Contributions of Multilateralism to achieve Energy Transition goals on Electromobility: An approach from the Legal Framework in Mexico City

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Doi:10.19044/elp.v12no2a1

Submitted: 04 July 2025
Accepted: 30 August 2025
Published: 31 October 2025

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Cite As:
Tovar Silva, Y.G. (2025). *Contributions of Multilateralism to achieve Energy Transition goals on Electromobility: An approach from the Legal Framework in Mexico City*. European Journal of Economics, Law and Politics, ELP, 12 (2), 1. https://dx.doi.org/10.19044/elp.v12no2a1

Abstract

The research aims to explore the Contributions of Multilateralism in order to achieve Energy Transition Goals, as well as the need for lawmakers to implement the international commitments adopted by States. We will emphasize the importance of electromobility as a key strategy for achieving energy transition goals. These strategies may be useful in countries like Mexico, which has struggled with old fossil fuel vehicles in the public transportation system, a growing number of private cars, inefficient city infrastructure, and a still fossil-fuel-dependent economy. To mitigate climate change, we need effective actions to improve air quality in major cities and achieve energy transition goals. Throughout the analytical method, the main commitments in international agreements and international meetings on energy transition can be explored, while the comparative legal method will identify if the local law complies with the international commitments. The consideration of the multilateralism agenda will prevent short-term political visions or indifference to sustainability from affecting the achievement of energy transition goals. Additionally, multilateralism may enhance the content of the law so that the public, private, and social sectors fully engage in the accomplishment of the goals, duties, and obligations that the international community has set forth.

Keywords: Multilateralism, Energy Transition, Electromobility, Climate Change

Introduction

Energy transition has been one of the key topics on the international agenda in the last decades. Certainly, the climate change emergency, the requirement for sustainable cities, the energy crisis, and the energy security to fulfill the needs of human beings for present and future generations have been significant in exploring alternative

solutions to the fossil fuel-based economy.

The multilateral agreements and meetings among States, enterprises and International Organizations have been of special importance in addressing the concerns and challenges of humanity on issues such as climate change and energy transition. Still, financial, short-term political visions, social, or cultural issues have been the problems that have hindered the optimal level of engagement in energy transition. Mexico City is an example where traffic jams, old fossil fuel vehicles in the public transportation system, a growing number of private cars and inefficient city infrastructure.

In this regard, the Law as a whole is one of the instruments that should set the framework of actions that the public, private and social sectors need to adopt in order to reduce the level of greenhouse gases and achieve the goal of sustainability. The international agenda and commitments could be useful in regulating, evaluating and fostering the actions in energy transition.

A considerable part of the international community has identified electromobility as a solution to tackle pollution in cities and mitigate climate change, as it can reduce greenhouse gas emissions with low operational costs, which may be an incentive for developing countries.

Considering this, our research question is: Can multilateral agreements help Mexico City adopt laws ensuring sustainability measures, such as electromobility?
The working hypothesis suggests that multilateral agreements facilitate the inclusion of legal clauses promoting sustainable electromobility in Mexico City, such as principles, collaboration mechanisms and actions that the public, private and social sectors should take to achieve energy transition goals.

This research will consider the legal perspective to explore the main commitments in international instruments and multilateral agreements related to energy transition, with special reference to electromobility. The content of these instruments and agreements may lead to the proposal of some indicators to evaluate the national law. The Mexican law will be referred to as an example of the pending issues that need to be considered in electromobility. Legal literature on multilateralism and legal rationality is relevant in exploring the results and discussions of this paper, as well as in identifying the contributions of multilateralism to achieving energy transition goals.

Methods

Analytical method

The analytical method helps to identify the pollution problems that States like Mexico are facing in major cities, as well as to propose some indicators to analyze local laws. These indicators may derive from the commitments of the States adopted in the United Nations Framework Convention on Climate Change, the Paris Agreement, the Conference of the Parties to the United Nations Climate Convention, and regional meetings in the past five years, as well as some guidelines set forth by international organizations.

Pollution and the problems underlying the transport sector in Latin America

According to the Low-emission transport to achieve the Paris Agreement in Latin America and the Caribbean Progress and recommendations of the United Nations

Development Programme (2025), in 2021, the energy sector was the largest emitter of Greenhouse Gas (GHG) effects, contributing 73.2% of total emissions. The situation was worse in Latin America and the Caribbean, where 38% of the emissions came from the transport sector, which is the major generator of carbon dioxide (CO2) emissions.
The aforementioned Report states that the transport sector makes such a significant contribution to GHG emissions in the Latin America region because of its energy consumption, mainly dependent on oil (97.2 percent of the transport sector's energy demand was met by fossil fuels).

