

Energy Magazine



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Editorial**OLADE'S FORUMS: AN OPPORTUNITY FOR NEW PLAYERS IN ENERGY DEVELOPMENT**

The transformation process that the countries of Latin America and the Caribbean are promoting for the development of the energy sector has attributed a fundamental role to new players that have taken up responsibilities that once belonged exclusively to the State.

In keeping with this reality, the new strategy of openness of the Latin American Energy Organization has promoted actions aimed at consolidating its ties with regional energy development players and sectors. Thus, the XXXI Meeting of Ministers of OLADE's Member States held in Asunción in October 2000, in addition to establishing the condition of Participating Country in the Organization, has created three forums that will provide opportunities for analysis, reflection, and exchange of experiences to contribute to the consolidation of the energy sector as a fundamental pillar for the socioeconomic development of Latin America and the Caribbean.

The forums that have been created are:

- Energy Sector Business Forum
- Forum of Supervisory Entities and Regulatory Agencies of Oil and Gas Activities
- Forum of Supervisory Entities and Regulatory Agencies of Electric Power Activities

The first of these Forums will be appropriate for dialogues between the public and private sectors, where business associations, production chambers, and entrepreneurs will be analyzing and identifying the business and investment opportunities offered by the region's energy sector.

The activity of the Forums of Supervisory Entities and Regulatory Agencies for both oil and gas activities and electric power activities will permit fine-tuning existing regulations in these sectors and, through the exchange of experiences, will contribute to improving the work of these entities and establishing this type of agency in the region's countries that require it.

Regarding this, from a realistic point of view, it should be emphasized that energy integration, which is one of OLADE's fundamental objectives, is a gradual process facilitated by the elimination of obstacles and the harmonization of regulatory frameworks that permit transparent norms for investors.

Reducing legal risks is a key condition to formalize contracts and reduce the intangible costs of legal insecurity.

Furthermore, the action of OLADE's Forums will be giving incentives to both private entrepreneurs and regulatory entities to safeguard the investments that are made and to

improve the scenarios for attracting new investments for the development of the region's energy sector. It would therefore be indispensable to promote favorable legal and political conditions, which in addition to ensuring the reinvestment of earnings into the region will attract fresh investments, an objective to which the Forums created within the framework of OLADE can also contribute.

The Organization's Permanent Secretariat has envisaged holding an international seminar focusing on the Future of Energy Sector Modernization in Latin America and the Caribbean, where the activities of the Energy Sector Business Forum will be officially presented and launched.

There is no doubt that OLADE's Forums will be establishing a new form of cooperation between the players of energy sector development in Latin America and the Caribbean.



Dr. JULIO HERRERA
Executive Secretary

OLADE and regional natural gas market integration



The incorporation of natural gas in the economic development of the countries of Latin America and the Caribbean has become an essential need for environmental, economic, and energy supply reliability reasons.

The use of natural gas for electric power generation and in the industrial, commercial, and transportation sectors, in order to substitute coal and refined oil products, produces less environmental pollution. Furthermore, in the electric power generation sector, natural gas contributes to improving the reliability of supply and reducing investment compared to the use of water resources, which are characterized by their random nature and the intensive use of capital.

Importance of market integration

Over the last few years, major albeit isolated efforts have been made to incorporate natural gas into the energy matrix of the countries of Latin America and the Caribbean.

The initiative for generating and implementing natural gas market development projects has largely been in the hands of the private sector. Because of this, although the incorporation of natural gas is characterized by individual project approaches, regional integration principles have not been neglected in order to incorporate the best development options of supply and consumption markets.

Bearing in mind that, in most cases, the development of intra-regional interconnections is just starting, the return on investments in the development of natural gas production, transport, and consumption infrastructure is guaranteed by long-term purchase agreements and take-or-pay clauses, delivery-or-pay clauses, or integrated projects implemented by production, transport, or consumption consortiums. Open market sales transactions can only take place on the spot market in interruptible services for uncommitted installed capacity. Because of this, the majority of transactions will take place on the basis of long-term agreements in view of the magnitude of the investments that are involved, which emphasizes the importance of undertaking a long-term comprehensive analysis of the sector's development.

OLADE's commitment to developing the region's gas

In the context described above, one of the important programs of OLADE as

a regional energy integration organization focuses on natural gas sector development.

In this program, OLADE has conducted two studies for natural gas supply to the region:

- Study on the incorporation of liquefied natural gas in the energy matrix of Central America and the Caribbean, complementing the prefeasibility study for the Mexico-Central America gas pipeline, carried out in the framework of the OLADE-ECLAC-GTZ Project on Energy and Sustainable Development in Latin America and the Caribbean.
- Natural gas market integration study in South America.

Gas integration in South America

The study on natural gas market integration in South America was funded by the Synergy Programme of the European Commission and included the participation of Beicip-Franlab, a subsidiary of the French Petroleum Institute (IFP), and the Regional Association of Oil and Natural Gas Companies of Latin America and the Caribbean (ARPEL).

OLADE was in charge of administering the project and, along with ARPEL, gathered and processed the information received from the countries on the companies operating in the region. Beicip-Franlab was in

“Over the last few years, major efforts have been made to incorporate natural gas into the energy matrix of the countries of Latin America and the Caribbean. The initiative for generating and implementing natural gas market development projects has largely been in the hands of the private sector.”

“The demand for gas will undoubtedly grow rapidly over the next 20 years, especially in Brazil and considerably in Argentina, Chile, and Colombia. It is expected that its consumption will increase in Peru, Uruguay, and Venezuela. Ecuador and Paraguay will also have access to gas.”

charge of testing for optimizing a model to determine the best options for the development of gas integration infrastructure.

In order to consolidate the project's development, the companies involved in gas activities in South America were invited to join the project's efforts. PDVSA, Repsol-YPF, and Total became part of the steering committee and all the countries collaborated by providing the necessary information through their energy ministries and regulatory entities.

In order to analyze the study's preliminary results and update the information that was compiled, the Seminar on Natural Gas Market Integration in South America was held on November 23-24, 2000 in Santa Cruz de la Sierra in Bolivia, under the auspices of the Vice-Ministry of Energy and Hydrocarbons of Bolivia and the Bolivian Chamber of Hydrocarbons.

The event was attended by representatives from government institutions, regulatory agencies, and companies involved in gas production, transport, and distribution activities in South America. The participation of the different players involved in the development of the gas industry helped to enhance the knowledge of those attending thanks to the exchange of experiences and the visualization of existing obstacles and the strengths for the sector's future development.

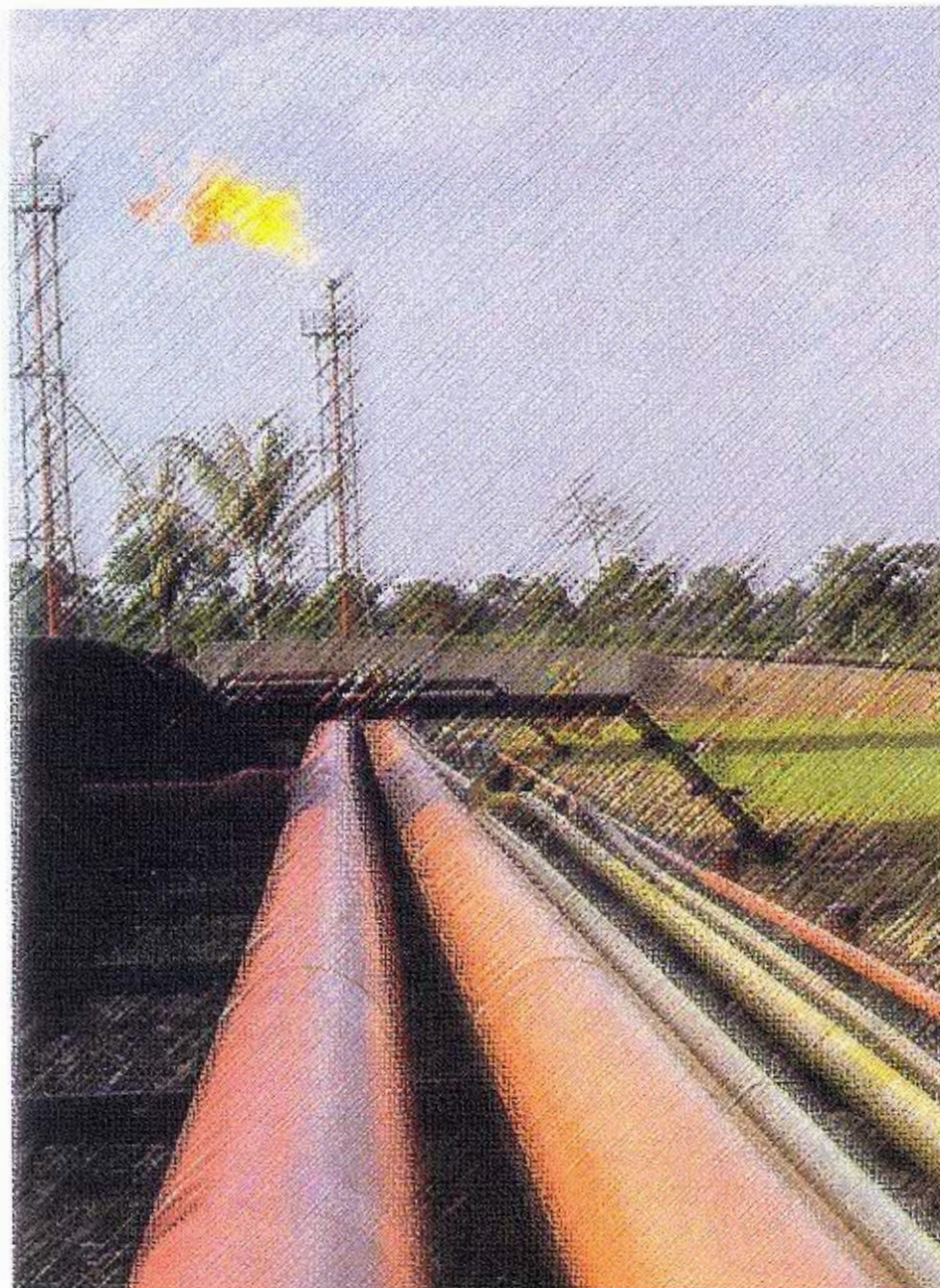
The study focused on fundamental aspects such as the consumption market, the supply market, and natural gas prospects in the countries of South America.

Consumption market

The countries of South America are comprised of three clearly differentiated groups, not only because of the policy they apply but also because of the degree of development of the natural gas sector:

- Countries that have developed their domestic natural gas production and consumption market through international transactions: Argentina, Bolivia, Brazil, Chile, and recently Uruguay.
- Countries that have developed their domestic gas production and consumption market without depending on external markets: Colombia, Venezuela, and soon Peru.
- Countries that have not developed their consumption market: Ecuador and Paraguay.

Mature natural gas markets in the region can be found in Argentina and Venezuela. The largest potential market for gas consumption is in southeastern and southern Brazil.



Supply market

With its current reserves, Argentina is able to meet its gas needs and generate surpluses that are earmarked for export. On the basis of its production, it can meet the volumes that are required for the present decade.

Bolivia has developed natural gas reserves, on the basis of which it meets its domestic demand and exports surpluses to Argentina and Brazil. It has enough reserves to guarantee supplying the needs of the Southern Cone over the long term.

On the basis of the production of the Camisea field, Peru can develop its

domestic natural gas market and generate surpluses for export.

