

Saan Umabot ang Bente Mo

EPIRA 20 Years After

Maitet Diokno

Wilson Fortaleza

James Matthew Miraflor

Ted Aldwin Ong

Melba Verra Tutor

**FRIEDRICH
EBERT
STIFTUNG**



Saan Umabot ang Bente Mo: EPIRA 20 Years After

August 2024

Foreword

The call for affordable and clean energy for all, as outlined in Sustainable Development Goal 7, has never been more urgent. In the Philippines, electricity rates are currently priced second to the highest in Southeast Asia, following Singapore.¹ Access to energy is not only a fundamental human right; it is also a crucial driver of economic and social development, as demonstrated by the case of the people of Barangay Pamilacan in Baclayon, Bohol. The installation of a solar power system in this island barangay not only increased household incomes but also created jobs for residents trained to install and maintain solar photovoltaic systems in nearby communities.²

In 2001, the Electric Power Industry Reform Act (EPIRA) was passed under the Department of Energy, with the promise of reducing electricity costs through the privatization and deregulation of the power sector. Now, 23 years later in 2024, EPIRA's outcomes remain contested. Electricity prices still burden many Filipinos, particularly those in low-income households, underscoring the need to reassess its long-term impact.

In this work, the authors examine EPIRA's critical promise to provide affordable electricity to all Filipinos and analyze its impacts on the country's economy and people. This book offers a timely exploration of the policies and programs necessary to ensure that clean and affordable energy is not just an aspiration but a reality for all, particularly the most vulnerable sectors of our society.

The concept of a just energy transition emphasizes the need for a fair and inclusive shift to renewable energy, ensuring that the social and environmental benefits are shared by everyone. It challenges the existing system by calling for energy solutions that address inequality and prioritize people's needs over profits. This transition requires rethinking how energy is produced, distributed, and consumed to create a system that uplifts all sectors of society while protecting the environment. As we engage in public dialogues and advocate for transformative changes, it becomes clear that the structures of energy production and consumption must be reshaped to prioritize the needs of the people over profits.

The authors' findings point to a Philippine energy system dominated by a powerful elite, where only a few benefit while the majority remains trapped in energy poverty. This system perpetuates power imbalances and deepens inequality, hindering development and reinforcing the status quo of privilege over progress. As the data of the Human Development Index by UNDP shows, the bottom 40% in the Philippines hold as much of the income share as the top one percent.³ Energy injustice is one piece of the puzzle in deciphering these figures.

We extend our gratitude to 11.11.11 and CPII for their invaluable partnership in making this publication possible. This work sheds light on the pressing challenges facing the Philippine energy sector, which now stands at a crucial crossroads. With persistent issues like high electricity rates and widespread energy poverty, the urgency for reform is undeniable. Policymakers, industry leaders, and citizens must come together to address the ongoing challenges and reshape the power sector to ensure affordable, reliable energy for all. This compendium emphasizes the need for collaborative action to drive policies that create a more equitable energy landscape, where access to power is a right, not a privilege.

As we turn the pages of this important work, let us embrace the opportunity to advocate for a just and equitable energy system that uplifts everyone. The time for change is now, and the future depends on decisive, informed steps forward.



Marie Schröter
Country Director
Friedrich-Ebert-Stiftung Philippines

¹Lopez, E., & Lopez, E. (2024, April 26). Filipinos pay more for electricity compared to many ASEAN neighbors. What can Marcos do about it? PCIJ.org. <https://pcij.org/2023/09/14/filipinos-pay-more-for-electricity-compared-to-many-asean-neighbors-but-what-can-marcos-do-about-it/>

²<https://thecentre.ph/pdf/REImagine%20a%20Bright%20Future%20-%20CentRE.pdf>

³<https://www.undp.org/asia-pacific/publications/making-our-future-new-directions-human-development-asia-and-pacific>

Foreword

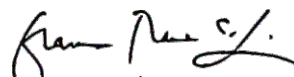
“Sunshine is the best disinfectant,” was one of the memorable lines uttered in the series, *The West Wing*. I suddenly remember it while I was thinking about how best to let the readers know of the importance of the research put into this publication. In that episode of *The West Wing*, the fictional White House Communications Director and a *Wall Street Journal* reporter were talking about an issue on Social Security that the journalist wanted to expose. He was told to put it off until the White House was ready to comment, hence the journalist's response about sunshine as the best disinfectant. I quote that line here because sunshine can be appropriately used in its metaphorical and literal sense on the topic of this book.

Back in the late 90s until the early 2000s when the buzzword was privatization, it was not so easy for campaigners at the Freedom from Debt Coalition (FDC) to break through the noise especially because back then, government agencies running these public utilities were so poor at doing their job that the public was willing to accept any alternative. And so it went that the promise to bring down electricity prices by privatizing the power industry won over the public sentiment, while the campaigners saying otherwise continued exposing the defects of the 2001 Electric Power Industry Reform Act (EPIRA). Fast forward to 2020, when the Center for Power Issues and Initiatives (CPII) approached us at 11.11.11 to talk about plans for the 20th anniversary of the EPIRA. For us at 11.11.11, it was an easy yes to partner together to review the EPIRA, not for nostalgia purposes but certainly to look at the implementation of the law versus its promises, and to continue to find solutions for Southeast Asia's second-highest electricity rates.

Despite the pandemic disrupting the plans to come out with the research output in time for the EPIRA anniversary in 2021, the ensuing years provided additional time to further tighten and sharpen the analyses. We are proud to be part of this research initiative, which has once again exposed the folly of believing dogmatically in putting public utilities and services in the hands of the private sector. Experiences of other countries in their privatization adventure have shown how the consumers end up getting the short end of the stick. And the Philippines is not much different.

We invite the readers to go over the pages of analyses to help in your own review of the EPIRA, while looking at your monthly electricity bill. There is strength in numbers, as we believe in 11.11.11. Together, let us continue to push for a much better power industry set up that also takes into consideration the sources of electricity, as we face the challenges of a climate emergency. And in that light, together, we can push for renewable energy as one of the most viable alternatives to fossil fuels. I recall the earlier quote about sunshine: not only is it beneficial to expose to sunlight these 'germs' of privatization, but it also works as an energy source.

There are a thousand and one available alternatives to the EPIRA out there, and this book certainly adds to them.



Frances Therese C. Lo
Regional Coordinator
11.11.11 Asia

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Power and Profit: Accumulation in the Philippines' Privatized Power Sector

by James Matthew Miraflor

August 2024

The Philippine economy can be characterized as a constant search for *power* in a double sense. First, there is a continuous endeavor from all sectors of the economy to secure the *electric power* that runs the engines in our homes, factories, and plantations. In the process, the economy produces surplus: more and better resources than what was advanced. Second, there is a ceaseless drive among firms to increase market power by the accumulation of capital – that engine that seizes profits from the surplus produced by society. In the process, profits are reinvested in new economic sectors which will then require more electric power. It is an unending cycle of competition and accumulation.

Combine these two, and you'll end up with a privatized electric power since 2001 under Republic Act No. 9136, or the Electric Power Industry Reform Act (EPIRA). Electric power—the lifeblood of society – is permanently enshrined by law as capital, meant to earn billions of pesos in profit for its owners.

The EPIRA's stated goal of modifying the power industry's ownership structure – from public to private – is to eliminate inefficiency and encourage technological development. The strategy: to encourage service and goods providers in the industry to operate according to the profit motive. Profit supposedly rewards firms employing the most efficient means and organization while eliminating the wasteful ones through competition. Profit is also supposed to encourage new investments in more efficient generation and distribution of electricity and attract new and more productive industry participants.

Indeed, profit has been the driving force for the development of the power sector, but not just in the private sector. Profit for reinvestment, or accumulation, has animated the construction of generation plants and transmission lines both when the power sector is in the hands of the state and when it was controlled by corporations.

The difference is merely on the form. For the government, subsidized power ensures more profits for firms – crony or competitive. For conglomerates, a cornered electricity

market is a cash cow for the other business affairs of the members of the board. The government measures its accumulation via national economic growth, capital formation, and share of industry; the conglomerate does the same but at the market segment level.

This work¹ tackles the question of profit and competition in the power sector. To do this, we will monitor the long-running trends in ownership in the sector's transition from 1) a public vs. private-sector arms race culminating as Marcos vs. Lopez to 2) a monolithic public utility under the Marcos dictatorship to 3) the slow dismantling of the state energy behemoth under Aquino, Ramos, and Arroyo, and finally, to 4) an anarchy of power fiefdoms under EPIRA, dominated by giants built by former power technocrats and cronies of Marcos and Aquino.

In all these four historical phases, we will establish the relationship between power and profit, greed and growth, and note the evolving oligopolistic and oligopsonistic structures and vertically-integrated operations via cross-ownerships. We will also trace the origins of the power behemoths of today: Zobel & Ramon Ang, Ayala, Lopez, Aboitiz, Consunji, Razon, Pangilinan, Garcia-Escano, Alcantara, Sy, Coyiuto, Uy, among others.

Afterward, we will examine the transfer of capital from the government to the wealthy, and what it means in terms of profit generation and appropriation in the power sector. This requires examining the nationalization and privatization initiatives based on their intended outcomes, such as increased investment, technological development, and competition.

Finally, we provide some sketch of our imagined future of ownership in the power sector, one where electric cooperatives thrive as transformed backbones of local economies, the transmission system is renationalized and allowed an increasing stake in the distribution sector, and generation firms are treated once again as public utilities, contingent on their nature as such.

A Brief History of Power

EPIRA is a culmination of a decades-old epic match between two giants. In the blue corner, an American-born corporate mammoth seeking to corner the entire electric

¹ This work has been supported by the 11.11.11 and the Center for Power Issues and Initiatives. It was written with contributions from Madelaine Miraflor and has been copy-edited by Robert JA Basilio, Jr.

power industry. In the red corner, a nascent post-colonial Philippine republic expanding its grasp over that lucrative sector so it can finance its developmental and political requirements.

For these two hegemonies, capital accumulation is the primary goal: for the former, the direct conversion of private profits to more profit-generating private investments; for the latter, providing state-subsidized energy to client corporations so they can accumulate and provide stability for the incumbent regime.

When that match ended at the dawn of the 21st century, we are left with a dismantled state-energy complex dominated by an oligopoly – a capital that has diffracted itself into a handful of companies. As of 2020, only 11 families control almost three-fourths of country's generation capacity, with the government ownership reduced to a little more than a tenth. Transmission is fully privatized, while private distribution utilities command seventy percent of the electricity sales.

War for Power

The war for power began in a battle over hydroelectric energy during the US colonial period.

In 1930, the Manila Electric Company (Meralco) – an established electric and tram company owned by the US-owned Associated Gas and Electric (AGECO) corporation – completed the construction of the 17 Megawatt (MW) Botocan Hydro station, the country's largest hydroelectric power plant and private capital investment at that time. It set the stage for Meralco's expansion outside of the nation's capital.

Five years later, Commonwealth Act No. 120 signed by President Manuel L. Quezon in November of 1936 created the National Power Corporation (NPC), a non-stock state corporation given the power to “take water from any public stream, river, creek, lake spring or waterfall in the Philippines” and “to intercept and divert the flow of waters from lands of riparian owners and from persons owning or interested in waters which are or may be necessary for said purposes, upon payment of due compensation”. While still short of nationalization, the Act effectively secures for the State prime real estate on the country's hydropower resources. The Act also gave NPC 250 thousand Philippine pesos (around 138 million Philippine pesos at today's prices, assuming a fixed US\$1=P2 at that time).