Some problems with public transport (bus, subway, train and cable car) and light vehicles (car, motorbike and taxi) in the region relate to the use of diesel fuel, the fuel subsidies that distort the comparative costs of clean transport technologies compared with less costly fossil fuel-based alternatives, the increase of private vehicles since 2010, the low quality and coverage of public transport, the high acquisition cost of vehicles, lack of efficient charging networks and even inefficient city planning.

Several measures and strategies for the transport sector proposed by the Nationally Determined Contributions and Long-Term Strategy have been implemented, such as transport supply, demand management, urban planning, as well as gender equality and social inclusion. Argentina, Belize, Chile, Colombia, Costa Rica, Guatemala, Mexico and Uruguay allege to have a long-term strategy documents that strive for actions to achieve carbon neutrality by 2050 that include measures such as new technology, support of electrification of public transport, regulatory and institutional policies to promote sustainable mobility, transition to low-emission technologies for private vehicles and taxis, and regulatory frameworks to encourage fleet renewal and promote energy efficiency. However, the study shows that progress has not been significant enough, as only 4-13% of the bus fleet is operational in countries like Chile, Colombia or Mexico, the limited incorporation of buses that run on natural gas or hydrogen, the allocation of funds and launch of initiatives, the lack of rail systems for passenger transport and the slow process to expand low emission car fleets or electrify car fleet or low emission taxis.

As seen, Latin America deals with a considerably polluting public transport system dependent on fossil fuels and unsustainable cities. At a national level, the referred problem directly and indirectly infringes human rights, such as health, environment, equality, freedom, among other rights. The international community should also be concerned about the situation of the mentioned region because of the emissions of GHG that lead to climate change-related problems. In addition, it can be inferred that the region has not taken the steps to go beyond the oil-based economies and needs to foster further action for energy transition.

The recommendations of the United Nations Development Programme for the implementation of sustainable transport initiatives and fulfilling the NDCs involve the understanding the social component, urban planning and transport supply, technological renovation including the need to define a strategy to expand and strength networks and charging stations for public and private transport, the development of an offer focused on public and non-motorized transport, financing of low-emission transport supply and the elimination of subsidies of conventional sources such as fossil fuels.

Energy and Environmental Law as a whole has an important role in setting the bases for implementing sustainable transport initiatives, such as electromobility. The

international commitments of the States are of special relevance in setting in the law the rights, duties, faculties, obligations, incentives, and sanctions on the topic. Multilateralism is essential for identifying the primary concerns of the international community and the actions that States should take to achieve sustainable objectives.

International Cooperation and Multilateralism in Climate Change and Energy Transition

The achievement of the objectives in energy transition with alternatives, such as electric vehicles, has to consider the efforts and commitments made at an international level. These efforts emphasize the relevance of multilateralism, which, for Qin (2019) is an accepted principle of the special requirements of transnational governance and the choice that international society can make, as there are many transnational problems to be solved. States should come together to coordinate their national policy or their relations with non-discrimination, indivisibility, and diffuse reciprocity that integrate the mechanism to manage the global and/or regional commons and deal with transnational threats. In addition, multilateralism is closely related to local conditions, rule-based guidance, relation-attuned cultures, and circumstances that foster a variety of anchoring practices to achieve effectiveness and resilience.

Therefore, it can be assumed that multilateralism accounts for an effort to achieve solutions between States through a collaboration guided by rules, principles, and institutions, as well as a learning process from the culture and conditions of each State.

Among the issues that the international community should be concerned about are those related to climate change and the need for energy transition solutions, such as electromobility. According to Heffron (2021), energy transition is about switching from a fossil fuel-based economy to one based on low-carbon energy sources. Here, it is possible to identify the contributions of electric cars that will bring further changes in the future. Energy law needs to be flexible and able to adapt to new possibilities, incentivize new energy technology, change the oil-based economy, and ensure it is not inhibiting economic growth.

