CLIMATE ADAPTATION, JUST TRANSITION, AND THE POLITICS OF CLIMATE PROBLEMATIZATION IN MEXICO

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Abstract

Mexico has developed one of the most sophisticated climate governance frameworks in Latin America, combining climate legislation, planning instruments, adaptation strategies, emissions targets, and international commitments. Yet this institutional expansion coexists with continued hydrocarbon dependence and expansion, environmentally damaging infrastructure projects, and uneven implementation. This policy brief argues that these contradictions reflect different processes of climate problematization: climate issues may become institutionally recognized without generating sufficient political debate or acquiring the political priority necessary to reshape development trajectories consistent with effective climate mitigation.

Two case studies illustrate these dynamics. In the Yucatán Peninsula, highly visible vulnerabilities—including hurricanes, coastal erosion, biodiversity degradation, and water stress—have generated dense adaptation frameworks. However, adaptation policies remain characterized by low precision and obligation, allowing climate objectives to coexist with projects such as the Tren Maya, , a major infrastructure megaproject that has contributed to deforestation and increased pressure on already fragile forest and water systems.

In Tabasco, the construction of the new Dos Bocas refinery illustrates a different trajectory. Fossil dependence generates economic, labor, and territorial vulnerabilities, yet these remain predominantly framed through employment, regional development, and energy sovereignty. Just transition has recently moved from discursive recognition toward incipient institutionalization, but its territorial implementation remains inexistant.

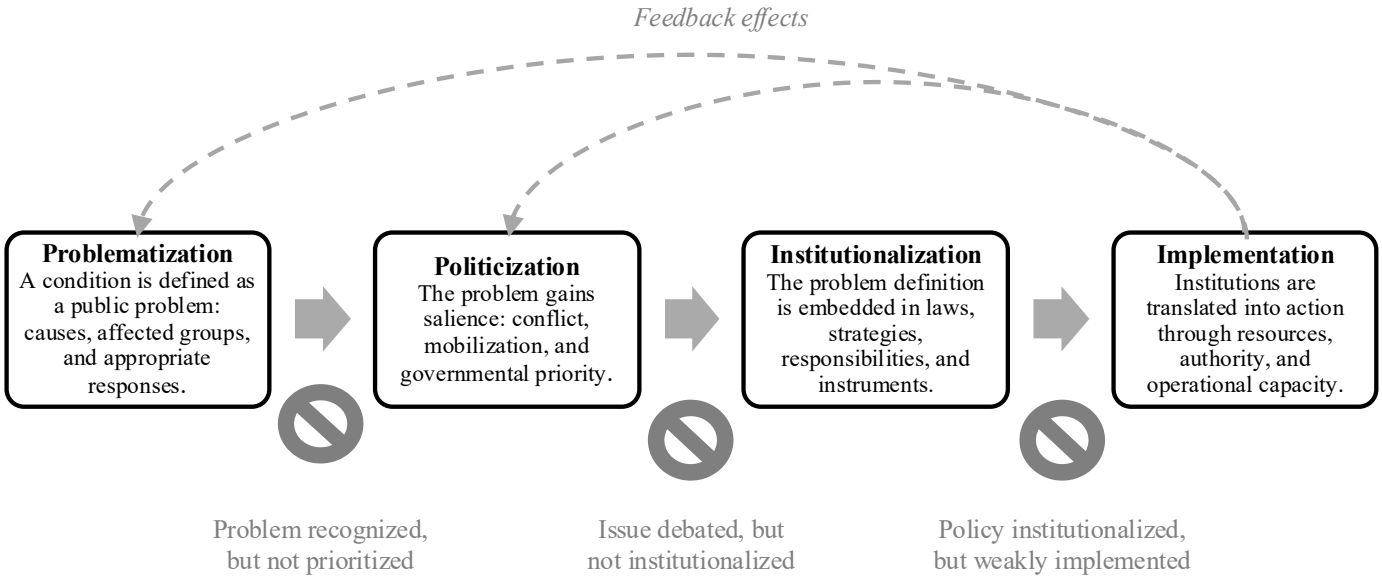
The brief concludes that Mexico's main challenge is not institutional absence, but weak and uneven political anchoring of climate action in socio-territorial realities. It therefore recommends shifting from planning to implementation; territorializing adaptation strategies; anticipating transition in fossil-dependent regions; making just transition socially inclusive; and improving coherence between climate, energy, infrastructure, and public spending.

Introduction

Mexico was often presented as a pioneer of climate governance in the Global South. Over the past two decades, the country has developed an ambitious policy architecture combining framework legislation, long-term planning instruments, emissions-reduction targets, adaptation strategies, and international commitments (Edwards and Roberts, 2015). The adoption of the General Law on Climate Change (*Ley General de Cambio Climático*, LGCC) in 2012—the first comprehensive climate law in the developing world—and Mexico's central diplomatic role during COP16 in Cancún consolidated this image of international climate leadership (Pulver, 2013; Averchenkova and Guzmán Luna, 2018). More recently, the election of President Claudia Sheinbaum in 2024, a climate scientist and former contributor to the Intergovernmental Panel on Climate Change (IPCC), revived expectations of renewed climate ambition after a period of greater policy ambiguity under the presidency of Andrés Manuel López Obrador (Kistner, 2025; Martínez, 2025).

Yet this institutional sophistication coexists with profound contradictions. Mexico remains highly dependent on hydrocarbons, continues to invest in fossil-fuel infrastructure, and faces persistent difficulties translating long-term climate commitments into practice. Since 2020, Climate Action Tracker has consistently classified Mexico's climate policies and commitments as either "Highly Insufficient" or "Critically Insufficient," corresponding to pathways that, if followed globally, would lead to warming above 3°C and potentially above 4°C (Climate Action Tracker, 2020, 2021, 2022, 2026). Adaptation policies remain fragmented and unevenly implemented across territories, while just

Figure 1. From Problematization to Implementation: Stages, Feedback, and Possible Disjunctions in Public Policy



Source: Author's elaboration based on Neveu (2015), Kingdon (2014), Lascoumes and Le Galès (2007), and Sager et al. (2024).

transition has recently moved from discursive recognition toward incipient institutionalization, particularly through Mexico's NDC 3.0 (Gobierno de México, 2025a). Yet its translation into concrete mechanisms for supporting workers and transforming fossil-dependent territories remains uncertain.

This policy brief argues that these contradictions cannot be explained solely through implementation gaps, insufficient state capacity, or policy incoherence. Such approaches help explain why established objectives are not fully translated into action, but they generally begin once a problem has already been recognized and incorporated into public policy. A problematization perspective shifts attention further upstream by examining how particular social and territorial conditions come to be defined as problems requiring public intervention, which dimensions become politically visible, and which forms of governmental response are considered legitimate or necessary (Neveu, 2015). It therefore helps explain not only why policies are weakly implemented, but also why some climate-related issues acquire precise obligations and sustained attention while others remain vague, politically secondary, or disconnected from broader development policy.

The analysis distinguishes four related but analytically separate policy processes (**Figure 1**). *Problematization* refers to the construction of a condition as a public problem, including the identification of its causes, affected populations, and appropriate responses (Neveu, 2015). *Politicization* concerns the degree to which that problem acquires political salience, generates conflict or mobilization, and becomes a governmental priority (Kingdon, 2014). *Institutionalization* occurs when this problem definition becomes embedded in laws, administrative arrangements, strategies, and policy instruments that stabilize particular forms of public intervention (Lascoumes and Gales, 2007). *Implementation*, finally, concerns whether these instruments receive the resources, authority, and operational capacities necessary to produce concrete effects (Sager, Mavrot and Keiser, 2024). These processes may generate feedback effects: implementation can reveal limitations in the initial problem definition or political framing, prompting the problem to be redefined, reprioritized, or re-institutionalized. However, these

sequences do not necessarily follow one another automatically: a problem may become strongly institutionalized without being politically prioritized, while a concept may enter official discourse—or even begin to acquire institutional instruments—before its underlying problem has been territorially stabilized or meaningfully implemented.

Mexico illustrates precisely these disjunctions. Climate change has been extensively institutionalized through laws, strategies, scientific expertise, planning instruments, and international commitments. However, this institutionalization has not always been accompanied by a stable domestic problematization linking climate objectives to concrete territorial vulnerabilities, economic structures, and development choices. Climate governance has frequently been driven by international norms, technocratic planning, and diplomatic commitments, while competing problem definitions—such as energy sovereignty, infrastructure development, employment, and economic growth—have acquired greater political priority (Tornel, 2020; Canales-Hernández, 2024; Solorio, 2025; Torres-Wong and Pacheco-Vega, 2026). The resulting contradictions therefore concern not only implementation, but also the hierarchy between competing constructions of what government should treat as the most pressing public problem.

