

FIER: A Decade promoting integration

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X FIER 2015 X Foro de
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Energética
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X Regional Energy Integration Forum

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FIER: Ten years building energy integration in Latin America and the Caribbean

Lennys Rivera

Director of Integration, OLADE

Below is a brief summary of the Regional Energy Integration Forums (FIERs) held from 2006 to 2014, highlighting the key themes and conclusions that OLADE would bring to the attention of its member countries.

The FIER is celebrating its tenth year as a place to meet and exchange energy integration experiences among energy authorities and experts in Latin America and the Caribbean.

Through this summary, OLADE acknowledges the host countries of these gatherings and all the institutions that share and support the vision of an increasingly integrated Latin American and Caribbean region.





Target Population

Authorities of energy ministries, regulatory agencies, planning institutes, electric utilities, and oil and gas companies in the member countries; experts from international organizations; private sector representatives, investors and project developers; and university representatives and energy integration experts of international renown.

Background on the creation of the Regional Energy Integration Forum - FIER

Interview by Marcelo Ayala

EX Executive Secretary Alvaro Rios

What was the purpose for creating the Regional Energy Integration Forum in 2006? What motivated its establishment?

To generate a dialogue in which the Ministers of Energy would be the drivers of integration processes, but also with the engagement of the private sector.

Can you tell us an anecdote or peculiar experience regarding the FIER events in which you have participated?

I never thought we could bring together 17 Ministers at the first FIER in Mexico. It was exhausting, but also exciting to achieve that.

Did you ever think that the FIER would continue until today?

No, because institutional arrangements are extremely variable in Latin America.

What goals should the Organization set for the FIER?

I still maintain that energy flows among countries require supranational legal frameworks and stable integration platforms.

Why is energy integration important for the countries of Latin America and the Caribbean?

The synergies among our countries' demand and supply systems bring efficiencies to the energy economy, and we should utilize them for the benefit of the region.

Do you think these 10 years of FIERs have produced consensus among the countries of Latin America and the Caribbean that have laid the groundwork for regional energy integration?

I would say not. What we have in the region are bilateral relations, not regional integration, but we should not give up; we need to keep trying.

Interview with the ex Executive Secretary of OLADE, Mr. Alvaro Rios Roca (2006-2007) ●

Specific Objectives

- To present the lessons learned and challenges of Latin America's experience with regional integration
- To publicize the role of key stakeholders, both public and private, in regional energy integration
- To study regulatory, institutional and commercial factors as the pillars of energy integration in the region
- To showcase the role of new technologies and human talent in developing energy integration projects
- To put forth proposals for strengthening energy integration from a vantage point of sustainable development and international cooperation



AGENDA

- Plenary session: Integration as a driving mechanism of investment
 - Panel 1: Infrastructure projects in natural gas
 - Panel 2: Electricity infrastructure projects
 - Plenary session: Point of view of public and private gas and electricity companies
 - Plenary session: Integration experiences in Europe
 - Plenary session: Point of view of regional organizations on the integration of Latin America and the Caribbean
 - Plenary session: Complementarity, cooperation and partnership among energy utilities
- Panel 3: Importance of legal frameworks for energy integration
- Panel 4: Determination of gas prices in a context of regional integration
- Panel 5: Settlement and conflicts resolutions mechanisms between countries
- Panel 6: Social, environmental responsibilities and point of view of the States and civil society on energy integration
- Plenary session: Presentation of findings of the Forum
- Plenary session: Ministerial presentations (Argentina, Barbados, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Chile, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela)

CONCLUSIONS

- There is a need to continue fostering the standardization of rules and promotion of regional treaties or agreements on energy.
- The governments' role is a key aspect in the development of regulatory frameworks to encourage public and private investment.
- Regional experiences confirm that energy integration is a condition for sustainable development in Latin America and the Caribbean, and it must be addressed with supply security objectives at regional level.
- Integration should consider clear rules that provide legal security, a prerequisite to attract required investment for the development of energy markets; both in trade surplus as in bi-national interconnections, which are only the first steps toward real energy integration.
- If investments are the basis of economic development of the region, the regulatory framework is, therefore, a priority for the States.
- The existence of a dispute resolution Center between the States must be considered where regional and subregional integration organizations can participate through a countries' mandate that so manifest.
- The entry of LNG to the different sub-regions will set a new stage of rather international than regional prices.





