

# Energy Magazine



EDITORIAL:  
OSAKA: DIALOGUE  
BETWEEN OIL PRODUCERS  
AND CONSUMERS

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- **An Exercise in Strategic Analysis for Sustainable Policy Design, Mary-Ellen Tyler, Dean of the Faculty of Environmental Design at the University of Calgary**
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## OSAKA: DIALOGUE BETWEEN OIL PRODUCERS AND CONSUMERS



The principal objective of the International Energy Forum (IEF) is to promote, through dialogue, a better understanding between the major players of the energy sector to overcome the obstacles that it is now facing in the world. The IEF held its eighth meeting in Osaka, Japan on September 21-23, 2002 and was attended by government leaders, ministers, and delegates from 70 countries, as well as representatives of 13 international organizations involved in energy development, among which OLADE.

The Forum has its origins in the first informal ministerial dialogue between energy producing and consuming nations in Paris, in July 1991, immediately after the 'Gulf War.' Afterwards, this dialogue was institutionalized as the International Energy Forum, which has held its meetings periodically in different parts of the world to build up mutual understanding.

Although it cannot be denied that there were matters of conflict between oil producing and consuming countries and it must be kept in mind that energy is essential for all economic activities, the two groups of countries have entered into a nonconfrontational cooperation phase because their economies are interdependent.

The terrorist attacks of September 2001 have put world energy security to the test and highlighted the importance of this cooperation. Although oil prices rose temporarily, oil producing countries, both

members and nonmembers of the Organization of the Petroleum Exporting Countries (OPEC) pledged to ensure stable supply. The International Energy Agency also announced its willingness to tackle emergencies. The result of these efforts was oil supply stability in an especially delicate moment for peaceful coexistence in the world, underscoring that cooperation is essential for both producers and consumers.

The 8th International Energy Forum held in Osaka emphasized once again the importance of cooperation in this area, highlighted Japan's drawing capacity as the attendance of government leaders surpassed that of previous forums, and ratified the preeminence of Japanese hospitality, capacity for organization, and punctuality.

Unfortunately, it also underscored the absence of any direct reference to Latin America and the Caribbean in the meeting's analyses and discussions.

In view of the energy potential of Latin America and the Caribbean, this omission is unfair. Proven oil reserves in the region, at present, amount to 120.6 billion barrels. In 1991-2000, 46.6 billion barrels, accounting for 66.5% of existing reserves the first day of 1991, were discovered.

Regional oil production in 2001 amounted to 9.66 million barrels per day. The consumption of crude oil and refined

products accounted for 61% of production. The region's reserves will be able to ensure about 56 years of supply if the pace of consumption remains unchanged.

Proven natural gas reserves amount to 8,105 billion cubic meters, and the success of recent exploration suggests that there is still a large undiscovered gas potential.

The contribution of the energy sector of Latin America and the Caribbean to sustainable development and environmental preservation is positive, because access of the population to less polluting sources of energy has been increasing permanently over the last decade.

Therefore the neglect of the region by the oil producers and consumers meeting in Osaka cannot be justified. The causes of this neglect will have to be examined and the region will have to build up its involvement in this important consensus-reaching forum.

Dr. JULIO HERRERA  
Executive Secretary



... What would you do if you were asked by OLADE's Forum for Electrical Power Activities to identify the key elements of a sustainable urban electric power policy?

... What would you do if OLADE's Executive Director, Dr. Julio Herrera, asked you to report your findings to the next meeting of the Forum in two days time?

This was exactly the situation that twenty-four Program V students in Energy and Environment were placed in as part of their Energy Policy (ENEV 629) course in January, 2002.

# An Exercise in Strategic Analysis for Sustainable Policy Design

## The OLADE – University of Calgary Partnership

The Masters of Science Degree in Energy and Environment is a cooperative venture between OLADE and the University of Calgary in Calgary, Alberta, Canada. The OLADE - U of C partnership, in cooperation with the Canadian International Development Agency (CIDA), has been putting expertise from government, industry and universities in the Latin American and Caribbean region (LAC) together with energy and environmental expertise from the University of Calgary into the classroom for five years. The result is an intensive full-time interdisciplinary curriculum delivered over fourteen months at OLADE's offices in Quito, Ecuador. Students in the program generally come with professional work experience in energy and environment and a supporting range of undergraduate degrees (such as: engineering, law, economics, business administration, commerce, architecture, and biology).

The program's courses and seminars have been developed to address two primary objectives:

1. to enable professionals working in or who intend to work in the energy and environment sector to understand the technical, economic, social, environmental and institutional factors and interactions affecting energy sector development in the LAC region;
2. to provide the skills necessary to develop appropriate organizational and institutional management strategies and interventions to support sustainable energy development in the LAC region.

Dr. Mary-Ellen Tyler  
Dean of the Faculty  
of Environmental Design  
University of Calgary



### The Special Nature of Professional Education

Graduate education for professional practice involves understanding how to put theory into action and how action requires specialized planning and management skills such as effective communication and the ability to work with others in problem solving teams. For example, a common professional practice situation that energy and environment managers and policymakers often find themselves in is making critical management decisions about large-scale projects characterized by a high degree of risk, complexity and uncertainty. These situations are often further complicated by a variety of institutional and economic pressures, which require decisions to be made in relatively short timeframes often without access to adequate information.

Therefore, the new Energy Policy course (ENEV 629) was designed by Mr. Daniel Bouille (IDEE, Argentina) and Dr. Mary-Ellen Tyler, Dean of the Faculty of Environmental Design at the University of Calgary, with two objectives in mind:

- to make students familiar with the tools for sustainable energy policymaking within the context of OLADE's six fundamental principles for energy policymaking in the LAC region;
- to teach strategic thinking in the kinds of difficult decision making situations that Energy and Environment Program graduates will likely find themselves in as policymakers and senior managers in both the public and private sectors.

### The Value of Scenarios in Policy Design

One of the most effective techniques for developing critical thinking and strategic analysis skills is the use of

'scenarios'. Scenarios are constructed to simulate 'real' situations and events that require the participant to engage in a specific problem solving activity within a given context as described by the scenario. The purpose of the scenario is not just to generate a solution to the problem or task presented because there is no single 'right answer' to a scenario. The real benefit of using scenarios lies in the 'what if?' situations they create for participants. This requires participants to identify what critical assumptions and strategic factors are built into the scenario that need to be identified and responded to through specific decisions and actions. The situational problem-solving required by a scenario can be an effective conceptual tool for strategic analysis because it requires participants to make decisions about what is important in a given context and within a short time frame.

### Why Sustainable Policy is Different

Perhaps the most important advantage in using scenarios in policy design instruction is that all the critical interconnections and relationships between social, economic, technological, institutional and environmental factors are inherent in the scenario situation. The concept of sustainable development is based on the historical case evidence gathered by the Brundtland Commission which led to their conclusion that economic decision making, or development decision making based solely on economic factors, has significant unanticipated and unwanted social and environmental consequences. In order to avoid these consequences, economic decision making must take into account social and environmental factors. The term 'Sustainable' development denotes a decision-making approach in which critical social-economic-environmental interrelation-

*"The real benefit of using scenarios lies in the 'what if?' situations they create for participants. This requires participants to identify what critical assumptions and strategic factors are built into the scenario that need to be identified and responded to through specific decisions and actions."*



ships and linkages are identified and accounted for in the development process. The term “full cost accounting”, was used by the Brundtland Commission to refer to this practice.

The historical approach to policymaking has been sector focused and social, economic and environmental policies have been recognized as distinct policy areas, which have developed quite separately from one another. In contrast, the idea of a ‘sustainable energy development policy’ is quite different because it deals with the interconnections among social, economic and

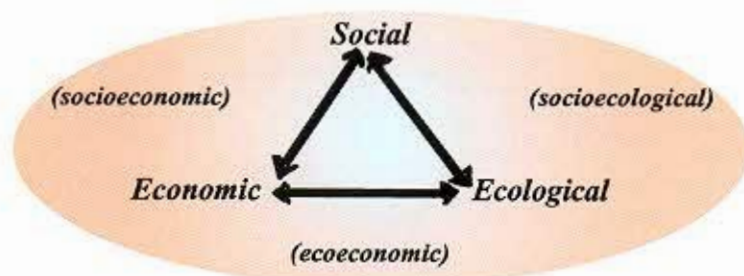
### Energy and Sustainable Development in Latin America and the Caribbean

OLADE has recognized that the complexity of the social-economic-environmental interrelationships inherent in energy development requires a sustainable approach to policymaking. OLADE’s June 2000 publication “Energy and Sustainable Development in Latin America and the Caribbean: Guide for Energy Policymaking” documents the critical steps in developing energy policy for sustainable development in the LAC region. This publication provided the curriculum framework for the Energy and Environment

situation. Therefore, the first two weeks of ENEV 629 (delivered by Daniel Bouille, IDEE Argentina) provided an introduction to the ‘tools’ of energy policy making for sustainable development identified in OLADE’s Guide for Energy Policymaking. The third and final week of this intensive course (delivered by Dr. Tyler, University of Calgary) created a scenario in which Program V students had to apply these tools to a ‘sustainable’ energy policy-making exercise.

### The Energy Policy Scenario Assignment

Based on events and information documented in OLADE’s Energy Magazine over a two year period, the following policy design scenario was developed and given to twenty four Program V Energy and Environment Students in ENEV 629 on January 22, 2002.



#### Sustainable Policy Design Interrelationships

[Please note: the term “socioeconomic” in reference to social and economic interrelationships is well established but the interrelationships denoted by “socioecological” and “ecoecconomic” are not as well defined.]

environmental issues rather treating them as separate policy sectors. ‘Sustainable’ policy design is a special kind of process because it must identify and develop strategies for managing social-economic-environmental interconnections to achieve desired conditions in all three areas. Therefore, designing effective ‘sustainable’ energy development policy requires both identifying and incorporating relevant social-economic-environmental interrelationships and crafting the appropriate management and intervention strategies that will enable desired outcomes to be achieved.

Degree’s new Energy Policy course (ENEV 629). Normally, and depending upon the published source, the policymaking process is usually presented as having five or six specific components that are linked in step-by-step fashion (for example: the structural assessment and analysis of markets, supply systems, and consumption by sectors, forecasting and modeling, identification of policy agents and instruments). While it is critical to understand specific components of the policymaking process and how they function; it is even more critical for sustainable policymakers to understand how they are interconnected and how they work together simultaneously in an applied

*“In a presentation at the Conference “Role of Cleaner Fossil Fuel Systems” held in Rio de Janeiro in 2001, OLADE’s Executive Secretary, Dr. Julio Herrera, recognized four pending tasks in the LAC region. One of these was “The wider use of efficient energy so that it can become an instrument to abate poverty without neglecting environmental protection”. The significance of this task is reinforced by the 2001 report of the Inter-American Development Bank (IDB) on future of energy sectors in the LAC region. One of the five major challenges for the next 20 years identified by the IDB was the need for “The development of energy production and consumption patterns that are compatible with environmental preservation”.*

*OLADE’s Energy Sector reform process in the LAC region is characterized by the creation of com-*



petitive markets, opening up to private capital and reducing the role of the state. OLADE has identified five fundamental principles for energy policy making that characterize its approach to reform and sustainable development goals:

1. Policies must be energy sector specific and customized to specific situations and not doctrinaire approaches supposedly applicable to all situations.
2. Policies must be based on careful study of specific situations to identify specific objectives, the selection of instruments that create options for action, the analysis of possible impacts of actions on different relevant dimensions (social, environmental, institutional etc).
3. Policies must strike a balance between the different interests of stakeholders and the prevention of anti-competitive practices through formal regulatory frameworks.
4. Market mechanisms do not automatically ensure compliance with other important sustainable development objectives. Because of this complementary policy actions to ensure these objectives are met are necessary.
5. Social domain over energy resources means that the State has an unavoidable responsibility in supervising their management on behalf of society. Discrepancies between private costs and social costs that could lead to negative environmental impacts also require the undelegable intervention of an energy policy aimed at promoting sustainable development.

Reform in the electricity sector has been characterized by the vertical

1. What would happen if a drought affects the country, and the hydroelectric plant Paute did not have the capacity to generate enough electricity to supply the city of Quito?
3. What would happen if the Privatization Process transforms Empresa Eléctrica de Quito S.A. and HydroPaute S.A. into privately owned companies?
4. What would happen if the supply system in the city of Quito is not able to meet new opportunities to provide electricity services?

