

■ POLITICAL ECONOMY PROGRAM

# REFORMING EPIRA

## A Path Towards Equitable and Competitive Electricity Pricing in the Philippines

*Jedidiah Dawal*

### INTRODUCTION

The Electric Power Industry Reform Act (EPIRA) brought significant changes to the Philippine energy sector in 2001, tackling persistent problems that had stifled its development and effectiveness for years. Before EPIRA, the state-owned National Power Corporation (NAPOCOR) controlled the industry but faced numerous challenges, including inefficiencies, growing debts, and minimal private sector involvement. These issues resulted in unreliable electricity, frequent blackouts, and steep power rates, which in turn hurt the country's economic competitiveness and energy stability (Brucal and Ancheta 2018).

The EPIRA set out to restructure and open the power sector, boost competition, draw in private investments, and promote greater transparency. The law focused on achieving several essential objectives, including enhancing the quality, reliability, and affordability of electricity; fostering a competitive market environment; and easing the government's financial burden caused by energy subsidies (EPIRA IRR 2001).

EPIRA's reforms divided the power sector into four key segments: generation, transmission, distribution, and supply. This paved the way for private sector involvement, particularly in power generation, while retaining regulatory oversight for transmission and distribution. The law also introduced mechanisms

such as the privatization of NAPOCOR's assets, the establishment of the Wholesale Electricity Spot Market (WESM), and the creation of independent regulatory bodies like the Energy Regulatory Commission (ERC) to enforce transparency and fairness in the industry.

Despite EPIRA's ambitious goals, its implementation has been met with both achievements and criticisms. While succeeding in increasing private sector participation and reducing the fiscal burden on the government, concerns about high electricity costs and market inefficiencies persist (Brucal and Ancheta 2018). These outcomes underscore the importance of continuously assessing and refining the policy to ensure that its intended benefits are fully realized.

### KEY ELEMENTS OF EPIRA AND THE CURRENT STATE OF THE SECTOR

EPIRA introduced transformative reforms by unbundling the Philippine power sector into four key segments: generation, transmission, distribution, and supply.

#### Generation

The generation sector underwent a major overhaul to dismantle government monopoly to promote competition.

EPIRA reclassified generation as a non-public utility, encouraging private investment and operational efficiency.

### *Privatization of NAPOCOR Assets*

The Power Sector Assets and Liabilities Management Corporation (PSALM) was created to manage the sale of NAPOCOR generation assets. This aimed to reduce NAPOCOR's staggering debt—amounting to USD 16.39 billion in 2001—and shift liabilities to the private sector (Navarro et al. 2016; Del Mundo 2015).

By 2020, over 80 percent of NAPOCOR's generating capacity was privatized, a move credited with introducing efficiencies but criticized for increasing reliance on coal and imported fuels (Saculsan and Mori 2020).

### *Energy Mix*

While private sector participation expanded capacity, coal and natural gas dominate the energy mix, accounting for over 70 percent of total electricity production. Bureaucratic hurdles and lack of financial incentives reduced renewable energy's share from 40.7 percent in 2012 to around 21 percent in 2018. (Saculsan, 2018; Navarro et al., 2016).

### *Regulations on Market Share*

EPIRA imposed market share caps to prevent dominance: no company can own more than 30 percent of generation capacity per grid or 25 percent of the national capacity. However, critics argue that influential energy firms circumvent these rules through subsidiaries (Danao 2009).

The generation sector has attracted significant investments from major players such as Aboitiz Power, San Miguel Corporation, and First Gen Corporation, collectively dominating the market and controlling a substantial share of installed capacity. By 2021, the sector's total installed capacity reached 26,882 MW, with coal-fired plants contributing 56 percent of the energy mix, followed by renewable sources such as hydro, geothermal, and solar (Department of Energy 2022). Despite the Renewable Energy Act of 2008, which introduced feed-in tariffs and tax incentives to promote renewable energy, the share of renewables has declined with barriers like bureaucratic delays, high costs, and inadequate financial incentives (Saculsan 2018; Saculsan and Mori 2020).

## **Transmission**

Transmission remains regulated to ensure equitable access and efficiency.

