Whither energy cooperation in Latin America?

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Two features of Latin America's energy sector – its position as a net energy exporter and the recent build-up of LNG importing facilities on both its Atlantic and Pacific coasts – illustrate both the potential for energy cooperation in the region and the associated pitfalls. The first, which is an expression of energy abundance, hints at the promise of integration; but the second suggests this might be wishful thinking, at least for the time being. The future of Latin American energy cooperation will depend largely on which of these two conflicting tendencies prevails.

Existing energy linkages

In a region where primary energy production exceeds consumption by 60 per cent, and where energy resources are distributed unevenly, the opportunity to link energy-rich countries with their energy-poor counterparts suggests itself almost immediately. It is hardly surprising that Mexico and Venezuela export part of their oil surpluses to the countries of Central America and the Caribbean, which do not produce oil in significant amounts, or that Paraguay and Argentina export some of their surplus electricity to Brazil and Uruguay. Likewise, it is understandable that gas-rich countries are linked with their neighbours through pipelines: for example Argentina with Chile, and Bolivia with Brazil.

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Moves towards LNG imports

But it is striking that, while abundance and asymmetry are allies in the promotion of energy integration and go a long way towards explaining the pattern of intra-regional trade, over the last decade the countries of the region have prioritized investments to increase domestic gas supply with indigenous production and/or imports from the rest of the world. Brazil and Chile have built LNG facilities to diversify their imports of natural gas away from gas-rich Argentina and Bolivia despite the considerable abundance of hydrocarbon reserves in Mexico's Gulf Coast, South America's Atlantic coast, and the Andean countries; Venezuela and Mexico, which have large untapped gas reserves, do not produce sufficient to satisfy their own needs, let alone enough to export to Central America.

The reasons behind patterns of energy relations in the area are numerous; they derive, among other factors, from the interaction of geography, politics, and economics.

Geography: regional energy markets

Latin America is vast, being composed of four sub-regions separated from each other by oceans, mountains, and rainforests. The distance between demand and supply centres presents a significant challenge within each sub-region, let alone among sub-regions; this has a significant impact on the scale and cost of energy projects that might interconnect. The northernmost region – comprising Mexico and Central America – can only connect to South America through the Central American isthmus. The islands of the Caribbean are well-separated by water from the rest of the continent. In South America, the Andes and the Amazon rainforest present a formidable natural barrier between the highlands in the north and the lowlands in the south. Initiatives to forge stronger energy links, therefore, tend to be concentrated within each sub-region. Mexico and its Central American neighbours have been building interconnections over the last decade to create a regional electricity market that makes the best of the sub-region's diverse resource base. Gas integration, however, has eluded them in the absence of a strong demand anchor in either the power or manufacturing sectors of Central America. In the Caribbean, the strongest trade links take place through tanker trade with, among others, Venezuela and Mexico and in some cases through pipelines with Trinidad and Tobago. The countries of the Andean region have pursued a similar strategy for electrical integration as those of Central America; they have exceeded Central America's progress on the gas front, as Colombia exports to Venezuela and Peru to Chile. Farther south, Argentina, Brazil, and Paraguay have invested jointly in large hydroelectric projects to tap their shared water resources. Bolivia is linked through gas pipelines to the Argentine and Brazilian markets, while Argentina is linked to Chile and Uruguay, and Colombia is linked to Venezuela.

Effect of politics on cooperation

Consider now the political constraints on integration. Due to the particularities of the region's political processes – where disputes about the ownership and distribution of rents from oil and other natural resources persist – investment regimes in various countries have shifted at least twice in the space of the last two decades. This has left Latin America's policy orientation divided between the statist-leaning Atlantic Basin and the relatively more market-oriented Pacific Basin. In the Andean region, Venezuela, Ecuador, and Bolivia have adopted a more restrictive regime for private or foreign investments than Chile, Colombia, and Peru, since the early 1990s. Among the countries of Mercosur (Argentina, Brazil, Paraguay, Uruguay), while the trend toward greater openness in investment regimes was not reversed, Argentina and Brazil adopted measures favouring either state-owned or domestic private companies. And Bolivia and Argentina nationalized oil and gas assets just as their neighbours privatized some of their own. The Central American and Caribbean countries have maintained relatively open regimes; as recently as 2014 they were joined by Mexico, when it changed the position it had taken for 70 years by opening its energy sector to private investment.

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Different national perspectives relating to the ownership of energy resources and the role of markets versus states, while legitimate, have slowed down and even blocked promising joint projects. Without the explicit agreement of governments to work together, clear guidance about objectives and the rules that would apply for projects involving more than one country have been insufficient.

Development of domestic projects

The energy industry has therefore come to prefer investments that limit its exposure to regime uncertainty. In South America this has implied less emphasis being placed on cross-border energy links and more on the development of domestic projects. Companies did build pipelines and electrical interconnections in the 1990s; these were capital intensive and location specific on both the supply and demand sides. However, following shifts in investment regimes in Bolivia (which nationalized its gas industry), Venezuela, and to some degree Argentina that raised questions about regulatory frameworks, enthusiasm for investments that provide greater flexibility (such as the LNG facilities mentioned earlier) increased. Investments in refining capacity and other downstream assets continue to lag throughout the whole region; this maintains its dependence on extra-regional imports of oil products.

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Economic factors affecting energy cooperation

Moving on to economic factors, the confluence of adverse macroeconomic conditions, rising cost structures, and globalization altered the assumptions supporting some binational and multinational integration deals. This led to suspensions or to delays in the execution of projects. Pipeline trade was supposed to flourish between Argentina and Chile, but the exchange rate realignment triggered by Argentina's economic meltdown in 2001 reduced the cost of gas to Argentina's domestic consumers, who started using more of this fuel, thereby reducing the surplus available for export. The greater demand for Argentine goods following devaluation, together with Asia's large appetite for commodity imports from South America, reinforced this trend. After experiencing a supply disruption, Chilean authorities decided to hedge their bets and initiated projects to build LNG import facilities.