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II FIER

From Planning to Action: Regional and Subregional Energy Integration

AGENDA

- Plenary 1: Progress in the implementation and operation of legal frameworks on natural gas and electricity and integration agreements by sub-regions
 - Plenary 2: Initiatives and proposals of sub-regional integration
 - Panel 1: Hydrocarbons Binational Projects
 - Panel 2: Electricity bilateral projects
 - Plenary 3: Strategic partnerships between public and private companies and their role in integration
 - Plenary 4: Energy planning, experiences and its importance in integration
 - Panel 3: State-owned enterprises transformation, regulatory framework and business management
 - Panel 4: State-owned oil companies or electric power companies, management and use of renewable energy
- Plenary 5: The private sector and climate change
- Plenary 6: Biofuels and social development
- Roundtable of Energy Ministers on Integration and Energy Supply



28-29 November 2007

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AGENDA

- Opening Plenary Session 1: Global and Regional Energy Outlook
 - Panel 1: Regional and Subregional Energy Integration Initiative • Panel 2: Integration of Energy Markets: Role and Public - Private complementarities
 - Panel 3: Legal and Financial Mechanisms: Its importance in the regional and subregional integration
 - Panel 4: Public - private infrastructure projects and its contribution to regional energy integration
 - Panel 5: Peaceful Uses of Nuclear Energy in Latin America and the Caribbean
- Panel 6: Development of New Energy Technologies and Sustainability
- Closing Plenary Session 2: Path to Power Integration



CONCLUSIONS

- Panel 1. Presentation of integration initiatives and proposals: Mechanisms, agreements, programs and projects, the progress of integration experienced by the Caribbean Community and its 2008 energy development Comprehensive Plan.
- Panel 2. Presentation of regional and subregional experiences in integration of energy markets in Mesoamerica, the Caribbean, the Andean region, the Southern Cone, Argentina's energy ministry and experience in Oil and natural gas from Trinidad and Tobago.
- Panel 3. Presentation of an overview on legal, regulatory, financial mechanisms and tools from the perspective of the World Bank, IDB, CAF and the FIDE of Mexico for training and availability of funds.
- Panel 4. Presentation of the development of new investments and projects in the energy sector, interconnection progress between Central America, Mexico and Colombia and binational experiences in Hydropower between Brazil and Argentina.
- Panel 5. Presentation of current state of infrastructure, research and innovation from the point of view of the IAEA and the current state of development of atomic energy in Brazil, Argentina and Mexico and future prospects.
- Panel 6. Presentation of the progress of new technologies, investments and infrastructure projects and their environmental implications for sustainable energy.
- Closing Plenary Session 2. Presentation of the path to energy integration with the various institutional activities related to this topic, such as CIER, ECLAC, ARPEL and OLADE with emphasis on strengthening institutional cooperation.

12-13 November 2008



Buenos Aires

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IV FIER

Development of energy efficiency projects as elements of regional integration

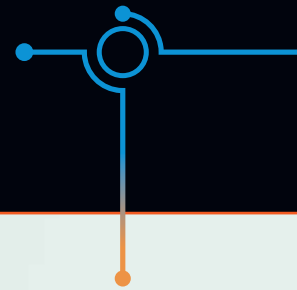
AGENDA

- Opening Plenary Session: Global and Regional Energy Outlook
 - Panel 1: Energy Efficiency in today's world and particularly in Latin America and the Caribbean
 - Panel 2: Presentation of Regional and Subregional Mapping on Energy Integration in Latin America and the Caribbean
 - Panel 3: Successful Experiences in Developing Energy Efficiency Projects as Integration Elements
 - Panel 4: Policy and Essential Regulatory Frameworks to Enhance Energy Efficiency
 - Panel 5: Strategic Alliance for Sustainable Energy Development in Latin America and the Caribbean, a roadmap common proposal
- Field visits FIER IV
- Closing Plenary Session: Executive Summary