### *Establishment and Privatization of TransCo*

The National Transmission Corporation (TransCo) was initially tasked with operating the transmission grid. In 2009, operations were privatized through a 25-year concession agreement with the National Grid Corporation of the Philippines (NGCP) (Navarro et al. 2016).

NGCP's role include maintaining grid reliability and expanding transmission capacity, but delays in completing major infrastructure projects, coupled with foreign ownership concerns, have sparked criticism (Saculsan and Mori 2020).

### *Open Access and Grid Management*

EPIRA mandated open and non-discriminatory access to the transmission network, allowing power producers and suppliers to easily connect to the grid. This ensures smaller players can compete in the market (Danao 2009).

### *Challenges in Reliability*

Grid congestion and outdated infrastructure in rural areas limit the efficiency of power delivery. NGCP's capacity expansion projects have faced delays, underscoring the need for stronger regulatory oversight (Saculsan 2018).

## **Distribution**

Distribution Utilities (DUs) are intermediaries between power suppliers and end-users.

### *Unbundling and Transparency*

EPIRA required DUs to unbundle electricity tariffs, allowing consumers to see the cost components of generation, transmission, distribution, and other charges. This transparency promotes accountability but has not significantly reduced power costs (Del Mundo 2015).

### *Major Players*

MERALCO is the largest DU, serving over 50 percent of the national market. Unlike MERALCO, which has invested heavily in modernizing its infrastructure, electric cooperatives in rural areas face challenges like outdated systems, high system losses, and financial instability (Navarro et al. 2016).

### *System Loss Caps*

Regulatory caps on system losses aim to incentivize operational efficiency. While MERALCO consistently meets the standards, many rural cooperatives struggle to comply, often requiring government support for infrastructure upgrades (Del Mundo 2015).

### *Consumer Protections*

EPIRA allows the ERC to monitor the quality of service provided by DUs, ensuring consumer rights are protected. This includes imposing penalties for non-compliance with performance standards (Saculsan and Mori 2020).

### **Supply**

EPIRA redefined the supply sector to promote competition and empower consumers through market-based mechanisms.

#### *Wholesale Electricity Spot Market (WESM)*

WESM was established as a trading platform for electricity, determining prices with supply and demand dynamics. It fosters competition among generators but has been criticized for price volatility and market concentration (Danao 2009; Saculsan 2018).

Market power concerns persist as dominant players influence prices during peak demand periods, highlighting the need for stricter regulation (Saculsan and Mori 2020).

#### *Retail Competition and Open Access (RCOA)*

RCOA enables large power users to choose their electricity suppliers, fostering competition and potentially reducing costs. However, legal and regulatory hurdles have delayed its implementation. (Navarro et al. 2016).

#### *Green Energy Option Program (GEOP)*

GEOP allows consumers to source electricity directly from renewable energy suppliers. This initiative aligns with global sustainability goals but requires stronger incentives to accelerate adoption (Saculsan 2018).

### *Challenges in Supply*

The retail sector struggles with consumer awareness and infrastructure readiness for full RCOA implementation. Additionally, the transition to a competitive market has been slower than anticipated (Danao 2009).

## **ENHANCING MARKET FAIRNESS AND GOVERNANCE**

In response to ongoing concerns about market abuses and inefficiencies, legislative proposals to amend EPIRA have been introduced. These proposals aim to strengthen the regulatory powers of the Energy Regulatory Commission (ERC), promote competitive selection processes in power procurement, and address issues related to market concentration and cross- ownership. Such measures are critical to ensuring that the principles of competition and fairness underpin the energy sector's operations (CPBRD, 2023).

## **OUTCOME OF EPIRA: A BRIEF REVIEW OF LITERATURE ACHIEVEMENTS OF EPIRA**

EPIRA's achievements demonstrate its potential as a transformative policy. It successfully introduced competition, reduced system losses, and enhanced access to electricity.

### **Enhanced Competition and Market Transparency**

EPIRA succeeded in creating a more competitive landscape, particularly in the generation sector. WESM's establishment allowed market-driven electricity pricing, fostering competition among power producers. Brucal and Ancheta (2018) highlighted that WESM enabled transparent price discovery, benefiting large industrial consumers and promoting operational discipline among generators. This competitive environment represents a significant departure from the pre -EPIRA era, characterized by monopolistic structures and opaque pricing mechanisms.

