

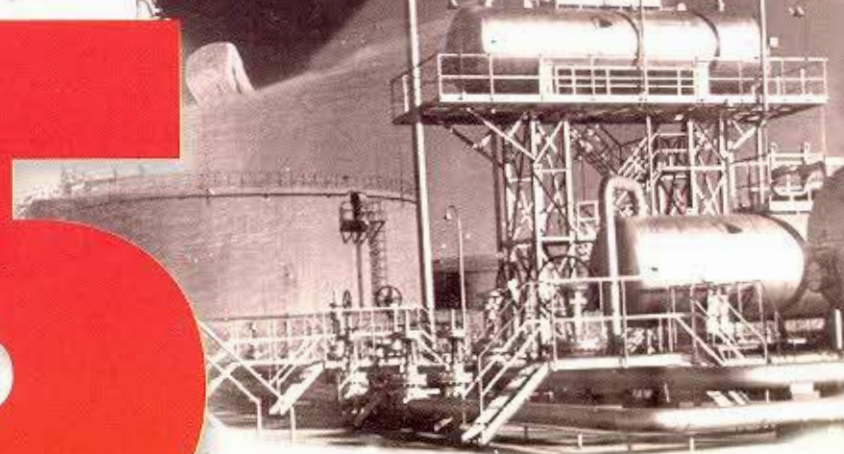
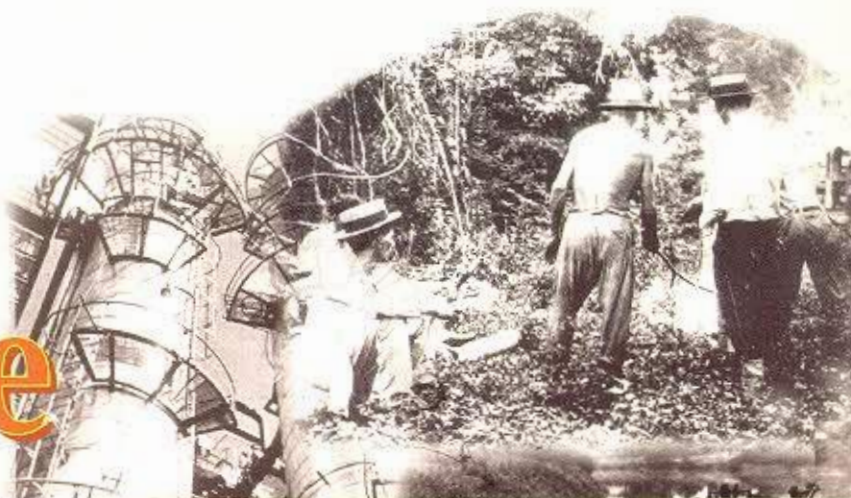
Energy. Magazine

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OLADE

25

YEARS



OLADE 25 years:

The so-called first energy crisis that occurred in the early seventies was, in reality, a much more extensive and profound crisis, which exerted an impact beyond the energy sector and involved both the industrialized countries and the developing countries, and its consequences affected international economic relations during the entire decade of the seventies.

One of the first and most visible symptoms of this crisis was the drastic rise in oil bills of the oil-importing countries and a substantial, unexpected increase in foreign currency earnings for oil-exporting countries, a large part of which ended up on international financial markets, thus contributing to the indebtedness of the countries and the well-known sequel to this indebtedness.

As a result of this international situation, which overturned the energy supply structure of the time, in 1972, for the first time, mention was made of the need for the countries of Latin America and the Caribbean to join forces to address energy issues, tackle the crisis, optimize resources, and promote cooperation. As a result, in mid-1972

the Government of Venezuela convened the First Informal Consultative Meeting of Energy and Oil Ministers of Latin America and the Caribbean in Caracas, Venezuela, on August 21-24, which was attended by representatives from 21 countries of the region.

At the Meeting, ideas and concerns about the energy agenda of the countries, which could serve as the background for an authentic integrative action, were expressed. The need for a forum with a suitable institutional framework that would channel and foster these ideas was underscored.

In addition, in this context, it became apparent that it would be advisable to create a Latin American common market for hydrocarbons or a Latin American petroleum bank, as the Middle Eastern countries members of the Organization of the Petroleum Exporting Countries (OPEC) had done, which would bring together all the countries of Latin America and the Caribbean to defend and promote oil prices on the world market, while ensuring, at the same time, regional supply security.

The critical situation being experienced by the countries worldwide highlighted the urgent need to establish horizontal cooperation mechanisms in the region. It was important to join forces and coordinate actions to develop more efficiently the energy sector and thus address all those aspects involving energy resource research, production, marketing, and conservation in Latin America and the Caribbean.

As a result, the proposal to create a Latin American Energy Organization came as no surprise; on the contrary, all those attending the meeting supported it.

Thus began an intense political and diplomatic mobilization process in the region, which continued with the Second Consultative Meeting of Energy Ministers, held in Quito, Ecuador in April 1973, and culminated with the Third Consultative meeting that took place in Lima, Peru, on October 29-November 2, 1973, when the Lima Agreement, which is the charter of the Latin American Energy Organization (OLADE), was signed.

Energy Integration



The Lima Agreement defines a set of objectives and proposals, involving a permanent and dynamic policymaking platform for the region, because instead of declining over time the Agreement's tenets can always be enhanced. The Lima Agreement is a broad instrument that provides the countries with a flexible legal framework that enables them to adopt a wide range of cooperation and integration schemes. In addition, it is essentially a pluralistic treaty.

Therefore, Latin America and the Caribbean became a veritable pioneer among Third World regions and countries, when it made a con-

scious effort to promote energy integration actions by installing a specialized entity, demonstrating its capacity to address periods of crisis. OLADE gave a clear example of the member countries' capacity for innovation; by applying a purely sectoral approach it broke away from the traditional model for integration and cooperation processes.

The political decision to set up this new regional energy institution had to be ratified by the signatory countries by a provision of the Lima Agreement itself, which determined that it would enter into force with the ratification of the twelfth country. Meanwhile, it was decided that

as an Instrument
of Development

the city of Quito, Ecuador, would be the headquarters for the Organization and that a temporary Coordination Secretariat would be set up, comprised of representatives from Argentina, Ecuador, and Peru.

In August 1974, the Fourth Consultative Meeting was held in Buenos Aires, Argentina. By that time, ten countries had ratified the Lima Agreement and the oil crisis in the world was reaching its peak and affecting the majority of the member countries of the budding Organization, which once again confirmed their willingness to address the crisis.

The Fifth Meeting of Ministers in Kingston, Jamaica in February 1975 was in fact the first Meeting of Ministers of the Latin American Energy Organization, that was now fully operative, since by the date of this Meeting, 14 signatory States of the Lima Agreement had ratified it. Starting with this meeting and thereafter, the actions and decisions of the Organization had a truly regional scope.

After 25 years of constant activity with the 26 member countries that have ratified the Lima Agreement, it is apparent that OLADE has been involved in the most important inte-

grative energy sector actions promoted by the Energy Ministers of Latin America and the Caribbean.

SAN JOSE DECLARATION

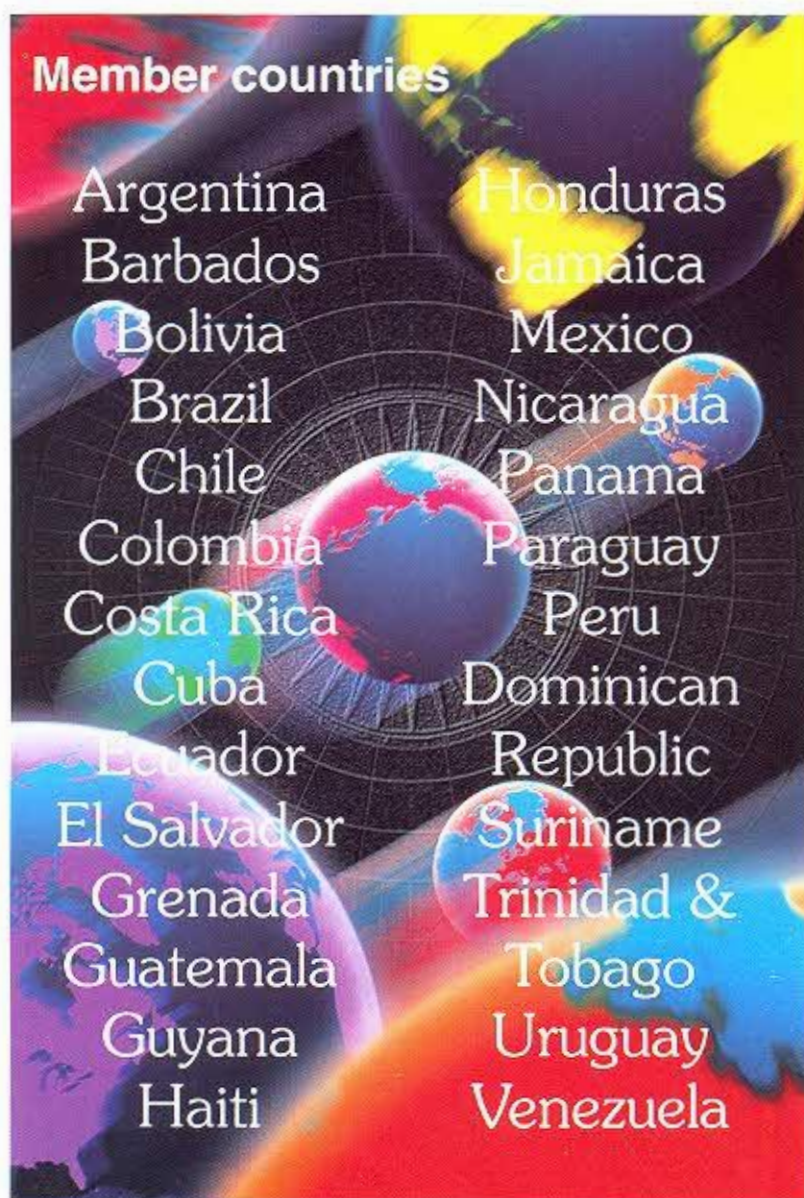
The Organization had already been consolidated when, in 1979, another international oil crisis occurred, with steep oil price hikes that forced the industrialized countries to use part of their strategic oil reserves.

It did not take long for the economies of the developing countries, especially those of Latin America and the Caribbean, to feel the deep impact of this second crisis. As a result, OLADE convened the First Extraordinary Meeting of Ministers in San José de Costa Rica, at which time the San José Declaration was issued, granting OLADE an international standing of prestige as a result of its capacity to bring together both oil-exporting and oil-importing countries, at a time when confrontation was the rule because of differing interests in the international sphere.

The San José Declaration emphasized the following:

- Greater regional energy sector cooperation.
- The need to promote the development of new and renewable energy sources in the region.
- The start of regional policymaking on the basis of national energy plans as the condition for stimulating cooperation.
- The promotion of programs aimed at increasing supply and rationalizing energy demand, especially the marketing, transport, storage, distribution, and refining of oil and gas resources.

The Declaration of San José also led to the possibility of establishing a Latin American Energy Cooperation Program.



At the same time that this Declaration was being issued and on the basis of the Puerto Ordaz Agreement between Mexico and the Central American countries, the Governments of Mexico and Venezuela drew up the San José Accord, whereby, in one of the major energy sector milestones of the history of Latin America and the Caribbean, a cooperation system, which is still in force, was established to ensure the reliable supply of oil and gas to nine Central American and Caribbean countries, under special financing conditions. In addition, it created an assistance mechanism to facilitate the development of energy projects.

THE LATIN AMERICAN ENERGY COOPERATION PROGRAM: INVENTORY OF THE REGION'S ENERGY POTENTIAL AS A KEY ELEMENT FOR SECTOR DEVELOPMENT

The eighties were a major challenge for the Organization, in view of the widespread crisis experienced by the countries of Latin America and the Caribbean because of the foreign debt situation, in which the energy sector was a major player. The debt crisis, the decline in oil prices, and modernization processes led the Organization to a period of reflection, which concluded with the adoption of important decisions by the supreme decision-making body of OLADE, the Meeting of Ministers, aimed at enlarging the breadth of cooperation activities.

In the midst of a confusing international scene marked by substantial oil price fluctuations, that would eventually trigger a substantial decline on international markets, OLADE convened the Second Extraordinary Meeting of Energy Ministers in Lima in 1981, which responded to the crisis by establishing the Latin American Energy Cooperation Program (PLACE), approved in November 1981 at the XII Meeting of Ministers, with an initial budget of US\$7.5 million, of

which US\$2.5 million came from member country contributions and US\$5 million from state companies, which made in-kind contributions by providing the cooperation of their technical staff to fund and thus launch a regional energy strategy.

