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Loyola de Palacio, Vice-President of the European Commission: Energy Market Liberalization in the European Union

Luis María Caruso and Beatriz Arizu: Electric Power Regulation in Latin America and Regional Integration

OLADE Report: Indigenous Communities and Sustainable Energy Development in Latin America and the Caribbean

Thomas Lynge Jensen: World-wide Mapping of Renewable Energy on Small Islands

OLADE's Forums Start Up Activities

Business and Investment Opportunities in the Energy Sector

Contents

- 1 Editorial
- 2 Energy market liberalization in the European Union
- 6 Electric power regulation in Latin America and regional integration
- 12 Indigenous communities and sustainable energy development in Latin America and the Caribbean
- 18 World-wide mapping of renewable energy on small islands
- 33 OLADE forums start up activities
- 38 Business and investment opportunities in the energy sector

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IT IS INDISPENSABLE TO EXTEND REFORMS FURTHER AND GIVE A HUMAN DIMENSION TO ENERGY

It is difficult to talk of energy prospects in Latin America and the Caribbean without referring to the term "globalization" as a trend that has been increasing international interdependence. There are many countries in the region that have adopted the political decision of inserting themselves in a "globalized world" and that, in order to live in this world, adopt its positive aspects, and mitigate the adverse impacts it entails, have carried out, or are in the processing of carrying out, fundamental reforms.

In this context, the reforms introduced in the energy sector, although they have not reached the same level in all the countries of Latin America and the Caribbean, have contributed considerably to promoting and ensuring the effectiveness of the region's integration process, because they have led to a restructuring of the sector's institutions, establishing regulatory agencies for natural monopolies, making procedures more dynamic and transparent, establishing further incentives and guarantees to promote investments, and sponsoring the liberalization of markets, which have resulted in the considerable expansion of business opportunities and the active participation of new players.

Reform processes and the major achievements obtained, however, have not addressed all the challenges and problems that have appeared in the development of the energy sector

in Latin America and the Caribbean. It is indispensable to continue the above-mentioned processes, making the corrections that are needed in order to reach a second generation of reforms that can consolidate the sound results that have already been reached and promote further success.

The players of the region's energy development have a major challenge before them. To tackle it they must be creative and timely, because it involves safeguarding the investments that have been made, for which purpose it is essential to create a favorable environment, one that attracts fresh investments while giving incentives to the reinvestment of profits.

This is where the urgency appears. It must be taken into account that the notion of time in the region's countries is different from that in the industrialized world. It differs in terms of speed of decision making and in how problems are tackled. Some countries of the region are reaching maturity and are entering the post-reform stage. Others are just beginning. This disparity could affect the competitiveness of the region as a whole, but it also entails positive aspects such as the avoidance of a single blanket model, which is contributing to enriching the region's energy development process.

It is therefore necessary to speed up the modernization of institutions and processes, reconciling the interests of all the players involved in the energy activities and business of our countries.

This scenario should also consider something essential, namely, that energy with its traditional or new, clean, and renewable sources of energy, economic growth, sustainable development, globalization, and so many other concepts that have dominated international scenarios and forums cannot fully accomplish their purpose if we end up by having men and women who are underdeveloped, depressed, living in poverty, still using firewood or dung as their primary source of energy, and without a decent future in which to raise their family in a society that can safeguard elementary human values. For those of us whose activities focus on energy, this viewpoint has led us to adopt a stance aimed at giving a human dimension to energy so that it can pave the road to growth for mankind and society.



DR. JULIO HERRERA
Executive Secretary

ENERGY MARKET LIBERALIZATION IN THE EUROPEAN UNION

By Loyola de Palacio,
Vice-President of the European Commission

Up until two decades ago, gas and electric power markets of the current 15 Member States of the European Union (EU) were characterized by being closed and exclusively restricted to national territories. The energy industry functioned as a real monopoly or on the basis of an oligopolistic scheme with previously allocated market quotas, hardly any room for competition, and everything controlled directly by the respective governments. The fabric of energy industry was marked by a vertical scheme that frequently integrated all processes, from generation to distribution, also including the transport segment.

Obviously, this energy model was not in line with European proposals for integration of the Member States and the creation of a single European energy market. A new model had to be adopted where competition and free market conditions could find adequate opportunities.

This market liberalization process permitting competition was inaugurated in 1998 for the electric power sector with

the adoption of Community norms (Directive on common standards for the single electric power market) and, analogously, for the gas sector in 2000 with the adoption of the Directive on common standards for the single gas market.

Thus, today, it can be openly asserted that competition in the electric power market is already a reality in the European Union (EU). This achievement is important. Electric power generation in the EU is totally open to competition. Regarding electric power consumption, two thirds of electric power demand are already open to competition. The first benefits are also apparent; concretely, the introduction of criteria for competition has led to an impressive decline in consumer prices.

As for gas, the initial experience has also been positive. In fact, the Member States have incorporated Community standards regarding opening up to competition on the gas market in their respective national norms and have even gone beyond the minimum requirements established by the European norms in order to move

toward total market liberalization. At present, it can be asserted that 70% of gas demand is already open to competition throughout Europe.

Although these initial experiences have yielded highly positive results, it is only the beginning. There still are major questions to be considered and, to do this, it is necessary to continue working in order to ensure the creation of a single European market envisaging an important rise in gas and electric power trade between the countries of the European Union. For this purpose, the Commission has recently considered the advisability of adopting new measures to move toward greater liberalization of national markets.



Loyola de Palacio
Vice-President of the
European Commission

As a result, the Commission has submitted to the Heads of State and Government at the recent European Council of Stockholm¹ a set of proposals which takes the above-mentioned objectives very much into consideration. In these proposals, four essential aspects are considered: complete market liberalization, the need to guarantee nondiscriminatory access to networks, public service objectives, and supply security.

- **Complete market liberalization** involves the obligation of spreading these advantages to the entire industry of Europe, including small and medium-sized enterprises and households, which in the majority of

the countries of the European Union currently do not have the option to choose their electricity or gas supplier.

The European Commission believes that suitable conditions do exist for the full opening up of the energy market in the European Union, and in the framework of this perception, the large majority of the member States have already decided to undertake this process progressively. The Commission is proposing a two-pronged approach to this liberalization: the opening up to competition for all industrial customers in the year 2003 in the electric power sector and in 2004 in the gas sector and for all residential customers in the year 2005. These objectives are ambitious but feasible, in view of the experience that has been acquired and the will of the Member States.

- Second, in order to set up a real market, **access to transmission and distribution grids** must be guaranteed in equitable conditions for qualified customers,² without which there cannot be any authentic competition. In fact, the customers of these two sectors indicated that the importance of this aspect is equal to, or even greater than, that of the mere figures on market liberalization.

In the framework of the European Union, the Commission is proposing norms guaranteeing that network rates be set, published, and tested by an independent regulatory organization (as already done in 14 member States) and that power transmission and distribution utilities operate independently of production and sales utilities, even when their owner is one single group of companies. The proposal is therefore advocating a judicial or legal breakup, which will no doubt

go beyond the requirements of a breakup that merely involves the accounting of the utilities, which is currently in force in the European Union's standards.

- Third, **public service** objectives are an integral part of the domestic energy market and should not in any way be viewed as incompatible with market liberalization. In fact, the Commission has made a detailed comparative assessment, highlighting evidence that in countries that have completely opened up their markets, service quality has improved and has become among the best in the European Union, thanks to effective regulation.

Our proposals are based on these advances, keep existing safeguard measures and add three more, namely: the obligation of member States to guarantee universal service in the electric power sector; the obligation to adopt adequate measures to protect consumers, especially the most vulnerable; and the introduction of a continuous comparative evaluation process in the public services sector. European citizens enjoy the highest levels of public service protection in the world; these proposals intend to maintain and consolidate these achievements.

- Finally, **energy supply security** is an integral part of the present set of measures and is also a primary aspect of energy policy for the European Union, since it highlights the recently adopted European Commission's Green Paper on this matter. The dangers that lie in wait for us if we neglect this aspect have become clearly manifest in

California. The mistakes that were made there, that is, artificially constraining the construction of new production capacity in a market that was recording rapid growth, liberalizing without drawing up timely agreements with neighboring States or creating a mandatory electric power reserve, have not been made

here in the European Union, as sector experts have already recognized. The



formula of creating an integrated and interconnected domestic market not

only avoids these errors, but also enhances supply security by offering consumers the possibility of choosing their supplier. Despite this, it is important to be alert so as to prevent problems, such as those in California, from arising in Europe.

For this purpose, new proposals for European norms advocate a series of provisions incorporating appropriate monitoring of the balance on markets and offering the possibility of launching public tenders to enlarge electricity production capacity, as a rapid and flexible response mechanism, to address a hypothetical rise in demand beyond electric power production capacity, which is highly unlikely in the current context of Europe's energy market.

These new legislative proposals constitute a well-balanced set of measures whereby consumers, citizens, and companies (both SMSEs and large enterprises) will be enjoying the advantages of an authentic domestic energy market in the European Union. Achieving this market, however, is not an objective in itself. It is necessary to ensure that this opening up to competition does not endanger the achievement of other important objectives for the European Union such as environmental protection, supply security, and other types of social concerns.



As for **environmental protection**, the evidence shows that market liberalization has contributed to reducing greenhouse gases thanks to the incorporation of new technologies in new power stations while more obsolete and inefficient production units were dismantled.

All of this is highly promising, but the decline of energy prices involves certain queries on the competitiveness of renewable sources of energy and energy efficiency. Community proposals regarding these issues have already been submitted and the European Commission is determined to continue its work in this priority field. These proposals are aimed at ensuring that the European Union will have 12% of the European energy market rely on renewable sources of energy by the year 2010.

The final part of this set of measures addresses the need for the creation of an **authentic domestic market at the heart of the European Union**. Existing regulations in themselves run the risk of creating 15 juxtaposed markets (as many as there are States in the European Union), rather than a genuine single domestic market in Europe.

To do this we will have to provide effective standards that regulate **cross-border trade** and facilitate the trade of electricity and gas between all of the countries that are part of the EU. We have made considerable progress in this area. In fact, the Community is very much ahead of other countries, such as the United States. Nevertheless, further progress has to be made so as to ensure, for example, that the infrastructure needed to facilitate border trade exists and is developed. Regarding this, the Commission will be preparing a European Infrastructure Plan to tackle this question.

Second, the development of a single internal market for the EU requires a set

of sound, fair, and simple standards. This set of norms mainly involves the establishment of rates applied to cross-border transactions and regulatory procedures for the interconnection capacities between the Member States of the EU.

This set of measures will definitively offer new opportunities not only to European citizens but also to European companies, guaranteeing their fundamental rights at the same time.

Notes

- 1 Half-yearly meeting of Heads of State and Government of the European Union.
- 2 Qualified customers include both power generation operators and consumers who reach certain levels of consumption set by community norms.



