Infrastructure Economic Consulting

InfraEcon Insights

Mexico's Energy Reforms: Economic Analysis and Investment Risk Assessment

I. Introduction

From Market Reform to State Control in Mexico's Energy Sector

Mexico's energy sector is undergoing a profound transformation following the March 2025 reforms that decisively return control to the state to pursue energy sovereignty, affordability, and a renewable transition. The reforms reconstitute CFE (Comisión Federal de Electricidad) and Pemex (Petróleos Mexicanos) as public state companies, focusing on social responsibilities rather than commercial profitability, while centralizing regulatory authority under SENER to reinforce the state's dominant market role.

InfraEcon's 2021 analysis available here raised concerns about prioritizing state enterprises over private-sector efficiency, warning of investment flight, market destabilization, and increased consumer costs resulting from regulatory uncertainty and populist approaches. The 2025 reforms reflect similar philosophical underpinnings but present more nuanced realities, creating structured pathways for public-private collaboration while introducing complex challenges, including altered competitive dynamics, regulatory consolidation, and potential investment impacts from policy shifts.

This InfraEcon Insights edition examines Mexico energy reforms through economic, regulatory, and strategic lenses. It assesses the implications for investors and provide practical guidance for navigating the transformed regulatory environment. The analysis identifies investment opportunities while assessing key risks and outlining protective mechanisms essential for successful market participation.

II. Mexico's Reconfigured Energy Framework

From Market Liberalization to Public Enterprise Dominance

Mexico's energy sector underwent significant transformation through constitutional and statutory reforms implemented between late 2024 and early 2025, representing a strategic pivot from the market-liberalization approach of 2013 toward a state-centric model aimed at strengthening national sovereignty, ensuring energy affordability, and advancing coordinated transition across renewables and hydrocarbons.

The transformation's foundation emerged through the October 31, 2024, constitutional decree, which amended Articles 25, 27, and 28, redefining CFE and Pemex as public state companies with explicit social mandates that transcend commercial objectives. This change establishes constitutionally protected dominance across strategic sectors, anchored in the principles of energy sovereignty, affordability and reliability[i]. Building on this foundation, the March 2025 legislation mandated that CFE generate at least 54 percent of its electricity annually with dispatch priority, regardless of economic efficiency, while the Hydrocarbons Sector Law reinforced Pemex's position through preferential field allocations. [ii]

The reforms streamlined regulatory governance by dissolving the independent bodies, the CRE (Energy

Infrastructure Economic Consulting LLC
1701 Rhode Island Ave – 2nd Floor ☐ Washington, DC 20036 ☐ (202) 899-4656 ☐ carlos.pabon.agudelo@infraecon.com

Regulatory Commission) and the CNH (National Hydrocarbons Commission), consolidating their functions under the Ministry of Energy (SENER) and the newly established CNE (National Energy Commission). This commission, led by an Executive-appointed, Senate-ratified director general, exercises comprehensive authority over permitting, compliance enforcement, tariff approvals, and infrastructure planning[iii]. Despite state dominance, the reforms introduce sophisticated "mixed development" frameworks (equivalent to public-private partnerships) under LESE (Electricity Sector Law) and LSH (Hydrocarbons Sector Law), acknowledging private capital's continuing relevance while establishing participation parameters through two primary collaboration models:

1. **Long-Term Production Contracts**: Private investors develop and operate generation assets exclusively for state enterprises under "take-or-pay" agreements, with potential asset transfer options at contract maturity.

2. **Mixed Investment Projects**: CFE maintains a minimum equity participation of 54 percent, while private partners contribute complementary capital. The state enterprise retains first-refusal rights on output, with surplus potentially available for wholesale market participation[iv].

These "farm-out" arrangements aim to facilitate risk-sharing while maintaining state control. However, pending secondary regulations force investors to commit capital before regulatory frameworks crystallize, increasing project financing costs through extended due diligence periods and higher uncertainty premiums.

