

NATURAL GAS CROSS-BORDER INFRASTRUCTURES: NEW RISKS AND REGULATORY REQUIREMENTS IN THE MEXICO - UNITED STATES ENERGY INTEGRATION

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Overview

Natural gas cross-border infrastructures: new risks and regulatory requirements in Mexico and United States energy integration.

The energy relationship between Mexico and the United States has intensified in recent years. Imports of natural gas from that country to Mexico have grown significantly and have required the development of an important infrastructure. Natural gas is Mexico's largest source of electricity generation, accounting for more than 60% of the country's generation. In the near future more than 60% of electric capacity additions are projected to come from natural gas-fired power plants. U.S. pipeline exports to Mexico have more than doubled since 2014 to average 4.2 billion cubic feet per day (Bcf/d) in 2017. They flow mostly from South Texas (Eagle Ford). Cross-border energy markets are being built or consolidated.

Energy trade requires diverse infrastructures: gas and oil pipelines - often transboundary pipelines -, transmission lines, greater interconnections in the case of electricity, infrastructure expansion to extract, store, transport, and process natural gas. A modern energy infrastructure is fundamental for the integration of energy markets. Construction of new pipelines that cross the border and growth of exports go in parallel. The internal network of gas pipelines must adapt to imports from the United States; they are expanding to facilitate the internal movements of gas. All this implies risks, impacts and compensation for environmental damages, as well as regulatory needs.

In the previous form of organization of the oil industry, prior to the energy reforms of 2013/2014, a self-regulated monopoly (Pemex) faced these needs, with shortcomings and inadequacies. The Agency for Safety, Energy and Environment (ASEA), recently created within the framework of these reforms, is in charge of the entire oil and gas chain, from exploration and production activities to service stations. They focus on industrial safety, operational safety and protection of the environment, and must coordinate with other agencies and dependencies. Because it was created with the energy reforms -although it started operations in March 2015-, the regulation efforts of that agency have focused on the needs of the implementation of this reform, one of whose central aspects is the oil opening.

With the reorganization of the industry and the need to adapt to new market structures, the ASEA develops its activities and objectives, with its own means and in coordination with other agencies and national agencies: Secretariat of the Environment and Natural Resources (SEMARNAT), Energy Regulatory Commission (CRE), National Hydrocarbons Commission (CNH), among others.

In the case of international infrastructures, the security of energy supply is the main challenge. An accident in any section of a pipeline, for example, can disturb the entire chain, happen in one country or the other. Therefore, the regulatory regime must take care to ensure a constant flow of supply. The interruption of this can be very expensive for producers and consumers. But far beyond this issue that has important economic connotations, are those related to environmental and safety regulations, whether as a result of contractual arrangements with the construction companies or national legislations. What happens on one or the other side of the borders impacts on one or the other country, especially in terms of security of supply. At international level, risks that can arise in a supply that involves not only two or more territories, but above all two or more legal and regulatory regimes, are carefully examined.

With the study of these subjects a field opens up for:

- Integrate Analysis of economic, environmental and security regulation.
- Study the coherence and strength of the institutional and regulatory architecture that has been established in Mexico to face the situations described above.
- Explore issues of convergence and regulatory harmonization, which arise when markets and infrastructures are connected, on both sides of the borders.

Methods

I will start raising questions about the theoretical approach that underpins the current process of integration of energy markets, particularly between Mexico and the United States. Then I move forward with the following idea: no energy markets without infrastructure. Often these 2 concepts are treated in a separate way. Apparently, markets do not have to be worried about infrastructures, security and environment. Precisely, one of the ideas of

integration in the field of energy is to favor environment and the energy security of participating countries, taking into consideration the potential of each one.

There is a particular interest in this work for the gas pipelines that connect the US-Mexico border to supply natural gas to Mexico. So far, I have not found materials in Mexico about these gas pipelines, referring to the topics that interest in this investigation. However, they abound for other areas of the world, due to the importance of natural gas and its transportation. Information will be sought on these cases, particularly in the cross-border gas pipelines between Canada and the United States where there exist well interconnected energy supply chains.

In summary, for this work I have a theoretical starting point about the processes of energy integration, a particular interest in introducing in them the theme of infrastructures, in particular the cross-border pipelines, trying to integrate economic, environmental, and security regulation analysis. To this end, information will be sought on similar cases in other countries and regions, perhaps leading to a comparative study.

Results

To contribute to establish a more uniform, transparent, and modern process to the construction, connection, operation, and maintenance of international border-crossing facilities for the natural gas trade between United States and Mexico.

Learn if the legal regime applicable to US-Mexico cross-border pipelines provides effective incentives to prevent environmental and safety risks in an orderly manner. The quality of the regulations and the mechanisms to ensure their compliance are vital to reduce to the maximum the accidents related to oil and gas.

Learn more about international or regional treaties that, although they do not specifically address issues related to the construction and operation of pipelines or environmental and safety regulation of cross-border pipelines, are relevant to these issues. The following may be mentioned: The United Nations Convention on the Law of the Sea (UNCLOS, 1982), the Energy Charter Treaty and the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991). These instruments are of a general nature but address cross-border pollution and their provisions can be extended and applied to cross-border pipelines.

Conclusions

Conclusions are in process, waiting for the progress and the culmination of the research.

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