CONCLUSIONS

- The Energy integration is a long-term process that requires shared vision, joint planning, consensus range, alliances, agreements, resources availability and approval of rules to go from national and subregional markets to regional energy markets.
- It is essential to have strategies, policies and clear guidelines for joint energy management, to prioritize energy issues according to the regional context; they must also reflect the needs and requirements for the development of a common regional energy agenda for Sustainable Energy Development in Latin America and the Caribbean with a long term approach.
- Energy integration in Latin America and the Caribbean should be used by the countries as an important tool for promoting social, economic and environmental development and contribution to poverty reduction. In this sense, it is necessary to reiterate the commitment to universal access to energy as a civil right in Latin America and the Caribbean.
- It is necessary to take action in order to strengthen the relations between the member countries of OLADE and other initiatives of regional and subregional integration, based on the sustainable use of energy resources and energy potential, taking advantage of economic complementarities and partnerships to reduce asymmetries in the region and move toward hemispheric, regional and sub-regional unit.





Matamoros

La Habana



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AGENDA

- Session 1: Panel: Benefits of energy integration in Latin America and the Caribbean • Session 1: Benefits of Energy Integration - Comments to the presentations
- Session 2: Outlook for Energy Integration - Electricity
- Session 3: Outlook for Energy Integration - Natural Gas
- Session 4: Cooperation as a factor of integration in Energy and Sustainable Development
- Session 5: Roundtable on Energy Integration in Latin America and the Caribbean

ISLAS
REVILLAGIGEDO
(MEXICO)

CONCLUSIONS

- 1. Feasibility of energy integration in the region. Technological and economic complementarity, solidarity and mutual assistance are vital for consolidation.
- 2. The integration makes possible the realization of ambitious projects that countries, in a isolated manner, could not implement; so it is necessary to advance on methodologies to approach the communities.
- 3. "Win-win" strategies should be developed; business is possible when all stakeholders are benefited.
- 4. Society requires increasing demands of cheaper energy resources that are also committed to the environment, so it is necessary to take advantage of the significant potential of renewable and non-renewable energies in an environmentally and socially responsible manner.
- 5. Hydropower, biomass, geothermal, wind power, natural gas, and other energy sources have sufficient potential for energy supply in the region. To avail of this resources it is necessary the development of energy policies to promote regional and subregional integration.
- 6. Highlighting the importance of the lessons learned in sustainable development projects and results as tools of cooperation in the region.
- 7. Successful experiences must be evaluated in terms of electrical integration in Latin America, as in the case of Mexico - Central America Electric Interconnection which became real through the Mexico-Guatemala power interconnection.
- 8. Regulatory asymmetries exist in the region that require uniformity to promote integration.
- 9. It is key to the integration processes that governments regain investor confidence and resume its role of power sector planning.
- 10. International cooperation and technical assistance of the specialized agencies can contribute significantly to the consolidation of regional energy integration.





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AGENDA

Sesión 1: Keynote Speech: The Regional Point of view of Integration as Energy Security factor

- Comments on the lectures
- Session 2: Panel 1- The Regional Point of view of Integration as Energy Security factor: Outlook of Integration Organizations, Cooperation and Financial Institutions •
- Session 3:
 - Panel 2- Strategic Outlook of Regional Energy Systems
- Session 4: Conference- Role of Enterprises in the Energy Integration Initiatives

- Session 5: Conference- International Cooperation and Integration Tool
- Session 6: Round Table -Progress in Regional Energy Integration
- Session 7: Launching of the Integration Observatory



