

## INTRODUCTION

I have the honor to introduce the collective work entitled *Lessons in Energy Law in Mexico*, directed by Dr. Marisol Anglés Hernández and Dr. Margarita Palomino Guerrero, as the first book arising from an exchange of knowledge in the context of the Interdisciplinary Diploma Course in Energy Law, taught at the UNAM Institute of Legal Research.

Both the novice and the expert reader in the field of energy hold in their hands a work that has gathered the experience of qualified law experts, researchers, chemists and members of the Energy Regulatory Commission and the Ministry of Energy, who have come together to combine theoretical and practical knowledge from a multidisciplinary perspective. In keeping with our times, the approach taken for any energy issue must be based on a holistic perspective of sustainable development, which is why it includes legal, economic, technical and environmental considerations.

This reflects the coordinators' views in conceiving the work as an important academic contribution, geared to appear at a critical moment in Mexican history. After the structural changes carried out in 2013 and 2014, things could head in a new direction during the 2018-2024 administration.

The contribution of this publication is not limited to enriching the national bibliographic archive, which in itself would justify its existence, but by addressing the issues at a time of change —uncertainties and risks that are politically and legally related to energy, without forgetting the dizzying technological advances and environmental commitments— this book fuels a debate that has just only started.

Mexico might currently be facing a threefold challenge. The first, from a State perspective, concerns compliance with acquired rights, regulatory stability and legitimate trust, i.e., legal certainty in the broadest sense, on the one hand, and energy sovereignty, political reforms and regulatory changes, on the other.

The second, from a market perspective, seeks to achieve economic efficiency, the best use of renewable sources of energy without an abrupt departure from conventional sources and the enhancement of R&D&I, on one hand, and to guarantee universal, safe and affordable access to sustain-

able energy, the use of distributed generation to ensure supply to all users and the advancement of digitalization, especially with the Internet of Things (IoT), to better exploit energy efficiency, on the other.

The third, from an environmental and social perspective, international commitments are addressed, such as the Sustainable Development Goals, specifically those regarding energy (seven) and climate action (thirteen) with the latter reinforced in the framework of COP21; the guidelines set out by the Inter-American Court of Human Rights in Advisory Opinion OC-23/17 of November 15, 2017, on the environment and human rights and the implementation of the Escazu Agreement. On the other hand, there is the reduction of poverty in all its forms, including energy poverty, contributions to social cohesion and the guaranteed exercise of the human right to energy once the theory of its effective recognition has been consolidated.

The above is presented in the context of the Fourth Industrial Revolution, in which it is expected that conventional energy sources will be used alongside renewable ones during the transition stage, and that the latter will gradually take the place of the former in the process of decarbonizing the economy until the brown economy disappears altogether and is replaced by a new green economy.

Given that Mexico has recently revised the North American Free Trade Agreement (NAFTA), as well as amended the Free Trade Agreement between Mexico and the European Union (EU-Mexico-FTA), these observations have been formulated in a dozen essays centered on the following topics.

The chapter entitled “The US Energy Revolution: Energy Dominance in the North American Region” by Rosío Vargas explains how the United States of America has become a dominant player in the international oil and regional gas markets by increasing the production of unconventional oil & gas. Rosío Vargas holds that by collaborating with Canada and Mexico, the Trump administration has banked on energy dominance and energy security in gas with the latter’s energy reform as a gateway to U.S. expansion in Mexico and the rest of Latin America. She warns that while the United States of America has a strategic vision, Mexico has removed the status of oil and electricity industries as strategic, settling for a market-centered vision, reduced to becoming a country reliant on and importing the different types of energy generated by its northern neighbor. On the other hand, she notes that the separation of industry-related activities and vertical disintegration affect economies of scale, which poses considerable risk to energy security and national sovereignty. She also affirms that Mexicans will pay for the construction of the new energy market. Vargas is of the opinion that

only by becoming aware of what is happening will it be possible to change its course.

In “The Energy Reform and the Transformation of Public Law”, Jaime Cárdenas argues that the energy reform in Mexico came about in the context of a neoliberal State that changed the pre-existing development model implemented in the late 1930s. At that time and because of successive constitutional reforms, the State took on exclusive and exclusionary ownership of energy resources and activities, leaving all private companies in the sector playing a secondary role. The 2013 constitutional reform changed those paradigms and, in addition to shifting the sector from public to private, liberalized it and introduced new regulations that stimulate competition between national and foreign economic operators, for both national and international markets. This reform was further developed with the secondary laws enacted in 2014, leading to the dismantling of the State, the privatization of public law, the reduction of the welfare State to a minimum and the subordination of Mexico to the geostrategic interests of the United States of America.