The contrasting trajectories of adaptation and just transition make this argument particularly visible. Adaptation addresses highly concrete territorial vulnerabilities: droughts, hurricanes, coastal erosion, biodiversity degradation, water scarcity, and heatwaves already affect large parts of the country (INECC, 2019a; Aguilar-Gomez, 2026). These risks have generated substantial institutionalization through adaptation strategies, vulnerability assessments, planning instruments, and coordination mechanisms. Yet adaptation has frequently been operationalized as a broad problem of resilience, risk management, technical planning, and institutional coordination, rather than consistently translated into binding requirements capable of reshaping territorial development trajectories (e.g. Gobierno de México, 2025c) . The "low precision and obligation" of climate adaptation policies (Hall and Persson, 2018, p. 540) therefore reflects more than an implementation deficit: the breadth of the problem definition itself allows adaptation objectives to coexist with competing development priorities and environmentally damaging infrastructure projects.

Just transition follows a different and more recent trajectory. Before 2025, the concept circulated through international climate governance and Mexican policy discourse without the social and territorial consequences of fossil-fuel dependence becoming stabilized as a domestic public problem requiring anticipatory intervention. This configuration has begun to change under the Sheinbaum administration. Mexico's NDC 3.0 explicitly incorporates just transition as a transversal component of climate action, indicating an emerging process of institutionalization (Gobierno de México, 2025a). Yet this institutional development has not so far displaced the dominant framing of hydrocarbon-dependent territories through employment, energy sovereignty, and regional development. Current energy planning simultaneously promotes energy transition while maintaining PEMEX and CFE as strategic pillars and targeting continued oil and gas production (Martínez, 2025; Rousseau, 2026). The central disjunction therefore lies increasingly between incipient national institutionalization and weak territorial problematization and implementation: just transition is becoming a policy objective without yet clearly redefining the developmental future of fossil-dependent regions.

The brief explores these two trajectories through complementary case studies. The Yucatán Peninsula illustrates adaptation that is strongly institutionalized but weakly translated into binding territorial priorities, allowing climate governance to coexist with megaproject-driven development associated with the Tren Maya. Tabasco reveals a different disjunction: while just transition is beginning to acquire institutional recognition at the national level, fossil dependence remains weakly problematized territorially, and hydrocarbon expansion continues to be presented as a response to employment, energy sovereignty, and regional development. Together, the cases demonstrate the analytical value of examining how problems are constructed and prioritized, how these definitions become institutionalized, and whether they ultimately reshape implementation.

Methodologically, the brief relies on qualitative public policy analysis combining official documents, legal and planning instruments, public discourse, academic research, institutional reports, and specialized media. These sources are used to trace how climate-related conditions are problematized, politically prioritized, institutionalized, and ultimately translated—or not—into implementation.

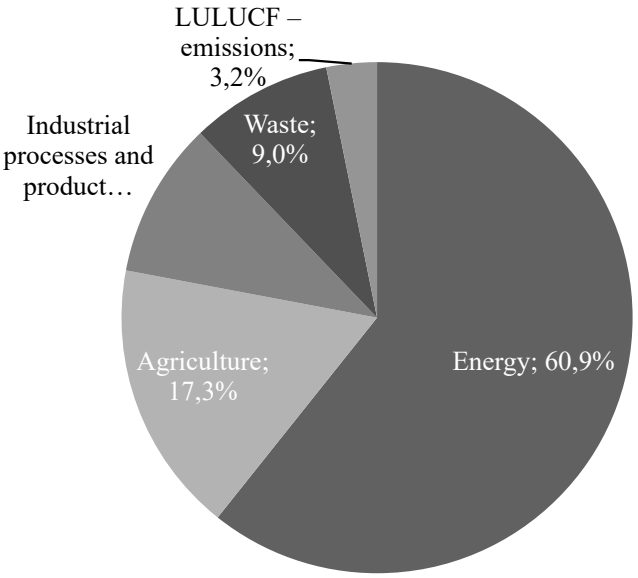
The central argument is therefore that Mexican climate governance suffers less from an absence of institutional frameworks than from uneven and unstable political problematization linking climate objectives to concrete socio-territorial realities. As Edwards and Roberts (2015, p. 62) remind us, "a climate law is only as good as its implementation." This brief goes one step further: effective implementation also depends on how clearly the underlying problem is defined and politically stabilized. Without such anchoring, even sophisticated climate institutions can coexist with vague priorities, weak obligations, and contradictory development trajectories.

From Climate Leadership to Fossil Developmentalism: The Uneven Evolution of Mexican Climate Policy

Mexico's climate policy has followed an uneven trajectory combining international leadership and rapid institutionalization with persistent tensions between climate commitments and fossil-fuel-centered development. The country has progressively constructed a sophisticated governance architecture while struggling to align climate objectives with broader energy, infrastructure, and development priorities (Pulver, 2013; Averchenkova and Guzmán Luna, 2018)). This trajectory provides the institutional context in which adaptation and just transition have been problematized and implemented.

Mexico is particularly vulnerable to climate change. Droughts, hurricanes, coastal erosion, water scarcity, biodiversity degradation, and heatwaves increasingly affect large parts of the national territory, particularly in the south and southeast (INECC, 2019a). These pressures interact with profound territorial and social inequalities, producing highly differentiated capacities of exposure and adaptation (Aguilar-Gomez, 2026). According to official estimates, nearly 70% of the population and more than two-thirds of national GDP are exposed to climate-related impacts (SEMARNAT, 2020b). Climate change therefore represents not only an environmental challenge but also a question of territorial development, infrastructure, social protection, and economic stability.

Figure 2 : Mexico's greenhouse-gas emissions profile, 2024



Source: Gobierno de México (2025c, p. 93)

Mexico's emissions profile similarly illustrates how closely climate policy is connected to the country's development model. In 2022, Mexico emitted approximately 757 $MtCO_2e$ excluding land-use change and forestry (Gobierno de México, 2024). Among the main sources of GHG emissions shown in **Figure 2**, road transport accounted for 23.7% of total emissions, electricity generation for 18.0%, and cattle production for 13.3%. These emission sources are embedded in economically significant activities: in the first quarter of 2026, manufacturing represented 21.0% of national gross value added, transport, postal services and storage 8.1%, agriculture, livestock, forestry, fisheries and hunting 3.8%, mining 3.4%, and electricity generation and distribution, water supply, and piped natural gas

1.3% (INEGI, 2026). Mitigation consequently involves sectors closely connected to mobility, industrial production, food systems, and energy sovereignty, making climate policy inseparable from wider debates over economic development.

Climate change nevertheless remained a relatively secondary domestic policy issue during the 1990s and early 2000s (Pulver and Sainz-Santamaría, 2018). Mexico participated actively in international environmental governance—signing the UNFCCC in 1992 and ratifying the Kyoto Protocol in 1998 (Pulver, 2013)—while economic growth, industrial modernization, and energy sovereignty continued to structure national development priorities (Martínez, 2025). PEMEX and the oil sector occupied a particularly strategic position within the Mexican political economy, with oil revenues historically accounting for around one-third of federal budgetary receipts (Brandt and Paillacar, 2011). This dependence constrained the political space available for more transformative debates over energy transition (Rousseau, 2026).

A significant shift occurred during the 2000s, when climate governance became progressively institutionalized through Mexico's growing involvement in international climate diplomacy (Pulver, 2013). This process accelerated under President Felipe Calderón (2006–2012), whose administration adopted the first *Programa Especial de Cambio Climático* - PECC (SEMARNAT, 2009), introduced national emissions-reduction objectives, and strengthened the incorporation of climate considerations into federal planning (**Figure 3**). Mexico's hosting of COP16 in Cancún in 2010 further reinforced its diplomatic positioning after the difficulties of COP15 in Copenhagen (Bernstein *et al.*, 2010). The resulting Cancún Agreements contributed to restoring multilateral cooperation and established mechanisms including the Cancún Adaptation Framework and the Green Climate Fund.

This international momentum supported substantial domestic institutionalization. In 2012, constitutional protection of the right to a healthy environment was strengthened, while the General Law on Climate Change (*Ley General de Cambio Climático*, LGCC) established a comprehensive legal framework for mitigation, adaptation, and climate planning. It also renewed the National Institute of Ecology (INE) into the National Institute of Ecology and Climate Change (*Instituto Nacional de Ecología y Cambio Climático*, INECC) to provide scientific and technical expertise and reinforced the Interministerial Commission on Climate Change (*Comisión Intersecretarial de Cambio Climático*, CICC) as the main federal coordination body. The framework was complemented by the National Climate Change Strategy (*Estrategia Nacional de Cambio Climático,* ENCC), which sets medium- and long-term strategic priorities, and successive Special Climate Change Programmes (*Programas Especiales de Cambio Climático*, PECCs), which translate these priorities into federal objectives, actions, responsibilities, and targets. Emissions inventories, adaptation instruments, and sectoral programmes further expanded this policy architecture (**Figure 3**).

