sustainable development benefit is known to be likely, such as transportation, energy efficiency, renewable energy and others.
- Review the criteria for additionality with a view to further downplaying the importance of financial additionality.
- Foster developed and developing countries business partnerships through the climate change national authorities of both Annex B and non-Annex B countries.
- Ensure CDM is a part of future international climate change agreements and that emission reductions credits from approved CDM projects are acknowledged by Parties in future regimes.
- Promote the analysis and consensus to develop any modifications of existing sector baselines

Focus on technology

- Support technology transfer and technology development within developing countries, a strategy that will be vital in addressing long term GHG emissions reductions.
- Encourage north-south partnerships to support technology innovation, a key strategy to achieve emissions reductions and economic development.
- Ensure geologic CO_2 capture and storage projects are authorized to qualify as CDM.
- Assist in the development of national normative and institutional frameworks that support CDM as a driver for new projects on gas flaring and venting reduction, as well as on the elimination of fugitive methane emissions from equipment and natural gas pipelines and of methane vapors in crude oil storage tanks.

Introduction

On February 16, 2005, the Kyoto Protocol of the United Framework Convention on Climate Change (UNFCCC) entered into force. This Treaty establishes three market mechanisms to help industrialized countries achieve their Kyoto commitments by the first commitment period (2008 to 2012) of reducing their greenhouse gas (GHG) emissions, one of which is the Clean Development Mechanism (CDM) and involves emissions reductions projects undertaken in developing countries to provide credits to developed countries. At COP-11 / MoP-1 in Montreal, Canada, Kyoto Protocol has been confirmed as a totally valid mechanism to mitigate the climate change.

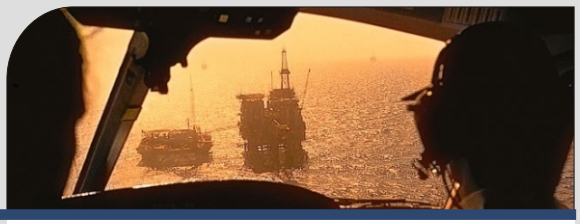
The oil and gas industry has a role to play in the global efforts to reduce GHG emissions. The Member Companies of ARPEL (Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean) cover more than 90% of the upstream and downstream operations in Latin America and the Caribbean, and have been assisting in the process of optimizing the CDM rules and procedures.

CDM procedures and rules, and the institutional capacity required to manage the process of approving projects and assigning credits, still need to be improved. To address the high transaction costs associated with a reduction in GHG emissions, more Certified Emissions Reductions must be made available. To do so, the process for approval and monitoring of CDM projects must be streamlined.

Technology development and technology transfer will play an important role in reducing the GHG emissions intensity in Latin America and the Caribbean as well as the rest of the world. The capture and storage of CO_2 in geological formations is a promising technology for reducing GHG emissions, as well as the elimination of fugitive methane emissions from equipment and natural gas pipelines and of methane vapors in crude oil storage tanks.

The mechanisms of the Kyoto Protocol are important to assist the oil companies in Latin America and the Caribbean to manage GHG emissions. To explore the real potential of GHG emission reduction under the CDM scheme, some changes should be made to the architecture of the Kyoto Protocol after 2012. This paper presents an assessment made by ARPEL Member Companies regarding present challenges and future issues, and makes recommendations to address them to ensure the validity of the Kyoto Protocol as a valid tool to address global climate change.

The Context



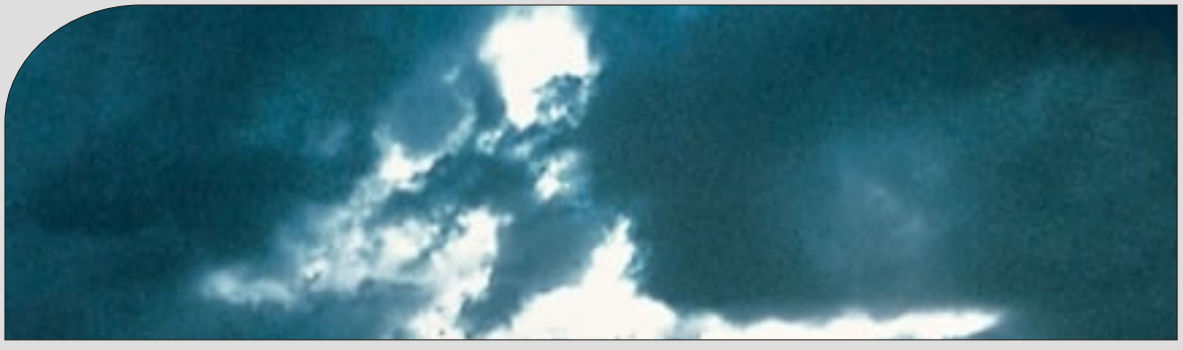
Created in 1965, ARPEL (Regional Association of Oil and Natural gas Companies in Latin America and the Caribbean) represents the focal point and forum of the regional oil and natural gas industry. ARPEL Member Companies cover more than 90% of the upstream and downstream operations in Latin America and the Caribbean. Since 1997, ARPEL has been working on energy efficiency and climate change issues. In light of the proactive contribution made by ARPEL to accomplish the objectives of the United Nations Framework Convention on Climate Change (UNFCCC), ARPEL has been admitted as official Observer of the UNFCCC process, effective December 2004.