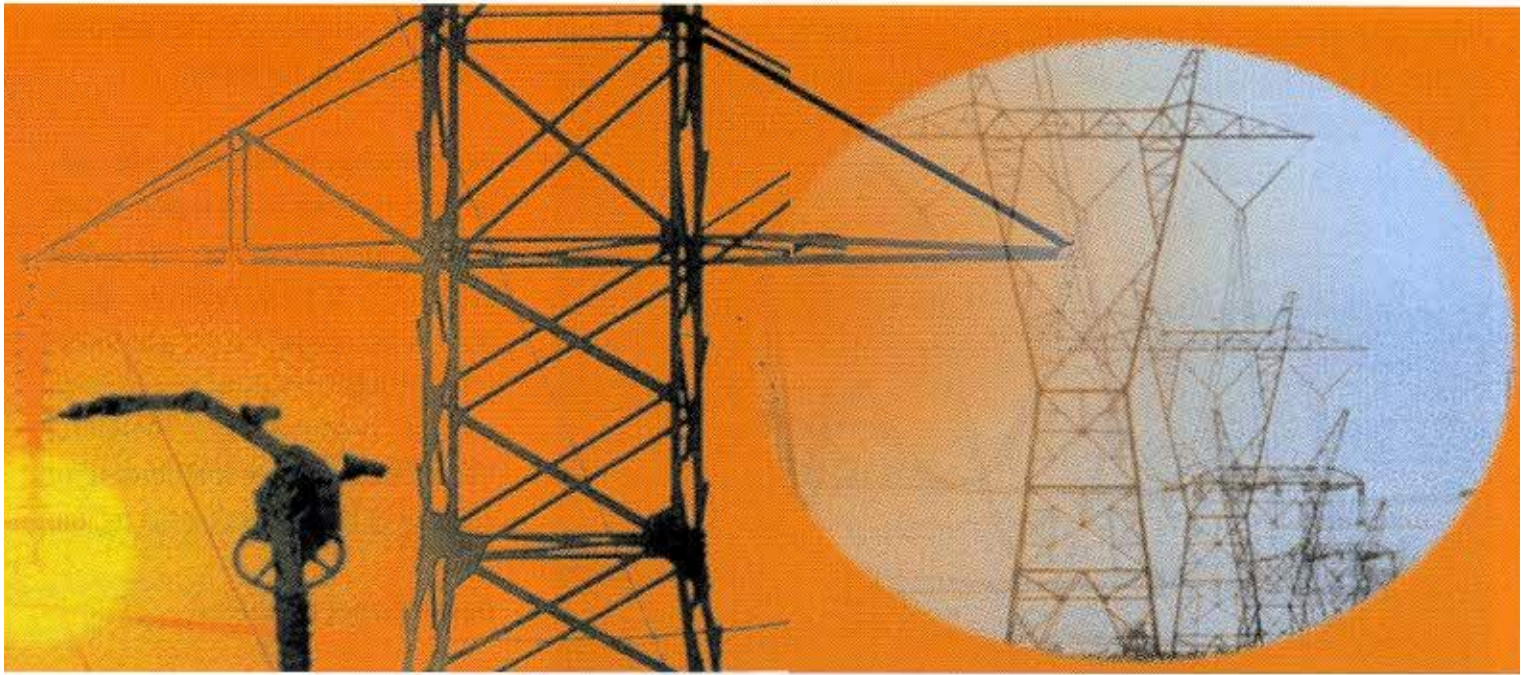
Venezuela has the largest proven natural gas reserves in the region, which amount to 146 trillion cubic feet (10^{12} cf). Of these reserves, about 90% is associated to oil, and therefore the availability of gas depends on oil production. Therefore, Venezuela is a potential long-term supplier of natural gas for the region.

Development prospects

The demand for gas in the region will undoubtedly grow rapidly over the next 20 years, especially in Brazil and considerably in Argentina, Chile, and Colombia. It is expected that its consumption will increase in Peru, Uruguay, and Venezuela. Ecuador and Paraguay will also have access to gas. The reserves of Argentina, Bolivia, and Brazil can guarantee gas supply to the Southern Cone, whereas the reserves of Venezuela and, to a lesser extent, those of Colombia can guarantee supply to the north of the region. Peru will have major exportable balances coming from Camisea.

Presentation of study results

The study's final report is in the final phase of elaboration, and it is expected that it will be disseminated by mid-April this year.



Central American electric power integration

Introduction

The people of the Central American area have always yearned for integration, like some aftertaste from the thinking of the Liberator Simón Bolívar and the dreams of Francisco Morazán to find ways of integrating the region.

It was not until the fifties that the subject of electric power integration

started being dealt with specifically, and this in turn led to actions not only in the institutional sector but also in the development of infrastructure.

Institutional development

In order to develop the topic of the institutional development of electric power integration, we should underscore the creation in June 1958 of the *Central American Electrification and*

Hydraulic Resources Subcommittee (SCERH) by the *Central American Isthmus Economic Cooperation Committee* for the purpose of promoting and coordinating actions between the electric power utilities of the area, as well as foster studies for the integral development of the region's electric power subsector and water resources.

In 1963, this Subcommittee established the *Regional Electric Power Interconnection Group*, which is aimed principally at promoting and supporting integration of the electric power subsector in Central America.

In 1979, the region's electric power utilities took steps to set up the *Electrification Council of Central America (CEAC)*, and in 1985 it approved the charter for this international organization, which was ratified by five Central American countries in 1989.

The *Electric Power Interconnection System of the Central American Countries (SIEPAC)* was conceived in 1987 at the first meeting of the government agencies and agents in charge of the electric power sector of the six countries of the Central American Isthmus (Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama), and from the very start it was supported by the Spanish Government, which sponsored the study of an interconnection project for all the countries which involved a 500-kV trunk line to be built in 1992. To ensure political support for this initiative, the Presidents of the Central American countries signed an Agreement Protocol that formalized not only the commitment and involvement of the electric power utilities in the project but also the mandate to undertake the studies needed to carry it out.

In response to these agreements, the CEAC entrusted the *ENDESA Group* of Spain to be in charge of the Project's Executive Secretariat so that it could take over organizational aspects and ensure the implementation of its eco-

nomic and financial studies and invite technical coordinators to participate.

Once the technical studies were concluded and in view of the high cost of the project's interconnection, it was decided that the Project would be reformulated and, in July 1989, at the *Fourth Presidential Summit of the Central American Countries*, it was decided that the project would be adapted to the economic needs and possibilities of the countries, for which purpose it was proposed that it would be rescheduled in three stages, with a total duration of about 10 years.

In 1991, ENDESA submitted to the Inter-American Development Bank (IDB) a scheme for developing the reformed project; which was reviewed by the two institutions. At the same time, the complementary terms of reference for the project and the working proposal for the study were prepared and then approved at the Meeting of Presidents and Coordinators of the SIEPAC Project held in Madrid in September 1992.

In October 1993, at the XIV Summit of the Presidents of the Central American Countries held in Guatemala, the Central American Economic Integration Protocol was signed; it provides standards for the participation of the countries in the region's economic policies. It should be emphasized that, within the context of Central American economic integration, the development of electric power interconnection projects is a highly important milestone.

At the XV Summit of the Presidents of the Central American Countries held in Guácimo, Costa Rica in August 1994, it was agreed that the SIEPAC Project would materialize in two years and that support from international financing organizations would be negotiated. By the XVI Summit held in El Salvador in March 1995, it was agreed that a mixed-capital multinational company would be set up for the electric power interconnection. Finally, in December 1995, at the XVII Summit held in San Pedro Sula in Honduras, it was agreed that a Coordination Council and Executive Secretariat for the Project would be established in order to speed up approval of a treaty and the establishment of a company owning the electric power transmission line.

On December 30, 1996, in Guatemala, the Presidents of the Central American Isthmus Countries signed the Framework Treaty of the Electric Power Market of Central America, conscious and confident that it would be through a regional electric power market sustained by the interconnection of the countries' electric power systems that the steady development of the sector could be promoted for the benefit of all the inhabitants of the area. At this point, it should be underscored that all of the Governments of the Central American countries and their respective legislatures have ratified this Treaty.

Infrastructure development

The interconnections that are currently operating in the Central American region have been installed on the

“...major progress has been made to render regional transactions viable, among which the ratification of the Framework Treaty of the Central American Electric Power Market is noteworthy, since it is the legal framework that governs the region’s electric power market.”

basis of bilateral agreements. As a result, in September 1976, the first interconnection line between Honduras and Nicaragua, with a length of 136 km and insulated at 230 kV, started operating, but its start-up was at 138 kV and it was not until July 1990 that it started operating at 230 kV.

The interconnection between Nicaragua and Costa Rica started up in August 1982 with a 230-kV line extending for 224 km ensuring electric power trade between the three countries.

In February 1986, the interconnection between Costa Rica and Panama was commissioned, with a 230-kV line. That same year, in September, a 230-kV line between El Salvador and Guatemala started operating.

On the basis of this development scheme, there are two systems currently operating: on the one hand, Guatemala and El Salvador, referred to as the northern block and, on the other hand, the southern block, comprised of Honduras, Nicaragua, Costa Rica, and Panama. In order to complete the regional network, the interconnection between El Salvador and Honduras was pending.

In the region, the benefits that have been sought from the interconnection have been based on the coordinated operation of national systems, reducing costs by tapping each system’s capacity for complementation and by means of occasional energy exchanges, as well as support in

emergency situations, owing to the network’s limited capacity.

Furthermore, gross energy flows that were observed in the binational interconnections have led to the establishment of use factors, which demonstrate that only the segment between Costa and Nicaragua shows a high use factor, amounting to 50%, because of the energy trade between Honduras and Panama, whereas the use factor is low for the other segments.

According to recent studies carried out by ECLAC, the existence of surplus capacity has been demonstrated; this would permit the limited subscription of firm energy contracts over the short term. Once the segment between El Salvador and Honduras has been built and commissioned, it will be possible to make firm power transactions for at least 100 MW.

It is important to emphasize that major progress has been made to render regional transactions viable, among which the ratification of the Framework Treaty of the Central American Electric Power Market is noteworthy, since it is the legal framework that governs the region’s electric power market; in addition, a process has started up to adopt common criteria, methods, and regulations for all the countries.

Another important aspect to keep in mind is the institutional and legal changes that have taken place recently in almost all of the region’s countries, permitting the incorporation of new local electric power industry play-

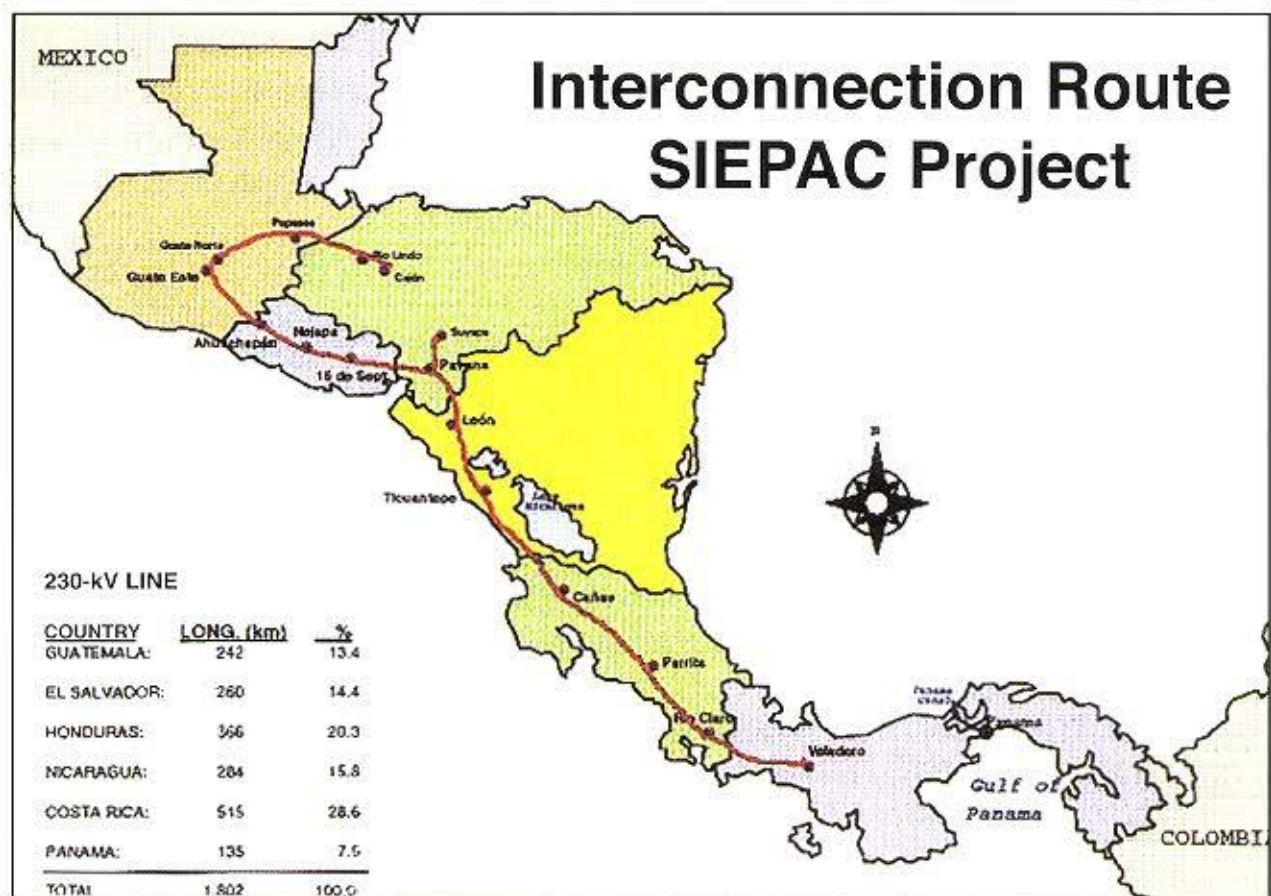


Figure 1. Source: Quoted by De La Torre, Teófilo, *Electric Power Integration in Central America and Panama*, Report of the Executive Secretary for the SIEPAC Project, San José, Costa Rica, July 1998, page 8.

ers into the region's power market and producing greater competition.