CONCLUSIONS

- 1. The economy of Latin America and the Caribbean has presented growth indicators. However, it has been shown that the benefits of economic development should be distributed more equitably to all segments of society, which is consistent with the development policies of member countries in the last decade: development productive sectors, the welfare and social and economic inclusion of the most vulnerable segments. Energy plays a key and strategic role in meeting these objectives.
- 2. Meet the growing demand for energy requires efforts on the implementation and development of mechanisms that facilitate the availability and access to energy in quantity, quality and low prices, considering the use and potential for complementarity of abundant non-renewable and renewable resources of the Countries in the region.
- 3. Energy integration allows several benefits for the region, such as better use of resources and complementarities between energy systems that enable better allocation of investments in the energy industry facilities; it can also reduce asymmetries. The projects and studies show that energy integration is a relevant factor for regional energy security.
- 4. To make progress on energy integration is crucial to have a regional or coordinated energy policy that seeks socio-economic development with solidarity, sustainability and equity. With it, you can have a portfolio of viable projects, defining a mechanism for benefit sharing, respecting the sovereignty of countries. It is also essential to have an institutional framework to facilitate energy integration in line with regional policy vision. To this, it must be taken into account regional integration processes under way, such as UNASUR, SICA, CARICOM, among others.
- 5. There are successful experiences in the region focused on bilateral projects, however it is shown that the benefits could be greater if the regional approach prevailed.
- 6. With energy security in mind, countries must develop both renewable and non-renewable resources seeking efficiency in the entire chain of the energy industry.
- 7. The promotion and exchange of information on experiences is a valuable tool to promote regional cooperation and integration.
- 8. Latin America and the Caribbean has significant energy resources and the possibility of accessing to financial resources, which can generate great opportunities for sustainable energy supply in the region.



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VII FIER

Policies, Regulatory Frameworks and Initiatives for the Advancement of Energy Integration in Latin America and the Caribbean

AGENDA

- Keynote Speech: The regional point of view on Policies, Regulatory Frameworks and Initiatives for the Advancement of Energy Integration in Latin America and the Caribbean • Session 1: Policy and Regulatory Frameworks in Latin America and the Caribbean
 - Session 2: Analysis from the Viewpoint of the Power Sector - Electricity production and electricity interconnections
 - Session 3: GN Transport options to diversify energy sources in Latin America and the Caribbean
- Presentation: IFT ENERGY 2013
- Session 4: Panel 1. Regional Strategic Approach: Sustainable energy development and social inclusion • Session 5: Panel 2: Opportunities for Regional Cooperation
- Session 6: Panel 3: Mechanisms for Strengthening Regional Integration
- Round table: Guests from the Member Countries Brazil, Cuba, Ecuador and Guatemala

CONCLUSIONS

- "Energy security to guarantee domestic energy supply, sustainable energy development and respect for the environment and society, the availability of energy at reduced costs and social inclusion are elements in the political agenda of Latin America and the Caribbean.
- Specialized studies indicate the existence of very large reserves of unconventional natural gas and additional reserves of oil, which strengthens the strategic regional position on energy resources, despite the heterogeneous distribution in geography.
- To ensure the use of the large reserves and potential energy resources and ensure energy supply in the region is important to make progress in the realization of infrastructure projects for energy integration that will benefit everyone.
- To make progress on energy integration is recommended to deepen the process of building regional and subregional policy and from thereon, strengthen and implement strategic agreements and transparent regulatory frameworks that promote concepts such as cooperation, gradualism and reciprocity, trying to minimize impacts on the national technical and legal systems and respecting sovereignty of countries.
- Progress was made in defining policies or stability and adjustment of the regulatory framework in the integration processes in Central America, the Andean region and in the field of UNASUR Energy Council. The importance of supporting and strengthening integration and cooperation processes in the Caribbean is highlighted
- The importance of regional policy and planning with long-term vision to ensure sustainability of supply in a context of strong growth in demand and to support the advancement of integration is identified



12-13 November 2012

Lima

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VIII FIER

OLADE 40 years: Contribution to the History of Energy Integration in Latin America and the Caribbean. Lessons Learned, Progress and Challenges