The privatization of transmission has not maximized present value for the government. Instead, it has placed in private hands the golden opportunity to earn billions of profits from a risk-free business whose regulation is more symbolic than real. It has also surrendered the priceless asset of a national broadband network—the only one in the country—and given a private entity with Chinese government equity the potential to earn far more from

broadband than from transmission. Broadband should serve as a developmental asset for the equitable spread of knowledge and information, especially in hard-to-reach areas. There is no such thing under the present setup.

The Philippine Government was at a losing end from the start—debt-induced power industry restructuring charged to taxpayers and the cost of post-EPIRA implementation borne by power consumers. Yet, as seen very clearly with the privatization of transmission, the government continues to lean backwards and provide the players with a golden ticket—lock, stock, and barrel.

The next three decades saw the simultaneous expansion of public and private power sectors – a race to power an industrializing economy and radically shrink the country's “electricity gap” while capturing its surplus. Meralco's owner AGECON reorganized itself as General Public Utilities (GPU) in 1946 to prepare itself for massive expansion. By next year, Meralco would secure a two-decade franchise to energize Manila via Republic Act No. 150 – from 1953 to 1973. Three years later, Meralco augmented its generation capacity with Rockwell 1 (25MW) and Rockwell 2 (25MW), effectively more than doubling its existing pre-war capacity of 45MW.¹

In 1962, Meralco grew big enough to attract a sugar baron of Iloilo, Eugenio Lopez Sr., the patriarch and founder of what is now known as the Lopez Group of Companies. Lopez, Sr. established the Meralco Securities Corporation (MSC), the forerunner of the First Philippine Holdings (FPHC) corporation. The majority of MSC shares are owned by Benpres Holdings Corporation, which represents the direct Lopez stake. Lopez would then use it to buy Meralco from GPU² for 54.4 million US dollars, or at the 1962 exchange rate of US\$1=P3.6575, 198.96 million Philippine pesos (around 20.88 billion Philippine pesos at today's prices).

Around the time Lopez acquired Meralco, the State was also busy consolidating its grip on electricity generation and distribution.

In June 1960, the Congress under President Diosdado Macapagal passed the Republic Act No. 2641 converting NPC into a stock corporation and infusing it with a 100 million Philippine pesos capitalization from Treasury funds (11-13 billion Philippine pesos today). The same year, the Congress passed without executive approval Republic Act No. 2717 which allocated 25 million Philippine pesos to electrification from 1960 to 1965 (or a five-year total of around 2.5-3 billion Philippine pesos at today's prices, considering annual price changes). The Act also created the “Electrification Administration,”³ the precursor of what is now the National Electrification Administration. The following year, Congress raised NPC capitalization to 250 million Philippine pesos (28-29 billion Philippine pesos today) Republic Act No. 3043.

Power Struggle: Marcos vs. Lopez

Despite substantial resources invested by the State into the NPC — which, for a long time, was the country's largest power producer — no “formal” competition ever took place between the government and the Lopez-led Meralco. In 1961, for instance, Meralco was sourcing 35 per cent of its power requirements from NPC plants. Meanwhile, the government has set its sights to rural electrification, leaving Metro Manila to Meralco.

But this symbiosis won't last. Meralco will naturally be looking to develop its own generation capacity while the government will want to develop its own distribution utilities.

An eventual rivalry between the Lopez-owned Meralco and the Marcos-led government took place from 1965 to 1972, under the pre-Martial Law administration of former President Ferdinand Marcos and Vice President Fernando Lopez, the only brother of Eugenio Lopez. Their eight years of Marcos-Lopez political partnership⁴ obscured the true nature of their relations – a ruthless contest of their agents in the electricity sector. This competition set the stage for a rapid expansion of generation and distribution, helping feed a growing market (39.23 per cent GDP growth from 1965 to 1972).

Marcos ramped up the State's electricity capital. Replacing the weaker Macapagal-era RA 2717, he signed Republic Act No. 6038 which aimed for the “total electrification of the Philippines” and renamed the “Electrification Administration” the “National Electrification Administration” or NEA. On top of the existing 25 million Philippine pesos, the Act allocated 20 million Philippine pesos per year from 1970 to 1979 (a 10-year total equivalent to P7.5-8.5 billion at today's prices, given annual price changes). These funds were mobilized as loans by the NEA to newly-created Electric Cooperatives (EC) for the procurement of power distribution assets. Marcos' Congress also passed Republic Act 6395 in 1971, which raised NPC capitalization to P300 million (P17-18 billion today), and allows it to borrow up to P500 million (P28-29 billion today).

Not to be outmatched, the Lopezes built one power plant every 18 months throughout the 60s, expanding Meralco's generation capacity from 300 MW to 1.5 GW in just one decade. By 1969, Meralco would be worth 1 billion Philippine pesos (P80-82 billion Philippine pesos today), making it the country's largest corporation at that time. Three years later (1972), when Marcos finally declared Martial Law, Meralco was worth 2.8 billion Philippine pesos,⁵ or 141-143 billion Philippine pesos today. (For perspective, Lopez-owned First Gen Corp. is worth 142 billion Philippine pesos by 2020, though Meralco, now under different shareholders, is valued at 80.7 billion Philippine pesos.)

Marcos Takes Power

Seeing power generation as a key element in his brand of developmental authoritarianism, Marcos promulgated Presidential Decree No. 40, s. 1972 just two months into Martial Law (Proclamation No. 1081 s. 1972). The decree said that the “setting up of transmission line grids and the construction of associated generation facilities... shall be the responsibility of the NPC as the authorized implementing agency of the State.” Subsequently, all “plant additions necessary to meet the increase in power demand of the area embraced by any grid set up by the NPC shall be constructed and owned by the NPC.” This unequivocally sent the message that the power sector is within government domain.

In response to the 1970s oil crisis, Marcos issued Presidential Decree No. 334 s. 1973 to create the Philippine National Oil Company (PNOC) headed by Republic Glass CEO Geronimo Velasco. An able technocrat, Velasco facilitated the transformation of the PNOC into a “total energy company,” providing the much-needed fuel for NPC's oil-based plants. But Velasco won't stop there. PNOC later acquired oil marketing and refining firm Esso Philippines and renamed it Petrophil, later becoming the Petron corporation.

PNOC would also be spun off into two companies in a drive to energy self-sufficiency: the PNOC Exploration Corporation (PNOC-EC) and the PNOC Energy Development Corporation (PNOC-EDC). PNOC-EC focused on potential onshore oil exploration, particularly in Cagayan Valley, Central Luzon, Northern Samar, Southern Cebu, and Mindoro. PNOC-EDC will facilitate the country's entry into among the world's top users of geothermal power and be tasked to explore other renewable sources of power.⁶

PNOC-EC would still be state-owned by 2020. It would play a critical role in the exploration of the Malampaya gas fields that would later supply a chunk of Luzon's energy requirements. Meanwhile, the PNOC-EDC will be privatized only by 2007. It would fall in the hands of the Lopez family, as events will show later.

In 1974, two years after Martial Law was declared, Marcos placed NPC directly under the office of the President via Presidential Decree No. 380 s. 1974. The following year, Marcos transferred NPC, NEA, and the Power Development Council to the Department of Public Works, Transportation and Communications (DPWTC) via Letter of Implementation No. 31.

The DPWTC then was led by one David Mendoza Consunji, engineer and founder of DMC Incorporated (DMCI). Observers of the Philippine power sector will surely

recognize the name, for David Consunji would later establish the infrastructure goliath DMCI Holdings in 1995 that would later absorb the Semirara Coal Corporation (SCC) in 1997.

DMCI Holdings and SCC would afterward engage in power generation: DMCI Holdings will spin off DMCI Power while SCC will rename itself as the Semirara Mining and Power Corporation (SMPC). By 2020, DMCI Power would control 733 MW (2.79 per cent of total) in installed capacity while SMPC would control 350 MW (1.33 per cent).

State Power Swallows Everything ...

In 1977, Marcos issued PD No. 1206 creating the Department of Energy (DoE). Marcos tasked PNOC's Velasco to run this well-oiled agency as Energy Minister. The DoE under Velasco proceeded to create 20 power plants, 17 of which are geothermal or hydroelectric. These facilities were placed under NPC control, including the mammoth Agus-Pulangi Hydropower Complex. In effect, the triumvirate of NPC, PNOC, and DoE operated a nationalized power sector, fueled by borrowings for capital expansion.

Under Marcos, NPC had grown like never before and never would do so again.

In 1974, PD 380 increased the capitalization of NPC to 2 billion Philippine pesos (67-79 billion Philippine pesos today).⁷ In 1976, Marcos issued PD 938 to increase NPC capitalization to 3 billion Philippine pesos (232-234 billion Philippine pesos today).⁸ By April of 1978, Marcos' PD 1360 will have increased the capital stock of NPC to a whopping 50 billion Philippine pesos – 1.23-1.25 trillion Philippine pesos at today's prices – making it the largest corporation in Philippine history at that time. *For perspective, note that the largest power corporation in the country today is SMC Global Power, with a capital of 610 billion Philippine pesos, half of 1978 NPC.*⁹

The intention of the capitalization is clear: to swallow Meralco whole.

PD No. 40 s. 1972 had already nationalized the power sector but in practice, Marcos still had to facilitate the transfer of Meralco's assets to the state. He did so by tasking Benjamin "Kokoy" Romualdez, his brother-in-law, to create the "Meralco Foundation, Inc." (MFI).

With an initial capital of only P25,000 (around P1.3 million today), MFI – through what the Lopez family called "sinister strategies and underhanded maneuvers" and "pay-when-able" terms – was able to acquire 27 per cent of MSC Shares from Benpres, as well as an additional 17 per cent of MSC shares from individual shareholders.

With the MFI controlling 44 per cent of MSC, the latter was prompted to sell to MFI all its Meralco common and

preferred shares by 1977, given an initial down payment from money borrowed from the government-owned Development Bank of the Philippines (DBP) using Meralco shares as collateral.¹⁰

From 1978 to 1979, Meralco, now under MFI's control, was forced to sell all its major power plants to the NPC. In November, NPC paid Meralco 1.1 billion Philippine pesos (28-29 billion Philippine pesos at today's prices) for Meralco's Sucat power plants: 350 MW Gardner 1 and 2, which were commissioned in 1968 and 1969 and the 500 MW Snyder 1 and 2, which were commissioned in 1971 and 1972.

Velasco authorized another 900 million Philippine pesos fund release (19-20 billion Philippine pesos at today's prices) for the procurement of several Meralco plants, which were also sold to NPC. These were the 35-MW Blaisdell Plant, commissioned in 1950 to 1953; the hydropower gem Botocan which by then was already able to produce 17-MW; the 200-MW Tegen 1 and 2, commissioned in 1965 and 1966), and the 650-MW Malaya 1 and 2, commissioned in 1973 and 1978). The Rockwell plants, commissioned in 1950 to 1963, which by then have grown to 305 MW in capacity, were leased to the NPC. All told, a total of 2.06 GW of Meralco capacity would be augmented to state power.

Meanwhile, Meralco Securities Corp. (MSC), Meralco's original majority stakeholder, reorganized itself as First Philippine Holdings Corporation (FPHC) to survive.

In 1976, FPHC acquired 25 per cent of Pilipinas Shell Petroleum Corporation. The acquisition placed the Lopez Group on somewhat equal terms with its government counterpart. With the PNOC under Velasco enjoying full control of Petron Corporation, First Philippine Holdings Corporation led by the Lopezes exercised the same control over Pilipinas Shell.

This arrangement would not last long. In 1986, the Lopez Group sold its 25 per cent stake in Pilipinas Shell for 507 million Philippine pesos (3.7-3.8 billion Philippine pesos today) to buy back FPHC's debts in the process of regaining their old assets after the ouster of Marcos.¹¹

..., Regurgitates, ...