INTRODUCTION

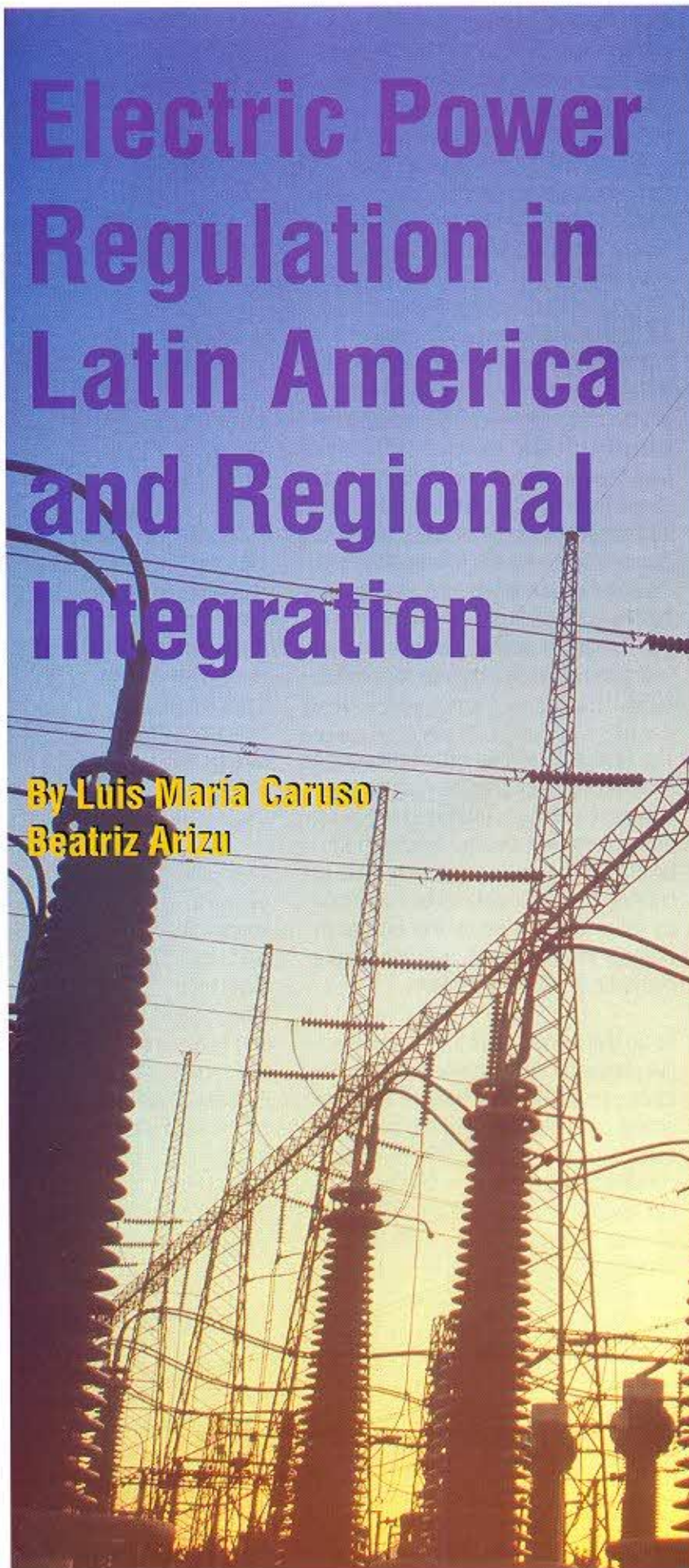
Starting in 1982 and especially in the nineties, the electric power sectors in Latin America underwent a series of structural and regulatory changes, some of which are still in the process of being analyzed and developed. The most relevant characteristics of this phase have been the regulatory segmentation of industry activities, the evolution toward the participation of private-sector investment, and the open access to networks. A result of these changes has been the development of international interconnections and the regional trade of electricity and natural gas. Seen from the standpoint of a country and its electric power system as a whole, the success of the power sector's transformation requires achieving reasonable tariffs for the country's supply costs, consolidating supply security, and ensuring sector financing and sustainability without heavy investment from the State.

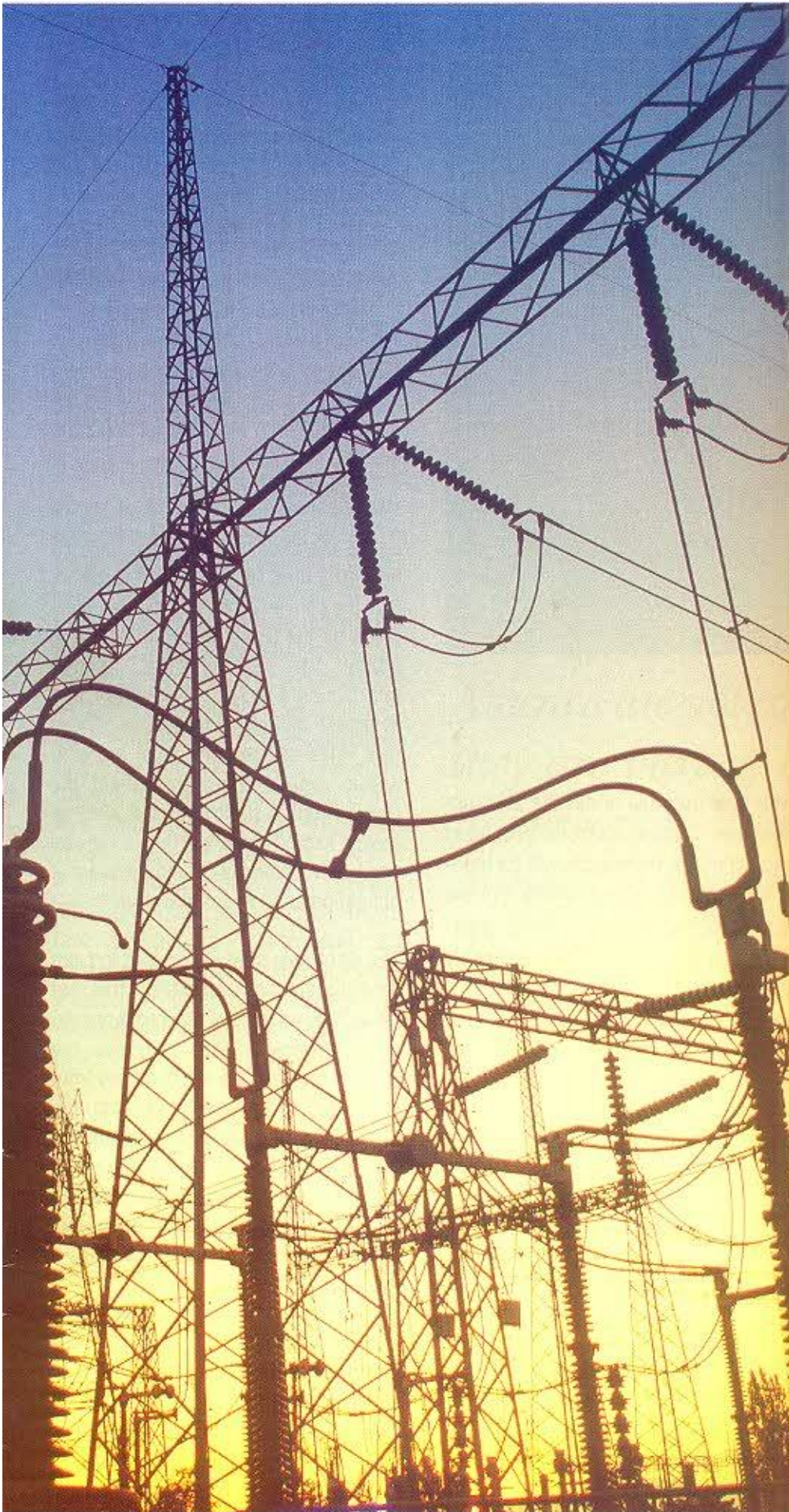
This transformation in the countries of Latin America is characterized by similarities that bring them together and differentiate them from other electric power deregulation processes in the world. The purpose of the transformation has not been solely to take investments in the electric power sector but also to ensure that the investment is efficient and dynamic and that the benefits of these efficiencies are transferred to end-user rates.

In Latin America, the road to regional electric power integration requires that regulatory similarities be taken advantage of. Although the sovereignty of each country to define the sector's detailed design and its energy policy must be respected, there are key components that require compatibility and reciprocity, such as the open and nondiscriminatory access to networks, quality and security standards, criteria and requirements for the firmness and

Electric Power Regulation in Latin America and Regional Integration

By Luis María Caruso
Beatriz Arizu





interruptibility of electric power trade between the utilities of different countries and capacity management in international interconnections.

The present paper analyzes the key regulatory components to continue advancing toward regional electric power integration. The objective in the regionalization phase requires that improvements continue to be made in quantitative and qualitative efficiency and that the benefits of this improvement be transferred to the end-user via rates and service quality.

PRIVATE-SECTOR PARTICIPATION

Transformation of electric power sectors in Latin America has been in part a result of the lack of investment and financing problems of public enterprises. In the search of mechanisms to facilitate the participation of private investment in the sector, two types of solutions have been implemented.

a. Competition for investment: the independent producer

This solution keeps the monopoly of the integrated public utility(ies) involved in power marketing, distribution, and transmission but gives new companies opportunities to compete for investments in power generation activities, which we will refer to hereinafter as the independent producer.

A private company enters as an independent producer if it manages to draw up a long-term contract (typically for the duration of the useful life of generation) with the company that holds the buyer monopoly. The "regulation" for the private sector (operation, dispatch, prices, etc.) is defined by the clauses of its contract. The basic principle has been to guarantee the financing of new investments in generation without



ponents to guarantee compliance with quality and security criteria.

- Economic signals arising from trade rules should foster efficient development of the sector and attract the private-sector investment that is required.
- The trade rules and quality obligations should ensure that maximizing the benefits of the sector's companies is in keeping with investment needs for safe and high-quality supply and with the required operation and availability to cover supply at reasonable prices.

In the majority of cases, the sector's new structure, as well as its regulation, was the consequence of actions undertaken by the Government as part of a policy for restructuring, quality improvement and supply security, and in general industry privatization. These new rules and the design of the economic regime therefore reflect the Government's policy for the electric power sector, thus starting a regulation based on technical and operational obligations and economic signals.

The wholesale markets created in Latin America are not completely free but rather they are part of a detailed regulatory framework that prevents the commercial interests of a company from jeopardizing the system's security. Commercial aspects are also regulated: the types of commercial operations that are allowed, the criteria and methodologies for approving prices, economic trade systems, settlements, and payment obligations.

One of the basic principles of wholesale markets in Latin America is that cost reduction and the higher efficiency achieved by new regulation and competition must be transferred to end-user rates so that the consumers can become

involving the State as investor or financing agent.

In view of the period of time that this type of contract is in force, its design and characteristics become the critical component to guarantee the necessary flexibility and to minimize the risk of potential conflicts.

This model is being used today by Mexico and Honduras and, in certain cases, by Costa Rica. It was also used in other countries of Latin America prior to the transformation and implementation of wholesale markets (for example, Ecuador, Guatemala, El Salvador, Nicaragua, and Panama).

b. Markets of competition and open access to networks

This solution depends on the establishment of competitive markets

wherever possible under the assumption that, if competition is promoted and achieved, the results will be higher efficiency and lower prices. For the natural monopolies of networks, a tariff-setting regulation along with quality schemes is defined.

Private-sector participation is achieved by defining a predictable and transparent regulatory framework not only for system operation and dispatch but also trade rules. Generation is converted into a venture whereas network services guarantee profitability to the extent that the company provides service with regulated quality.

The design and regulation of the wholesale market becomes crucial because:

- Technical and operating rules should have all the necessary com-

the principal beneficiaries of the transformation.

Typically, the model includes a short-term market (or spot market) with prices that reflect the short-term linkage between available generation and demand. It also includes a contract market where market agents or participants can agree upon future purchase and sale conditions and protect the market from short-term price volatility.

MARKET MODELS AND NATIONAL ELECTRIC POWER REGULATION

The transformation of the electric power sectors in Latin America toward competitive markets started in 1982 in Chile, when the Law restructuring the sector was passed, although at first ownership by the State was maintained. Restructuring, transformation, and privatization processes progressed and were very active in the nineties, through the enactment of new legal and regulatory frameworks, for example, Argentina (1992), Peru (1993), Bolivia and Colombia (1994), Guatemala (1996), Panama (1997), El Salvador (1997), and Nicaragua (1998). Although privatization was an important component, there still are state-owned or provincial or municipal enterprises in the new markets, with competition between public and private utilities.

In general, sector regulation was defined through a framework law and its regulations at the initiative of the State. This hierarchical framework is complemented by procedures and standards in greater detail.

Electric power industry activities are broken up into generation, transmission, and distribution. In addition, in some countries, marketing activities were differentiated from network distribution, with the possibility of

specialized marketers, that is, a company that holds no assets in the sector, but exclusively carries out marketing activities.

An end-user category is established, referred to as free consumer, that is, who has the freedom of choosing who to buy from and how. In the majority of cases, this liberation of demand is being done gradually, starting with the largest consumers and moving ahead over time toward those with lower demand. Except in El Salvador, where all the end-users have been liberated, there are at present two types of end-users: the captive consumer who is

others, the already existing National Dispatch Center was kept and it was assigned the additional function of administering the market's commercial aspects. This System Operator and Market Administrator may be an independent company (for example, Argentina, Bolivia, Guatemala, El Salvador, Brazil) or an entity inside a sector company, typically the transmission utility (for example, Colombia,¹ Panama, Nicaragua).

As a rule, the principle of economical dispatch is established among the priorities that define the quality and security criteria, as well as the mecha-

“The wholesale markets created in Latin America are not completely free but rather they are part of a detailed regulatory framework that prevents the commercial interests of a company from jeopardizing the system’s security”

obliged to buy from the distributor to whose network he is connected and the free consumer who is entitled to choose.