Institutional expansion continued during the years surrounding the Paris Agreement. In 2015, Mexico became the first developing country to submit an Intended Nationally Determined Contribution (INDC). Renewable-energy auctions, a carbon tax, clean-energy certificates, and the 2015 Energy Transition Law (*Ley de Transición Energética*) further expanded the climate-policy toolkit (Martínez, 2025). By the mid-2010s, Mexico was consequently portrayed as one of Latin America's most advanced cases of climate governance (Edwards and Roberts, 2015)

Yet this institutional leadership already contained important contradictions. Climate commitments coexisted with continued hydrocarbon dependence, while implementation frequently lagged behind formal objective (Rousseau, 2026). Energy reforms simultaneously expanded electricity-market liberalization and hydrocarbon development, and some regulatory instruments controversially allowed fossil-gas-based technologies to contribute toward "clean energy" objectives (Climate Action Tracker, 2018). Climate governance therefore developed less as a unified transition strategy than as an institutional field in which climate objectives coexisted with competing economic and energy priorities (Rousseau, 2026).

Figure 3. Principal Milestones in Mexico's Environmental and Climate Policy Architecture

International Commitments (Signature & Ratification dates in parentheses)	Date	National legislation and policy instruments
	1984	National Ecology Programme 1984-1988
	1990	National Environmental Protection Programme 1990-1994
UNFCCC (1992 & 1993)	1992	
	1996	Environmental Programme 1995-2000
Kyoto Protocol (1998 & 2000) 1st National Communication to the UNFCCC	1997	
	1999	Constitutional Reform – "right to an adequate environment" (Art. 4)
2nd National Communication to the UNFCCC	2001	
	2002	National Environment and Natural Resources Programme 2001-2006
3rd National Communication to the UNFCCC	2006	
	2007	National Climate Change Strategy (ENCC) 2007 Sectoral Environment and Natural Resources Programme (PROMARNAT) 2007-2012
4th National Communication to the UNFCCC	2009	Special Climate Change Programme (PECC) 2009-2012
Kyoto Protocol – Doha Amendment (2014) 5th National Communication to the UNFCCC	2012	Constitutional Reform – "right to a healthy environment" and State responsibility (Art. 4) General Law on Climate Change (LGCC)
	2013	ENCC 10-20-40 Vision PROMARNAT 2013-2018
	2014	PECC 2014-2018 Institutional Programme of the National Institute of Ecology and Climate Change (PIINECC) 2014-2018
Paris Agreement (2016 & 2016) 1st Nationally Determined Contribution (NDC*) 1st Biennial Update Report (BUR)	2015	
6th National Communication to the UNFCCC & 2nd BUR	2018	LGCC Reform
2nd NDC	2020	PROMARNAT 2020-2024 PIINECC 2020-2024
	2021	PECC 2021-2024
2nd NDC - updated 3rd BUR 1st Adaptation Communication	2022	
1st Biennial Transparency Report (BTR)	2024	ENCC 10-20-40 Vision – updated
3rd NDC 7th National Communication to the UNFCCC	2025	PROMARNAT 2025-2030 PIINECC 2025-2030
	2026	PECC 2026-2030

Source: Author's elaboration based on UNFCCC records and Mexican federal legislation, strategies, programmes, and official documents published by SEMARNAT and INECC.

* In 2015, Mexico submitted this contribution as an Intended Nationally Determined Contribution (INDC) ahead of the adoption of the Paris Agreement.

The election of López Obrador in 2018 changed this hierarchy more explicitly (Martínez, 2025; Rousseau, 2026). Energy sovereignty and the strengthening of state-owned companies became central principles of federal energy policy. The government prioritized PEMEX and the Federal Electricity Commission (*Comisión Federal de Electricidad*, CFE), expanded refinery investment, and promoted major infrastructure projects including the Dos Bocas refinery and the Tren Maya (Bertram and Martínez, 2024; Torres-Wong and Pacheco-Vega, 2026). At the same time, renewable-energy auctions were suspended and environmental institutions and financing mechanisms faced significant restructuring (Azamar Alonso, 2023). Climate policy was not formally abandoned: Mexico continued participating in international negotiations and maintaining climate legislation and planning instruments. However, climate objectives increasingly competed with a development strategy centered on state-led infrastructure, hydrocarbon production, and energy sovereignty.

The weakening of environmental governance during this period should nevertheless be described carefully. The Climate Change Fund (*Fondo para el Cambio Climático*), created under the 2012 LGCC to mobilize and channel public, private, national, and international resources toward climate action, with priority given to adaptation, was extinguished as a dedicated trust in 2020. Its federal resources were subsequently redirected to the Treasury, while climate-related spending was to be managed through the authorized budget of the Ministry of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales,* SEMARNAT) and other available financing mechanisms. In parallel, the government announced in 2021 an administrative reform that would have transferred the functions, personnel, and resources of the National Institute of Ecology and Climate Change (INECC) into SEMARNAT, officially justified as a means of reducing duplication and strengthening policy coordination (SEMARNAT, 2021b). This reorganization was ultimately not completed: INECC remained a decentralized federal technical-scientific institution and the dismantling of the Climate Change Fund was also subsequently challenged judicially on the grounds that that its elimination constituted a regressive measure that weakened the protection of the constitutional right to a healthy environment (Suprema Corte de Justicia de la Nación, 2025).

The election of Claudia Sheinbaum in 2024 opened a new phase of climate era. Her government strengthened the language of climate ambition, and Mexico's NDC 3.0 (Gobierno de México, 2025a) established a 2035 net-emissions target linked explicitly to achieving net-zero emissions around mid-century. The new NDC also expands adaptation commitments and presents climate action in connection with social inclusion, environmental justice, and development.

At the same time, important continuities with the previous energy paradigm remain (Gobienro de mexico – pemex). The current energy strategy continues to emphasize state leadership, energy sovereignty, PEMEX and CFE, while federal planning includes continued expansion and modernization of natural-gas infrastructure. Official energy documents themselves frame the current approach around the combined objectives of transition, sovereignty, security, self-sufficiency, and energy justice (SENER, 2025). This coexistence suggests less a simple reversal of the López Obrador period than an attempt to reconcile renewed climate ambition with continuing fossil-fuel and state-led energy development.

Mexico's trajectory is therefore characterized not by institutional absence but by the coexistence of climate governance with competing definitions of development, energy security, and territorial modernization. This unstable relationship provides the broader context for the two issues examined below: *adaptation*, which has become extensively institutionalized without consistently imposing binding priorities on territorial development, and *just transition*, which has entered climate discourse while fossil-fuel dependence remains weakly constructed as a problem requiring anticipatory transformation.

Climate Governance and the Uneven Construction of Public Problems in Mexico

Climate change may appear to constitute a self-evident public problem, but public policy research shows that objective conditions do not automatically become political priorities. Problems must be constructed and politically stabilized through processes that identify their causes, affected populations, and appropriate forms of public intervention (Baumgartner and Jones, 2009; Kingdon, 2014). Indicators, crises, focusing events, and mobilization can increase political attention, but this attention remains selective and unstable over time (Baumgartner and Jones, 2009). Climate governance therefore depends not only on institutional and technical capacities, but also on how climate-related conditions are defined and positioned relative to competing public priorities.

This perspective helps explain a central characteristic of Mexican climate governance: its strong internationalization and technocratic institutionalization. Since the 2000s, participation in international climate diplomacy has encouraged the development of an extensive domestic architecture of legislation, emissions targets, planning instruments, vulnerability assessments, monitoring systems, and adaptation strategies. Federal institutions such as SEMARNAT, the CICC, and INECC, together with universities, environmental organizations, and international cooperation agencies, have contributed to producing expertise and disseminating governance standards related to mitigation, adaptation, and resilience (e.g. Programa de Investigación en Cambio Climático, 2015; INECC, 2019a).

Yet institutional expansion has not necessarily produced equivalent political prioritization. Climate governance has remained strongly associated with planning, expertise, coordination, and compliance with international commitments, while only partially developing stable domestic political coalitions capable of embedding climate objectives within broader development policy. This helps explain how formal climate institutions could persist even as their political influence and operational capacity varied substantially between administrations. At the same time, climate change competes with alternative definitions of Mexico's principal development problems. Environmental and scientific institutions have generally framed climate change in terms of emissions reduction, ecological vulnerability, adaptation, and territorial resilience. Energy and economic actors have frequently prioritized objectives centered on energy sovereignty, employment, industrial development, infrastructure, and economic growth. These priorities are not necessarily incompatible in principle, but their relative political weight determines which objectives become binding when conflicts emerge. Under López Obrador, for example, strengthening PEMEX and CFE and restoring energy sovereignty acquired greater political centrality, while the formal climate-policy architecture remained largely in place (Martínez, 2025; Rousseau, 2026). Mexican climate governance therefore reflects not simply a gap between policy and implementation, but competition between different constructions of what constitutes the most urgent public problem.