Written by Guillermo Zúñiga Martínez, “New Energy Model, Market Failures as a Basic Principle of Regulatory Legitimacy” explains how the different energy subsectors have been shaped to create a new energy model in which the State, once it relinquishes its role as a business leader, cannot disappear, but is called upon to intervene between the various economic agents as a regulator, especially when the market presents failures, hampering, discouraging or simply not allowing effective competition or economic efficiency. The new regulatory policy calls for strengthening technical and impartial institutions, moving away from the political and economic pressures of individuals. The arrival of new economic agents creates a competitive environment with new products and dissolves old State monopolies. The new wholesale electricity market has generated substantial savings for large consumers through better negotiations for supplying energy. On the other hand, public consultation, particularly with indigenous communities, has led to a better understanding of their needs and planning the project in a way that is compatible with such needs. In short, it has been necessary to redesign energy markets and come to understand them in order to intervene in a way that guarantees their effective operation.

The chapter on “The Energy Transition to Clean Technologies: A Driving Force for Mexico’s Development” submitted by Guillermo Ignacio García Alcocer, recalls that the energy transition in Mexico is not isolated, but is part of a global process. Decarbonization should not be undertaken at the expense of sustainable economic growth. Energy efficiency contributes

to reducing energy poverty and improves access to energy. With the policies developed since 2000, the foundations have been laid for the energy transition currently underway.

In “Wind Energy in Mexico: An Analysis of the Technical and Regulatory Challenges”, Luis Guillermo Pineda Bernal asserts that the decarbonization of economies is the result of the serious environmental and social effects caused by climate change resulting, among other things, from greenhouse gas emissions. Mexico has made commitments to mitigate climate change, reduce greenhouse gas emissions, use renewable energies and provide universal access to electricity services. In the case of regulating renewable energies, wind energy in particular, legal certainty and regulatory stability are highly valued by investors. Moreover, any entry barriers that are not essential for encouraging investment and project development must be eliminated. Regulations must guarantee the right to consultation and free, prior and informed consent, in addition to being accompanied by oversight mechanisms to ensure compliance. The new political period is an opportunity to advance in the consolidation of the new energy sector, but it must be done in compliance with the rule of law since it has been precisely the lack of security that has driven away new investments.

“Considerations on a Comprehensive Regulatory Framework for Energy Storage in Mexico” contains a proposal put forward by Cecilia Montserrat Ramiro Ximénez. Mexico has a great potential for sources of renewable energy due to its geographic location; however, their exploitation is still low. A climate action policy that prioritizes renewable energies, especially those that may be intermittent, should bear this in mind when designing regulatory instruments. This is precisely the scenario in which electricity storage plays a key role in determining how generation and demand can be coordinated when they do not occur at the same time. In other words, energy must be collected and stored to be used when needed. Storage contributes to increasing energy security, empowering end users, and boosting distributed generation while also constituting an asset for transmission and distribution. The challenges of storage are to redefine them as multipurpose in nature; to develop a methodology for related services not included in the market; to coordinate efforts among the competent authorities to establish regulated rates for transmission and distribution activities; to create a methodology that identifies the best alternatives so that transmission and distribution services are technologically neutral and that the storage used as a grid asset can offer services to the market without compromising the efficient operation of the grid; to classify the services that can be provided; to review the market instruments and to modify any that may be necessary.

In the chapter entitled “Universal Access to Electricity as a Strategy to Close Socioeconomic Gaps in Mexico”, Neus Peniche Sala begins by highlighting the fact that the new regulatory framework, in addition to covering large projects and investments, provides specific alternatives that help reduce ecological footprints and boost economic development. Energy poverty has a significant impact on poverty within countries, which is why guaranteeing access to energy is essential to reducing poverty. Although taking energy to rural or isolated areas may not be appealing from an economic point of view, from a social perspective there are benefits that could be enhanced with the introduction of high-efficiency energy technologies, as well as the use of decentralized sources of renewable energies, which will lead to the strengthening and effective exercise of human rights. Even though the new energy model is in place, it needs to be geared more inclusively to improve people’s quality of life. Hence, it is advisable to comprehensively plan the design and instrumentation of public policies that help meet the country’s energy needs and lead to long-term global planning to guarantee sustainable energy consumption.

The chapter on “The Taxonomy of Upstream Contracts in Mexico’s Hydrocarbons Industry” was contributed by Iván Lázaro Sánchez. Contracts for hydrocarbons exploration and extraction are hybrid in that they have a special regime. Since public law is paramount for entering into contracts and private law is preeminent for their execution, according to the customary international legal framework which requires defining contracts in the scope of energy law as an autonomous branch of legal science. This leads to an analysis of the importance of *lex mercatoria* (genus) and, within them, *lex petrolea* (species), as international regulatory instruments that govern oil industry business. This new legal framework stimulates the market economy and encourages private participation and investment, which must be governed by the above instruments and the contractual rules formalized with the State and guaranteeing the sustainability of the energy industry in Mexico.

In the chapter “Hydrocarbons Crimes: An Analysis of the Law”, Erika Bardales Lazcano begins by advocating the reversal of the premises currently used, in the sense that the idea of privatizing oil should be abandoned, and instead suggests the idea that profits from Mexican oil should be optimized. There is currently a federal law to prevent and punish hydrocarbons-related offenses, and is jointly implemented by federal, local, municipal and sector authorities. However, although the law is well-intentioned, it seems not to be fulfilling its objective of prevention, especially because in the case of public officials, the punishment is so insignificant that it does not

discourage corruption, hence the proposals to reform the law to improve its shortcomings.