	ENVIRONMENTAL	SOCIAL	ECONOMIC
<b>DEMAND</b>	<ul style="list-style-type: none"> <li>• The use of fuel wood will increase (-)</li> <li>□ Energy sources damage due to irrational use of energy (-)</li> <li>➤ Overuse of energy sources (-)</li> </ul>	<ul style="list-style-type: none"> <li>• Shortages (-)</li> <li>□ Greater electricity access of the population (+); tariff will be raised (-)</li> <li>➤ Shortages (-)</li> </ul>	<ul style="list-style-type: none"> <li>• Production shutdown (-)</li> <li>□ Inflation (-)</li> <li>➤ New job opportunities (+); production shutdown (-)</li> </ul>
<b>SUPPLY</b>	<ul style="list-style-type: none"> <li>• Eutrophication due to water storage (-)</li> <li>□ More electric plants will be constructed and the use of fossil fuels will increase (-)</li> <li>➤ More electric plants will be constructed and the use of fossil fuels will increase (-)</li> </ul>	<ul style="list-style-type: none"> <li>• Social protests (-)</li> <li>□ Discrimination of consumers due to raise in tariffs (-)</li> <li>➤ Enhancing industrial growth (+); the big consumers will be preferred, low quality to low income consumers (-)</li> </ul>	<ul style="list-style-type: none"> <li>• Impact over agricultural activities due to irrational water storage by generation companies (-); loss of market share (-)</li> <li>□ Increase competition among actors, reducing cost of production (+); low financing capacity of investors (-)</li> <li>➤ More revenues (+); financial and administrative (penalties) costs for not meeting the demand (-)</li> </ul>
<b>REGULATORS</b>	<ul style="list-style-type: none"> <li>□ Enforcement of environmental regulations (+)</li> <li>➤ Develop new professional capacities (+)</li> </ul>	<ul style="list-style-type: none"> <li>□ Consumer protection for equity of service and quality (+)</li> <li>➤ Consumer protection for equity of service and quality (+)</li> </ul>	<ul style="list-style-type: none"> <li>□ Industrial growth due to confidence in the system (+)</li> <li>➤ Enhance the coordination with other sectors (Transport, Urbanization) to guide the development of the new activities<sup>1</sup></li> </ul>

- The issues marked with this sign are the ones identified for the first question
- The issues marked with this sign are the ones identified for the second question
- The issues marked with this sign are the ones identified for the third question

and horizontal breakup of state electric power monopolies, separating power generation, transmission, and distribution activities into different companies and the establishment of a competitive open market for power generation. Free access to the transmission and distribution system is being envisaged for supply to large end-users. Power transmission and distribution prices are regulated in line with the "subrogated market concept". This means the simulation of prices that would exist if there were open competition for the supply of these services. However, resistance to

reforms in the electric power industry have generally been: opposition from workers to the breakup of state monopolies for fear of losing their jobs when private companies take over; resistance to putting prices, including regulated tariffs, on par with economic costs; and political opposition to the privatization of state enterprises. A relatively recent phenomenon in the LAC region involves the emergence of consumer associations and consumer defense organizations. Both types of organizations have a significant role in striking a balance between the interests of the energy



### Key or Critical Variables and Inter-relationships

Parameter	Comments
Strengths	<ul style="list-style-type: none"> <li>• Increase energy efficiency.</li> <li>• Diverse energy market.</li> <li>• Adequate buffering capacity.</li> <li>• Reliability in supplying quantity and quality.</li> <li>• Stable price adjustments in accordance with the ability to pay.</li> <li>• Low risk of integration and collusion.</li> <li>• Coordination between state, provincial, municipal and ministerial authorities in the creation of Social, Environmental and Energy Laws.</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>• Increase complexity on government administration because the changing of the market structure.</li> <li>• Government actions to reduce residential cost may negatively impact in energy efficiency in residential sector.</li> </ul>
Opportunities	<ul style="list-style-type: none"> <li>• There is the possibility to increase Government Investment in Social Programs as a result of external investment.</li> <li>• Close relationship with private sector.</li> <li>• Reduction in energy losses.</li> <li>• Improvement in Environmental aspects.</li> <li>• International Funding for social development.</li> <li>• Potential increase in productive sector.</li> </ul>
Threats	<ul style="list-style-type: none"> <li>• Probably increase of price to end user due to profit objectives.</li> <li>• Trade Unions conflicts (due to privatisation).</li> <li>• Social Reaction (depending on how fast and severe changes are made).</li> <li>• Potential lost of pricing control.</li> </ul>

sector in general and between energy suppliers and consumers in particular.

- \* Consistent with OLADE's role as a political forum (promoting analysis, discussion, and decision-making in areas of common interest to member states), three new 'Forums' were recently created at OLADE's XXXI Meeting of Ministers: the Energy Sector Business Forum, the Forum of Supervisory Entities and Regulatory Agencies for Oil and

Gas Activities, and the Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities.

OLADE's new Forum for Electrical Power Activities in cooperation with the OLADE Ministerial Secretariat in Quito have identified the development of a sustainable urban electric power policy as their initial priority. To assist in this process, OLADE's Executive Secretary, Dr. Julio Herrera, has asked the Masters in

Energy and Environment Program V class to develop an initial draft of a sustainable urban electric power policy, using Quito as the policy case study. However, the next scheduled meeting of the Forum is set for Friday, January 25<sup>th</sup>, 2002 (two days from now) and the receipt of the draft policy is on the agenda. In order to respond to this deadline, on Wednesday, January 23<sup>rd</sup>, the Program V class will be organized into six interdisciplinary teams. Over the next two days each team will be expected to apply a sustainable policy design approach in order to deliver a draft policy by 9:30 a.m. Friday".

### The Strategic Thinking Process

In response to the Scenario, the Program V students had to assume the role of OLADE policymakers faced with a serious deadline. Given that it is an impossible to undertake policy-making of this magnitude in two days or even two months, the critical policy design skill developed with the scenario is strategic thinking. Strategic thinking is a highly conceptual and qualitative approach used in problem solving that emphasizes the identification of relationships and dynamic interrelationships and the relative importance of these

interrelationships and their constituent parts and processes. This is also referred to as 'heuristic' analysis. The ability to identify critical or important interrelationships relatively quickly enables problem analysis to be focused on 'key' or critical factors. Focusing on a few critical factors instead of considering all possibilities is important when time for problem solving is limited.



## Techniques for Strategic Thinking

The process of strategic thinking is structured and systematic. Several techniques are used in the process and usually include one or more of the following:

- *Situational Assessment*
- *Problem Identification Matrix*
- *Forecasting*
- *Performance Indicators*
- *Strength-Weakness-Opportunities-Threats (SWOT) analysis*

By applying these techniques to the scenario task of designing a Sustainable Urban Electric Power Policy for Quito, Ecuador, ENEV 629 students were able to identify some important policy values, problems, key social-economic-environmental interrelationships, specific quality parameters and indicators in just two days.

The following four tables have been extracted from the final results of the assignments which in the context of the scenario they would have presented to OLADE's Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities.

The first table is a representative Problem Identification Matrix product produced by one of the student groups. It is followed by an example of another group's 'What If' driven forecasting and issue identification technique. The third table represents the results of another group's identification of 'key' or critical interrelationships necessary for a sustainable approach. The fourth table illustrates a sample of one stu-

	Problem Definition	Manifestation	Causes	Players
<b>Energy</b>				
<b>Economic</b>	Inability of low income earners to purchase electricity	Low access to electricity for low income earners	Low level of income in comparison to electricity prices	Utility Government Private Investors Consumers
	Low capital available to the state for expansion	Inability for industry and commercial activities to expand  Reduced access to low income households	Low private sector involvement in the market.	Utility Government Private Investors
<b>Social</b>	Low level of Education in energy efficient and environment in low income sector	Increased use of wood fuels and other non environmental Sources.	Low income and low access to basic education. Low literacy rate	Government Utility Consumers
<b>Environment</b>	High reliance on energy from hydropower	Low reliability of energy supply during dry periods. Loss of land area	Low comparative cost of hydropower and high availability of resource.	Government Utility
	High environmental impact of Diesel & Fuel Oil Generation	Increased emissions leading to health problems & climate change effects	Low cost of fuels. Inefficient generation equipment	
<b>Institutional</b>	High involvement of the state as entrepreneur	Inefficiencies in the supply system of the utility	Lack of incentives for private players to take part	Government CONELEC
	CONELEC acts as regulator and policy maker	No independence for regulator from municipality		

dent group's summary of sustainable urban electric power policy parameters and indicators.

### Application of the Lessons Learned

The potential contribution of the results of this assignment to better understanding the problems and implementation barriers inherent in sustainable urban electrification policy design goes well beyond the classroom. It is generally accepted that conventional economic and social sec-

tor policymaking is quite good at identifying the desired future states of the social and economic processes it is attempting to manage. Similarly, the development of policy statements specifying the location, timeframe, costs/benefits and expected performance levels for social and economic policy is standard procedure.

The more problematic areas of social and economic policymaking have generally been associated with the selection



*“Given the existing challenges in social, economic and environmental policy sectors; attempting to undertake sustainable policymaking is even more fraught with uncertainty and methodological difficulties because it requires identifying policy values, statements, parameters and indicators about social-economic-environmental interrelationships and linkages.”*

of quality parameters and indicators. This is important because it determines what will be assessed and how it will be assessed in order to know whether or not the policy is working. For example, “Gross National Product” (GNP) has historically been used as primary indicator but is increasingly being questioned as to its effectiveness.

Environmental policy is a much newer and less developed area of policy science than social and economic policymaking. There is far less experience and accepted knowledge about what can, does or should constitute the basis for determining the desired state of ecological systems and their critical component processes. Consequently environmental policymaking is challenged at all stages of the policy process, having difficulty in determining location, timeframe, who benefits/who pays, performance levels to be achieved and indicators.

Given the existing challenges in social, economic and environmental policy sectors; attempting to undertake sustainable policymaking is even more fraught with uncertainty and methodological difficulties because it requires identifying policy values, statements, parameters and indicators about social-economic-environmental interrelationships and linkages. Sustainable policy design is a special type of policymaking that has very little precedent and therefore lacks the ‘tried and true’ historical validation usually associated with economic and social policy traditions. However, sustainable development is a driving force in energy sector reform in the LAC region and OLADE has made a significant contribution to the development and understanding of what the sustainable energy policy process must involve.

As urbanization increases in the LAC region and the demand for electrification increases with population

growth and consumer demand, the need to understand the factors involved in developing sustainable urban electric power policies will increasingly become a political priority. It is important that energy and environment professionals and future practitioners have the strategic thinking skills and understanding of sustainable policy design necessary to find solutions.

*... what would you do if you were asked by OLADE's Forum for Electrical Power Activities to identify the key elements of a sustainable urban electric power policy?*

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Dr. Mary-Ellen Tyler is the Dean of the Faculty of Environmental Design at the University of Calgary. She holds a Masters Degree in Environmental Science and an interdisciplinary Ph.D. in Environmental Science, Management and Anthropology.

Dr. Tyler has been involved in the OLADE - U of C Energy and Environment Program partnership for the last four years.



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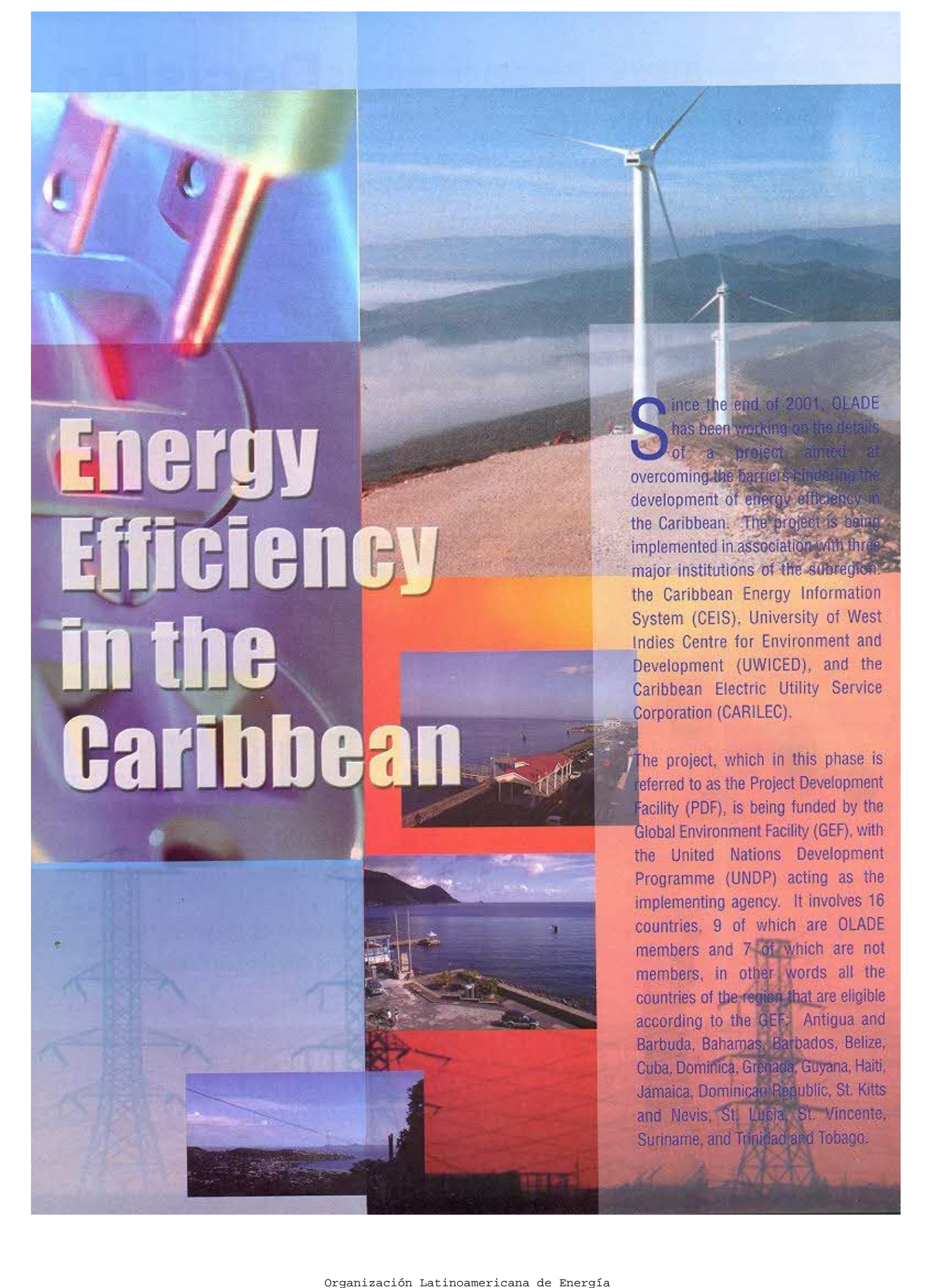
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# Energy Efficiency in the Caribbean

Since the end of 2001, OLADE has been working on the details of a project aimed at overcoming the barriers hindering the development of energy efficiency in the Caribbean. The project is being implemented in association with three major institutions of the subregion: the Caribbean Energy Information System (CEIS), University of West Indies Centre for Environment and Development (UWICED), and the Caribbean Electric Utility Service Corporation (CARILEC).