Energy transition represents a process aimed at mitigating the dysfunctions of fossil fuel markets, managing risks arising from their vulnerability, and fighting against climate change and the effects of air pollution (Torres, 2021). Electromobility, hydrogen, and biofuels can be considered as solutions to reduce the emissions of greenhouse gases from fossil fuels (Delgado Ramos, et. al., 2013). However, because of the costs and technology development, for now, electromobility has become popular among States.

At a national level, the law needs to address the relevance of a low-carbon energy economy to foster solutions to change the energy matrix highly dependent on oil. Newell (2005) stressed that in the developing countries, such as those in Latin America, the environment assumed a rising status on the national political agendas due to the pressures from global institutions, donors, active citizen movements, and the scientific understanding. Yet, the status of the environment as an issue on developing country agendas is not secure, as they are loosely embedded within national policy processes, incoherently related to wider economic and social agendas, and subject to displacement. The risk that some developing countries may not consider the environment as a priority

emphasizes the relevance of the multilateral agreements.

The efforts of the international community to protect the environment can be traced in the United Nations Conference on the Human Environment (1972); Vienna Convention for the Protection of the Ozone Layer (1985); Montreal Protocol on Substances that Deplete the Ozone Layer (1987); Convention on Biological Diversity (1992); the Rio Declaration on Environment and Development (1992); Convention on Environmental Impact Assessment in a Transboundary Context (1992); United Nations Framework Convention on Climate Change -UNFCCC- (1994) and the Conferences of the Parties on Climate Change that have been held every year since 1995; Kyoto Protocol (1997); Millenium Declaration (2000); the Johannesburg Declaration on Sustainable Development and the Plan of Implementation (2002); Universal Declaration on Bioethics and Human Rights (2005); the United Nations Conference on Sustainable Development (2012); Sendai Framework for Disaster Risk Reduction (2015); Addis Ababa Action Agenda on Financing for Development (2015); Transforming our world: the 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (2015) and the Paris Agreement (2015).

The International Organizations have also proposed a series of guidelines and recommendations on energy transition and electromobility, such as the World Bank, the International Monetary Fund, the International Energy Agency, the International Renewable Energy Agency and the International Petroleum Industry Environmental Conservation Association, that has explored low-emissions pathways in transport (IPIECA 2016; IPIECA 2019).

The guidelines, codes of conduct, compliance procedures, and other recommendations show that International Environmental Law is a fertile area for soft law, which allows actions to protect the environment dynamically (Redwell, 2016). The energy transition model relates to the environment as it seeks to reduce the emissions of GHG, mitigate the effects of climate change and prevent the effects on humans and other living beings.

The regional systems of human rights - such as the European Human Rights System, the African System of Human Rights, and the Inter-American System of Human Rights - could also play a role in ensuring that energy projects promote and protect human rights to the fullest extent.

Regional meetings are also of special relevance to share common needs, concerns, and proposals for solutions. As for Latin America, the following meetings are of special interest:

Latin America Energy Forum and Latin America Energy Summit (2025), whose objectives are to inform the American energy community of business opportunities in the energy sector within the region, learn about energy initiatives, discuss funding of energy projects, discover private equity opportunities, and connect Latin American companies with foreign investors.

Forum of the Countries of Latin America and the Caribbean on Sustainable Development (CELAC), which in the last years has dealt with a series of topics and participation of States, that regarding electromobility can be summarized in the next table:

Table 1: Electromobility at the Forum of the Countries of Latin America and the Caribbean on Sustainable Development

