

ENERLAC

REVISTA DE ENERGÍA - AMÉRICA LATINA Y CARIBE

REVISTA ENERLAC - Año 1 - Nº 1 - Octubre 2009

Organización Latinoamericana de Energía
Latin American Energy Organization
Organização Latino-Americana de Energia
Organisation Latino-Americaine D'Energie

olade

ENERLAC MAGAZINE | YEAR 1 | N° 1 | OCTOBER 2009

enerlac

Latin American and the Caribbean Energy Magazine

Index

- 3 Presentation
- 4 The Energy Agenda of OLADE to 2023
Carlos A. Florez P.
- 7 The Energy Policy in South America and the
Return of the State: Price of Oil, Climate Change
and the Economic Crisis
Luiz Pinguelli Rosa
- 15 Renewable Energy in Latin America and the Caribbean
Jose Goldemberg
- 18 Biomass, an underestimated energy resource
in Latin America and the Caribbean
Alfredo Curbelo
- 28 Aspects of Environmental Sustainability of Ethanol
Production in Brazil: Technologies and Practices
Gilberto De Martino Jannuzzi
Rodolfo D. M. Gomes
- 39 Energy use in residential and commercial sectors
in Latin America: consumption factors and outlook
of the use in buildings with Mexico as reference
Odon de Buen Rodriguez

Credits:

OLADE Editorial Board

Carlos A. Florez P.
Executive Secretary

Néstor D. Luna G.
Director of Planning and Projects

Erick F. Cabrera C.
Director of Integration

Victorio E. Oxilia D.
Training Coordinator

Patricia X. Solano S.
Press and Communication Assistant

ENERLAC MAGAZINE

The views expressed in the articles are those of the authors and do not engage the Latin American Energy Organization (OLADE), but are from its exclusive property.

OLADE is solely responsible for the content of the articles published as an organization and is the exclusive owner of rights, titles and interests (including copyright, trademarks, patents and any other intellectual and law property) on the total of information and content, which is protected by international conventions and domestic laws on intellectual property. This information may be used and reproduced without permission and without charge only for any educational or non-commercial purposes, provided that at any display (© OLADE) it is recognized as the information source.

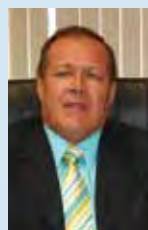
Copyright © Latin American Energy Organization (OLADE) 2009.
All rights reserved.

Authors of Articles in this publication

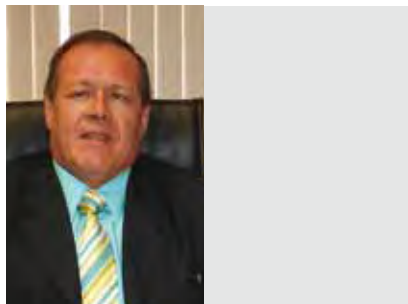
Carlos A. Florez P.
Luiz Pinguelli Rosa
Jose Goldemberg
Alfredo Curbelo
Gilberto De Martino Jannuzzi
Rodolfo D. M. Gomes
Odon de Buen Rodriguez

ISSN: 1390-5171

enerlac



The Energy Agenda of OLADE to 2023



Carlos A. Florez Piedrahita

*Executive Secretary
Latin American Energy Organization, OLADE.*

Carlos Arturo Florez Piedrahita, Colombian citizen, is the current Executive Secretary of the Latin American Energy Organization for the period 2008-2010. He is a professional, specialized in Administrative Science in Israel, with 26 years of experience in the Social, Labour Union and Solidarity Sector. He has also 14 years of experience in the Colombian Public Sector, spending 10 of them in the energy sector. He has held leading positions in various entities such as: the Ministry of Mines and Energy of Colombia, the Energy Mining Planning Unit (UPME), the Medellin Public Companies (EPM), ISA, among others. Dr. Flórez was OLADE's National Coordinator in Colombia, allowing him to work on behalf of his country as Chairman of Strategy and Programming Committee of OLADE in 2005 and as a member of the Directive Committee of the Organization until 2007.

One of the major achievements of the past four decades in regards to the development of society on a planetary scale, has undoubtedly been the creation of an increasingly clear awareness that the modern way of life could only be maintained, and expanded following the criteria of sustainability. A better future necessarily depends on what is done in the present and the path we decide to undertake. The energy sector, either as one of the essential factors for economic activity or even as a condition for a dignified and modern living for all inhabitants of a country, is not apart from that concept.

However, it is important not to lose the perspective of the real needs of developing countries. Indeed, although this concept has created some restrictions for developed and developing countries, which have different levels of responsibility in the environmental impact, it has also brought great opportunities for countries in Latin America and the Caribbean.