The project, which in this phase is referred to as the Project Development Facility (PDF), is being funded by the Global Environment Facility (GEF), with the United Nations Development Programme (UNDP) acting as the implementing agency. It involves 16 countries, 9 of which are OLADE members and 7 of which are not members, in other words all the countries of the region that are eligible according to the GEF: Antigua and Barbuda, Bahamas, Barbados, Belize, Cuba, Dominica, Grenada, Guyana, Haiti, Jamaica, Dominican Republic, St. Kitts and Nevis, St. Lucia, St. Vincente, Suriname, and Trinidad and Tobago.



## Project Implementation

The studies for the project started with a survey aimed at identifying the barriers that hinder the development of energy efficiency in the Caribbean. The survey was conducted on the basis of a representative sampling of various sectors classified in five subject areas defined at the start of the project: Energy Policy and Regulation, Financing Alternatives, Business Development, Awareness-Raising, and Information and Training Management. The surveys were administered by four participating institutions that took advantage of their own contacts to set up connecting networks in the Caribbean in order to query about the knowledge and perception of energy efficiency prevailing in the subregion.

The results that were obtained were discussed at a meeting held on June 13-14, 2002 in Kingston, Jamaica. The representatives of the participating countries discussed the reports coming from the institutions implementing the project and reached a consensus about which barriers were the most important. Likewise, the possible actions that should be adopted to overcome the barriers and that should be part of the general plan to be proposed as the groundwork for the development of energy efficiency in the Caribbean were proposed.

The list of barriers that were identified can be summarized as follows:

1. Lack of awareness of energy efficiency benefits among politicians, decision-makers, authorities, and executives.
2. Absence of energy policy.
3. Lack of government commitment.
4. No lead organisation on energy efficiency.

5. Absence of a strategy to educate and sensitise general public.
6. Lack of utility involvement.
7. Lack of well prepared personnel.
8. Absence of markets for energy efficiency equipment and services.
9. Funding not readily available for energy efficiency projects from established commercial financial institutions, particularly commercial banks.
10. Existing sources of financing for energy efficiency projects are mainly extra-regional.
11. Regional sources of relatively low interest money are not interested in energy efficiency.
12. Size of Caribbean Market.
13. High initial cost of energy efficiency equipment.

14. Low quality of some equipment.
15. Weakness and/or absence of regulatory framework.

Sobre la base de las barreras identificadas y de las sugerencias recibidas en la Primera Reunión Regional del Proyecto, se desarrolló la estructura de un plan que aspira a cumplir varios condicionantes que son necesarios para que existan perspectivas de éxito en el cumplimiento de los objetivos.

## Conditions to be obtained by the Plan

### *Overcoming of barriers*

The plan proposed would have to integrate several actions with regional scope, which will allow for overcoming of the barriers, identified during the previous phase.

In order to reach the proposed goal, it is necessary to integrate the several programs that suggested themselves



*Presiding officers of the Second Regional Meeting of the Project to Promote Energy Efficiency in the Caribbean. From left to right: the UNDP/GEF Representative, Mr. Oliver Page; the Minister of Physical Development, Environment and Housing of St. Lucia, Hon. Ignatius Jean; and the OLADE representative, Mr. Mark Bender.*



from the five thematic areas defined at the beginning of the project. They of necessity have to be supportive of each other, since they are closely related and must to be oriented to inter-linked barriers.

#### *Support from all the Caribbean countries*

The actions that are included will have to satisfy different perspectives in order to harmonise the diversity of views of the 16 beneficiary countries of the project. Only in that way will the support that is required for the plan be had. Even more, if the plan entails a commitment of economic contributions for its implementation, then such support is indispensable.

#### *Sustainability*

Energy efficiency efforts cannot be of short-term scope, fundamentally because the incorporation of energy efficient equipment requires a process of several years, where new, higher efficiency models replace those of lower efficiency as fast as the latter exhaust their life expectancy. This imposes the necessity to propose actions with the characteristics and potential to be sustainable.

#### *GEF Conditions*

The GEF conditions are summarised in documents related to the Operational Program Number 5. Removal of Barriers to Energy Efficiency and Energy Conservation, and perhaps the most important is the one that refers to the sharing of the financing of the investments. The GEF document GEF/C.7/Inf.5, Incremental Costs, February 29, 1996, states the following:

*"Additional national action beyond what is required for national development is therefore also needed. Such additional action imposes additional (or "incremental") costs on countries beyond the costs that are strictly necessary for achieving their own development goals, but nevertheless generates additional*

*benefits that the world as a whole can share."*

### **PLAN TO OVERCOME BARRIERS**

The plan outlined below has a structure that includes 8 broad programs, each interrelated with the other. Each program is oriented to the overcoming more than one barrier. Each program is presented in a picture to summarise the activities included within it.

Many individual activities are going to be developed in a co-ordinated fashion between two or more programs; those relations are shown in brackets. For instance, take the case of the pilot projects. They are part of the Program for the development of an energy efficiency services and equipment market but at the same time they will be used for on-the-job training activities for the technical personnel. On the other hand, they would facilitate the start-up operation of the revolving fund by creating the space for the training of executives of the financial institutions for these new kinds of financial operations.

#### **Final activities**

The proposed structure was circulated to all the representatives of the countries participating in the First Regional Meeting for the purpose of furthering the analysis and obtaining comments from the government offices to which they belong. Afterwards, the proposal was discussed at the Second Regional Meeting held in St. Lucia on September 2, 2002, at which time it was widely applauded and benefited from comments, which were introduced before completing the presentation using the format required by GEF to process the funding request. It should be noted that the plan's structure presented in the present article incorporates the comments made at the regional meeting in St. Lucia.

At present, work is being done on the details of the budget, timetable, and other specific considerations that will complete the plan.

*"Additional national action beyond what is required for national development is therefore also needed. Such additional action imposes additional (or "incremental") costs on countries beyond the costs that are strictly necessary for achieving their own development goals, but nevertheless generates additional benefits that the world as a whole can share."*





*Participants at the Second Regional Meeting for the project aimed at overcoming the barriers to energy efficiency in the Caribbean, held in St. Lucia on September 2, 2002*

### 1- Raise Awareness of Authorities and Executives

- Campaign using one Regional Ministry as a Champion
- Space in relevant CARICOM Meeting
- Space in OLADE Ministries Meeting
- Produce a special information brochure
- Special meetings of Chambers of Industry & Commerce
- Special meetings of Hotels associations

This program is oriented to overcome the barrier that, in opinion of the survey respondents, and with which the participants in the First Regional Meeting concurred, is considered the most important and that must first be addressed in order to open the way to any other activity in the area of energy efficiency in the Caribbean. This is the lack of awareness of energy efficiency benefits among politicians, decision-makers, authorities, and executives.

### 2- Support Development of Policies in Energy Efficiency

- Technical & economic assistance to energy ministries & departments
- Foster a commitment to implement policy proposals
- Creation of energy efficiency (& RE) office or nomination of one official to be in charge
- Monitoring by EE Dpts.: Development of base line for follow-up indicators & programs (In co-ordination with Program 7)
- Assist EE Dpts. to develop energy labelling program and to implement through bureaus of standards
- Development of energy efficiency strategies (In co-ordination with Programs 5 & 7)
- Assist EE Dpts. to propose laws, standards & regulations and support them in getting approval

The absence, in the countries of the Caribbean, of policies oriented to the development the energy efficiency and in some cases, of an energy policy in general, is a strong impediment to the establishment of strategies and further, to concrete actions that allow for the creation of a market for EE equipment and services. Additionally, this prevents the taking of concrete actions to create a suitable atmosphere where efficiency actions can bear fruit.



Awareness and knowledge of the public as to the benefits of energy efficiency and the importance it has for their own well being and economic situation is fundamental for any EE program to be successful.

Therefore, this component of the plan has special importance.

### 3- Public Awareness

- Definition of regional strategy
- Selection of regional publicity consultant and one publicity firm in each country
- Initial campaign directed to replace incandescent lamps with compact fluorescent lamps
- Definition of 2<sup>nd</sup> phase public awareness campaign -Labelling (Co-ordinated with Programs 5 & 7)
- Second phase public awareness campaign supported by private sector
- Agreements with professional associations to disseminate EE potential

### 4- Regional Capacity Building and Child Education Program

- Development of curricula & educational material
- Consensus in strategy in meetings of Education Ministers
- Training program for school teachers
- Information dissemination using electronic novelties in an extra curricula format
- Special courses for training hotel maintenance personnel and technicians at vocational level
- Development of special courses /seminars for civil engineers and civil society organisations
- Development of a minimum curricula on energy efficiency and energy audits and disseminate among all universities and campuses
- End-use studies Pilot projects in all Caribbean islands as on-the-job training activities (To be co-ordinated with Program 7)

This Program is of great importance, because success in the development of the energy efficiency depends to a great extent on the way in which the qualification of professionals and technicians of the Region is confronted. The outlines described below include, in addition to formal academic courses, the interaction with other programs with specific activities, in order to use them as part of the training efforts being field experiences.

Many recommendations must find echo in the availability of equipment and specialised services and, in the case of commercial and industrial companies, that they find technical and financial assistance for concrete applications. All of this is a function of the existence of a market for energy efficiency services and equipment.

Additionally, the existence of this market depends on the trained professionals finding work in the field for which they were prepared, and in addition they have the resources to actually implement recommendations that arise from the energy audits.

### 5- Development of Market for Energy Efficiency Services and Equipment

- From end-use studies (Program 7) define steps for equipment promotion (Results to 2<sup>nd</sup> phase of public awareness campaign. Program 3)
- Disseminate potential economic benefits of energy efficiency (brochures and educational material)
- Pilot projects (Training personnel, executive awareness, revolving fund start-up and operation)
- Give incentive to ESCOs creation and support the operation of existing ones
- Energy Engineers and ESCOs certification development
- Independent entity to measure and verify savings



The barrier is not only the lack of availability of funds but also the lack of experience with credit operations for efficiency actions. Credit operations for energy efficiency actions, particularly those that they have to do with operations through ESCOs, differ significantly from those that financial institutions are used to. Therefore, it is necessary to initiate a revolving fund that allows for overcoming the obstacles of the moment and associate it with the execution of pilot projects to demonstrate the possibilities and potentialities that are currently disregarded.

### 6- Regional Revolving Fund to Finance Energy Efficiency

- Definition and discussion of the by-laws for the operation of the fund
- Creation of technical guarantor for the financial operation with ESCOs
- Train local "third floor" institutions to design and control financial operations
- Establish agreements with international, regional and local institutions for fund formation

This Program refers to the development of concrete plans for energy efficiency actions in each one of the countries of the Caribbean. The local EE group must be integrated with the participation of the state sector and the utilities in order to have a suitable mix of the actors and, at the same time allow the authorities and executives to witness the execution of activities.

### 7- Initial Indicator Valuation and Concrete Plans Definition

- End-use studies and measurements proposals. To be co-ordinated with Program 4 (Capacity building). Results to Programs 2, 3, 8.
- Economic assessment and prioritisation of measures proposed (Co-ordinated with Program 4)
- DSM assessment and measures definition with utilities personnel
- Definition of strategies to be included as part of policy (Energy levies or taxes). Co-ordinated with Program 2 (Energy efficiency policy)
- Long run plans / proposals to each Caribbean country

### 8- Strengthen Utility Regulators

- Space in Latin American and Caribbean forums to initiate conversations
- Training and meetings to share experiences for the personnel of regulator
- Promote the creation of regulator offices in countries that do not have any
- Promote the creation of a Caribbean Association of Utilities Regulators
- Propose DSM tariffs upon the base of end-use studies (Program 7)
- Change of tariff structure to enforce loss reduction

The weakness of the regulatory system in most of the countries of the Region means that the interests of the customers of the energy companies are not well represented by these institutions. This situation is more serious if one considers that size of energy markets are so small that it does not give rise to incorporation of competition as is done in other countries of the world. Of utmost importance then is the strengthening and, in some cases, the establishment of a regulatory system with knowledge and experience.