During this period of power and profit consolidation in the hands of Marcos cronies, the industrial sector had climbed to its historical peak of 43.1 per cent of the nominal Gross Domestic Product (GDP). The years 1972 to 1984 were the only times the economic contributions of the industrial sector exceeded those coming from services.

This was an active strategy of the Marcos regime: in 1979, he was fully committed carrying out 11 Major Industrial Projects (MIP), pump-priming the coconut, cement, aluminum, pulp and paper, and copper smelting industries, among others. However, it remains well known how his

cronies secured footing in those sectors, from Cellophil of Herminio Disini, to San Miguel of Eduardo “Danding” Cojuangco Jr. to the steel mills of Manuel Elizalde.

The industrial sector is a power-intensive one. In 1986, a few months after Marcos was ousted, industrial consumption of power reached 5.84 GWh, or 26.81 per cent, compared to 3.54 GW for residential (16.22 per cent) and 2.93 GW for commercial (13.43 per cent).¹² The share was probably higher at the peak of industrial production in the late 1970s. To support the burgeoning industry, Marcos had to ensure that higher power demand won't lead to increased power prices. To this end, he issued PD No. 551 s. 1974, which reduced franchise taxes and fuel tariffs for power generators.

Since Meralco would eventually fall into the hands of the State, (which, in turn, would later shoulder the cost differentials), the rapidly industrializing economy at that time would be powered by an energy sector enjoying debt-driven subsidies absorbed primarily by giant government corporations and state-sponsored monopolies. As a result, revenues of these state-led corporations (as well as the resulting surplus net of obligations) were effectively controlled and appropriated by cronies – the base of the dictatorship. Energy, in effect, is conserved in Marcosian thermodynamics: electric power to economic power to political power, which is then used to create more electric power.

Consider one of the giants of the industry: San Miguel Corporation (SMC), a food and beverage giant that spun off a company that would later become a major energy player.

Once considered as one of Southeast Asia's largest food and beverage firms, San Miguel was owned by the Zobel de Ayala family via the Ayala Corporation, and was controlled by a relative, Andres Soriano, Jr. since 1967. Soriano was closely supported by Jaime Zobel de Ayala, a patriarch of the same company bearing his surname. Marcos facilitated the ownership transfer of the agro-industrial behemoth to his crony Eduardo “Danding” Cojuangco, Jr. by imposing a levy on coconut farmers. The levy, which was funneled to the United Coconut Planters Bank (UCPB), which was controlled by Cojuangco, who then used the funds to buy a controlling stake (nine out of 15 board seats) in SMC in 1983. He was able to do so through the assistance of Enrique Zobel, Soriano's first cousin, who sold his 19% SMC stake to Cojuangco.¹³

Fast forward to 2020, almost four decades after this infamous transaction.

The son of Enrique Zobel – Iñigo Zobel – would own the Top Frontier Investment Holdings, Inc. which controlled 65.99% of SMC and become its dominant shareholder as

of the time of this writing. SMC by then would have a subsidiary, SMC Global Power, the largest power company in the Philippines, controlling 5.2 GW in installed capacity (20.15 per cent of the entire Philippines') and 610 billion Philippine pesos in assets. In short, from being a previous food and beverage powerhouse, San Miguel was able to transform itself as the country's top power producer.

It is interesting to note that when Enrique Zobel sold his San Miguel stake to Cojuangco, it caused a split in the Zobel de Ayala clan, with Jaime Zobel de Ayala and Enrique Zobel pursuing different paths after Martial Law. The former would later be the chairperson of the Ayala Corporation, which would, in turn, develop its own power company ACEN. By 2020, ACEN would control 902 MW in installed capacity (3.43 per cent of the country's) and 63.6 billion Philippine pesos in assets.

... and Throws Up

The nationalized energy-industrial complex Velasco built for Marcos is at the core of his state consolidation project. The ouster of Marcos, therefore, necessarily required the dismantling of the power parastatals. Days shy of President Corazon Aquino's fourth month in power, she issued Executive Order 20 s. 1986 abolishing Marcos' Ministry of Energy and placing all its offices, agencies, and corporations under the administrative supervision of the Office of the President¹⁴— ironically bringing it back to the same arrangement that existed in 1974. In 1987, she issued Executive Order No. 215, amending Marcos' PD No. 40 to allow the private sector to generate power.

According to Geronimo Velasco¹⁵, EO 20 s. 1986 was suggested to Aquino by Cesar Buenaventura, who was at that time President of Pilipinas Shell. Eight years later, President Fidel Ramos would oversee the privatization of PNOC's Petron and its sale to Saudi Aramco, paving the way for its eventual capture by the San Miguel Corporation in 2009. But Ramos would do much more than neuter PNOC, as events will show later.

The most remarkable event in the power sector under Aquino is that Meralco, after having been controlled by NPC for almost a decade, would be returned to the hands of the Lopez family. Aquino started the process via Memorandum Order No. 148, s. 1988, tasking an ad hoc committee on Meralco privatization to “ensure that no single family or business interest shall take control of Meralco's shareholdings and operations”.

Eventually, that did not take place. The Lopez family claims¹⁶ that by 1991, they, via the FPHC (which previously was MSC), would own 20 per cent of Meralco (compared to pre-Martial Law 100 per cent) from the shares bought but unpaid by MFI, with the government having 22 per cent.¹⁷

The return was garbed in corporate legalese¹⁸, with pundits¹⁹ and politicians²⁰ still raising a specter of controversy. In any case, by 1992, Meralco shares would be listed on the Manila Stock Exchange, giving opportunities for other companies to take their slice of the Meralco pie, especially after its consumer base reached the two-million mark the previous year.

This, marked the beginning of the Lopez Group's reentry into the power sector.

After securing control of Meralco once again, FPHC spun off First Generation Corporation (FirstGen) and First Gas Power Corporation (FGPC) in 1994. By 2020, FirstGen would control 2.31 GW of the country's installed capacity (or 8.78 per cent of the total). FirstGen would also eventually acquire PNOC-EDC and spin it off as EDC – which by 2020 would control 1.25 GW (4.76 per cent of the total). FPHC would also be adding a distribution utility to its chest – the Panay Electric Company (PECO).

As for NPC, Aquino appointed Ernesto M. Aboitiz as President from November of 1987 up to 1991.²¹ Before his appointment, Aboitiz has served as President of Davao Light & Power Company (DLPC) and Cotabato Light and Power Company (CLPC) from 1970 to 1987 – two power distribution utilities controlled by the powerful Aboitiz clan of Cebu, which operates its businesses through the Aboitiz Equity Ventures (AEV) (formerly Cebu Pan Asian Holdings).

From 1998 to his death in 2010, Ernesto Aboitiz would serve as the Director of the Aboitiz Power Corporation (AboitizPower), the energy spin-off of AEV. By 2020, AboitizPower would have controlled 4.8 GW or 18.36 per cent of the country's installed capacity, 397.9 billion Philippine pesos in assets. Ernesto, like David Consunji, transitioned from public power to private power.

Aboitiz facilitated the signing, in 1988, of a Memorandum of Agreement with NEA so NPC can take over the generation facilities of electric cooperatives in small islands and remote areas. This seems to be a reversal of the overall policy of privatization, but this was necessary to follow Aquino's order to peg electricity prices to no more than 2.50 Philippine pesos per kilowatt-hour (around 16-17 Philippine pesos at today's prices; for perspective, Meralco's rate as of April 2022 is 10.1830 Philippine pesos).

Accordingly, NPC under Aboitiz created its Small Island Grid Operations to help provide electricity and facilitate the transfer of subsidies to these areas. These subsidies for electricity generation would bleed NPC's coffers in the same way that increased distribution subsidies for electric coops would exhaust NEA's revenues.²² These small island grid operations would later be known as the NPC-Small Public Utilities Group (SPUG).

Power Shortage

The dismantling of the Velasco's complex of power GOCCs (government-owned and controlled corporations) during the Aquino-Ramos years led to a four-stage act that led to EPIRA.

The first act was when electricity demand outpaced supply during Cory Aquino's term as only a few plants were commissioned due to fiscal constraints; the second took place when blackouts threatened the growing economy just as the Aquino regime ended and the Ramos government began; the third act was when the Ramos government became increasingly dependent on the private sector to build new power plants through onerous Build-Operate-Transfer (BOT) lease agreements; and fourth was when the NPC became unable to pay its debts on those lease agreements, contributing to the fiscal crisis under President Gloria Macapagal-Arroyo.

The first act can be gleaned from data.

From 1986 to 1991, the economy grew 21.35 per cent in real terms, but power generation (in GWh) only grew by 17.67 per cent. Of the 26.3 GW existing installed capacity in 2020, only 239 MW or 0.91% was commissioned during the Cory Aquino administration. An economy growing faster than electricity production is a recipe for power shortage. In fact, energy sales increased by 61.9 per cent, way faster than the increase in total power generation. It was only through the rapid decline in the use of power by the power utilities themselves (as well as "systems loss") that production and consumption balanced.

But why was the Cory Aquino government unable to increase the country's power generation capacity?

One reason is that Marcos' "development aggression" had to be addressed. The Bataan Nuclear Power Plant (BNPP) was later mothballed due to safety and environmental issues while the construction of the Calaca coal-fired power plants needed to be stopped due to legitimate community concerns. Another reason is that the government was fiscally challenged at that time with Marcos leaving a deficit that was almost 4 per cent of the GDP. This explained why the Aquino administration facilitated the government's exit from many sectors her predecessor invested in, including the electricity industry.

Yet another reason is that NPC itself under Aboitiz has been heavily indebted around this time. According to Alfredo Guido Delgado, NPC President under Ramos (1994-1998), the state-led entity charged fixed rates despite rising generation costs. Without any requisite subsidy to cover higher costs or investments in more efficient energy production, NPC ended up with staggering levels of debt. For the first time in its history,

NPC's losses reached 418.63 million Philippine pesos between 1987 and 1990 (more than 2 billion Philippine pesos at today's prices), and 2.4 billion Philippine pesos between 1990 and 1991 alone (almost 10 billion Philippine pesos today).

Delgado claimed this was due to the peso losing a fourth of its value from 1988 to 1990 and fuel costs going up from 8 dollars per barrel in 1989 to almost 32 dollars per barrel by 1990.²³ The 21.35 per cent growth from 86 to 1991, despite ruined macroeconomic fundamentals post-Marcos and a convulsing world economy, was made possible via power subsidies that bled the NPC dry.

By 1991, the second act commenced.

The nation felt the brunt of severe power shortages. For instance, an El Niño drought reduced the Agus Complex output from 700 MW to a low of 300 MW, condemning Mindanao to scheduled outages that lasted as long as 12 hours. The power crisis, compounded by coup attempts against the Cory Aquino government, applied brakes on the economy that was already recovering from the recession in 1983-1985. As expected, the power crisis pulled the plug on economic output – GDP dropped by 0.44 per cent after growing above three per cent for the last four years. This, in turn, reduced the industrial consumption of electricity, reporting a -6.07 per cent growth in 1990-1991 and 5.14 per cent in 1991-1992.

The symbiosis of profit and power is all too clear.

Take-or-Pay

When Fidel Ramos became president, his government provided prompt responses shortly after the expiration of the Emergency Power Crisis Act, which authorized him to build electricity plants quickly to avert any more shortages. His "rainbow coalition" in Congress passed Republic Act No. 7648 or the "Electric Power Crisis Act of 1993" followed by RA No. 7718 or the Build-Operate-Transfer (BOT) Act of 1994".