Strategic actions of the SIEPAC Project

As indicated earlier, the project referred to as the Electric Power Interconnection System of the Central American Countries (SIEPAC) is aimed at creating and starting up a wholesale electric power market for Central America and developing the first regional transmission system,

where any qualified player will be able to sell or buy electricity, regardless of its geographical location. For its implementation, the strategy that is being proposed is the development of a legal standard-setting and institutional framework in the first stage and the development of infrastructure for a transmission network from Guatemala to Panama in the second stage.

In order to set up a regional market, the Central American countries have

ratified the *Framework Treaty of the Central American Electric Power Market*, which came into force in January 1999. This legal instrument enables actions to be taken to regulate it and find financing for both the local and regional infrastructure associated to the regional transmission network.

By means of this treaty, the Regional Electric Power Interconnection Commission (CRIE) was set up; it is in charge of ensuring that the participants observe the principles estab-

lished in this treaty and its regulations. In addition, the Regional Operating Entity (EOR) was set up to be in charge of operating the interconnections and handling the commercial aspects of the market.

The Framework Treaty grants the concession to a regional state-owned utility that includes private-sector participation, called the Utility Owning the Network (EPR), which will have to build and operate the first regional transmission system. This utility was established in February 1999, with the participation of six public power utilities designated by each government with identical shares, and provisions were made to define the mechanism aimed at including private-sector partners into the utility company's equity capital.

The civil works for the SIEPAC network consist of an indivisible 230-kV transmission trunk system with a length of 1,802 km, connecting 16 substations, from the Veladero Substation in Panama up to the El Cajón substation in Honduras, passing by Costa Rica, Nicaragua, Honduras, El Salvador, and Guatemala, with an additional branch between the substations of Pepesca in Guatemala to El Cajón in Honduras, and in this country a branch between the substation of Pavana to that of Suyapa is being considered, as indicated in Figure 1.

This regional transmission system will be developed in two stages: the first includes facilities whose purpose is to consolidate existing electric power systems, the construction of a 230-kV interconnection line from Guatemala

to Panama and the expansion of associated substations. It is expected that these works will have been completed by the year 2004. The second stage involves the construction of a second 230-kV circuit, if large-scale power generation projects are developed.

Challenges that the regional interconnection project has to tackle

In order to ensure the success of the development of this integration, a series of barriers has to be dismantled and challenges addressed, as indicated below among others:

- Financing for the first regional transmission system, which is indispensable for the successful launching of the concept of a Central American electric power market.
- Establishment of clear rules through regulations that can ensure order for the Central American electric power market.
- Definition of the ownership of the regional line as a fundamental prerequisite for the electric power market, with an indication of the nature of the ownership, whether state, private, or a combination of both.
- It must be kept in mind that, in order to benefit from soft loans from IDB to finance the infrastructure of the regional transmission network, the Bank requests government backing or guarantee, thus obliging state power utilities

to participate actively in the utility owning the network; this means that a decision has to be taken regarding the nature of the network's ownership favoring the search for soft loans.

- Establishment of the Regional Operating Entity. Regarding this, it should be indicated that the Central American countries have designated their respective representatives, which demonstrates their interest in consolidating this market.
- Establishment of the Regional Electric Power Interconnection Commission. As in the preceding case, the Central American countries have designated their respective representatives.

Benefits expected from the regional interconnection project

The economic benefits that could be obtained from this project can be broken down as follows: technical benefits, production cost saving, and reduction in the need for facilities.

Technical benefits:

- Greater reliability of demand coverage.
- Increasing reliability of the network in border areas.
- Greater stability and guarantee of frequency owing to the rise in the inertia of interconnected systems.

“...the optimism with which the challenges are being tackled, should be highlighted, since the project has the support of the political authorities of the region’s six countries as they agree on the benefits that this Central American electric power integration project will be bringing to our people.”

Production cost saving:

- Reduction of losses, especially in systems that share an extensive common border.
- Less operating reserves in each system, since reserve stations can be shared.
- Economical energy trade, since the production of least-cost stations is possible at all times.
- Improvement in the use of the stations owing to the possibility of integrating local curves in the different systems.

Reduction of need for installations:

- Less need for installed capacity owing to the complementarity of the systems and the hourly displacement of their load curves.
- Possible phasing for the construction of new power generation stations.
- Economies of scale owing to the possibility of building stations with larger-scale groups.

Finally, the optimism with which the challenges are being tackled should be highlighted, since the project has the support of the political authorities of the region’s six countries as they agree on the benefits that this Central American electric power integration project will be bringing to our people.

Bibliography

- Economic Commission for Latin America and the Caribbean (ECLAC), PEC-PEICA. Central

American Integration: Evolution and Prospects of Regional Electric Power Integration (1990-2000), Costa Rica, September 1990, 108 pages.

- Latin American Energy Organization (OLADE), Electric Power Interconnection System of the Central American Countries, Quito, Ecuador, March 1998, 27 pages.
- Mota Palomino, Ricardo, for the Latin American Energy Organization (OLADE), Energy Interconnections and Integration in Latin America and the Caribbean, Subregion: Mexico-Central America, Final Report, Quito, Ecuador, May 1999, 83 pages.
- Project Interconnection System for the Central American Countries (SIEPAC), SIEPAC Project Financing and the Construction of Regional Market Entities, January 2000, 40 pages.
- De la Torre, Teófilo, Electric Power Integration in Central America and Panama, Report of the Executive Secretary of the SIEPAC Project, San José, Costa Rica, July 1998, 23 pages.

* Text provided by the Ministry of the Environment and Energy of Costa Rica.



Carlos Herrera-Descalzi
Minister of Energy and Mines of
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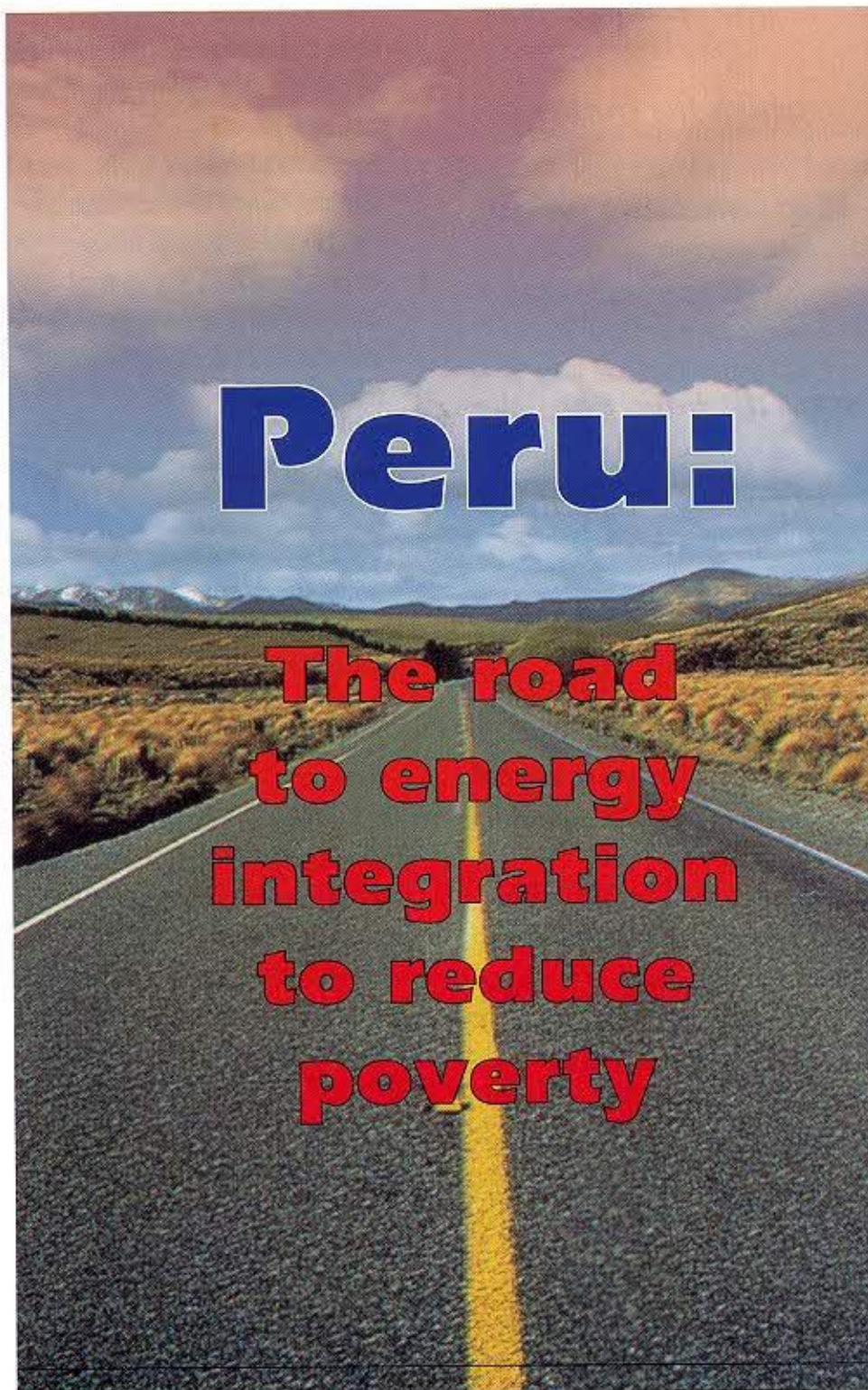
Our nations and people are making efforts to find effective ways of ensuring integration and to do this, we are relying on legal, economic, and social principles that started being developed in the middle of the past century. With the technological and scientific breakthroughs of the world's most industrialized countries, we are trying to take our civilization to the cosmos.

Despite this vast and highly important technological development, it is paradoxical that we are still unable to set up mechanisms to help mankind to overcome the poverty in which a large part of the Earth's population still lives.

Our greatest challenge is to abate poverty and provide our people the well-being they want in order to achieve development, which is nothing other than "the freedom to live without poverty and other kinds of deprivation."

In this context, I believe that the work that is being done as a result of the recommendations arising from the plans of actions for the energy sector agreed upon at the Summits of the Americas, held in the United States in 1994 and in Chile in 1998, is making decisive contributions since energy is an essential factor for all human activities.

One of the purposes of the meetings of the Steering Committee of the



Hemispheric Energy Initiative is to contribute to establishing the suitable mechanisms for integration. For this

purpose, we should take into account that the complementation of our natural resources should be sought in order

to maximize their use for expanded markets with a demand that is higher than domestic demand.