Meeting	Examples of references to electromobility made by participants	Conclusions
Third meeting. (CELAC, 2019)	Chile accentuated the importance of SDG and the focus on areas like electromobility and renewable energy to achieve gas emissions neutrality. It is essential to engage the scientific community and the private sector, as well as multi-stakeholder and institutional frameworks.	* One challenge is to achieve sustainable development, which requires efforts in sustainable transportation. * The achievement of the 2030 Agenda for Sustainable Development depends on the engagement of the public and private sectors.
Fourth meeting. (CELAC, 2021)	The ECLAC maintained that renewable energy and sustainable urban electromobility could drive progress towards the SDGs and a sustainable recovery.	The States reaffirmed that the 2030 Agenda for Sustainable Development needs the implementation of sustainable development with the public and private sectors.
Fifth meeting. (CELAC, 2022)	Transformative recovery actions were proposed to face the economic recession in Latin America in 2020, such as the development of renewable energy to promote innovation, strengthen investment, create jobs, reduce environmental footprints, and transform development models.	The improvement of the environmental quality of cities is a challenge to achieving sustainable development that requires efforts from member States, and other stakeholders in sustainable transportation and energy efficiency.
Sixth meeting. (CELAC, 2023).	* The National Autonomous University of Mexico highlighted the contributions of electromobility in public transportation for energy efficiency, development of infrastructure, and sustainable industry. Regulation is essential for certainty, financing and technological advances. Public and freight transport should also implement renewable and clean energy to tackle energy poverty. * Paraguay promoted clean and renewable energy in transport, as well as initiatives for electromobility and energy matrix. * ECLAC identified potential transformative initiatives in electromobility, which could foster the achievement of SDGs and synergies.	The States reaffirmed the commitment to ensure reliable and modern energy services, including increasing the share of renewable energy.
Seventh meeting. (CELAC, 2024)	* For Trinidad and Tobago transition to green and sustainable energy is a key area for achieving sustainable development. * Paraguay said that climate adaptation was a national priority that had been enshrined in law with priority sectors, such as energy and transport. * BNDES mentioned initiatives in clean energy and critical minerals for e-mobility.	The States reaffirmed the commitment to ensuring reliable and modern energy services, including increasing the share of renewable energy, developing quality, reliable, sustainable, and resilient infrastructure and sustainable urbanization, respecting national policies, and priorities.

Source: Own authorship from information from CEPAL

Last, but not least, bilateral agreements in trade and investments in the last years have incorporated chapters and sections that deal with the environment, as Chapter 24. Environment of the United States of America-Mexico-Canada Agreement (2020) that recognizes that a healthy environment is an integral element of sustainable development

and the contribution that trade makes to sustainable development. The Chapter contains provisions regarding levels of protection, enforcement of environmental laws, public information and participation, procedural matters, environmental impact assessment, multilateral enforcement agreements, protection of the ozone layer and marine environment, air quality, corporate social responsibility and responsible business conduct, and voluntary mechanisms to enhance environmental performance, among others.

The agreements and meetings mentioned provide various indicators and strategies that should be contained in laws and public policies aimed at reducing GHG emissions. They also emphasize the need for actions that promote a just energy transition, with electromobility being a key component that warrants consideration.

This section demonstrates that multilateralism is essential for tackling certain global problems that exceed the capabilities of individual nations. To lessen CO2 emissions and advance energy transitions, national law must incorporate key international principles, responsibilities, and agreements.

Indicators

The references of the multilateral agreements, recommendations set forth by international organizations, and regional meetings may give guidelines to construct some indicators to explore if the due actions to achieve sustainable cities with electromobility are being considered within the local laws.

Even though there have been studies, such as the one conducted by the Thomson Reuters Foundation and Global Initiative for Economic, Social & Cultural Rights (2024) that identified elements of a just energy transition, namely human rights approach, transparency and access to information, energy democratization, the gender approach, the technical process, and structural transformation of energy transition, for this paper, it is deemed to propose some indicators derived from multilateralism approaches that should be considered in local laws.

Principles

- Protection of human rights with special attention to women and vulnerable groups (Articles 3 UNFCCC and 7 of the Paris Agreement -PA).
- Protection of the climate system for the benefit of present and future generations, based on equity (Article 3 UNFCCC).
- Precautionary principle to foresee, prevent or minimize the causes of climate change and mitigate its adverse effects (Article 3 UNFCCC).
- Sustainable development (Article 3 UNFCCC).
- Accountability (Articles 6 and 7 PA).
- Transparency and public access to information on climate change (Articles 4, 6, 7 and 12 PA).
- Energy transition (Articles 4 and 6 PA; UNO, 2021)
- Equity (Article 3 UNFCCC).

Actions of the State

Keep a global average temperature below 2°C above pre-industrial levels and continue efforts to limit the rise of temperature to 1.5°C to reduce the risks and effects

of climate change, and promote climate resilience and low greenhouse gas emissions (PA).

Agreement on "The beginning of the end" of the fossil fuel era by a just and equitable transition, underpinned by deep emissions cuts and scaled-up finance (UNO, 2023).

Mitigation and adaptation measures on Climate Change (Article 4 PA)

The improvement of the coverage of public and private investment in electric vehicles and charging infrastructure, creation of incentives for electric vehicles as a mitigation measure (UNO, 2021, Forum of the Countries of Latin America and the Caribbean on Sustainable Development).