Similar decoupling responses have taken place elsewhere in the region as a consequence of economic forces. Divergent interpretations regarding electricity prices and demand behaviour, which remain largely unresolved, have affected relations between Paraguay and Brazil (who share the large Itaipú hydropower plant). Paraguay would prefer more favourable terms for electricity trade than those it originally agreed to. For a long time, thin electricity markets in Central America have slowed down the pace of integration projects in the region; this has proved to be an obstacle to the construction of both a pipeline connecting the countries from Mexico to Colombia and a new sub-regional refinery.

Inter-government structures for energy cooperation

These difficulties on the ground are in stark contrast with the agreements and official statements from Latin America's leaders relating to the importance of, and commitment to, integration. Throughout the past five decades the region's governments have signed numerous bilateral and multilateral instruments and official documents expressing their willingness to cooperate toward this goal, and together with the private sector they have laid the legal groundwork for more open intraregional energy trade and investment through the formation of a number of organizations. The Latin American Integration Association (ALADI) was created in 1960, and was transformed in 1980 into the Latin American Free Trade Association (ALALC). This provided the framework for integration through freer trade, including that of energy. The Organization of Latin American and Caribbean Energy Cooperation

(OLADE) was established in 1975. OLADE is a sort of Latin American counterpart to the International Energy Agency, but without the requirement for strategic reserves. The 1960s also saw other initiatives such as the Regional Commission for Energy Integration (CIER), and industry associations like the Latin American Association of Oil and Gas Companies (ARPEL). Many of these objectives have been incorporated recently into the Union of South American Nations (UNASUR) and the Community of Latin American and Caribbean States (CELAC), which also emphasize respect toward each member nation's legal framework. Alas, realities like those noted above have superseded the best intentions of governments and industry leaders.

Achievements

Where successes have been possible – even notable in breadth and scope – they have relied on the agreement of a smaller subset of actors and have coincided with episodes of greater political compatibility among the region's governments. The San José Accord of 1980, signed by Venezuela and Mexico, provided oil supply guarantees and funding to the countries of Central America and the Caribbean for over two decades; this was especially important at times when international market forces could have pulled crude shipments away from them and toward Europe or Asia. PetroCaribe, a Venezuelan initiative launched in 2005, signalled the end of the San José Accord, while expanding its benefits for a longer time period to a larger set of countries. The Central American electricity grid is part of a sub-regional integration initiative (SIEPAC) managed through a consortium of the power utilities of the countries, which include Mexico. The South American hydroelectric projects of Salto Grande, Itaipú, and Yacyretá (executed in the 1970s and 1980s) are impressive bilateral cooperation agreements involving Argentina and Uruguay, Brazil and Paraguay, and Argentina and Paraguay respectively.

Energy efficiency and renewable energy

As more ambitious integration efforts have floundered, or run into complications which are difficult to address in the short term, regional cooperation has focused instead on less controversial areas, such as the promotion of energy efficiency and renewable energies. Energy efficiency is perhaps the one subject where it is easier to find consensus, considering that all governments support it as an objective, provided it is not linked to concrete goals for reduction in greenhouse gas emissions or energy intensity. Under the umbrella of regional energy organizations such as OLADE, countries have been exchanging their experiences in these areas while providing more opportunities for training and joint research projects.

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With respect to renewable energy sources, governments are placing greater attention on technical and scientific cooperation. Latin America can rightly claim leadership in this area, as it is perhaps the region with the cleanest energy matrix in the world. Brazil is a champion in hydroelectricity and biofuels. Mexico has recognized strengths in the use of geothermal energy. And the considerable potential that most of the countries have in wind, solar, and geothermal sources, where it is already making progress, is also attracting more interest. OLADE has served as an important venue for the exchange of information and training in these areas.

Conclusions

So where does Latin American energy cooperation stand? Excluding oil and coal trade, and an LNG market that involves Peru and Trinidad and Tobago as the only regional suppliers (so far), most Latin American countries have pursued either an inward-oriented energy strategy or have tried to find reliable energy partners – producers and consumers alike – beyond the Western Hemisphere. Energy links *within* each sub-region do exist, and there is enough infrastructure to attest to this, but they have not been used or developed to their full potential.

Perhaps paradoxically, deep integration in a region rich in energy resources remains elusive, even as it is increasingly needed. As the region's income level and population increase, its energy demand is expected to grow at a much faster pace in the coming decades, reducing its export surplus. Its energy matrix is likely to rely more on natural gas for electricity generation, and this might be cheaper to consume from the region itself than from abroad. The region's demand for oil products, especially diesel, is set to increase as its transportation fleet expands. And the region still faces the moral debt of energy poverty: more than 30 million Latin Americans still lack access to modern energy services.

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It will be difficult to address these challenges without greater integration and cooperation. There is widespread recognition that greater interconnectivity of electricity and gas markets throughout the region has the potential to reduce investment costs and expand energy access. It would also facilitate the development of renewable energies on a larger scale and promote an even cleaner energy matrix. And Latin America can play a much more significant role in the promotion of global energy security by strengthening its own energy system. For this to happen, increased trust and joint planning of energy strategies will be required. If Latin America is to create a robust and resilient energy sector – one that is ready for the opportunities that lie ahead in the twenty-first century, and that at the same time strengthens energy security for all its people – the governments of the region will have to muster the political will to overcome inertia, cooperate with each other, and take more decisive steps towards greater energy integration.