### **Improved Operational Efficiency and System Loss Reduction**

EPIRA's reforms drove improvements in operational efficiency across key sectors of the electricity market. Private DUs, such as MERALCO, have consistently operated below regulatory caps for system losses. These efficiency gains were primarily due to the adoption of advanced technologies and stricter regulatory oversight (Navarro et. al. 2016). Privatization efforts also incentivized operators to optimize resources and improve service delivery. While electric cooperatives (ECs) have shown mixed progress, reforms under EPIRA have provided a framework for addressing inefficiencies through stricter regulatory

measures and targeted capacity-building initiatives (Valderrama and Bautista 2011).

## Electrification and Access to Power

EPIRA contributed to expanding access to electricity, particularly in urban and peri-urban areas. The NEA reported that household electrification rates reached 95.41 percent in 2021, driven by increased private sector participation and public-private partnerships (Navarro et al. 2016). This progress aligns with EPIRA's goal of improving energy access and reliability for Filipino households.

## Institutional Reforms and Governance Improvements

The establishment of the ERC under EPIRA enhanced regulatory oversight, fostering accountability and transparency in tariff-setting and market operations. The ERC's role in unbundling electricity tariffs was instrumental in clarifying cost structures and empowering consumers to understand their electricity bills better (Brucal and Ancheta 2018). These governance reforms marked a significant step towards modernizing the energy sector.

## Renewable Energy Development

While the integration of renewables remains a challenge, EPIRA laid the groundwork for subsequent renewable energy policies, such as the Renewable Energy Act of 2008. This act introduced mechanisms like feed-in tariffs (FiTs) and tax incentives to attract investments in renewable energy. These initiatives initially boosted renewable energy capacity, particularly in solar and wind projects, showcasing EPIRA's indirect contribution to sustainable energy goals. (Brucal and Ancheta 2018).

## Economic Contributions and Foreign Investments

EPIRA spurred foreign investments in the energy sector by providing a clear legal and regulatory framework. The privatization of assets under PSALM attracted multinational companies, contributing to job creation and economic growth. The inflow of private capital also reduced the government's financial burden in maintaining the sector, enabling resources to be allocated to other priorities (Ravago 2022).

## CURRENT CHALLENGES

The Philippine energy sector continues to grapple with several pressing challenges, which hinder its ability to deliver affordable, reliable, and sustainable electricity to all Filipinos. These challenges encompass high electricity prices, energy security vulnerabilities, and barriers to renewable energy integration.

### High Electricity Prices

Electricity rates in the Philippines remain among the highest in Southeast Asia, posing a significant burden on consumers and businesses. In 2022, residential electricity prices averaged USD 0.174 per kWh, significantly higher than those in Thailand (USD 0.122) and Indonesia (USD 0.097) (CPBRD 2023). This disparity is driven by a combination of factors, including the country's reliance on imported fossil fuels, inefficiencies in energy infrastructure, and high taxes and subsidies embedded in electricity tariffs.

The cost of imported coal and natural gas, which account for a substantial portion of the energy mix, has been exacerbated by global market volatility. Events such as the Russia-Ukraine conflict have led to sharp increases in international fuel prices, directly impacting generation costs. Compounding this issue is the depreciation of the Philippine peso, which further inflates the cost of imported energy resources. While the removal of subsidies under EPIRA sought to reflect the true cost of electricity, it also exposed consumers to the full brunt of price fluctuations, making electricity less affordable for many households (CPBRD 2023).

### Energy Security and Supply Challenges

Energy security is a growing concern, particularly with the imminent depletion of the Malampaya natural gas field, a critical source of energy for Luzon. The Department of Energy projects significant decline in Malampaya's output by 2024 and complete depletion by 2027. This will necessitate increased reliance on imported liquefied natural gas (LNG), which is subject to price volatility and supply disruptions (Department of Energy 2022).