Despite these implementation challenges, the reforms advance three strategic objectives: **energy sovereignty** through consolidated state control over critical infrastructure, reducing foreign dependence; **affordability and reliability** via mandated basic supply provisions that may require cross-subsidization, potentially creating financial challenges for CFE while constraining private margins; and **a coordinated energy transition** through binding planning instruments requiring harmonized permitting with clean energy objectives. Distributed generation and cogeneration remain recognized, preserving innovation pathways under state coordination.

III. Economic Assessment

Investment Opportunities and Market Constraints

Mexico's 2025 energy reforms carry profound economic implications. By reconfiguring market structures and redefining public-private dynamics, these measures seek to create investment opportunities while introducing complex financial constraints. This section examines the opportunities and challenges within the reformed landscape.

1. Viable Investment Channels in Mexico's Energy Sector

Three primary areas offer investment opportunities: public-private partnerships, renewable energy development, and expanding industrial/domestic energy demand.

First, the **public-private partnerships** under LESE and LSH offer collaboration through long-term production contracts with take-or-pay revenue streams and mixed investment projects requiring CFE majority ownership. In hydrocarbons, farm-out agreements like the Trion deepwater venture enable co-development of exploration projects while distributing operational risk[v]. These arrangements appeal to capital providers seeking predictable cash flows. However, CFE's $6 billion losses in 2024 and Pemex's debt burden exceeding $100 billion raise questions about the financial sustainability underlying these state guarantees.

Second, government **commitments to decarbonization and resource development** signal the demand for renewable projects, although the reliability of these initiatives under shifting political priorities remains questionable. The National Energy Transition Strategy mandates the expansion of clean-energy capacity, creating off-take opportunities for developers—assuming these mandates survive administrative changes. Streamlining permitting for distributed generation promises reduced barriers; however, consolidating regulatory authority under politically appointed officials may introduce delays. Hydrocarbon income Law reforms establish fiscal regimes while granting Pemex strategic exploration access—though definitions may prove elastic when state objectives conflict with private returns[vi].

Third, **industrial expansion** increases energy consumption, creating potential opportunities for private investors. However, sustained growth requires regulatory stability that state-dominated policies may undermine. While the reforms emphasize affordable 'basic supply' [vii] for residential and small commercial consumers, similar cross-subsidization models in Argentina and Venezuela have proven fiscally unsustainable. More importantly for investors (e.g., private generators, gas processors, and energy service

providers), state enterprises are likely to capture the most profitable industrial segments, potentially leaving private actors with economically marginal activities.

2. Investment Barriers: Quantifying Market and Policy Risks

Despite apparent opportunities, the reforms introduce significant investment challenges across market concentration, economic complexities, and pricing constraints, among others.

CFE's mandated 54% generation share, enforced through dispatch priority, fundamentally limits independent producers' participation and complicates revenue forecasting. Projects may experience reduced operational hours or dispatch curtailment, affecting internal rates of return and financing terms. CFE's guaranteed dispatch eliminates competitive pressure for operational improvements, creating moral hazard that increases system-wide costs. Pemex's priority in field allocations may delay private-led upstream developments, requiring investors to incorporate potential timing and volume adjustments in project economics.

Regulatory uncertainty arises from the dissolution of independent regulators (CRE, CNH) and the consolidation of authority under SENER/CNE, which elevates risk premiums and extends project approval timelines. Cross-subsidization of basic supply may strain CFE's financial position, potentially triggering renegotiation of take-or-pay contracts or adjustments to hydrocarbon fiscal terms, affecting private off-takers and upstream profitability.

Under these scenarios, investors may need to develop comprehensive scenario analyses modeling regulatory impacts on cash flows and debt service obligations. Regulatory centralization concentrates systematic risk under a single administrative authority, as traditional diversification assumptions across independent regulatory bodies no longer apply when politically appointed officials make all decisions. This regulatory uncertainty amplifies currency volatility as political risk perceptions drive depreciation, creating feedback loops that increase dollar-denominated financing costs. Consequently, sophisticated currency hedging becomes essential but expensive, given the extended regulatory timelines.