Adaptation illustrates one configuration produced by this process. It has become extensively institutionalized through the LGCC, ENCC, successive PECCs and NDCs, vulnerability assessments, and federal and subnational coordination mechanisms. These instruments encompass population vulnerability, productive systems and food security, biodiversity, water management, infrastructure, health, territorial planning, tourism, agriculture, and ecosystem conservation (SEMARNAT, 2013, 2024). Financing is formally incorporated through policy programmes that assign responsibilities, implementation periods, and estimated resources (SEMARNAT, 2014, 2021a). However, as explained below, responsibilities remain dispersed across sectors and levels of government, financing is not always stable or specifically earmarked for adaptation, and monitoring frequently emphasizes planning and coordination more clearly than measurable reductions in territorial vulnerability. In this sense, adaptation illustrates what Hall and Persson (2018, p. 540) describe as governance characterized by "low precision and obligation": broad objectives permit extensive institutionalization without necessarily establishing binding territorial priorities.

Just transition displays a different configuration. The concept has progressively appeared in international commitments and Mexican climate documents—including the Seventh National Communication to the UNFCCC (Gobierno de México, 2025c)—without a similarly consolidated definition of the domestic problem it is intended to address. Institutional mechanisms for supporting workers and territories dependent on hydrocarbons remain limited, while fossil dependence continues to be primarily framed through employment, regional development, and energy sovereignty. Just transition thus approaches what Henry (2021) describes as a "public non-problem": an issue whose social relevance is increasingly recognized but which has not yet acquired sufficient political stabilization to generate sustained public intervention.

Mexican climate governance can therefore be understood less through institutional absence than through uneven relationships between problematization, political prioritization, institutionalization, and implementation. Adaptation demonstrates how a climate problem can become institutionally dense while remaining weakly binding on territorial development; just transition shows how a concept can gain discursive recognition before the underlying social and territorial problem has been fully politicized. The following sections examine these contrasting trajectories in the Yucatán Peninsula and Tabasco.

Adaptation Governance and the Limits of Territorial Implementation

Adaptation has progressively become embedded across Mexican climate governance, including in national legislation (México, 2012), climate strategies and programmes (SEMARNAT, 2013, 2014), vulnerability and planning instruments (INECC, 2019a), coordination mechanisms (CICC, 2012), and Mexico's international climate commitments and reporting frameworks (Gobierno de México, 2022). Yet institutional expansion has not necessarily produced equivalent capacities to transform the territorial conditions generating climate vulnerability. Adaptation has often remained broadly defined and strongly dependent on subnational experimentation, technical expertise, and international cooperation.

The Yucatán Peninsula provides a particularly revealing case. Highly exposed to hurricanes, coastal erosion, water stress, biodiversity degradation, and pressures associated with tourism and urbanization (Orellana *et al.*, 2009), the peninsula became one of Mexico's most developed laboratories of adaptation governance during the 2010s. The governments of Yucatán, Campeche, and Quintana Roo established regional coordination mechanisms for adaptation, identifying water resources, coastal zones, and forests as key priorities (Gobernación de Campeche, Gobernación de Yucatán and Gobernación de Quintana Roo, 2013). While other regions have become prominent for mitigation initiatives—such as large-scale wind-energy development in Oaxaca (Avilés Hernández, 2010; Howe, Boyer and Barrera, 2015; Alonso Serna, 2024)—the Yucatán Peninsula offers an especially developed case for examining the institutionalization of adaptation and its limits.

1. The International Construction of Adaptation and its Technocratic Translation into Mexican Climate Governance

The trajectory of adaptation in Mexico is closely connected to its emergence within international climate governance. Initially overshadowed by mitigation, adaptation progressively gained prominence as the impacts of climate change became increasingly visible, particularly in vulnerable Global South countries (Ruiz-Campillo and Bueno Rubial, 2025). International organizations and climate negotiations framed adaptation around resilience, vulnerability reduction, disaster-risk management, ecosystem protection, and the capacity of societies and territories to anticipate unavoidable climate impacts (IPCC, 2014). This process also linked adaptation to climate justice and demands for greater international financing.

The diffusion of adaptation was accompanied by a growing repertoire of technical instruments, including vulnerability and risk assessments, climate

scenarios, resilience approaches, monitoring systems, and ecosystem-based adaptation measures (UNFCCC, 2010). Adaptation thus entered domestic policymaking not simply through the recognition of climate impacts, but through a particular mode of problem construction centred on expertise, anticipation, planning, and institutional coordination (Termeer *et al.*, 2017; Persson, 2019).

COP16 in Cancún in 2010 reinforced this trajectory. The Cancún Adaptation Framework consolidated adaptation as a major pillar of international climate governance and promoted national adaptation planning, vulnerability assessment, financing, and international cooperation (Di Pietro Paolo, 2020). For Mexico, this international sequence reinforced an institutionalization already underway. The 2007 National Climate Change Strategy incorporated adaptation alongside mitigation (Comisión Intersecretarial de Cambio Climático, 2007), while the 2012 General Law on Climate Change further embedded objectives related to resilience, ecosystem conservation, disaster prevention, territorial planning, and intergovernmental coordination (México, 2012).

The resulting Mexican adaptation architecture became increasingly dense during the 2010s. SEMARNAT and INECC developed methodologies for subnational climate programmes, vulnerability assessments, monitoring systems, and adaptation planning, while international cooperation agencies provided financing and technical expertise (CICC, 2012; PNUD México and INECC, 2016b; Gobierno de México, 2018). The 2018 reform of the LGCC further mandated the development of a National Adaptation Policy (Mexico 2018), although this instrument had still not been completed. Yet this institutional expansion remained heavily oriented toward policy formulation. The multiplication of laws, methodologies, assessments, coordination bodies, and planning instruments did not automatically generate stable financing or sustained territorial implementation. Adaptation was therefore frequently problematized as a matter of improving knowledge, coordination, planning, and governmental capacity rather than transforming development trajectories themselves.

2. Yucatán: From Regional Adaptation Planning to Uneven Implementation

The Yucatán Peninsula became an important site of subnational adaptation experimentation during the 2010s. Persistent hurricanes, coastal erosion, prolonged droughts, water salinization, rising temperatures, and pressures on fragile ecosystems increasingly made adaptation relevant not only as an environmental concern but also as a question of territorial and economic sustainability (Orellana *et al.*, 2009). Around COP16 in Cancún, the governments of Campeche, Quintana Roo, and Yucatán established mechanisms for regional climate cooperation in response to these shared vulnerabilities (Gobernación de Yucatán, Gobernación de Campeche and Gobernación de Quintana Roo, 2010b). One of the central objectives of this cooperation was to develop a regional strategy capable of assessing vulnerability and identifying measures to prevent and reduce climate-related impacts (Gobernación de Yucatán, Gobernación de Campeche and Gobernación de Quintana Roo, 2010a, pp. 8–9).

Between 2013 and 2016, this cooperation supported the development of the Climate Change Adaptation Strategy for the Yucatán Peninsula (*Estrategia Regional de Adaptación al Cambio Climático de la Península de Yucatán*, ERAPY), with support from the United Nations Development Programme (UNDP) and INECC. The process sought to establish a common regional roadmap organized around four priorities: developing a regional adaptation strategy, strengthening interinstitutional coordination, building institutional capacities, and producing regional diagnostics and studies (PNUD México and INECC, 2016a). It mobilized state governments, universities, environmental organizations, technical bodies, private-sector actors, and international cooperation agencies. Organizations including GIZ, UNDP, The Nature Conservancy, WWF, and Pronatura Península de Yucatán contributed financing, technical expertise, and approaches associated with resilience, ecosystem-based adaptation, and territorial planning (PNUD México and INECC, 2016a).

This experience nevertheless revealed an important gap between institutional construction and

implementation. The ERAPY process itself presented institutional coordination and multisectoral cooperation as major achievements (UNDP and SEMARNAT, 2018), while participating actors simultaneously identified weak municipal capacities, unstable financing, coordination difficulties between levels of government, and fragile long-term political commitment as major obstacles (Batllori Sampedro, 2017). Most importantly, despite being supported by the three states through the Regional Climate Change Commission of the Yucatán Peninsula (*Comisión Regional de Cambio Climático de la Península de Yucatán*, CICC-Yucatán), the ERAPY was never formally adopted (UNDP and SEMARNAT, 2018). The regional experiment therefore produced substantial expertise and coordination capacity without consolidating a binding regional adaptation framework.