In addition, the Organization was able to secure the financial and technical collaboration of international institutions and cooperation agencies, such as the Economic Commission for Latin America and the Caribbean (ECLAC), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Industrial Development Organization (UNIDO), the United Nations Development Programme (UNDP), the World Bank, the Inter-American Development Bank (IDB), the Organization of the Petroleum Exporting Countries (OPEC), the Organization of Arab Petroleum Exporting Countries (OPAEC), and the International Energy Agency (IEA).

Governments and institutions from outside the region, such as Germany, Spain, Canada, the United States, and Italy, also provided cooperation.

The PLACE became the focus of government commitments, as well as a multilateral instrument that was used by the member countries of OLADE to achieve their integration and cooperation objectives as set forth in the Lima Agreement. It was therefore a political and operating

mechanism that built up the institutional capacity of OLADE and supported its program actions.

Its fundamental purpose was to serve as a cooperation framework for the development of the energy resources and capabilities of Latin America and the Caribbean and as an element of action to secure the financial assistance and support of

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The Global Power Company

the international community, especially cooperation institutions and agencies.

On the basis of these efforts and as a part of the changing economic evolution of Latin America and the Caribbean, the eighties were noteworthy for a series of programs and projects aimed essentially at meeting the needs of the relatively lesser developed countries of the region.

The results, despite the critical situation of the region, turned out to be highly positive in terms of experi-

	MEETING	HOST	YEAR
I.	Consultative	Caracas	1972
II.	Consultative	Quito	1973
III.	Consultative	Lima	1973
IV.	Consultative	Buenos Aires	1974
V.	Ministerial	Kingston	1975
VI.	Ministerial	Mexico City	1975
VII.	Ministerial	San José	1976
VIII.	Ministerial	Quito	1977
IX.	Ministerial	Mexico City	1978
X.	Extraordinary	San José	1979
XI.	Ministerial	Panama City	1979
XII.	Ministerial	Bogotá	1980
XIII.	Extraordinary	Lima	1981
XIV.	Ministerial	Santo Domingo	1981
XV.	Ministerial	Montevideo	1982
XVI.	Ministerial	Guatemala	1983
XVII.	Ministerial	Managua	1984
XVIII.	Ministerial	Montevideo	1985
XIX.	Ministerial	Buenos Aires	1986
XX.	Ministerial	Havana	1987
XXI.	Ministerial	Mexico City	1988
XXII.	Ministerial	Lima	1989
XXIII.	Ministerial	Rio de Janeiro	1990
XXIV.	Ministerial	Caracas	1991
XXV.	Ministerial	Santiago	1992
XXVI.	Ministerial	San José	1993
XXVII.	Ministerial	Port-of-Spain	1994
XXVIII.	Ministerial	Quito	1995
XXIX.	Ministerial	Guatemala	1996
		Montevideo	1997
		Santo Domingo	1998

ences, which were implemented bilaterally by the countries themselves, such as in the case of the development of shared water resources and the electric power exchanges in Central America, or multilaterally, in the case of human resource mobilization as in the areas of training and technical assistance.

More than half of all resources implemented by the Latin American Energy Cooperation Program were aimed at covering the technical aspects of energy, that is, assessing the availability and potential of energy resources in the region. The other half was for funding energy planning activities of the countries, cooperation, and training, as well as efforts to consolidate an energy information infrastructure matching the needs and requirements of the sector itself.

The Program was especially interested in the topic of new and renewable energy sources and was

involved in conducting studies on geothermal resources, above all in Central America and certain areas of the Andean subregion, in the installation of small hydropower stations, and the development of bioenergy resources, solar and wind energy as determinant factors to achieve lesser dependence on oil and gas resources.

As part of PLACE, the potential of oil, coal, and gas was assessed. The Program also studied the implications of electric power losses in utility management and their repercussions on power distribution and transmission programs.

The most significant contributions of PLACE for the region's energy development involved

the study of the linkages between the economy, energy, and development, focusing research and providing concrete proposals for energy pricing and tariff-setting problems, financing and investment, and debt management. Also noteworthy are the studies on energy policy, especially those aimed at examining the role of energy in the economic and social transforma-

tions taking place in Latin America and the Caribbean.

In addition, OLADE's actions at the end of the eighties and early nineties were important for its promotion of basic instruments to support decision-making in the region's energy sector.

As a result, the Energy-Economic Information System (SIEE®) and the Unified Regional Electric Power Planning System (SUPER/OLADE-BID®) were established.

Since then, the SIEE® has been meeting a constant need of the member countries, which require basic information for their development plans and to promote integration actions.

The SIEE®, with support from the European Commission, has become a select, systematic, updated, consistent, and reliable information service providing energy, economic, and energy-economic data on the 26 member countries of Latin America and the Caribbean.

The SIEE® was designed as a user-friendly and easily accessible modular system, with two major information areas, a historical area and a forecasting area (up to the year 2020).

As for the SUPER/OLADE-BID®, it was prepared in response to the express need for an electric power

EXECUTIVE SECRETARIES OF THE LATIN AMERICAN ENERGY ORGANIZATION			
NAME	NATIONALITY	POSITION	DATE
Horacio Sevilla	Ecuadorian	Executive Director of the Coordination Secretariat	1974-1975
Hernán Escudero	Ecuadorian	Acting Executive Secretary	1975
Carlos Miranda	Bolivian	Executive Secretary	1976-1978
Gustavo Rodríguez	Mexican	Executive Secretary	1979-1981
Ulises Ramírez	Venezuelan	Executive Secretary	1982-1984
Marcio Nunes	Brazilian	Executive Secretary	1985-April 1987
Augusto Tandazo	Ecuadorian	Acting Executive Secretary	Apr./1987-Dec./1987
Gabriel Sánchez	Colombian	Executive Secretary	1988-1993
Francisco Gutiérrez	Venezuelan	Executive Secretary	1994-1996
Luiz A.M. da Fonseca	Brazilian	Executive Secretary	1997-1999

planning model for Latin America and the Caribbean. It was developed with financial support from the Inter-American Development Bank; it includes innovative aspects such as hydrological risk, demand growth, fuel costs, project lead-time costs, and financial constraints of power generation utilities.

The SUPER/OLADE-BID® consists of seven modules that permit power generation planning and transmission linkages. It is used by various electric power utilities of the region.

THE NINETIES AND OLADE'S ADAPTATION TO THE NEW SCHEMES OF THE WORLD ECONOMY

During the nineties, OLADE has been following very closely the actions taken by its member countries to transform its energy structure. At the same time, the Organization itself has been promoting a process aimed at transforming and adapting its strategic activities to the new situations created by the energy sector's environment, especially the transformations conducted internationally, involving globalization of the economy and markets and the growing participation of the private sector in activities that were traditionally in the hands of the States.

In this context, the Meetings of Ministers of OLADE decided to focus, each year, on a central topic dealing with energy development and the current international economic and financial situation, on the basis of which important decisions can be taken to orient the Organization and regional energy sector cooperation.

Up to now, in the nineties, the central topics of OLADE have focused on the energy sector reforms being promoted by the region's countries, the role of the State in this process, and sustainability as the framework for energy sector development.

Issues involving OLADE's adaptation to the structural changes of the international economy and the role that the Organization should play in the new world configuration were also analyzed.

This year, the XXIX Meeting of Ministers, scheduled for November in Santo Domingo, the Dominican Republic, will be discussing the topic, Energy Sector Modernization and Energy Integration Prospects in Latin America and the Caribbean, which will be focusing on the new conditions and opportunities to expand markets by means of regional cooperation.

In recent years, the fundamental concern has been to transform the Organization so that it can monitor the reform processes being carried out in the region's energy sector.

Another important aspect of this transformation has been the promotion of cooperation and closer ties with the governments of non-member countries, especially the United States, Canada, Germany, China, and the independent countries of the Caribbean.

In addition, the Meetings of Ministers over the last few years have given express mandates to the Permanent Secretariat to promote formulas that will guarantee greater participation of the private sector in the cooperation and integration process that OLADE is promoting, players that include the many institutions and companies

with headquarters in countries that are not members of the Organization, especially the United States, Canada, and Europe.

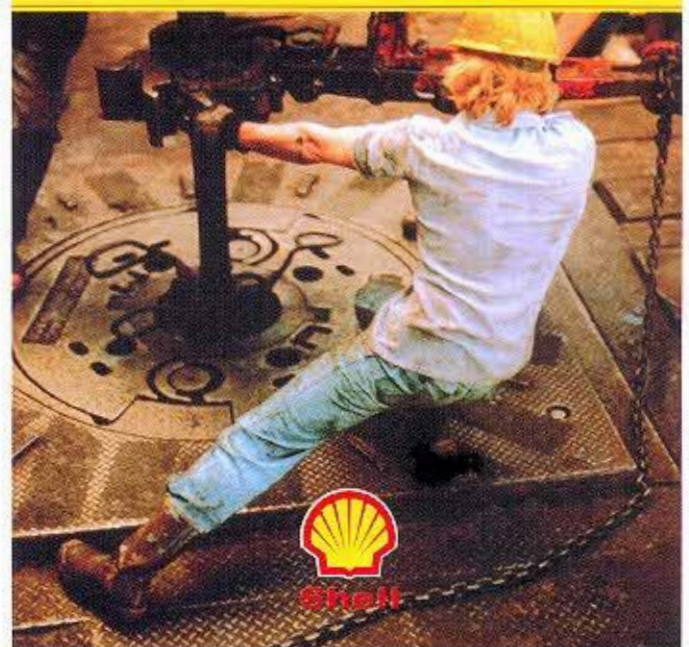
OLADE's new orientation has considerably helped to promote and increase the participation of multilateral institutions and governments of nonmember countries in funding projects and studies. At present, the ratio is 70% funding from cooperation institutions compared to 30% funding from resources coming from OLADE's own member countries.

REORIENTATION OF OLADE ACTIVITIES TO ADAPT ITS ACTIONS TO THE NEW INTERNATIONAL ENVIRONMENT

The Meeting of Ministers held in Quito, Ecuador, in November 1995, established an Ad Hoc Committee in charge of proposing strategic guidelines and mechanisms to implement measures that reorient



Sin energía positiva nos hubiera sido imposible descubrir e impulsar las fuentes de desarrollo que hoy llevan nuestro emblema.



the role and activities of OLADE. The Final Report of this Committee was submitted to, and approved by, the Meeting of Ministers held in Guatemala in November 1996 and is currently being applied by the Permanent Secretariat of the Organization, whose operating structure was modified to adapt it to the new orientation. Thus, the Permanent Secretariat has established priorities and has determined the principal areas of action required by the member countries.

INTERNATIONAL PRESENCE OF OLADE

The principal lines of action, currently being implemented by the Permanent Secretariat of OLADE, are based on this report and are aimed at advising the member countries in energy policy, planning, and regulation matters; promoting regional cooperation projects using, to the extent possible, funding from multilateral institutions and the private sector; and

conducting regional and subregional studies.

OLADE also intends to act as liaison between the member countries and the international energy community; to foster meetings and opportunities so that the member countries can discuss and do business; and to promote projects that can lure new investments to the region's energy sector.

Thus, over the last period of activities, the Organization through its Permanent Secretariat, has been giving impetus to important initiatives to ensure OLADE's wider participation in the international sphere, jointly working on integration mechanisms, as well as regional economic blocs and institutions involved in energy development.

Thus, OLADE at present is a member of the Coordination Secretariat of the Hemispheric Energy Initiative (HEI), along with the Ministry of Energy and Mines of Venezuela and the U.S. Department of Energy.

The Hemispheric Energy Initiative will enable, directly and permanently, to broaden the possibility of transferring technology and professional training from the United States and Canada to the member countries of OLADE.

In addition, with the Energy Ministers of the Andean countries, OLADE is member of the Andean Nations Community (CAN) and the Andean Energy Coordination Committee (CACE) of the Andean Development Corporation

(CAF), a mechanism established by the Energy Ministers of the subregion to give impetus to energy sector integration and complementation in the countries of the area.

Furthermore, OLADE, the Economic Commission for Latin America and the Caribbean (ECLAC), and the Latin American Mining Organization (OLAMI) together comprise the Technical Secretariat of the Parliamentary Initiative of Latin America and the Caribbean, in charge of systematizing the legal and economic information of the region's mining and energy sectors.

Also on the Organization's agenda is the consolidation of the energy integration of the Central American subregion. Thus, OLADE participated actively in the prefeasibility study for the gas interconnection project between Mexico and the Central American countries, a subregion where it is implementing projects for the development of the electric power sector.