With dispatch priority favoring CFE's generation assets regardless of economic efficiency, wholesale power prices may increase, reducing the cost advantages of privately generated electricity. This priority undermines the economic fundamentals for new gas-fired and renewable projects that lack long-term contracts. Though relatively transparent in hydrocarbons, royalty and tax structures require careful evaluation against global benchmarks to ensure competitive returns.

Therefore, the reforms' significant market and financial constraints may outweigh their targeted investment opportunities. The implications extend beyond Mexico, potentially affecting North American energy markets and influencing similar policy debates across Latin America. Investors may require robust contractual frameworks and dynamic financial models to achieve sustainable, risk-adjusted returns.

IV. Regulatory Risks

Economic Impact of Centralized Energy Control

Mexico's 2025 energy reforms establish a regulatory framework that significantly alters the investment landscape through concentrated authority, modified market structures, and potential treaty conflicts. This regulatory restructuring creates a fundamental paradox: while administrative consolidation theoretically promises efficiency through unified oversight, it simultaneously introduces substantial political risk by placing commercial decisions under direct executive control.

Understanding this efficiency-risk tension becomes essential for investors navigating Mexico's transformed energy landscape, which requires analyzing the trade-offs of centralized oversight, market constraints on private investors, and the emerging shift from market-based competition to political alignment strategies.

1. Centralized Oversight: Efficiency Gains vs. Political Risk

The dissolution of independent regulators CRE and CNH, with functions consolidated under SENER and the newly created CNE, represents a fundamental shift toward centralized energy governance. This consolidation eliminates the regulatory independence that previously provided checks and balances, concentrating decision-making authority under politically appointed officials who serve at the discretion of the executive branch[viii].

While this consolidated structure may appear to streamline administrative processes, it introduces heightened political exposure through the CNE's presidential appointment and SENER-dominated Technical Committee. When administrative priorities shift, established parameters may undergo sudden revisions, forcing developers to renegotiate terms or suspend operations. This situation, in turn, leads to

wider variations in project timelines, larger contingency reserves, and higher financing costs as lenders incorporate political risk premiums into their assessments.

2. Competitive Dynamics: Economic Impact of State Enterprise Preference

The regulatory changes fundamentally reshape competitive dynamics across electricity and hydrocarbon sectors. CFE's guaranteed 54% dispatch share forces private participants into a constrained residual market, with dispatch decisions controlled by the same authority managing CFE's portfolio targets. This structure creates asymmetric market conditions that favor state enterprises regardless of operational performance.

In hydrocarbons, Pemex's preferential access to exploration territories limits private participation to mixed-development blocks allocated through CNE determinations [ix]. The absence of schedule auction calendars creates uncertainty in block availability and fiscal terms, complicating reserve booking and cash flow projections[x].

However, the framework creates competitive advantages for certain projects through expedited 90-day approval channels for renewable installations serving underserved markets or deepwater developments with national content commitments. This preferential processing effectively functions as an indirect subsidy, though it comes with enhanced oversight where failure to meet social-impact commitments risks immediate permit suspension.

3. Strategic Realignment: From Market-Based to Relationship-Based Investment

The regulatory framework has shifted from independent oversight toward alignment with state entities that function as both owner-operators and market gatekeepers. Projects that reinforce policy objectives—such as price stability, local employment, and emissions reduction—could potentially achieve attractive returns if sponsors invest in comprehensive stakeholder engagement and enhanced compliance programs.

Conversely, ventures relying exclusively on market fundamentals risk extended approval periods and unexpected regulatory changes. Regulatory strategy becomes as critical to project economics as resource quality or technological selection, fundamentally transforming the investment paradigm from market competition to political alignment. This shift raises questions about long-term sector efficiency when investment decisions prioritize political considerations over economic optimization.

V. Economic Damages

Quantifying Losses from Policy Changes

Mexico's reformed legal architecture fundamentally alters engagement parameters across the energy sector. As economic analysts specializing in quantifying treaty and commercial damages in international arbitrations, we evaluate these reforms through complementary lenses: identifying potential expropriation and contract breaches and outlining how investors can mitigate resulting losses[xi].