Adaptation should consider gender-responsive, participatory, and transparent approaches of vulnerable groups, communities, and ecosystems (Article 7 PA).

Publication of national reports, programs to mitigate climate change, data coverage, inventories of anthropogenic emissions and absorption of GHG sinks, nationally determined contributions, and long-term strategies for development with low GHG emissions (UNO, 2015).

Data coverage for financing electric vehicles, climate finance, energy efficiency, and domestic climate finance reporting (UNO, 2022; IPIECA, 2016 and IPIECA 2019).

Legislation and public policies

Legislative measures to protect human rights from the adverse effects of climate change (UNO, 2015).

Policy targets and support mechanisms to support renewable energy deployment, incentives for electric vehicles, and bans on the sale of combustion engine vehicles (UNO, 2021).

Promotion of sustainable development, environmental integrity, transparency, governance, and accounting (Article 6 PA).

Adoption of non-market approaches to increase the participation of the public and private sectors, with Corporate Social Responsibility and Responsible Business Conduct (UNO, 2015; CELAC, 2021; UMSCA, 2020).

Ensure reliable and modern energy services, including increasing the share of renewable energy, developing quality, reliable, sustainable infrastructure, and sustainable urbanization (CELAC, 2024).

Cooperation mechanisms

Promotion of an open and enabling international development and economic system to lead economic growth and sustainable development (UNO 2015; Article 3 UNFCCC).

Enhance actions in the development and transfer of technology for the mitigation and adaptation of climate change, as well as prevent anthropogenic emissions of uncontrolled GHG by the Montreal Protocol in energy and transport (UNO, 2015; Articles 7 and 10 PA).

Promotion and support in education and scientific, technological, technical and socioeconomic research, systematic observation, and the establishment of data archives related to the climate system (UNO, 2015; Forum of the Countries of Latin America and

the Caribbean on Sustainable Development).
South-South (UNO, 2022; Latin American Forum).
Finance developing countries for clean energy (UNO, 2024).

The proposed indicators reflect that multilateral collaboration is important for lawmakers to incorporate the key points discussed by the international community in topics such as energy transition, as well as to offer tools to the citizens to analyze and evaluate the decisions taken by the States.

Comparative method

The comparative method allows us to explore if the national law adopts the content of the multilateral agreements related to energy transition. Certainly, the Law plays an important role in determining the rights, duties, obligations, and powers of the authorities to enforce the law.

Despite the number of international agreements that Mexico has subscribed to, the country has one of the most polluted cities in Latin America, namely Mexico City (IQ Air, 2024). Hence, it is relevant to explore if the international commitments are duly incorporated in its legal framework and the pending issues that should be considered.

The brief analysis and comparison of the legal framework in Mexico with the multilateral agreements and meetings in energy transition take into account the Political Constitution of the United States of Mexico (Constitution), the rules on energy transition (Ley de Planeación y Transición Energética -Energy Planning and Transition Law "EPTL"-), electricity (Ley del Sector Eléctrico -Electric Sector Law "ESL"-), hydrocarbons (Ley del Sector de Hidrocarburos -Hydrocarbons Sector Law "HSL"-) and the laws from the public enterprises of the State, namely: Comisión Federal de Electricidad (Ley de la Empresa Pública, Comisión Federal de Electricidad -Public Company Law, Comisión Federal de Electricidad "CFEL"-) and Petróleos Mexicanos (Ley de la Empresa Pública, Petróleos Mexicanos -Public Company Law, Petróleos Mexicanos "PEMEXL"-) which were published in the Official Journal of the Federal Government on March 18, 2025, and entry into effect in the next day; as well as the Environment Law (General Law on Ecological Balance and Environmental Protection - GLEBEP) and the normativity on climate change (Ley General de Cambio Climático - General Law on Climate Change "GLCC") which was last reformed on April 1, 2024.

The axis of the new normativity is mainly centered on energy self-sufficiency, sustainability, energy sovereignty -to reinforce the role of the public enterprises-, and energy justice -centered on the aim to give access to the energy goods to all the people (SENER, 2025). However, some topics still need to be considered, as will be seen in this section. Certainly, multilateralism has valuable contributions to avoid indifference, political whims, or short-term visions that could hinder the achievement of sustainable and energy transition objectives throughout electromobility.