In the efforts to increase ties with countries from outside the region, a cooperation agreement was drawn up with the Government of Quebec to promote investments from this Canadian province to the energy sector of Latin America and the Caribbean. The private business sector will be able to find, in this context, various possibilities for participation.

The Quebec-OLADE Energy Cooperation Program is aimed at sharing know-how and information and implementing cooperation activities and projects. The first phase involves the promotion of hydro-power generation and electric power transmission projects in Latin America and the Caribbean, as well as demand-side management projects in the region.

Moreover, OLADE in order to consolidate energy integration between the countries of the Caribbean subregion, has taken steps to eventually incorporate into the Organization

The Siemens logo is displayed in a bold, blue, sans-serif font. The letters are all uppercase and are contained within a yellow rounded rectangular background.

extends its best wishes to the Latin American Energy Organization for its 25th anniversary



At the headquarters building of the Latin American Energy Organization, located in Quito, Ecuador, meetings are constantly being held on various topics involving energy sector development in Latin America and the Caribbean.

the countries that are not at present members: Antigua and Barbuda, Belize, Bahamas, Dominica, Saint Kitts-Nevis, Saint Lucia, and St. Vincent and the Grenadines.

OLADE's ties with international institutions have expanded steadily, especially with entities, organizations, and governments from outside the region that are in one way or another involved in energy sector development in Latin America and the Caribbean.

On the threshold of the 21st century, the actions of the Latin American Energy Organization must necessarily consider a close collaboration with all of its counterparts and partners to ensure steady and environmentally sustainable economic and social development. The coordina-

tion of actions between regional and world organizations and international cooperation agencies will avoid the duplication of efforts, maximize results, and optimize the use of resources, by reducing costs.

By orienting its actions in this way and, moreover, incorporating the interests of subregional blocs and mechanisms, OLADE will enhance its standing and consolidate energy development processes.

This stance is, at present, of the utmost importance because of the dramatic crisis being sustained by the world economy, whose outcome cannot as yet be predicted, without mentioning the risks for the activities of international institutions themselves.

Nevertheless, as in all crises, the evolution of the current one will be paving the road for the emergence of positive developments. It is the task of all involved to find these opportunities to immediately undertake new actions for the benefit of our countries. The linkage of the private sector to the Organization's activities is another priority of OLADE's current policy. This linkage, in its initial phase, involves private-sector participation in concrete projects implemented by OLADE's Permanent Secretariat, such as the Energy Conference of Latin America and the Caribbean (*Enerlac*®), whose fourth installment will be taking place in Santo Domingo, the Dominican Republic, on November 16-19, 1998. The private sector is also participating in and promoting the *Energy Magazine*, the Orga-

nization's most important periodical journal.

PLAYERS OF OLADE

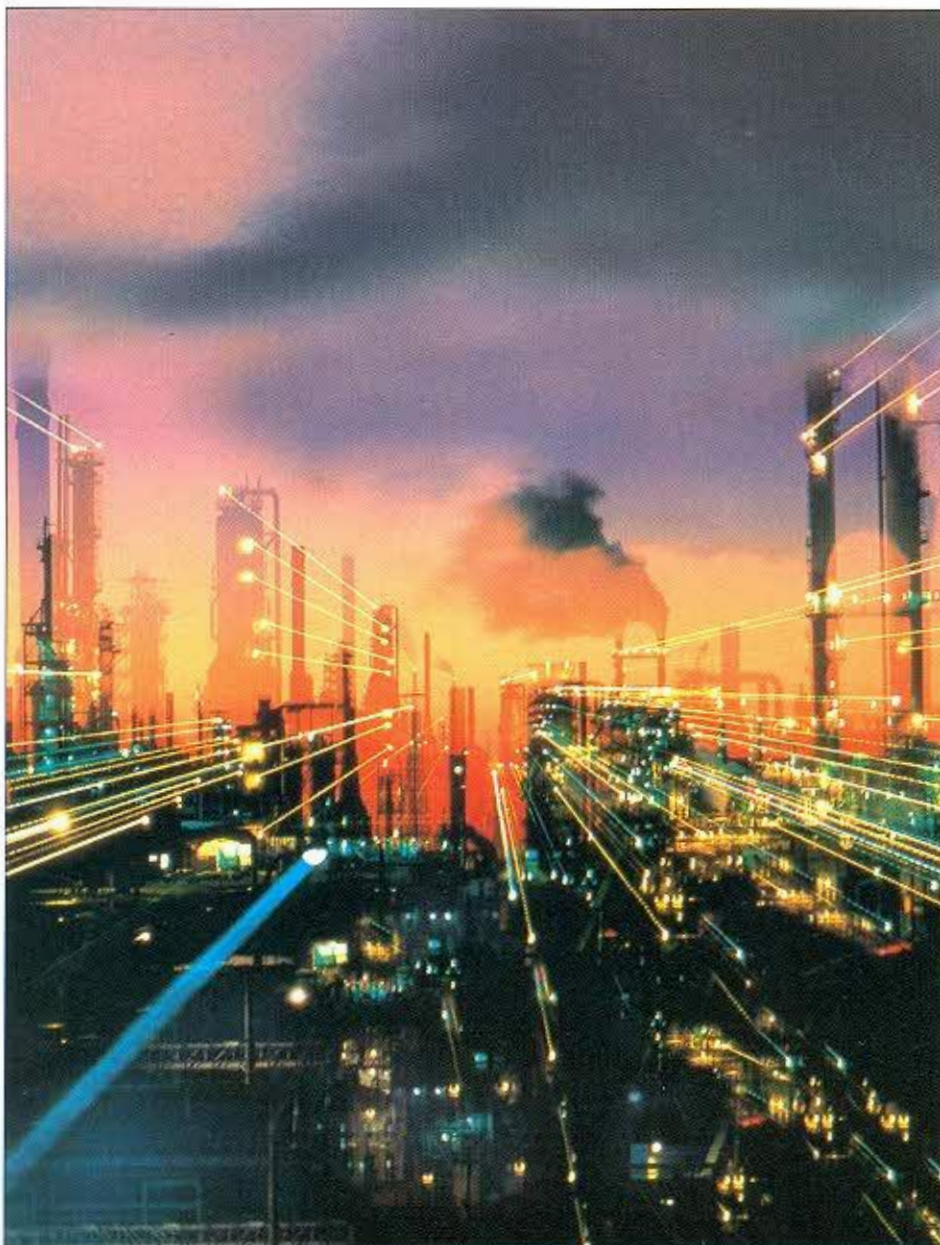
Over the last few years, the actions aimed at developing the region's energy sector have incorporated new players, which previously did not participate in these activities because of the state-owned scheme that was prevailing at that time.

Because of this, it is believed that an institution such as OLADE, which represents the entire regional sector, should promote a suitable interaction between all sector play-

ers. Thus, the players included in the Organization's activities, in addition to the counterpart ministries of OLADE in the member countries or their equivalents, are now: the state companies working in the energy sector; the energy commissions of the legislatures of the member countries; the sub-regional integration blocs and mechanisms, as well as regional and extra-regional institutions; multilateral organizations and financing agencies; the private sector (companies, financial entities, research and learning institutions); countries of the region that are not members of the Organization; and countries from outside the region.

Thus, OLADE, during 25 years of activities, contributing to the integration of the region's countries, under diverse historical circumstances, has managed to consolidate its fundamental objectives and structure, keeping the spirit that inspired its founders in 1973: converting energy into a key element for regional union and development.

In addition, the many agreements entered into with cooperation agencies and international organizations indicate that, throughout its 25 years, OLADE has been consolidated as the foremost energy forum for Latin America and the Caribbean, through which it is possible to give impetus to important actions for the development of its member countries.





MESSAGE FROM THE MINISTER-CHAIRMAN OF OLADE

Between November 1997 and November 1998, I have had the honor of presiding over the Latin American Energy Organization, an institution which this year is commemorating 25 years of activities, during which it has performed an outstanding role in the region with its many cooperation and integration programs in the energy sector of the countries of Latin America and the Caribbean.

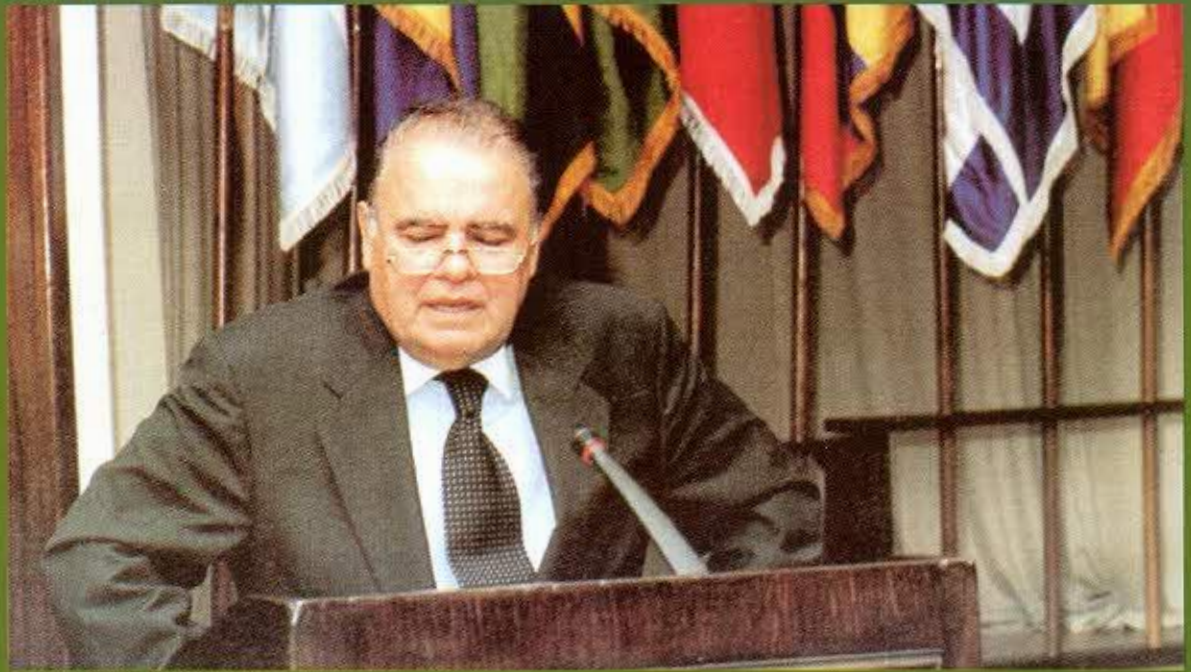
The Organization, over the last few years, has reoriented its activities in keeping with the situation prevailing on the international scene, and as part of its activities has been closely monitoring the reforms and transformations taking place in the region's energy sector.

Regarding this, it should also be underscored that Latin America and the Caribbean has become one of the most attractive regions for energy sector investments, not only because of its potential but also because of the reforms that are being implemented in the sector, with clear and transparent rules fostering private-sector investment.

As a result of the achievements obtained in all the phases of OLADE's evolution over the last 25 years and the prestige it has earned worldwide, I am certain that the Organization will continue to play an important role in all regional development processes at the start of the new century.

DR. JULIO HERRERA
Minister of Industry, Energy, and Mining of Uruguay
Chairman of OLADE, 1997-1998

Montevideo, October 1998



It gives me great pleasure to add my best wishes to the well-deserved recognition that the Latin American Energy Organization is receiving on occasion of its 25th anniversary. I had the privilege of being part of the process that led to its establishment, and since then I have always valued the importance of its work and the dedication of all those who have been at its service throughout the quarter century of its existence.

OLADE has accomplished many functions for the energy sector and has known how to adapt to changing realities and thus respond to the many challenges of the sector

in the different phases of its evolution. OLADE emerged in response to the need to coordinate actions so that the countries could address the tremendous impact exerted by the oil crisis of 1973. Within this context, the Permanent Secretariat of OLADE's Meeting of Ministers became a natural forum for discussion and the appropriate means to coordinate support to the most vulnerable countries. Likewise, OLADE contributed effectively to the region's massive effort to substitute fuels and apply rational use of energy approaches. It was in the framework of these activities that OLADE and the Inter-American Development

Message from Dr. Enrique V. Iglesias, President of the Inter-American Development Bank, on occasion of the 25th anniversary of OLADE

Bank started a highly beneficial collaboration, which has continued to this day.

In the eighties, OLADE and IDB naturally focused their efforts on electric power sector reforms, as well as the environmental aspects of energy integration.

Various regional technical cooperation operations, as well as the electric power planning model the SUPER/OLADE-BID, are examples of the scope and variety of the cooperation between our two institutions, both aimed at ensuring economic development and social progress.