This section identifies regulatory actions that potentially trigger expropriation or contract-breach claims, outlines valuation methodologies that translate policy impacts into quantifiable monetary losses, and details protective measures that limit financial exposure while strengthening subsequent claims. This multidimensional understanding proves essential for calculating potential damages and structuring investments to minimize vulnerability, informing both claim preparation and risk-mitigated project design.

1. Treaty Violations: Identifying Actionable Regulatory Breaches

Mexico's 2025 reforms create multiple pathways for potential treaty violations through systematic discrimination against private investors. CFE's guaranteed 54% dispatch priority transforms regulatory discretion into potential de facto expropriation, as private generators face systematic curtailment despite offering lower costs. The CNE's authority to suspend permits based on social-impact compliance can indefinitely halt operations, disrupting cash flows even when suspensions are reversed [xii]. Hydrocarbon investors face parallel risks through Pemex's priority access and retroactive volumetric fees, which alter project economics midstream.

Additionally, the new framework introduces systemic vulnerabilities through retroactive modifications to Clean Energy Certificates, which invalidate established revenue streams. Moreover, the CNE's political leadership structure prioritizes executive priorities over technical criteria, creating uncertainty for long-term investments.

Also, incomplete secondary regulations create "regulatory hold-up" situations where capitalized projects stall while awaiting guidelines. Limited judicial remedies compound uncertainty, as reforms eliminate

independent regulators that provided administrative recourse.

Expert testimony must establish temporal causation linking CNE decisions to quantifiable impacts, distinguishing regulatory discrimination from market dynamics. But-for analysis isolates regulatory impacts from commodity volatility, demonstrating that measures directly caused damage beyond normal fluctuations.

2. Valuation Framework: Quantifying Economic Losses from Regulatory Changes

After identifying potential expropriation and contract-breach triggers, the challenge involves translating regulatory impacts into quantifiable economic losses. While each measure requires tailored analysis, the foundational approach employs a comprehensive discounted cash flow (DCF) methodology, illustrated in this note through two scenarios: lost dispatch hours in electricity generation and delayed production in upstream hydrocarbon development.

Counterfactual DCF Comparison

The analytical approach begins with comprehensive DCF analysis using "with" and "without" scenarios. The pre-reform scenario reconstructs historical merit-order dispatch curves and projected market prices to forecast revenue streams for power generation assets. The post-reform scenario incorporates curtailed generation, tariff adjustments, and modifications to clean-energy certificates. The differential between scenarios, discounted using appropriate risk-adjusted rates, quantifies net present value loss attributable to reforms[xiii].

For upstream concessions, counterfactual DCF employs original production timelines, profiles, and fiscal terms. The reformed scenario incorporates delayed commencement, modified royalty or volumetric fee structures, and recalculated cash flows, with the differential quantifying direct revenue impacts.

Enhance DCF Through Option-Valuation of Timing and Volume Risk

Traditional DCF may underestimate flexibility losses from regulatory delays. To address this limitation, experts integrate real-option modeling within the DCF framework by valuing deferral options. For instance, quarterly postponement of initial production reduces project optionality, as delayed revenues encounter less favorable commodity pricing or fiscal terms. Binomial or Black-Scholes methodologies quantify this timing optionality, with results incorporated into the overall DCF analysis to capture impacts beyond direct cash-flow reductions.

DCF Input Calibration Through Benchmarking and Probabilistic Scenario Analysis

To ensure DCF model inputs reflect market conditions, analysts benchmark assumptions against contemporary data—auction prices for clean-energy certificates inform power-price forecasts, while comparable Gulf of Mexico PSC terms calibrate upstream parameters. Monte Carlo simulations test multiple scenarios within the DCF framework, varying probability, timing, and severity of regulatory actions to generate damage distributions. This integrated framework accommodates regulatory variability while providing tribunals with transparent loss estimate ranges.

This integrated approach combines counterfactual DCF, real-option valuation, benchmarking, and stochastic simulation into comprehensive damages assessments establishing clear causation: regulatory measure → quantifiable impact → discounted cash-flow reduction. These principles apply across all regulatory measures, ensuring comprehensive quantification of policy-driven economic impacts.