An entity in charge of the system's operation and administering the wholesale market is established. Generally speaking, to do this, the structure, staff and/or software of the National Dispatch Center that already existed were used. In some cases, a new independent entity was created and, in

nisms for the administration of network congestion and generation forced by restrictions. The dispatch is related to variable thermal costs and water valuation, although in two countries it is based on daily supplies that permit opportunity costs: Colombia and El Salvador.

The contracts are typically financial and cannot affect economic dispatch. There are exceptions such as contracts with preexisting energy take-or-pay condi-

Regulatory differences

Although the markets created in Latin America are based on the marginalist theory and share the same economic principles of efficiency and competition, each one is different in the details of their implementation. In particular, the differences lie in the following aspects:

- The way in which the sector is organized, the wholesale market and its system operator and/or market administrator.
- The degree of sector segmentation.
- The degree of participation and liberty of each type of market participant (or agent).
- The way in which generation supply is made and short-term energy prices are approved.
- The way in which power generation capacity is remunerated and the requirement associated to guaranteeing supply to consumers is paid.
- The degree of liberation of the end-user.
- The obligations of the distributor with respect to guaranteeing the supply of captive consumers connected to their distribution network.
- The methodology defining wholesale purchase costs that are authorized for transfer to the distributor's maximum regulated rates.

tions before the start-up of the wholesale market or in El Salvador where bilateral physical contracts (nondispatchable) are permitted.

A short-term market is created for energy, with prices and transactions that are typically on an hourly basis, which strikes a balance between, and reconciles, general and real measured consumption and the purchases and sales previously agreed upon by contract. Administration of this market is generally based on the dispatch that was made or an ideal dispatch. In the case of El Salvador, this market (system's regulatory market) exclusively

covers that which has not already been dispatched by physical contracts.

An additional remuneration linked to power capacity (power generation capacity) is defined. To do this, in general, a price is regulated, either through a fixed valued or a calculation formula and a methodology or criterion is established to assign the generation capacity to be remunerated. One single country has a market with any type of explicit payment for generation capacity: El Salvador.

The role of the distributor is regulated in terms of its supply obligation and/or its obligation to contract. There are

regulations and methodologies that limit what the distributor is entitled to transfer as wholesale costs to the maximum regulated tariffs.

The way in which "the right" to sell power capacity is assigned in an electric power market in Latin America is a critical subject for the development of new international interconnections and regional energy integration.

Indeed, the financing of regional networks or international interconnections requires firm exchanges that justify it physically and financially. The possible opportunity exchanges between coun-

“One of the basic principles of wholesale markets in Latin America is that cost reduction and the higher efficiency achieved by new regulation and competition must be transferred to end-user rates so that the consumers can become the principal beneficiaries of the transformation”

tries cannot produce this type of development. A long-term investment such as that for an international interconnection can be made with private investment but needs to be justified and guaranteed through firm exchanges (contracts). Since the firmness of the exchange is generally associated with power capacity and the related supply guarantee, it is necessary that each country use a nondiscriminatory methodology to clearly establish the requirements so that an installed generation in another country can sell firmly and thus promote regional optimization of energy resources and the viability of a regional network of interconnections.

REGIONAL INTEGRATION

In each country of Latin America, rules or characteristics of the design of its electric power sector that are similar have emerged, facilitating electric power trade and regional electric power integration. Other rules and characteristics that differentiate them have also emerged, reflecting the different realities of each country, as well as the concerns and principal objectives of each regulatory State. Each country defines its own energy policy and regulates its electric power sector on the basis of its national and regional outlook with respect to the availability and use of its energy resources, characteristics, and requirements for supply security, service quality, and regional insertion strategy.

The fact is that national regulations are different, there are countries that have not implemented open competitive markets, and each country has the sovereign right to choose the form and opportunity of doing so or not. Even then, regional electric power integration can bring many benefits to each country, regardless of the type of structure and organization of its electric power sector, and there is a wide range

for expanding the scope and efficiency of electric power transactions, even in conditions of regulatory diversity.

In some cases, the transformation processes that were tackled seem to have stopped in their first stage, the transformation of the national electric power sector, without completing the course toward regionalization and integration that is required to achieve higher levels of efficiency and competition. National regulations have to promote the electric power market so that it can extend beyond national borders in order to advance in the development of regional networks and exchanges that maximize access to greater competition (larger number of buyers and sellers), access to efficient extranational resources, rise in supply security, and the sharing of reserves.

To tackle the stage of electric power integration requires will and the sharing of electric power imports and exports, in the framework of an adequate regulatory design; it is not an “evil” benefiting only a few companies but rather it will benefit all end-users and guarantee electric power supply and development.

Note

- ¹ Colombia has decided to separate ISA's Dispatch Center and is in the process of carrying out this separation.
- * The authors, who are nationals of Argentina, are consultants specializing in electric power sector regulation, whose activities take place in energy markets, entity dedicated to consulting services and studies and energy sector development.

The complete study includes the description of wholesale market cases in the countries of Latin America and the Caribbean.

Indigenous Communities and



SUSTAINABLE ENERGY DEVELOPMENT IN LATIN AMERICA AND THE CARIBBEAN

Introduction

The relationships between indigenous peoples and oil and gas companies regarding the latter's activities in environmentally and socially sensitive areas have traditionally been difficult. Over the last few years, operators have had to start up consultation and participation processes with the indigenous people, oftentimes at their own initiative, and to proceed with compensations, without the benefit of any standard-setting framework to define precise rules of the game. As for the ancestral indigenous nations inhabiting these regions, they are making increasingly elaborate claims that include, among others, recognition of their territorial rights and the preservation of their culture.

For all parties involved, it is important that there be greater intervention of the State, exercising its regulatory and supervisory obligations enforcing standards and agreements.

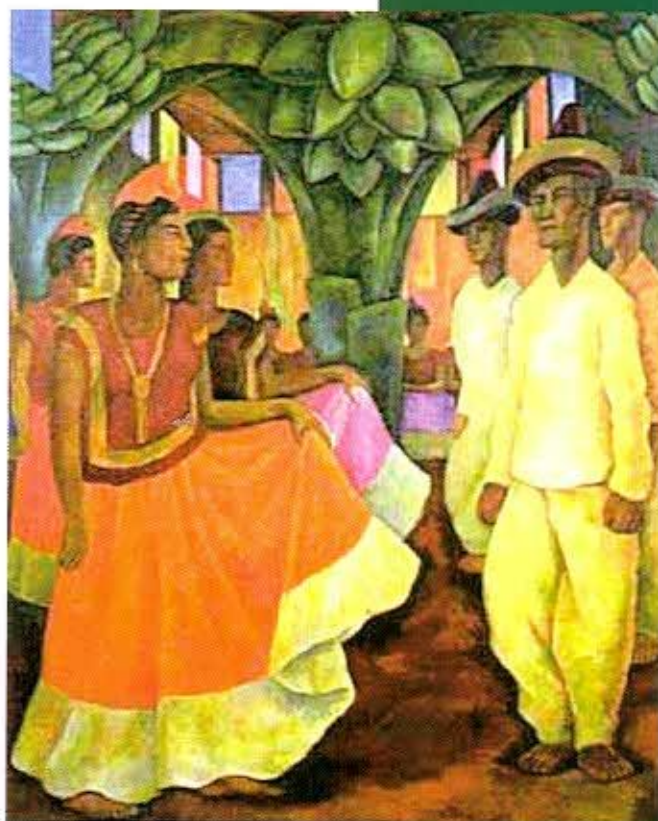
The present article highlights the importance of recognizing and promoting the participation of indigenous peoples in the development of energy in Latin America. The criteria, achievements, and partial results of the Energy, Environment and Population Program that is being conducted by OLADE, the World Bank, the Coordinator of the Indigenous Organization of the Amazon River Basin (COICA), the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL), and various international cooperation institutions will be taken as a reference to address the challenge of developing an oil and gas industry that is compatible with the basic objectives of sustainability. Without ignoring the relevance of other necessary factors and attitudes, emphasis will be laid on regulation as an instrument to promote participation and to provide a basic framework of understanding among players.

Regulation as a tool of the process: current status and aspects to be considered

Without ignoring the problems of effectively enforcing legal provisions, the role of Law as a regulator of social coexistence cannot be ignored. Although the validity of laws and regulations alone does not guarantee attainment of their agreed objectives (such as sustainable development, for example), it nevertheless does confer a minimum mandatory framework of rights, obligations, functions, actions and norms for procedure and compliance. In contrast to "sound practices" or a "proactive attitude," whose advisability is not being questioned by anyone but which depend on the good will of the subjects involved, legal norms can indeed be enforced. That is why they are so attractive.

In the topic that is being addressed by the present article, it is noteworthy that in the region there is an abundance of legislation regarding the participation of citizens, especially with respect to environmental protection. Some constitutions have already recognized the general right of citizens to participate in national development.

In the specific case of indigenous participation, at least 11 countries of Latin America and the Caribbean have ratified Convention 169 of the International Labor Organization which provides that these people (indigenous and tribal) should participate in the formulation, implementation, and evaluation of



the national and regional plans and programs that are capable of affecting them directly.

In the specific case of land settled by indigenous people, whose ground holds resources that are exclusively owned by the State, such as oil and gas, the Convention instructs the governments to "...establish or maintain procedures through which they shall consult these peoples, with a view to ascertaining whether and to what degree their interests would be prejudiced before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands."

At the national level, Bolivia, in addition to having ratified ILO Convention 169,¹ asserts in its Constitution that "the rights of the indigenous nations, especially those regarding their original community lands, guaranteeing the sustainable use and development of natural resources, are hereby recognized, respected, and protected in the framework of the law..."² Law 1333 of 1992 on the environment provides for the "promotion of sustainable development with equity and social justice, taking into account the country's cultural diversity" and envisages the creation of mechanisms and procedures for the involvement of indigenous people in sustainable development processes and the rational use of renewable sources of energy. The Law of People's Participation recognizes the grass-roots territorial organizations (which include campesino communities, indigenous nations and district boards) as the subjects of participation processes.

In the realm of oil and gas, the law for hydrocarbons and its environmental regulations for oil and gas instruct that, to the extent possible, operations in indigenous territories be avoided. Furthermore, Bolivia considers that it is important to issue specific regulations to govern oil and gas operations

in indigenous lands (known as original community territories, otherwise known as OCTs). The discussion of these regulations, coordinated by the official agencies in charge of development, Indian affairs, and the oil and gas sector, has involved an interesting exercise of participation, through consultations made among the principal stakeholders, the oil industry, and the Bolivian confederation of indigenous people.³

As for Colombia, it also has extensive regulations on citizen participation and the participation of the indigenous groups in particular. The Political Constitution itself has provided that "The development of natural resources in indigenous territories will take place without detriment to the cultural, social, and economic integrity of the indigenous communities. In the decisions that are adopted regarding this production, the Government will promote the participation of the representatives of the respective communities." This principle has been broadened to include traditional black communities.

The participatory mechanisms provided for in Colombia include the process of previously consulting the affected people in any program involving the prospecting or exploitation of resources on their lands. In July 1998, Colombia issued the Regulations on Prior Consultation with the Indigenous and Black Communities for the Exploitation of Natural Resources in their Territory.