These new laws helped set the stage for the third act: the creation of desperate, onerous contracts to quickly close the gap between electricity supply and demand. To get Independent Power Producers (IPP) to operate in the country and power his "Philippines 2000" vision, Ramos threw their way all sorts of sweeteners, especially the notorious "take-or-pay", "fuel cost guarantee", and other detrimental conditionalities built into the Power Purchase Agreements (PPA).²⁴ It may be more than coincidental that some of those IPPs happen to be owned by Ramos' campaign supporters, like Catalino Tan.²⁵

It worked as intended, with unsurprising consequences.

Just like in Aquino's time, NPC built up humongous debts. These debts, however, was reflected on the other side of the balance sheet as profits for firms in an increasingly

liberalized market – and therefore also resulted in economic growth. Ramos was able to reverse the depression from the final years of Aquino, and he managed a 24.25 per cent GDP growth from 1992 to 1997, compared to Aquino's 21.35 per cent from 1986 to 1991. But unlike Aquino's growth, Ramos' growth has been power-intensive, raising total power consumption by 53.8 per cent, compared to Aquino's 17.7 per cent. Onerous contracts powered a fledgling economy.

Exactly what kind of economy was it?

If Marcos' "New Society" builds an economy that is a constellation of corporate parastatals run by state-appointed technocrats for developmental purposes²⁶, Ramos' "Philippines 2000" is a fully liberalized market of listed corporations rising from the ruins of dismantled state-sponsored monopolies and sclerotic cartels.²⁷ Ramos' Newly Industrialized Economy (NIE) by the dawn of the 21st century will be a bazaar of publicly-traded corporations, where all citizens get to partake directly in the benefits of accumulation and profits, instead of a state – elected or not – making decisions on how to distribute the national surplus.

Ramos made an example of the Philippine Long Distance Telephone Company (PLDT), which was formerly nationalized by Marcos and taken from Ramon Cojuangco, brother of Danding.²⁸ After Marcos was ousted, PLDT would be returned to Ramon's son, Tonyboy, but would still enjoy its legal monopoly. The passage of the Telecommunications Act of 1995 deregulated the sector and de-monopolized PLDT, opening it up to the public – for private investors and individual shareholders.

Why is PLDT, a telecommunications company, mentioned in a discussion about the Philippine electricity industry? Because the company would later be taken over by a group that would secure control of Meralco.

In 1998, controlling shares of PLDT were acquired by First Pacific Company Ltd., led by Manuel Pangilinan and bankrolled by the Salim family, a favored crony family of Indonesia's Marcos – Suharto. Today, Pangilinan's First Pacific is the controlling stakeholder of Meralco, owning 45.46% of the company. Pangilinan would also enter energy exploration. By 2012, he would own 70% of Service Contract 72, an exploration contract along the Recto Bank, via Philex Mining's controlling share over FEC Resources.²⁹

The fourth and final act is well-known to most observers of the Philippine power sector.

By 2001, NPC would rack up a debt of 912.47 billion Philippine pesos (1.8-1.9 trillion Philippine pesos at today's prices), almost exceeding its assets of P1 trillion (P2-2.1 trillion at today's prices). At least 319 billion Philippine pesos (617-619 billion Philippine pesos at today's prices)

was owed to “long-term foreign creditors”³⁰ When the Power Sector Assets and Liabilities Management Corp. (PSALM) was created in the wake of EPIRA, it will claim to inherit, by 2008, 830.7 billion Philippine pesos of NPC's debts (1.2 trillion Philippine pesos today). Of this amount, 319 billion Philippine pesos (448 billion Philippine pesos today) were outstanding long-term debts while 511.6 billion Philippine pesos (718 billion Philippine pesos today) were “BOT lease obligations represent[ing] the amount due from NPC to IPPs for facilities built in the 1990s”.³¹

Obviously, it was the disastrous IPP initiative by Ramos that created the context for the full privatization of the power sector under EPIRA. It was as if the subsidy given to the class of private players in the power sector via onerous contracts would be used as an excuse to hand over the entire power sector to the same class via privatization. Instead of a free-for-all, however, the nature of the power sector itself (high cost of entry, barriers to exit, scale requirements) favors not the Wild West of the Ramos-IPP era, but a relatively peaceful oligopolistic competition of mega-conglomerates.

If NPC is indebted and can't invest in capacity, why won't subsequent governments take up the slack?

Estrada did try under his energy secretary, ex-Petron chief Mario Tiaoqui (3.1 GW of current existing capacity was added during his time), but his regime is too short to make any meaningful impact.

As for President Gloria Macapagal-Arroyo, she did face the same dilemma as Cory Aquino – a huge fiscal problem. By 2002, Arroyo would be facing a fiscal deficit of 210.7 billion Philippine pesos (397 billion Philippine pesos at today's prices) and a public sector deficit (which includes GOCCs like NPC) of 218.8 billion Philippine pesos (413 billion Philippine pesos today). That's 4.84 per cent and 5.03 per cent of the GDP, respectively – the highest since Aquino's crisis in 1990. Arroyo's “Strong Republic” — her vision for the country — wasn't robust enough to carry the weight of Ramos' costly decisions.

¹ Meralco (2017)

² See www.fphc.com/gettoknow/our-history.

³ Macapagal later issued Executive Order No. 22 s. 1962 providing for the implementing rules of RA 2717.

⁴ Their ticket won twice: in 1965, defeating Macapagal and Gerry Roxas, and in 1969, defeating Sergio Osmeña, Jr. and Genaro Magsaysay. But by 1972, Marcos will declare Martial Law and abolish the position of Vice President Lopez.

⁵ Lopez Holdings Corp. (2002c)

⁶ Aside from Petron, PNOC-EC, PNOC-EDC, PNOC would also spin off PNOC-RC, a Renewables Corporation.

⁷ PD 380 also allowed the state corporation to borrow up to 3 billion (100-102 billion today).

⁸ PD 938 also increased NPC's allowable debt to 12 billion (348-350 billion today) supposedly to explore nuclear power options.

⁹ However, the largest corporation in the Philippines today is BDO Unibank, valued at 3.6 trillion pesos—thrice of 1978 NPC.

¹⁰ Oscar Lopez recounts how Marcos held his brother Geny Lopez hostage in order to pressure the Lopezes to hand over Meralco to Romualdez in Lopez Holdings Corp. (2002b).

¹¹ Lopez (2010).

¹² In 2020, residential at 33.7% has outstripped industrial consumption of power at 25.13%.

¹³ Check out an account by Raissa Robles on Cojuangco and Zobel's maneuvering in Robles (2000).

¹⁴ A year later, she will place all energy-related offices under an Office of Energy Affairs, still under the office of the President. Check out Executive Order No. 193 s. 1987.

¹⁵ Velasco (2006)

¹⁶ See the account of Lopez family in Lopez Holdings Corp. (2002a).

¹⁷ The NPC would still be in control of many generation plants it acquired from Meralco, including Botocan (22.8 MW installed capacity as of 2020, still with PSALM).

¹⁸ See G.R. No. 95197 (FPHC vs. Sandiganbayan).

¹⁹ See the take of journalist Larry Henares in Henares Jr. (2014).

²⁰ See former Sen. Enrile's account in Enrile (2020).

²¹ By 1991, Aboitiz will be moved to the National Power Board.

²² See Urbano Mendiola Jr.'s analysis in Mendiola, Jr. (2016).

²³ Delgado (2015)

²⁴ This has been a topic of volumes of written studies, statements, and expositions, so we won't be elaborating on it anymore. For more details on our risk exposure to IPP and BOT agreements, see Llanto (2007). Also check out this old PCIJ article featuring arguments from economist Maitet Diokno-Pascual (Pabico, 2007).

²⁵ Check out PCIJ's multi-part article series on the matter: Part 1: Rimban & Samonte-Pesayco (2002a), Part 2: Rimban & Samonte-Pesayco (2002b), Part 3: Rimban & Samonte-Pesayco (2002c).

²⁶ Marcos technocrats, including Velasco, will be led by Marcos' chief technocrat – Finance Minister turned Prime Minister Cesar Virata (Tadem, 2014).

²⁷ Ramos' ideologist would be his National Security Adviser, Jose Almonte, who crafted the vision for the Philippines 2000 (Agunod, 2011).

²⁸ The story is actually similar to that of Meralco; Ramon Cojuangco bought it from an American telecommunications firm GTE in 1967.

²⁹ Somera (2012).

³⁰ See the Table E.3. (Balance Sheet of Selected Government Corporations, FY 2001) of the 2003 Budget of Expenditures and Sources of Financing (BESF) (Department of Budget and Management, 2003).

³¹ See www.psal.gov.ph/financial/obligations.

Dark Power Rises

President Gloria Macapagal-Arroyo did three monumental acts in the energy sector in her decade in power.

The first one, as everyone knows, is to sign EPIRA – the groundbreaking law that permanently shut off state power over the energy sector, after it took a beating from presidents Aquino, Ramos, and Estrada. Now, much has already been said on EPIRA¹, especially with regards its role in high electricity prices and its failure to increase accessibility. This chapter adds to that narrative by describing how the Philippine state, under EPIRA, used privatized power assets to arrest its fiscal failures, how conglomerates battled for the cash machine that is electricity, and how politicians sought to weaponize the energy sector by dangling chunks of it to allies while seizing them from enemies.

We will also trace the origins of new power sector giants. Earlier, this paper took note of how the Lopez Group became a leader in the strongly expanding private power sector, how Marcos' nationalization of the electricity sector created a Consunji, whose company would become a dominant energy player, how Aquino facilitated the entry of the Aboitiz family into the industry, and how Ramos fueled Pangilinan's rise to corporate power through telecommunications privatization.

In the next few paragraphs, we will see how EPIRA's zeitgeist created a few more power overlords – Razon, Coyiuto, Garcia-Escaño, Sy, and Alcantara. They all rose during the long, dark decade of the Arroyo administration.

None of Your Business

The Philippines' first major privatization initiative took place in 2007 when the government sold its stake in PNOC-EDC.

In December of 2006, the then state-led PNOC-EDC launched its initial public offering (IPO) at 3.20 Philippine pesos each share, raising at least 14.4 billion Philippine pesos (22.52 billion Philippine pesos today).² One year later, shares prices increased by 40 per cent, prompting the cash-strapped Arroyo administration to sell the government's entire 60 per cent stake to finance its 63 billion Philippine pesos deficit for that year.

Lopez's FirstGen won the bid, offering 58.5 billion Philippine pesos (88.87 billion Philippine pesos today) at 9.25 Philippine pesos per share, defeating Filinvest (owned by the Gotianun family), SMC (Cojuangco, Ang), Aboitiz, and Alsons Consolidated Resources (owned by the Alcantara family).³

By 2018, the EDC would be delisted from the PSE⁴ to become a company privately-held by the Lopezes. As of 2020, EDC's installed capacity was at 1.25 GW or 4.76 per

cent of the national share, total assets amounting to 146.32 billion Philippine pesos, and a net worth of 63.2 billion Philippine pesos with a rate of return of 9.1 per cent per annum — all that at the disposal of the Lopez Group. Two decades ago, President Ramos envisioned a Philippines whose economy was animated by thousands of publicly-traded companies. Instead, it appears that the country ended up in a feudal realm of privately-owned firms which refuse to trade in the capital markets.

The second major privatization initiative – that of NPC's transmission lines – illustrates this further.