Moreover, the country's dependence on imported coal, which constitutes over 50 percent of the generation mix, leaves it vulnerable to geopolitical events and supply chain disruptions. The lack of indigenous energy resources to offset this dependence has heightened the urgency of developing alternative energy sources and strengthening the resilience of the power supply chain (CPBRD 2023).



## Barriers to Renewable Energy Integration

Although the Renewable Energy Act of 2008 provided a framework to accelerate the adoption of clean energy, its implementation has faced significant hurdles. Renewable energy's share in the power mix has declined from 25 percent in 2001 to approximately 21 percent in 2022 (Department of Energy 2022). Key barriers include inadequate transmission infrastructure, which limits the integration of variable renewable energy sources such as solar and wind, and financial challenges, particularly the high upfront costs of renewable energy projects.

The FiT program initially spurred investments in renewable energy but has since faced criticism for burdening consumers with additional charges while failing to attract sufficient capacity to meet the country's renewable energy targets. Furthermore, the GEOP, which allows consumers to source electricity directly from renewable energy suppliers, has seen limited adoption due to low public awareness and insufficient incentives (Diokno et. al. 2024).

## Inefficiencies in Energy Infrastructure

Transmission and distribution inefficiencies further exacerbate the challenges in the energy sector. Delays in completing critical grid infrastructure projects have led to congestion and limited the ability to transport electricity from generation sites to areas of high demand. These inefficiencies disproportionately impact rural and remote areas, where electrification rates lag urban centers. While household electrification reached 95.41 percent as of December 2021, gaps remain in achieving universal access, particularly in off-grid areas (Department of Energy 2022).

## Regulatory and Governance Issues

Weak regulatory oversight and governance challenges undermine efforts to create a competitive and transparent energy market. Allegations of market abuse and concentration of market power among dominant players in the WESM continue to raise concerns about fair competition. Moreover, the ERC faces resource and capacity constraints, limiting its ability to effectively regulate the sector and enforce compliance with market rules (CPBRD 2023).

## RECOMMENDATIONS

The Roundtable Discussions (RTDs) and Stakeholder Engagement conducted at UP Center for Integrative

and Development Studies in September and October 2024, respectively provided a comprehensive set of recommendations addressing the structural and operational challenges in the Philippine energy sector. These recommendations aim to enhance regulatory mechanisms, foster competition, integrate renewable energy, reduce electricity costs, modernize infrastructure, and promote transparent and inclusive policy making.

## Strengthening Regulatory Oversight

Regulatory oversight is critical to address systemic inefficiencies and ensure consumer protection. Both RTDs and stakeholder engagements emphasized the need for reforms in regulatory practices to build a more robust and accountable energy sector.

### *Empower the Energy Regulatory Commission (ERC)*

Transforming the ERC into an independent and fully autonomous regulatory body was a recurring theme. Stakeholders highlighted the need for merit-based appointments to insulate the commission from political influences. The ERC should also be given greater authority to effectively enforce penalties for non-compliance and address anti-competitive practices (RTDs Proceedings 2024; Stakeholders Engagement Proceedings 2024).

### *Policy Monitoring and Evaluation*

A formal mechanism can be introduced for periodic reviews of EPIRA's implementation to evaluate its effectiveness. These reviews should involve multi-sectoral participation to ensure a balanced assessment of policy impacts (Stakeholders Engagement Proceedings 2024).

### *Equity Return Cap Enforcement*

Strict enforcement of the Supreme Court's ruling on limiting the return on equity for power utilities to 12 percent was strongly advocated to prevent unjustified price increases for consumers (RTDs Proceedings, 2024).

## Enhancing Market Competition

Market competition remains a cornerstone of EPIRA's reform objectives. However, stakeholders identified barriers that impede competition and proposed actionable solutions to create a more dynamic energy market.

### *Incentivize New Market Entrants*

Simplify the permitting process for Independent Power Producers (IPPs) and renewable energy developers. Stakeholders suggested tax breaks, low-interest loans, and capacity-building programs for small-scale and renewable energy investors to enhance market diversity (Stakeholders Engagement Proceedings 2024).

### *Expand Retail Competition and Open Access (RCOA)*

Accelerate the rollout of RCOA to cover more consumer categories, including medium and small-scale electricity users. This expansion provides consumers with more choices and promotes competitive pricing (RTDs Proceedings 2024).