As complementation agreements are drawn up between the region's countries, this mere fact will enable larger amounts of investment to be mobilized, with the resulting favorable impact in terms of rising employment and its subsequent repercussions on related activities.

In this area, it should be taken into account that the project process mechanism has not been sufficient to ensure the sustainable development of the sector and therefore, the State's participation is necessary, although under the conditions prevailing before the reforms that are indispensable to achieve sustainable energy supply over the long term with clean technologies.

Because of this, the present energy forum is one of the ways to express the concern of our governments to find for common grounds for understanding and cooperation that would enable them, along with other action and cooperation instruments in other sectors of economic and social activity of our countries in this important field, to reach greater and steady development for the progress and welfare of our people in order to lead us to better living conditions and to achieve a community marked by solidarity.

The above has been a subject of concern at the Second Summit of the Americas, which in its declaration of principles signed in Santiago de Chile in April 1998, indicated, among other matters, that poverty abatement continues to be the greatest challenge facing our hemisphere, which has led the World Bank to state in a document the phrase used by its President, James D. Wolfensohn, ***"that development is a process that ends when freedom to live without poverty and any other***

social and economic privation is obtained."

The revision and analysis of the different documents that the Steering Committee and working groups of the Hemispheric Energy Initiative have been discussing and elaborating make it possible to appreciate the effort that is being made to support the task of promoting policies and processes that facilitate the development of energy infrastructure and market integration, which is a widespread concern for the governments of the Americas. Achieving sustainable development on the basis of the energy sources that are located in our own territory and those from abroad, under conditions that are compatible with the interests of the nation, is an objective that Peru shares. Therefore I would like to suggest that the ties between research centers, universities, and educational foundations be consolidated in order to upgrade scientific and technological training of the professionals of the region and thus consolidate the achievements that the exchange of experiences in the energy field can provide us.

Although hemispheric integration is a necessary complement to national policies, it should be promoted on the basis of respect for cultural identities and should reflect common interests that enable us to provide our people with a better quality of living and greater well-being, in a process of globalization that the countries cannot ignore in view of the opportunities it offers for progress.

As for the country's energy development, Peru wishes to diversify its energy mix and increase its electrification coverage, by promoting the use and development of energy sources that are economically and environmentally feasible to provide this essential resource at the lowest cost possible and adequately meet the needs of the country's different economic activities,

so as to reach steady growth rates in our economy and ensure development.

I highly appreciate the participation of OLADE, which is an international public institution specializing in energy matters, set up by the Lima Agreement in 1973, with 26 member countries of Latin America and the Caribbean, as member of the Coordinating Secretariat of the Steering Committee of the Hemispheric Energy Initiative. I believe that it provides important technical support to the efforts of the members of the Steering Committee in the activities of this Initiative.

The Government of Peru is highly interested in ensuring that the Fifth Meeting of Energy Ministers that will be taking place in the brother country of Mexico will contribute to reach and consolidate, in the scope of its jurisdiction, the objectives that were laid out over the six years of existence of the Summit of the Americas.

It is an honor for Peru to welcome for the third time the representatives delegated by the governments that are members of the Steering Committee of the Hemispheric Energy Initiative. I am certain that, thanks to the quality and experience of the delegates of the countries that honor us with their presence, this meeting will fully meet the objectives for which it was called, with the reminder that what our people are expecting from us is results.

* *Drawn from the address delivered by the Minister of Energy and Mines of Peru, Mr. Carlos Herrera Descalzi at the opening ceremony for the Special Meeting of the Steering Committee of the Hemispheric Energy Initiatives in Lima, Peru, on January 8-9, 2001.*

Energy Ministers of the hemisphere promote integration and sustainable development

The Fifth Hemispheric Meeting of the Energy Ministers, held in Mexico City on March 9, 2001, issued the Declaration of Mexico, which includes a message to the Heads of State and Government who will be meeting in Quebec, Canada on April 20-22, 2001 for the Third Summit of the Americas.

The Declaration recognizes the work of the Coordinating Secretariat of the Hemispheric Energy Initiative, which is comprised of OLADE, the U.S. Department of Energy (DOE), and the Ministry of Energy and Mines of Venezuela.



DECLARATION OF MEXICO

ENERGY: FOCAL POINT FOR INTEGRATION AND SUSTAINABLE DEVELOPMENT

We the Ministers and Heads of Delegation of the energy sector of the countries that are members of the Summit of the Americas met on March 9, 2001 in Mexico City in order to evaluate the results achieved in the energy sector in the framework of the hemispheric integration process and to define actions to support this integration and the hemisphere's sustainable development.

We recognize that the progress achieved by the countries in cooperation and market liberalization as part of their national strategies constitute a solid base for consolidating hemispheric integration.

Likewise, we support the efforts that the Hemispheric Energy Initiative (HEI) has made to stimulate dialogue and cooperation in priority areas such as the role of energy in sustainable development, as well as identify and promote actions that have fostered regional and subregional interconnections, through the promotion of projects in the different areas of the energy sector

and we encourage further efforts in these areas.

In order to consolidate these achievements, we agree that a fundamental task is the establishment and consolidation of transparent and stable regulatory frameworks that generate conditions that are propitious for the consistent development of the hemisphere's energy sector.

The objectives of the Fifth Meeting were as follows:

- Building up the dialogue of ministers.
- Evaluate the scope of the Hemispheric Energy Initiative and exchange points of view regarding its future approaches.
- Receive and take note of the report of the Steering Committee at the Fifth Hemispheric Meeting of the Energy Ministers in response to the New Orleans mandate.
- Agree on the message of the Energy Ministers to the Heads of State and Government that will be meeting at the Third Summit of the

Americas to be held in the city of Quebec in Canada on April 20-22, 2001.

We had a frank and extensive dialogue on the most important topics on the region's energy agenda.

Regarding the international oil market, we examined its evolution and prospects and agreed that its stability is a decisive factor for the region's economic growth and development, because its volatility negatively affects our economies.

When we addressed the subject of natural gas, we recognized its merit as a fuel exerting a lower environmental impact, and we agreed to assert that the investments made in gas transport infrastructure are contributing to its growing use in the region, with a positive impact on the economy of the countries involved and a major impact on subregional and regional integration efforts.

We agreed to support oil transport integration initiatives between neigh-

boring countries when conditions determine that they are economically viable.

Regarding coal, we acknowledged its share in the region's energy supply and the need to apply technologies that contribute to reducing its environmental impact.

Regarding the electric power industry, we recognized the challenges and opportunities involved in ensuring safe and sufficient electric power supplies to meet the growing demand for electricity in the region. We agreed that reliable and high-quality supply is required to support the steady development of our countries. We agreed to promote and consolidate cross-border interconnections by tapping the advantages of complementation that arise.

We exchanged experiences regarding the restructuring of the electric power industry in our countries, and we agreed that effective regulations and enforcement are decisive elements for the success of the reforms. We recognized the private sector's valuable role in this process and the benefits coming from cooperation between this sector and governments in this essential topic for the development and welfare of our societies.

We agreed on the need to promote the efficient use of conventional sources of energy and to promote the development and intensive use of renewable sources of energy, in view of the region's high potential.

Likewise, we recognized the important contribution the energy sector has made, and will continue to make, to support the efforts to address environmental problems, including climate change. In this context, we underscored the role of the transfer of, and access to, technology to tackle these challenges.

In order to achieve the objectives of the Initiative, we decided to consolidate its strategy, redefining thematic areas of the HEI's Ad Hoc Working Groups so that they could reflect the main challenges of the hemisphere's energy sector at present: energy and social development, energy and the environment, energy and integration, and energy and regulation.

We reiterated the importance of Ad Hoc Working Groups for identifying common problems and proposing specific cooperation actions for furthering the objectives of the Initiative. As a result, we instructed the Steering Committee of the HEI to orient and supervise the activities of the Ad Hoc Working Groups to ensure that they are conducted efficiently.

In order to create propitious conditions to attain the objectives of hemispheric energy integration and promote the participation of all sector players, we instructed the Steering Committee to develop and implement a working program that defines cooperation actions that would help to dismantle barriers and foster the implementation of concrete projects. We also urged the Steering Committee to identify the technical, human resource, and invest-

ment requirements that are needed to reach the objectives that are proposed.

We underscored the need to promote access to funding for sustainable energy projects. We appreciated the establishment of the Hemispheric Sustainable Energy Fund for achieving these objectives, in response to the mandate from the Fourth Hemispheric Meeting of Energy Ministers, held in New Orleans in 1999.

We recognized the valuable efforts made by the Coordinating Secretariat to facilitate the work of the Hemispheric Energy Initiative. We agreed that it would be advisable to evaluate the options to institutionalize this process and instructed the Steering Committee to set up an Ad Hoc Working Group within the next 90 days to assess options and submit concrete proposals to the next Ministerial Meeting, so that a decision could be taken.

We welcomed the results achieved in the framework of the Energy Business Forum of the Americas of the HEI, held in Mexico City on March 8, 2001. This Forum enabled us to exchange opinions with the private sector in oil, natural gas, electricity, and renewable sources of energy in order to facilitate the development of the region's energy sector.

In view of the valuable contributions of the private sector to hemispheric energy integration, we would like to encourage businessmen of the Americas to set up a business network that would facilitate the dialogue between the region's businessmen and the exchange of opinions with govern-

ments, as it had been agreed upon at the Fourth Hemispheric Meeting of Energy Ministers in New Orleans.

We would like to offer the following message to the Heads of State and Government of the Third Summit of the Americas that will take place in the city of Quebec in Canada on April 20-22, 2001.

We recognize the importance of energy for the region's economic prosperity in order to improve the quality of living and our environmental welfare. Because of this, we

pledge to further energy integration, fine-tune regulatory frameworks and their applications, and promote sustainable development. We also recognize that, in striving for regional energy market integration, issues such as market reform, market transparency and stability, regulatory reform, trade liberalization, and greater energy availability will have to be dealt with. We reassert our commitment to foster suitable environmental management in the area of energy and to favor policies, practices, transfer, and access to technologies that are economically

efficient and take into account environmental impacts for energy development and use. We back and support the work of the Hemispheric Energy Initiative in these areas.

We would like to express our appreciation to the government and people of the United Mexican States for their kind hospitality and the magnificent organization of this event.

We agree with the text of the present Declaration, in witness whereof we hereby sign it in Mexico City on the ninth day of the month of March 2001.



The Energy Ministers of the hemisphere are coordinating efforts to further energy integration, fine-tune regulatory frameworks, and promote sustainable development. Above a plenary session of the Fifth Hemispheric Meeting of Energy Ministers in Mexico City on March 9, 2001.



Ernesto Martens-Rebolledo
Secretary of Energy of Mexico

For Mexico, it is a motive of pride and satisfaction to host the Energy Business Forum of the Americas, which is a joint effort for the good of the hemisphere.

We the 34 member countries of the Hemispheric Energy Initiative, which arose out of the Summit of the Americas in 1994, confirm our permanent commitment to the energy sector's present and future development.

In 1999, in New Orleans, a commitment was made to continue efforts to achieve the energy integration of the

The holding of this First Energy Business Forum of the Americas in Mexico coincides with the start of the administration of President Vicente Fox-Quezada.

The new administration has pledged to work in the best interests of Mexico; the objective of our country to find formulas for steady economic development benefiting those groups that most need it is a task that has been entrusted to us and that we have proudly accepted.

To favor economic development, we should lay the groundwork for sustainable growth through open, sound, and in-depth expansion of the energy sector.

As part of this objective, I am sure that all of those who are here today concur that we cannot achieve any progress or meet the needs of a modern society if as countries we do not have the capacity to take advantage of new technologies that reduce costs and dramatically increase efficiency in our sector.

We agree because we want our countries to use environmentally sustainable energy, promote the participation of all sectors, and become a driving force behind regional development and, at the same time, hemispheric development.