AGENDA

- Keynote Speech: The historic regional approach on the development of energy integration in Latin America and the Caribbean and future challenges
 - Panel 1: Evolution of the Integration Process from the Perspective of Financial Organizations
 - Panel 2: Lessons Learned and Challenges
 - Experiences of integration in the area of hydrocarbons in Latin America and the Caribbean
 - Panel 3: Renewable Energy Technologies Integration Projects in Latin America and the Caribbean
 - Panel 4: Lessons learned in legal, Regulatory and Commercial Energy Integration in the Region
- Part I: Electricity interconnections
- Part II: Hydrocarbons in Latin America and the Caribbean
- Panel 5: A Look Ahead: Proposals on Energy Integration

CONCLUSIONS

- Latin America presents real examples of projects that allow remarkable advances in energy integration, this has been possible thanks to the political will of the countries and clear and stable legal framework.
- Energy integration should be based on trust between the parties and should serve the development and security; the investment market and the physical market must be released.
- By 2030, the projected electricity demand in the region may double. There is concern about the shortage of supply in the short and medium term, so one of the options to address this situation is to increase the share of renewable energies, improving energy efficiency and strengthening energy integration.
- There are still challenges to be addressed in order to advance the energy integration such as legal and institutional issues as well as funding for regional projects and the social and environmental aspects.
- Financial institutions and banks have been instrumental actors in financing energy projects, but they should consider additional resources to continue supporting these energy projects beyond just infrastructure.
- Mechanisms that allow equitable and fair and socialization of integration and in particular infrastructure should be promoted.
- There is a substantial supply of natural gas from Bolivia and Trinidad and Tobago to the LAC countries and the world; it is highlighted the supply from Bolivia to Brazil and LNG from Trinidad and Tobago to several countries.
- NG reserve in several countries in the region is significant and they will increase significantly with the new technologies available to harness resources such as shale gas (unconventional gas), among others.
- Investments in renewable energy are growing significantly in LAC as shown in the study by the IDB / MIF Climatescope 2013.
- Shared hydroelectric resources continue to be displayed as axes of development of important areas of South America, with implications for social, economic, social and environmental development of the countries.
- 15. There are platforms of knowledge in the region with available data on policies, regulatory framework, projects, investments and training in renewable energy, with free access for the countries concerned, such as the Renewable Energy Observatory.
- The technology available and the studies that have been conducted shows the current feasibility of the electricity sub-regional integration.



25-26 November
2013



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IX FIER

Strengthening Subregional Energy Agendas

AGENDA

- Opening • Keynote
- Signing of the Cooperation Agreement OLADE-SICA
 - Session 1: Evolution of the integration process from the sub-regional perspective
 - Session 2: Challenges in the energy integration processes: plans and investment needs
 - Session 3: Opportunities for strengthening energy integration processes: financial instruments and policy
 - Session 4: Legal, regulatory and commercial aspects of sub-regional energy integration
 - Session 5: Proposals and strategies of development cooperation and sustainable access to energy
 - Dissemination of the South - South Cooperation Mechanism in the energy sector in Latin America and the Caribbean
 - Round table: Production integration: joint cooperation spheres as generators of added value and socioeconomic growth poles