### *Review Cross-Ownership Regulations*

Revisiting restrictions on cross-ownership between generation and distribution sectors was proposed to balance competition and operational efficiency. However, stakeholders emphasized the need for robust safeguards to prevent anti-competitive behavior (Stakeholders Engagement Proceedings 2024).

## **Optimizing the Energy Mix**

The energy mix is dominated by coal and natural gas exposes the country to global price fluctuations and environmental challenges. Stakeholders stressed the importance of diversifying the energy mix and accelerating the adoption of renewable energy.

### *Renewable Energy Integration*

Stakeholders urged the government to fast-track renewable energy projects by streamlining the application and permitting processes, increasing fiscal incentives, and expanding the Renewable Portfolio Standards (RPS). Additionally, mechanisms like feed-in tariffs should be reviewed and adjusted to attract more investments in solar, wind, and geothermal energy (RTDs Proceedings 2024; Stakeholders Engagement Proceedings 2024).

### *Decentralized Energy Systems*

Promoting decentralized energy solutions, such as microgrids and rooftop solar installations was identified as a key strategy to reduce reliance on centralized fossil-fuel-based generation and improve resiliency (Stakeholders Engagement Proceedings 2024).

### *Transition Support for Fossil Fuel Dependence*

A phased approach to reducing coal dependency while ensuring energy security was recommended, with incentives for cleaner fossil fuel technologies during the transition period (RTDs Proceedings 2024).

## **Addressing High Electricity Costs**

High electricity costs remain a critical concern for stakeholders and consumers alike. The discussions proposed multi-faceted approaches to address this issue.

### *Reform the Tax Structure*

Stakeholders recommended reducing the layers of taxes imposed on electricity, including value-added and excise taxes on imported fuels. Comparative studies with ASEAN counterparts were suggested to align Philippine taxation policies with regional best practices (Stakeholders Engagement Proceedings 2024).

### *Competitive Power Supply Agreements (PSAs)*

Mandate competitive bidding for PSAs to prevent overpricing and ensure that generation costs reflect market conditions. Transparent procurement processes should be institutionalized across all distribution utilities (RTDs Proceedings 2024).

### *Optimize Subsidies*

Redesign electricity subsidies to target low-income households more effectively while avoiding market distortions. Stakeholders also suggested conditional subsidies tied to energy efficiency measures for vulnerable consumers (Stakeholders Engagement Proceedings 2024).

## **Modernizing Infrastructure**

Infrastructure inadequacies in the transmission and distribution sectors continue to exacerbate inefficiencies and regional disparities in electricity access.

### *Accelerate Transmission Projects*

NGCP's delayed transmission projects, particularly interconnections between major islands, were highlighted as critical bottlenecks. Stakeholders recommended a performance-based incentive mechanism to expedite project completion (RTDs Proceedings 2024).

### *Adopt Smart Grid Technologies*

Modernizing the grid with digital solutions, such as automated monitoring systems and demand-side management tools, was proposed to improve operational efficiency and reliability (Stakeholders Engagement Proceedings 2024).

### *Rural Electrification Program*

Enhance rural electrification by incentivizing public-private partnerships for infrastructure development in underserved areas, addressing the unique challenges faced by electric cooperatives (Stakeholders Engagement Proceedings 2024).

## **Promoting Transparent and Inclusive Policymaking**

Transparent and participatory governance is essential to ensure that energy reforms align with consumer interests and industry needs.

### *Institutionalize Stakeholder Engagement*

Establish a multi-sectoral advisory council comprising government agencies, private sector representatives, consumer groups, and academic experts to provide regular inputs on policy decisions (RTDs Proceedings 2024).

### *Public Awareness Campaigns*

Increase public awareness about energy reforms, particularly programs like RCOA and GEOP, to empower consumers to make informed decisions and advocate for their rights (Stakeholders Engagement Proceedings 2024).

### *Data Transparency*

Ensure the availability of reliable and accessible data on energy pricing, supply agreements, and regulatory compliance to build public trust and accountability (RTDs Proceedings 2024).

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