As never before, we must work on the task of making our governments agree on a strategic vision using the talent and skills of the private sector. Energy sector investment requirements go far beyond the capacity of any single government to provide sufficient infrastructure and meet the growing

WHERE IS MEXICO'S ENERGY SECTOR HEADING FOR?

Americas and incorporate the valuable contributions of the business sector to the work of our nations.

The commitment to combine the vision of governments and that of the private sector in terms of energy sector sustainability and growth has become a reality today, and the challenges in our region are striving to become tangible solutions and results for the benefit of the population of our nations.

demand of the population for goods and services stemming from hydrocarbons and electricity.

This fact forces us to reformulate the participation and regulation schemes to foster the involvement of private-sector agents in energy activities, which should be socially and economically profitable, in order to guarantee the sector's growth.

Regarding this, the task of governments is clear: on the one hand, we should strengthen legal and regulatory frameworks where clear rules and transparency can become the basis for relationships between the public and private sector, with strategic guidelines that foster balanced and optimal development, as well as a fiscal policy that is both effective and efficient.

On the other hand, we have to build long-term markets that will enable us to overcome speculative inertia and eventually generate regional and world stability in energy production and consumption.

New pricing formulas, free access to markets and financing possibilities will be the elements that are indispensable to ensure smooth sustainable equilibrium for the sector.

In addition, in Mexico we have pledged to transform the companies that constitute our country's potential in the sector into world-class companies, capable of competing in Mexico and abroad for their size, efficiency, administration, and productivity. Thus, we will be reaching our core objective, which is to give our coun-

try the possibility of real, long-term energy sustainability.

The global context in which we are interacting should enable us to take advantage of our common vision, since we have made the commitment to supply energy to our hemisphere.

We have to multiply our channels of work and dialogue so that our local experiences can become global possibilities for technological advance and assimilation, as well as the building of a culture of rational use of energy and energy saving, which along with observance of environmental care can lead to a rise in production at reasonable prices, in an environment of integration and common objectives for the future.

It is for Mexico a great honor to have you here with us today. I am confident that the results of your work will be highly useful for our nations. I would like to ratify the commitment of the Secretariat of Energy of Mexico to contribute to the efforts made by the Americas to promote greater cooperation, in-depth integration, and permanent communication and work for the good of our countries.

* Drawn from the address delivered by the Secretary of Energy of Mexico, Ernesto Martens-Rebolledo, at the opening ceremony of the Energy Business Forum of the Americas of the Hemispheric Energy Initiative in Mexico City on March 8, 2001.

“...in Mexico, we have pledged to transform the companies that constitute our country's potential in the sector into world-class companies, capable of competing in Mexico and abroad for their size, efficiency, administration, and productivity. Thus, we will be reaching our core objective, which is to give our country the possibility of real, long-term energy sustainability.”

OPEC: Cooperation between producers and consumers is inevitable



The rapid and effective response given by the Organization of the Petroleum Exporting Countries (OPEC) to the sharp price fluctuations that we have witnessed over the last two years has provided new impetus to the Organization and highlights the importance of the role OPEC can perform in consolidating the market's stability, to such an extent that many observers are now speaking about a resurgence of the Organization.

Although the achievements in stabilizing the international oil market are highly significant, there is still much to be done in this area. This will continue to be the fundamental objective of our efforts in the foreseeable future and during my administration as Secretary General of OPEC.

Basically, OPEC has altered its course decisively and, as a result, is taking a more proactive role, taking decisions ahead of events instead of waiting for these events to occur and then reacting after the fact.

Nevertheless, there seem to be some sectors for which this position is not altogether clear. It is highly ironic to see how those who spoke out against the Organization for taking too long to act are now accusing it of acting prematurely.

In any case, the final outcome is the only response that is valid. To date, recent decisions taken by OPEC have contributed to keeping international crude oil prices at between US\$22 and US\$28, that is, in the range that the Organization has established as its objective. This shows that these decisions have been wise.

It is in this context that the decision to cut back 1.5 million barrels per day of oil output, which was taken last January at the Organization's 113th Ministerial Conference, should be viewed. The same can be said for the decision taken at the meeting of March 16.

In the year 2000, OPEC increased its production on four consecutive occasions, adding almost 4 million barrels of crude oil to the market. This year, we have retraced the steps we had taken, but the objective has remained the same, namely, to consolidate the market's stability.

OPEC promotes energy cooperation

In order to provide a sound basis for securing market stability, it is essential that there be cooperation between OPEC and independent producers, as well as between producers and consumers.

As for non-OPEC producers, Angola, Mexico, Oman, and the Russian Federation have been participating for some time now as observers at the OPEC meetings. At the same time, decisions have been taken to support the efforts made by the Organization, whether to increase or reduce production to stabilize the market.

At the meeting of March 16, two new observers, Kazakhstan and Equatorial Guinea, were added and attended an OPEC Conference for the first time. The increasing interest in OPEC on the part of independent producers is yet another demonstration of the Organization's growing influence and effectiveness.



**Dr. Alí Rodríguez-Araque,
Secretary General of the
Organization of the Petroleum
Exporting Countries (OPEC)**

“In order to provide a sound basis for securing market stability, it is essential that there be cooperation between OPEC and independent producers, as well as between producers and consumers.”

“After all, producers and consumers are tightly connected to each other by a relationship of interdependence. Let us not forget that the consumer is a customer for the producer. Therefore, when the customer suffers, this exerts a negative impact on the producer as well. So we have no alternative but to understand each other.”

As for cooperation between producers and consumers, what is important is that the two groups are no longer viewing each other as rivals.

The meeting held in Riyadh, Saudi Arabia, at the end of last year, was a milestone, and we hope we can continue increasing this cooperation in the immediate future.

After all, producers and consumers are tightly connected to each other by a relationship of interdependence. Let us not forget that the consumer is a customer for the producer. Therefore, when the customer suffers, this exerts a negative impact on the producer as well. This, of course, also works the other way round. So we have no alternative but to understand each other.

How to fight against speculation

The efforts led by OPEC in oil production should be complemented by initiatives in other sectors, because the price of crude oil is also affected by a series of factors that have nothing to do with striking a balance between supply and demand. Among these factors, an important one is speculation.

Speculation on futures markets is the outcome of many elements and uncertainty is possibly the most important. Different political and geopolitical factors play different roles, and they are often manipulated by groups that are interested in distorting prices and increasing their earnings.

In order to respond to the volatility of futures markets, OPEC has been studying the possibility of introducing corrective mechanisms, such as our price range, to reduce uncertainty. The range of the band that I indicated, between US\$22 and US\$28, has been accepted by many consumers as reasonable.

Furthermore, OPEC is starting to consider the possibility of creating a new crude oil marker. There is no plausible justification for the current pricing scheme, based on three marker crudes, namely, West Texas Intermediate (WTI), Brent, and Dubai, which together do not even account for one million barrels per day of internationally traded crude, compared to the 22 million barrels of crude that OPEC places on the world market every day.

OPEC is concerned about the environmental debate

Environmental issues are becoming increasingly important, and the decisions taken in this area will exert a significant impact on the energy industry's future development.

Nevertheless, we should differentiate the two sides of the same problem. On the one hand, there is a genuine concern for problems such as global warming, pollution, rising sea levels, and many other key topics.

The problem, however, also has another side, which is less legitimate, that is, the ideological campaign being led by easily identifiable sources that have specific interests,

such as those interested in defending energy sources that compete with oil as the world's main fuel.

The message that OPEC has been transmitting consistently in forums organized under the aegis of the United Nations Framework Convention on Climate Change is one of genuine concern for the environment. Nevertheless, we are also concerned about the inevitable economic impacts that policies and measures aimed at reducing greenhouse gas emissions will have on our member countries.

There is a substantial amount of academic literature confirming the conclusion that the OPEC countries constitute the group that will suffer the most from existing proposals. For example, OPEC research suggests that losses for the Organization's members could amount up to US\$63 billion per year as a result of the mechanical application of measures aimed at reaching the goals set by the Kyoto Protocol.

Current market situation

Coming back to the current situation of the international oil market, there are two major elements that should be taken into account at this time.

The first is the approaching end of winter in the northern hemisphere,

which brings with it a decline in oil demand in the second half of the year, owing to lower needs for heating fuel. Meanwhile, the summer season, with its higher road traffic and demand for gasoline, has not yet begun. In fact, various analysts are referring to a possible drop of demand for crude oil amounting to about 2 million barrels per day over the next quarter.

The other element that should be highlighted is the performance of the U.S. economy, whose pace of growth is slowing down, although it is not clear what effect this will have on oil demand. What is clear, however, is that the United States, which is the world's largest oil consumer, has enjoyed an unprecedented economic boom over the past decade. As this growth declines, the consequences for oil demand will have to be negative.

If we take into account that what occurs in the U.S. economy may generate impacts on the rest of the global economy, then oil demand will be affected even further.

The decision taken by OPEC takes these factors into account and is aimed at striking a balance between crude oil demand and supply, with prices remaining inside the OPEC range, that is, at a level that is considered positive not only for producers but also for consumers.

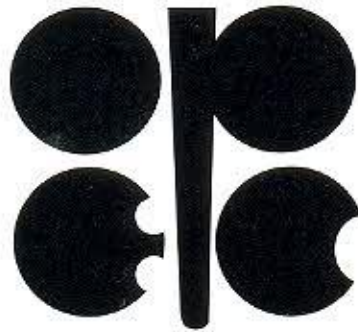
Growing importance of regional cooperation

Finally, I would like to make a special mention of the growing importance that the different members of the Organization are giving to the promotion of regional energy business and cooperation.

In the case of Latin America and the Caribbean, the actions taken by Venezuela, my country and one of the five founding members of the Organization, should be emphasized.

On the one hand, Venezuela is actively looking for opportunities to establish new energy business in Latin America and the Caribbean; on the other hand, it has increased its level of economic aid to the region's neediest countries through the Caracas Energy Agreement and the San José Accord.

A higher level of cooperation and better cooperation in the region's energy industry will no doubt redound to the advantage of consumers and producers alike. This is how the responsible actions taken by OPEC generates benefits for the different players involved in the oil business and energy activities in general.



BUSINESS AND INVESTMENT OPPORTUNITIES IN THE ENERGY SECTOR OF LATIN AMERICA AND THE CARIBBEAN

ARGENTINA

- **18 oil and gas areas will be up for bidding in Neuquén**

The Government of the Province of Neuquén will be starting up a bidding process this year for 18 oil and gas areas. Initial investments amounting to US\$100 million have been envisaged, and it is expected that the initiative will generate almost 1,000 jobs over the next three years. Nine companies are interested in participating in the national and international bidding process. According to the Energy Under-Secretariat of Neuquén, this process is part of this Argentinean province's oil development plan, which is starting to be implemented after a year of information and research work for each reservoir.

- **Privatization of the electric power generator**

Privatization of the electric power generation (EPEC), located in the city of Córdoba, has aroused the interest of several companies. It is expected that EPEC will be privatized between May and June of this year. The generation plants, with a capacity of 600 MW, will be

needing investments for their rehabilitation.

BOLIVIA

- **Gas exports from Bolivia to Argentina**

Next year, Bolivia will be reactivating its gas exports to Argentina after the Superintendence of Hydrocarbons has authorized the building of a new gas pipeline between both countries. It has been envisaged that the gas pipeline, whose capacity will amount to more than 2.5 million cubic meters, will start up its operations in the first three months of 2002, with an extension of 9 kilometers to the border of Argentina, starting in the gas field of Madrejones (operated by Repsol-YPF). The project will be requiring investments in the amount of US\$3 million.

BRAZIL

- **Third Round of the National Petroleum Agency (ANP) has started**

Brazil's National Petroleum Agency (ANP) will be offering 53 blocks in

the Third Round of Bidding for oil and natural gas exploration and production in Brazil, expected to take place in the middle of the year.

The blocks of this Third Round are located in 12 of the country's sedimentary areas; 10 blocks are located onshore and 43 offshore. Of the 43 offshore blocks, 12 are located at depths under 400 meters and 31 in deep and ultra-deep waters, some of which at more than 3,000 meters, where oil production is a technological challenge for the companies.