“Limits on the Implementation of the Principle of Legitimate Expectations in the Field of Hydrocarbons” is the title of the research carried out by Margarita Palomino Guerrero and Héctor Alejandro Martínez Durán. The authors of this chapter raise the question of whether the legally protected right to the irrevocability of provisions based on the principle of legitimate expectations is applicable to contractors in the hydrocarbons sector. The initial response is that if the authority was obliged not to change the regulatory conditions to protect the operators of a sector like hydrocarbons contractors, it would harm the community without responding to the social reality since the rule has been petrified. The principle of legitimate expectations is subordinated to the constitutional principle of legal certainty. An expectation is a hope that something will happen, but it does not constitute an acquired right, nor does it constitute the public interest protected by public authorities. Mexican courts have recognized that legitimate trust implies the protection of a reasonable expectation, created for a private individual and closely related to the unilateral irrevocability of administrative acts in favor of beneficiaries. This principle does not prevent modifications to a regulatory framework indefinitely, but it does mean that new provisions are not applied retroactively to legal situations established in the past. Thus, in the hydrocarbons sector, the principle of legitimate expectations does not affect the acts of lawmakers and even less the right to compensation. If the Regulatory Energy Commission does modify the formula for calculating prices or tariffs in order to update it, it does not imply changes to the contracts signed with hydrocarbons operators.

The chapter on “The Mexican Oil & Gas Sector: Between Environmental Progressivity and Regression” contains the observations of Marisol Anglés Hernández, who holds that although the energy reform retains State ownership over natural resources, this changes once they are extracted. In the same way, a new administrative institutional framework has been created, based on provisions that have disregarded the principles of the separation of powers, regularity, legality and the rule of law, as well as those interconnected with sustainable development and the guarantee of human rights to a healthy environment and water, which may even compromise progressivity and, therefore, the international responsibility of the Mexican State.

Moreover, by pushing an economic model of fossil fuel exploration and extraction, Mexico fails to comply with its commitments under the United Nations Framework Convention and the Paris Agreement to reduce green-

house gas emissions, thus increasing the vulnerability of populations and ecosystems. The reform also establishes a new administrative organization vertically integrated into the federal government, thereby contravening the human right to good governance. It likewise finds that environmental protection in the hydrocarbons sectors is obscure and undemocratic because it does not guarantee participation, access to public information or environmental justice, which must be rectified under the rule of law. In addition, the international obligations under the Inter-American System of Human Rights mandate respect for the human rights of the inhabitants of the communities or geographic areas where the exploitation of natural resources is carried out. Lastly, it is observed that the energy reform in the oil and gas sector is regressive since the regulations of the General Law of Ecological Equilibrium and Environmental Protection in matters of Ecological Planning violates the principles of legality, legal reserve and hierarchical subordination.

Written by María de las Nieves Carbonell León, the chapter entitled “Climate Change, Energy Transition Policy in Mexico and the Promotion of the Use of Natural Gas” completes the repertoire of collaborations. In it, Carbonell León points out that climate change is currently one of the greatest problems humankind faces and is threatening the world as we know it if nothing is done to stop or bring it under control. In the Mexican case, this situation implies examining the Energy Transition Law, which is intended to regulate the sustainable use of energy, clean energy commitments and the reduction of polluting energies in the electricity industry. Based on energy and climate policies, a cross-sectional analysis of the law leads to conclude that the use of natural gas is being encouraged, by prioritizing this fuel in the substitution of solid and liquid fuels. Natural gas generates a large amount of methane emissions with a global warming potential higher than carbon dioxide, which will result in an increase in the planet’s average temperature and the alteration of the climate system. In conclusion, it is about reluctance to make a real paradigm shift in the energy matrix, when what is really needed is a genuine decarbonization of the economy; the adoption of an effectively sustainable model, fully committed to protect the environment; efficient consumption and encouraging the use of renewable energy sources.

It has been a privilege to have the opportunity to read these works before their publication. In addition to showing the paths the energy sector is taking, they give those of us outside Mexico the possibility to learn about the crossroads where Mexicans find themselves. From that point, we can reflect on what may happen in the medium and long-term.

I do not want to end without first congratulating the coordinators and all the authors for the work they have undertaken and successfully carried out. I would also like to take this opportunity to express the hope that this collective work is the first of a collection of many other publications stemming from discussions and sharing knowledge generated at the Interdisciplinary Diploma Course in Energy Law taught at the Institute of Legal Research of the National Autonomous University of Mexico.

I would also like to thank all the authors because, on having written such wonderful papers, they have given me the opportunity to write the introduction to this outstanding work.

I invite energy operators to read and to reflect on international treaties, secondary legislation, the general principles of law, rulings, arbitration awards and scientific research in the spirit of constructive criticism and in the light of the Political Constitution of the United Mexican States. In that way, the ongoing conversation that should take place between the various political, legal, academic, economic, technical and environmental actors may enable the energy sector to move forward with better regulation, ensuring access to adequate energy services to satisfy the needs of all Mexicans across the board and guaranteeing the effective exercise of human rights.

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*Caracas*

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