A regional association of regulators will allow for the sharing of experiences to strengthen the position of the smallest institutions and at the same time, the association will allow the integration of the regulators in all the countries of the region as active participants in the elements of energy efficiency plan and strengthen their role as a link with the energy utilities, not only in supply-side efficiency but with regard to the support of the companies for demand-side efficiency actions.



# World Summit and Parallelism

René G. Ortiz\*



Without a doubt, the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 has laid the fundamental principles and an action program to achieve sustainable development. The Johannesburg Summit of August-September 2002, also known as Rio+10 firmly reasserted the commitment of the countries of planet Earth to the principles of Rio and the plan of action consisting of 153 points that were agreed upon with the approval of the Heads of State as development goals.

The matter that should be highlighted in respect to the World Summit of South Africa is the massive and active participation of civil society through all of its entities, including the private sector, social movements, NGOs, etc. Parallelism

The role of business at the Summit should be emphasized because it shows that there is a commitment in the world's business community to sustainable development. It was an opportunity to show, clearly and openly, in the motor vehicle transportation sector, what has been achieved to date in terms of scientific and technological development to decisively tackle, for example, the issue of greenhouse gas emissions, which are deemed to be the main source of climate change. Cars driven by hydrogen fuel, in both large and small sizes, were exhibited for viewing by the public attending the World Summit.

Thus, countless conferences and reports were given throughout the Summit, where each institution,



whether commercial or not, took up the challenge of publicly presenting what it had done and what it expected to do in the future in the framework of this planetary topic of sustainable development.

While the official delegations of the government members of the United Nations (UN) discussed the final details for the implementation plan of the World Summit on Sustainable Development, outside, at another venue close to the Sandton Convention Center in Johannesburg, very interesting specific debates were being conducted. Among others, there were debates on the eradication of poverty, the need to change unsustainable production and consumption patterns, the duty of peoples to protect and manage the natural resource base for their social and economic development, the sustainability of development in a globalized world, health and sustainable development, the sustainability of development for developing island States, sustainable development for Africa and other regional initiatives aimed at Latin America and the Caribbean, Asia-Pacific, Western Asia, the European region, and others.

At these large world meetings, even more so at this Sustainable Development Summit, where the participation of civil society was evident, it is customary to find organized groups expressing their dissatisfaction. Indeed, many NGOs and social movements exposed their disappointment at the plan of implementation of more than 150 points that were discussed in the United Nations and manifested their disagreement with the limited action that governments were attempting to pledge as part of the implementation plan of the World Summit on Sustainable Development. It is normal for this to occur. It is appreciated, but not necessarily shared by others. The virtue of mankind is its diversity of thought and perspective.

According to this part of civil society, this is the consequence, tinged with sadness, of the "lost decade since Rio." According to some

NGOs, the goals of Rio were never reached for the following reasons: lack of political will and half-hearted efforts in everything that was undertaken. For many of them, not only was there a lack of coordination but also a lack of continuity in the search for much more efficient production and consumption patterns.

Energy, without the least doubt, is the target of all kinds of criticism, and this is understandable, because the world is divided into producers and consumers of fossil fuels such as oil, natural gas, and coal. It is also divided between producers and consumers of technology applicable to renewable sources of energy such as solar, wind, and other energy. For obvious reasons, the world is also divided between those who have the broad power to purchase and pay for an energy transition toward a future energy mix where oil and other fossil fuels are not the dominant sources and where scientific and technological transfer is shared using an approach of solidarity, and those who do not.

In other words, not everyone's needs can be met.

To conclude, in my opinion, the wonderful aspect of the Johannesburg Summit was to draw the attention of governments, civil society, and, through the media, the entire world that was watching this global event either with satisfaction or disappointment. The important outcome is that, once again, the groundwork has been laid to ensure that at least 10% of the energy portion of world consumption be based on renewable fuels that do not emit pollutants like fossil fuels, and that poverty be eradicated in all of its aspects by contributing at least 2% of the gross domestic product of the developed countries as a token of their solidarity.

\* Former Secretary General of OPEC and International Consultant in Energy and Investments.





# The Johannesburg Declaration on Sustainable Development



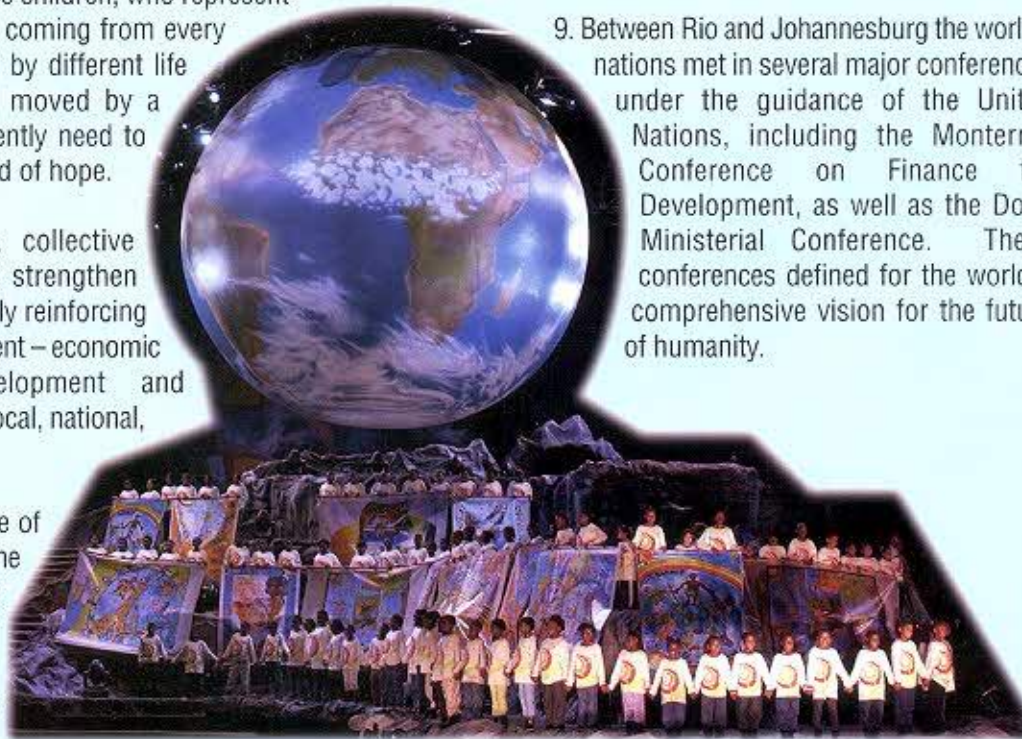
## From our Origins to the Future

1. We, the representatives of the peoples of the world, assembled at the World Summit on Sustainable Development in Johannesburg, South Africa from 2-4 September 2002, reaffirm our commitment to sustainable development.
2. We commit ourselves to build a humane, equitable and caring global society cognizant of the need for human dignity for all.
3. At the beginning of this Summit, the children of the world spoke to us in a simple yet clear voice that the future belongs to them, and accordingly challenged all of us to ensure that through our actions they will inherit a world free of the indignity and indecency occasioned by poverty, environmental degradation and patterns of unsustainable development.
4. As part of our response to these children, who represent our collective future, all of us, coming from every corner of the world, informed by different life experiences, are united and moved by a deeply-felt sense that we urgently need to create a new and brighter world of hope.
5. Accordingly, we assume a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development – economic development, social development and environmental protection – at local, national, regional and global levels.
6. From this Continent, the Cradle of Humanity we declare, through the Plan of Implementation and this Declaration, our responsibility to one another, to the greater community of life and to our children.

7. Recognizing that humankind is at a crossroad, we have united in a common resolve to make a determined effort to respond positively to the need to produce a practical and visible plan that should bring about poverty eradication and human development.

## From Stockholm to Rio de Janeiro to Johannesburg

8. Thirty years ago, in Stockholm, we agreed on the urgent need to respond to the problem of environmental deterioration. Ten years ago, at the United Nations Conference on Environment and Development, held in Rio de Janeiro, we agreed that the protection of the environment, and social and economic development are fundamental to sustainable development, based on the Rio Principles. To achieve such development, we adopted the global programme, Agenda 21, and the Rio Declaration, to which we reaffirm our commitment. The Rio Summit was a significant milestone that set a new agenda for sustainable development.
9. Between Rio and Johannesburg the world's nations met in several major conferences under the guidance of the United Nations, including the Monterrey Conference on Finance for Development, as well as the Doha Ministerial Conference. These conferences defined for the world a comprehensive vision for the future of humanity.





10. At the Johannesburg Summit we achieved much in bringing together a rich tapestry of peoples and views in a constructive search for a common path, towards a world that respects and implements the vision of sustainable development. Johannesburg also confirmed that significant progress has been made towards achieving a global consensus and partnership amongst all the people of our planet.

### The Challenges we Face

11. We recognize that poverty eradication, changing consumption and production patterns, and protecting and managing the natural resource base for economic and social development are overarching objectives of, and essential requirements for sustainable development.

12. The deep fault line that divides human society between the rich and the poor and the ever-increasing gap between the developed and developing worlds pose a major threat to global prosperity, security and stability.

13. The global environment continues to suffer. Loss of biodiversity continues, fish stocks continue to be depleted, desertification claims more and more fertile land, the adverse effects of climate change are already evident, natural disasters are more frequent and more devastating and developing countries more vulnerable, and air, water and marine pollution continue to rob millions of a decent life.

14. Globalization has added a new dimension to these challenges. The rapid integration of markets, mobility of capital and significant increases in investment flows around the world have opened new challenges and opportunities for the pursuit of sustainable development. But the benefits and costs of globalization are unevenly distributed, with developing countries facing special difficulties in meeting this challenge.

15. We risk the entrenchment of these global disparities and unless we act in a manner that fundamentally changes their lives, the poor of the world may lose confidence in their representatives and the democratic systems to which we remain committed, seeing their representatives as nothing more than sounding brass or tinkling cymbals.

### Our Commitment to Sustainable Development

16. We are determined to ensure that our rich diversity, which is our collective strength, will be used for constructive partnership for change and for the achievement of the common goal of sustainable development.

17. Recognizing the importance of building human solidarity, we urge the promotion of dialogue and cooperation among the world's civilizations and peoples, irrespective of race, disabilities, religion, language, culture and tradition.

18. We welcome the Johannesburg Summit focus on the indivisibility of human dignity and are resolved through decisions on targets, timetables and partnerships to speedily increase access to basic requirements such as clean water, sanitation, adequate shelter, energy, health care, food security and the protection of bio-diversity. At the same time, we will work together to assist one another to have access to financial resources, benefit from the opening of markets, ensure capacity building, use modern technology to bring about development, and make sure that there is technology transfer, human resource development, education and training to banish forever underdevelopment.

19. We reaffirm our pledge to place particular focus on, and give priority attention to, the fight against the worldwide conditions that pose severe threats to the sustainable development of our people. Among these conditions are: chronic hunger; malnutrition; foreign occupation; armed conflicts; illicit drug problems; organized crime; corruption; natural disasters; illicit arms trafficking; trafficking in persons; terrorism; intolerance and incitement to racial, ethnic, religious and other hatreds; xenophobia; and endemic, communicable and chronic diseases, in particular HIV/AIDS, malaria and tuberculosis.

20. We are committed to ensure that women's empowerment and emancipation, and gender equality are integrated in all activities encompassed within Agenda 21, the Millennium Development Goals and the Johannesburg Plan of Implementation.





21. We recognize the reality that global society has the means and is endowed with the resources to address the challenges of poverty eradication and sustainable development confronting all humanity. Together we will take extra steps to ensure that these available resources are used to the benefit of humanity.

22. In this regard, to contribute to the achievement of our development goals and targets, we urge developed countries that have not done so to make concrete efforts towards the internationally agreed levels of Official Development Assistance.

23. We welcome and support the emergence of stronger regional groupings and alliances, such as the New Partnership for Africa's Development (NEPAD), to promote regional cooperation, improved international co-operation and promote sustainable development.

24. We shall continue to pay special attention to the developmental needs of Small Island Developing States and the Least Developed Countries.

25. We reaffirm the vital role of the indigenous peoples in sustainable development.

26. We recognize sustainable development requires a long-term perspective and broad-based participation in policy formulation, decision-making and implementation at all levels. As social partners we will continue to work for stable partnerships with all major groups respecting the independent, important roles of each of these.

27. We agree that in pursuit of their legitimate activities the private sector, both large and small companies, have a duty to contribute to the evolution of equitable and sustainable communities and societies.

28. We also agree to provide assistance to increase income generating employment opportunities, taking into account

the International Labour Organization (ILO) Declaration of Fundamental Principles and Rights at Work.