On the threshold of a new century, the radical changes taking place in both the economic model and the structure of the energy sector, the technological revolution, the threat of climate change, and globalization are posing new challenges. These challenges, which include the consolidation of energy sector reforms, clean energy production and consumption, and the extension of services to marginal population groups, require a radical adjustment in how our institutions carry out their mission.

The new strategy for the energy sector that was approved by the Bank has recently set guidelines to

orient our responses to new realities. I am pleased to underscore that, to elaborate these guidelines, we relied on the collaboration of the Permanent Secretariat of OLADE.

We once again congratulate this organization of the inter-American system, in the conviction that its existence is more than ever necessary and that it is committed to adapting itself to the challenges being posed by the new century.

Enrique V. Iglesias

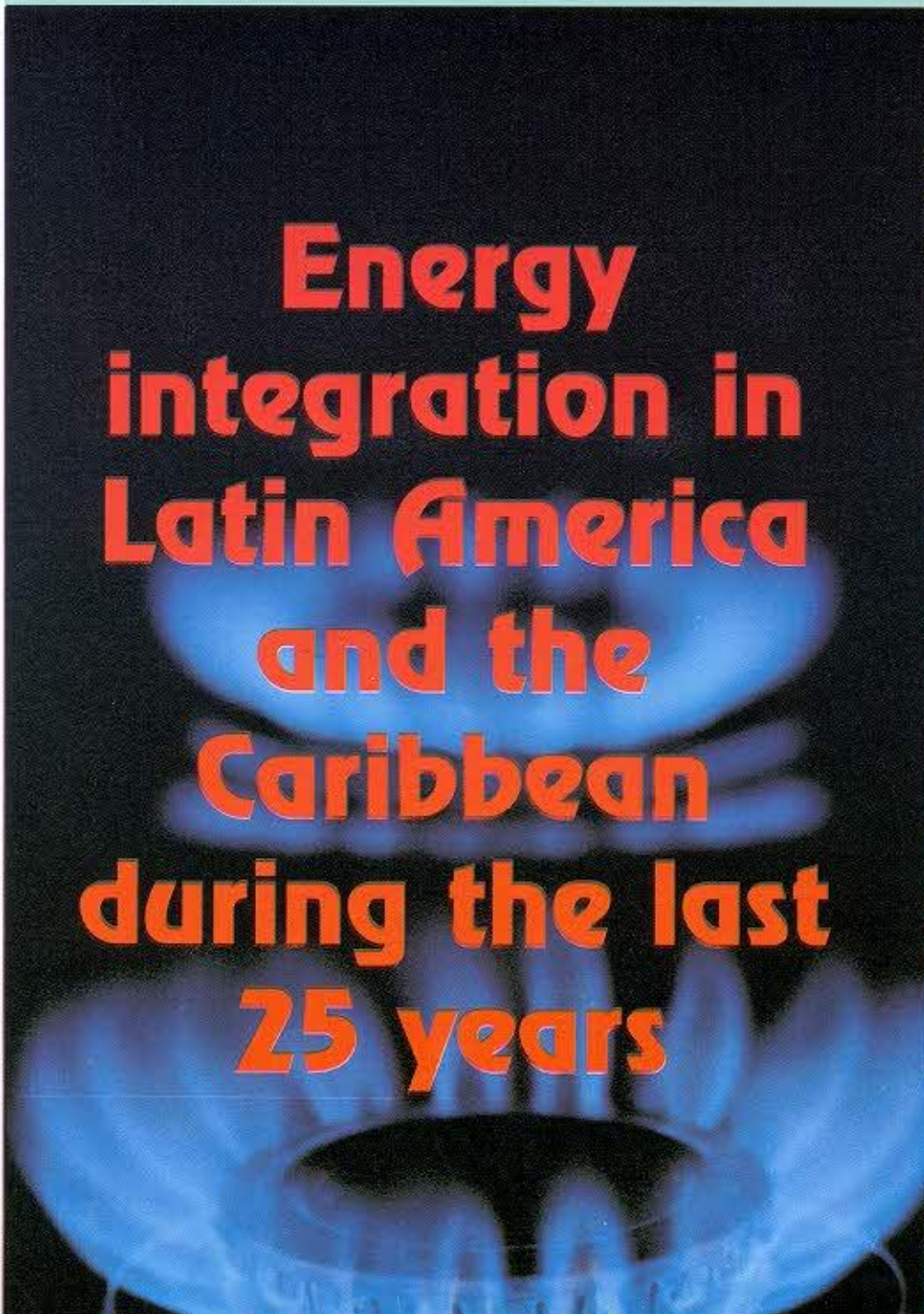
Washington, D.C., October 1998

All the organizations and persons involved in the development of Latin America and the Caribbean agree that integration is a historical necessity for the region, that it is the most suitable way to achieve this development, and that, at present, it is an imperative to achieve the competitiveness required in the international scene, whose principal characteristic is the consolidation of country blocs and the globalization of economies and markets.

In this context, for Latin America and the Caribbean, integration has become the central focus for the transformations that have to be made in the region, on the threshold of a new century.

In contrast to the first integration initiatives of the sixties and early seventies taken in a context of protectionism and aimed at resolving the constraints of domestic markets, current agreements in the region are taking place in a situation of growing liberalization of national markets.

The Latin American Energy Organization (OLADE), as the foremost forum for regional energy sector integration and cooperation, has been monitoring and promoting the actions that in this area have been implemented over the last 25 years of the Organization's activities.



Energy integration in Latin America and the Caribbean during the last 25 years





PRINCIPAL ENERGY INTEGRATION EXPERIENCES

Latin America and the Caribbean have a wide range of experiences in energy integration initiatives.

To provide a brief overview of these experiences, it is necessary to emphasize that, from the specific viewpoint of the energy sector, although the region has vast amounts of oil, natural gas, and coal reserves and a huge hydropower potential, it is dramatically lacking in installed electric power generation capacity, and therefore in the corresponding consumption, which as an explanatory factor of development, highlights the significant lags of the region, compared to industrialized countries, and the low standards of living and competitive opportunities they imply.

It is also necessary to underscore that the geographical location of these primary energy reserves in the region is not uniform. There are certain comparative advantages among the regions. The Andean Community is the one that, in terms of magnitude and geographical location, ranks the highest when referring to oil, natural gas, and coal. MERCOSUR, however, is most important in terms of electric power generation, with a high rate of hydropower since the largest hydroenergy potential is concentrated in this subregion. Central America is noteworthy for the progress it has made in electric power interconnections, which are creating the conditions for subregional electric power supply security.

OIL SUBSECTOR INTEGRATION

Over the last 25 years, the integrative actions of the countries of Latin America and the Caribbean in terms of oil,



For Latin American and the Caribbean, integration has become the key factor for the transformations taking place in the region, on the threshold of a new century

are not limited merely to the trade of oil products, they also include concrete economic and political actions and reciprocal assistance in the case of incidents or natural disasters that hamper adequate supply and marketing of oil products.

The San José Accord

The Cooperation Program for the Central American and Caribbean Countries, more commonly known as the San José Accord has its origins and background in the Financial Cooperation Agreement of 1974, called the Puerto Ordaz Agreement, which was subscribed by the Investment Fund of Venezuela and the central banks of the Central American countries.

The drastic increase in oil prices that occurred in 1979 and the related crisis sustained by the world and, in this particular case, the countries of Latin America and the Caribbean, owing to constant price hikes, led the governments of Mexico and Venezuela to design an energy cooperation program that would substitute the Puerto Ordaz Agreement.

On August 3, 1980, the Presidents of Mexico and Venezuela signed, in San José de Costa Rica, the Energy Cooperation Program for the countries of Central America and the Caribbean in order to guarantee the supply of oil and gas to the Central American and Caribbean nations, provide credit resources, and promote trade ties between these countries.

The Accord has been renewed periodically from that date up to the present. In addition to providing oil supply security, in an amount fluctuating between 130,000 and 160,000 barrels per day, Mexico and Venezuela granted credits to finance the trade of goods, services, and economic development projects over the short and long terms. Depending on oil sale prices, the credit fluctuates between 20% and 25% of the oil bill.

The beneficiary countries of the Mexican-Venezuela Energy Cooperation program are Barbados, Costa Rica, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, and the

Dominican Republic, all of which are members of OLADE.

CARICOM and Oil Assistance

Among the oil and gas cooperation and integration efforts in the countries of the region, the Trinidad and Tobago Assistance Program, proposed at the end of 1997, in order to establish a mechanism to support the member countries of the Caribbean Community (CARICOM), is noteworthy.

The program was aimed at securing financing for the increases in the prices of oil products, including asphalt and fertilizers, for those member States of CARICOM, who met the corresponding requirements established by Trinidad and Tobago, under the general operating guidelines of the Caribbean Assistance Council.

It is also important to highlight, among these regional cooperation and integration actions, the creation of the Informal Group of Latin American and Caribbean Oil-Exporting Countries (GIPLACEP), with the participation of Colombia, Ecuador, Mexico, Trinidad and Tobago, and Venezuela. The principal achievements of this Group are the Program to Control the Illegal Trade of Oil Products and Technical Assistance for Informatics between Ecuador and Venezuela.

Other cooperation activities of the GIPLACEP specifically include the following: progress in industrial complementation between Mexico and Venezuela; the Mutual Cooperation and Assistance Program in the case of Oil Accidents between Trinidad and Tobago and Venezuela; the negotiations between Colombia and Venezuela to coordinate fuel oil trade policies; and cooperation between the oil companies of these countries to control oil spills.

Oil Integration in the Andes

In February 1990, the Ministers of Bolivia, Colombia, Ecuador, Peru, and Venezuela held a series of meetings in order to ensure more in-depth oil cooperation in the Andean subregion and provide program action elements in the area of technological comple-

GAS INTEGRATION

International Gas Lines Currently Operating

Countries	Segments	Exports Million cubic meters/year	
		1996	2000*
Bolivia-Argentina	Santa Cruz (Bolivia)-Yacuiba (Argentina) Long: 500 km, Diam: 24", Cap: 7.0 Mmcd	2,197	0
Argentina-Chile Gasoducto GasAndes	La Mora (Argentina) - Santiago (Chile) Long: 776 km, Diam: 24", Cap: 8.0 Mmcd	0	912
Argentina-Chile Methanex 1 Gas Pipeline	Cullen (Argentina) - Cabo Negro (Chile) Long: 48 km, Diam: 10", Cap: 2.0 Mmcd	0	730
Argentina - Chile Methanex 2 Exports	Condor (Argentina) - Methanex 2 (Chile)	0	1004
United States - Mexico	Perilitas (USA) - Matamoros (Mexico) McAllen (USA) - Reynosa (Mexico) Hidalgo (USA) - Arguelles (Mexico) El Paso (USA) - Ciudad Juárez (Mexico) Naco (USA) - Naco (Mexico) Eagle Pass (USA) - Piedras Negras (Mexico)	497	4,709

Source: OLADE, Energy Secretariat of Mexico, Mercosur - SGT 9

Note: (*) on the basis of data from contracts.

mentation and promotion of the trade of capital goods, services, and inputs in the oil industry. As a result of this initiative, the Andean Subregional Oil Integration Program was established, to be administered by the Permanent Secretariat of OLADE. Afterwards, in 1993, the original objectives of the Program were expanded to include the entire energy spectrum of the subregion, and the Andean Energy Coordination Committee (CACE) was set up.

The CACE was created by the VI Meeting of Energy Ministers of the Andean Region, held at OLADE headquarters, in Quito, Ecuador, in July 1994. It consists of the Energy Ministers of the subregion and an operating unit comprised

of the Permanent Secretariat of OLADE as its technical branch, the Secretariat General of the Andean Nations Community (CAN) as its political branch, and the Andean Development Corporation (CAF) as its financial branch. Its principal objective is to develop activities in various areas in order to give impetus to energy coordination, complementation, and integration in the Andean countries.

Bilateral Integration and Cooperation in the Oil Subsector

There are many areas in which the member countries of OLADE have fostered bilateral oil cooperation and integration actions, among which the fol-

lowing completed actions or projects that are being implemented should be underscored:

There are technical information exchanges regarding border deposits between Argentina and Chile, Ecuador and Peru, Trinidad and Tobago and Venezuela, and Colombia and Peru.

There is a crude oil processing agreement between Venezuela and Trinidad and Tobago that continues to be in force.

The emergencies stemming from natural disasters or other causes have been the subject of assistance agreements between Colombia and Venezuela, between Trinidad and Tobago and Venezuela, and between Ecuador and Colombia.

There are also initiatives for collaboration in the exploration, joint production, and marketing of oil between Argentina and Chile, Argentina and Ecuador, Argentina and Uruguay, Colombia and Venezuela, Colombia and Ecuador, Brazil and Argentina, and Brazil and Venezuela.