As proposed by Atienza (1997) the law ought to consider five levels of rationality, namely: 1) Linguistic rationality, so that the law can be clearly understood; 2) Legal-formal rationality, which assumes that the law must be harmoniously inserted into a legal system and does not contravene the hierarchy of the norm; 3) Pragmatic rationality, which assumes that the conduct of the recipients would have to conform to what is prescribed by the law; 4) Teleological rationality, so that the law aims to achieve

the pursued social ends; 5) Ethical rationality, that considers liberty, equality, and justice as ethical values of the law.

Multilateral agreements are relevant in achieving the legal, formal, teleological, and ethical rationality to assure better conditions at a national level and even to contribute to the international community. For this research, a general approach will be given to explore whether the multilateral topics mentioned in the proposed indicators are considered within the national law.

Principles

The comparison between the principles identified in the multilateral agreements and the Mexican law can be seen in the following table:

Table 2. Principles

Principles adopted in the Mexican Law		
Energy security, energy sovereignty, energy justice, energy transition, reliability and accessibility of the energy services, sustainability, efficiency, equity and protection of human rights.		
Reference to the Multilateral Agreements and Meetings		
	Multilateral Agreements and Meetings	Mexican Law
1.	Protection of human rights	Constitution
2.	Energy Transition	ESL, GLCC, EPTL, HSL, CFEL, PEMEXL
3.	Protection of the climate system	GLCC, ESL, EPTL
4.	Precautionary principle	GLEBEP, GLCC
5.	Sustainable development	ESL, GLCC, EPTL, HSL, CFEL, PEMEXL
6.	Accountability	ESL, GLCC, EPTL, HSL, CFEL, PEMEXL
7.	Transparency	ESL, GLCC, EPTL, HSL, CFEL, PEMEXL

Source: Own authorship based on the Mexican law and the proposals of indicators

One alarming concern that should be noted about the Mexican Law is the intention to give prevalence to the State and public companies over particulars in the energy sector that can be seen under Article 12, VI ESL, in relation to the principle of energy sovereignty.

Contrary to what the Mexican lawmakers and politicians considered, the energy transition and sustainability model should rely not only on the participation of the State but also on the private sector, because of its contributions to investments, innovations, technology, and experience in infrastructure projects. Since 2013, the legal framework has allowed private, national, and international companies to participate in most of the activities of the electricity and oil value chains in Mexico. This was a milestone considering that the Comisión Federal de Electricidad and Petróleos Mexicanos -today public companies- were the only participants in the energy sector (Cossío Barragán, 2016; De Rosenweig, 2007). Certainly, State companies are not enough to achieve the fulfilment of the principles of the energy law, as they lack of technical and financial capacity to implement all the energy projects that the population needs.

One additional topic that can be highlighted is the principle of transparency. Even though the principle is contained in the legal framework, however, due to the administrative simplification constitutional reform published on December 20, 2024, in the Official Journal of the Federation, there have been concerns about the access and protection of the right to public information, as the public body that guarantees that right will rely on the Federal Executive Branch rather than autonomous, as it used to be. Accountability is another issue that has to be considered, since Mexico has had poor

evaluations on Rule of Law (World Justice Project, 2021) that indicate several deficiencies in topics such as accountability, impunity, and corruption.

In addition to the principles that the multilateral agenda has fostered, Mexico incorporated energy justice, which, according to Heffron (2021), entails: i) the consideration of human rights in the energy value chain; the distribution of benefits and burdens (e.g., taxes, transparency) of energy for people (distributive justice); ii) due process (procedural justice); iii) the recognition of the rights of different groups for the realization of projects (recognition justice); iv) the consideration that energy activities and global supply businesses have transboundary effects (cosmopolitan justice); and v) the need to repair the damage (restorative justice).

Despite the relevance of energy justice, this principle may be hindered in Mexico due to the intention to give an undue advantage to State companies over the private sector, as well as the attributions and operational issues of public bodies, such as the one related to Transparency.