At the state level, however, Yucatán continued to expand its own adaptation architecture. In contrast with the difficulties surrounding regional institutionalization, the state adopted its first Special Climate Change Action Programme (*Programa Especial de Acción ante el Cambio Climático*, PEACC) in 2014, incorporating adaptation priorities concerning biodiversity, agriculture, water management, fisheries, infrastructure, public health, and territorial planning (Yucatán, 2014). Its preparation involved detailed identification of vulnerabilities (Factor CO2, 2014a), proposed adaptation measures (Factor CO2, 2014b), and relevant networks of actors (Factor CO2, 2014c). Additional instruments subsequently emerged, including climate commissions, financing mechanisms, ecological-planning instruments, and vulnerability-monitoring systems (see a synthesis in SEMARNAT, 2020a). The Interministerial Commission on Climate Change of Yucatán (*Comisión Intersecretarial de Cambio Climático en Yucatán*, CICC-Yucatán), for example, was explicitly tasked with defining and implementing measures and projects aimed at reducing the vulnerability of productive sectors and society to climate impacts.

Yet the accumulation of instruments did not eliminate recurring implementation problems. Assessments continued to identify weaknesses in monitoring, municipal capacity, intergovernmental and sectoral coordination, financing, and policy continuity (INECC, 2019b; SEMARNAT, 2020a; WRI México *et al.*, 2021). Adaptation governance consequently developed through a recurrent pattern in which implementation difficulties generated new or revised institutional instruments, rather than necessarily producing the long-term stabilization of existing arrangements. In this sense, implementation itself generated feedback effects: identified weaknesses repeatedly prompted new rounds of institutional reformulation.

This pattern remained visible during the 2018–2024 state administration. A new Climate Change Law of the State of Yucatán (*Ley de Cambio Climático del Estado de Yucatán*) was enacted in 2021, strengthening responsibilities across state institutions and municipalities (Yucatán, 2021). The Programa Especial Estatal de Cambio Climático de Yucatán, published in 2023, subsequently expanded sectoral objectives, indicators, coordination mechanisms, and monitoring provisions (SDS Yucatán, 2023). In 2024, additional regulation specified responsibilities concerning the work programme of the CICC-Yucatán, methodologies for developing the state climate programme, and instruments for monitoring and evaluation (Yucatán, 2024).

These successive reforms also illustrate the politicization of adaptation governance. The 2021 state climate law was opposed by MORENA party legislators (Congreso del estado de Yucatán, 2021), while the 2024 regulatory reforms were adopted during the final days of the PAN-led state administration. Following the subsequent political alternation, the incoming MORENA government announced in 2026 its intention to revise the state climate law, develop a new programme, and strengthen citizen participation in the definition of climate-policy measures (Gobierno del estado de Yucatán, 2026). Rather than assuming either stronger or weaker climate ambition from these partisan differences alone, this sequence demonstrates how adaptation instruments became linked to changing political coalitions and policy priorities, complicating their consolidation across administrations.

The Yucatán case therefore reveals a specific disjunction between institutionalization, politicization, and implementation. Adaptation became increasingly

dense as a field of planning, expertise, coordination, and monitoring, but successive assessments continued to identify similar operational weaknesses. The central problem is thus not the absence of adaptation governance. Rather, it is whether repeated institutional production can generate sufficiently stable financing, implementation capacity, political continuity, and sectoral integration to produce measurable reductions in socio-territorial vulnerability.

3. *MORENA, Territorial Development, and the Limits of Adaptation*

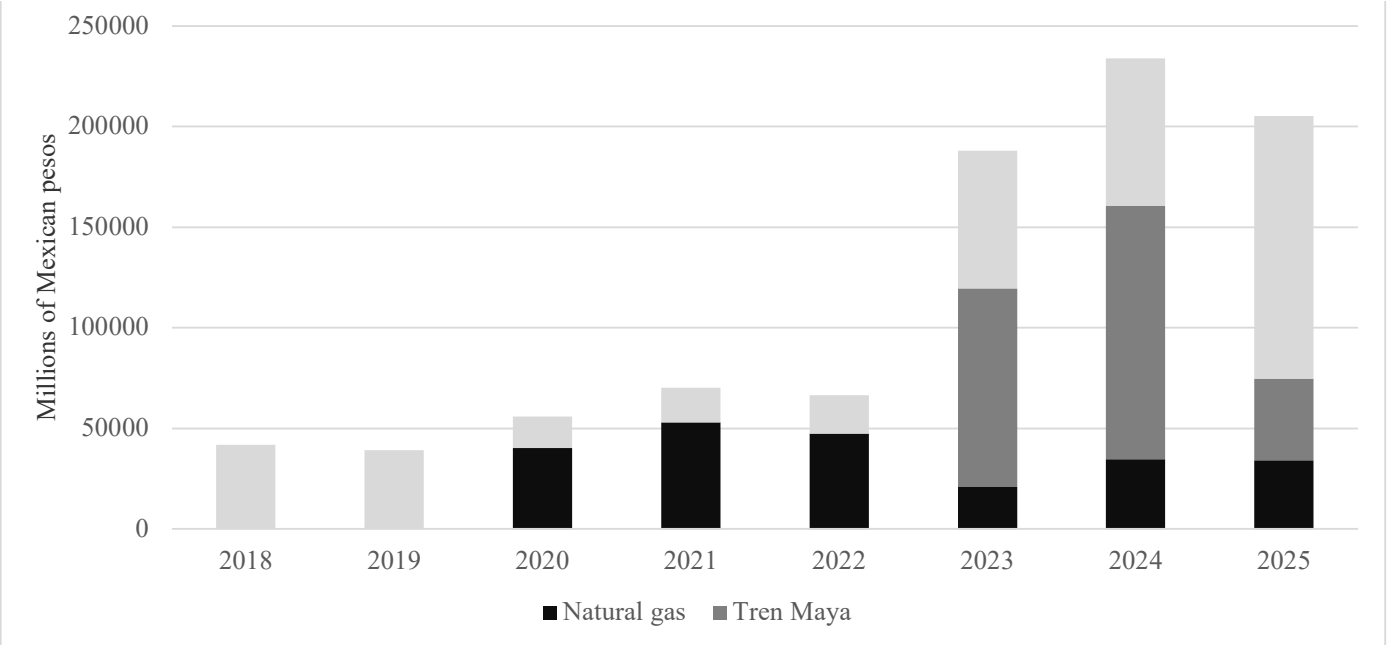
The arrival of the MORENA-led government to federal power in 2018 did not remove adaptation from Mexican climate policy. Adaptation remained embedded in national strategies, international commitments, vulnerability assessments, and resilience frameworks. The period nevertheless exposed a growing mismatch between the institutional recognition of climate vulnerability and broader territorial development priorities. Under President López Obrador (2018–2024), the pursuit of energy sovereignty placed renewed emphasis on fossil-fuel extraction, refining capacity, and the strengthening of state-owned energy companies (Martínez, 2025; Rousseau, 2026). At the same time, the adaptation component of the ENCC was not reviewed within the six-year timetable mandated by the LGCC; an updated Strategy was only published in September 2024, at the end of the administration (SEMARNAT, 2024). This disconnect between adaptation commitments and development priorities is particularly visible in the Yucatán Peninsula.

The Tren Maya provides a particularly revealing illustration. The federal government and National Fund for Tourism Development (*Fondo Nacional de Fomento al Turismo*, FONATUR) presented the railway as an instrument of sustainable territorial development intended to improve connectivity, stimulate tourism, generate employment, and integrate the southeast into national development (Espinosa Ovando *et al.*, 2023). Official documents similarly framed it in terms of territorial planning, socioeconomic development, tourism, and improved regional connectivity. Despite what López Obrador would later defend (Damián, 2022), the official justification for the train was never the envirionment, nor the fight agasint climate change (FONATUR, 2020). Its underlying problematization therefore centered on regional inequality, territorial isolation, and economic opportunity.

Yet the project simultaneously generated controversy over its environmental effects in territories already identified as climate-sensitive (Bertram and Martínez, 2024). According to civil-society organizations in the region, the route crosses forests, biodiversity corridors, cenotes, underground hydrological systems, and fragile karst environments (WWF México and Consultores GPPA, 2021; Misión Civil de Observación, 2025). Official environmental assessments and subsequent evaluations identified risks and impacts including vegetation loss, habitat fragmentation, pressures on wildlife, and alterations to groundwater systems (Auditoría Superior de la Federación, 2022). Critics and subsequent academic research have further highlighted the potentially broader effects of associated tourism expansion, urbanization, and land-use change on habitat quality, water resources, and ecosystem services across the peninsula (Narvaez-Montoya *et al.*, 2025; Zambrano *et al.*, 2025). From an adaptation perspective, the tension is clear: increasingly sophisticated diagnoses of territorial vulnerability coexist with development decisions that may reinforce some of the pressures those assessments identify.