Save for the NPC-SPUG (which helped energize far-flung areas), most assets of the NPC were intended to be fully privatized under EPIRA. These assets were transferred to the Power Sector Assets and Liabilities Management Corp. (PSALM), a state-led entity tasked to sell them. Similarly, the NPC's transmission assets were organized into the National Transmission Corporation (Transco) and became wholly-owned by PSALM. In 2006, Arroyo commenced the bidding for a 25-year franchise to maintain and operate the country's power grid – the country's “crown jewel”, initially valued at 3.3 billion US dollars or 138 billion Philippine pesos as of end-2006 (216-218 billion Philippine pesos today).⁵

The winning bid of a whopping 3.95 billion US dollars or 203 billion Philippine pesos (308-310 billion Philippine pesos today) was submitted by a consortium of the State Grid Corporation of China (SGCC) – a state-owned corporation by the People's Republic of China (PRC), Monte Oro Grid Resources Corp. – a wholly-owned subsidiary by Monte Oro Resources & Energy, Inc. (MORE) of Enrique Razon, Jr. and Walter Brown⁶, and Calaca High Power Corporation associated with Robert Coyiuto, Jr.⁷ The consortium narrowly defeated a group organized by Danding Cojuangco and Ramon Ang's San Miguel Energy with Dutch firm TPG Aurora BV and Malaysian utility Tenaga Nasional Berhad (TNB) Prai Sdn Bhd (offering 3.59 billion US dollars).

It should be pointed out that having the SGCC – a direct instrument of a foreign power – involved in the operations of the Philippines' only transmission grid raises security concerns. It's as if the business of running the Philippine transmission utility will now be the business of the foreign government. It can be recalled, however, that the Arroyo administration also flirted with Chinese parasatals on the controversial National Broadband Network (NBN) project (with partially state-owned Zhongxing Telecommunication Equipment Corp.)⁸, so it is only par for the course under her regime.

In any case, the whole bid looked like a Philippine Basketball Association (PBA) game where local teams are powered by “imports”.⁹ Razon and Coyiuto were aided by China state grid giant, and Cojuangco and Ang were backed by a Dutch and Malaysian firms, and the two other bidders also have other foreign partners. One was the

Pangilinan-led group composed of Metro Pacific-owned Two Rivers Pacific Holdings Corp., Pilipinas First Transmission Holdings Corp., partnering Terna-Rete Elettrica Nazionale S.p.A. which manages Italy's transmission lines. The other was the Delgado-led group composed of Citadel Holdings, Inc., another parastatal Power Grid Corp. of India Ltd., and Indian firm Actis Infrastructure 2 LP.¹⁰

It is more interesting to note that MORE and Calaca High Power were just incorporated in 2006 – such new companies bagging a huge deal, not unlike Romualdez's MFI was in 1977 when it took over Meralco. Moreover, MORE is associated with Enrique Razon, Jr., a close friend of then-First Gentleman Jose Miguel Arroyo and a staunch ally of President Arroyo.¹¹ Known as the “ports king” for his ownership of the International Container Terminal Services Inc., Razon would see his business radically expand under Arroyo.¹²

By 2012, MORE, which Sen. Jamby Madrigal exposed to have links with Arroyo's brother (Diosdado “Buboy” Macapagal)¹³ would have 30 per cent of the franchise over Service Contract 72 (with none other than Manny Pangilinan).¹⁴ It would later spinoff MORE Power, easing out Lopez-owned Panay Electric Company (PECO) to control Iloilo's distribution franchise by 2021.¹⁵ After MORE Power, Razon would be venturing into the nat-gas operation of Malampaya in 2022.

Meanwhile, Coyiuto, Jr., now the CEO of the privately-held Prudential Guarantee and Assurance, already figured in a bitter tussle with Vivian Yuchengco¹⁶ and former Finance Secretary Ernest Leung¹⁷ on the leadership of the Philippine Stock Exchange (PSE). Interestingly, during a speech at the PSE in January 2003, Arroyo congratulated Yuchengco and Coyiuto “for agreeing to sacrifice, by withdrawing their candidacies to remove the poison in the stock market”. But in the same speech, three sentences later, Arroyo would emphasize the sale of the TransCo franchise and the need to bring in reputable investors.¹⁸ If this is a signal to pacify Coyiuto, a classic quid pro quo, only Arroyo would know.¹⁹

Fast forward to 2008, two years after privatizing the country's transmission assets, Arroyo signed Republic Act No. 9511 creating the National Grid Corporation of the Philippines (NGCP). To be owned by the winning TransCo bidder, the NGCP was granted the franchise to “engage in the business of conveying or transmitting electricity through high voltage backbone system of interconnected transmission lines, substation, and related facilities, and other purposes”.

SGCC would own 40 per cent of the NGCP. Monte Oro would own 30 per cent, and Calaca High Power another 30 per cent. But following the official policy on privatization, this law mandates NGCP to eventually make public at least 20 per cent of its outstanding capital stock, or one of the owners with at least 30 per cent should be a public company.

By 2010, NGCP remained 40 per cent-owned by the SGCC.²⁰ But the rest of the shares have already changed hands. That year, 100 per cent of Razon's Monte Oro will be acquired by OneTaipan Holdings at 350 million US dollars, or 15.79 billion Philippine pesos (21-23 billion Philippine pesos today). OneTaipan is controlled by Henry Sy, Jr. – the scion of the richest family in the Philippines then.²¹ Meanwhile, Coyiuto would now own Calaca High Power using Pacifica21, together with NGCP President. But at that time, it had yet to sell 20 per cent of its shares to the public.

It appeared that the TransCo overlords didn't want anyone else prying into their businesses – just like the Lopezes didn't want anyone else sharing their control over EDC. In any case, the pressure on NGCP was such that it created a way to comply via backdoor listing.

In late 2010, Sy, Jr. bought a 45.5 per cent share of one UEM Development Company, a small company incorporated in the 1970 but was listed at the PSE.²² The board then renamed the company to Synergy Grid & Development Corp. (SGP) which will invest in power and utilities. It announced plans to do a public offer for 65 million non-voting preferred shares and will swap 100 million common shares for shares in OneTaipan and Pacifica21.²³ But years after this was announced, SGP was still flagged by PSE for failing to reach the minimum public ownership of 10 per cent (SGP only 7.44 per cent).²⁴ Then in February 2016, Sy and Coyiuto announced that they are canceling the share-swap deal because they were unable to get a tax-free assignment per Section 40 of the internal revenue code.²⁵

Finally, in December of 2019, another attempt was pushed. The plan was for SGP to increase its authorized capital stock to P5.05 billion divided into 5.05 billion Philippine pesos common shares, 4.1 billion Philippine pesos of which will be issued at 20.00 Philippine pesos per share in exchange for 67% of the outstanding shares of OneTaipan Holdings Inc. and 67 per cent of the outstanding shares of Pacifica21 Holdings Inc., in contrast to the earlier deal to get 100 per cent of each. SGP will only then own 40.2 per cent of NGCP, not 60 per cent – but still be the majority shareholder.²⁶

By March 2020, the Philippine Competition Commission (PCC) approved the deal.²⁷ By November 2021, it finally was able to list itself at the PSE via raising 13.85 billion Philippine pesos from a follow-on-offering (FOO);²⁸ ending an 11-year non-compliance to RA 9511 – but with only 14 years of franchise left.

It is not yet clear how the public capital traders will exercise an effective counter-balance to the Sy and Coyiuto at NGCP. In a stock market commentary written by Merkado Barkada of the Philippine Star (probably a pseudonym), it was pointed out that, “allowing the public to buy a

minority stake in an entity that owns a majority stake in NGCP is not the same as allowing the public to buy a minority stake in NGCP directly, as the layers of corporate control could be used to obscure the dividends from the public”²⁹

Power Plays: Lopez finally loses Meralco

The second monumental act of Arroyo on the power sector is a reversal of the privatization philosophy of her party founded by Ramos (Lakas), to attempt a state takeover of Meralco, and in the process displacing the Lopez family out of the distribution business for good. This is apparently what Arroyo meant by “Strong Republic”.

In July 2007, when Arroyo was busy selling the government's stake in PNOC-EDC and the country's transmission franchise, the Lopezes controlled Meralco via First Philippine Union Fenosa Inc. (FPUFI), a partnership between FPHC and the Spanish firm Union Fenosa Internacional SA. FPHC controlled 60 per cent of the FPUFI while Union Fenosa owned 40 per cent. FPUFI, in turn, owned 22.86 per cent of Meralco. FPHC directly owned another 3.98 per cent of Meralco, which increased to 6.6 per cent by end of 2007.

The Lopezes exercised control over Meralco via the FPHC and the FPUFI, but to solidify its position, they decided to buy out Union Fenosa's 40 per cent, which made FPHC's stake to Meralco increase to 33.4 per cent by January of 2008. This puts them in a bit safer position, since the Philippine government owns another 20 per cent,³⁰ while the Government Service Insurance System (GSIS) owns another 8 per cent. After having taken over by the state at least once, the Lopezes probably knew that something was in the offing.

The following month, an interesting development took place. GSIS bought 10 per cent from the national government³¹ and some shares from the stock market, raising its stake to 23 per cent and becoming the next largest shareholder after FPHC.

With the GSIS stake, and the holdings of the Social Security System (SSS), Landbank of the Philippines, Home Development Mutual Fund (HDMF), and Philippine Health Insurance Corporation (PHIC), the government altogether owned 33 per cent of Meralco, a striking distance from the Lopez Group's 33.4 per cent.

By April of 2008, GSIS President Winston Garcia, who was appointed to the post in 2002 by Arroyo, admitted that he is having some differences with the Meralco board, but denied any intention of a buyout.³²

Then in her 2 May 2008 speech to the Federation of Philippine Industries, Arroyo rallied the business sector to support the petitions pending in the Energy Regulatory Commission (ERC) to lower power costs.³³ Clearly, something was up, and the market became jittery over these developments as Meralco shares plunged.³⁴

By 11 May, Garcia made an abrupt turnaround and announced his plans “not only to buy out the Lopez family and other shareholders in Meralco but also to break up its concession to promote efficiency and transparency.”³⁵ The Meralco board then decided to push through with a showdown at a stockholder's meeting in May 27. The ensuing ruckus³⁶ resulted in Garcia's failure to secure control of Meralco. The Lopezes retained its five seats in the board, the government, four, with two left for its independent directors, former Chief Justice Artemio Panganiban and Vicente Panlilio of San Fernando Electric Light and Power Co.

This brazen attempt to reverse the country's privatization of the largest distribution utility has faced a united wall of opposition.

In a privilege speech in 9 May 2008, the late Senator Aquilino “Nene” Pimentel, Jr. accused Arroyo of foisting Meralco's takeover threat “to silence the ABS-CBN and other media facilities owned by the Lopezes so they can be used for the propaganda of the administration”³⁷. Meanwhile, Bayan Muna Rep. Teddy Casiño and Alliance of Concerned Teachers (ACT) President Antonio Tinio revealed that at least three Arroyo cronies, called the “Cebu Mafia”, were battling for the ownership of Meralco: the Aboitiz clan, the Alcantaras, and the Garcia family of Winston Garcia.³⁸

We already provided some background into the Aboitizes, some of whom served during the time of Cory. As for Tomas Alcantara, he was Arroyo's Chief of Staff³⁹ and Economic Adviser⁴⁰ who has been with the President since her first term.⁴¹ Alcantara, unlike Consunji or Aboitiz, was already an owner of a power company before he became a President's man. In 1995, he acquired, via the Alsons Power Holdings Corporation (APHC), a controlling interest over Terra Grande Resources which was engaged in petroleum exploration in 1995, which he then renamed Alsons Consolidated Resources, Inc. (ACRI).

But like Consunji or Aboitiz, Alcantara's foray into power would radically expand substantially after he served in the Cabinet.

By 2013, Alcantara would be acquiring full control of Conal Holdings Corporation after buying out EGCO International – one of Thailand's first IPP.⁴² Conal's investment in the Western Mindanao Power Corporation (WMPC), in Southern Philippines Power Corporation (SPPC), among others then became fully controlled by Alsons.⁴³ By 2020, he would control 522.4 MW in installed capacity, almost 2 per cent of the total.