29. We agree that there is a need for private sector corporations to enforce corporate accountability. This should take place within a transparent and stable regulatory environment.

30. We undertake to strengthen and improve governance at all levels, for the effective implementation of Agenda 21, the Millennium Development Goals and the Johannesburg Plan of Implementation.

## Multilateralism is the Future

31. To achieve our goals of sustainable development, we need more effective, democratic and accountable international and multilateral institutions.

32. We reaffirm our commitment to the principles and purposes of the UN Charter and international law as well as the strengthening of multi-lateralism. We support the leadership role of the United Nations as the most universal and representative organization in the world, which is best placed to promote sustainable development.

33. We further commit ourselves to monitor progress at regular intervals towards the achievement of our sustainable development goals and objectives.

## Making it Happen!

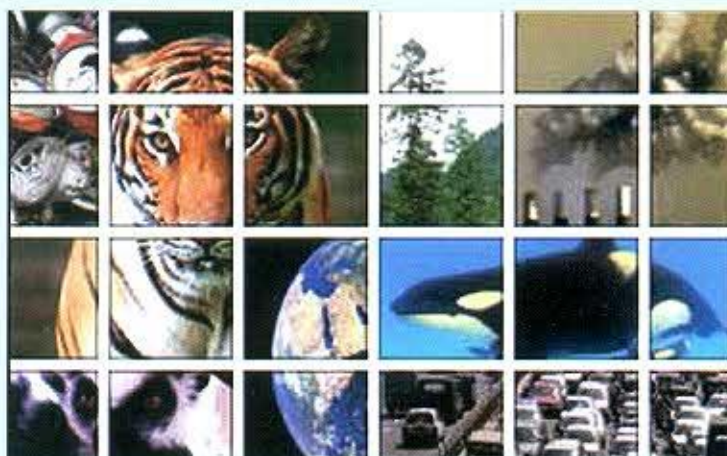
34. We are in agreement that this must be an inclusive process, involving all the major groups and governments that participated in the historic Johannesburg Summit.

35. We commit ourselves to act together, united by a common determination to save our planet, promote human development and achieve universal prosperity and peace.

36. We commit ourselves to the Johannesburg Plan of Implementation and to expedite the achievement of the time-bound, socio-economic and environmental targets contained therein.

37. From the African continent, the Cradle of Humankind, we solemnly pledge to the peoples of the world, and the generations that will surely inherit this earth, that we are determined to ensure that our collective hope for sustainable development is realized.

We express our deepest gratitude to the people and the Government of South Africa for their generous hospitality and excellent arrangements made for the World Summit on Sustainable Development.





# ENERGY MINISTERS OF LATIN AMERICA AND THE CARIBBEAN WILL MEET IN QUITO

The analysis of topics focusing on the energy development of the countries of Latin America and the Caribbean will become the core element of the XXXIII Meeting of Ministers of the Latin American Energy Organization (OLADE), to be held in Quito, on November 7-8, 2002.

The Meeting, which brings together the region's Energy Ministers once a year, will also address subjects that are relevant for OLADE's institutional capacity building.

In the framework of this ministerial meeting, bilateral and subregional meetings have been scheduled to deal with specific topics such as energy integration, development and cooperation in the subregions of the Caribbean, Central America, and the Andean Community of Nations.

The agenda for the XXXIII Meeting of Ministers also includes the election of the Executive Secretary of the Organization for the term of office 2003-2006. The new Executive Secretary will be replacing Dr. Julio Herrera, who has been at the head of the Permanent Secretariat of OLADE since January 2000.

The Governments of Bolivia, Ecuador, and Peru have submitted the following candidacies for this election:

- Mr. Carlos Salinas-Estenssoro (Bolivia)
- Mr. Diego Pérez-Pallares (Ecuador)
- Mr. Carlos Garaycochea-Mejía (Peru)

Prior to the XXXIII Meeting of Ministers of OLADE, the XXXII Council of Experts of the Organization, which is a preparatory meeting for the ministerial meeting, will be held on November 5-6, 2002 in Quito.

The Meeting of Ministers of the Member States of OLADE is the most important annual event for the energy sector of Latin America and the Caribbean, as it issues guidelines for regional integration and cooperation policies.

The Meeting of Ministers, the supreme decision-making body of the Organization, has the following functions, among others:

- Formulating the Organization's general policy and approving the regulations that are needed to reach its objectives.
- Exchanging viewpoints and proposals for energy strategies, activities, and policies that are of interest to its Member States.
- Approving the Organization's Working Program.
- Appointing the Organization's Executive Secretary.
- Analyzing and approving requests for the instatement of new members and participating countries in the Organization.



# Joint Initiative for Greater Transparency in Oil Data

## I. A Short Background

Data Transparency is undoubtedly a key element for improving the quality of data. Better data would mean better decision-making. This is also applicable to the energy economy where accurate oil data are essential to minimize the price fluctuations in the oil market which result from imbalances in supply and demand.

The late 1990s were characterized by unusually high volatility in oil prices. Consequently in November 2000, six key international organizations involved in oil statistics held a meeting at the International Energy Agency (IEA) headquarters in Paris to investigate the quality of data. The following graph, which shows the growing "miscellaneous to balance" in the IEA Monthly Oil Market Report illustrates the difficulties experienced in balancing data for oil supply and demand. It also shows consistent gaps indicating a crucial problem with oil data. During this meeting, representatives from APEC, EUROSTAT, IEA/OECD, OLADE, OPEC, and the UN investigated differences between definitions, units and methodologies. Solutions were sought for better harmonization of statistical systems. The debate created momentum to work on the availability and the reliability of oil data. Indeed, both, producer and consumer countries recognized the need for more, and better, transparency in the oil market.

Accordingly, the 7<sup>th</sup> International Energy Forum (Riyadh, 17-19 November 2001) suggested that all concerned organizations made the improvement of data reporting a priority in order to increase transparency in the oil market. At the end of its meeting





the forum issued a communiqué saying that *"co-operation among relevant international organizations, as well as the participating countries, in improving and timely accessing to energy data is important for market assessment and transparency"*.

As a result, a follow-up workshop on oil data transparency was organized, to which each international organization invited 3 to 4 of its Member Countries. This meeting took place in Bangkok on 2 to 3 April 2001. The six organizations and twenty countries analyzed the current situation with regards to oil statistics, highlighted the major problems which were being encountered, and sought for ways to improve oil data transparency. They agreed to launch and participate in a six-month data reporting exercise (known as the Joint Oil Data Exercise), with the objective to quantify and qualify the availability, and timeliness, of basic monthly oil data.

The agreement included a six-month trial period, after which organizations and countries would reconvene in order to evaluate the participation, completeness, timeliness and quality of data received. The Kingdom of Saudi Arabia offered to

host this evaluation meeting in November 2001.

## II. The Joint Oil Data Exercise

On 10 May 2001, the six organizations met at the offices of the OPEC Secretariat in Vienna to finalize the format, the definitions and the details of implementation of the joint questionnaire.

The questionnaire (see below) was kept simple (in terms of both layout and definitions). This was to facilitate the completion of it by as many countries as possible. The questionnaire requests the submission of one-month-old (M-1) and two months old (M-2) data. Each organization took responsibility for submissions from its own member countries (e.g.: Turkey to the IEA, Nigeria to OPEC, etc.). The first submission was scheduled for the end of June.

## III. Outcomes of the Exercise

The outcome of the exercise was reviewed in Riyadh on November 10 to 12, 2001. Various aspects on the implementation of the exercise were discussed including issues on methodologies and units, availability of M-1 data, confidentiality, stocks data, availability on flow elements and communication-related problems.

Although the quality of the data largely varied from country to country, as of the end of October 2001, fifty-five countries provided data for the Joint Oil Data Exercise. The countries represent around 70 per cent of total world oil production and some 83 per cent of total world consumption.

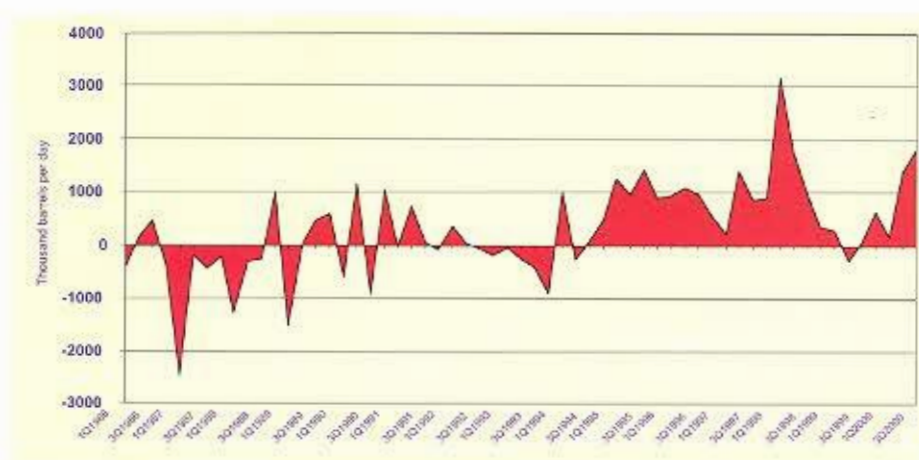
Moreover, for a number of countries, the exercise constituted an opportunity to strengthen their statistical system, in terms of coverage, completeness and timeliness. Likewise, the organizations profited from the momentum to strengthen statistical co-operation with their member countries and between themselves.

The third meeting of organizations and countries on oil data transparency was held in Mexico City from 23 to 25 May 2002 to review progress, evaluate pending work, and elaborate the report to be presented to the 8th International Energy Forum in Osaka.

The participants to the meeting included representatives of the international organizations, their member countries and the oil industry. Some 30 key producer-consumer countries and 9 oil companies participated compared to 20 and 3, respectively, in Riyadh. The "newcomers" included Belgium, Canada, China, Colombia, Egypt, India, Indonesia, Kuwait and Venezuela, as well as Ecopetrol, Kuwait Petroleum Company, Petrobras, Petronas, PetroVietnam, Shell, Statoil and TotalFinaElf from the oil industry. The number of countries which have already participated in the exercise increased from 55 in November 2001 to 70 in May 2002. The new comers include key producers such as Malaysia, Kuwait and Venezuela, as well as key consumers and refinery centers such as the Netherlands (for M-1) and Singapore. If all the 70 countries manage to report for the same month, this will represent over 90% of both global oil supply and demand. However, the timeliness and completeness of the data still vary







(Miscellaneous to Balance 1988-2000, IEA Monthly Oil Market Report)

considerably from country to country, and from flow to flow.

Crude production and refinery intake/output appear to be the easiest flow to collect on a timely manner; demand takes more time to assess; foreign trade takes even longer since often the data have to be obtained from customs offices. For some countries, stock levels or variations are still considered confidential; for others, definitions on stocks are not always clear; however it seems that in both cases progress have been made

towards making this information available.

As regards data quality, countries and organizations have put substantial effort to assess the quality of the data submitted and received, and when needed to improve it. No attempt has yet been made to assess the global oil supply and demand balance, as well as the global import and export balance.

As a consequence, although what has been achieved in one year is remarkable, substantial work remains to be done in order to maintain a monthly 90% coverage of adequate quality. "I

feel more transparent than before", "We should celebrate our common success" are some of the expressions from the participants; countries and organizations felt satisfied with the work jointly done towards more transparency.

To disseminate the advances of the exercise the six Organizations developed a Web site at <http://www.oil-data-transparency.org> where technical documents related with the exercise can be found. Also, users can get access to the databases of each organization.

#### IV. Progress of the Countries of Latin America and the Caribbean in the JDE

As for the other international organizations, OLADE distributed among its member countries the common format for compiling information in June 2001, which incorporates an additional row to identify LPG and gasoline production in natural gas separation plants. In contrast to other organizations, OLADE requested that only real and available information be reported; in other words, in this first phase, no estimates were requested for data that were not available.

Up to the meeting in Riyadh in November 2001, five months after the JDE had started up, 9 of the 26 member countries of OLADE had been incorporated into the JDE. The remaining 17 countries were carrying out different types of actions and adjustments to obtain information and supply it to OLADE, which incorporated into the SIEE a new module referred to as "Monthly Indicators" to record and disseminate the results of the exercise, which is now a permanent element of the information system.