In addition, numerous bilateral technical assistance and cooperation agreements have been subscribed by various countries of the region.

GAS SUBSECTOR INTEGRATION

Natural gas is one of the energy products with the greatest potential for subregional integration. The design and construction of subregional gas line networks and their interconnections imply a large-scale project that is of the utmost importance for the development of the energy industry in Latin America and the Caribbean, which will contribute to rationalizing the energy balance of the countries.

Modernization in the subsector has exerted a major impact on the exchange of natural gas inside the region, which will multiply within a few years.

At present, the gas interconnections that are currently operating or being built in the region are those that joint Argentina and Bolivia, Argentina and

International Gas Pipelines Being Built

Countries	Segments	Start-up Operation	Exports Million cubic meters/yr
			2000*
Argentina - Uruguay Gas pipeline Buenos Aires - Montevideo	Punta Lara (Argentina) - Parque Tomkinson (Uruguay) Long: 215 km, Diam: 20"/16", Cap: 2.5 Mmcd	12/1999	876
Bolivia - Brazil	Santa Cruz (Bolivia) - San Pablo (Brazil) Long: 3,061 km, Diam: 32", Cap: 30 Mmcd	12/1998	3,321

Source: On the basis of data from Mercosur - Working Subgroup No. 9 (SGT-9), 1998.

Note: (*) On the basis of data from contracts.

Chile, Bolivia and Brazil, Mexico and the United States, and shortly Argentina and Uruguay. The first is already more than 20 years old, the interconnection between Mexico and the United States has been operating for some years, but the others are all new interconnections. In addition, there are other gas line projects between Argentina and Chile and between Argentina and Brazil, with a high probability of being implemented.

A new gas integration linkage between the Group of Three and MERCOSUR could run through Venezuela and Brazil; it will be facilitated by the letter of intent recently subscribed between the state oil companies of Venezuela, *Petróleos de Venezuela (PDVSA)*, and Brazil, *Petróleo Brasileiro (PETROBAS)*. Between these two countries, there are several electric power interconnection projects, and eventually there will be natural gas supply projects using the same layout (Guri-Manaus), since there are potential gas projects in the latter region, with projects that could join Manaus to São Paulo.

In MERCOSUR and neighboring countries, the gas interconnection in the Plate River Basin and between Argentina and Chile will facilitate the development of a subregional market integrating Argentina, Bolivia, Brazil, Chile, Paraguay, and Uruguay, and eventually Peru, through an important network of gas lines. Nevertheless, it is estimated that, in particular among the potential suppliers of MERCOSUR, major investments in exploration and development will be required to guarantee long-term supply. Peru and Venezuela are among these potential suppliers.

The Central American Isthmus could also benefit from the wealth of natural reserves of the Group of Three countries (Mexico, Colombia, and Venezuela). Meanwhile, the projects have a more limited scope linked to the neighboring countries. Regarding this, mention should be made of the prefeasibility study that was conducted as part of the *OLADE-ECLAC-GTZ Project* on the potential interconnection between Mexico and Central America.

REGIONAL INTEGRATION OF THE ELECTRIC POWER SUBSECTOR

The electric power interconnections between countries and subregions of Latin America and the Caribbean, as well as the development of shared hydropower resources, are among the most important components of regional energy integration.

Shared Hydropower Developments

Shared hydropower projects that are already operating account for close to 22% of hydropower installed capacity in Latin America and the Caribbean. These bilateral hydropower projects are located in the River Plate Basin and add up to a total of 14,490 MW, distributed as follows:

- Salto Grande Hydropower Station (1,890 MW) between Argentina and Uruguay.
- Itaipú Hydropower Station (12,600 MW) between Brazil and Paraguay.
- Yacyretá Hydropower Station (3,200 MW) between Argentina and Paraguay.

Energy of the Future



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In the River Plate Basin, there are also two studies at the final design stage: Garabí (1,800 MW) between Argentina and Brazil and Corpus Christi (4,608 MW) between Argentina and Paraguay.

In Central America, the development of El Tigre already involves advanced studies; it will enable El Salvador and Honduras to resolve part of their supply problems and contribute to the sub-region's interconnected system.

The interconnection between the hydropower projects of different water basins helps to mitigate the random character of rainfall regimes and furthermore favors integration possibilities, as between Argentina and Brazil, which can complement their thermo-electric and hydropower capacity surpluses.

Shared hydropower developments are making a major contribution to integration, but as a result of the major technological breakthroughs achieved in electric power transport, especially at high voltages and over long distances, other forms of power generation have been incorporated as major contributions.

Electric Power Interconnections

Probably the most evident way of promoting energy integration and cooperation between the countries and subregions of Latin America and the Caribbean is the electric power interconnections.

The principal projects being studied and facilities being operated in this area are:

- Electric power interconnections in MERCOSUR: The most noteworthy are the binational interconnections between Argentina and Uruguay, as a result of the shared hydropower generation in Salto Grande, between Brazil and Paraguay in Itaipú, and between Argentina and Paraguay in Yacyretá, and other smaller projects in border towns. On the basis of this integration process, the four countries have a wide range of possibilities for complementation, as a result of both load diversity and supply,

International Gas Pipelines Being Planned (Feasibility or Prefeasibility Studies)

Countries	Segments	Start-up Operations	Exports Million cubic meters/year
			2000*
Argentina – Chile	Campo Durán (Argentina) – Mejillones (Chile) Long: 928 km, Diam: 20", Cap: 8.5 Mmcd	12/1998	967
Argentina – Paraguay – Brazil	Salta (Argentina) – Asunción (Paraguay) – São Paulo (Brasil) Long: 3,100 km, Diam: 30", Cap: 25 Mmcd	2001	0
Argentina – Chile	Campo Durán (Argentina) – Tocopilla (Chile) Long: 850 km, Diam: 20", Cap: 8 Mmcd	2000	1,460
Argentina – Chile	Neuquén (Argentina) – Concepción (Chile) Long: 440 km, Diam: n/d, Cap: n/d	12/1999 ETA	n/d
Argentina – Uruguay	Entre Ríos (Argentina) – Casablanca (Uruguay) Long: 1.3 km, Diam: 12", Cap: 2.0 Mmcd	12/1998 ETA	730
Argentina – Uruguay	Entre Ríos (Argentina) – Paysandú (Uruguay) Long: 2.4 km, Diam: 10", Cap: n/d	12/1998 ETA	n/d
Argentina – Brazil	Entre Ríos (Argentina) – Uruguayana (Brazil) Long: 440 km, Diam: n/d, Cap: 2.5 Mmcd	ETA	913
Bolivia – Paraguay	Santa Cruz (Bolivia) – Asunción (Paraguay) Long: 946 km, Diam: 18", Cap: 6.9 Mmcd	n/d	n/d
Colombia – Panama	Gujaira (Colombia) – Colón (Panama) Long: 620 km, Diam: 20", Cap: 4.2 Mmcd	n/d	n/d
Mexico – Central America	Ciudad Pemex (Mexico) – Panama Long: 2,212 km, Diam: 36" / 24", Cap: 13.5/33.0 Mmcd	n/d	n/d
Venezuela – United States	Orinoco (Venezuela) – Miami (United States) Long: 2,220 Miles, Diam: 36" / 24", Cap: 56.7 Mmcd	n/d	n/d

Source: On the basis of data from Mercosur – Working Subgroup No. 9 (SGT-9), 1998; OLADE/ECLAC/GTZ, February 1998 and World Bank, 1995

Note: (*) On the basis of data from contracts. ETA: Being processed for authorization. N/d: no data available

International Gas Lines Being Planned (Concept Only)

Countries	Segments	Start-up Operations	Exports Million cubic meters/year
			2000*
Peru – Bolivia	Camisea (Peru) – Santa Cruz (Bolivia)	n/d	n/d
Peru – Brazil	Camisea (Peru) – Manaus (Brazil)	n/d	n/d
Venezuela – Colombia – Central America	Venezuela – Costa Rica	n/d	n/d
Venezuela – Brazil	Orinoco (Venezuela) – Manaus (Brazil)	n/d	n/d

Source: On the basis of data from Mercosur – Work Subgroup No. 9 (SGT-9), 1998.

Note: (*) On the basis of data from contracts. ETA: Being processed for authorization. N/d: no data available

- The Atlantic seaboard interconnection which stretches from the central southern regional of Brazil to the region of Comahue in Argentina and ends up linking several interconnections of the national systems of Brazil, Paraguay, Uruguay, and Argentina.
- On July 23, 1998, the countries of MERCOSUR subscribed a Memorandum of Understanding on Electric Power Exchanges and Integration of MERCOSUR, which reasserts

the interest of the States party to the Memorandum to continue with the subregion's electric power integration process.

The Memorandum, which is comprised of 10 specific items, is aimed at defining or maintaining general guidelines that guarantee the free trade of electric power on the basis of principles of reciprocity in market competition and transparency.

ELECTRIC POWER INTEGRATION

Existing Projects

COUNTRIES	PROJECTS
Argentina – Brazil	T/L Paso de los Libres – Uruguayana, 200/132 kV, 50 MW
Argentina – Uruguay	Salto Grande Binational Hydropower, 500 kV, 2,000 MW T/L Concepción – Paysandú, 150/132 kV, 50 MW
Argentina – Paraguay	Yaoyretá Binational Hydropower Station, 500 kV, 3,200 MW T/L El Dorado – Carlos A. López, 220/132 kV, 30 MW T/L Posadas – Encarnación, 66/33 kV, 10 MW T/L Clorinda – Guarambaré, 132/220 kV, 80 MW
Brazil – Paraguay	Itaipú Binational Hydropower Station 500 kV, 12,800 MW T/L Foz de Iguazú – Central Acaray, 132 kV, 70 MW
Brazil – Uruguay	T/L Chuy – Chui, 23/15 kV, 15 MW
Colombia – Ecuador	L/T Ipiales – Tulcán, 40 MW
Colombia – Venezuela	T/L Cuestecitas – Cuatricentenario, 230 kV T/L Belén San Mateo – El Corozo, 230 kV
Bolivia – Peru	Rural distribution 24.9 kV
Mexico – Belize	T/L Chetumal - Belize, 34.5 kV, 6 MW
Guatemala – El Salvador	T/L Guatemala Este - Ahuachapán, 230Kv
Honduras – Nicaragua	T/L Pavana – León, 230 kV
Nicaragua – Costa Rica	T/L Liberia – León, 230 kV
Costa Rica – Panama	T/L Río Claro - Progreso, 230 kV

ELECTRIC POWER INTEGRATION

Future Projects (being studied)

COUNTRIES	PROJECTS
Mexico – Belize	T/L Chetumal - Belize, 115 kV, 18 MW
Guatemala - El Salvador	T/L Guatemala Este – Ahuachapán, 230kV
Honduras – Guatemala	T/L El Cajón-Río Lindo-Pepesca, 230 kV
Honduras - El Salvador	T/L Pavana - 15 de Septiembre-Nejapa-Ahuachapan, 230 kV
Honduras – Nicaragua	T/L Pavana - León, 230 kV
Nicaragua – Costa Rica	T/L León-Ticuatepe - Cañas- Parrita-Río Claro, 230 kV
Costa Rica – Panama	T/L Cañas-Parrita-Río Claro - Veladero, 230 kV
Argentina – Brazil	T/L Rincón de Santa María- Itá, 500 kV, 1,000 MW Garabí Binational Hydropower Station, 1,800 MW Roncador Binational Hydropower Station, 2,700 MW San Pedro Binational Hydropower Station, 750 MW
Argentina – Chile	T/L Interandes Project, Salta – Chile Station
Argentina – Paraguay	Corpus Christi Binational Hydropower Station, 4,608 MW Itati-Itacora Binational Hydropower Station, 1,600 MW
Argentina – Uruguay	Compensador de Salto Grande Binational Hydropower Station, 400 MW
Brazil – Uruguay	T/L Santana do Livramento - Rivera, 230/115/kV, 70 MW
Peru – Ecuador	Puyango-Tumbes Binational Hydropower Station
Venezuela – Brazil	T/L Santa Elena - Boa Vista, 230 kV, 200 MW
Colombia – Ecuador	T/L Jamondino-Pasto - Santa Rosa, 230 kV, 200 MW

- Interconnection of the Argentine power systems with the Chilean systems: Mendoza-Santiago and Comahue-Región de los Lagos.
- Interconnection between the Bolivia and Argentina systems.
- Electric power interconnection of the Andean Nations Community (CAN); between Venezuela and Colombia, the Sevilla-San Antonio interconnection line between the cities of Cúcuta and San Antonio is already operating. There are also projects for interconnections between Ecuador and Colombia and Peru. The interconnection between Bolivia and Chile is also being studied.
- The loop linkages in the southern part of the continent provide a foretaste of the large interconnection that is expected between the Central Southern and Northeastern areas of Brazil, with the extension to Manaus, which would permit connections with the Andean and Atlantic zones. The feasibility of a

future connection between Guri and Manaus, as well as the later interconnection between Peru and the Central Southern part of Brazil through Bolivia, is being analyzed. Closing up this large loop will help to optimize the hydropower resources of South America, as well as take full advantage of the diversity of climates and time zones and the upgrading of facilities.