Meanwhile, Winston Garcia belongs to one of the staunchest dynasties supporting Arroyo. In 2008, the Garcias managed the Visayan Electric Company (VECO) via

the Vivant corporation and had a long history of working relationship with the Aboitizes (VECO, as of 2020, is jointly owned by AboitizPower and Vivant).⁴⁴ The Garcia clan of Cebu would eventually include another clan in their fold, and would become the Garcia-Escano clan, in control of Vivant Energy that by 2020 would have 448 MW in installed capacity (1.7 per cent of the total), 22.58 billion Philippine pesos in assets, and more than 400,000 total connections via VECO.

After Garcia's defeat in the Meralco stockholders meeting came the confusing GSIS-Meralco bribery case.⁴⁵ The Securities and Exchange Commission (SEC) tried to stop Meralco's board election. Meralco ignored SEC, which then issued a Show Cause Order (SCO) to Meralco. Meralco questioned the SCO to the Court of Appeals (CA). The CA then issued a Temporary Restraining Order (TRO) to the SEC. CA Associate Justice Jose Sabio, Jr. claimed that a Meralco "emissary" tried to "bribe" him with P10 million. Businessman Francis de Borja claimed that he was the emissary and that Sabio asked for P50 million to side with Meralco. The whole brouhaha resulted in a Supreme Court ruling by August 2008 to dismiss 9th Division's Vicente Roxas and to suspend Sabio for two months.

The Lopezes survived, but in October of 2008, Garcia pulled one last trick in his sleeve. The GSIS sold its 27 per cent stake in Meralco for 26 billion Philippine pesos (37-39 billion Philippine pesos at today's prices) to none other than San Miguel⁴⁶, which recently lost in the TransCo bid. The sale meant that Meralco would have been worth around 96 billion Philippine pesos (136-138 billion Philippine pesos today). SMC then bought the remaining 10% share of the government. Ramon Ang of SMC supposedly snatched the GSIS deal from PLDT's Manny Pangilinan, who is also eyeing seats in Meralco's board.⁴⁷

The Lopezes' responded in kind: by March 2009, it sold 20 per cent of its stake to Pangilinan. At the end of it all, Lopezes had 14 per cent, PLDT 30.17 per cent, and SMC 27 per cent, though there were suspicions that SMC indirectly controls another 13 per cent, which meant they controlled 40 per cent.⁴⁸ Days before May 2009's stockholders meet, it seemed that Meralco was in for another showdown: SMC supposedly upped its stake to 43 per cent, and PLDT, 43.5 per cent (including the shares they bought from Lopez).⁴⁹ Alas, it was tranquil, and Lopez retained its chairmanship, assisted by Pangilinan.⁵⁰

The Lopez grasp on Meralco would have weakened so much that by February 2012, it would have sold its 2.66 per cent stake to Pangilinan-controlled Beacon Electric Asset Holdings, Inc. for 8.85 billion Philippine pesos (11-13 billion Philippine pesos at today's prices).⁵¹ By May, the Lopezes finally relinquished the management of the distribution giant.⁵² Probably because SMC is not interested in playing second fiddle to Pangilinan, it exited as well the following year, selling its entire stake to JG Summit of the

Gokongwei family for 72 billion Philippine pesos (85-87 billion Philippine pesos today)⁵³, which at that time has never been involved in the power sector.

Today, the majority of Meralco's shares is owned by Beacon Electric (34.96 per cent) and Metro Pacific Investments Corp. (10.5 per cent), both of which are controlled by Pangilinan. Gokongwei's JG Summit owns 29.56 per cent, while Lopez's FPHC still owns 3.95 per cent.⁵⁴

Even as it lost Meralco, Lopez will still control its home-court distribution utility Panay Electric Company (PECO). But another Arroyo crony would put an end to this, pushing the Lopezes out of the distribution business for good. In 2019, Duterte-controlled Congress⁵⁵ denied the renewal of PECO's 25-year franchise due to "bad record"⁵⁶, granting the franchise instead to MORE Electric Power, owned by (Enrique) Razon's MORE. No wonder the Lopezes delisted EDC from PSE; they don't want any new incumbent seizing it from them, especially with a new Marcos, Jr. as President.

Such is the environment created by EPIRA – a feudal war of private companies and family-based enterprises with national presence but are ultimately tethered to local history, a competition between the Lopezes of Iloilo, Garcias, Aboitizes, and Alcantaras of Cebu, Spanish-Filipino clans like Ayala, Zobel, and Razon, former technocrats like Consunji and yes, Aboitiz, upstarts like Pangilinan bringing in a foreign crony's money (Salim).

Logic of Accumulation

This brings us to Arroyo's third act: to inaugurate the "landing" of natural gas from the Malampaya reservoir off Palawan to the Shell Refinery, two First Gas Power Corp. power plants controlled by the Lopez family, and then state-run Ilijan powerplant (which will later be privatized and owned by KEPCO). The Malampaya operation – Service Contract 38 – has since become a critical component of the country's energy sector, creating as much as 3.2 GW for five power plants and meeting up to 20 per cent of the country's energy requirement.⁵⁷

Even after two decades of operation, and its expected depletion by 2027, the value of capital that Malampaya's deep-water, gas-to-power facility represents is such that not a few billionaires wanted a share of its pie. Shell Philippines Exploration B.V. (SPEX), a spin-off of post-Lopez Pilipinas Shell, together with PNOC-EC and Chevron developed the project to its launch in 2001. SPEX had 45 per cent, Chevron another 45 per cent, and PNOC-EC another 10 per cent. Eighteen years later, in 2019, Dennis Uy's Udenna Corp., acquired Chevron's 45% stake for 565 million US dollars (29.2 billion Philippine pesos).⁵⁹ By 2021, Uy also bought SPEX for 460 million US dollars (24.3 billion Philippine pesos) – giving Uy's firm 90 per cent control of a utility that serves 3.7 million households and 27 per cent of Luzon's power.

Uy, the owner of Phoenix Petroleum (the first Davao-based company to be listed in the PSE), is a known crony of President Rodrigo Duterte. Within the first year of the Duterte administration, Udenna Corp. would bag a 300 million US dollars PAGCOR deal for a casino near Mactan-Cebu airport, acquire Petronas Energy Philippines⁶⁰, buy Enderun Colleges, among many others.⁶¹ He would since then take over a major logistics company at Clark and acquire Mislattel (now DITO) together with China Telecom to become the third telecommunications provider in the Philippines.

Uy's takeover of Malampaya has naturally raised alarm, given that Udenna did not have any experience in gas-to-power activities, despite Uy's forays into petroleum distribution. The Philippine Competition Commission (PCC) was also not notified of the Udenna-Chevron deal. Sen. Sherwin Gatchalian insisted that prior state approval per PD 87 for that deal to be valid.⁶² The silence of state-owned PNOC-EC, which could have exercised the right to first refusal, was also questioned.⁶³ Similarly, Energy Secretary Alfonso Cusi's approval of the deal prompted a Senate Resolution asking the Ombudsman to file charges against him.⁶⁴

In any case, Uy, overleveraged at this point, received an offer from Razon's Prime Infra Holdings Inc.⁶⁵ in June 2022 to buy his stake at Malampaya. Unlike Uy, Razon expressed interest in subjecting himself to government scrutiny.⁶⁶ Moreover, his experience with Service Contract 72 will be a plus to state regulators.

With the acquisition, Razon – the Arroyo crony – has come full circle in the whole electricity industry. His business has engaged in transmission (MORE's stake in the early years of NGCP), distribution (MORE displacing PECO), and now, in exploration. It is perhaps no accident that Razon is taking over the spoils of a Duterte crony after Arroyo engineered a coalition that elected Duterte's daughter as Vice President, and Ferdinand Marcos' son Bongbong, as President.⁶⁷ Razon's National Unity Party (NUP) backed Marcos and Duterte.⁶⁸

Malampaya and Meralco are prime examples of how the power sector is now used as political leverage by incumbent politicians, a prize to be awarded to their supporters, or a spoil to be seized from their opponents. Arroyo slapped the hand of the Lopezes away from Meralco the same way as Duterte's bureaucracy allowed Uy to take over Malampaya.

It can be argued that the same is true during the time of Marcos, when Romualdez took over Meralco while Cojuangco took over San Miguel. This crony-led piracy, however, was garbed in a state-developmental policy; that the State needed to centrally plan its production and therefore nationalize oligarchy-controlled resources. Given

the prevailing neoliberal doctrine, there is no excuse for such actions, which the doctrine collectively labels “rent-seeking”. And yet it is done anyway, because beyond the liberalization rhetoric is the cold business logic of accumulation – profits must be seized at all cost, and if the state can be of assistance, it will be employed.

This logic of accumulation has guided the evolution of the Philippine power sector from the very beginning.

First it was a competition between NPC-PNOC and Meralco, that later developed into a hegemonic NPC that fed Marcos' parastatal-complex under crony capitalism. When Cory Aquino took over, she dismantled the complex that Marcos built but provided subsidized electricity until supplies lasted. During Ramos' term, his desperate yet irregular bid to produce more electricity bankrupted the NPC, prompting Arroyo to propose and enact the EPIRA, where owners have brought back assets into private hands to avoid public scrutiny and, in effect, the state gained and sold power assets in order to stabilize the incumbent coalition.

The state, as an institution, is driven to maximize the amount of surplus the economy can generate and reinvest for future surplus. Private firms, of course, do the same thing but for themselves only. As for members of the political class, they push policies to maximize surplus which they can trade for influence with their business class counterparts.

So what has become of capital accumulation in the electricity sector? Who partakes in the country's communion of power? In the next section, we will be providing a snapshot of electricity sector's owners, from the generation sector, to distribution, transmission, and supply.

¹ We encourage the reader to check out Freedom from Debt Coalition (FDC) monograph “Dark Power Rising” (Diokno-Pascual & Fortalez, 2009), which describes in detail the state of the power sector nine years after EPIRA took effect.

² Dela Peña (2006)

³ Torres (2007)

⁴ Austria (2018)

⁵ Reuters (2007)

⁶ Walter Brown owns A. Brown Co., Inc. (ABCI), a real estate giant. Brown would also get to be the NGCP President from January 2009 to March 2010, though he supposedly admitted that he would get out of MORE after Razon's group wins (Madrigal, 2007). By 2020, via Peak Power and Palm Concepcion, ABCI subsidiary A Brown Energy and Resources Development, Inc. (ABERDI) would get to control 190.6 MW in installed capacity.