Ecuador, which has defined itself as a multicultural and multiethnic State, recognizes that the indigenous and black people have the collective right to be "consulted on the plans for prospecting and exploiting resources located on their lands, to share the benefits stemming from these projects to the extent possible and to receive compensation for any social and environmental damages that they might cause." The Ecuadorian Government

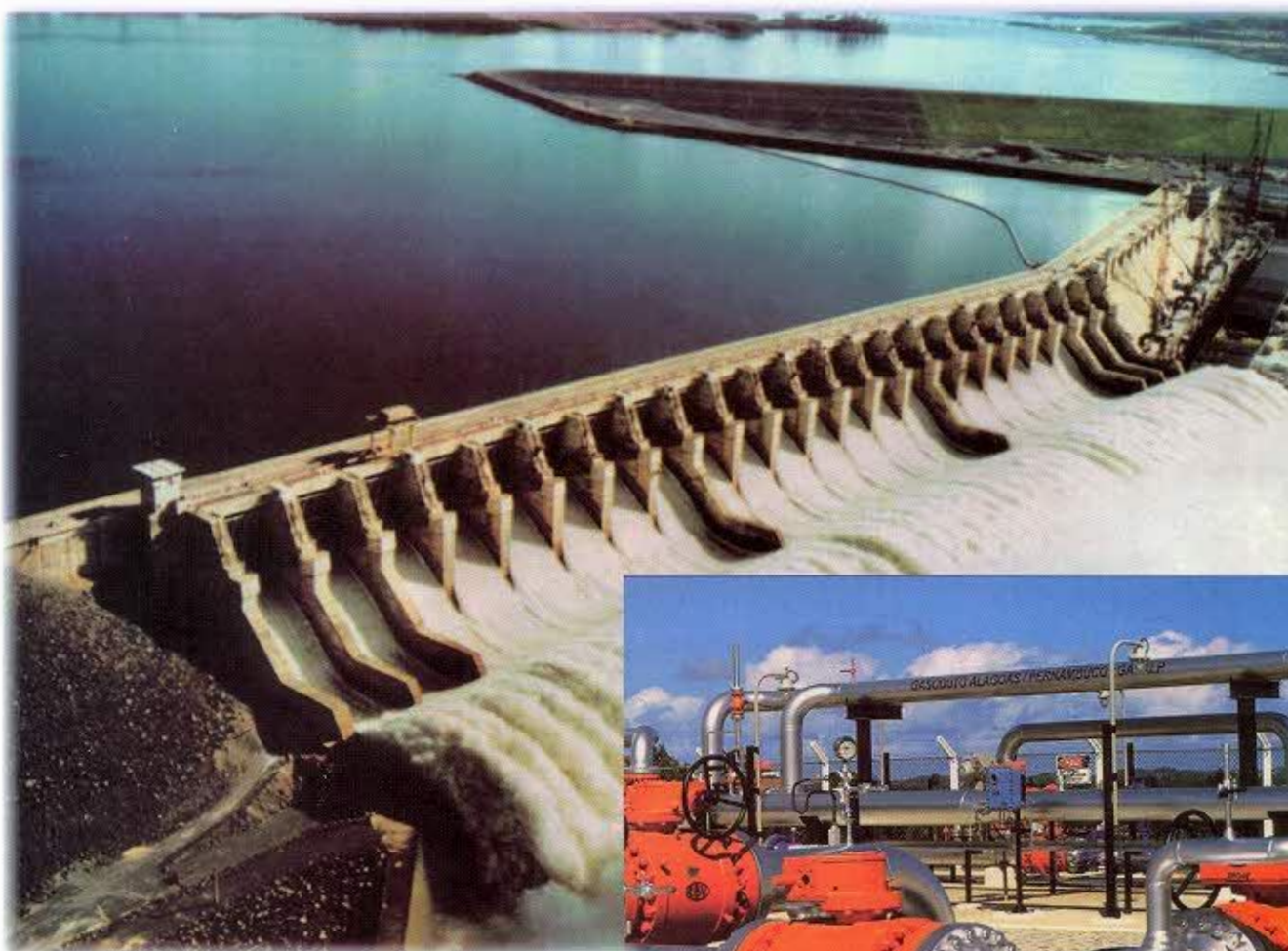
"...the role of international organizations such as OLADE consists of contributing elements for debate and promoting cooperation. The OLADE-University of Calgary-CIDA Energy-Environmental Legislation Program prepared a paper on environmental policy and regulation recommendations that includes the issue of indigenous participation in energy development decision making and since 1998 has been promoting the Energy, Environment and Population Program (EAP), which deals specifically with the issue of relationships between the indigenous people, industry and governments with respect to the activities of the oil and gas sector in the sub-Andean basin"

has decided to reinstate the process of regulating participation in the oil and gas sector.

In Peru, the Ministry of Energy and Mines has elaborated a guide for community relations for sector activities, whereas the new Constitution of Venezuela of 1999 has dedicated an innovative chapter on the Rights of the Indigenous Peoples among which can be found the right to information and prior consultation on the development of natural resources in indigenous habitats.

In any case, throughout the region, there is an ongoing debate on the best way to tackle these topics, obviously in keeping with the specific characteristics of each country. It is hoped, nevertheless, that a certain agreement will be reached regarding the basic principles throughout the region, not only to reach suitable harmonization in the midst of a globalized world but also keeping in mind that occasionally the territories of indigenous communities extend beyond national borders.

In view of this, the role of international organizations such as OLADE consists of contributing elements for debate and promoting cooperation. The OLADE-University of Calgary-CIDA Energy-Environmental Legislation Program prepared a paper on environmental policy and regulation recommendations that includes the issue of indigenous participation in energy development decision making⁴ and since 1998 has been promoting the Energy, Environment and Population Program (EAP), which deals specifically with the issue of relationships between the indigenous people, industry and governments with respect to the activities of the oil and gas sector in the sub-Andean basin.⁵ On the basis of an innovative guideline and decision-making mechanism, the EAP has identified four areas of action (tripartite dialogue, informa-



tion, training, and regulation) and activities to be carried out.⁶

The program's basic orientation, which guides the actions undertaken in the identified areas of action, is the provision of tools to the participating players so that they can intervene more effectively in dealing with the topics in their countries. Whereas information and training have as their objective the transmission of data and experiences and the acquisition of knowledge, skills, and attitudes that favor a fruitful dialogue, the program on regulation intends to develop a set of viable regu-

lation options (tool kit) on various subjects of interest, which serve as references in national legislative development and reform processes in the EAP areas.

Regarding this, OLADE has identified a series of recommendations:

- The need to transform the mere basic constitutional and legal statements into regulations that enforce these principles.
- The need to specify the roles of those directly involved: industry,

indigenous communities, and especially the State that is called upon to facilitate the effort to reconcile interests and ultimately to decide upon them.

- The recognition of the cultural differences and the financial constraints that might affect a significant participation by the communities.
- The need to define or establish the mechanisms to define valid players with a voice in the consultations.

“...the region’s energy sector must take advantage of the interest that is being generated with respect to citizenship participation in development and the leading role that indigenous people are taking, especially in certain countries, to the lay the legal, institutional and attitudinal groundwork for a more profitable relationship between players”

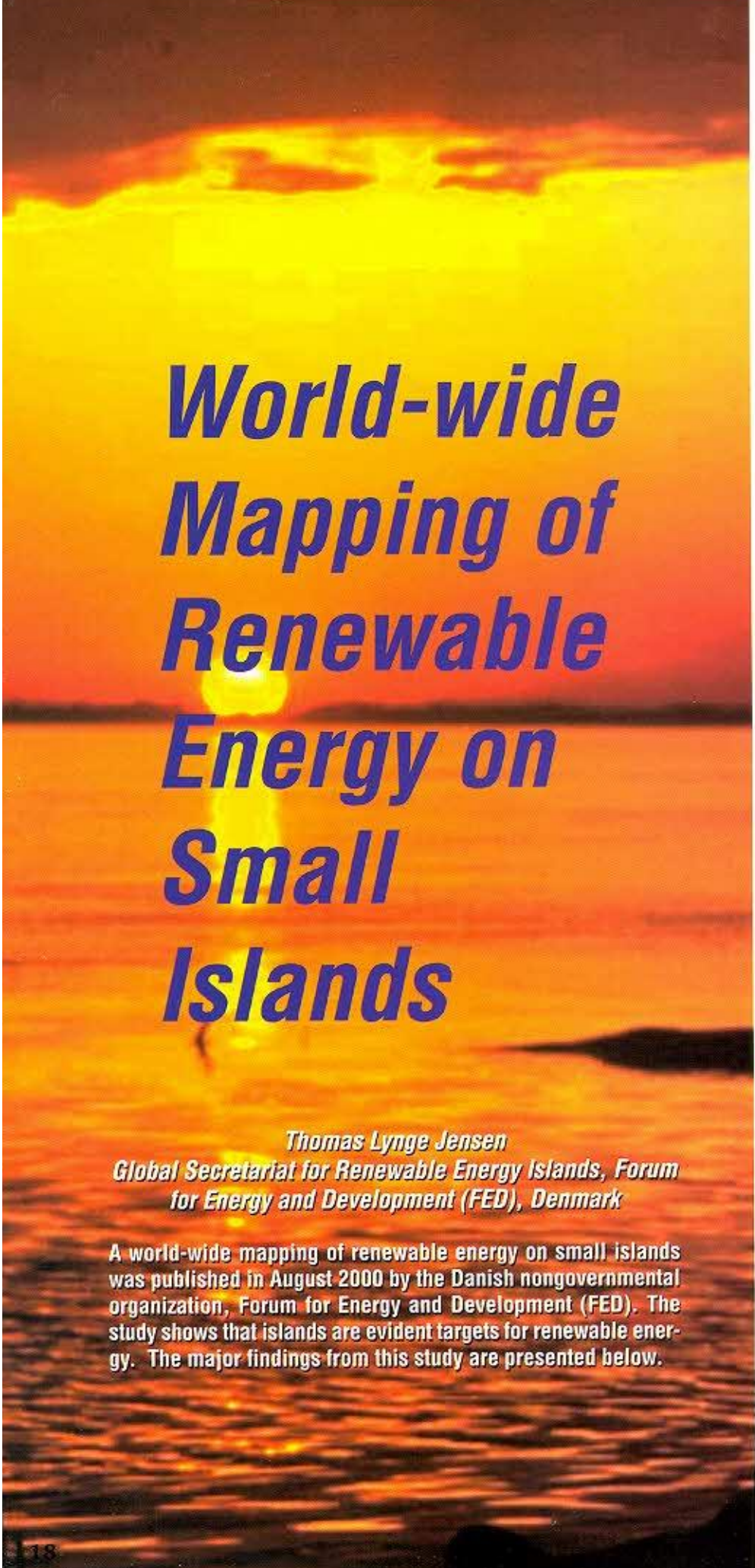
- Special consideration of the timeliness, validity, and forms of the participation. This has to do not only with the moment in which the participatory process must start up but also to what stage it must be extended. The ideal would be for this to continue throughout the project’s life cycle; nevertheless, how this participation evolves will have to be clearly defined depending on the specific moment and the situation. It should be clarified that consultation is only one kind of participation.
- Definition of the impacts of the consultation. Although the trend is for the State to be in charge of final decision making, it is expected that, in taking this decision, it will be required to take into account, at least to a certain extent, the viewpoints of those who were consulted.
- Definition of guidelines for sharing the benefits and compensations obtained, giving priority to long-term plans rather than specific, immediate objectives.
- Clear provisions on the access to information and the quality of this information.
- Outside the strictly regulatory domain, special efforts will have to be made to train the players involved in the knowledge, capabilities, and skills required for productive interaction. Certain previous considerations will have to be defined, such as ownership schemes for indigenous lands and their scope and due titling of land.

In any case, the region’s energy sector must take advantage of the interest that is being generated with respect to citizenship participation in development and the leading role that indigenous people are taking, especially in certain countries, to the lay the legal,

institutional and attitudinal groundwork for a more profitable relationship between players. As indicated earlier, the existence of a norm is not sufficient to achieve objectives; nevertheless, it is always preferable to have a minimum but effective legal framework that provides security. Bearing in mind this minimum framework as a mandatory reference, both entrepreneurs and indigenous communities and officials of the public institutions involved should develop new and better ways of understanding each other, based on respect for the principles and rights of each one. This is what is being gambled on when participation is promoted.

Notes

- ¹ International Labor Organization, *Indigenous and Tribal People: Guide for the Application of ILO Convention No. 169*.
- ² Article 171.
- ³ According to information provided by the official from the Vice-Ministry of Indigenous Affairs and Original People in the framework of the Third Tripartite Meeting of the Energy, Environment and Population Program held on May 23-25, 2001 in Cartagena de Indias, Colombia, the regulations are ready for legal ratification.
- ⁴ OLADE-University of Calgary-CIDA Energy-Environment Legislation Project, *Environmental Policy and Legislation for the Energy Sector in Latin America and the Caribbean: Tool kit*, June 2000.
- ⁵ For the purposes of the program, the sub-Andean basin is comprised of Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, and Venezuela.
- ⁶ The Coordinator of Indigenous Organizations of the Amazon Basin (COICA), the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL) and the National Coordinators of the participating countries representing the respective governments are participating in the program. In addition to OLADE, this initiative is being supported by the World Bank, the Carl Duisberg Gesellschaft, the Canadian International Development Agency (CIDA), the Andean Development Corporation, the Climate Alliance, and the Amazon Cooperation Treaty.



