

A critical deconstruction of myths and misunderstandings about energy integration in South America

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Abstract:

This paper aims to present and discuss the main problems regarding energy integration in South America, with special focus on electricity integration. Considering infrastructure sector is important not only in terms of regional integration, but mainly to develop sociopolitical and economic well-being. For such, two conceptual myths, followed by two practical misunderstandings are displayed and critically analyzed. Also, we suggest that certain strategies that contribute to the development of this theme in the subcontinent demands integrated research, planning and investment in various sectors, and it must consider political, economic and social spectrum.

Key words:

Energy integration – South America – Critical analysis

Resumo:

Este artigo tem como objetivo apresentar e discutir os principais problemas relativos à integração energética na América do Sul, com especial foco sobre a integração elétrica. Considerando que o setor de infraestrutura é importante não apenas em termos de integração regional, mas principalmente para o desenvolvimento do bem-estar sociopolítico e econômico. Para tal, dois mitos conceituais, seguidos de dois equívocos práticos são apresentados e criticamente analisados. Ademais, sugere-se que determinadas estratégias que contribuem para o desenvolvimento do tema no subcontinente demandam pesquisa, planejamento e investimento integrados em vários setores, além de haver a necessidade de se considerar o espectro político, econômico e social.

Palavras-chave:

Integração energética – América do Sul – Análise crítica

1-Introduction

This paper deals specifically with the topic of Regional Integration. Focusing on the South American subcontinent, we are concerned with energy integration associated with other spheres of integration and also the development of the region. Also, we give special treatment to electrical integration due to the complexity of such a theme, as it will be seen later.

Since the topic of energy cuts across all other sectors of infrastructure, it is worth placing the focus of our research on it, especially if one considers their cross-relationships (externalities) in the remaining sectors of the economies. Examining this discussion into the context of South America, region where there is plenty of space for development and for the implementation of (joint) policies of many developing countries, and combining the theme of energy integration with the regional socioeconomic development, opens up a way for long discussions of opportunities and shared-benefits.

So if this is to be true, why do the South American countries not encourage the consolidation of regional energy integration as one of the (possible) ways to promote the sociopolitical and economic development of the region? As it will be highlighted in the next section, there are some myths and misunderstandings related to this theme that hinder the achievement of this project, being associated with several conceptual and practical issues, as well as linked to political, economic and institutional frameworks.

Thus, the main objective of this paper is to give due importance to the topic of Regional Integration, critically deconstructing those myths and showing some misunderstandings that hinder the advancement of South American energy integration. In addition, we suggest the improvement of certain strategies that contributes to the development of this theme in the subcontinent.

By the end of the paper, we expect to have pointed out how economic outcomes are entangled with political and institutional factors, which sheds a light on the complex network in which the electric integration takes place. More than buying and selling energy, energy integration (not cooperation) deals with planning the regional infrastructure in the medium and long term and also with socioeconomic development (not just coping with international trade).

2-Myths and Misunderstandings

Concerning the promotion of energy integration in South America, it is argued that the institutional development of the referred sector would be one of the main promoters of energy integration. Therefore, the development and harmonization of the regulatory and institutional framework of the electricity sector in the various countries of South America are considered an essential way that leads to the integration of the sector (CRUZ, 2007; LANDAU, 2008; MOREIRA & PINTO, 2013; SALOMÃO & DA SILVA, 2008; SANTOS, 2014; VÉLEZ, 2005).

With particular regard to the deconstruction of certain simplifications routinely presented in the literature, we intend to examine four fundamental myths of the debate. Actually, there is a range of problems and obstacles associated with the development of the South American energy integration, which can be precisely found in Santos et al. (2013a), Santos et al. (2013b), Santos (2014).

However, this article focuses on the following issues, namely: (02) two conceptual widespread myths in the literature; and (02) two practical misunderstandings dispelled by the agents involved. In this sense, the following subsection (subsection 2.1) will present such conceptual myths, followed by the practical misunderstandings (subsection 2.2).

2.1 Conceptual Myths

First of all, it is extremely important to highlight the role of the Economic Commission for Latin America and the Caribbean (ECLAC) in relation to issues of regional development in Latin America. Without a single doubt, the Commission is responsible for research and publication of several papers, books and projects that guide decision-making in the region. Thus, it is definitely interesting to understand what ECLAC has been writing on the subject and, above all, it is necessary to understand how the theme of energy integration is treated by the organization.