- Central American interconnection: The electric power systems of the Central American Isthmus are interconnected in two blocs, on the one hand, Guatemala with El Salvador in the north and Honduras, Nicaragua, Costa Rica, and Panama in the south. It is expected that, with the funds coming from the San José Accord, the 230-kV interconnection between Honduras and El Salvador, which is the only segment that is missing so that the six electric power systems of Central America can be fully interconnected, can be financed. There is also the possibility of an alternative intercon-

nection between Guatemala and Honduras.

Finally, the power capacity systems of Mexico and Colombia have reached an advanced level of national integration, and the principal regional electric power subsystems of each country are already interconnected. This makes it possible to identify two poles that would permit the interconnection between North and South America, running through the Central American Isthmus.

Electric power integration could be extended in various directions: the joint operation of power generation facilities of the systems that are already interconnected, and greater multilateral cooperation between countries that share projects in the same river basin. Regarding this, the countries have shown their will to exchange information and avoid damages to third countries stemming from the construction of projects on their territory and their subsequent operation. Nevertheless, the possibilities as a result of the coordi-

nated management of reservoirs in cascade or the benefits stemming from the greater regulation of the basin have not yet been explored. The greater coordination in the use of primary resources and the planning of extending the respective national electric power systems could also enhance integration.

An additional element but by no means of lesser importance that should also be taken into account in hydropower projects currently operating is the experience in environmental protection that the region has accumulated as a result of the development, study, and implementation of these projects, which is a highly important factor for integration processes.

Shared Geothermoelectric Resources on Border Zones

The geothermal resources existing between the countries also provide opportunities to enhance energy inte-

gration and cooperation links in Latin America and the Caribbean.

In particular, the development of geothermal resources in border areas for electric power generation is noteworthy for promoting the economic and social development of these areas.

At present, the areas that have been identified as having potential for shared geothermoelectric generation are:

- The Tufiño-Chiles-Cerro Negro Reservoir (Colombia-Ecuador)
- The Tacaná Area (Guatemala-Mexico)
- Borders areas between Argentina and Chile.

THE FUTURE OF ENERGY INTEGRATION IN THE REGION

Both the experiences and prospects of energy sector integration in Latin

America and the Caribbean are of the utmost importance.

The energy reserve potential and the economic cooperation capacity of the region are highly promising for energy integration.

In addition, it should be emphasized that the environment in which political activities are being carried out and the express will of the region's leaders make bilateral and multilateral cooperation and integration initiatives highly promising as effective elements to help the comprehensive development of the countries.

OLADE can play an important role in these processes as demonstrated by the intention of the Energy Ministers of its member countries to choose as Central Topic for 1998, the year commemorating the 25th anniversary of the Organization's foundation, Energy Sector Modernization and Energy Integration Prospects of Latin America and the Caribbean".



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Message from Dr. José Antonio Ocampo, Executive Secretary of ECLAC

Although, over the last 25 years, the region's energy sector has experienced a series of breakthroughs and setbacks, depending on the area being focused on and the country being studied, there is no doubt that the last decade has recorded the deepest changes in the institutional, organizational, and regulatory framework in the general context of macroeconomic reforms of Latin America and the Caribbean.

The energy sector's current contribution to sustainable development has yielded results that are of some concern. Regarding **economic growth**, conceived as the conciliation of economic, social, and environmental interests, it is apparent that energy productivity has to be increased. As for the social aspect, two priorities are noteworthy: on the one hand, the basic energy needs of the lowest-income strata of the population have to be met; on the other hand, efficiency in the use of energy in the residential sector must be enhanced considerably by coordinating energy development policies with those aimed at generating employment and increasing income.

Regarding **the use of natural resources**, it has become apparent that, in certain countries or areas, because of the depletion of firewood resources, this energy source is no longer available; at the same time the oil and gas export schemes of certain countries are being questioned. From the **environmental standpoint**, although the energy sector is contributing considerably to local pollution, Latin America and the Caribbean is contributing very little to global environmental problems.

The debt crisis has become the driving force behind the reforms that the

majority of the countries of Latin America and the Caribbean have undertaken since the middle of the past decade. Their macroeconomic objectives were to balance public sector and sectoral accounts, enhance the reliability of systems, improve the productive efficiency of the sector, secure private-sector financing, and protect consumer interests. Although more time will have to elapse so that the impacts of this process, especially on the energy sector, can be fully assessed, a series of positive consequences and certain concerns about the dimensions of sustainability in this area have been observed.

The energy sector reform process led to a certain improvement in the sector's financial indicators and operating efficiency, to a large extent motivated by the increase in prices and tariffs and, in some countries, by the financial rehabilitation of public enterprises prior to their privatization. Likewise, it has been demonstrated that the countries that implemented structural reforms, including privatization and total market liberalization, have been successful in obtaining financing for sector expansion, whereas those that adopted limitation liberalization have not been able to secure this financing.

Furthermore, certain deviations from the purposes and course of action of the reforms are giving rise to inadequate energy generation structures from the economic and ecological standpoint, which may eventually exert negative social impacts. The need to improve regulatory systems is also apparent. This means that, from the point of view of equity and the use of natural resources and the environment, the results that are obtained are far from adequate, compared to what could feasibly be achieved.

The different strategies applied by the countries of Latin America and the Caribbean therefore provide a wide-ranging margin to consider the impacts on financing and investment, to ensure energy supply, and above all to provide a better response to social and environmental demands.

The principal issues that should be examined in regional agencies and government institutions when making energy policy decisions that promote sustainable development involve problems in the following areas:

- i. **The region's new energy supply growth patterns** stemming from institutional and regulatory changes and the leading role of players that have emerged in the nineties.
- ii. **The competitiveness of energy markets**, taking into consideration the progress achieved in regulatory frameworks and the vulnerabilities that are being identified. This involves determining if competitive conditions are effectively being created in these markets on the basis of models that were applied in the nineties, among which the following are noteworthy: vertical breakup of energy industry, regulation of natural monopolies, and harmonization between public policy objectives and business strategies.
- iii. The promotion of **alternative energy sources** and dismantling the barriers preventing the incorporation of new energy sources and technologies.
- iv. **The efficient use of energy**, for which purpose existing obstacles to consumer rights, environmental protection, international competi-

tiveness, and social equity must be identified.

In the region's countries, there is much concern about **perfecting the regulatory frameworks of the energy sector** and distributing responsibilities between the public and private sectors, especially because the economic integration process poses various challenges for the coordination of sector regulation policies.

The absence of coordination could become a constraint for achieving effective integration, which is aimed at promoting the development of competition and efficiency in the resource allocation process. Therefore, global issues such as regulation policies, institutional framework, and organization of the standard-setting framework become priority matters.

Energy policy is also facing a series of challenges inherent to the changes that are taking place in world geopolitics and as a result of economic globalization processes, which will obligatorily lead to the need to address an energy integration process from a perspective of open regionalism, with the political, economic, and institutional implications this entails. Therefore, the institutions establishing national energy policy should collaborate and coordinate with the region's energy institution, that is, the Latin American Energy Organization, so that national energy policies and sub-regional and regional integration processes in this field do not end up being incompatible.

The need to coordinate national and regional policies is also apparent in the internationalization of environment issues, since environmental problems have developed to such a point that they now go beyond country borders and have become a

priority item on the international agenda.

In this context, a stance in favor of an international set of standards has become increasingly important, and it may well have highly significant repercussions on energy resource production. Productive transformation is one of the aspirations of all developing countries and can lead to a certain deterioration of the environment. That is why it is so important to insist on the establishment of international negotiating forums to discuss ways of preventing sustainability from being undermined.

ECLAC's concerns about energy issues are part of the actions it has been carrying out with different United Nations agencies to ensure sustainable development.

That is why I would like to highlight the Project on Energy and Sustainable Development in Latin America and the Caribbean that is being jointly conducted, since 1994, by the Latin American Energy Organization (OLADE), ECLAC, and the German Technical Cooperation Agency (GTZ). It has helped to heighten, and give priority to, the regional debate on a series of issues involving energy sector reforms and their contribution to achieving the objectives of economic growth, sustainability, and social equity.

José Antonio Ocampo
Santiago de Chile,
October 1998



Horacio Sevilla Borja

Executive Director
of the Coordination
Secretariat
for the term
1974-1975



The severe energy crisis that pitted the oil importing countries against the oil-producing countries at the beginning of the seventies and whose impacts reached beyond the energy sector, altering the course of the world economy and affecting the majority of the countries of Latin America and the Caribbean, led a select group of visionary leaders of the region who were committed to their people to create the Latin American Energy Organization (OLADE) as a means of finding the unity they were looking for, on the basis of the integration, sovereign protection, and efficient and autonomous production of their natural resources.

As a delegate of Ecuador at the first four consultative meetings of Energy Ministers of the countries of Latin America and the Caribbean, I participated in the entire process of establishing OLADE. Likewise, in August 1994, by decision of the IV Consultative Meeting, I was put in charge of the Coordination Secretariat of the newborn regional integration organization.

During my term of office as the head of the Coordination Secretariat, I was entrusted with the

task of setting up the Permanent Secretariat's organizational and financial structure and promoting the policies that had given rise to OLADE. To do this emphasis was laid on two essential projects: the elaboration of the inventory of energy production technologies and research, which was the seed for the current Energy-Economic information System (SIEE); and the study for the establishment of a financial institution to support the region's energy development initiatives.

To commemorate the 25th anniversary of OLADE's creation, I would like to pay tribute to its founders and congratulate all those who, over this long period of time, have made efforts to integrate the countries of Latin America and the Caribbean by developing the region's energy sector.

The road traveled by OLADE over these last 25 years has been important, but of even greater importance will be the actions it will have to undertake to successfully address the challenges of the new century.

Ambassador Horacio Sevilla
Borja, Lima, October 1998



Carlos Miranda Pacheco

Executive Secretary
for the term
1976-1978



We Latin Americans should be proud of having an energy organization such as OLADE, which has been able to react and adapt to the deep and rapid changes taking place over the last 25 years.

OLADE was born as an authentically Latin American response to a bipolar world whose energy supply depended fundamentally on oil. Renewable energies, especially nonconventional ones, were just beginning to be developed. Environmental preservation did not play an important role in the consideration of development plans. Thermonuclear energy was at its peak, with hundreds of nuclear stations being planned.

A great deal has occurred on the energy scene over the last two and half decades. Humanity has had to cope with the extensive impact of the oil price crises, without finding any substitute for oil as the world's basic energy source.

Environmental preservation has become a universal matter of conscience, and in this process what was assumed to be the nuclear energy panacea to all energy problems simply vanished.

As a result of the détente between the two major powers, the free market economy has become the economic doctrine that governs international relations. As a result, the leading role of the Latin American state energy companies is being replaced by private-sector investment, which is aimed at providing end-users with energy at its real cost. The globalization of the economy has converted regional integration into a requirement for survival, but on the basis of terms that are different from those of the seventies.

During this dizzying process of change, OLADE has been maintained as a meeting place and reference for its member countries; at the same time, it has been monitoring this change closely without losing its validity.

For the next millennium, the Organization's challenge will be to adapt itself to the changes that have been taking place over the last few years. As the energy policymaking organization for its member States, OLADE must adequately respond to the following question: what is the State's role in Latin American energy development.



Gustavo Rodríguez Elizarrarás

Executive Secretary
for the term
1979-1981



The period from 1978 to 1981 was a period of upheaval on the world's energy market, as the second oil shock of the decade once again distorted the economies of the oil-importing countries, especially those that had weaker economies, a situation shared by the majority of the member countries of OLADE.

This situation signaled an opportunity, which was not wasted on the developed countries, especially the United States, to wage war against the OPEC, which was blamed for generating this distortion by raising oil prices, which eventually hit a peak of up to US\$44 per barrel.