This region is one of the top with greatest potential for development of various renewable energy resources: hydropower, solar radiation, wind and biomass resources are abundant and they are still barely exploited. Hydropower, for example, is a source available in many countries of the region, but only a 22% of the potential in stock has been used so far. What was remarkable about the use of this energy source is that there are endogenous technologies that allow its conversion into electricity, an energy form that allows for many different end uses with high yields of energy transformation. This is the same situation for biomass, with special attention to biofuels. Some of the countries of the region - particularly Brazil, but not exclusively - have developed technologies to increase productivity in the whole industry chain, and have expanded their use as a fully viable alternative to fossil fuels, that despite its undeniable importance, are of limited availability and its use bring along increased emissions of greenhouse gases.

Biofuels have a high potential for development in the region, whether by the availability of suitable soils for agriculture, abundant solar energy and water resources available in great part of Latin America and the Caribbean. Furthermore, the development of endogenous technologies that increase productivity in various segments of this industry is an example around the world and it can be used to replicate and expand production.

Just by considering the two renewable energy sources quoted above, the future for the region will be promising. But there are also other sources such as solar radiation and wind, which certainly are having a great momentum in the world and in Latin America and the Caribbean (LA & C), mainly during the last five years. As much as the region develops its own technologies for self use or it increases the participation of regional resources in the value chain, these new renewable energy sources will certainly become increasingly important. This impulse may have some impact, although it will be small in the medium term, in the structure of final energy consumption in LA & C.

It should be noted here that the region is characterized by an energy matrix with great influence of renewable sources. Although this fact is found uniformly in all countries, the average is high compared to other regions or countries. In 2007, AL & C had 25% of renewable energy in domestic supply of energy, while in OCDE¹

¹ Member Countries of the Organization for Economic Cooperation and Development: Germany, Australia, Austria, Belgium, Canada, South Korea, Denmark, Slovakia, Spain, United States, Finland, France, Greece, Hungary, Ireland, Italy, Iceland, Japan, Luxembourg, Mexico, Norway, New Zealand, Netherlands, Poland, Portugal, United Kingdom, Czech Republic, Sweden, Switzerland, Turkey.

countries such participation reached less than 7% and the world average in the same year was of 13%. Furthermore, if we were to consider the level of electricity supply in AL&C, there is a population of 39 million people who still lack access to this form of energy. For the universalization of electricity, the importance that renewable energy sources will have is essential.

Notwithstanding the foregoing, the renewable energy sources alone will not supply the energy requirements in the region, but it is unquestionable that they are an alternative that rely on the reduction of use of fossil fuels. They are also an alternative in fuel imports from other countries, which represent a saving of foreign exchange, an alternative in environmental protection for the possible reduction of greenhouse gases and in generating employment, especially in the rural agricultural sector. OLADE studies for the future, with the horizon of 2032, show that the participation of fossil fuels as a whole will not represent major changes. It is expected to increase the consumption of coal and natural gas at the expense of oil. It is also awaiting a notable increase in the usage of nuclear energy.

In turn, the generation of electricity from the energy use of nuclear fission (or fusion, still under development) is considered an option for improving the energy supply of AL&C countries. There are not only reserves of uranium and thorium in the countries of the region (Brazil has around 5% of world reserves of uranium), but there are also regional developments in production technologies and in fuel enrichment, design of materials and nuclear reactors. In this sense, the technological development in Argentina, Brazil and Mexico presents successful experiences.

Many experts say that the power to combine the use of renewable energy sources, together with the rational and efficient use of energy, will provide our countries significant cost savings. The Energy Efficiency concept does not refer to a restrictive measure in terms of energy consumption, but as a measure of efficient use, using appropriate technology and with full respect for the environment.

The financing issue is a topic often noted as one of the greatest barriers to sustainable development, particularly when it comes to expanding the use of technologies of renewable energy conversion, since they require in terms of capital costs and in general, greater financial resources. However, funding depends essentially on two aspects: a) the decision of a society to allocate resources (either public or private sources) for energy, which can be guided through public policies and tariff regulations; b) use of external financial resources, either through investment or through loans from international financial systems. Finally, these two aspects are directly related to the creation of a propitious institutional framework so the energy sector cooperates with the sustainable development. The context of the international financial crisis originated in the U.S. and immediately globalized reveals the fragility of the international financial system instead of an insurmountable barrier to the development. The restriction is not so much the volume of money available but the way it is managed, audited, distributed and allocated.