In Mexico, six months after the meeting in Riyadh, eight other member

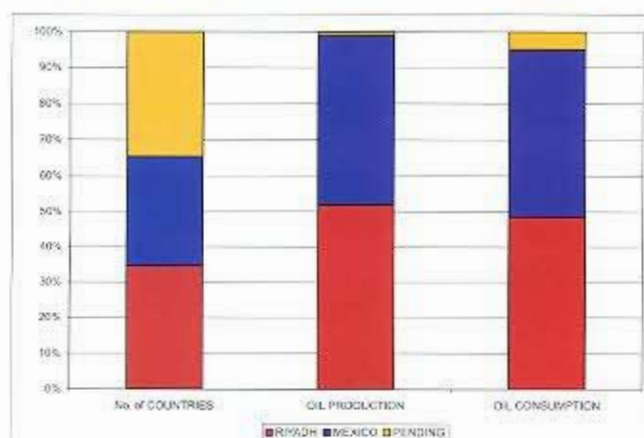
APEC/EUROSTAT/AIE-OCDE/OLADE/OPEP/ON									
EJERCICIO CONJUNTO SOBRE ESTADÍSTICAS PETROLERAS									
País :									
Mes :		Unidad							
		Crudo	Derivados de Petróleo						
			LPG	Gasoline	Kerosene	Gas/Diesel Oil	Fuel Oil	Total Oil	
Producción									Refinery Output
Importaciones									Imports
Exportos									Exports
Stocks	Closing								Stocks
	Change								Change
Refinery Intake									Demand

(Table of monthly data for the joint oil data exercise)



GENERAL ADVANCE OF OLADE COUNTRIES IN THE JDE

	%		
	RIYADH	MEXICO	ADVANCE
No. COUNTRIES	34.62	65.38	88.89
OIL PRODUCTION	51.91	99.07	90.87
OIL CONSUMPTION	48.82	95.03	94.67



countries of OLADE have been incorporated into the exercise, which means there are now 17 countries participating. Brazil started participating at the meeting in Riyadh.

In terms of number of countries, the progress has been from 35% to 65%, which means a rise of 89%. In terms of oil output, at the Riyadh meeting, the countries participating in the JDE accounted for 52% of this production, whereas for the Mexico meeting the participating countries account for 99% of the region's output, which represents a 91% increase. From the standpoint of consumption of oil and products, the participation of the countries up to the meeting in Riyadh accounted for 49%, whereas this share accounts for 95%.

Regarding this, major progress has been achieved, but we still need to support the nine remaining countries to ensure their participation in the JDE. Although this may mean further efforts and resources to obtain information, the benefits for the participating organizations and countries and for the countries that are incorporated will be even greater owing to the improvement in statistical procedures, knowledge about their information, and support for other tasks as a result of timely and transparent information.

## PROGRESS IN TIMELINESS OF DATA

In terms of availability and timeliness of information, major improvements were achieved in the majority of the countries participating in the JDE since Riyadh. For Argentina, Ecuador, and Uruguay, which provided information after a lapse of three to five months, the timeliness of the information is now two

months. As for Colombia and Mexico, they are supplying information within one month. The four other countries have not changed the timeliness they had before.

Of the countries that have been incorporated into the exercise over the last six months, El Salvador and Nicaragua are noteworthy for providing information in one month.

As for the availability of information, for the majority of countries, data have been recorded since January 2001, although historical series that date back to much earlier are also available as

for Argentina (since 1994), Colombia (since 1996), and Uruguay (since 1996).

## COMPLETE INFORMATION

Of the 17 countries, complete information is now available for four countries: Argentina, El Salvador, Mexico, and Nicaragua. For the other countries, the data that are most difficult to gather are for inventories and demand. According to the majority of the countries, this information could be provided over the short term but possibly not with the same timeliness as at present. For countries like Jamaica and

TIMELINESS

COUNTRY	RIYADH			MEXICO		
	Time Series		Delay Months	Time Series		Delay Months
	Jan-2001	May-2001		Jan-2001	Jan-2002	
ARGENTINA	Jan-2001	May-2001	3	Jan-1994	Jan-2002	2
BOLIVIA	May-2001	Jul-2001	3	Jan-1998	Dec-2001	3
BRAZIL				May-2001	Sep-2001	2
CHILE	May-2001	Jul-2001	2,3	May-2001	Nov-2001	4
COLOMBIA	Jan-2001	Jul-2001	2	Jan-2001	Apr-2002	1
COSTA RICA	May-2001	Sep-2001	1	May-2001	Sep-2001	1
ECUADOR	May-2001	Jun-2001	4	Jan-2001	Feb-2002	2
EL SALVADOR				Jan-2002	Apr-2002	1
HONDURAS				May-2001	Nov-2001	2
MEXICO	Apr-2001	Aug-2001	1 - 2	Apr-2001	Mar-2002	1
NICARAGUA				Jan-2001	Mar-2002	1
PARAGUAY				Jan-2001	Nov-2001	4
PERU				Apr-2001	Dec-2001	3
DOMINICAN REP.	May-2001	Jun-2001	4	May-2001	Dec-2001	4
TRINIDAD & TOBAGO				Jun-2001	Sep-2001	6
URUGUAY	Jan-1996	May-2001	5	Jan-1996	Feb-2002	2
VENEZUELA				Jan-2001	Feb-2002	2

AVAILABILITY

COUNTRY	RIYADH	MEXICO
ARGENTINA	PRO, FIN STK	OK
BOLIVIA	STK, OIL PRO, OIL INTK	STK, OIL PRO, OIL INTK
BRAZIL		DEM
CHILE	OK	CLS STK
COLOMBIA	STK CHG, CLS STK	STK CHG, CLS STK
COSTA RICA	DEM	DEM
ECUADOR	STK(PRODUCTS)	STK
EL SALVADOR	OK	OK
HONDURAS		STK
MEXICO	OK	OK
NICARAGUA	OK	OK
PARAGUAY		IMP, STK, DEM
PERU		IMP, EXP
DOMINICAN REP.	DEM	DEM
TRINIDAD & TOBAGO		DEM, OIL INTK
URUGUAY	STK	STK
VENEZUELA		(PRO OIL, GASOLINE, EXP OIL)

QUALITY

COUNTRY	REFINERY EFFICIENCY	OIL BALANCE	PRODUCTS BALANCE
ARGENTINA	116.39	37.52	28.29
BOLIVIA	ID	ID	ID (IMP EXP)
BRAZIL	90.66	-3.84	ID
CHILE	88.92	0.00	0.00
COLOMBIA	98.70	ID(STK)	ID(STK)
COSTA RICA	97.59	0.14	ID
ECUADOR	96.47	4.21	-4.66
EL SALVADOR	93.22	0.00	0.00
HONDURAS	NA	NA	-4.64
MEXICO	103.77	5.17	6.04
NICARAGUA	98.43	-3.24	3.73
PARAGUAY	100.50	0.00	ID
PERU	96.92	ID	ID (IMP EXP)
DOMINICAN REP.	97.26	0.00	ID (DEM)
TRINIDAD & TOBAGO	ID(INTK)	ID(INT REF)	ID (DEM)
URUGUAY	99.05	ID(STK)	ID(STK)
VENEZUELA	ID	ID	ID

ID: Incomplete Data

NA: Not Applicable



Paraguay, information on imports and exports is more difficult to obtain because this activity is in the hands of private-sector companies, and no agreements have been drawn up with these companies to obtain the information in keeping with JDE's requirements.

## QUALITY OF INFORMATION

For this evaluation, three criteria were considered: yields of the refineries, crude oil balance, and balance of oil products.

Regarding the yields of refineries, the crude oil input was evaluated comparing it to the sum of oil products obtained. In the nine cases highlighted in blue, in the table on Quality, the difference is no greater than 4% (efficiency rates of close to 100%), which is deemed to be satisfactory for this stage of the exercise. For the seven countries highlighted in green, the differences are greater principally because of the lack of clarity in the instructions about the information that has to be reported as input to the refinery. Such is the case of Argentina: although it has accurate information on the process in refineries, it was agreed for now that only crude oil input would be included, despite the fact that large amounts of condensates, natural gasoline, and other products are inputted.

The balance for crude oil and oil products for the countries that have complete information shows acceptable results for all cases. The countries with 0% difference, namely, Chile, Paraguay, and the Dominican Republic, have calculated demand on the basis of the following balance equation:

$$\text{Demand} = \text{Production} + \text{Imports} - \text{Exports} + \text{Variation of Inventories}$$

## V. The Way Forward

One of the most important decisions taken in Riyadh was the agreement to extend the exercise by 10 months and to report to the 8<sup>th</sup> International Energy Forum (IEF), which took place in Osaka, Japan, in September 2002, on the progress made since the call for more transparency at the 7<sup>th</sup> International Energy Forum in Riyadh (November 2000).

The presentation made in Osaka on the results obtained since the initiative was launched was praised and supported by 13 of the participating organizations and countries who took the floor to speak about this matter. The representative of the United Kingdom proposed that the possibility of having the new Permanent Secretariat of the International Energy Forum support the initiative be explored.

The Forum, in the Final Minutes of the Meeting, reiterated its support to the initiative, as follows: "The Forum reaffirmed its call from the 7<sup>th</sup> IEF Meeting in Riyadh for improvement of oil data quality and timeliness. In this context, the Forum commended the monthly oil data reporting initiative established by APEC, EUROSTAT, IEA, OLADE, OPEC, and UNSD, and was very appreciative of the work done by the six organizations and more than 70 producing and consuming countries. However, the Forum noted that data transparency would be achieved only if all parties are fully committed to this important initiative, and urged all countries to participate in the initiative. The Forum requested the six organizations to make the exercise permanent and to consider how it could be coordinated in the longer term. A progress report was requested for the next IEF meeting."

## VI. Where do we go from here?

The support and confirmation of the International Energy Forum to continue with the initiative as an ongoing task will enable the six organizations to establish a definitive plan of action, which is expected to be drafted by the end of 2002. This plan should consider a review of the strategies and options to incorporate all the countries, greater participation of industry, making the database accessible to the public, and establishing coordination mechanisms with the Permanent Secretariat of the IEF.

## VII. Sustainability

The six organizations and countries agreed to sustain the work on transparency. However, several conditions are needed to continue the on-going effort; this includes political support, adequate resources, involvement of the oil industry, a more formal co-ordination mechanism aimed at securing effective support from the Permanent IEF Secretariat and providing specific collaboration to those countries that do not have suitable mechanisms to report their information with the required characteristics.

## VIII. The Oil Industry

Participation of oil industry is essential. Representatives from the oil companies expressed their support to the initiative and the need for more transparency. However, as quoted by one participant "at the end of the day, oil market is business. Sensitivity has therefore to be taken into account."



## OLADE'S EXECUTIVE SECRETARY IS SPEAKER-PROFESSOR FOR THE OAS COURSE ON INTERNATIONAL LAW



(File Photo)

On August 12-13, 2002, Dr. Julio Herrera, Executive Secretary of OLADE, participated as a speaker-professor for the Course of International Law that the Organization of American States (OAS) delivers every year.

On this occasion, the course took place on August 5-30, 2002 in Rio de Janeiro with the coordination of the Inter-American Juridical Committee and the Office of the Assistance Secretary for Legal Affairs of the International Law Department of the OAS. The subject of the course was "Natural Resources, Energy, Environment, and International Law."

The core subjects of the classes offered by Dr. Julio Herrera focused on Energy Law, as a branch of law that studies and regulates the ties between energy activities and man and the use of energy sources for the benefit of man. After a general introduction, OLADE's Executive Secretary spoke on the following topics:

- Concept of Energy
- Initial Classification of Energy
- Energy Sources

- Energy Reserves
- Energy Law
- Classification of Law in respect to the Energy Sector
- Origin of Energy Law
- Historical Evolution of Energy Law: 19th and 20th centuries
- Contract Schemes for Energy Production

The OAS Course on International Law provides an opportunity to promote the exchange of ideas and generate an open dialogue on subjects of special interest in the area of international law. The students, who had all been awarded fellowships, come from all the member countries of the Organization of American States. They are a group of young professionals that work in areas related to the contents of the course.

The lectures delivered by the guest professors during the four weeks of the course are published in annual volumes that are disseminated throughout the region.



## ***Executive Board of OLADE's Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities promotes activities***

In July and September 2002, the Executive Board of the Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities held two meetings for the purpose of promoting its activities in Latin America and the Caribbean.

The Forum was established by the XXXI Meeting of Ministers of OLADE to

create in Latin America and the Caribbean, and to consolidate in the framework of OLADE, a space to analyze, discuss, and fine-tune existing regulations in the region's electric power sector, thus promoting the exchange of experiences in order to optimize the work of existing agencies and support the establishment of others in the region's countries that

require them, thus contributing to the development of the electric power subsector.

The first of these meetings was held in Quito, July 2, and was attended by Dr. Luis María Fernández-Basualdo, Chairman of the Forum; Mr. Diego Pérez-Pallares, First Vice-Chairman; Mr. J. Paul Morgan, Second Vice-





Chairman; Dr. Oscar Arrieta, Permanent Secretary for the Forum; and Mr. Mentor Poveda, representing OLADE's Permanent Secretariat.

At this meeting, the Executive Board approved the definitive proposal of the Forum's bylaws, which will be submitted to the upcoming regular assembly of its members for their approval. The above-mentioned proposal of bylaws can be found on OLADE's home page at <http://www.olade.org./foros>

The second meeting of the Forum's Executive Board took place in Buenos Aires on September 19, 2002. It was attended by Dr. Luis María Fernández-Basualdo, Mr. Diego Pérez-Pallares, Mr.