World-wide Mapping of Renewable Energy on Small Islands

Thomas Lynge Jensen

***Global Secretariat for Renewable Energy Islands, Forum
for Energy and Development (FED), Denmark***

A world-wide mapping of renewable energy on small islands was published in August 2000 by the Danish nongovernmental organization, Forum for Energy and Development (FED). The study shows that islands are evident targets for renewable energy. The major findings from this study are presented below.

Introduction

The last few years have shown an increased focus on renewable energy on islands. A few examples: in 1997, Samsøe was announced the official Danish Renewable Energy Island (REI);¹ in 1999, two major global conferences on Renewable Energy Islands took place respectively in the islands of Tenerife (Canary Islands, Spain)² and Aroe (Denmark);³ in 1999, the Global Secretariat on Renewable Energy Islands was established at FED;⁴ in 2000, four Small Island Developing States (SIDS)—St. Lucia, Dominica, Vanuatu and Tuvalu—announced their intention of becoming renewable energy nations and, in 2000, five international NGOs launched the Global Sustainable Energy Islands Initiative (GSEII).⁵

Among almost islands around the world, however, the potential for renewable energy is far from being tapped. For the majority of islands, expensive and environmentally damaging fossil fuels are still the only or major energy source used. One of the major reasons for the under-exploitation of renewable energy is lack of knowledge and awareness on islands among key energy decision-makers at the government and utility level. Consequently, one of the objectives of the study Renewable Energy on Small Islands is to document that renewable energy on islands is a feasible option in terms of technology, economy, environment and organization.

Why Small Islands Are Big in a Renewable Energy Perspective

One of the main findings is, first of all, that islands are evident targets for renewable energy; second, they can be marvelous front-runners and show-cases on a national, regional and global level for renewable energy technologies. Why is this the case?

High Visibility:

Islands are land areas surrounded by water. This means they are well-defined entities not only in terms of geography, but also in terms of energy production, population, economy and so forth. They can be seen as closed systems where input, output and outcomes can be easily controlled and observed. Thus, islands can become highly visible laboratories for renewable energy technology, organization, and financing. REIs provide a useful way to make future energy systems visible and concrete.

Large Scale Demonstration Possible:

A dramatic large-scale shift to renewable energy on continents/mainland is unrealistic in the short and medium term, with regard to technology, financing and organization. If decision-makers world-wide are to be inspired to aim at a broader use of renewable energy as part of sustainable development, it is necessary to demonstrate renewable energy in a large-scale, integrated and organised form, and situated in a well-defined area—i.e., a REI. Islands can reach a higher share of renewable energy in their energy balance more cheaply, faster, and more easily than a much bigger mainland. The very smallness of the islands, so often viewed as a disadvantage, is in this context actually an advantage.

More Positive Attitudes:

Many islands take a sympathetic attitude to the utilization of renewable energy, also at the political level, one reason being the threat from global warming. Even though islands contribute only negligible amounts to the global emission of greenhouse gases, many islands around the world are among the immediate victims of climate change and instability caused by fossil fuel consumption in industrialized countries. Islands thus have a strong interest in changing energy pat-

terns for instance by demonstrating new sustainable ways of satisfying energy needs. Another reason for the more positive attitude found on islands is the near total absence of fossil fuel resources. In many mainland countries, developing as well as industrialized, one major barrier for the promotion of renewable energy resources is the presence of an economic and political elite that has very strong interests in the utilization of fossil fuels either for export or domestic purposes. Most islands' main resources are the oceans, the population and geography (tourism). Next to none have fossil fuel resources.

Competitive Advantage:

Most small islands around the world today are dependent on imported fossil fuels for their energy needs, especially for transport and electricity production. Because of the small size and isolated location of many islands, infrastructure costs such as energy are up to three to four times higher than on the mainland. The high price for fossil fuels combined with the limited demand increases the unit cost of production for conventional power production. This creates a competitive situation for renewable energy technologies on islands. Furthermore, most of the islands are endowed with good renewable resources, primarily sun and wind.

*Experiences Applied in Non-Island Areas:*

Experiences gathered on islands can be used, not only on islands, but in principle everywhere. REIs can serve as demonstration projects for mainland local communities, not only in developed countries, but also in developing countries. There are about 2.5 billion people living outside a national grid in developing countries. These people also need electricity services, and experiences from REIs are highly relevant in this context. Furthermore, through concentrated efforts, some small island states can serve as demonstration nations. Despite their size, small island states could set an example to the world's nations.

Islands with High Use of Renewable Energy Sources

The study shows that today there are islands that have used modern renewable energy technologies—also on a large-scale. The following can be concluded regarding the islands in the overview:

Around the world, a few islands have already decided to become Renewable Energy Islands (REI) in the short or medium term. An REI is an island that is 100% supplied from renewable energy sources. Samsøe (Denmark), Pellworm (Germany), Aroe (Denmark), Gotland (Sweden), El Hierro (Canary Islands, Spain), Dominica and St. Lucia have an explicit target of becoming 100% self-sufficient on the basis of their renewable energy sources.

Around the world, a few islands already have some of the characteristics of a Renewable Energy Island (REI). La Désirade (Guadeloupe, France), Fiji, Samsøe, Pellworm and Reunion (France) are currently producing more than 50% of their electricity from renewable energy sources. Table 1 provides detailed information about these and other islands with a very high use of renewable energy for electricity production. 21% of the islands in the overview that use renewables for electricity generation produce between 25-50% of their electricity from renewable energy sources. Nearly 70% of the islands in the overview that use renewables for electricity generation produce between 0.7-25% of their electricity from renewable energy sources. A few islands are using solar water heaters on a very large scale, e.g. Cyprus and Barbados.

Islands with very high use of renewable energy for electricity production are mainly using hydropower. In the overview more than 50% of the islands with more than 25% of the electricity generated from renewable energy

resource are using hydropower. Of the islands producing more than 25% of electricity from wind power all (but one) are connected by sea cable to another electricity grid.

Wind power is by far the most used renewable energy resource in electricity production. Over 50% of the islands in the overview that have used renewables for electricity generation have used wind power. Over 25% and nearly 10% of the islands in the overview using renewables for electricity generation use hydropower and biomass, respectively.

Most islands are situated in the North Atlantic Ocean. Just over 40% of the islands in the overview using renewables are situated in the North Atlantic Ocean. Around 12-14% of the islands in the overview using renewables are situated in the North Pacific Ocean, South Pacific Ocean and Caribbean Sea, respectively.

The majority of islands are by far non-sovereign. Nearly 75% of the islands in the overview that have used renewables are connected formally to a country from the developed world. Only 25% of the islands in the

overview that have used renewables are politically independent islands—they are all developing countries.

The Global Sustainable Energy Islands Initiative (GSEII)

Five international non-governmental organizations, Counterpart International, Climate Institute, Winrock International, the Organization of American States, and Forum for Energy and Development (FED), launched the Global Sustainable Energy Islands Initiative (GSEII) at COP6 in The Hague, in November 2000. The GSEII is based on the premises that Small Islands Developing States (SIDS) are evident targets for renewable energy and could be marvelous front-runners and showcases on a national, regional and global level for renewable energy technologies

The GSEII has been organized to support the interests of all SIDS and potential donors by bringing renewable energy and energy efficiency projects, models, and concepts together in a sustainable plan for SIDS. The GSEII seeks to display national efforts to significantly reduce greenhouse gas emissions.



Table 1: Renewable Energy Share of Electricity Production for some of the Investigated Islands ⁶

Island	Total Percentage of Electricity Production from Renewable Energy Sources	Percentage of Electricity Production by Type of Renewable Energy Source		Year	Renewable Energy Goal/Plan/Strategy
La Desirade (Guadeloupe, France)	100%	Wind:	100%	1998	There is a renewable energy plan for the Guadeloupe archipelago – 25% of the electricity consumption from renewable energy in 2002
Fiji	79.6%	Hydro:	79.6%	1997	There is a national energy/renewable energy policy
Samsøe (Denmark)	75% ⁷	Wind:	75%	2000	100% of energy consumption from renewable energy sources by 2008
Pellworm (Germany)	65.93%	Wind: PV:	64.96% 0.97%	1998	100% of energy consumption from renewable energy sources
Reunion (France)	56.1%	Hydro: Bagasse:	39.6% 16.5%	1998	
Dominica	48%	Hydro:	48%	1998	100% of energy consumption from renewable energy sources in 2015. A national energy policy does not exist today
Flores Island (Azores, Portugal)	42.6%	Hydro:	42.6%	1999	
Samoa	38.5%	Hydro:	38.5%	1997	Samoa does not have a comprehensive energy policy
São Miguel Island (Azores, Portugal)	37.6%	Geothermal: Hydro:	30.6% 7%	1999	
Faeroe Islands (Denmark)	35.1%	Hydro: Wind:	34.9% 0.2%	1999	There is no energy plan for the Faeroe Islands
St. Vincent and the Grenadines	32.8%	Hydro:	32.8%	1997	There is no national energy policy
Marie Galante Island (Guadeloupe, France)	30%	Wind:	30%	1998	There is a renewable energy plan for the Guadeloupe archipelago – 25% of the electricity consumption from renewable energy in 2002
Corsica (France)	30%	Hydro:	30%	1999	50% of electricity consumption from renewables by 2003
Miquelon (St. Pierre and Miquelon, France)	30% ⁸	Wind:	30%	2000	



Global Objectives

- ⇒ To develop SIDS as sustainable energy nations.
- ⇒ To establish donor support and private sector investment for this sustainable development.
- ⇒ To increase awareness of experiences, potential, and advantages of renewable energy use and energy efficiency on SIDS and other island nations.

Regional and Island Nation Objectives

The Caribbean:

- ⇒ To develop St. Lucia into a sustainable energy nation, thereby fulfilling its commitment made at COP5.
- ⇒ To further develop sustainable energy plans for one or more Caribbean SIDS to become sustainable energy nations.
- ⇒ To develop regional energy efficiency and renewable energy private business activities, including solar thermal, photovoltaics, biomass, and wind turbines.
- ⇒ To establish funding schemes for large-scale dissemination of sustainable energy.

The Pacific Region:

- ⇒ To develop wind energy activities on Niue and one more island nation as regional door-opener projects.
- ⇒ To develop sustainable energy plans for one or more SIDS to become sustainable energy nations.
- ⇒ To develop regional energy efficiency and renewable energy private business activities, including solar thermal, photovoltaics, biomass, and off-grid wind turbines.
- ⇒ To establish funding schemes for large-scale dissemination of sustainable energy.

The Indian Ocean:

- ⇒ To develop a sustainable energy plan for one SIDS to become a sustainable energy nation.

Notes

- 1 For information about Samsø as a 100% Renewable Energy Islands, please visit the homepage of Samsø Energy Company: <http://www.veo.dk/uk/index.htm>
- 2 For information about the Island Solar Summit, please visit the homepage of the International Scientific Council for Island Development (INSULA): <http://www.insula.org/solar/base.htm>
- 3 For information about the Global Conference on Renewable Energy Islands, please visit the homepage for Forum for Energy and Development (FED): <http://www.energiudvikling.dk/projects.php3>
- 4 For information about the Secretariat, please visit: <http://www.energiudvikling.dk/projects.php3>
- 5 For information about the GSEII, please refer to the information box in this article.
- 6 A blank cell means that information is not available.
- 7 Estimate from July 2000 onwards.
- 8 Estimate.

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OLADE's experience is taken into account for the establishment of the African Energy Commission

OLADE's Executive Secretary, Dr. Julio Herrera, participated in the African Energy Ministers Conference held on April 23-24, 2001 in Algiers, sponsored by the Ministry of Energy and Mines of Algeria and the Organization of African Unity (OAU), in order to analyze the establishment of the African Energy Commission (AFREC).

The Minister of Energy and Mines of Algeria, Dr. Chakib Khelil, in his invitation to Dr. Julio Herrera, emphasized the important role that the Latin American Energy Organization is being called upon to perform for the development of energy cooperation between the two continents and requested OLADE's Executive Secretary to inform the Conference's participants about the Organization's experience.

Among the principal recommendations of the Conference of Ministers regarding the establishment of AFREC, the following are noteworthy:

- That the draft Agreement establishing AFREC be submitted by the Secretary General of the OAU to the Summit of Heads of State and Government scheduled for July 2001 in Lusaka, Zambia, for its definitive ratification.
- That temporary provisions be passed to permit the immediate start-up of the principal activities of AFREC.
- That AFREC headquarters be in Algiers.