The itinerary for promoting this Third Round will begin next November in Rio de Janeiro, then will continue to the cities of Perth, Australia; Singapore; London, England; Calgary, Canada; and Houston, U.S.A.

- **The State of Paraná starts up process to privatize COPEL**

The Government of the State of Paraná has started the process of privatizing the principal power utility that is still in the hands of the public sector, the Paraná Power Company (COPEL), with assets estimated at about US\$2.5 billion.

With the publication of the international invitation to bid, the government is looking for companies that will collaborate with the State in the sale of the utility by providing appraisal services to determine the economic and financial worth of the company and helping to set up a structure for its sale.

COLOMBIA

- **New measures for oil sector liberalization**

The Ministry of Mines and Energy of Colombia adopted new measures with respect to the pricing of jet fuel and the use of multipurpose pipelines and the storage infrastructure of Ecopetrol.

The multipurpose pipeline system owned by Ecopetrol was opened up for third-party participation, and the exclusive multipurpose pipelines of the refineries of Ecopetrol corresponding to Pozos Colorados (Galán and Buenaventura) and Yumbo were integrated into the national transport system.

Ecopetrol will guarantee fuel importer access to the network without any discrimination and will strive to ensure that the domestic price will reflect international aviation fuel prices.

Furthermore, by means of Resolution 80188 of February 8, the owners of fuel supply plants or terminals that comply with legal requirements were authorized to lease these facilities partially or totally to third parties.

Thus, one of the bottlenecks that was preventing the arrival of new wholesale fuel marketers into the country was eliminated, and efforts continue to be made to obtain better prices and higher product quality for end-users.

ECUADOR

- **Bidding for the sale of power utilities**

At the end of next July, bidders will be invited to participate in the bidding process for the sale of 51% of the shares of 19 power distribution utilities in Ecuador. To promote this sale, two teams of high-ranking officials of the Ecuadorian Government traveled to the United States and several countries of Europe and Latin America in March 2001.

For the sale, which has been planned for the end of 2001, the 19 utilities have been divided into four groups: the first has a power bill of 2,326 gigawatts (1 GWh is equivalent to one million megawatts) and has 703,000 subscribers; the second has a bill of 677 GWh and 384,000 subscribers; the third, 892 GWh and 411,000 subscribers; and the fourth 585 GWh and 483,000 users.

- **Petroecuador prepares a new oil round**

The ninth round of international bidding processes for the exploration and production of 13 oil and gas blocks will focus on those blocks that were not put up for bidding during the eighth round that took place in 1996. The state oil company of Ecuador (Petroecuador) is carrying out technical and legal studies in order to make the corresponding publication. The blocks, located in the southeastern part of the country, have potential reserves of about 1 billion barrels of heavy crude oil between 10 and 22° API.

The Ministry of Energy and Mines highlighted the importance of the recently begun construction of the Heavy Crude Oil Pipeline for this

ninth round. Invitations for this international bidding process could be announced during the second semester of 2001.

MEXICO

- **High investment for oil development**

The state oil company PEMEX has reported that it plans to invest US\$36 billion for the development of Mexico's oil industry during the current six-year administration.

The investment surpasses by 76% the one made during a previous similar period. For the year 2001, total planned investment amounts to US\$6.1 billion.

NICARAGUA

- **Bidding process for the exploration of the marine bed**

In February of this year, the Nicaraguan Energy Institute (INE) announced a bidding process for an exploration contract for 110,000 square kilometers of the marine bed, which has aroused the interest of several companies.

The area includes 80,000 square kilometers of sea bed of the Caribbean Sea and 30,000 square kilometers offshore of Nicaragua's Pacific seaboard. The winning company would start exploring the first semester of 2002. If the commercial viability of the deposit is confirmed, the company will have a 20-year contract to develop it.

A Norwegian company had previously confirmed that there was oil in the continental shelf of the Caribbean Sea, after drilling in more than 50,000 square kilometers in the area.

PERU

- **Oil and gas contract in the Amazon region**

The state oil company of Peru (PERUPETRO) signed a contract with the Spanish company, REPSOL, to explore and produce hydrocarbons in the Amazon department of Loreto. According to the Ministry of Energy and Mines of Peru, the structures of the assigned area, which is along the border with Ecuador, Colombia and Brazil, have excellent chances of holding commercial volumes of oil and gas.

TRINIDAD AND TOBAGO

- **Norsk Hydro acquires offshore block shares**

The Norwegian energy and minerals group, Norsk Hydro, has acquired half of the 38% share owned by Brazil's oil state company, Petrobras, in Trinidad and Tobago's offshore exploration block 27. The other participants in the exploration concession are British Petroleum (57%) and Petrotrin (5%). Petrobras will remain with a 19% share.

URUGUAY

- **New company will transport gas from Argentina**

The companies BG Group, Pan American Energy, Wintershall, and Transportadora Gas del Sur established the company Gas Link S.A. to carry gas from Argentina to Uruguay, through the gas pipeline that will be laid under the River Plate. Gas Link will be taking gas

from the trunk gas pipelines from Transportadora de Gas del Sur to the Cruz del Sur Gas Pipeline system to supply the departments of Colonia, San José, Canelones, and Montevideo.

The gas pipeline, which could start up at the beginning of 2002, will require a US\$20 million investment, will be 40-kilometers long and will have a capacity of 2 million cubic meters per day.

VENEZUELA

- **New legislation promotes gas business opportunities**

The new legal framework for gas permits non-associated gas hydrocarbons exploration and production activities, as well as the processing, industrialization, transport, distribution, and domestic and foreign marketing of both associated and non-associated gas, to be carried out not only by the State but also by the domestic or foreign private sector by means of mixed partnerships.

For exploration in Venezuela, there are highly attractive regions for non-associated gas onshore and offshore.

The Law Governing Gas Hydrocarbons provides for a 20% royalty calculated on the price of the well-head gas. In order to promote investments, the tax rate in this sector has been cut from 67% to 34%.

The policy of the Ministry of Energy and Mines is aimed at providing opportunities for the development of gas as a business, with the participation of private-sector

capital and staff with a wide range of experience in various disciplines in order to take advantage of the opportunities that are being visualized to carry out business under different options, in the following areas:

- Non-associated gas exploration and production
- Expansion of transport and distribution systems
- Expansion of liquid extraction and processing capacity
- Methane gas purification
- Transformation of gas into liquid fuels

LATIN AMERICA

- **Spanish company bets on Latin America**

In Madrid, the largest Spanish power utility, ENDESA, indicated that by the year 2005 it intends to secure a total of 11.5 million customers in Latin America, a figure that assumes a 20% increase over the number of Latin American customers it has at present.

The company's main objective, at first, is to upgrade its share of the Brazilian market; it expects to reach a 10% of the market quota in generation and distribution in this country.

To reach its objective by the year 2005, the investment that ENDESA has planned for this region amounts to US\$3.78 billion.

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OLADE's Executive Secretary, Dr. Julio Herrera, presided the OLADE delegation that traveled to four European countries in March 2001 in order to present the Organization's projects and establish cooperation ties for their implementation.

In Denmark, working meetings were held with executive officers of UNEP-RISØ, an institution that brings together the technical activities of the United Nations Environment Programme (UNEP) and those of the

national Relations, and Relations with Latin America.

In France, working meetings were held with the executive directors of the French Petroleum Institute (IFP)/Beicip-Franlab and the International Energy Agency (IEA) where OLADE's Executive Secretary also presented the current status of energy sector development in Latin America, the results of reforms, and the region's ties with the industrialized world.

well as the Ministry of Economy of the State of Nordrhein-Westfalen, the German Financing Agency (KfW), and the German Technical Cooperation Agency (GTZ).

As for the private sector, meetings were held with executive officers of Pipeline Engineering GmbH of Essen and Siemens.

All of the institutions of the countries that were visited welcomed OLADE's proposals, which are part of its new strategy and orientation. In the majority of these institutions, it was agreed that negotiations would be pursued immediately to draw up the respective cooperation agreements.

The mission to the European countries was also a fine opportunity for OLADE to reiterate its invitation to the countries to become affiliated to OLADE as Participating Countries and to promote the participation of European companies in OLADE's forums.

In addition, OLADE took advantage of the mission to disseminate the Organization's new strategy, vision, mission, and objectives, which contributed to consolidating a renewed institutional image, characterized by openness and the adequate insertion of OLADE as an institution aimed at integrating the energy sector of Latin America and the Caribbean in a globalized world.

Possible European Union-OLADE cooperation

Danish Research Institute (RISØ), as well as with representatives from the Danish Cooperation Agency (DANIDA) and the Energy and Development Forum (FED).

In Belgium, projects were submitted to the Vice-President of the European Commission (EC), Mrs. Loyola de Palacio, and the EC's Directors-General for Energy and Transport, Exter-

In Germany, working meetings, coordinated by the German Technical Cooperation Agency (GTZ), were divided between the public and private sector.

In the former, OLADE's projects were presented to Germany's Federal Ministries for Economic Cooperation and Development (BMZ), Economy and Technology, and Environment, as

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Active participation of

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in

Energy Business Forum of the Americas

The Energy Business Forum of the Americas of the Hemispheric Energy Initiative, which is aimed at disseminating the progress made in liberalizing the energy sector and highlighting the investment opportunities in the hemisphere's energy sector, took place on March 8, 2001 in Mexico City.

The Forum was inaugurated by the host of the event, the Energy Secretary of Mexico, Mr. Ernesto Martens, who spoke about his country's energy development.

The event was attended by Ministers, Secretaries, and Vice-Ministers of Energy, as well as ministerial dele-



Energy Ministers and Secretaries, along with official delegates, exchanged experiences with representatives of the private sector regarding the recent evolution of the hemisphere's energy development.



The Secretary of Energy of Mexico, Mr. Ernesto Martens (center), with Mr. Thomas F. McLarty, Vice-Chairman of Kissinger McLarty Associates (left), and Dr. Julio Herrera, Executive Secretary of OLADE, at the Energy Business Forum of the Americas that took place in Mexico City on March 8, 2001.

gates, of Argentina, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, St. Kitts & Nevis, Trinidad and Tobago, the United States of America, Uruguay, and Venezuela.

The keynote lectures at the forum were given by the U.S. Secretary of Energy, Mr. Spencer Abraham, who spoke about the "Industry and its Challenges," and the Minister of Natural Resources of Canada, Mr. Ralph Goodale, whose address referred to Canada's role in the hemisphere's energy development.

The official delegates of the countries and the representatives of the major companies involved in energy sector development exchanged opinions and experiences regarding the sector's recent evolution, especially focusing on oil, gas, electricity, and renewable sources of energy.

OLADE's Executive Secretary, Dr. Julio Herrera, acted as moderator for the topic "Dialogue between the Government and Private Sector," which permitted a comparison of the two perspectives on energy sector sustainability and growth and contributed to converting sector challenges into tangible solutions

and results for the benefit of the population of the hemisphere's nations.

During the Forum, the need to multiply channels of work and dialogue was highlighted so that local experiences could be transformed into global possibilities for technological progress and assimilation. It also underscored the need to build a culture interested in the rational use of energy and energy saving and in observing environmental preservation principles, which would lead to a rise in production at reasonable prices in an environment of integration and common objectives for the future.

COLOMBIA, ECUADOR, AND PERU GIVE PRIORITY TO ELECTRIC POWER INTERCONNECTION



Mr. Gabriel Sánchez, representative of the Minister of Mines and Energy of Colombia, Mr. Pablo Terán, Minister of Energy and Mines of Ecuador, and Mr. Carlos Herrera, Minister of Energy and Mines of Peru, sign the Joint Declaration to promote electric power interconnection between their three countries. Mr. Juan José Castro, Head of the Executive Secretary's Office of OLADE, Fernando Muñoz, Under-Secretary of Electrification of Ecuador, y Sergio Ugarte, Vice-Minister of Energy of Peru, are observers of the signing.