***The Executive Secretary of OLADE, Dr. Julio Herrera, welcomes those invited to the meeting of the Executive Board of the Forum of Supervisory Entities and Regulatory Agencies for Electric Power Sector Activities, at OLADE's Permanent Secretariat headquarters on July 2, 2002.***



*Participants at the International Congress on the Role of Regulators in Institutional Capacity Building of the Electric Power Sector, in whose framework the Executive Board of the Electric Power Forum held its meeting in Buenos Aires, on September 19, 2002.*

J. Paul Morgan, and the representative of OLADE's Permanent Secretariat, Mr. Mentor Poveda. At this second meeting, the Executive Board decided that the second regular meeting of the Forum's members would take place on November 4, 2002 in Quito Ecuador, with the following agenda:

- Round Tables
  - Regulatory signals to improve service quality in Argentina, with the baseline presentation by the Association of Electric Power Regulatory Entities of Argentina (ADERE).
  - Electric power interconnection
- Discussion and approval of the proposed bylaws of the Forum prepared by the Executive Council
- Planning the Forum's future activities.
- Election of new authorities.

experiences in the Andean Community, with the baseline presentation by the National Electrification Council of Ecuador (CONELEC).

- Regulatory Experiences in Loss Control, with the baseline presentation by OLADE.

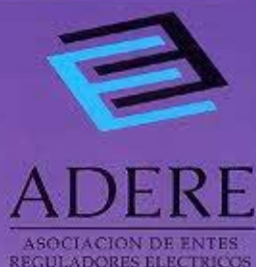




*The Executive Board of the Supervisory Entities and Regulatory Agencies for Electric Power Activities met, for the second time in 2002, in Buenos Aires, on September 19.*

Prior to the second meeting of the Forum's Executive Board in Buenos Aires on September 18, an International Congress on the Role of Regulators in Institutional Capacity Building of the Electric Power Sector, organized by the Association of Electric Power Regulatory Entities of Argentina (ADERE) with OLADE's cooperation, was held. It was attended by more

than 100 participants, and it highlighted the work done by the Latin American Energy Organization to promote the region's electric power development. On occasion of this event, the Organization was given a commemorative plaque, which reads as follows:



**FORUM OF SUPERVISORY ENTITIES AND  
REGULATORY AGENCIES FOR ELECTRIC  
POWER ACTIVITIES**

"On occasion of the International Congress on the Role of Regulators in Institutional Capacity Building of the Electric Power Sector and the meeting of the Executive Board of the Forum of Supervisory Entities and Regulatory Agencies for Electric Power Activities, held on September 18-19, 2002 in the autonomous city of Buenos Aires, Republic of Argentina, to express appreciation for its participation and the willingness of OLADE's officers through its Executive Secretary, Dr. Julio Herrera."

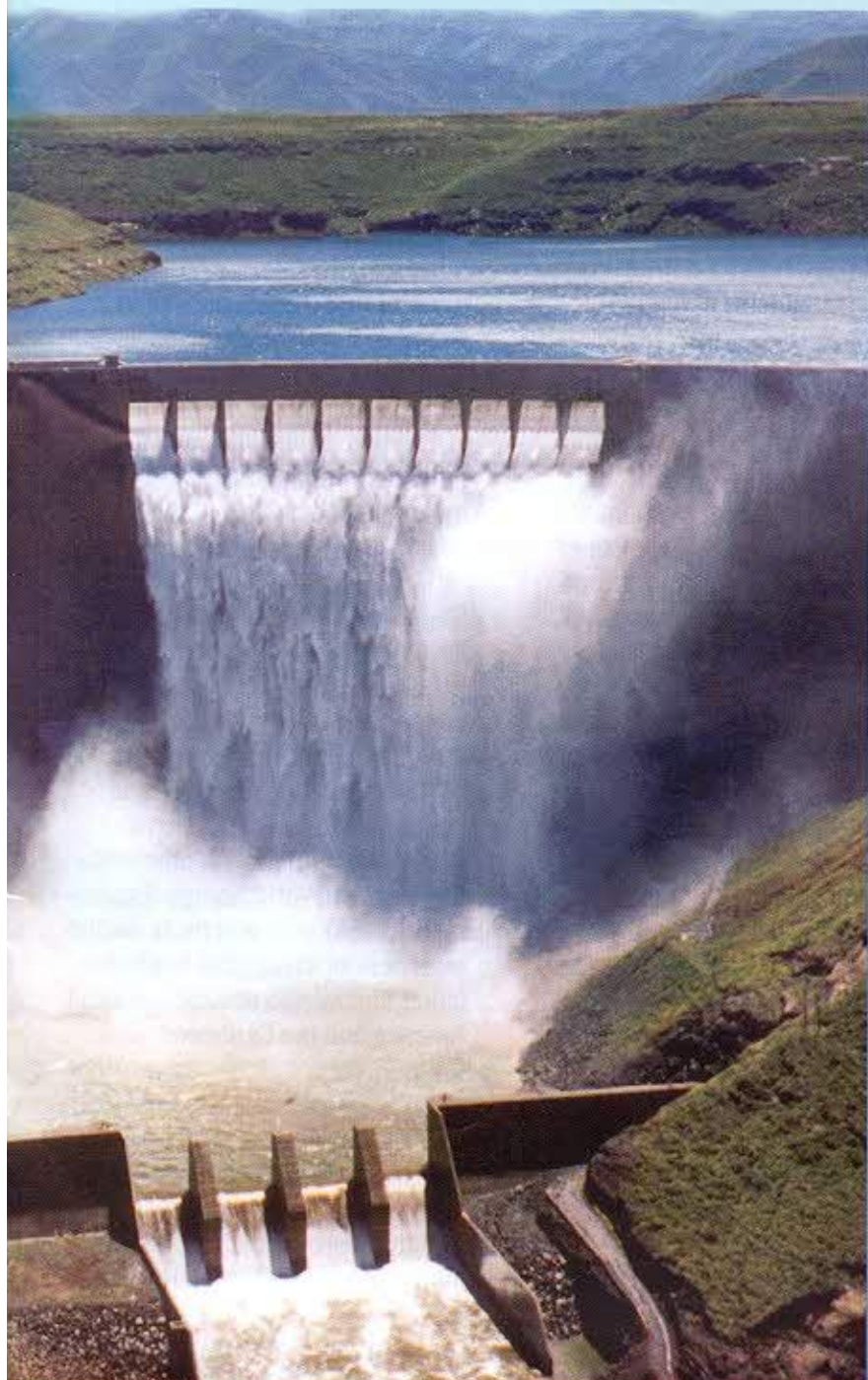
Dr. Luis María Fernández Basualdo  
Chairman  
Forum of Supervisory Entities and Regulatory Agencies for  
Electric Power Activities

Ing. Ricardo A. Martínez Leone  
Chairman  
Association of Electric Power Regulatory Entities



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# UNITED NATIONS DEVELOPMENT PROGRAMME AND OLADE SIGN COOPERATION AGREEMENT

Dr. Aase Smedler, Resident Representative of the United Nations Development Programme (UNDP) in Ecuador, and Dr. Julio Herrera, Executive Secretary of OLADE, signed a Cooperation Agreement between the two international institutions on August 26, 2002 in Quito.

The Agreement, in its general considerations, recognizes:

- The strategic character of the energy sector for the development of Latin America and the Caribbean.
- The importance of regional integration as the basis for the availability of environmentally friendly, reliable, and safe energy.
- The role performed by regional institutions and players in energy and sustainable development should be actively interconnected and cooperation between them should be fostered.
- The need to promote energy projects that contribute to sustainable development in the region.

The following objectives were established for the UNDP-OLADE Cooperation Agreement:

- a) Contribute to building up subregional and regional integration, stimulating the use of sustainable energy sources, the development of energy efficiency programs, and renewable energy projects, as well as the harmonization of regulatory frameworks, as elements of energy policies for the countries of the region and subregion.
- b) Contribute to building up subregional and regional integration, stimulating the use of sustainable energy sources, the development of energy efficiency programs, and renewable energy projects, as well as the harmonization of regulatory frameworks, as elements of energy policies for the countries of the region and subregion.
- c) Adopt actions and undertake studies that facilitate a better knowledge of environmental

impacts and PAMA, as well as the mechanisms used for the mitigation of environmental impacts in the region's energy sector. The studies are aimed at identifying, among other factors, the real emissions in the different activities of the energy sector.

- d) Suggest that energy policies be developed, ensuring the broad participation of public sector institutions in the dialogue with those of the private sector, highlighting the environmental factor.
- e) Disseminating the recommendations of the World Energy Assessment (WEA) with emphasis on the use, development, and implementation of strategic activities in Latin America and the Caribbean.
- f) Identify, design, and formulate projects in the region's countries that are environmentally friendly, suggesting for the implementation of the projects the use of instruments envisaged in





*The United Nations Representative, Dr. Aase Smedler, and OLADE's Executive Secretary, Dr. Julio Herrera, during the signature of the Cooperation Agreement between the two international organizations on August 26, 2002*

- multilateral agreements involving the environment.
- g) Promote energy sector investment with social, environmental, and human contents.
  - h) Disseminate the results of the projects that UNDP and OLADE are developing jointly, especially those involving rural and poor communities.
  - i) Develop an information system on renewable sources of energy and technologies available in the world, aimed at contributing to the preservation of the environment and that can be used by the countries to find alternatives for this type of development.
  - j) Promote events for the purpose of holding meetings between the private sector, the public sector, and nongovernmental organizations of the region, as well as representatives of industrialized countries that favor the development of environmentally friendly projects, taking advantage of the close collaboration between DRALC, E7, and the Fund for Sustainable Energy Development.
  - k) Promote the elaboration of regulatory frameworks that facilitate and promote subregional and regional integration and so that they can be internationally compatible.
  - l) Promote the capacity building of institutional frameworks in designing environmental strategies for the energy sector and their corresponding application.
  - m) Build up the technical capacity of institutions in designing environmental strategies for the energy and their corresponding application.
  - n) Establish a network of Latin American and Caribbean experts in energy and the environment to promote horizontal cooperation in the region.
  - o) Identify and negotiate the resources that are needed to undertake studies and implement projects stemming from the Agreement and in which the region's countries show interest.

The United Nations Development Programme will implement this Cooperation Agreement in the framework of the Program on Energy and Climate Change (PECC), which is a regional initiative promoted by UNDP for the general purpose of promoting the use of sustainable sources of energy in Latin America and the Caribbean, to increase possibilities for the region's social and economic development, contributing at the same time to reducing greenhouse gas emissions (GHG). Thus it strives to build up the region's capacity to take up, and benefit from, climate change challenges and opportunities.





# IEA AND OLADE HOLD CONFERENCE ON CROSS-BORDER GAS TRADE

On October 30-31, 2002, the Latin American and Caribbean Conference on Cross-Border Gas Trade took place in Santa Cruz de la Sierra, Bolivia.

The event was attended by Ministers of Energy of the region's countries, executive officers of international organizations interested in energy development, and representatives of public and private companies involved in gas trade, as well as delegates from regulatory entities for this activity and experts in the subject of the Conference.

IEA and OLADE have seen Latin America and the Caribbean emerge as one of the fastest growing markets for natural gas, attracting a large amount of investments in exploration and production, gas processing plants, pipelines, LNG installations, and gas-fired electric power generation.

Gas resources are abundant in the region but they are not necessarily located close to potential markets. In view of their geographical distribution, in the majority of cases, cross-border

cooperation will be required to ensure that gas-producing countries will find a suitable market for their production and that the countries that wish to develop a gas market can gain access to supplies. Natural gas marketing in Latin America and the Caribbean, as in many member countries of IEA, will be increasingly based on the cross-border trade of gas by pipeline or LNG.

## Conference objectives and scope

The Conference assessed the principal barriers to the development of cross-border gas and LNG projects in Latin America and the Caribbean and secured recommendations about what governments, multilateral agencies, and other interested parties can do to overcome these barriers.

The Conference's principal objective was to bring together representatives of government in charge of formulating gas policies, regulators, gas industry executives, and energy experts of the principal countries of Latin America, as well as member countries of the IEA, financial institutions, and multilateral

organizations for the following purposes:

- To present and analyze regional prospects for cross-border natural gas and LNG trade in Latin America and the Caribbean.
- To examine the principal advantages of a closer cooperation and integration of gas networks and policies.
- To evaluate the principal barriers not only to the development of cross-border gas projects but also to regional gas integration in general.
- To present and discuss experiences of other regions that can be applied to countries and projects of Latin America and the Caribbean.
- To draw conclusions about the role of governments and other participants to facilitate cross-border gas projects and promote regional gas integration.





## Promote Capacity Building of Clusters in Andean Energy Sectors

**T**he Andean countries could continue advancing in the 21<sup>st</sup> century with highly promising international economic prospects if it combined its vast energy advantages with the unmet energy demands of Brazil, South America's largest neighbor, and those of the United States in the northern hemisphere. Indeed, there is more than one way to ensure the successful insertion of the subregion onto the international stage through energy trade.

Regarding this, the Inter-American Development Bank (IDB), the Andean Community of Nations (CAN), the Andean Development Corporation (CAF), the Economic Commission for Latin America and the Caribbean (ECLAC), the United Nations Conference on Trade and Development (UNCTAD), and the Latin American Energy Organization (OLADE) have been joining efforts to promote the Project for Strategy Formulation and the Implementation of a Pilot Program for Building up the Capacity of Andean Energy Clusters.