2.1.1 – *Physical Analysis vs. Integrated Analysis*

In accordance with ECLAC (2009:1, emphasis added), “regional integration is the process by which diverse national economies seek mutual gains by complementing one another more” and can be interpreted in at least three distinct points of view: (i) economic integration and trade; (ii) political integration; and (iii) physical integration. Although the latter is less discussed in the literature, it is worth noting its intense relationship with the other branches of the economy as well as its direct impacts on economic, social and political development of the countries involved in the integration process.

In this sense, and still according to ECLAC (2009), within the scope of physical integration (infrastructure), we detail three main sectors: (i) transport; (ii) telecommunications; and (iii) energy. Once energy is transversal to all the other sectors mentioned, it is worth investing the focus of the present research on the theme, especially because of their cross-relationships (externalities/spillovers) with the rest of the sectors of the economies.

The main criticism to the ECLAC definition is that energy integration is presented as well as (only) analyzed from the viewpoint of physical integration. Thus, this issue

becomes too simplistic when one does not consider the political, social, cultural and institutional components. Therefore, the discussion incorporates technical robustness, being displayed as an accurate analysis of a “picture” of the current physical landscape, but they do not advance (in fact) simply and solely because such analyzes ignore relevant issues of the case.

This is probably due to the fact that, for methodological or even didactic reasons, the Commission categorizes a multifaceted process of analysis by different angles and sectors. However, not paying full attention while reading would certainly lead to misinterpretation of the subject by academics and policy makers and hence the failure of the wildest initiatives in the South American region. Thus, the (South American) energy integration should rather be treated with due complexity associated with the topic.

2.1.2 – *Integration vs. Cooperation*

In second place, we highlight the conceptual difference between *integration* and *cooperation*, since we believe that cooperation corresponds to a prior stage to the effective integration of a given sector. Thus, several authors address the concepts synonymously, which creates confusion in the area and simplifies an issue that - still - demands a lot of research, planning and investment.

The Colombian company *Interconexión Eléctrica SA ESP (ISA)* theorized a model of energy integration in Latin America divided into six steps. From this model, it appeared that the first four moments of the regional energy integration process formulated (steps 0 to 3) deal with national markets. So far (step 3), there are only different modalities of energy cooperation among countries. However, the next stage, that of “regional integration” (step 4), which is marked by the presence of the operator, administrator and regional agents, is set by the existence of a regional market. Then, the

“supraregional integration” (step 5) constitutes an integration of Latin American macroregion.

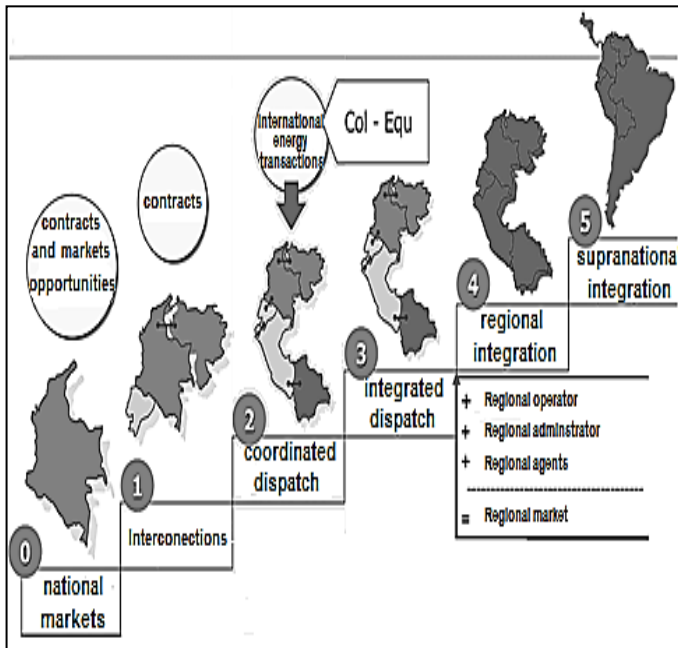


Figure 1 – Expected Steps of the Energy Integration Process (ISA, 2007)

Certainly, like any model, there are simplifications and normative abstractions; however, it is intended to take into account the evolution of the process, which does not necessarily have to go through all the steps, which are not even dated. Our intention with such scheme is to present the expected movement to be achieved when there is a claim to develop a regional energy integration model (steps 4 and 5), demonstrating, without any doubt, the degree of political and institutional consolidation of the steps.