On February 16, 2005, the Kyoto Protocol of the UNFCCC entered into force. A key achievement of the Kyoto Protocol is the establishment of three market mechanisms to help industrialized countries achieve their Kyoto commitments of reducing their greenhouse gas (GHG) emissions: Clean Development Mechanism, Joint Implementation and Emission Trading.

With 14% of worldwide oil production and 10% of refining capacity, Latin America and the Caribbean represents a Region in which the oil and gas sector can contribute to worldwide efforts to reduce GHG emissions. The contribution of oil and gas associated CO_2 emissions in Latin America and the Caribbean can be estimated as 2.2% of the world total emissions from fossil fuels. Considering that 85% -minimum- of CO_2 emissions derive from the consumption of liquid and gaseous fossil fuels by end users (e.g., vehicles, industries, commercial and domestic use, etc.) and the rest are from oil and gas production and refining facilities, the contribution of oil and gas industry operations in Latin America and the Caribbean can be estimated in ca. 0.4% of the world total CO_2 emissions derived from fossil fuels' production and consumption.

ARPEL Member Companies recognize their responsibility to act on climate change and understand that small costs today can become material costs in the future, with significant impact on bottom line performance, shareholder value, and reputation. ARPEL Member Companies individually, and through ARPEL- have been addressing the challenge of reducing GHG emissions. They have begun to act in a variety of ways, ranging from the implementation and disclosure of GHG emissions inventories to the development of new installations that release less GHG to the atmosphere.

On December, 2005, the 11th Conference of the Parties and 1st Meeting of the Parties of the Kyoto Protocol (COP-11 / MoP-1) was celebrated in Montreal, Canada. Many decisions were made, the most important being the confirmation of the Kyoto Protocol as a totally valid alternative to mitigate climate change.



Clean Development Mechanism: A Key Role in Cost-Effective Mitigation of Climate Change

CDM was created as a way of assisting governments of the developed countries and private sector entities to reach their GHG emissions reduction targets in a cost/effective manner, while contributing to the sustainable development priorities of developing countries. Concurrently, governments of developing economies face challenges in addressing climate change as part of an overall sustainable development agenda, while generating mechanisms which may address the challenges of poverty, energy, and economic growth while mitigating GHG emissions.

CDM offers a pathway for technology transfer, and promotion of sustainable development in host countries. The success of the CDM continues to depend upon the rules governing its operation (e.g., clarity on eligibility requirements and baseline methodologies), regarding the development of appropriate projects and the emergence of national systems to support project development and review. CDM procedures and rules, and the institutional capacity required to manage the process of approving projects and assigning credits, still need to be improved.

The CDM is based on a bottom-up model, building the portfolio of emissions reduction efforts on a project-by-project basis. Unless current approaches are substantially modified, this will not come close to satisfying Annex B countries' demand for Certified Emission Reductions (CER). The limited- number of approved projects, typically involving end-of-pipe capture/destruction of high Global Warming Potential gases, seems to offer little in the way of sustainable development benefits.

A number of top-down approaches have been suggested that offer the possibility of both expanding the level of CDM activity (going from a "retail" to a "wholesale" effort), and generating projects that will tend to produce more environmental, social and economic benefits for the communities involved.

CDM project proponents must do an investment analysis to determine that the proposed project activity is not the most economically or financially attractive and that the CDM status of the project allows it to be undertaken. In light of the difficulties of predicting potential changes in government policies and macroeconomic realities, demonstrating that the project activity is additional (i.e. is not part of the baseline scenario) represents a large uncertainty.