A similar tension appears in climate finance. Since 2013, the federal budget has included a transversal annex identifying Resources for the Adaptation and Mitigation of the Effects of Climate Change. As shown in **Figure 4**, climate-labelled expenditure increased from approximately MXN 61 billion in 2018 to MXN 234 billion in 2024 (Carabaña, 2025). However, classification as climate expenditure does not itself demonstrate a contribution to emissions or vulnerability reduction, since agencies identify the portions of their programmes considered relevant to mitigation or adaptation. Administrative definitions therefore have considerable influence over the reported total. More than 70% of expenditure classified as climate-related in both 2021 and 2022 was allocated to CFE's natural-gas transportation service (Cámara de Diputados,

Figure 4. Mexico's federal budget classified as climate-change mitigation and adaptation spending, 2018–2025



Source: Carabaña (2025).

2022, p. 94). In 2024, approximately MXN 34 billion was allocated to CFE natural-gas services and nearly MXN 126 billion to SEDENA for construction of the Tren Maya (Cámara de Diputados, 2023). Together, these two items represented roughly 68% of reported climate spending, illustrating how the annex can include projects whose contribution to mitigation or adaptation remains contested (Carabaña, 2025).

These dynamics illustrate the problem of low precision and obligation identified by Hall and Persson (Hall and Persson, 2018). Broad objectives such as resilience, sustainable development, and vulnerability reduction can accommodate very different forms of public intervention. The problem therefore extends beyond a conventional implementation gap. Adaptation has become sufficiently institutionalized to generate strategies, assessments, expenditure categories, and coordination mechanisms, but not sufficiently precise or politically binding to impose clear constraints on development decisions that may reproduce vulnerability.

A partial attempt to address this limitation emerged around Mexico's preparations for COP30. In 2025, SEMARNAT, INECC, and UNAM, with support from AFD and Open Society Foundations, promoted the concept of "net-zero damages" (*daños netos cero)* as a framework for integrating mitigation, adaptation, residual losses and damages, and social and environmental co-benefits into climate policy (Estrada Porrúa and Martínez Arroyo, 2023; INECC, 2025). By incorporating the differentiated social, economic, and environmental damages associated with climate change, this approach potentially reconnects adaptation policy with concrete territorial consequences and human wellbeing. Yet its main instruments remain modelling, scenarios, indicators, and decision-support tools. The unresolved question is therefore whether improved diagnosis will acquire sufficient political authority to influence decisions concerning infrastructure, tourism, land use, and water management.

The Yucatán case thus suggests that Mexico's adaptation challenge is not principally one of insufficient knowledge. Climate vulnerability has become increasingly documented, mapped, and institutionally recognized. The central disjunction lies between this sophisticated problematization of vulnerability and its limited capacity to reshape competing territorial-development priorities. Adaptation has consequently con-

solidated as a field of expertise and governance more rapidly than as a binding territorial policy capable of transforming development trajectories.

Just Transition and the Political Invisibilization of Fossil Dependency

While adaptation illustrates the difficulty of translating recognized territorial vulnerability into binding public action, just transition reveals a different problem: the limited politicization of the social and territorial consequences of fossil-fuel dependence. Over the past decade, "just transition" has gained considerable visibility in international climate governance (e.g. UN, 2015) and, more recently, in Mexican climate discourse (Gobierno de México, 2025a; SEMARNAT, 2025). Yet this discursive recognition has only partially translated into stable institutions, financing mechanisms, or territorial strategies capable of supporting workers and local economies dependent on hydrocarbons.

This tension is particularly visible in southeastern Mexico, especially in Tabasco and Campeche, where oil extraction has historically shaped employment, infrastructure, regional economies, and political identities (Montiel Cabrera, 2010; Rabelo Avalos *et al.*, 2021). Hydrocarbons remain strongly associated with employment, modernization, national sovereignty, and state-led development. Fossil-fuel expansion is therefore often framed as a response to regional economic vulnerability rather than as a source of longer-term dependence requiring anticipatory transformation.

The Mexican case consequently highlights a particular paradox. International climate governance increasingly calls for anticipating the distributional consequences of decarbonization, while fossil dependence itself can already generate economic instability, labor insecurity, environmental degradation, and territorial vulnerability. Yet these problems have only weakly been consolidated as a distinct object of public intervention under the label of just transition. The following sections examine how this issue has gained international and discursive recognition while remaining comparatively weakly institutionalized domestically.

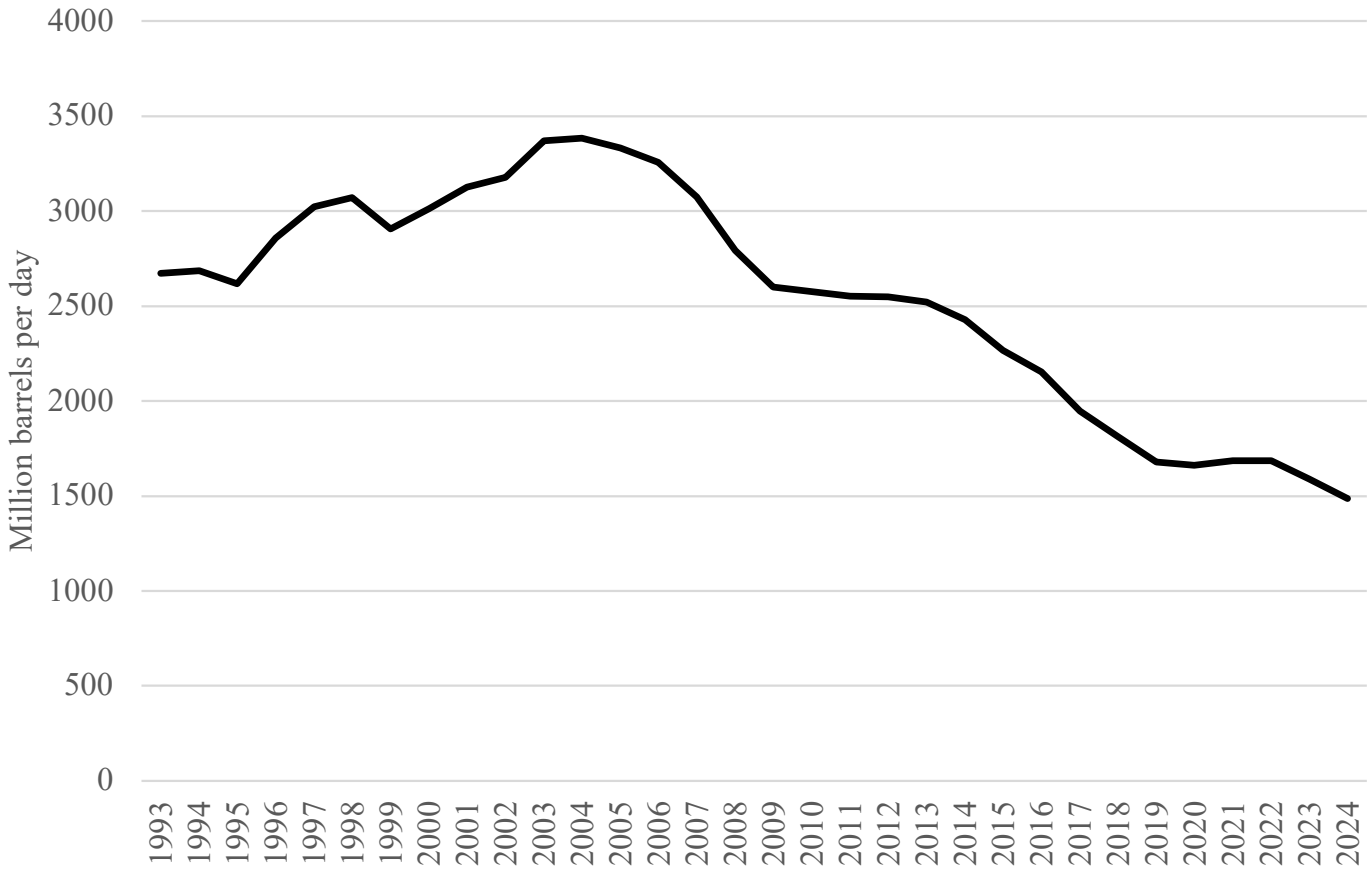
1. From International Climate Justice to the Weak Institutionalization of Just Transition in Mexico

The concept of just transition emerged from labor struggles over the social consequences of environmental regulation and industrial restructuring in the United States during the 1970s and later broadened through alliances between labor and environmental-justice movements (Stevis and Felli, 2015). What initially focused on protecting workers and communities affected by industrial change, the concept progressively evolved into a broader framework connecting decarbonization with decent work, social protection, economic diversification, territorial development, and participation (Morena, Krause and Stevis, 2020).

International institutionalization accelerated during the 2010s. The ILO's 2015 *Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All* established social dialogue, employment creation, labor rights, and social protection as central components of transition policy (ILO, 2016). The Paris Agreement subsequently recognized in its preamble the importance of a just transition of the workforce and the creation of decent work and quality jobs, further embedding the concept within multilateral climate governance (UN, 2015). Since then, UNFCCC processes have increasingly connected just transition with economic diversification and the management of the socioeconomic consequences of climate policies (UNFCCC, 2022, 2023).