Actions of the State

According to the proposed indicators, the actions of the States in electromobility incorporated in the Mexican Law can be summarized in the following terms:

Table 3. Actions of the State

	Multilateral Agreements and Meetings	Mexican Law
1.	Keep a global average temperature below 2°C above pre-industrial levels and continue efforts to limit the rise of temperature to 1.5°C.	GLCC, ESL
2.	Actions to comply with "The beginning of the end" of the fossil fuel era agreement.	GLCC, ESL, EPTL
3.	Mitigation and adaptation measures in electromobility.	GLCC, ESL, EPTL, administrative regulations and programs
4.	Gender and vulnerable groups approach in the decision-making processes.	Constitution, GLCC, ESL
5.	Publication of national reports, programs and inventories on climate change and energy transition.	GLCC * CFE and Pemex should make available the information of their activities
6.	Data coverage for financing electric vehicles.	GLCC
7.	Incentives for electric vehicles and bans on the sale of new combustion engine vehicles.	ESL* Administrative regulations and Programs to be published.
8.	Promotion of sustainable development and environmental integrity.	GLCC, ESL, EPTL, HSL, CFEL, PemexL
9.	Non-market approaches to increase the participation of the public and private sectors.	GLCC
10.	Ensure reliable and modern energy services.	ESL, EPTL

Source: Own authorship based on the Mexican law and the proposals of indicators

The Mexican legislation has provisions that comply with the international instruments regarding the actions that the States ought to take. However, the references to electromobility and climate change are mainly in the General Law on Climate Change, the Electric Sector Law and the Energy Planning and Transition Law. Even though electromobility relates to an alternative option for fossil fuel vehicles, there is no reference in the Hydrocarbons Sector Law. General provisions on energy transition

actions are made in the Laws of the Federal Electricity Commission and Petróleos Mexicanos. Hence, it is necessary to follow up on the actions of those companies to see if investments are being made in the energy transition.

In addition, the population needs to be critical of the regulations of the Public Administration, as it has a role in the elaboration of public policies and political plans in energy transition. In fact, it is noticeable that the energy plans are only made by the public sector. The participation of the public and private sectors is contained in some provisions of the General Law on Climate Change. This may leave the country with an incomplete vision of what is required to improve the energy sector, with the technology, science, investments, and experience of the private sector, as well as with the needs and concerns of the social sector and vulnerable groups.

Decisions in the energy sector should be made with the participation of the public, private, and social sectors in order to fulfill the goals and commitments in the energy transition of the international community.

Collaboration mechanisms

The comparison between the indicators identified as collaboration mechanisms and the Mexican laws can be summarized in the following terms:

Table 4. Collaboration mechanisms

	Multilateral Agreements and Meetings	Mexican Law
1.	Cooperation in promoting an open and enabling international development and international economic system.	Constitution; LGCC, ESL, EPTL
2.	Development and transfer of technology for mitigation and adaptation of climate change.	LGCC, ESL, EPTL
4.	Promotion and support in education and scientific research.	LGCC, ESL, EPTL, CFEL and PemexL
5.	South-South collaboration.	EPTL (General)
6.	Finance developing countries.	Pending issue

Source: Own authorship based on the Mexican law and the proposals of indicators

The collaboration mechanisms are mostly centered in the faculties of the authorities, but not with the private or social sectors, which are indeed required to boost investments, education, and scientific research, as well as to foster a desirable economic system that can give security to the business activities, and meet the needs of the population, for whom energy is of special relevance for their human rights of health, environment, household, liberty, work, or education.

Even though the Mexican law has some provisions aimed at complying with international commitments and international good practices, it is still needed to strengthen the international collaboration, even with their peers in the global South, to offer alternative approaches and solutions to energy transition and climate change.

Results

The multilateral level embodies the concerns of the states to achieve energy transition, as well as the desirable actions to mitigate climate change. One axis to achieve those goals is electromobility, which requires technology transfer, financial strategies, political and entrepreneurial strategies, and educational and scientific research. Those strategies have been considered at international agreements and

meetings that should be incorporated at the national level, as they deal with the actions that the public, private, and social sectors have to adopt.

The Constitution of Mexico shows that indeed there are dispositions referring to human rights, the property of the Union in natural resources, as well as the faculties of the authorities to regulate energy. Still, further efforts should be made in order to recognize the right to energy, reduce GHG emissions, and adopt electromobility strategies to comply with the energy transition goals. It is not enough to regulate the faculties of the authorities of the State in the law or have political plans aimed at boosting electromobility, as it is needed to have contingent actions to make electromobility a reality.