Several authors treat both terms (cooperation and integration) as synonyms, which is more than one conceptual error and it constitutes a danger if we consider the practical side of the process. Queiroz et al. (2013:2) state that “we must not confuse integration with cooperation. Alliances, agreements and memorandum of

understanding between countries do not feature an integration process, which is a much deeper process than a simple cooperation”. Lima & Coutinho (2006:363, authors’ emphasis) claim that “energy integration and, more broadly, infrastructure, constitute the ‘cornerstone’ of a new phase of regional integration” and, in turn, Honty (2006:126) argues that:

“The integration we face is essentially a physical interconnection to transport electricity and natural gas, with no commitment and no political aspirations of a sustainable regional development project. (...) If it is not accompanied with a common policy for the distribution of the benefits of the use of energy, then it is a mere lowering of production costs for large industries.”

The concept of regional integration is therefore broader than the international cooperation. In this sense, the “cooperation can be a contextualized strategy and be abandoned according to conveniences while regional integration is less flexible.” (Mariano & Mariano, 2002:50). The integration, in turn, constitutes a project in the medium/long term, it is more rigid and therefore requires a more complex institutional framework to cope with its various themes, besides the fact of being associated with (joint) investments in the sector itself.

2.2 Practical Misunderstandings

In the context of South American energy integration, it is interesting to highlight the role of public and private actors in the process. Ergo, the ignorance and/or misunderstanding of some concepts lead to such actors acting improperly and thus jeopardizing the objective that, often paradoxically, is what they want.

2.2.1 – Joint Investments and Projects vs. International Trade

It is extremely important to take into consideration that energy integration deals with the infrastructure of generation, transmission and distribution of electricity, and

not only with the trade of various energy sources between different countries, as is the case of petroleum and its derivatives (SANTOS et al., 2013c). As such, there will inevitably be a potential conflict between the initiatives to be taken, on the one hand, and fear of loss of sovereignty of States, on the other. In this case, one can note a rising tension strongly reflected in the political discourse of countries and the concern on energy self-sufficiency of the nations involved in the process – next misunderstand to be discussed.

The terms “export and import” of energy per se show the logic of international trade between different markets and at most the existing cooperation between them. Ultimately, what we see is that the issue lies on the matter of oil and its derivatives, not on physical infrastructure projects.

In large part, this confusion is due to the fact that the global energy matrix is strongly based on the use of oil and its derivatives. Despite the quest for a cleaner and environmentally responsible energy matrix, the fact is that many decision makers (still) believe that the energy issue can be solved exclusively by means of international trade. By doing so, these agents fail to take into account how strategic the sector is, not only from the economic and productive view, but even for the social one.

Aimed at promoting an enabling environment for the increase of the economic activities in the region, it is of paramount importance that there are investments in the development of physical infrastructure regional energy – which has close relations with the medium and long-term regional development. Furthermore, and in accordance with Fuser (2011), there are already plans to expand the lines of electrical interconnection between different South American countries, according to information from the Organization of Latin American Energy (OLADE). In this way, it would decrease costs due to such interconnections and, mainly, it would create a physical apparatus that

would lead to the promotion of domestic investment and attract international capital, if we took into account only the economic issues.

Thus, misinterpretation of what it really means to think about energy integration in the South American subcontinent is one of the main obstacles to their own development, since these myths and misunderstandings make a confusing environment and therefore countries end up becoming unattractive to private actors (and even state ones). In this way, the creation of an institutional framework that protects and promotes investment may be the main challenge to the advancement of the process of integration between the countries of South America, since the countries involved must be aligned with the objectives of medium and long term (QUEIROZ et al., 2013).

Arelovich (2012) and Zanette (2013) argue that financial constraints are strong impediments to promote investment in this sector, which, by nature, requires large initial investments, which have only returns in the medium and long term (long payback). In other words, it is a strategic sector that demands planning by the states, as planner agents of public policy – they can certainly count on the partnership of the private sector.