The electric power interconnection will connect Colombia, Ecuador, and Peru in a process of regional energy integration. For this purpose, the Ministers of Energy of the three countries signed a Joint Declaration highlighting the fact that the interconnection is of common interest to them and a priority. The agreement was signed at the Fifth Hemispheric Meeting of Energy

Ministers in Mexico City on March 9, 2001.

The Joint Declaration confirms that OLADE should implement studies on the harmonization of standard-setting frameworks for the three countries in order to ensure implementation of the international interconnections as soon as possible.

The Ministerial Declaration is the culmination of a process that included studies carried out by Hydro Quebec International with support from OLADE, which determined the technical and financial feasibility of the interconnection.

The agreements reached by the three countries in this Declaration are indicated below:

- To state that electric power interconnections between Colombia, Ecuador, and Peru are of common interest and a priority.
 - To promote and encourage the establishment of a common legal scheme to enable both natural persons and legal entities, whether domestic or foreign, public or private, to market, export, import, and transport electricity freely between and within the three nations.
 - To state their commitment to help facilitate the activities of
- players on the electric power export and import market, on the basis of the physical energy that is available, in keeping with the legislation of the respective States.
- To promote the exchange of information on electric power markets and the commitment of each country to develop a national information system on the electric power market, one that is open, up-to-date, simple, and easily accessible.
 - To designate a representative from a government institution
- from each country to represent the country and act as coordinator between the countries for the institutions of each country and OLADE, in an effort that will lead to the installation of the international interconnections.
- To ratify OLADE's mandate to implement the studies for the harmonization of the standard-setting frameworks of the three countries in order to ensure implementation of the international interconnections as soon as possible.



After signing the Joint Declaration, from left to right, Mr. Gabriel Sánchez, representative of the Minister of Mines and Energy of Colombia; Mr. Pablo Terán, Minister of Energy and Mines of Ecuador; Dr. Julio Herrera, Executive Secretary of OLADE; and Mr. Carlos Herrera, Minister of Energy and Mines of Peru.

OLADE'S EXECUTIVE SECRETARY PRESENTS AN OVERVIEW OF THE REGION'S ENERGY SECTOR AT A CONFERENCE ORGANIZED BY WEC AND DOE

“Energy sector reform processes in Latin America and the Caribbean have not resolved all the problems and, because of this, one should continue studying them in depth and correcting undesirable impacts until second-generation reforms can be implemented,” said OLADE's Executive Secretary, Dr. Julio Herrera, when he presented the outlook for the region's energy sector at the Conference on the Role of Cleaner Fossil Fuels Systems (CFSS) in Energy Poverty Reduction for Latin America and the Caribbean (LAC), organized by the World Energy Council (WEC) under the auspices of the U.S. Department of Energy (DOE) in Rio de Janeiro, on February 28-March 2, 2001.

Dr. Herrera indicated that, at the start of the 21st century, reforms have improved energy sector performance in Latin America and the Caribbean. According to OLADE's indicators, the region is producing 9.0% of the world's energy, 6.8% of which it consumes itself and 2.2% of which it exports abroad.

Energy consumption in Latin America and the Caribbean, which grew by 3.7% over the last decade, is still viewed as low compared to that of industrialized countries, and it is also highly uneven among the region's own

countries. This is due to the relatively high differences in development between the countries' economies because of poverty and low per capita income of the population, which during this period grew modestly by 1.2% and prevented a more significant expansion of markets for goods and services. It is misleading to hope that, without a more aggressive development process, the region will be able to close the consumption gap with the industrialized countries and will become more fully integrated into a globalized world.

Oil and products of Latin America and the Caribbean account for 13.5% of world reserves and 13.8% of production. It is the principal source of energy for the region not only for domestic consumption (48%) but also for export. The main exporters to the rest of the world are Venezuela, Mexico, Colombia, Ecuador, and Trinidad and Tobago, which together hold the highest surpluses and account for the high growth of extra-regional trade (60%).

Natural gas in Latin America and the Caribbean account for 5.7% of world reserves and 7.7% of the world's gas production. It is the second source of energy consumed in the region (22.0%). This percentage coincides with the share of gas in world consumption. The greatest impetus for

natural gas can be observed in the enlarged Mercosur region, which includes Bolivia and Chile, followed by Colombia, Trinidad and Tobago, Mexico, and Venezuela.

The coal of Latin America and the Caribbean accounts for a small share of the world's total coal, with reserves amounting to 1.7% and production to 1.3%. In the world, coal ranks second in the consumption matrix, whereas in Latin America and the Caribbean it ranks fifth (5.0% of total consumption). It should be indicated that coal from Colombia and Venezuela is noteworthy for its excellent quality. Other countries of the region are also coal producers. The coal in our region is essentially for export, as indicated by its 140% growth over the last few years.

The hydropower potential of Latin America and the Caribbean is among the highest in the world (22.7%), with an installed capacity accounting for 19.6% of this potential, whereas in the world installed capacity amounts to 21.8%. Electricity production in the region accounts for 6.5% of world total, and the region intensively uses its hydropower generation capacity, which accounts for 62.7% of total electricity produced in the region. Energy sector reforms, technological advances (com-

bined cycle generation with gas), and lower investment risks compared to hydropower plants have contributed significantly to expanding thermoelectric capacity using natural gas as feedstock.

Furthermore, OLADE's Executive Secretary emphasized that the region has several pending tasks that it must carry out in order to continue promoting energy development.

Among these tasks, he noted the following:

- Consolidate reforms and ensure the insertion of Latin America and the Caribbean on the world stage.
- Regional harmonization of regulatory frameworks for the energy sector.
- Protection and stimulation of investments that are channeled to the region's energy sector.
- The wider use of efficient energy so that it can become an instrument to abate poverty without neglecting environmental protection.

"The basic premise" he added, "is that not only entrepreneurs but also energy policymakers and regulators must safeguard the investments that are made by creating a favorable environment that guarantees a reinvestment of the earnings in the region and attracts fresh investments."

To do this, he stated, some basic requirements have to be met to consolidate reforms and clear up uncertainties. He suggested the following actions:

- Elaborate a regional energy strategy that recognizes the differences between the subregions and countries of the continent, as a

contribution to the sustainable development of the population

- Ratify the unavoidable responsibility of governments in formulating energy policies that emphasize the fine-tuning of legal, regulatory, and supervisory frameworks that dismantle obstacles to, and facilitate the functioning of, regional markets and free trade.
- Develop the expansion of knowledge in order to provide the population with sufficient skills to cope with technological change and facilitate the use of modern and efficient equipment and tools.
- Facilitate access to new intangibles: management capacity, organizational innovation, ways of marketing and handling market diversity, providing consumers with a greater freedom of choice.
- Promote the development of energy potential and reserves by means of natural gas and electricity interconnections in the region in order to expand coverage, diversify energy supply in the countries, and contribute to reducing poverty.
- Promote the establishment of sub-regional energy markets for electricity and natural gas with a regional scope.
- Give incentives to the use of all forms of renewable sources of energy in the region.

OLADE's Executive Secretary highlighted the fact that the problems that have to be tackled require viewing energy issues beyond the limited realm of technology or system operation because of their many links to the social, economic and environmental aspects of the region's countries.

"The basic premise is that not only entrepreneurs but also energy policymakers and regulators must safeguard the investments that are made by creating a favorable environment that guarantees a reinvestment of the earnings in the region and attracts fresh investments."

OLADE's Energy Report Analyzes the Present and Future of the Sector in Latin America and the Caribbean



The Executive Secretary of OLADE, Dr. Julio Herrera, presents the Energy Report of Latin America and the Caribbean to international journalists and news agencies.

In OLADE's *Energy Report*, which was presented to international journalists and press services on February 2, 2001 by the Executive Secretary of OLADE, Dr. Julio Herrera, natural gas is described as the energy source for the future, the one that will be recording the highest rates of expansion in consumption in all of the subregions of Latin America and the Caribbean.

The publication entitled *Energy Report of Latin America and the Caribbean 1999 and Forecasting 2000-2020* assesses the evolution of the energy

sector of Latin America and the Caribbean in the nineties and, regarding this, asserts that overall results were in line with the performance of the economies of the region's countries. The sector undertook specific changes aimed at ensuring a broader share of clean sources of energy in the energy mix, increasing energy efficiency, and granting the population access to energy services, as well as promoting the trade of its energy products.

By 1990, energy consumption in the region accounted for 7.9% of world

total, and by the end of the nineties, this share had risen to 8.43%. In terms of world production, the region's share in 1990 amounted to 6.9%, and by 1999, it accounted for 8.96%, which means a 30% rise.

The continuous development of exploration activities for the region's natural resources has enabled the region to have a sufficient supply of energy available to meet increasing demand, to such an extent that, during the nineties, there was a constant ratio of 2 to 1 between production and final consumption of energy. These surpluses have permitted the region to become an important player on international markets. Between 1990 and 1999, oil exports from the region's countries increased by 63%, whereas coal exports rose by 140%. Nevertheless, remanent reserves of these resources increased during these years; as a result, a durability of more than 40 years has been estimated.

As for the electric power subsector, it started the decade with an installed capacity of 157 GW in the entire region and a high share of close to 60% of hydropower generation. By the end of 1999, power generation capacity had risen by about 37%, amounting to 215

GW, and the share of hydroenergy had declined to 56%.

Final energy consumption in the different economic subsectors also reflects major growth in the nineties, complemented by noteworthy results in energy efficiency and in the use of sustainable sources of energy. Energy consumption per GDP unit in 1990 amounted to 2.34 barrels of oil equivalent for each US\$1,000 of GDP, whereas in 1999 this indicator had risen to 2.28, which indicates an improvement in efficiency, especially in the industrial sector, for which intensity was reduced from 2.3 to 2.17 during the decade.

THE YEAR 1999

As for the energy balance of Latin America and the Caribbean, the Report establishes that energy supply and demand in Latin America and the Caribbean during 1999 continued the growth trend observed over the last few years, although at rates that were lower than the annual average for the nineties. Supply of primary energy, that is, oil, gas, coal, and biomass, rose by 1.65%, compared to the average of 2.27% for the decade. Total energy demand, on the other hand, rose by 0.5%, compared to an annual growth rate of 2.64%.

This situation stems from the combined impacts of the performance of supply of each one of the energy sources and demand in each one of the economic subsectors. Oil production declined by 3.63% owing to the reduction of export volumes that sought to curtail international crude oil prices (from 9,632,000 to 9,282,000 barrels per day), whereas natural gas increased its production by 3.39% as a result of policies for the wider use of gas and programs for the substitution for cleaner sources of energy.

THE REGION'S ENERGY FUTURE

Although oil is currently the principal primary source of energy in all the subregions, natural gas expansion will be very important in the Southern Cone, the Andean Community, Mexico, and the Caribbean.

This strong penetration of natural gas in the energy matrices of the region's countries will be driven by three major factors, among others: specific expansion plans being implemented by the governments of Argentina, Brazil, Colombia, Chile, Trinidad and Tobago, Venezuela and the Central American countries; technological developments in the gas sector motivated by prolonged cycles of high oil prices; and electrification strategies which, in the majority of the countries, will be developed using combined cycles with natural gas for technical, economic, and environmental reasons.

As for hydropower and other renewable sources of energy, the Report finds that the region has a very high potential for hydraulic resources that has not as yet been tapped and which is distributed among the different subregions with complementary hydrological regimes even in the same subregion. In order to ensure that this hydroenergy potential is effectively used over the next 20 years, some mechanisms will have to be developed to reduce the risks that today are viewed by potential investors as too high compared to other projects that compete with hydropower.

As for other renewable sources of energy, it is noteworthy that in the region projects are being carried out to permit remote rural populations that are far from conventional power supply grids to gain access to modern forms of energy. This is occurring in Brazil, Chile, and Central America, and the overall impact that has been observed

is the declining share of biomass and its substitution for renewable sources that are much more efficient, such as solar energy, wind energy, or micro hydropower plants.

The region is making major efforts, and this will not only permit an improvement in the quality of living of the population but will also exert a positive impact on the environment, since inefficiently used biomass is being substituted for renewable sources of energy that are used more efficiently.