The above mentioned shows, on one hand, the complexity of energy systems and its close relations with other

sectors, such as: economics, finance and environment. On the other hand, it shows the wealth of energy resources in Latin America and the Caribbean. The challenge is to use them effectively mainly to benefit the population of the region.

The need to prepare for energy development scenarios, but based on individual and regional conditions, has led the Organization to redesign itself, while maintaining its existing principles to be regarded as the intergovernmental body at the regional level that knows, gives opinions and proposes on energy issues. To meet this challenge, officials of the Organization have undertaken the unprecedented task of creating and maintaining a culture of strategic planning. It starts from the idea that only an ongoing reflection on the position of OLADE within its Member Countries' framework but also within other international organizations' framework can focus its operational plans on a more effective way to cope with the challenges that have arisen.

A year ago, at the 35th anniversary of the Latin American Energy Organization, it was mentioned that the main institutional challenge was to proactively influence in energy policies of the countries of AL&C. This is not about replacing the fundamental role of energy authorities of the Member Countries in formulating and implementing policies, but to contribute to national efforts to be more effective by capitalizing the great strength that OLADE has: the regional approach.

Indeed, maintaining existing relationships with Member Countries while seeking alliances with other agencies, strengthening the position of OLADE on energy and on global scale, are the basis of future operations of the Organization. In other words, the general objectives of the organization in the regional context seem to be clear. What was concerted in the Lima Agreement remains in effect. What to look for is the constant renewal of operational plans, but having a structure without plastering the actions directed towards those goals, with specific results.

In this context, the strategic planning exercise of OLADE has defined a key subject's proposal, called the Energy Agenda of OLADE to 2023.

1. Institutional Strengthening

Institutional strengthening involves offering useful tools for agencies and energy agencies of Member Countries, to enable them to better fulfill its functions.

OLADE proposed in this key subject, to support Member Countries in areas such as: planning, institutional framework, corporate social responsibility, professionalism and availability of resources.

2. Information Technologies

Information technologies nowadays constitute a powerful platform to facilitate and expand options for various types of services. These are also options that allow optimizing

resource use. OLADE has carried out some of its activities based on these technologies. The intensive use of the Internet and specialized applications can provide far-reaching virtual courses. Nearly 3,500 participants in 45 courses taught in the last 36 months from the 26 Member Countries and Participant Country - unprecedented training scope in history of OLADE - are the proof that the path is correct.

Other departments of the Organization - including the one regarding the administration - can be modernized, providing access to the technical proposal of OLADE. Technological change not only results in a more rational use of resources but also in a wider scope of products and services.

3. Energy Studies

The approach intended to give to some of the studies is based on the Information Systems of the Organization. The validation of the energy statistics database is per se a task of great value. However, there are attempts to go beyond the data. It is intended to use the information on energy sector analysis and through specific indicators.

Also, the periodic OLADE Energy Prospective study will help guide national and regional policies. In this sense, regional energy integration, so frequently mentioned in speeches, is still a goal not fully achieved. Bilateral projects of great significance and some political statements are already available. Little progress has been made in supranational policy and regional projects.

4. Exchange of experiences

This key subject generates unprecedented exchange opportunities between different actors in the region, who can facilitate the research and development between countries with some degree of similarity in scientific and technological advance. But it can also represent even more important for benefits for countries with less developed internal technology,

through various cooperative activities. At the same time, all countries in the region can not remain indifferent to technological innovations taking place in the global arena. It is essential to maintain a dialogue among centers of excellence in the region and in the world, knowing and disseminating results, and working at the frontiers of science and technology.

In this issue there are various forms of activities considered: from chat rooms (forums, events), that can not stay in a fragmented and isolated dialogue, to the creation of thematic networks of experts to facilitate collaborative work between the centers of national science systems, technology and innovation both in the region and worldwide.

5. Communication

It has been stressed the importance of maintaining contact and continuing relationship, first between OLADE and the energy authorities of the Member Countries, as well as with energy companies (mainly public) regulatory agencies and other authorities and agencies related to the energy sector.

OLADE relations with other international agencies have dramatically increased in the current administration, which is linked to a process of consolidation of the organization as regional prolocutor on energy. Joint actions of international agencies are well received by governments, not only because of the synergies that may result from the collaboration but also because it optimizes the allocation and use of resources of the Member Countries of these organizations.

Finally, it is worth mentioning that OLADE has not proposed a closed and consolidated Energy Agenda to 2023. It is an exercise that must be followed within the Organization, but it should also be closely linked with energy officials from Member Countries. It must continually be adapted and improved to benefit the energy sector in Latin America and the Caribbean.