Ministers and official delegates participating in the African Energy Ministers Conference of the Member States of the Organization of African Unity, held in Algiers on April 23-24, 2001

Algeria is interested in becoming a Participating Country in OLADE

During his visit to Algeria, OLADE's Executive Secretary reiterated his invitation to the government of this country to become associated to OLADE as a Participating Country.

In response, the Minister of Energy and Mines of Algeria, Dr. Chakib Khelil, expressed his country's interest in becoming associated to OLADE, and to the international press at the

Conference of African Ministers of Energy, confirmed that negotiations for this purpose have started and that "This will be the first time that a country that does not belong to the region of Latin America and the Caribbean will become a participant in OLADE; by so doing, Algeria intends to benefit from the experiences of the Latin American countries in the different energy sectors and from the technical assistance and contribution of the member countries of OLADE."



The Minister of Energy and Mines of Algeria, Dr. Chakib Khelil, who was elected to act as Chairman of the Meeting of Energy Ministers of the OAU, announces his country's interest in becoming associated to OLADE.



The Algerian press gave special coverage to the Meeting of African Ministers of Energy and, as part of this coverage, the announcement that Algeria is interested in becoming associated to OLADE as the Organization's first Participating Country.

COOPERATION BETWEEN THE ORGANIZATION OF AFRICAN UNITY AND OLADE

The Conference of Energy Ministers of the Member States of the Organization of African Unity (OAU), held on April 23-24, 2001 in Algiers in order to create the African Energy Commission (AFREC).

Considering the importance and need to ensure cooperation between Africa and the other regions of the world in the energy sector.

Apprised of the declaration by the Executive Secretary of the Latin American Energy Organization (OLADE), regarding his Organization's offer to cooperate with the African Energy Commission in the energy sectors:

1. **ACCEPTS** the Algerian Government's invitation to organize an African-Latin American Conference on

Energy for the second semester 2002 to lay the groundwork for long-term cooperation.

2. **INVITES** all African countries to participate effectively in this important Conference.

3. **REQUESTS** the Secretariats of the OAU and OLADE to cooperate in order to ensure the success of this Conference.

OLADE'S EXECUTIVE SECRETARY HOLDS WORKING MEETINGS WITH THE MINISTER OF FOREIGN AFFAIRS AND MINISTER OF MINES AND ENERGY OF BRAZIL

On June 11 and 12, 2001, respectively, OLADE's Executive Secretary held working meetings with the Minister of Foreign Affairs of Brazil, Dr. Celso Lafer, and the Minister of Mines and Energy of Brazil, Dr. José Jorge.

At the meeting with the Brazilian Foreign Affairs Minister on June 11, issues involving international relations with respect to the energy sector and the new forms of cooperation between countries and between countries and international organizations were reviewed.

On June 12, a meeting was held with the Minister of Mines and Energy, Dr. José Jorge, with the participation of the National Coordinator for OLADE in Brazil, Mr. Rui da Justa Feijão, and the International Advisor to the Minister of Mines and Energy, Ambassador Mario Santos.

During the Meeting, Minister Jorge was apprised of the principal activities being carried out by OLADE, especially those related to Brazil's energy sector. Aspects of energy cooperation and integration in

the countries of Latin America and the Caribbean were also focused on.

At the two meetings, it was emphasized that the Federal Republic of Brazil has given much importance, over the last few years, to its active participation in both regional and MERCOSUR integration efforts. In this context, the Minister of Foreign Affairs and the Minister of Mines and Energy reiterated to OLADE's Executive Secretary their support to the action that the Organization has been carrying out for energy integration in Latin America and the Caribbean.



International relations in the energy sector and new forms of cooperation were reviewed by the Minister of Foreign Affairs of Brazil, Dr. Celso Lafer (right), and OLADE's Executive Secretary, Dr. Julio Herrera, in Brasilia, on June 11, 2001

Reviewing energy integration and cooperation issues, from left to right, Ambassador Mario Santos, International Advisor to the Minister of Mines and Energy of Brazil, Mr. Rui da Justa Feijão, National Coordinator for OLADE in Brazil, Dr. José Jorge, Minister of Mines and Energy of Brazil, and Dr. Julio Herrera, OLADE's Executive Secretary



MINISTER OF MINES AND ENERGY OF COLOMBIA REVIEWS INTEGRATION PROJECTS AT OLADE'S HEADQUARTERS



Dr. Ramiro Valencia-Cossio, Minister of Mines and Energy of Colombia, and Dr. Julio Herrera, Executive Secretary of OLADE, along with delegates from the Ministry and OLADE directors, discuss energy development topics.

The Minister of Mines and Energy of Colombia, Dr. Ramiro Valencia-Cossio, visited OLADE's headquarters on May 31 to hold a working meeting with the Organization's Executive Secretary, Dr. Julio Herrera, at which time they reviewed aspects involving the region's energy integration process and focused on the progress of the projects and programs implemented by OLADE's Permanent Secretariat to give impetus to the development of Colombia's energy sector, especially the Colombia, Ecuador and Peru Electric Power Interconnection Project.

During this visit, Dr. Valencia-Cossio was accompanied by the Colombian Ambassador to Ecuador, Dr. Eliseo Restrepo-Londoño; the Under-Secretary of Electrification of Ecuador, Mr. Fernando Muñoz; the President of Electric Power Interconnection (ISA) of Colombia, Mr. Javier Gutiérrez; the Director of Energy Mining Planning United (UPME) of Colombia and the National Coordinator for OLADE in Colombia, Mr. Julián Villarruel-Toro; and an official of the Colombian Embassy in Ecuador, Dr. Gabriel Martínez.

OLADE's Executive Secretary was accompanied by the Organization's Directors, Dr. Oscar Arrieta, Mr. Gabriel

Hernández, Mr. Jeferson Nunes, and Ms. Nuria Bohigas, representative of the OLADE-Quebec Project.

The electric power interconnection that will be connecting Colombia, Ecuador, and Peru is one of the most important projects of regional integration. To promote it, the Ministers of Energy of the three countries signed a Joint Declaration on March 9 to confirm that this project is of common interest and has priority for their respective countries.

In the Joint Declaration, it is reiterated that OLADE is the entity that should carry out the studies to harmonize the standard-setting frameworks of Colombia, Ecuador, and Peru as one of the mechanisms that will enable this interconnection to materialize as quickly as possible.

OLADE and the delegates of the three countries have been working actively in this field, for the purpose of culminating a process that started with technical and financial studies carried out by Hydro Quebec International with support from OLADE, which determined the viability of the project.

TECHNICAL ASSISTANCE FROM OLADE FOR ENERGY POLICYMAKING IN JAMAICA

OLADE's contribution to the assessment of current reality and the establishment of guidelines for the formulation of an energy policy in Jamaica was requested by the government of this country through its Ministry of Mining and Energy.

The request highlights the need to advise Jamaican authorities on the principal initiatives to promote and improve energy efficiency, foster new and renewable sources of energy, and establish parameters for an electric power sector policy.

Since March 2001 this request is being handled by OLADE with support from the UNEP Collaborating Center for Energy and the Environment.

On March 19-23, 2001, a first mission comprised of experts from the United Nations Environment Programme (UNEP), the Energy-Economics Institute of Argentina (IDEE) and OLADE visited Jamaica and held meetings with officials from the Ministry of Mining and Energy and with experts from the national energy sector in order to define the scope of the work to be done.

The mission was informed about the new projections and development of the sector and held interviews with various players of Jamaican energy development, on the basis of

which it was able to gather important baseline information for this technical assistance.

After this mission, the experts of the institutions involved in the work, while keeping permanently in touch with officials from the Ministry of Mining and Energy other energy

sector representatives of Jamaica, drafted a preliminary paper that assesses the institutional and legal situation, as well as the current energy policy, and proposed strategies, lines of action, and instruments to update Jamaica's energy policy.

A second mission, which took place on May 28-June 1, 2001, presented a draft of this report to the authorities of the Ministry of Mining and Energy of Jamaica, which was analyzed in detail with the participation of other representatives from the country's energy sector.

Once the authorities of the Ministry of Mining and Energy have made their observations to the document and have expressed their agreement with the assessment that was made and with the recommendations it contains, the final report will be prepared and then submitted to the consideration of the Minister of Mining and Energy of Jamaica, Honorable Robert Pickersgill, and by his good offices, the country's government authorities.



Honorable Mr. Robert Pickersgill, Minister of Mining and Energy of Jamaica, who has been promoting energy sector transformation and modernization processes in his country

MEETING OF OLADE'S STRATEGY AND PROGRAMMING COMMITTEE



The third meeting of the Organization's Strategy and Programming Committee was held on April 3-4, at OLADE headquarters. It was chaired by the representative of Chile, Mr. Carlos Piña, and was attended by representatives

from Brazil, Mr. Rui da Justa Feijão; Colombia, Dr. Gilberto Jaimes; Costa Rica, Ms. Gloria Villa; Cuba, Ms. Dolores Marrera; Ecuador, Mr. Fernando Muñoz and Mr. Wilson Jara; Guatemala, Mr. Rudy Nájera; Mexico, Ms. Ana

María Sánchez; and Paraguay, Luis Antonio Servin.

The Committee's work was based on proposals submitted by OLADE's Member States and on the documents prepared by the Permanent Secretariat, regarding the topics entrusted to it by the XXXI Meeting of Ministers, among which follow-up on the implementation of the Organization's Three-Year Program is noteworthy.

The fourth meeting of this Committee will be take place on July 3-5, 2001, at which time the report that will be submitted to the XXXII Meeting of Ministers of OLADE, scheduled for the upcoming month of October, will be prepared.

PANAMANIAN AMBASSADOR TO ECUADOR VISITS OLADE HEADQUARTERS

Dr. Armando Terán-Morales, Ambassador of the Republic of Panama to Ecuador, visited the headquarters of the Latin American Energy Organization on May 4.

Ambassador Terán was received by OLADE's Executive Secretary, Dr. Julio Herrera, who apprised him of the projects that the Organization has been implementing in regional energy integration, especially those that are aimed at promoting the development of Panama's energy sector.



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AT THE MONTREAL CONFERENCE

Executive Secretary of OLADE reiterates need to further consolidate energy sector reforms

"SAFEGUARDING INVESTMENTS..."

"It would be difficult to talk about the current energy situation or prospects for the region without referring to the globalized world. It seems to me that we would have to consider the fact that in Latin America and the Caribbean, many countries have adopted the political decision of inserting their economies in a globalized world. To do this, this region of the world has carried out basic reforms to facilitate this insertion," said OLADE's Executive Secretary, Dr. Julio Herrera, when he participated as moderator at the Session on the Outlook for Market Liberalization at the Montreal Conference held in Montreal, Quebec, Canada on April 19, 2001.

At this session, the members participating on the panel were Dr. Esther Fandiño, Chairman of the Regional Electric Power Interconnection Commission (CIER); Mr. Luciano Pacheco, Director of the National Electric Power Regulatory Agency of Brazil; Mr. Mel Belich, Chairman of Enbridge International Inc.; and Mr. John Easton, Vice-President of the Edison Electric Institute, who emphasized the importance of energy market liberalization.

Dr. Herrera underscored that these reforms have been carried out in all the dimensions of sustainable development, among which the most relevant are: political freedom, economic well-being, social equity and a healthy environment, in addition to a greater interest in the rational use of natural resources.

OLADE's Executive Secretary added that, at present, Latin America and the Caribbean shows a wide diversity of wealth, with each country having forged its own path. In some, the classical model of privatization involving the transfer of assets was adopted; in others there was partial or total breakup of monopolies to permit competitiveness between public and private companies; and in yet others partnerships between public and private companies were drawn up. What they do have in common, however, is that all of these strategies have been impelled by principles of free access to pipelines and transmission lines favoring free trade.

The challenge now, he proposed, is how to reconcile these different schemes in a regional context in order to highlight the common interest of the countries.

He emphasized that the reform processes that have been mentioned have not resolved all the problems and, because of this, one should continue studying them in depth and correcting unwanted impacts until second-generation reforms can be implemented.

The basic premise, he said, is that not only entrepreneurs but also energy policymakers and regulators must safeguard the investments that have already been made by creating favorable conditions that guarantee that earnings will be reinvested in the region and attract fresh investments.



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INTERNATIONAL SEMINAR TO START UP THE ACTIVITIES OF OLADE'S FORUMS

The International Seminar to start up the activities of the three forums established by the XXXII Meeting of Ministers of OLADE, which will be carrying out their actions in the Organization through the Permanent Secretariat, will take place on September 9-11, 2001 in Quito, Ecuador.