- ⁷ Dela Peña (2008)
- ⁸ Aside from NBN, Arroyo was also involved in the Cyber Education Project (CEP) with state-owned Tsinghua Tongfang Nucltech Co. and the North Luzon Railways Project (NLRP) with China National Machinery Industry Corporation (Sinomach).
- ⁹ BusinessWorld (2007)
- ¹⁰ There was another disqualified bidder led by Salvador Zamora's La Costa Development Corp. (PSALM, 2008). The same Zamora family would control 75.4 MW as of 2020 through Emerging Power (EPI), Nickel Asia (NAC), and Tranden.
- ¹¹ Razon is sometimes mentioned directly in Arroyo's speeches, like in Arroyo (2005).
- ¹² Padilla (2009)
- ¹³ Madrigal (2007)
- ¹⁴ Cabacungan (2012)
- ¹⁵ Momblan (2020)
- ¹⁶ Layug (2002)
- ¹⁷ Mendez & Diaz, Jr. (2002)
- ¹⁸ Arroyo (2003)
- ¹⁹ The Yuchengco's would eventually enter the power sector via PetroEnergy Resources Corp. (PERC), PetroGreen Energy Corp. (PGEC), and EEI Power.
- ²⁰ Right now, three out of ten board seats at NGCP are occupied by SGCC officials, namely Zhu Guangchao, the vice chief engineer and director general of the International Cooperation Department of SGCC; Yao Yousheng, currently the chief representative of the SGCC Philippine Office; and Liu Ming, the chief representative of SGCC's Africa Office.
- ²¹ Sunnexdesk (2010)
- ²² See ABS-CBN News (2010a). It also says that "UEM was a formerly an inactive mining firm, Mankayan Mineral Development Phils Inc., until it transformed into a consultancy firm focused on the joint venture between state-owned Public Estates Authority Tollway Corp. and UEM-Mara."
- ²³ ABS-CBN News (2010b)
- ²⁴ ABS-CBN News (2010c)
- ²⁵ Gonzales (2016)
- ²⁶ Rivera (2019)
- ²⁷ Philippine News Agency (2020)
- ²⁸ Gonzales (2021)
- ²⁹ Mercado Barkada (2021)
- ³⁰ GMANews.tv (2007)
- ³¹ Felix (2002)
- ³² Logarta (2008)
- ³³ Romero (2008)
- ³⁴ GMANews.tv (2008a)
- ³⁵ Victoria (2008)
- ³⁶ GMANews.tv (2008b)
- ³⁷ Pimentel (2008)
- ³⁸ The Philippine Star (2008)
- ³⁹ Calica (2005)
- ⁴⁰ The Philippine Star (2004)
- ⁴¹ Vanzi (2003)
- ⁴² ABS-CBN News (2013)
- ⁴³ GMANews.tv (2013)
- ⁴⁴ Villanueva (2008)
- ⁴⁵ The Wikipedia page on the GSIS-Meralco bribery case (2008) includes a comprehensive account.
- ⁴⁶ Reyes & ABS-CBN News (2008)
- ⁴⁷ Rimando (2008)
- ⁴⁸ The Philippine Star (2009)
- ⁴⁹ Serapio Jr. (2009)
- ⁵⁰ Gatdula (2009)
- ⁵¹ Dela Peña (2012)
- ⁵² Remo (2012)
- ⁵³ Dumlao (2013)
- ⁵⁴ Securities and Exchange Commission (2002)
- ⁵⁵ The same Congress would also deny the renewal of Lopezes' final stronghold, the ABS-CBN.
- ⁵⁶ Burgos, Jr. (2019)
- ⁵⁷ See malampaya.com/about/.
- ⁵⁸ Yang (2021)
- ⁵⁹ Burgos (2021)
- ⁶⁰ Rappler.com (2017)
- ⁶¹ Dela Paz (2017)
- ⁶² Gatchalian (2022) said that Department Circular 2007-04-0003 mandates that the rights and obligations under a petroleum service contract executed under Presidential Decree 87 shall not be assigned or transferred without prior approval of the DOE.
- ⁶³ Añago (2021)
- ⁶⁴ Yang (2022)
- ⁶⁵ Burgos (2022)
- ⁶⁶ Philippine Daily Inquirer (2022)
- ⁶⁷ Philstar.com (2022)
- ⁶⁸ Requejo (2022)

Anarchy of Families: Two Decades of EPIRA

The Philippines is as far from EPIRA as EPIRA was from the peak of the state-controlled power sector under Marcos' Energy Minister Geronimo Velasco, and as far as Velasco's peak was from Eugenio Lopez Sr.'s acquisition of Meralco. Today's power sector is much a creation of the regimes of Gloria Arroyo, Benigno Aquino III, and Rodrigo Duterte as it was by Marcos, Sr., Cory Aquino, and Fidel Ramos.

Before EPIRA, the generation and transmission sectors are practically state-owned, especially after NPC swallowed Meralco's generation assets in the 70s. The supply market didn't exist, while the distribution sector is the domain of a handful of PDUs and lots of Electric Cooperatives. EPIRA has completely changed this – now, the power sector has effectively consolidated into an anarchy of families¹, families whose histories and fortunes are traceable to the aforementioned regimes.

Generation is now practically dominated by 11 families which control 74.23 per cent of the installed capacity. Transmission assets are now outside the state's hands, with 40 per cent of the NGCP owned by the State Grid Corporation of China (SGCC), 30 per cent owned by Sy's OneTaipan, and 30% owned by Coyuito's Pacifica21. 67 per cent of OneTaipan and 67 per cent of Pacifica21 are

owned by Sy and Coyuito's Synergy21 Grid & Development Corp. (SGP), which is publicly listed. While a substantial share of the distribution is still within the domain of Electric Cooperatives (EC) in terms of captive connections (56.59 per cent), distribution is now dominated by Private Distribution Utilities (PDU) in terms of sales (70.69 per cent).

There is intense cross-ownership in generation and distribution. 11 families (not the same 11 families as above) which controlled 43.5 per cent of installed generation capacity also controlled 40.55 per cent of DU captive connections and 67.85 per cent of DU sales. Several families which own DUs and GenCos also own firms in the supply sector. The Sy family, besides being in the NGCP, is also dabbling in supply, as there are no cross-ownership regulations in it.² 89 per cent of contestable consumers are cornered by groups also engaged in generation or distribution.

This chapter will examine in detail these families in the generation, distribution, and supply sectors.

Generation

Table 1 below gives the state of ownership in the Philippine power sector as of 2020.

Table 1: Owners of the Power Generation Plants

Controlling Family	Parent Corporation	Ins. Cap. (MW)	Share in Ins. Cap.
Grand Total		25,611.2	100.0%
Zobel (Iñigo), Ang	Zobel (Iñigo), Ang	4,948.0	19.32%
Aboitiz	AboitizPower, CRH Aboitiz Hold.	4,783.5	18.68%
Lopez	EDC, First Gen Corp., Lopez Hold.	3,676.0	14.35%
National Government	PSALM	2,849.0	11.12%
Pangilinan, Gokongwei	MERALCO PowerGen (MGEN)	1,905.2	7.44%
Consunji	DMCI Power, Semirara Mining and Power Corp.	1,078.6	4.21%
Ayala	AC Energy (ACEN)	901.7	3.52%
Valencia	Millennium Energy, Inc. (MEI)	748.0	2.92%
Alcantara	Alsons Power	522.4	2.04%
Garcia-Escaño	Vivant Energy Corp., Delta P, Inc.	448.1	1.75%
Gotianun	FDC Utilities	405.0	1.58%
Salcon Group	KEPCO Salcon Power Corp., SPC, SIPC	352.2	1.38%
National Government	NPC (includes NPC-SPUG)	213.4	0.83%
Brown	A Brown Energy & Resources Development, Inc.	190.6	0.74%

Controlling Family	Parent Corporation	Ins. Cap. (MW)	Share in Ins. Cap.
Araneta	Helios Solar Energy (HSEC), First Soleq Energy	162.9	0.64%
Yuchengco	PetroGreen Energy Corp. (PGEC), EEI Corp.	133.1	0.52%
Saavedra	Citicore Ren. Energy Corp. (CREC), Citicore Power	125.3	0.49%
Chan (Iloilo)	BISCOM, Central Azucarera de Bais (CAB), CASA	88.5	0.35%
Leviste	Solar Philippines	86.2	0.34%
Ting (Pampanga)	Anda Power Corp.	83.7	0.33%
Zamora	Emerging Power (EPI), Nickel Asia (NAC), Tranzen	75.4	0.29%
Abaya (Ramon)	CEPALCO, Minergy	69.0	0.27%
Salvame	King Energy Generation Inc. (KEGI)	57.0	0.22%
Perez (Vince)	Alternergy Viento Partners Corp.	54.0	0.21%
Nepomuceno	Angeles Power Inc. (API), J Ten Equities, Inc.	53.7	0.21%
Pangilinan	First Pacific, Resources Holdings BV	48.2	0.19%
Gokongwei	JG Summit Holdings	46.0	0.18%
Tan (Lucio)	LT Group, Inc., Tanduary Distillers, Inc.	45.0	0.18%
Co (Elizaldy)	Sunwest Water & Electric Co. Inc. (SUWECO)	37.8	0.15%
Lobregat	Crystal Sugar Company, Inc.	35.9	0.14%
Cooperative	BASELCO + BOHECO I + CEBECO I + INEC + ORMECO + ZAMCELCO	35.5	0.14%
Romero (Rep.)	Fort Pilar Energy, Inc.	28.6	0.11%
Co (Lucio)	Union Energy	26.4	0.10%
Vergara	First Cabanatuan Venture Corp. (FCVC)	25.6	0.10%
Bella (Geronimo)	Harbor Star Energy Corp. (HSEC)	25.0	0.10%
Tan (Leoncio)	Golden Season Rice Mill	20.0	0.08%
Violago	San Lorenzo Ruiz Builders & Dev. Group Inc. (SLRB)	20.0	0.08%
Ting	Jollville Holdings Corp.	19.6	0.08%
Tan Suy Lim	Koronadal Commercial Corp., KCC Mall	18.4	0.07%
Tiu (Dexter)	Pure Energy Hold. (PEHC), Repower Energy Dev't Corp. (REDC)	16.4	0.06%
Tan (David)	POWER ONE	15.3	0.06%
Borja	Iligan Light and Power Inc. (ILPI)	15.0	0.06%
Lu	Ilamsan, Inc.	15.0	0.06%
Huang See	Bataan 2020 Inc.	13.0	0.05%
Villar	PAVI Green Renewable Energy, Inc.	9.9	0.04%
Atayde (Leandro)	Mindoro Grid Corporation (MGC)	7.6	0.03%
National Government	NIA + PNOC-RC	7.2	0.03%
Golez (Rodolfo)	Cosmo Solar Energy, Inc.	5.7	0.02%

Controlling Family	Parent Corporation	Ins. Cap. (MW)	Share in Ins. Cap.
Uy (Alan)	Euro Hydro Power (Asia) Holdings, Inc.	3.0	0.01%
See	MASE Power Co.	2.8	0.01%
Diaz (Amando)	Majayjay Hydropower Company, Inc.	2.2	0.01%
LGU	Provincial Government of Ifugao	1.0	0.00%
Foreign	Proverbs 16, Inc., Formosa Heavy Ind. (FHIC), HRD Singapore Pte. Ltd., Siam Cement Group (SCG), etc.	692.6	2.70%
(Unclassified)		362.1	1.41%
<i>Note: Installed Capacity includes On-Grid, Off-Grid, Battery Energy Storage System (BESS)</i>			

Under EPIRA, the generation sector consolidated to the extent that just 11 families – Zobel, Ang, Aboitiz, Lopez, Pangilinan, Gokongwei, Consunji, Ayala, Valencia, Alcantara, Garcia-Escaño – own 74.23 per cent of our generation capacity, at 19 GW. The government only controls 11.12 per cent through PSALM, 0.83 per cent through NPC (mostly NPC-SPUG), and another 0.03 per cent through NIA and PNOC-RC. Cooperatives control only 0.14 per cent.

The largest share of power generation (19.32 per cent) is controlled by **the San Miguel Corporation Global Power Holdings (SMCGPH)**, which is owned and controlled by the San Miguel Corporation (SMC). 65.99 per cent of SMC is owned by Top Frontier Investment Holdings, Inc. while 15.67 per cent is owned by Privado Holdings Corporation, which makes Top Frontier the controlling company. In turn, the top three owners of Top Frontier as follows: Iñigo U. Zobel, 59.96 per cent; Ramon S. Ang, 14.96 per cent; and Privado Holdings, Corp., 11.07 per cent. This means that Zobel controls Top Frontier, and therefore, he basically controls SMC and SMCGPH, even if he only owns 39.57 per cent of SMC (59.96 per cent of 65.99 per cent).