3. Risk Mitigation: Contractual and Financial Protection Mechanisms

Given the multiple expropriation and breach scenarios identified, investors entering Mexico's energy sector must do so with comprehensive protective measures in place. The following strategies, proven in high-risk jurisdictions, offer immediate protection and strengthened positions for potential future claims.

Contractual Protections

Investors should incorporate robust **change-in-law** provisions that automatically trigger compensation when regulatory frameworks shift unexpectedly. **Floor-price guarantees** ensure minimum compensation when CFE's dispatch priority curtails generation capacity, effectively converting potential regulatory discrimination into enforceable contractual payments. Upstream partners would benefit from negotiating **royalty-reset mechanisms** that automatically adjust fiscal terms when the CNE retroactively imposes volumetric fees, protecting project economics from sudden policy reversals.

Operational Safeguards

Step-in rights and escrow arrangements provide critical operational continuity in the event of regulatory

disputes. These structures would enable lenders or off-takers to assume operational control following permit suspension, preserving cash flows during administrative challenges. Escrow accounts could cover debt service and remediation costs during regulatory disputes, preventing immediate financial distress when temporary disruptions extend for months.

Political risk Insurance

Contingent Political-Risk Insurance (PRI) offers superior cost efficiency compared to conventional upfront premium policies. These arrangements would activate in response to specific adverse events—permitting revocations, dispatch-rule changes, or retroactive fee impositions—reducing initial financing costs while demonstrating reasonable sovereign risk mitigation to future tribunals.

Staged Investment Deployment

Investors should avoid committing full capital in uncertain regulatory environments, instead employing staged deployment strategies. **Phased investment tranches** can synchronize capital releases with concrete regulatory milestones, allocating initial equity only for front-end engineering and long-lead equipment procurement. Subsequent funding tranches would proceed only after Mexico publishes final guidelines, preserving exit options and limiting exposure when rulemaking produces unfavorable outcomes.

These integrated mechanisms would create comprehensive defensive frameworks while building evidence for potential claims. This approach would demonstrate prudent business judgment to arbitral tribunals, strengthening causation and damages arguments, should formal claims become necessary.

VI. Conclusion: Positioning for Mexico's New Energy Reality

Mexico's 2025 energy reforms represent a strategic shift from market efficiency toward state control, creating an investment environment with substantial regulatory capture risks. While acknowledging the necessity of private capital through "collaboration frameworks," the reforms fundamentally subordinate commercial logic to political objectives—a reality that sophisticated investors must address directly.

The economic implications reveal structural contradictions. Though the reforms promise investment pathways through state-backed contracts, they systematically undermine competitive dynamics by concentrating market power in financially distressed state enterprises. CFE's $6 billion losses and Pemex's $ 100 billion+ debt burden raises serious questions about the sustainability of state guarantees. At the same time, the elimination of independent regulators introduces elevated political risk premiums that may render many projects economically unviable.

From a damages perspective, the reforms create multiple triggers for investment treaty protections. CFE's dispatch priority, retroactive policy modifications, and CNE's broad discretionary powers establish clear grounds for indirect expropriation claims, necessitating early engagement of economic experts. These specialists bring dual value: first, in quantifying the economic impact of regulatory changes through sophisticated DCF analysis, real-option valuation, and probabilistic modeling, and second, in structuring potential claims with rigorous causation linkages between specific regulatory measures and quantifiable financial losses.

Success may require abandoning traditional market-based assumptions. Investors integrating economic expertise from project inception—rather than merely at dispute points—will be better positioned to implement comprehensive defensive strategies, including robust contractual protections, political risk insurance, and phased capital deployment while accepting that regulatory alignment may determine outcomes more than project fundamentals.

Infrastructure Economic Consulting and its affiliates provide specialized expertise to support investors navigating Mexico's transformed energy sector. We offer comprehensive analysis of investment circumstances under the new regulatory framework, including economic and regulatory assessment of potential damages and remedies. Our expertise addresses the complex economic issues arising from the new legislation, which require thorough analysis to determine the investment impact and protect stakeholder interests.