The Report concurs with Inter-American Development Bank (IDB) that the energy scenario for Latin America and the Caribbean over the next 20 years can be summarized by five major challenges that should be tackled by the region's countries: the consolidation of structural and regulatory reforms undertaken in the nineties; the access of all sectors of the population to different forms of energy supply; the development of energy production and consumption patterns that are compatible with environmental preservation; the capacity to secure economic and financial resources to sustain sector expansion; and an effective integration of subregional and regional energy markets, meaning the open market trade of energy products and services between the countries.

These five objectives are strongly linked to each other and require that important decisions be taken by those who are at the head of energy policymaking in the region's countries.

In addition, the study includes analyses that link regional energy development to the economy, politics, and social welfare.

MINISTER OF ENERGY AND MINES OF PERU HOLDS WORKING MEETING AT OLADE HEADQUARTERS



On February 15, 2001, OLADE's Permanent Secretariat welcomed the Minister of Energy and Mines of Peru, Mr. Carlos Herrera-Descalzi, who held a working meeting with OLADE's Executive Secretary, Dr. Julio Herrera, to analyze aspects of regional energy integration and to review the programs and projects being implemented by OLADE to support the development of Peru's energy sector in the framework of integrative processes.

In the picture, Minister Herrera-Descalzi, second from the left, is accompanied by the Peruvian Ambassador to Ecuador, Dr. Oscar Maúrtua de Romaña, the Executive Secretary of OLADE, Dr. Julio Herrera, the Advisor to the Minister in International Affairs of the Ministry of Energy and Mines of Peru, Dr. José Luis Brousset, and the First Secretary of the Peruvian Embassy in Ecuador, Dr. Javier Prado.

OFFICIAL VISIT BY THE CUBAN AMBASSADOR TO ECUADOR



Dr. Eliana Díaz-Argüelles, Cuban Ambassador to Ecuador, made an official visit to the headquarters of the Latin American Energy Organization on February 8, 2001.

She was received by the Executive Secretary of OLADE, Dr. Julio Herrera, with whom she exchanged viewpoints on regional energy development and the integration of the countries of Latin America and the Caribbean.

ACTIVITIES START UP FOR THE FIFTH MASTER'S DEGREE PROGRAM IN ENERGY AND THE ENVIRONMENT



Activities for the Fifth Master's Degree Program in Energy and the Environment started on March 19, 2001 with the participation of 25 students from Barbados, Bolivia, Canada, Colombia, Ecuador, Guyana, Jamaica, Paraguay, Peru, and Venezuela.

The Program is being conducted jointly by OLADE and the University of Calgary with support from the Canadian International Development Agency (CIDA) since 1996. Each cycle involves full-time dedication of the students for a period of 14 months and, through courses and seminars offered by professors from the University of Calgary and recognized Latin American universities and

OLADE consultants and experts, the program provides specialized training to professionals so that they can be at the head of working teams for energy-environmental projects.

After passing the courses and attending the seminars that are delivered at OLADE headquarters and participating in the field tours in Ecuador and other countries of Latin America and the Caribbean, the students prepare two research projects, an individual project and a group project, as requirements to earn a Master of Science (M.Sc.) in Energy and the Environment from the University of Calgary.

▲ *The students of the Fifth Master's Degree Program in Energy and Environment during their first class on March 16, 2001.*



▲ *Professor Allan R. Cahoon, PhD, Director of the OLADE-University of Calgary Energy and Environment Project*

OLADE'S EXECUTIVE SECRETARY PROPOSES COLLABORATION AGREEMENTS WITH UNIVERSITIES OF GUAYAQUIL



Working meeting with Dr. Julio Herrera, Executive Secretary of OLADE, with Mr. Víctor Bastidas, President of the Advanced Polytechnic University of the Coast (EPSOL), and chief officers of the Guayaquil university, to outline the parameters of an inter-institutional cooperation agreement.

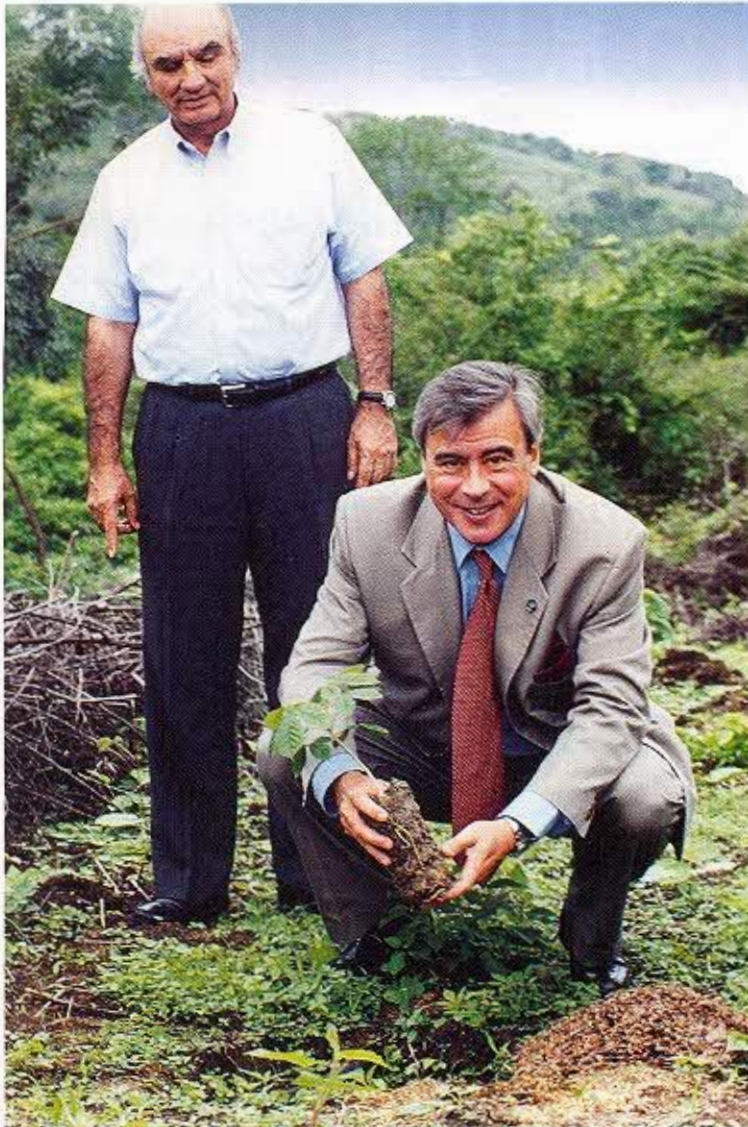
On January 29, 2001, the Executive Secretary of OLADE, Dr. Julio Herrera, visited the Advanced Polytechnic University of the Coast (EPSOL) and the Catholic University of the city of Guayaquil in Ecuador to propose professional training cooperation agreements with OLADE to the two universities.

At the EPSOL, Dr. Herrera was received by the President of the University, Mr. Víctor-Bastidas, and by the heads of the institution's academic units and research centers.

At the Catholic University, he proposed a cooperation agreement to the President of the University, Dr. Vladimiro Álvarez-Grau, and to the Vice-President, Dr. Michel Doumet-Antón.

The chief officers of both EPSOL and the Catholic University of Santiago de Guayaquil decided to continue their conversations and to hold new working meetings in order to draw up the respective agreements to define the framework for collaboration activities.

One of the components of these agreements will be the Certificate in Energy and the Environment Program, which



The authorities of ESPOL invited the Executive Secretary of OLADE to plant a tree in a plantation for the conservation of the guayacán, an endangered tropical species. The President of the Polytechnic Institute, Mr. Bastidas, looks on.



is part of the training project that OLADE and the University of Calgary, Canada are conducting and which is aimed at providing courses and seminars to meet the specific needs of the different subregions or countries of Latin America and the Caribbean regarding energy development and its ties to environmental protection.

Since the Program seeks to decentralize training activities, short courses and seminars (six-seven weeks) will be provided in each one of the subregions of Latin America and the Caribbean focusing on general energy and environmental topics, as well as the specific problems of each subregion where the program is being delivered. The courses are given by University of Calgary and

local professors. The specific training needs of each subregion have been identified by means of a regional energy sector training supply and demand inventory of Latin America and the Caribbean that was conducted by OLADE with support from the Andean Development Corporation (CAF).

FORUMS OF OLADE

Companies involved in the development of the energy sector of Latin America and the Caribbean, as well as supervisory entities and regulatory agencies of the oil and gas and electric power sub-sectors, have expressed their interest in becoming part of the three forums established by OLADE's XXXI Meeting of Ministers, which will be carrying out their activities in the framework of the Organization through the Permanent Secretariat.



- **The Energy Sector Business Forum** is aimed at facilitating the analysis and discussion of business opportunities, the identification of obstacles to investment, as well as the exchange of experiences among business associations, chambers of production, and private enterprise involved in energy development in Latin America and the Caribbean. Thus, this Forum shall be called upon to become a channel for a permanent dialogue between the public and private sectors and, as a result, to foster the integration, impetus, modernization, and transformation of the region's energy sector.



- **The Forum of Supervisory Entities and Regulatory Agencies for Hydrocarbons Activities** is aimed at creating in Latin America and the Caribbean, and consolidating within the framework of OLADE, a space where existing regulations for the oil and natural gas sector can be reviewed, discussed and improved, as well as promoting the exchange of experiences in order to optimize the work of these institutions and support the establishment of agencies in the countries of Latin America and the Caribbean that require them, in order to contribute to the development of the subsector in the region.



- **The Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities** is aimed at creating in Latin America and the Caribbean, and consolidating within the framework of OLADE, a space where existing regulations for the region's electric power sector can be reviewed, discussed and improved, thus promoting the exchange of experiences in order to optimize the work of existing institutions and support the establishment of others in the region's countries that require them, in order to contribute to the development of the electric power subsector.

BENEFITS FOR PUBLIC AND PRIVATE ENERGY SECTOR COMPANIES AND SUPERVISORY AND REGULATORY AGENCIES THAT ARE MEMBERS OF OLADE'S FORUMS

1. They shall have a forum to gain access to information, exchange experiences, and ensure the viability and implementation of business opportunities, where through OLADE they will be permanently in contact with energy ministries and secretariats, regulatory and supervisory entities, business associations, production chambers, and public and private-sector companies involved in the energy development of Latin America and the Caribbean.
2. They shall be able to participate, free of charge, in business sessions and activities that take place in the framework of OLADE, the Energy Conference of Latin America and the Caribbean (*Enerlac®*), and the Conference of Europe, Latin America and the Caribbean for Energy Development (*Eurolac®*). They shall benefit from special prices for the purchase of stands at the trade shows and exhibitions organized alongside *Enerlac®* and *Eurolac®*.
3. They shall have free access to a data base that is updated on a permanent basis to record bidding processes, invitations to bid, and requirements for energy development projects in the countries of Latin America and the Caribbean, as well as the regulatory aspects of the energy sector of these countries.
4. Through OLADE, they shall be able to obtain technical advisory services for various development, investment, and business projects.
5. They shall participate in courses, seminars, workshops, and other technical events organized by OLADE without paying any registration fee.
6. They shall obtain a half-scholarship for one of their representatives for the courses of the Master's Degree Program in Energy and the Environment that is being conducted by OLADE with the University of Calgary.
7. They shall be given a free subscription to OLADE's Energy-Economic Information System (SIEE®) and shall receive new simulation and forecasting sensitivity analysis software that is incorporated into the System, as well as any future innovations.
8. They shall be entitled to use, at a discount price, the Electric Power Generation and System Interconnection Planning Model, the SUPER/OLADE-BID®.
9. They shall receive a free subscription to OLADE's *Energy Magazine* and shall benefit from a 50% discount on ad space in the magazine.
10. They shall receive all publications issued by OLADE's Permanent Secretariat free of charge.

Energy Magazine

The Energy Magazine, in full color with a print run of 5,000, is issued quarterly in Spanish and English.

It is distributed throughout Latin America, the Caribbean, North America, and Europe to executives of public and private energy sectors, financiers, industrialists, consultants, and technical experts involved in the region's development.

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