In the midst of this world crisis, OLADE called for a dialogue between the region's oil exporters (Ecuador, Mexico, and Venezuela) and its oil importers. The President of Costa Rica, Rodrigo Carazo, despite statements made by his Minister of Energy at a meeting of UNCTAD in Manila, the Philippines, against OPEC, supported and offered his country to act as host for the First Extraordinary Meeting of Ministers convened by OLADE in order to open up a dialogue between the region's oil-importing countries and its oil-exporting countries. As a result of this meeting, which took place in July 1979, the Declaration of San José, in which Mexico and Venezuela, as the major oil-exporting countries, indicated their willingness to cooperate to mitigate

the adverse conditions being experienced by the lesser-developing oil-importing countries, was issued.

On August 2, 1980, this willingness led to concrete arrangements when Mexico and Venezuela signed the San José Accord, whereby they committed to supply, with favorable financial conditions, up to 160,000 barrels of oil per day, a volume accounting for the consumption of the 11 beneficiary countries, which at the same time generated a development fund. This accord is ratified every year and continues to be in force.

Another important aspect of regional cooperation was the establishment of the Latin American Energy Cooperation Program (PLACE) in 1981, which provided the financial base for setting up a fund for the development of regional energy programs and projects. PLACE was born in September 1981 with seed capital amounting to US\$7 million. The background to this action was OLADE's capacity to attract by means of international cooperation (IDB, EC, OPEC Fund) about US\$10 million, without any strings attached.

An additional achievement during this period was the increase in the number of member countries, from 19 in 1978 to 26 by the end of this period.

OLADE: Energy self-sufficiency with technological autonomy

It befell me to conduct the Latin American Energy Cooperation Program (PLACE), which enabled the region to identify and quantify an extremely wide range of energy sources: oil and gas resources and the legal framework for their production; the inventory of coal deposits; the assessment of hydroenergy potential, especially the development of technology for small hydropower stations; knowledge about our bioenergy sources and their development, especially the use of firewood in the Central American countries. Likewise, we developed geothermal energy projects in Haiti, Panama, Guatemala, Ecuador-Colombia, Nicaragua, and Honduras; the wind and solar atlases for Latin America and the Caribbean; the Latin American energy information system and energy balances using a standard methodology; energy supply and demand models; the designing of programs for the rational use of energy; and pricing studies. All of this was accomplished with partial funding from PLACE by means of seminars, courses, working groups, and direct technical assistance.

In addition to its own funds, OLADE benefited from the financial collaboration and experts of ECLAC, EC, UNESCO, UNIDO, UN/DCTD, IDB; OPEC Fund, OPAEP, GTZ, EIA, Germany, Spain, Canada, United States, and Italy. As a result, the Permanent Secretariat became the inevitable forum for all regional energy discussions, and Quito generously offered its hospitality as host to the leading figures who came to help achieve the goals that had been agreed upon. The Ecuadorian Government's solidarity with OLADE's efforts was evident in all aspects, but President Osvaldo Hurtado's donation of the building that is currently the Organization's headquarters is especially noteworthy.

During my term of office, it was possible to detect weaknesses and insufficient development in certain areas; nevertheless, despite these deficiencies, OLADE's technical and institutional base, as well as a growing capacity to assimilate and replicate cooperation efforts from both the region and abroad, was consolidated.



Ulises Ramírez Olmos

Executive Secretary
for the term
1982-1984





Augusto Tandazo Borrero

Acting Executive
Secretary
from April to
December 1987



The Permanent Secretariat's role in regional integration

The struggle of the Movement of Non-Aligned Countries, OPEC's strategy to enhance the value of its raw materials, and the United Nations' ratification of the Declaration on the Establishment of a New International Economic Order and the Charter of Economic Rights and Duties of States sum up the decade of the seventies, during which the developing world decided to coordinate its efforts to demand from the industrialized world fair treatment in an international market based on the plundering of the natural wealth of the developing countries.

It was in this context that OLADE was created as a policymaking organization, aimed essentially at addressing, by means of joint actions, the disruptions in the economies of its countries produced by the industrialized world and at promoting actions to facilitate the real exercise of their sovereign rights. It was to be a wide-ranging forum that would give priority to multilateral policies and put aside the old unproductive practices of bilateralism.

As a policy coordination mechanism, OLADE emphasized two essential functions of the Permanent Secretariat: implement the actions entrusted to it by the Meeting of Ministers, and focus on those issues of the Organization in line with the policy set by this Meeting.

Although the problems that were being faced have not changed and actually have become more severe, the years following the establishment of OLADE neglected the policymaking aspect of the Organization. No policies are being generated on the basis of initiatives taken by its members and the Permanent Secretariat is not entrusted with the implementation of actions.

It even seems that our Organization functions apart from its charter, that is, the Lima Agreement, whose tenets and objectives were set forth in this Agreement 25 years ago and continue to be valid.

Of course, when we talk about the Organization, we do not necessarily mean the Permanent Secretariat.

In view of this, the role that the Permanent Secretariat should play, in my opinion, is as follows:

- The Permanent Secretariat could appropriately make use of the attributions that the Lima Agreement has granted it and introduce issues of true interest, thus contributing to upgrading the Organization's policymaking status.
- It could also improve the Organization's image of practical usefulness with respect to its member countries, by facilitating closer ties with African countries. This would considerably enhance the market of goods and services between the countries of the South and would facilitate the exchange of information and the development of common policies of mutual interest.
- It could continue to develop energy cooperation programs that focus on the use of the experience and advisory services of experts from the member countries, with the Permanent Secretariat acting as a bridge between existing supply and demand. This would create a favorable climate that would improve relationships between members.
- It could conduct all the other highly useful programs, such as: regional energy planning; the development of energy balances; the improvement of energy information systems; the development of alternative energy sources; and those appearing in the Lima Agreement.

The end of the present millennium can well be the occasion for a large regional energy policy coming together for the year 2000, in order to assess once again in depth the political, economic, and social aspects of energy in our region and plan for the new century, sowing the seeds of hope for better days among our people.

Twenty-five years after OLADE's foundation, let us try to interpret adequately the philosophy of those who made the effort to create it.

There is no doubt that the Latin American energy context has changed considerably over the last decade. OLADE in particular has lived through this history. At the end of the eighties, the region's energy sector was almost totally in the hands of the State, with State monopolies. Today, at the gates of a new century, the private sector is an extremely important player in virtually all countries of the region.

It is particularly satisfactory for someone who was, and is, part of this history to see how, in the OLADE which befell us to work with in the late eighties and early nineties, with a group of capable experts from throughout the region, we were able to participate in this change, questioning the all-powerful and monopolistic involvement of the State, and how we opened doors to provide OLADE with a breath of fresh air and enable it to work with the private sector and international institutions such as the World Bank, the Inter-American Development Bank, and the European Commission.

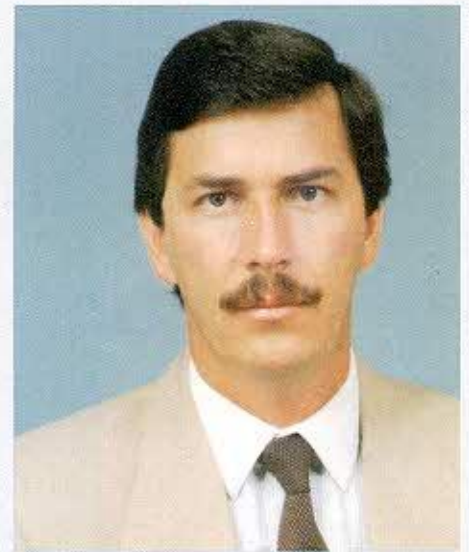
So as not to be forgotten by history, I think it is worthwhile to recall that the highest expression of this community of players was OLADE's initiative to hold the First Energy Conference of Latin American and the Caribbean (*Enerlac*®), which took place in Bogotá in 1993 and was attended by more than 400 delegates from the member countries

and top-level professionals and corporate executives from the world energy community.

Let us now focus on what we are now experiencing, probably with a view toward the future and also in the hopes that the consolidation of the shift from the State to the private sector will be for the good of the region, especially its people.

Although up to now it is possible to view this process as successful, since in the region's countries the private sector is participating widely in both the electric power and hydrocarbons sectors, it must also be said that success must involve not merely private-sector participation but also, above all, the consolidation of clear rules of the game and increased competitiveness in order to prevent private-sector monopolies from replacing former state monopolies.

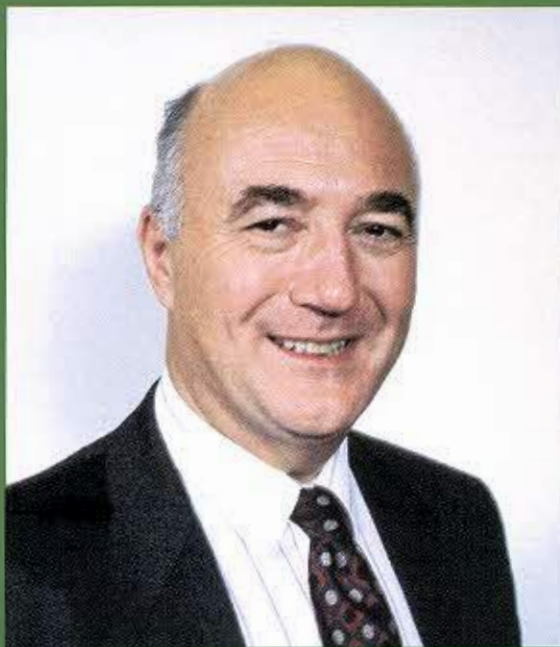
In short, this is the challenge for the States at the start of the 21st century, a regulatory State, rather than an intrusive State, one that defends freedom of competition and the historically vulnerable customer, and, probably more important, a State that refrains from investing huge amounts of financial resources in the energy sector and focuses more on its citizens and invests in health, education, social programs, in short, in the region's most vulnerable people.



Gabriel Sánchez Sierra

Executive Secretary
for the term
1988-1993





Permit me, on behalf of the International Energy Agency Secretariat, to extend our congratulations to Member governments of the Latin American Energy Organization and its Secretariat staff on the 25th anniversary of OLADE's establishment. Coincidentally, the IEA will also celebrate its 25th anniversary next year. While our two organizations were founded for differing immediate reasons, the broad impetus for both was the importance of energy to our countries' well-being and the need to collaborate to promote mutual objectives.

As is the case for IEA Member countries, Latin American nations have experienced both robust growth and dramatic changes in

their energy sectors over the past 25 years. The period has reshaped world oil and energy markets for all our countries. The new circumstances include: significantly modified energy supply and demand patterns, with energy demand increasing most rapidly in developing countries; liberalization, heightened competitiveness and the globalization of markets; reduced government intervention; greater receptivity to private sector involvement and dynamic technological progress.

At the same time our energy concerns and the approaches we take to address them have become more similar. The IEA has watched with great interest the restructuring and transformation taking place in Latin America's energy sector. We

have seen dynamic growth in the region's oil and natural gas sectors and a wave of change in the natural gas and electricity sectors, including innovative regulatory reforms, increased receptivity to private sector involvement and market mechanisms. Most recently, we have noticed the rapid development of regional energy linkages. We at the IEA are pleased to offer our expertise, experience and policy advice where we believe they can be put to good effect. At the same time, we expect to learn from your region's efforts at reform. In many areas, such as regulatory reform, privatization and energy integration, the Latin American experience holds worthwhile lessons for other parts of the world.

Message from Mr. Robert Priddle, Executive Director of the International Energy Agency

This convergence of views and interests is reflected in increased collaboration between the IEA and Latin American governments, and with the OLADE Secretariat in particular. Over the years the IEA and your Secretariat have jointly sponsored workshops and conferences focusing on specific areas where IEA experience is particularly relevant to the Latin American energy scene. In particular, we have supported and sponsored the OLADE Secretariat's "Enerlac" conferences, which we have found to be highly effective fora. The IEA will again be participating in this year's *Enerlac '98* to be held in the Dominican Republic.

The long-standing cooperative relationship between our two Secretariats, initially focused on statistical exchange, has broadened and matured to the point that it now covers virtually the entire range of energy issues. In recent years we have collaborated in efforts addressing electricity and natural gas sector regulatory reform, energy efficiency and energy trends and scenarios. Our two organizations are now giving higher priority to energy-environmental issues with a focus on the enhanced sharing of information on policies and programs which address climate change. We have worked together on implementing the International Panel for Climate Change (IPCC)

methodology, which was developed by the IEA for estimating greenhouse gases, and the Clean Development Mechanism (CDM).

In working with OLADE over the years we have found its Secretariat staff to be consistently helpful, resourceful and of high professional quality. We look forward to further mutually beneficial collaboration in the coming years, as our Member countries' energy sectors continue to develop and become even more interdependent.