The Seminar will be attended by representatives of the companies involved in the region's energy development and the supervisory entities and regulatory agencies of the oil and gas and electric power subsectors, which will share experiences with experts in the subject of energy sector transformation of Latin America and the Caribbean.

The companies and supervisory and regulatory agency that will become part of the above-mentioned forums, among

other beneficiaries, will have a meeting place to obtain information, exchange experiences, ensure the viability of and materialize business opportunities, where through OLADE it will be in permanent contact with energy ministries and secretariats, regulatory and supervisory agencies, corporate associations, chambers of production, and private and public companies involved in the energy development of Latin America and the Caribbean.

During the Seminar, the Forums' officers will be elected and the regulations governing the activities of each forum and its relationship to OLADE will be ratified at this time.

The forums that will be starting up their activities in the framework of this Seminar are:



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



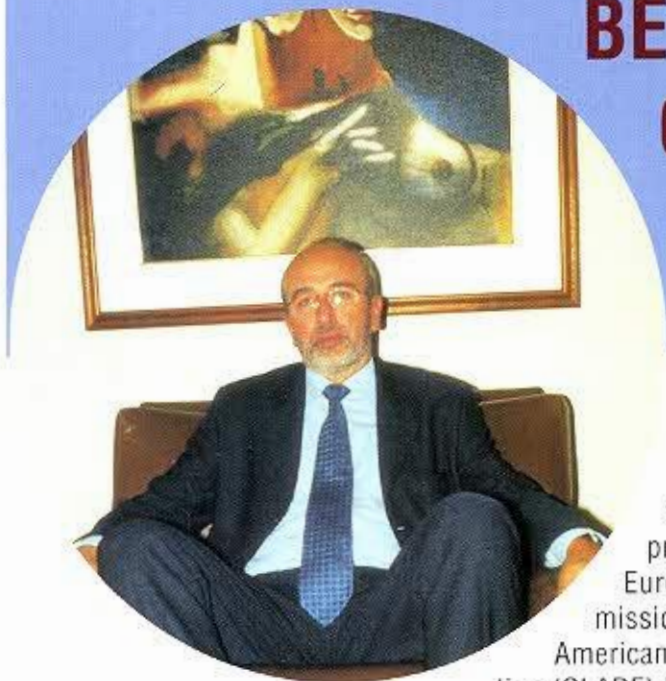
- **The Forum of Supervisory Entities and Regulatory Agencies for Hydrocarbons Activities** is aimed at creating in Latin America and the Caribbean, and consolidating within the framework of OLADE, a space where existing regulations for the oil and natural gas sector can be reviewed, discussed and improved,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



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

Energy and Development:

IMPETUS GIVEN TO COOPERATION BETWEEN EUROPEAN COMMISSION AND OLADE



Mr. Jean-François Aguinaga, official from the Directorate General for External Relations of the European Commission, held working meetings at OLADE headquarters to promote cooperation activities between the two institutions

The establishment of a long-term cooperation program between the European (EC) Commission and the Latin

American Energy Organization (OLADE) has been the focus of special attention as a result of the visit made by OLADE's Executive Secretary, Dr. Julio Herrera, last March in Brussels to the EC's Vice-President of the European Commission, Mrs. Loyola de Palacio, and Directors for Energy, External Relations, and Relations with Latin America.

In this context, Mr. Jean-François Aguinaga, officer of the Directorate General for External Relations of the European Commission, held working meetings at OLADE headquarters in Quito, Ecuador on June 5-7, 2001 with the Executive Secretary and the Directors of OLADE.

The Program that the two organizations are in the process of elaborating involves energy and development concepts and take into consideration the fact that the aspirations of European technical cooperation are in line with OLADE's objectives with respect to the new trends required to ensure clean, sustainable, and shared energy devel-

opment as a fundamental element for the economic development of the region's countries which, for their evolution, have to make a special commitment to meet the needs of the social and production sectors on a timely basis, in the search of a higher quality of living of the population.

The fundamental components of the cooperation that is being proposed are environment, integration, and information, areas that are sufficiently broad and consonant as to include a series of projects and activities aimed at ensuring the region's sustainable development, which entails economic growth with social equity, respect for the environment, and regional integration.

Environmental activities, in addition to addressing the impact of energy management on the local and regional environment, also involve demands regarding the sector's incidence on global emissions, combining environmental requirements with the new processes of institutional transformation of the majority of the countries, where the responsibility for increasing energy supply rests to a large extent on the private sector and for demand on the social sector, which has led to the need to create greater rapprochement in order to meet energy needs.

At the meeting at OLADE headquarters on June 5-7, 2001, from left to right, Mr. Jean-François Aguinaga, representative of the European Commission, Dr. Julio Herrera, Executive Secretary of OLADE, Mr. Jeferson Nunes, Director of Cooperation and Training of OLADE, and Dr. Oscar Arrieta, Director of Energy Integration of the Organization



Further development of renewable sources of energy, the diversification of energy sources, and technological improvement in the region's matrix, as well as greater interest in the incorporation of energy efficiency, will exert a positive impact on the environment and economy.

In line with the region's development process, the EC-OLADE cooperation fits within the energy integration framework of the region's countries owing to its importance for common environmental conservation and energy supply complementation, giving preference to cleaner fuels such as natural gas and striving for a more efficient use of existing investments in order to obtain better prices and energy security for the benefit of all consumers.

Environment and integration actions in this Cooperation Program could support the generation, organization, and maintenance of data flows between public and private institutions in addition to a wide range of related energy training activities.

EC-OLADE cooperation is timely, because it is evident on the continent that energy supply is indispensable for the countries to avoid interrupting their economic and social development, at a crucial moment when standards are being transformed and the sector modernized and when there is a considerable amount of European investment being made in energy infrastructure.

The Program that is being proposed will also include in its design the expe-

rience of European countries in environmental management, efficient technologies, use of renewable sources of energy, citizen participation and energy integration, in order to ensure that the most appropriate decisions are taken and to set up intercontinental exchanges between government institutions and companies so as to facilitate the exchange of investments, interests, and facilities.

The Program that has been described is part of OLADE's general programming and supports some of the topics in which it has been working. It will also help to consolidate the results obtained by OLADE from its cooperation with the European Commission.

"THE NEW FORM OF COOPERATION IS COLLECTIVE AND ITS OBJECTIVE IS INTEGRATION"

"Integration is a process whereby countries express their political will to share their future, in order to achieve integral development for the benefit of their inhabitants," said Dr. Julio Herrera, Executive Secretary of OLADE, in his presentation on "Hemispheric Energy Integration: Cooperation Strategies" at the Tenth Annual Conference on Energy in Latin America, organized by the Institute of the Americas in La Jolla, California on May 21-22, 2001.

Dr. Herrera also indicated that, as part of the globalization process, "Latin America and the Caribbean have become areas of singular importance as emerging mar-

"Integration of the region's countries is the key to the development of their people. The region is striving to achieve development on the basis of its resources and in line with its interests"

kets not only for the trade of goods and services but also for foreign investment, with the implementation of new norms, structures, and institutions."

He added that, within this context, the region's countries have made or are in the process of carrying out basic reforms in the energy sector. "Integration transposed to the field of energy necessarily requires the use of mechanisms and instruments aimed at harmonizing energy intangibles and tangibles. Among the former, the harmonization of energy development plans and stan-

The Latin American Energy Organization (OLADE) extends its most cordial greetings and congratulations to the Institute of the Americas and its President, Ambassador Paul H. Boeker, for the Institute's ten years of highly fruitful work for the benefit of hemispheric integration and development.

dard-setting frameworks, made possible through the establishment of individual energy policies but compatible with those of other countries. Among the latter, the creation of an infrastructure that is sufficient for energy trade to take place without obstacles and constraints among the countries that are involved

through all necessary channels. Integration of the region's countries is the key to the development of their people and to the successful development of

"Energy solidarity lacks substance if it is unable to rely on the cooperation of those countries that can offer and supply the necessary technology for the goods, services and processes they produce and develop"

their interests as a region. The region is striving to achieve development on the basis of its resources and in line with its interests."

When referring to international developments and, as part of them, the action of regional entities specializing in energy activities, such as the Hemispheric Energy Initiative and OLADE, asserted that "In all of these forums, to a greater or lesser extent, there is an underlying dual purpose. The first involves cooperation activities aimed at promoting the integration of different countries. The region's countries foster integration in order to meet their energy needs. They

have given up their nationalistic approaches, which characterized the seventies, in order to start up integration processes with the objective of using neighboring energy sources and resources, to exchange them and complement their own, which are not sufficient to ensure the well-being of their inhabitants because they are either scarce or altogether absent. This process has been referred to as energy complementarity, which because of its scope and development leads to a second objective, which is energy solidarity. Energy solidarity lacks substance if it is unable to rely on the cooperation of those countries that can offer and supply the necessary technology for the goods, services and processes they produce and develop."

"OLADE has been working to give a human dimension to energy. We are looking for energy that can be tapped economically by our people, energy that is not aimed at an elite and does not

"The concept of energy solidarity, transformed into a permanent vocation for cooperation, is a new concept, which should become widespread and put into practice for the benefit of mankind"

simply benefit certain given social or production sectors. The concept of energy solidarity, transformed into a permanent vocation for cooperation, is a new concept, which should become widespread and put into practice for the benefit of mankind."

OLADE's Executive Secretary indicated that international cooperation will be the groundwork on which the future of Latin America and the Caribbean can be based, as a region that has many challenges to face in the energy field, among which the following: consolidation of reforms to globalize the region's energy sector, harmonization of standard-setting frameworks, dealing with several adverse market conditions, investment promotion, poverty abatement, environmental prevention, and transfer of technology.

When focusing on the need to promote fresh investments, he highlighted the fact that, in the past decade, the region benefited from large amounts of resources coming from direct and indirect investment, as well as investment from the local public and private sector, whether in partnership or independently. It also benefited from international technical assistance and cooperation in many countries, which became the basis for the development achieved by the region. Cooperation is the seed for the results of subsequent investment, especially private-sector and specifically foreign.

In this aspect there is an existential imbalance. Although energy is the main input to ensure the development of the people, international cooperation, which is the seed for investment and therefore the source of profits and revenues, is lacking from the energy sector. This reality requires a revision of the fundamentals on which cooperation is based and also requires that the errors that

"Although energy is the main input to ensure the development of the people, international cooperation, which is the seed for investment and therefore the source of profits and revenues, is lacking from the energy sector. This reality requires a revision of the fundamentals on which cooperation is based"

have been made be corrected so that the course that had been abandoned be adopted once again, by designing new cooperation schemes, a strategic cooperation, aimed at the region's countries.

Finally, he emphasized the new approach to energy that OLADE has pledged to implement, which places energy issues beyond the limited realm of economics, the environment, technology and purely operational aspects and rather views man as the focus of attention and the beneficiary of energy resources. He concluded: "All of us who are involved in energy activities must give a human dimension to energy in the century that is just beginning."

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

ARGENTINA

Natural gas investments

The Government of Argentina has received reports from Shell regarding its intention to invest US\$1.5 billion for the installation of a plant for extracting liquid fuel from natural gas in Tierra del Fuego.

The project has envisaged the use of 18 billion cubic meters of gas per day to produce gasoil, virgin naphtha and kerosene, without any sulfur content or aromatics, by using a technology perfected by Shell in order to produce liquid fuel on the basis of natural gas at costs similar to oil distillates.

The project also envisages the production of 100 MW with the use of heat generated by the industrial process.

BOLIVIA-CHILE

Construction of the binational gas pipeline

Bolivia is in the process of negotiating with Chile the construction of a binational gas pipeline, in order to export natural gas to Pacific Rim markets. The Minister of Economic Development of Bolivia, Carlos Saavedra, reported that the Ministry of Foreign Affairs of Bolivia is conducting negotiations with its counterpart in Chile to draw up the respective agreement.

The project consisted of investing US\$3.5 billion for building the gas pipeline and a

gas condensation plant, possibility in the Chilean port of Mejillones.

The Minister said that the project would permit the sale of 45 million cubic meters per day of Bolivian gas, 15 million more than what it has already contracted to export to Brazil as of the year 2004. Bolivia is looking for new markets for its gas reserves, which are estimated to amount to 46 trillion cubic feet.