CONCLUSIONS

- It was confirmed the importance of SIEPAC integrating electrical system for the 6 Central American countries and the need to incorporate Belize into the system.
- Efforts are being developed to include Mexico and Colombia through SIEPAC network, by increasing coverage of regional electricity market, through the Mesoamerica project.
- The the natural gas' value to increase electricity generation through projects under study in El Salvador (Pacific Area) and Honduras (Atlantic Area) was recognized.
- There were disseminated important initiatives to supply electricity to the Caribbean Islands through potential energy power lines through submarine cables integrating continental countries and island.
- Important binational integration experiences were analyzed such as Salto Grande hydroelectric plant between Argentina and Uruguay that offers significant benefits to the population of these countries.
- It was highlighted the advancement of electrical integration in the Andean countries through SINEA initiative that considers various stages in its implementation, where regulatory framework and infrastructure planning are being implemented.
- The potential of the CELAC Regional Integration initiative and the importance of collaboration among several cooperation agencies to consolidate this joint work strategy approach for the countries. The huge potential of hydropower resources in the region, much of which is untapped.
- The white energy (geothermal) available in LAC through the experience gained in countries like El Salvador that has major projects and technical capacity to support other countries.
- Importance of liquefied natural gas in countries that do not have hydrocarbon resources; There is consolidated experience in the region in promoting the use of clean energy.
- New electricity interconnection projects based on water and gas resources in the region.
- Renewable energy and its potential to complement the power generation in LAC with important experiences in several countries, especially the exploitation of wind, geothermal, biomass and solar photovoltaics.
- Existing barriers were analyzed to strengthen electricity interconnection projects such as: engineering techniques, funding in case of major projects; policies due to the need for agreements between countries, formation of multinational consortia and search of political will.
- It was presented the experience of Bolivia, Ecuador, Paraguay and Peru in the construction and diversification of energy matrices, highlighting the experience of Bolivia on gas industrialization and Ecuador in productive energy matrix, as elements to be considered in the analysis of productive integration and creation of traslatin companies.

3-4 November
2014

San Salvador

El Salvador

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X Foro de Integración Energética Regional

X Regional Energy Integration Forum



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28-29
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Integration as a driving mechanism of investment: cooperation and partnership between public and private companies

Regional Energy Integration for of supply security and sustainable development and its relationship with Energy Efficiency and the Environment

Benefits and prospects for energy integration in Latin America and the Caribbean

I FIER
Mexico D.F.
Mexico
6-8
september
2006

II FIER
Medellin
Colombia
28-20
november
2007

III FIER
Buenos Aires
Argentina
12-13
november
2008

IV FIER
La Habana
Cuba
28-29
october
2009

V FIER
Managua
Nicaragua
26-27
october
2010

From Planning to Action:
Regional and Sub-regional
Energy Integration

Development of energy efficiency
projects as elements of regional
integration.

More than 30 initiatives, programs and energy integration projects presented:

- Electrical Interconnection System of The Central American Countries, SIEPAC
- MEIP-Mesoamerican Energy Integration Program,
- PETROAMERICA -PETROSUR-PETROANDINA and PETROCARIBE
- Agreement of energy complementation in MERCOSUR
- Energy and Environment Partnership for Central America, AEA
- Andean Electric Interconnection System, SINEA
- Regional Electric Interconnection Commission (CRIE)
- Central American Court of Justice
- Electrification Council of Central America
- Eurosolar program
- Gas interconnection in the binational are Peru-Ecuador
- Gas integration in the Southern Cone
- 1LNG imports
- Northeast Argentine Pipeline -GNA
- Expansion and consolidation of the SIEPAC
- Interconnection Mexico-Central America-Colombia
- European integration - Power Network of Spain
- Single energy market in the European Union
- Energy Integration between PDVSA and PETROBRAS
- Colombia-Venezuela gas interconnection
- Garabí Binational Power plant Brazil-Argentina
- Colombia-Panama Electrical interconnection project
- Bolivia-Paraguay Energy integration
- Guatemala-Mexico electrical interconnection
- Energy integration of the Andean Countries
- Energy Market Integration in the Caribbean, Trinidad and Tobago
- Special Program for the Development of Renewable Energies in Mexico and cooperation with other countries
- Transbolivian pipeline SA
- Salto Grande Binational Hydroelectric Plant
- Andean Electric Interconnection System (SINEA)
- Renewable Energy and Energy Efficiency Program with Central America 4E/ GIZ

Policies, Regulatory Frameworks and Initiatives for the Advancement of Energy Integration in Latin America and the Caribbean

Strengthening Sub-regional Energy Agendas

VI FIER
Panama City
Panama
24-25
october
2011

VII FIER
Lima
Perú
12-13
november
2012

VIII FIER
Punta Cana
Dominican Republic
25-26
november
2013

IX FIER
San Salvador,
El Salvador
3-4
noviembre
2014

X FIER
Tarija
Bolivia
28 y 29
october
2015

The Regional Point of view of Integration as Energy Security factor: Outlook of Integration Organizations, Cooperation and Financial Institutions

OLADE 40 years: Contribution to the History of Energy Integration in Latin America and the Caribbean. Lessons Learned, Progress and Challenges

Funding for Sustainable Energy Development

1267

decision-makers and specialists in the field of energy integration.