Carlos Pabon-Agudelo is the Managing Partner of Infrastructure Economic Consulting, LLC (InfraEcon), a consulting boutique specializing in regulatory economics and quantum matters in International Arbitrations for various industries. David Reinstein is an affiliate of InfraEcon. Details about our expertise can be found at www.infraecon.com.

[i] Project Finance NewsWire. Mexico Enacts New Laws for the Power Sector, available at, https://www.projectfinance.law/publications/2025/march/mexico-enacts-new-laws-for-the-power-sector/. March 27, 2025

[ii] Ley del Sector Hidrocarburos, (LSH) Diario Oficial de la Federación, 19 de marzo de 2025, Article 21.

[iii] Ley de la Comisión Nacional de Energía, (LCNE), Diario Oficial de la Federación, 19 Mar 2025, Articles 1, 2. Also Reuters, "Mexico power law draft calls for public-private tie-ups, but under state control," available at https://www.reuters.com/world/americas/mexico-power-law-draft-touts-public-private-tie-ups-with-majority-state-stake-2025-01-29/?utm_source=chatgpt.com, January 28, 2025.

[iv] Ley del Sector Eléctrico (LESE) Diario Oficial de la Federación, 18 de marzo de 2025, Articles 39, 41.

[v] The Trion farm-out agreement was signed in 2017 between BHP Petroleum (later acquired by Woodside Energy) and Pemex, making Woodside operator with a 60% working interest while Pemex retained 40%. This was the first farm-out finalized by Pemex since Mexico's energy reform. See S&P Global Commodity Insights, "Woodside announces final investment decision on Trion," March 26, 2024, available at https://www.spglobal.com/commodityinsights/en/ci/research-analysis/woodside-announces-final-investment-decision-on-trion-.html.

[vi] Energy Industrial Group, New Legal Regime for the Energy Sector in Mexico, available at , https://www.sanchezdevanny.com/en/trending/newsletter/new-legal-regime-for-the-energy-sector-in-mexico?utm_source=chatgpt.com, Feb., 12, 2025.

[vii] LESE, Art. 61.

[viii] While regulatory independence is generally viewed as beneficial for market development, regulatory outcomes depend on multiple factors including institutional design, political context, and competing policy objectives beyond cost reduction and competition enhancement. Some analysts note that independent regulatory structures do not always achieve their intended market outcomes, highlighting the complexity of balancing consumer protection, investment incentives, and broader energy policy goals.

[ix] LSH, Art. 6, Section III and Holland and Knight, Federal Executive of Mexico Presents Initiative That Issues the Law of the Hydrocarbon Sector: Part 3, Feb. 10, 2025, available at https://www.hklaw.com/en/insights/publications/2025/02/ejecutivo-federal-de-mexico-presenta-iniciativa-que-expide-la-ley-del?utm_source=chatgpt.com

[x] Reuters, "Mexico to cancel February auctions for oil, gas blocks including first shale areas: energy secretary," December 9, 2018, available at https://www.reuters.com/article/us-mexico-oil/mexico-to-cancel-february-auctions-for-oil-gas-blocks-including-first-shale-areas-energy-secretary-idUSKBN1O801P/; U.S. Trade Administration, "Mexico - Oil and Gas," available at https://www.trade.gov/country-commercial-guides/mexico-oil-and-gas;

[xi] Investment treaty selection affects available remedies and procedural options. USMCA, bilateral investment treaties, and other frameworks provide overlapping but distinct protections depending on investor nationality and investment structure. Treaty analysis requires specialized legal expertise beyond economic damages assessment.

[xiii] Discount rate selection becomes critical given Mexico's regulatory consolidation fundamentally alters systematic risk profiles. Traditional utility betas may underestimate political exposure when regulatory decisions concentrate under executive control rather than independent technical bodies. Country risk premiums require recalibration reflecting the shift from market-based to politically-administered dispatch decisions