To address the high transaction costs associated with a reduction in GHG emissions, more CERs must be made available. To do so, the process for approval and monitoring of CDM projects must be streamlined. At the regional level, the harmonization of national regulations related to CDM in developing countries would encourage investment in CDM project opportunities.

In summary, the CDM approval process must be streamlined to accomplishing the intended result of achieving sustainable development through cost-effective GHG emissions reductions.

Technology

The economic development of Latin America and the Caribbean during the next 30 years will require an increase in the energy demand, which means a likely increase in GHG emissions by 2030. Technology development and technology transfer will play an important role in reducing the GHG emissions intensity in the Region as well as the rest of the world.

Carbon Capture and Storage: A Big Opportunity for the Region

COP-11 / MoP-1 welcomed the special report of the Intergovernmental Panel on Climate Change on carbon capture and storage (CCS). The report considered CCS as an option in the portfolio of mitigation actions for stabilization of atmospheric GHG concentrations. Storage of CO_2 in deep, onshore or offshore geological formations uses many of the same technologies that have been developed by the oil and gas industry. Energy and economic models indicate that the CCS system's major contribution to climate change mitigation would come from deployment in the electricity sector. Available evidence suggests that, worldwide, it is likely there is a technical potential of at least about 2,000 $GtCO_2$ of storage capacity in geological formations. The report of the Intergovernmental Panel on Climate Change indicates that it is very likely that up to 99% of CO_2 injected into a geological formation be retained for over 100 years. In most scenarios for stabilization of atmospheric GHG concentrations between 450 and 750 ppmv CO_2, CCS contributes 15-55% to the cumulative mitigation effort worldwide until 2100. With appropriate site selection based on available sub-surface information, a monitoring program to detect problems, a regulatory system and the appropriate use of remediation methods to stop or control CO_2 releases if they arise, the local health, safety and environment risks of geological storage would be comparable to the risks of current activities such as natural gas sequestration, enhanced oil recovery and deep underground disposal of acid gas. Furthermore, Co_2 injection to assist in enhanced oil recovery is progressing and being validated by recognized research institutes. However, challenges related to the demonstration to external stakeholders- that CO_2 storage is safe, measurable, and verifiable threatens to delay its acceptance as a technology to be considered for CDM projects.

Gas Flaring and Venting Reduction

Globally, gas flaring and venting activities account for 150 billion cubic meters per year. This is equivalent to Latin America's gas production, approximately 2% of total oil and gas production in the world. Approximately 10% of total global flaring and venting emissions are from the Latin America and the Caribbean. In response, several oil and gas companies operating in the Region are taking on voluntary actions to improve energy efficiency, reduce the flaring and venting of methane, and report these results publicly as part of the industry's clear commitment to reducing GHG emissions. Such initiatives would be boosted by an appropriate CDM regulatory process that considers those activities through a typology process of approval rather than case by case basis.

Energy Efficiency: A Long Way Walked; a Long Way to Go

The oil and gas industry has been working to develop technology options to mitigate the GHG emissions. Among these options, energy efficiency is often the short term most cost-effective means to achieve reductions. Notwithstanding this, only a few methodologies for energy efficiency have been approved by the CDM Methodology Panel. Short term emission reduction projects alone cannot, however, address climate change global challenges.

Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean

Established in 1965, ARPEL is an association of 30 state owned and private oil and gas companies and institutions with operations in Latin America and the Caribbean, which represent more than 90 percent of the Region's upstream and downstream operations. Since 1976, ARPEL holds formal UN-ECOSOC special consultative status.

ARPEL works together with its members -through its various Committees and Working Groups- on issues that contribute to sustainable development in the Region:

- *Economic issues: regional energy integration, pipelines and terminals, downstream and fuels*
- *Environmental issues: climate change, atmospheric emissions, oil spill contingency plans and best practices in environment and occupational health and safety management*
- *Social issues: corporate social responsibility and relations with indigenous peoples*

ARPEL develops a proactive attitude on issues of interest to the industry and produces documents representing the views of its members. It also promotes interaction among its members and with governments building alliances and establishing agreements with international organizations with the aim of presenting and developing a regional perspective. To accomplish its objectives, ARPEL organizes regional workshops and symposia to share information and best practices and develops technical documentation for capacity building and information exchange on the issues of interest to its members. To support its management ARPEL has an interactive Portal in which all documents developed by ARPEL Technical Committees and Working Groups are available for its Members. This tool also facilitates the virtual interaction within the ARPEL community and with stakeholders that interrelate with it.

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