Nevertheless, and because South America is formed by labeled developing countries, they tend to have higher country risk, which means that the charge for interest on loans is higher due to the risk of not complying the payment of the full amount. As such, to deepen South American energy integration there is no way but to rethink the issue of funding projects that should have lower interest rates and longer paybacks, and more flexible conditionalities associated to such funding.

In this scenario, there is no doubt that thinking of physical integration of South America brings us immediately to the Initiative for the Integration of South American Regional Infrastructure (IIRSA), which was

established in 2000, and involves the 12 (twelve) countries of South America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela). The initiative has three main areas of activity, in which one is energy (COSIPLAN, 2011; COUTO, 2008; SANTOS et al., 2013a), but it is noteworthy that only 11.5% of the sectorial composition of projects are associated with the energy area and of which approximately US\$ 13 billion (25.5%) are related to regional integration projects (regulatory harmonization and energy interconnections).

2.2.2 – National Energy Plans vs. Energy Integration Project

Finally, we intend to highlight the contradiction between national energy plans and the biggest goal that South American countries sometimes exalt and praise, namely, the regional energy integration. Ergo, more than complementary objectives, national initiatives often end up invalidating the supranational scale.

What happens in reality is that policies that seek regional integration end up being subordinated to the interests of national energy planning and not to an integrated and systematic policy for the entire region. In other words, each country individually thinks and formulates its Annual Plan, its investment prospects, its interests in the short and medium term.

In South America we have Salto Grande dam, on Uruguay River (Argentina-Uruguay), the Itaipu Dam, on the Parana River (Brazil-Paraguay), and Yacyretá Dam, on the Parana River (Argentina-Paraguay) as examples of large enterprises (UDAEDA et al., 2006; BOEIRA, 2006; QUEIROZ & VILELA, 2010). Nevertheless, Bertinat & Arelovich (2012) stress the strong binational profile of the most “wildest” projects for regional energy integration, which for many authors it is considered an obstacle to the effective integration itself – remember that the model

proposed by ISA presented it such as a previous step to effective regional energy integration.

Moreira & Pinto (2013) and Santos (2014) agree with this line of argument when they say that this is part of the own establishment of regional markets steps, looking forward to the future and to full integration of South America Marketplace. Then, the binational profile of large power plants would be something strategic and therefore would be part of the development planning of the full integration of the South American electric sector.

More critical authors disagree with the idea of intermediate and necessary step in the process itself and argue that:

“There is a scenario of energy interconnection and no integration, namely the exchange of inputs between countries in the region occur bilaterally, without the (...) long term integrated planning”. (SENNES & PEDROTTI, 2008:534).

Thus, it is necessary to comprehend the potential tradeoff between state interest and interest concerning the region itself. It is true that one does not exclude the other, but once there is a risk that the part does not comply with signed agreements and/or their partners show off signs of uncertainty and risks, there will constantly exist the primary concern of the states seek to mitigate such risks. Therefore, it is extremely important that agreements and regional partners are based on solid foundations, with the fulfillment of contracts.

3-Conclusions

After discussing the institutional relevance, either at the level of states, or at the supranational one, we expected to clarify the positive relationships that exist between institutionally promoting a well-defined and regulated environment with the success of the energy integration model. Indeed, several authors highlight the

relevance of such issue when it comes to how to promote regional integration and, particularly in this paper, the energy one.

Discussing myths and misunderstandings of theoretical and practical nature and dealing with political, economic, cultural and institutional issues, we intend to have clarified to the reader that the subject of regional energy integration is extremely complex. There are national interests that sometimes overlap the main goals of the states which call into question the viability of the project itself; there are erroneous interpretations of the concept of energy integration, what makes the actors cope with the issue differently. We hope to have explained and clarified that some myths need to be critically deconstructed, because they sometimes constitute the major barriers to further academic discussions and sectorial policies.

In this sense, it is necessary to review such matters, not just for actors to “speak the same language”, but so that policies become aligned and planned jointly. Otherwise, what we have are some national projects and, at most, binational projects, masking what actually is meant by energy integration. Furthermore, we have agents acting independently, unplanned and disorderly, which makes investments in the sector unattractive, expensive, and therefore insignificant.

In addition, when investigating energy integration in light of conceptual and practical issues, we intended to contribute to the academic and to the policy debate on the present and potential gains of this theme. Therefore, we sought to fill out a gap in the literature, which often deals exclusively with the physical-economic gains on the development of energy integration in South America.

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