Sometimes the national laws may rely on political plans and public policies, which may allow for addressing urgent needs and a flexible mechanism to adjust to the economic, political, social, and cultural needs of electromobility. However, those plans may rely on the ideology of the party in power, which may add some risk of short-term solutions. In the experience of countries like Mexico, those plans are mostly set at the beginning of the presidential period, with a specific ideology, but hardly incorporate the agreements of the multilateral meetings and agreements, or the needs of the private and social sectors. Hence, it is important that the private and social sectors question and criticize the content of those plans, take an active role in the drafting of the plans, and offer alternative solutions that the government by itself cannot foresee or implement.

Further provisions have to be considered in the law, such as setting the conditions for dialogue and collaboration between the private, public, and social sectors in the decision-making process. Even though there are procedures for consultation of indigenous people, still a lot of work has to be done to construct dialogue opportunities to consider the proposals, access of information, analyses, and problems of enterprises, universities, and consumers that may be useful for drafting the laws by implementing incentives and actions in just energy transition, education, mitigation and adaptation to climate change, and the development of science and technology.

Access to information and reports related to climate change and energy transition is of special importance so that people can be informed on the progress that has been made to reduce greenhouse emissions and how the sustainable goals and objectives of international instruments, such as the Paris Agreement, are being reached. Accountability can be reinforced by having sufficient information on the decision-making processes and the deficiencies and mistakes of the authorities in energy transition, which, of course, should be accompanied by adequate rules, procedures, and performance of the authorities.

It is needed to strengthen the collaboration at an international level, which is required not only to foster trade and investment with the due protection of the environment but also to analyze the problems, discuss solutions and experiences, and explore the optimal ways of implementing measures in energy transition through science, technology, financial aid, business strategies, and social participation.

The situation of Mexico shows that, besides subscribing to international agreements and participating in international meetings, it requires incorporating the content of those commitments in the law and public policies, as well as to generate conditions for the public, private, and social sectors to fully engage in the accomplishment of the goals, duties, and obligations that have been set in multilateral

agreements.

Discussion

The methods and results previously mentioned may lead to answering the question of whether multilateralism contributes to achieving energy transition goals. The answer is affirmative. Multilateralism offers valuable principles, strategies, and actions that can inform the development of national laws related to reducing gas emissions, promoting sustainability in urban areas, and facilitating energy transition. It also provides guidance on measures for mitigating and adapting to climate change.

The Law, public policies, political plans, business plans, as well as the actions of society, should comply with the efforts of the international community and even offer insights into local problems and other solutions that the international community should take into account.

A learning process can be achieved if developed countries, the Global South, international organizations, universities, businesses, and society share their experiences and needs, which should be recognized at both national and international levels.

The collaboration, dialogue, transparency, and accountability are relevant to improving conditions in a national and international sphere, with the protection of human rights, the adequate development of business projects, and the environment.

Conclusions

Multilateralism is of special relevance in exploring the objectives that the international community aims to achieve in the energy transition. Electromobility is one measure that is suggested to reduce fossil fuel automobiles and the GHG emissions that pollute cities in developing countries, such as Mexico.

The financial, technological, and scientific experience of the international community may be of special relevance in reinforcing the actions that ought to be taken in human rights, the environment, and energy transition. Certainly, short-term political actions, party interests, indifference to topics such as climate change, or a lack of financial or technological tools may hinder the actions of developing countries to sum up the efforts in energy transition that other countries have implemented.

As a result, it is important that the national laws abide by the international commitments of the States regarding energy transition and mitigation, and adaptation to climate change. Through good regulation, it is possible that the public, private, and social sectors collaborate to find solutions for pollution and energy transition matters. So far, some issues have been incorporated at the national level, such as human rights, incentives to implement electromobility in some States, the educational focus, and the powers of the authorities to draft political plans and other actions on energy transition.
The dialogue between the public, private, and social sectors for adequate decision-making processes, technology transference, development of science and technology, accountability, transparency, and access to information in the energy transition is required in the following years to fully advance in the achievement of the goals set by the international community.

Therefore, electromobility issues should not be left only to the authorities of the States. It is essential to consider the perspectives and analyses of the problems and solutions presented by the private and social sectors in order to achieve satisfactory

results in energy transition, particularly from the viewpoint of developing countries.

Conflict of Interest: The author reported no conflict of interest.

Data Availability: All of the data are included in the content of the paper.

Funding Statement: The author did not obtain any funding for this research.

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