Robert Priddle
Paris, October 1998

MERCOSUR, ON THE ROAD TO ENERGY MARKET INTEGRATION: SIGNING THE MEMORANDUM OF UNDERSTANDING ON ELECTRIC POWER INTEGRATION

In 1991, when Argentina, Brazil, Paraguay, and Uruguay signed the Treaty of Asunción, giving birth to the Southern Common Market (MERCOSUR), the subregion already had a three-decade tradition of electric power integration as a result of the implementation of its binational hydropower projects.

The binational hydropower stations that are currently operating (see Table 1), as well as about 9,200 MW of capacity in the interconnection lines between the countries of MERCOSUR (see Table 2), have transformed this subregion in the last two decades in the one that has achieved the most extensive electric power integration in Latin America and the Caribbean.

Likewise, the participation of these countries in international energy organizations which brings together

Table 1. Binational Hydropower Projects of MERCOSUR

RIVER	STATION	COUNTRIES	CAPACITY (MW)	GENERATION (GWh/año)	SITUATION
Uruguay	SALTO GRANDE	Argentina Uruguay	1890	6700	Operating
Paraná	ITAIPÚ	Brazil Paraguay	12800	75000	Operating
Paraná	YACYRETÁ	Argentina Paraguay	3200	20300	Operating (low water)
Paraná	CORPUS CHRISTI	Argentina Paraguay	4608	20100	Project
Uruguay	GARABÍ	Argentina Brazil	1800	6100	Project
Uruguay	RONCADOR	Argentina Brazil	2700	9300	Feasibility Study
Uruguay	SAN PEDRO	Argentina Brazil	750	3700	Feasibility Study
Paraná	ITATÍ ITACORÁ	Argentina Paraguay	1660	11290	Inventory
Uruguay	COMP. SALTO GRANDE	Argentina Uruguay	400	2000	Inventory

Source: Working Subgroup No. 9 – Energy Integration in Mercosur – Report Nov 1994.

different government sectors (such as OLADE, since the mid-seventies, and the Hemispheric Energy Initiative, since the mid-nineties) and energy companies (the Regional Electric Power Integration Commission—CIER, and the Reciprocal Assistance of Latin American Oil Companies, since the mid-sixties), has been a key factor for the establishment of regional forums for the discussion of projects and the identification of policy orientations prevailing in the region's countries.

Nevertheless, with the signing of the Asunción Treaty and the subsequent creation of the institutional structure of MERCOSUR,¹ a new element was introduced in international negotiating processes and in subregional energy integration, namely, the concrete possibility of defining an energy market integration scenario in the economic bloc being set up.

The establishment of MERCOSUR is a process that has been firmly and decisively supported by the governments of the respective countries, and its consolidation is keeping pace with the timetable that was set up.² In addition, it is a process that is open to other countries and economic blocs: Economic Complementation Agreements have been signed with Bolivia (1995) and Chile (1996), and a Cooperation Agreement has been signed with the European Union (December 1995). This open process is quite favorable for energy integration, especially with respect to the involvement

of other countries of the region, with which physical energy system interconnections can be established, such as in the case of Argentina and Bolivia (integrated by means of a gas line that carries Bolivian natural gas to the markets of Argentina) and in the case of Argentina and Chile (integrated by means of an operating gas line that carries natural gas from Argentina).

In view of the importance of the energy sector for integration, the institutional configuration of MERCOSUR envisaged, from the very moment of the signing of the Treaty of Asunción,

exchanged, consolidated, and compared energy system data and forecasts of the member countries. The financial, legal, and tax aspects of electric power and hydrocarbons were analyzed. In addition, environmental aspects, the incidence of energy on industrial sectors, and the technological potential of the energy sector were studied. A common energy rationalization, quality, and productivity program was outlined, with a portfolio of projects with a national and community scope. Finally, the Guidelines for Energy Policy Coordination in MERCOSUR were established.

Since the end of 1996 to the present, in the second phase of SGT-9 activities, the actions focused principally on the following studies: a) energy programs; b) regulatory frameworks for the energy sectors; c) electricity tariffs, oil and gas prices, and their respective tax regimes; c) the Common Energy Rationalization, Quality,

and Productivity Program. The general coordination of SGT-9 comes under the responsibility of the plenary Common Market Group, which is comprised of the national coordinators (one representative and one alternate for each member country). One of the characteristics of the studies of this second phase has been the consideration of integration projects involving Chile and Bolivia, as well as efforts to come closer to these coun-

Table 2. Electric Power Interconnections in MERCOSUR

INTERCONNECTIONS	VOLTAGE (KV)	CAPACITY (MW)
1. ARGENTINA/BRAZIL		
1.1 Paso de los Libres – Uruguayana	230/132	50
1.2 Garabí – Itá (being planned)	500	1000
2. ARGENTINA/PARAGUAY		
2.1 El Dorado – Carlos A. López	220/132	30
2.2 Posadas – Encarnación	66/33	10
2.3 Clorinda – Guarambaré	132/220	80
2.4 Yaciretá	500	600
3. ARGENTINA/URUGUAY		
3.1 Salto Grande Binational Hydropower Station	500	2000
3.2 Concepción – Paisandú	150/132	50
4. BRAZIL/PARAGUAY		
4.1 Foz de Iguazú – Acaray Station	132	70
4.2 Itaipú Binational Hydropower Station	500	6300
5. BRAZIL/URUGUAY		
5.1 Chuy-Chuí	23/15	1.5

Sources: Energy Resources Department – MOPC - Paraguay Working Subgroup No. 9 for Energy of MERCOSUR

the implementation of a four-party forum focusing exclusively on energy integration, called Working Subgroup No. 9 (SGT-9) for Energy (referred to as Energy Policy up until December 1994), answerable to the Common Market Group, which is the executive branch of MERCOSUR.

In its first phase of activities (from 1991 to 1994), called MERCOSUR's transition period, the SGT-9

tries, in compliance with the instructions issued by the Common Market Group.

Nevertheless, the principal achievement of SGT-9 in the current phase is, without a doubt, the signature of the Memorandum of Understanding on Electric Power Exchanges and Integration in MERCOSUR, signed in São Paulo, Brazil, on July 14, 1998 and approved by Decision No. 10/98 of the Common Market Council, supreme decision-making body of MERCOSUR, in Buenos Aires, Argentina, on July 23, 1998.

The Memorandum of Understanding is an important step toward electric power market integration, unprecedented in the region's energy history.

The memorandum involves the commitment on the part of the States

signing it "to grant authorizations, licenses, and concessions for the construction, operation, and production of interconnections that link electric power systems," as well as define "general norms that guarantee the free trade of electricity, based on the principle of reciprocity in market competition and reciprocity, in compliance with current legislation in each State party to the memorandum and the treaties currently in force between the States party to the memorandum."

The Memorandum of Understanding sets forth principles of minimum equilibrium, providing for the freedom of energy contracting between market dealers of the member countries, the nondiscriminatory treatment of producers and consumers and open access to the surplus capacity of transport and distribution facilities, among others. The items

that were agreed upon are provided below:

1. Ensure competitive market conditions for electric power generation without the imposition of subsidies that could alter normal competitive conditions and with prices reflecting efficient economic costs, avoiding discriminatory practices with electric power supply and demand players between the States party to the memorandum.
2. Enable distributors, traders, and large electric power users to freely purchase their supply sources, which can be located in any of the States party to MERCOSUR.
3. Permit and respect the implementation of purchase agreements freely drawn up between electric power sellers and buyers, in compliance with current legislation in

ENRON

ENRON CONGRATULATES THE LATIN AMERICAN ENERGY ORGANIZATION (OLADE) FOR TWENTY-FIVE YEARS OF ACTIVITIES, DURING WHICH IT HAS PROMOTED THE ENERGY INTEGRATION AND DEVELOPMENT OF THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN.





each State party to the memorandum and with the treaties currently in force between the States party to the memorandum, including the commitment to impose no constraints on the physical compliance of these agreements, other than those that are provided for in the contracts themselves.

4. Ensure that the regulations in their electric power markets facilitate supply security that the buyers require from the sellers of another State party to the memorandum, regardless of the requirements of the original supply market.
5. Avoid any type of discrimination for the producers and consumers, whatever their geographical location may be.
6. Make it possible, inside each State party to the memorandum, for supply of demand to come from economical load dispatching, including energy surplus supply in international interconnections.

To do this, a communications and linkage infrastructure should be set up to facilitate the exchange of data and information on markets, including in real time, which are needed to coordinate the physical operation of interconnections and accounting for marketing purposes:

7. Ensure free access to the surplus capacity of transport and distribution installations, including as well the access to international interconnections, without any discrimination for nationality and destination (domestic or external) of energy or the public or private nature of the companies. And the tariffs regulated for their use must be complied with.
8. Ensure compliance with the general security and quality guidelines of electric power supply of each State party to the memorandum, which have already been defined for their own networks and systems.

9. Ensure free access to information on electric power systems, markets, and transactions.

10. Determine the preparation of studies, by suitable institutions, to ensure the joint operation of markets of the States party to the memorandum, as well as identify the adjustments that are needed to facilitate electric power integration.

Although all the above-mentioned terms cannot be fully applied under current conditions, since domestic market liberalization has not as yet been entirely consolidated in all the MERCOSUR countries, the transformation of MERCOSUR's electric power sectors is a process that is being irreversibly implemented. It will be creating increasingly favorable conditions for the full application of the agreement. Indeed, Paraguay has not as yet transformed its electric power sector, although there is already a draft bill guaranteeing liberalization of the electric

Master's Degree in Energy & Environment

Applications from professionals of government and the private sector are invited for participation in the Third Master's Degree Program in Energy and the Environment offered by the University of Calgary and the Latin American Energy Organization (OLADE), with support from the Canadian International Development Agency (CIDA). The 14-month course begins in March 1999. It includes advanced courses and seminars, as well as individual and group projects focusing on Latin American and Caribbean realities. Faculty from the University of Calgary and Latin American universities teach in the program, which is conducted at OLADE's headquarters in Quito, Ecuador.

THE PROGRAM

The program consists of courses in non-renewable and renewable energy systems; air, water and land pollution and their impacts; energy economics and planning; environmental risk assessment, environmental management tools for project development; environmental law in the energy sector; and human resources management and strategic environmental planning in energy organizations.

 THE UNIVERSITY OF CALGARY
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 olade

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power market with characteristics that are compatible with the four-party document. In Uruguay, considerable progress in market liberalization in electric power generation was achieved. Since 1995, Brazil has been implementing a privatization process among its distribution utilities, and more recently, private-sector participation in power generation has increased. In Argentina, the pioneer country for transformations in MERCOSUR, the conditions have been established to comply with the electric power agreement.

Although the important achievements that have been made, with the signing and ratification of the Memorandum of Understanding, must be recognized, it is possible that success will not be consolidated unless an agreement for natural gas with the same characteristics is drawn up, because the future of energy development and exchanges in MERCOSUR, plus Chile and Bolivia, will probably be based on a combined system of production, transport, and exchange of natural gas and electricity, complementing the binational hydropower generation projects currently being operated and those that are to be built in the future. Inside SGT-9, discussions have already started for the subscription of a natural gas agreement, which if signed and ratified would be a decisive step for the integration of the energy markets in MERCOSUR.

In this context, it is evident that the natural gas exporting countries will be Bolivia and Argentina, whereas the electric power exporters will be Paraguay and Argentina as a result of their hydropower stations (mostly binational) and thermoelectric generation using Argentina natural gas as feedstock. The energy buyers (natural gas and/or electric power) will be Brazil, Paraguay, Uruguay, and

Chile. Moreover, there is a project involving the export to Brazil of electric power produced in Uruguay using natural gas from Argentina.

The analysts working in SGT-9 are forecasting that the configuration of MERCOSUR's energy system will be completely different from the current one, owing to the penetration of natural gas in energy trade and electric power production. This configuration will depend on the creativity of private-sector investors and the conditions created by governments by means of agreements such as the Memorandum of Understanding that was signed this year.



Victorio Oxilia-Dávalos, Director of Energy Resources, Ministry of Public Works and Communications of Paraguay, and Alternate Coordinator for the Paraguayan Section of Working Subgroup No. 9 for Energy of the Southern Market Group.

Notes

1. The institutional structure was temporary up until December 1994 and permanently in force as of December 1995, when the Ouro Preto Protocol came into force and the international legal standing of MERCOSUR was obtained.
2. In 1995, MERCOSUR provided for the free circulation of goods between its member countries without any customs duties (except for some provisional items which will be eliminated by the year 2001) and with a gradual dismantling of non-customs duties constraints. Likewise, a Common External Customs Scheme (AEC) was established, with an average customs duty of 14% and a ceiling of 20%, except for some provisional items (until the year 2006).