Total number of participants

29

countries in the region and outside the region

Participating countries



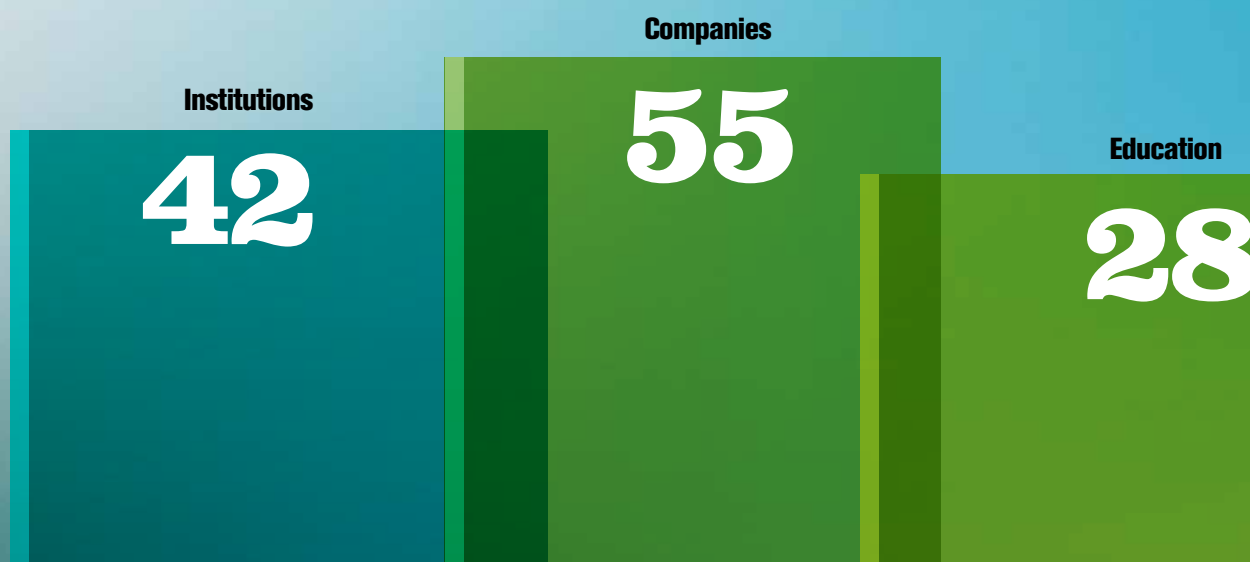
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- Comisión Nacional de Energía Atómica, CNEA, Argentina
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- Superintendencia de Electricidad, Bolivia
- Ministerio de Hidrocarburos y Energía, Bolivia
- Ministerio de Minas y Energía, Brasil
- Comisión Nacional de Energía, Chile
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- Comisión Nacional de Energía Eléctrica, Guatemala
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- Secretaría de Energía, Panamá
- Ministerio de Obras Públicas y Comunicaciones de Paraguay
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- ENAP, Chile
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- REPSOL-YPF (Argentina)
- PEMEX (México)
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- PDVSA - Colombia
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- Petróleos Paraguayos, PETROPAR
- Petróleos del Perú, PETROPERU
- Refinadora Costarricense de Petróleo, RECOPE
- Royal Dutch Shell
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- CAMMESA, Argentina
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- Administración Nacional de Usinas y Transmisiones Eléctricas, UTE
- Empresa de Transmisión del Sistema de Interconexión Eléctrica para América Central, SIEPAC
- Binacional Garabí, Brasil-Argentina
- Nucleoeléctrica Argentina Sociedad Anónima, NASA
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- ELECTROBRAS, Brasil
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- Empresa Nacional de Transmisión Eléctrica, ENATREL, Nicaragua
- Central Puerto S.A., Argentina
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