In Mexico, however, this international diffusion encountered a political economy historically structured around hydrocarbons. Since the nationalization of oil in 1938, PEMEX has occupied an important material and symbolic position in state-building, fiscal policy, industrial development, and national sovereignty (Stojanovski, 2011). This relationship became particularly pronounced in Tabasco and Campeche, where the expansion of the oil industry transformed local labor markets, infrastructure, urbanization, and regional eco-

Figure 5: Mexican crude-oil production, 1993-2024



Source: PEMEX (2004, 2014, 2024b).

nomies during the second half of the twentieth century (Sánchez-Salazar, 1990; Montiel Cabrera, 2010; Rabelo Avalos *et al.*, 2021; Olán Esquivel and Vidrio, 2025).

Under López Obrador, energy sovereignty and the strengthening of PEMEX and CFE became especially prominent federal policy objectives (Gobierno de México, 2019; SENER, 2020). Climate transition was consequently framed against competing concerns regarding national energy security, employment, state ownership, and fuel self-sufficiency. Public policy emphasized refinery investment, hydrocarbon production, and reduced dependence on imported fuels rather than the preparation of long-term reconversion strategies for oil-dependent territories. The few studies linking climate change with financial distress remain closed to academic circles (Aguilar-Gomez *et al.*, 2024). Consequently, a coherent transition vision remained largely absent from energy-sector development, while PEMEX illustrates the persistent difficulties of reconciling fossil-fuel expansion with environmental sustainability commitments (Stanwick and Stanwick, 2023; Vaquera Salazar, 2023).

This weak problematization of just transition is particularly significant given the structural difficulties affecting Mexico's oil sector. Crude-oil production has declined substantially from its early-2000s peak (**Figure 5**), while PEMEX has faced persistent financial and operational pressures (Mayer-Serra, 2026). Official data nevertheless show that the company remains a central object of state intervention and energy policy; recent federal strategies continue to frame its strengthening in terms of energy sovereignty and security (Gobierno de México, 2025b; SENER, 2025).

The result is a form of political invisibilization of the just transition issue in Mexico. Following Henry (2021), just transition can be understood here as approaching a "public non-problem": the social

and territorial risks are identifiable, but they have not acquired sufficient political stabilization, institutional ownership, or policy instrumentation to generate sustained anticipatory intervention. Long-term economic diversification, labor-transition mechanisms, and territorial reconversion remain comparatively marginal, while fossil-fuel investment continues to be presented as a means of protecting employment and regional stability. The case of Tabasco and the Dos Bocas refinery makes this contradiction particularly visible.

2. Dos Bocas and the Construction of a "Public non-problem"

The Olmeca refinery—commonly known as Dos Bocas—illustrates how the long-term social consequences of fossil-fuel dependence have remained weakly problematized within Mexican energy policy. Announced by López Obrador in 2018 and constructed in Tabasco, the refinery became one of the emblematic projects of MORENA's strategy of energy sovereignty and state-led development. The government presented it as a means of strengthening PEMEX, stimulating employment and economic development in southeastern Mexico, and reducing dependence on imported fuels through greater domestic refining capacity (SENER, 2018; PEMEX, 2019). Compared to previous governemnts, this corresponds to an increase in investment and oil production encouragement (Olán Esquivel and Vidrio, 2025).

This objective reflected a longstanding structural contradiction in Mexico's oil economy. Mexico produced and exported crude oil while lacking sufficient effective refining capacity to meet domestic demand for petroleum products, making the country dependent on imported fuels (Mayer-Serra, 2026). López Obrador explicitly framed Dos Bocas as a way to reverse this configuration: rather than exporting crude and importing gasoline, more Mexican oil would be refined domestically to increase fuel self-sufficiency (Presidencia de la República 2018-2024, 2019). In this framing, refinery expansion addressed the public problems of external dependence, declining state capacity, and regional underdevelopment—not the long-term risks associated with fossil-fuel dependence.

Beyond its productive function, Dos Bocas consequently acquired considerable political and symbolic importance. Official energy policy presented the strengthening of PEMEX and domestic refining capacity as instruments of national sovereignty and inclusive economic development (SENER, 2018). The refinery was also expected to generate employment and stimulate economic activity in southeastern Mexico. This framing was particularly resonant in Tabasco, where the expansion of PEMEX since the second half of the twentieth century has profoundly shaped labor markets, urban development, local economic activity, and regional political identities (Rabelo Avalos *et al.,* 2021).

This political construction makes a different problem—the long-term vulnerability created by dependence on hydrocarbons—considerably less visible. Mexico's crude-oil production has declined substantially from its early-2000s peak (**Figure 5**), while PEMEX has confronted persistent financial, operational, and investment pressures (Stojanovski, 2011; Vaquera Salazar, 2023). Yet these difficulties have generally reinforced calls to strengthen the national oil industry rather than generating sustained planning for the economic reconversion of oil-dependent territories (Mayer-Serra, 2026).

The vulnerability of this model became particularly visible as payment arrears to PEMEX suppliers and contractors intensified in 2024. PEMEX subsequently reported that its accounting balance for suppliers stood at MXN 505 billion at the end of 2024 (PEMEX, 2025). The company itself held meetings with more than 250 suppliers in Villahermosa and Ciudad del Carmen in May 2024 and announced additional payments intended to "normalize" outstanding obligations before the end of the administration (PEMEX, 2024a). By late 2024, suppliers and subcontracted workers were organizing demonstrations in both Tabasco and Campeche: in Villahermosa, representatives of more than 100 supplier firms protested delayed payments, while around 2,000 workers marched in Ciudad del Carmen, where the arrears reportedly

affected more than 10,000 workers and their families (Chim, 2024; López, 2024).

The crisis continued into 2025. The Mexican Association of Petroleum Services Companies (AMESPAC) reported MXN 94 billion in unpaid or unprocessed obligations to its members for services already provided and estimated that payment delays had contributed to the loss of approximately 15,000 jobs across Mexico's principal oil-producing states, including Tabasco and Campeche (Á. García, 2025). Industry representatives also warned that deteriorating cash flow was forcing suppliers to reduce or potentially suspend operations, with consequences for PEMEX's own production chain (Martinez, 2025). At the local level, supplier organizations in Tabasco reported that more than 100 firms had closed or suspended operations and around 2,000 workers had been laid off by April 2025, while business representatives in Ciudad del Carmen similarly reported layoffs and company closures associated with unpaid 2024 invoices (O. García, 2025; Prado Gallegos, 2025).

This episode complicates the dominant representation of fossil development as a guarantee of employment and territorial stability. Economic insecurity in these regions is not only a prospective consequence of future decarbonization; it can also result from dependence on an economically and institutionally fragile fossil-fuel system. The social question addressed by just transition policies is therefore already present, even in the absence of a deliberate phase-out of hydrocarbons.

Labor relations reinforce this uneven exposure. Permanent and unionized PEMEX workers represented by the Petroleum Workers' Union of the Mexican Republic (*Sindicato de Trabajadores Petroleros de la República Mexicana*, STPRM) have historically benefited from comparatively strong wages, employment protections, and institutional privileges rooted in a long-standing corporatist relationship with PEMEX and the Mexican state (Huizar, 2015). By contrast, substantial parts of the regional oil economy have long depended on contractors, subcontractors, service providers, and auxiliary activities outside PEMEX's direct workforce (Capdepont Ballina and Marín Olán, 2014). In 2024, PEMEX reported 137,004 direct employees, 81% of whom were unionized, illustrating the strongly institutionalized employment core protected through collective bargaining (PEMEX, 2024c). Other workers—employed through external contractors—do not benefit from the same PEMEX–STPRM collective-bargaining framework and are therefore more directly exposed to fluctuations in contracting, investment, and supplier payments. The 2024–2025 payment crisis demonstrated this vulnerability as contractors reduced activities and employment when PEMEX delayed payments for services already provided.

The result is a fragmented politics of transition. Actors benefiting from relatively protected employment have strong incentives to defend continuity in oil production, while workers and firms already exposed to the instability of the sector possess fewer institutional channels through which to demand economic diversification, social protection, or anticipatory transition policies. The vulnerability produced by fossil dependence therefore does not automatically become a just-transition problem.