BRAZIL

Petrobras invites tenders for bidding process aimed at building the new platform

Brazil's state oil company, Petrobras, has announced an international bidding process to replace its P-36 production platform, which sank in April 2001 in the Campos basin facing Rio de Janeiro.

Petrobras is looking for a machine that it can lease so as to start up again, in August 2002, production in the Roncador field, where the P-36 was operating, because the building of a new platform would take at least two years.

According to the base documentation of the bidding process, the machinery would be leased for a five- to eight-year period. It is expected that production in this field would amount to at least 100,000 barrels of oil per day, since peak production with the P-36 amounted to 180,000 barrels per day.

Investment in electric power plants

Up to the year 2003, Brazil intends to make investments estimated at US\$30 billion in projects that will be implemented with the participation of the private sector for electric power generation. The building of 20 hydropower plants and the installation of 5,707 kilometers of transmission lines have been envisaged.

Furthermore, over the medium term, the commissioning of 41 thermoelectric power generation plants to tackle the energy crisis has been planned.

COLOMBIA

Electric power interconnection bonds

The Colombian distribution utility Interconexión Eléctrica S.A. (ISA) will be issuing bonds in the amount of US\$300 million to sell them through stock exchanges abroad.

ISA is a mixed enterprise, 66% of whose shares are owned by the Colombian State

MEXICO

Bidding processes for the oil industry

According to reports disseminated by the Mexican state oil company Petróleos Mexicanos (PEMEX), during the present year the company will be inviting tenders for various bidding processes aimed at implementing 7,167 projects to promote the country's oil and gas industry, in an amount estimated at US\$6.5 billion. Of these projects, 3,204 will involve new works and 3,963 will involve maintenance actions.

Among the principal exploratory projects that will be undertaken by PEMEX, the discovery of new gas reserves on the conti-

mental shelf located in territorial waters of the Gulf of Mexico is noteworthy.

PERU

Minister of Energy invites investments

The need to make investments in new technology to increase oil reserves was emphasized by the Minister of Energy and Mines of Peru, Mr. Carlos Herrera Descalzi.

The Minister indicated that technological changes require investments that are not compatible with the level of royalties currently paid by oil companies to the State. Because of this, he admitted that a suitable formula would be to reduce the value of these royalties on condition that the companies pledge to make the necessary investments.

At the same time, he informed that companies operating in Peru's power sector have been invited to invest in the electric power interconnection project with Ecuador.

VENEZUELA

Alliance with China to produce orimulsion

The President of Venezuela, Hugo Chávez, and the President of China, Jiang Zemin, have drawn up a development alliance, including a partnership to produce orimulsion.

In this context, the President of Venezuela's oil state company Petróleos de Venezuela (PDVSA), Gualaipuro Lameda, and the President of the National Petroleum Corporation of China, Mai Funcai, signed two agreements: a cooperation agreement to promote the production of orimulsion and a contract to supply this fuel to this Asian nation.

Orimulsion is a trademark product that is only sold by Venezuela. Its is elaborated by mixing bitumen and water.

Opinion and debate

As of the present issue of the Energy Magazine, the present section will be reserved to publish the statements and opinions of our readers regarding articles and information published in our journal, as well as their viewpoints about noteworthy aspects of the region's current energy topics.

The ideas or possible debates that might arise as a result of this page will no doubt contribute to promote the development of the energy sector in Latin America and the Caribbean.

We shall begin by publishing a letter addressed to us by Mr. A. Amit, Secretary General of the International Electrotechnical Commission, on electric power sector integration.

Dr. JULIO HERRERA
Executive Secretary of OLADE
ECUADOR

Dear Dr. Herrera:

In the January-February-March 2001 issue of *Energy Magazine*, I enjoyed reading the article entitled "Central American electric power integration." The author makes the point that there are a number of principal challenges to the regional interconnection project: financing, ownership, management, governance and regulation. This last issue is of most interest to the International Electrotechnical Commission. The author states the challenge as follows: "Establishment of clear rules through regulations that can ensure order for the Central American electric power market."

Regulations and rules require clear definitions. Upon what basis will Central American states agree upon definitions? The answer that comes immediately to mind is: International Standards. If Central American states wish to set regulations, they would do well to rely on established methods and use established tools. By using IEC International Standards, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama do not have to do the work of preparing their own and can devote time and energy to other parts of the integration question.

All over the world IEC International Standards provide the basis for essential legislation within the energy sector, and they provide a clear, technical means to interpret laws. When a government says to its contractors that the elements making up a power grid must be built to specific standards to ensure the reliable delivery of electricity that is also safe for its citizens, contractors can use IEC International Standards to guarantee these parameters. When a group of countries wishes to create a regional electric power grid by integrating national structures into one that is regional, the one way to ensure that all parts of the structure are of equal quality and reliability is to standardize all elements of the structure. IEC International Standards are available for exactly this job.

Brazil, Colombia, Costa Rica, Cuba and Mexico are today directly involved with the IEC and we would welcome other states from the region to investigate further what the IEC can do for them as Latin America and the Caribbean continue to develop their potential to participate in global trade in the 21st century.

If you would like to publish this letter in *Energy Magazine*, please feel free to do so. I would also be happy to contribute a longer article on the benefits to governments of International Standards, particularly of governments seeking to establish a harmonized, regional approach to the issue of energy.

Best regards,

A. Amit
IEC General Secretary

Energy Magazine

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

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

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OLADE'S New Executive Staff

After the international announcement inviting candidacies to fill executive vacancies and the respective selection process by the Organization's Personnel Committee, OLADE's Executive Secretary designated new professionals to be part of the Permanent Secretariat's management. Their respective biographies are provided below:

OSCAR E. ARRIETA, Director of Energy Integration, is a Peruvian national, born in Lima. He studied law and political science at the Pontifical Catholic University of Peru and took master's degree courses in business law at the City of London University (Polytechnic) in the United Kingdom and graduate courses in contracting international oil investments and international technology transfer contracts at the International Law Institute of Georgetown University in Washington, D.C.



His professional career includes the position of Head of Legal Counsel for Exploration and Production of PETROPERU S.A., where he was responsible for negotiating oil contracts for the company until 1990, at which time he retired. As of 1990 and up until the end of the year 2000, he conducted international consulting activities for the World Bank and UNDP in various countries, as well in his own country for international private-sector mining and oil companies and state-owned mining, oil, and electric power companies.

From 1980 to 2000, he was also an external advisor to the Ministers of Energy and Mines in oil and gas contracting and legislation and the lawyer in charge of drafting the Law for Organizing the Oil and Gas Sector in his country. He has worked as an external advisor for OSINERG, which is the regulatory agency for energy activities in Peru. He has also participated in the elaboration of the regulations for transportation and natural gas and the regulations governing the relationships between campesino, native and tribal communities with oil investors. He has been a member of the Privatization Committees of PETROPERU S.A. and MINERO PERU S.A., as well as the Board of Directors of a RELAPASA, a subsidiary of REPSOL in Peru.

Since 1995, he has been delegate for Peru in the Energy Working Group (EWG) of Asia-Pacific Economic Cooperation (APEC), at the Hemispheric Energy Initiative of the Summit of the Americas and at the South American Summit, in charge of international activities of Peru's public energy sector and accompanying Ministers to the meetings held for these forums.

ERNEST BONDY-REYES, Director of Energy Studies and Projects, is a Honduran national, born in Tegucigalpa. He earned a degree in agricultural engineering in 1974 from La Molina National Agrarian University in Lima, Peru and holds a master of science degree in engineering, with a specialization in water resources, from Utah State University in the United States, which he obtained in 1979. He also studied legal and social sciences at the National Autonomous University of Honduras (UNAH).



During his professional career, he has acquired a wide range of experience in the political, administrative, executive and conceptual aspects of development projects and activities, not only in the private business sector but also in various international cooperation and assistance agencies. He has taught at the university and held many government posts in the fields of rural engineering, energy, and natural resource and environmental management. Over the last several years, he has been Director General of Water Resources, Under-Secretary of Agriculture, Vice-President of the National Development Bank in Honduras, and until the year 2000 Under-Secretary of Natural Resources and Energy of the Ministry of Natural Resources and Environment of the Republic of Honduras.

As a private consultant, he has participated in management, implementation, legislation, administrative, and institutional studies in the areas national and sustainable development. As for energy issues in Honduras, he has worked on energy diversification programs, alternative energy (solar and biomass, especially firewood), rural community electrification, hydropower watershed management, promotion of the productive use of electricity, the organization of energy initiatives and the establishment of a specialized model for the socioeconomic prioritization of rural electrification plans in Honduras. In management positions inside the government, he has been responsible for the administration and implementation of various hydropower and multipurpose projects, as well as the political and administrative responsibility over the last three years for national energy, oil and gas, and mining activities.

Mr. Bondy has represented his country in numerous international forums, conventions, treaties, and conferences and attended workshops, seminars, courses, and other training events, not only as an instructor but also as a trainee, complementing his professional know-how in a wide range of fields. In addition, his personal interests have led to his involvement in business, professional, political, social, and cultural activities. He is the author of two literary works and has published many articles in specialized journals and magazines.

GABRIEL HERNANDEZ-SUAREZ, Director of Energy Information, is a Colombian national, who holds a degree in chemical engineering, with specialization studies in energy planning and a master's degree in systems engineering.

He joined OLADE in August 1997 as Coordinator of Informatics and Documentation. Between April 2000 and January 2001 he was Acting Director of Informatics and Training.



His professional background has enabled him to acquire a wide range of experience in energy demand and supply studies, energy planning, development of statistical studies and the design of surveys, energy balances, information systems, and the elaboration and analysis of energy, economic, and environmental indicators.

Since 1980, he has been involved in the energy sector as consultant and staff of Colombian institutions such as the National Planning Department where he participated in the National Energy Study; the Ministry of Mines and Energy as Director of Information Systems, where he developed the Energy Information System (SIE), conducted studies on energy demand in different economic sectors, as well as energy planning work and methodological development for the elaboration of energy balances and energy demand/supply forecasting; Consultores Unidos, where he participated in the study on the competitiveness of coal compared to other energy sources; and GALHES Ingenieros as general manager.

He has worked as an international consultant for OLADE, UNDP, IDB and DECON in projects such as the development of the Energy Information System of Nicaragua (SIEN), the Technical Redesigning of Colombia's Social Policy, the Application of Useful Energy Balances in Energy Planning, and the Plan to Expand the Distribution System of the City of Managua.

In OLADE, he has undertaken the elaboration of a new version of the SIEE on Internet, the System for the Preparation of Energy Balances, and the System to Calculate Greenhouse Gas Inventories. He has developed the System for Energy Forecasting

Simulation and Analysis and is currently involved in promoting the development of National Energy Information Systems (SIEN).

JEFERSON VASCONCELOS NUNES, Director of Cooperation and Training, a Brazilian national, graduated from the Federal University of Rio de Janeiro in 1978 with a degree in social sciences. He holds a graduate degree in public administration from the Getulio Vargas Foundation of Rio de Janeiro.



He has been working in the sector since 1979 when he was a member of the Working Group for Using National Coal, set up by the Ministry of Mines and Energy of Brazil. He held various positions in the state-owned utilities Light Serviços de Electricidade and Companhia Auxiliar de Empresas Elétricas Brasileiras in the areas of administration and training, especially in the fields of energy conservation, energy

efficiency, and energy supply/demand forecasting.

He was on the staff of the House of Representatives of Brazil and, as such, he was involved in the work undertaken by the Mines and Energy and Foreign Affairs Commissions, in addition to coordinating and supporting the elaboration of cooperation programs and projects for the Municipal Prefectures and conducting a follow-up of the requests addressed to federal public financing, development, infrastructure, and training institutions.

He has also provide consulting services to international organizations, public and private companies and institutions involved in privatization programs and projects, especially in the energy, regulatory, strategic planning, sustainable development, and renewable energy sectors. He has carried out studies on energy balances and matrix and organized seminars.

In coming weeks, **Dr. Luis Alberto Vásquez**, a Mexican national, will join OLADE's management staff as Head of Internal Monitoring.

Furthermore, OLADE's Executive Secretary has ratified the following staff:

- **Juan José Castro**, Uruguayan, Head of the Executive Secretary's Office
- **Mark Bender**, Guyanese, Coordinator of Cooperation and Training
- **Byron Chilibingua**, Ecuadorian, Project Coordinator
- **Gustavo Martínez**, Ecuadorian, Coordinator of Public Affairs
- **Elvia Ortega**, Ecuadorian, Coordinator of Administration and Finance

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