The Project believes that contributing to the hemisphere's energy security, especially in North America, does not simply involve fostering trade ties, but rather establishing a strategic complementation, from which the Andean countries can look forward to a strategic counterpart. This could be comprised of a horizon of price stability, along with investment and technol-





ogy flows aimed at developing value-added networks, beyond primary energy production.

Furthermore, the integration of South America by combining infrastructure networks and harmonizing service markets will not only considerably broaden the scale and improve the efficiency of energy business in the Andes, but also open up new opportunities for territorial integration and development for all South Americans, consolidating the rest of its economic activities. If the Andean subregion were to take advantage of the major above-mentioned opportunities, there very well might be an inflow of investments amounting to over US\$100 billion over the next 15 years. But there is an even greater potential to benefit from these opportunities, if the governments and private sectors of

Bolivia, Colombia, Ecuador, Peru, and Venezuela decide to act in time to promote the development of a strong and competitive energy service business sector and energy clusters in the Andes. This may be the best opportunity for the subregion to multiply and optimize the impacts of coming investments for its own development.

The Project has proposed the preparation of a second strategic report for the Heads of State of the Andean countries, specifying very concretely the best way to take advantage of these opportunities, in follow-up to the first report submitted by the above-mentioned organizations in the framework of the Summit of the Presidents of South America, held in Guayaquil in July 2002 and in compliance with the mandate received from the Andean



At the meeting for coordinating the Project for the Formulation of Strategies and the Implementation of a Pilot Program for Capacity Building of Andean Energy Clusters, held in OLADE's Permanent Secretariat on September 3, 2002, from left to right: Dr. Humberto Campodónico, ECLAC representative; Dr. María Esperanza Dangond, CAN representative; Mr. Johnny Hernández, OLADE officer; and Ambassador Werner Corrales, UNCTAD representative



Presidents meeting in Santa Cruz de la Sierra in January 2002.

The project goes beyond strategic planning and proposes the immediate implementation of an activities aimed at building up the capacity of national Energy Clusters, as well as their integration through business alliances between Andean companies and between these companies and transnational corporations, to strengthen the subregion's leading companies. This is to ensure the involvement of companies that have a continental and global scope and that are capable of successfully competing on the markets for services, capital goods and inputs required by energy sectors.

This initiative proposes concrete work, rather than studies of clusters and chains, and action to consolidate them and carry them over onto the international stage. One action would involve the leading role of Andean private sectors, whereas governments, development banks, and specialized international organizations would act as facilitators for this business development.

### Project Objectives

The three fundamental objectives of the Project have been defined so that its results can be truly and immediately useful in terms of strategy and so that they can contribute to generating short-term impacts. These objectives are:

- Developing strategic options concretely, so that they can be submitted to the consideration of the Presidents of the Andean countries


in the final report, for which purpose the studies have to be more in-depth and the dimensions of the economic opportunities that are being forecast should be specified.

- Promoting policy dialogues with relevant players of the subregion on strategic options to sustain the recommendations to be brought before the Presidents.
- Implement a pilot program aimed at consolidating Energy Clusters in the five countries, so as to start showing the positive impacts of competitiveness in the short term.


It is evident that the objectives are pursuing a participatory definition of the strategies and the generation of tangible achievements for business economy of the Andean countries.

### Project Components

Two lines of action are being proposed for immediate implementation, giving rise to the two components of the Project. The first consists of the implementation of studies and the preparation and presentation of the strategic report to the Presidents, in its final version, in a lapse of time no more than nine months (end of June 2003). The second is the implementation of a pilot program for building up the capacity of Energy Clusters in the five countries and for promoting the alliances of Andean firms, as well as these firms with global companies, in a subregional cluster.



*“The project goes beyond strategic planning and proposes the immediate implementation of an activities aimed at building up the capacity of national Energy Clusters, as well as their integration through business alliances between Andean companies and between these companies and transnational corporations, to strengthen the subregion's leading companies”*





# EFFICIENT LIGHTING FOR THE ANDEAN COMMUNITY

The Latin American Energy Organization (OLADE) and the Lighting Research Center of the Rensselaer Polytechnic Institute in Troy, New York, held a Seminar on Efficient Lighting in the Andean Community in Quito, Ecuador on October 3-4, 2002.

The Seminar was essentially aimed at disseminating up-to-date information on the efficient use of lighting in the countries of the Andean Community of Nations.

The event was attended by 55 representatives from Ministries of Energy, electric power utilities,

manufacturers of lamps, designers and manufacturers of lighting systems, as well as consultants and experts from the Andean countries.

The initial part of the Seminar focused on the analysis and discussion of policies applied in the countries of the

*Participants at the Seminar on Efficient Lighting in the Andean Community, October 3-4, 2002*





*The main objective of the Seminar held in Quito on October 3-4, 2002, was to disseminate up-to-date information on the efficient use of lighting in the countries of the Andean Community of Nations*

Andean Community and the United States to promote efficient lighting.

The second part focused on the presentation of new lighting technologies that are available on the world market and those that are being developed at present.

Finally, the participants analyzed the human factor considerations to be taken into account as part of the design of lighting and the experimental results obtained from the research that is being developed by the Lighting Research Center (LRC).

The LRC is a research center focusing on lighting and which is aimed at promoting the efficient use of light for the benefit of society and the

environment. Located in Troy, New York, the Center is part of the School of Architecture of Rensselaer Polytechnic Institute, the oldest polytechnic institute of the United States.

The participants indicated that the information presented during the Seminar was highly useful for their work and will no doubt contribute to improve their daily work. They also requested that this type of event be offered more frequently and, to the extent possible, in other countries and subregions of Latin America and the Caribbean. Therefore, the Lighting Research Center and OLADE will be analyzing the possibility of continuing their cooperation activities in order to meet these requirements.



*Alongside the Seminar, there was a fair-exhibition of efficient lighting products*



# sieal

## Legal information system in energy and environment

The Legal Information System in Energy is a unique reference tool for consultation, decision making, drafting of legislative proposals, and comparative studies, available to both the regional and the extra-regional energy community. At present, the Andean module is available to the public with information updated to 2001.

<http://www.olade.org.ec/sieal>



The Legal Information System in Energy (SIEAL) is based on the legal inventory of the OLADE-University of Calgary-CIDA Project, which classifies information by specific environmental law categories. The subsectors being considered are hydrocarbons and electricity. The classification includes:

- *General institutional framework:* It provides information on the distribution of jurisdiction regarding: i) energy, ii) natural resources, iii) the environment; iv) the objectives of state policy regarding energy sector and environmental activities; and iv) ratified international norms.
- *Institutional framework by subsector:* It reports on i) the nature of activities, ii) resource ownership, iii) governing institution, and iv) nature of players.
- *Economic instruments* (includes only those provisions with environmental objectives): reports on i) user fees; ii) subsidies and cost structure; iii) financial information requirements; iv) pollution fees; v) investment conditions, vi) taxes; vii) financial guarantees; viii) emission swaps; both in general and by subsector.
- *General environmental framework:* It refers to the environmental legislation framework applicable to any sector or activity in the planning and development phases (includes use and abandonment). It contains information on environmental licenses, EIA, protection of natural and cultural heritage, territorial ordering, servitude and expropriation, social variables and waste, access to information, public participation, access to justice, noncompliance and liability, alternative dispute resolution, etc.
- *Environmental framework by subsector:* It contains specific information for each subsector that is identified, classified into the same phases and categories as the previous ones.

The information contained in the system summarizes the provisions that are relevant for each item with the respective specific legal reference (statute and number of article).

**Subscriptions:** Access to the database will only be by subscription. At first, for a limited period, it will be available to the public at large for consultation.

**Maintenance.** The system will be updated on an ongoing basis thanks to the joint efforts of OLADE, the University of Calgary, and the participating countries.

**Language:** The information in the program will be available in Spanish and English, preferably.

*For further information, please contact the following e-mail address:*

[sieal@olade.org.ec](mailto:sieal@olade.org.ec)



# Opinion and debate

**Dr. Julio Herrera**  
**Executive Secretary**  
**OLADE**

*Dear Mr. Secretary:*

Please find below remarks on the interesting article, "Hydropower Opportunities in Latin America and the Caribbean" that was published in issue No. 2, April-June 2002, of OLADE's Energy Magazine.

The article highlights the major potential of hydropower supply in the region (22.7% of world total) and the small share of this potential that has been tapped, as its use in our countries amounts to only 20.8% of the total potential.

The Andean Community of Nations offers an even more serious case of concern, as it accounts for 44.9% of regional supply although it does not use it adequately.

The article asserts that there are high expectations of growth for hydropower production, but they are being adversely affected by the fact that private-sector

investors have little interest in pursuing this potential, because private-sector projects require returns in the shortest time possible, not over a 30-year period, which is what is estimated for recovering investments in this sector.

I ask myself and would like to ask the readers of OLADE's Energy Magazine interested in the matter the following question: What role are international financing institutions dedicated to promoting the development in our countries playing in this regard? What about the role of international banks?

A new impetus given to the use of hydropower resources would enable us to use a large part of our countries' foreign currency earnings to do urgent social work in the region's countries.

Cordially,

Jorge Muñoz-Arroba  
Fifth year student in civil engineering  
Quito, Ecuador

Dear Mr. Executive Secretary:

I am pleased to send you my most cordial greetings and congratulate you on this magnificent Energy Magazine, which is no doubt providing the best of the energy sector.

I am interested in receiving the Magazine. My name is DARIO THORRENS-GOMEZ. I am an electromechanical engineer and candidate to be a

specialist in Energy Resource Management. I work in the company Fertilizantes Colombianos S.A. in Barrancabermeja, Santander, Colombia.

I look forward to positive managerial activities.

Cordially,

DARIO THORRENS GOMEZ



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



## BRAZIL

### Extension of gas pipeline

PETROBRAS announced plans for expanding Brazil's gas pipeline network by 25%, that is, by about 5,900 km of new pipelines. The projects involve a cost of US\$1.8 billion and will serve to continue fostering growth of the natural gas market, whose share in the country's energy matrix will be rising from 3% to 10% up to 2005.



## ECUADOR

### PETROECUADOR would like to secure investments for oil and gas projects

PETROECUADOR has opened up to the private sector seven projects, which require resources amounting to US\$4882 million. The projects will be built using a scheme involving investment, operation, and then transfer to the State, share agreements, or service delivery contracts in the case of operational partnerships for the development of the fields. The projects requiring private-sector investment are:

- Ishpingo – Tambococha – Tiputini
- High-conversion refineries
- Ninth round of bidding processes for the exploration and production of six oil and gas blocks
- Operational partnerships for the development of the fields
- Construction of the multipurpose pipeline Cuenca-Guayaquil-Machala
- LPG storage
- Automation of multipurpose pipelines and terminals



## GUATEMALA – MEXICO

### Building of a cross-border pipeline is being planned

Guatemala and Mexico have agreed to build, in 2004, a gas pipeline connecting the cities of Escuintla in Guatemala to Ciudad Pemex in southern Mexico. The gas pipeline will extend over 558.5 km and an investment of US\$450 million will be required to build it. It will follow the same route as the oil pipeline in the Guatemalan region of Petén and will become part of the network of gas pipelines of Central America that will extend to Honduras and El Salvador and eventually to Nicaragua and Costa Rica.





## GUYANA

### Hydropower project

The process for building the hydropower project of Amalia Falls, the largest in Guyana, has started up. It will contribute considerably to reducing the country's dependence on fossil fuels. The project's estimated cost is US\$312 million, which will be financed by private-sector institutions. The project envisages the building of a reservoir comprised of two dams and 296 km of transmission lines, which will be connected with the national power grid. It is expected to start operating in December 2005.



## MEXICO

### Investments amounting to US\$5 billion are required

The Energy Secretary of Mexico, Mr. Ernesto Martens, asserted that US\$5 billion per year of private-sector investments are needed for a 10-year period to develop the power sector, and the State is unable to provide for this amount. To facilitate this investment, an amendment to the law is being submitted to Congress to enable private-sector generators to sell energy to large consumers, that is, those whose needs amount to over 2,500 megawatt-hours per year, which would mean about 4,500 potential customers.

### PEMEX Investments

Petróleos Mexicanos (PEMEX) is planning to invest US\$800 million in a new petrochemical complex in the state of Veracruz, with a capacity of 1.2 million metric tons per year of ethylene. Building will start in 2005.



## NICARAGUA

### It will start up offshore exploration activities

The Nicaraguan government has announced that it is authorizing four U.S. companies to participate in the bidding process for oil exploration in Nicaragua. Exploration activities will begin after both Pacific and Caribbean offshore fields are identified, in an area comprising 150,000 square kilometers. It has attracted the interest of foreign investors, who have taken into consideration the security provided by prevailing legislation.



## TRINIDAD AND TOBAGO

### PETROTRIN is looking for the support of private enterprise

The state company PETROTRIN is offering six blocks for joint operations to local and foreign companies. It also intends to draw up five agreements for operation, whereby a series of inactive wells would be transferred to the private sector for recovery activities. PETROTRIN needs more local crude oil to meet its refinery capacity and not depend on oil imports.



# 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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