Dos Bocas illustrates three mechanisms through which this issue approaches what Henry (2021) describes as a "public non-problem." First, the dominant problem definition emphasizes energy sovereignty, employment, and regional development, leaving the risks of long-term fossil dependence comparatively less politically salient. Second, although planning documents and academic analyses have periodically identified the need to diversify Tabasco's economy and reduce its dependence on hydrocarbons (Gobierno el Estado de Tabasco, 2019, 2024; Rabelo Avalos *et al.*, 2021; Montes de Oca, Aguilar Morales and Reyes, 2024), these objectives have not consolidated into a sustained post-oil development strategy. Third, controversy surrounding extractive and infrastructure development has occurred within a political context in which major projects were strongly framed as matters of national development and sovereignty. The 2019 reform commonly known as the "Ley Garrote," which increased penalties for obstructing public and private works in Tabasco, also generated controversy over restrictions on protest around infrastructure projects,

although several of its provisions were later struck down by the Supreme Court (Suprema Corte de Justicia de la Nación, 2021)

Together, these mechanisms help explain why the vulnerabilities associated with fossil dependence remain weakly translated into anticipatory public policy. Mexico has increasingly incorporated the language of just transition into climate governance, yet in oil-producing territories the dominant policy response to economic vulnerability continues to emphasize the strengthening of hydrocarbons. The Dos Bocas case therefore demonstrates that the challenge is not simply preparing workers for a future decarbonization process: it is first problematizing fossil dependence itself as a source of present and future territorial vulnerability. Without that shift, economic diversification, labor reconversion, and social protection remain secondary to the preservation of the existing development model.

3. *From Symbolic Recognition to the Incipient Institutionalization of Just Transition*

The position of just transition within Mexican climate governance has begun to change under the Sheinbaum administration. What previously appeared mainly as a concept circulating through international climate discourse has become more explicitly incorporated into national policy. This shift is particularly visible in Mexico's NDC 3.0, presented at COP30 in Belém in 2025, which includes just transition as one of the transversal dimensions of climate policy alongside gender, human rights, intergenerational equity, and attention to vulnerable populations (Gobierno de México, 2025a)

Importantly, this recognition is no longer purely rhetorical. The NDC defines just transition as requiring an equitable distribution of the costs and benefits of climate action and identifies workers in high-emitting sectors as a central population. It commits Mexico to developing a National Just Transition Plan, producing diagnoses of climate and transition impacts on employment, formally incorporating the Ministry of Labour and Social Welfare (*Secretaría del Trabajo y Previsión Social*, STPS) into climate governance, creating tripartite dialogue between government, employers, and unions, promoting green employment, and developing training and labor-reconversion mechanisms (Gobierno de México, 2025a). International cooperation has reinforced this emerging agenda: for example, a GIZ programme launched in 2024 supports just transition through industrial decarbonization, green finance, renewable-energy infrastructure, and participatory governance (GIZ Mexico, 2025).

These developments suggest an incipient process of institutionalization rather than merely symbolic recognition. However, most of the mechanisms identified in the NDC remain commitments to be developed rather than consolidated policy arrangements with established territorial priorities, budgets, and implementation records. More importantly, the NDC primarily frames just transition around the workforce and the management of climate-policy impacts; it is less explicit about the anticipatory economic reconversion of specific fossil-dependent territories such as Tabasco and Campeche. The problematization of fossil dependence as a source of territorial vulnerability therefore remains comparatively underdeveloped.

This emerging transition agenda also coexists with substantial continuity in energy policy. The Sheinbaum administration has expanded renewable-energy objectives and electric mobility while simultaneously maintaining the strengthening of PEMEX and CFE as central components of energy sovereignty (Presidencia de la República 2024, 2025). Official plans combine new renewable-generation capacity and electromobility initiatives with continued hydrocarbon production, refinery modernization, and natural-gas infrastructure. The 2025–2030 Sectoral Energy Programme (*Programa Sectorial de Energía*), for example, targets liquid-hydrocarbon production of 1.8 million barrels per day and natural-gas production of up to 5 billion cubic feet per day, while promoting higher domestic production of refined fuels (SENER, 2025). The SISTRANGAS 2025–2029 plan additionally provides for new pipelines, interconnections, and rehabilitation of the national gas-transport network (SENER, 2026).

The tension became particularly visible in 2026 around unconventional natural gas. In April, the government opened the possibility of exploiting unconventional gas reserves as a means of reducing dependence on imported gas, while conditioning future decisions on scientific assessment and on the availability of techniques claimed to have lower environmental impacts than conventional hydraulic fracturing (Presidencia de la República, 2026b). A committee bringing together researchers from different universities was established to evaluate the technical and environmental conditions under which such exploitation might—or might not—proceed (Presidencia de la República, 2026a). This represented a shift from Sheinbaum's earlier opposition to fracking: in December 2024 she had stated that "there will be no fracking" (Presidencia de la República, 2024), whereas in April 2026 she distinguished between "traditional" fracking and newer techniques that the government argued could reduce water use and chemical impacts (Presidencia de la República, 2026c; Reuters, 2026).

Just transition in Mexico should therefore no longer be characterized simply as a symbolic category. It is beginning to acquire policy instruments and institutional commitments, but this institutionalization remains at an early stage and coexists with an energy strategy in which hydrocarbons continue to play an important developmental and sovereignty-related role. The central question is consequently whether the emerging just-transition framework will develop sufficient political authority, territorial specificity, financing, and implementation capacity to influence decisions in fossil-dependent regions—or whether it will remain largely parallel to the policies that continue to reproduce their hydrocarbon dependence.

Conclusion: Climate Governance Without Stable Problematization

Mexico occupies a paradoxical position within contemporary climate governance. Over the past two decades, the country has constructed an extensive architecture of climate laws, planning instruments, adaptation frameworks, emissions targets, and international commitments. Yet this institutionalization has coexisted with uneven implementation and with development and energy policies that do not always prioritize the same climate objectives. The central challenge is therefore not simply an absence of climate institutions, but the uneven political stabilization of the problems those institutions are intended to address.

The two cases analyzed in this brief illustrate different disjunctions between problematization, politicization, institutionalization, and implementation. In the Yucatán Peninsula, climate vulnerability is extensively documented and adaptation has generated a dense architecture of laws, vulnerability assessments, coordination mechanisms, and planning instruments. Nevertheless, its broad and weakly binding problematization has allowed adaptation to coexist with development decisions capable of reproducing environmental pressures. The Tren Maya and the allocation of climate-labelled expenditure to contested infrastructure illustrate how adaptation can become highly institutionalized without acquiring sufficient political authority to reshape territorial development priorities.

Just transition follows a different trajectory. In Tabasco, dependence on hydrocarbons already produces forms of economic and labor vulnerability, as illustrated by declining oil production, PEMEX's financial difficulties, and the exposure of subcontractors and local firms to disruptions in the oil economy. Yet these vulnerabilities have historically been problematized primarily through employment, regional development, and energy sovereignty rather than as reasons to anticipate a post-oil transformation. Dos Bocas embodies this framing: strengthening the fossil economy has been presented as a response to territorial vulnerability rather than fossil dependence itself being treated as a source of long-term risk.

This configuration is beginning to evolve. Mexico's NDC 3.0 has strengthened adaptation and incorpo-

rated just transition more explicitly into national climate commitments, indicating an emerging process of institutionalization. At the same time, current energy planning continues to combine transition objectives with energy sovereignty, strengthened roles for PEMEX and CFE, and continued oil and gas production. The relevant question is therefore no longer whether just transition exists in Mexican policy discourse, but whether this emerging institutionalization will acquire the territorial specificity, financing, political support, and implementation mechanisms necessary to alter development trajectories in hydrocarbon-dependent regions.

The broader lesson is that institutionalization alone does not guarantee transformative climate action. Effective implementation depends on whether climate-related conditions are defined precisely enough, politically prioritized strongly enough, and connected to identifiable territories, populations, responsibilities, and resources. International commitments and sophisticated planning instruments can otherwise coexist with competing development models without substantially constraining them.

Policy recommendations

1. Shift from planning to implementation: prioritize stable financing, clear responsibilities, and measurable implementation outcomes rather than continuously creating new climate plans and coordination mechanisms. **Actors involved:** SEMARNAT, INECC, state and municipal governments.

2. Territorialize adaptation policy: target adaptation measures toward the territories and populations most exposed to droughts, hurricanes, coastal erosion, heatwaves, and water stress, integrating climate risks into water, housing, agriculture, tourism, health, and territorial planning. **Actors involved:** SEMARNAT, INECC, CONAGUA, state and municipal governments.

3. Anticipate transition in fossil-dependent regions: develop economic-diversification, social-protection, retraining, and employment-transition strategies before instability in the oil economy produces deeper territorial and labor disruption. **Actors involved:** SENER, STPS, PEMEX, and the governments of oil producer states, like Tabasco and Campeche.

4. Make just transition socially inclusive: ensure that emerging just-transition policies include subcontracted and vulnerable workers, territorial inequalities, environmental justice, and local employment—not only technological modernization and industrial decarbonization. **Actors involved:** STPS, SENER, SEMARNAT, unions, and employers.

5. Improve policy coherence and continuity: align climate, energy, infrastructure, and public-spending decisions with mitigation and adaptation objectives, strengthen transparency of climate expenditures, and protect climate institutions and commitments across political and administrative cycles. **Actors involved:** federal and state governments, Congress, SHCP, SEMARNAT, and SENER.

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