Privado Holdings, Corp., meanwhile, is wholly-owned by Ramon Ang. In effect, on top of owning 15.67 per cent of San Miguel, Ang also owns 26.03 per cent of Top Frontier and therefore an additional 17.18 per cent of SMC (26.03 per cent of 65.99 per cent). This means that he owns a total of 32.85 per cent of SMC, which is only 6.72 per cent less than Zobel. This gives him the leverage to secure the chief executive officer position of the company.

SMCGPH controls the following generation companies:

- Angat Hydro Power Corp. (AHPC), 218 MW
- Masinloc Power Partners Co. Ltd. (MPPCL), 684 MW
- Petron Corporation, 140 MW
- San Miguel Consolidated Power Corp. (SCPC), 300 MW
- San Miguel Energy Corp. (SMEC), 1294 MW
- SMC Consolidated Power Corp. (SCPC), 600 MW
- South Premiere Power Corp. 1277 MW
- Strategic Power Development Corp. (SPDC), 435 MW

The second largest share (18.68 per cent) is controlled by the Aboitiz family via **Aboitiz Power** (18.63 per cent) and CRH Aboitiz Holdings (0.05 per cent). The latter only owns the 12.4 MW Republic Cement and Building Materials Inc. (RCBMI) plant in Taysan Batangas. The former, meanwhile, controls the following generation companies:

- AP Renewable Inc. (APRI), 692.5 MW
- Cebu Private Power Corp. (CPPC), 70 MW
- Cotabato Light and Power Co. (CLPC), 9.9 MW
- East Asia Utilities Corp. (EAUC), 49.6 MW
- GNPowr Mariveles Energy Center Ltd. Co., 690 MW
- Hydro Electric Development Corp. (HEDCOR)
- Bukidnon, Inc., 73.3 MW
- HEDCOR Sibulan Inc., 42.5 MW
- HEDCOR Tudaya Inc., 14.7 MW
- HEDCOR Inc., 72.2 MW
- Luzon Hydro Corp., 75.4 MW
- San Carlos Sun Power Inc. (SACASUN), 29.5 MW
- SN Aboitiz Power (SNAP) - Benguet, Inc., 140 MW
- SN Aboitiz Power (SNAP) - Magat, Inc., 396.5 MW
- SN Aboitiz Power (SNAP) - Benguet, Inc., 105 MW
- Therma Luzon Inc. (TLI), 764 MW
- Therma Luzon Inc. (TLI) TeaM Energy (Philippines) Corp., 420 MW
- Therma Marine Inc. (TMI), 200 MW
- Therma Mobile Inc. (TMO), 231 MW
- Therma Power Visayas, Inc., 55 MW
- Therma South Inc. (TSI), 300 MW
- Therma Visayas, Inc. (TVI), 340 MW

Third in the list is the Lopez family (14.35 per cent), which fully controls 1.252 MW via **Energy Development Corporation (EDC)** and 2,308.9 MW via **First Gen Corporation**. Through those two companies, the Lopezes controls the following generation companies:

- Bac-Man Geothermal Inc. (BGI), 140 MW
- EDC Burgos Wind Power Corporation (EBWPC), 150 MW
- Energy Development Corporation (EDC), 666.5 MW
- Green Core Geothermal Inc. (GCGI), 295.5 MW
- FGP Corporation, 549.1 MW
- First Gas Power Corporation (FGPC), 1094.8 MW

- First Gen Bukidnon Power Corporation (FGBPC), 1.6 MW
- First Gen Hydro Power Corporation (FG Hydro), 132.8 MW
- First NatGas Power Corp (FNPC), 430 MW
- Prime Meridian Powergen Corporation (PMPC), 100.6 MW
- Bubunawan Power Company, Inc. (BPC), 6.6 MW

Fourth is Lopez's former crown jewel, Meralco (7.44 per cent), which operates generation plants via its wholly-owned subsidiary **Meralco Power Gen (MGEN)**. As explained earlier, Meralco is owned by Beacon Electric (34.96 per cent), Metro Pacific Investments Corp. (10.5 per cent), JG Summit (29.56 per cent), and First Philippine Holdings Corporation (3.95 per cent). Both Beacon and MPIC are controlled by Pangilinan, JG Summit is controlled by the Gokongwei family, while the Lopez family is still in Meralco via First Philippine Holdings. MGen controls the following generation companies:

- Bulacan Solar Energy Corporation, 15 MW
- Global Business Power (GBP), 7.5 MW
- GPB Corp. - Cebu Energy Development Corp. (GBPC-CEDC), 251.1 MW
- GPBC - Panay Energy Development Corp. (GBPC-PEDC), 317.4 MW
- GPBC - Panay Power Corp. (GBPC-PPC), 107.4 MW
- GPBC - Toledo Power Corp. (GBPC-TPC), 195.8 MW
- Pearl Energy Philippines Operating Inc. (PEPOI), 500 MW
- Quezon Power (Philippines) Ltd. Co., 511 MW

Fifth is the Consunji family, controlling DMCI Holdings, Inc. (4.21 per cent) which owns **DMCI Power** and **Semirara Mining and Power Corp. (SMPC)**. DMCI Power owns the SEM-Calaca Power Corporation (SCPC) with 600 MW while SMPC owns 350 MW Southwest Luzon Power Generation Corporation (SLPGC) with 350 MW.

Sixth is the Ayala family, which controls **AC Energy (ACEN)** (3.52 per cent). ACEN owns the following gencos:

- AC Energy Philippines (direct), 150 MW
- Bulacan Power Generation Corp. 54.5 MW

- CIP II Power Corp., 21 MW
- Monte Solar Energy Inc. (MONTESOL), 18
- Negros Island Solar Power Inc. (ISLASOL), 80 MW
- North Luzon Renewable Energy Corp. (NLREC), 81 MW
- North Wind Power Development Corp. (NWPDC), 51.9 MW
- One Subic Power Generation Corp. 130.3 MW
- San Carlos Solar Energy Inc. (SACASOL), 45 MW
- South Luzon Thermal Energy Corp. (SLTEC), 270 MW

Seventh is Jose Miguel Valencia (2.92 per cent), who owns **Panasia Energy Inc. (PEI)** (which operates the 648MW Limay Combined Cycle Gas Turbine) and **Millennium Energy Inc. (MEI)**. (which operates the 100 MW Open Cycle Gas Turbine OCGT in Navotas). In March 2022, Valencia expressed interest, via PEI, to build a 638 MW Liquefied Natural Gas (LNG) combined cycle plant, also in Limay, Bataan.³ He also had a 10 per cent stake in Dennis Uy's Phoenix Petroleum (via Top Direct Investments), though he already sold it in 2020.⁴

Eighth is the Alcantara family, which owns **Alsons Power** (2.04 per cent). Alsons owns the following:

- Mapalad Power Corp. (MPC), 114.4 MW
- Sarangani Energy Corp. (SEC), 237 MW
- Southern Philippines Power Corp. (SPPC), 59 MW
- Western Mindanao Power Corp. (WMPC), 112 MW

Ninth is the Garcia-Escano family, which owns the Vivant Corporation (1.75 per cent). Vivant controls the Vivant Energy Corp. and Delta P, Inc. The latter owns a 30 MW bunker-fired plant in Puerto Princesa, while the former, Vivant Energy, owns the following generation companies:

- 1590 Energy Corp., 227.5 MW
- Bukidnon Power Corp. (BPC), 7.3 MW
- Minergy Power Corp. 165 MW
- North Bukidnon Power Corp. (NBPC), 6.2 MW

Distribution

Table 2 below gives the state of ownership in the Philippine power sector as of 2020.

Table 2: Owners of the Power Distribution Utilities

2015	Captive Connections ('000)		Sales (Gwh)	
Grand Total	17,751	100.00%	56,384	100.00%
Cooperatives	10,045	56.59%	16,527	29.31%
Pangilinan, Gokongwei	5,784	32.58%	29,558	52.42%
Clark Electric Distribution Corp.	2	0.01%	464	0.82%
Manila Electric Co.	5,782	32.57%	29,094	51.60%

2015	Captive Connections ('000)		Sales (Gwh)	
Aboitiz (AboitizPower)	486	2.74%	3,579	6.35%
Balamban Enerzone Corp.	0	0.00%	114	0.20%
Cotabato Light & Power Co.	30	0.21%	133	0.24%
Davao Light & Power Co.	351	1.98%	2,069	3.67%
Lima Enerzone Corp.	0	0.00%	150	0.27%
Mactan Enerzone Corp.	0	0.00%	121	0.21%
Malvar Enerzone Corp.	0	0.00%	—	0.00%
San Fernando Light Elec. & Power Co.	94	0.53%	486	0.86%
Subic Enerzone Corp	3	0.02%	507	0.90%
Aboitiz, Garcia-Escaño (AboitizPower, Vivant)	396	2.23%	2,586	4.59%
Visayan Electric Co. (VECO)	396	2.23%	2,586	4.59%
Zobel (Iñigo), Ang (Ramon)	180	1.01%	300	0.53%
Albay Power and Energy Corp. (APEC)	180	1.01%	300	0.53%
Abaya	179	1.01%	1,071	1.90%
Cagayan Electric Power & Light Co.	130	0.73%	895	1.59%
Olongapo Electricity Distribution Co.	49	0.27%	176	0.31%
Llames	107	0.60%	301	0.53%
Dagupan Electric Corp.	107	0.60%	301	0.53%
Salcon Group (Villareal, Henares, etc.)	106	0.60%	524	0.93%
Mactan Electric Co.	87	0.49%	420	0.74%
Bohol Light Co.	19	0.11%	104	0.18%
Nepomuceno (Peter)	106	0.60%	503	0.89%
Angeles Electric Corp.	106	0.60%	503	0.89%
Romero	71	0.40%	323	0.57%
Tarlac Electric	71	0.40%	323	0.57%
Vergara	67	0.38%	212	0.38%
Cabanatuan Electric Corp.	67	0.38%	212	0.38%
Borja	62	0.35%	203	0.36%
Iligan Light & Power Inc.	62	0.35%	203	0.36%
Razon	59	0.33%	467	0.83%
MORE Electric & Power Corp.	59	0.33%	467	0.83%
Valero (La Union)	43	0.24%	142	0.25%
La Union Electric Co.	43	0.24%	142	0.25%
ROMELCO	19	0.11%	14	0.02%
Romblon Electric Coop.	18	0.10%	14	0.02%
Banton Electric System	1	0.01%	0	0.00%

2015	Captive Connections ('000)		Sales (Gwh)	
LGU	26	0.15%	0	0.09%
Pantabangan Municipal Electric Sys.				
Bumbaran Electric Coop.				
Concepcion Electric System	1	0.01%	3	0.00%
Corcuera Electric System	2	0.01%	1	0.00%
First Bay Power Corp.	22	0.12%	49	0.09%
Salvame	13	0.07%	22	0.04%
Ibaan Electric & Engineering Corp.	13	0.07%	22	0.04%
Coop. (non-EC)	1	0.01%	0	0.00%
Hilabaan Fishermen's MPC	—	0.00%	—	0.00%
Maripipi Multi-Purpose Electric Coop.	1	0.01%	0	0.00%

It is easier to describe the distribution sector because it remains dominated by Electric Cooperatives (EC). ECs control 56.59 per cent of active connections (but only 29.31 per cent of sales in Mwh).

Next to cooperatives, obviously, is Meralco, which controls 32.57 per cent of active connections but a whopping 51.6 per cent of total electricity sales – perhaps because it serves the National Capital Region (NCR) which as of 2021 produces 35.31 per cent of the GDP as well as areas in Central Luzon and Calabarzon, which produces another 25.6 per cent (for a total of 57.14 per cent for the three regions). But Meralco also controls Clark Electric Distribution Corp., the Private Distribution Utility (PDU) which services the Clark Freeport and Special Economic Zone – one of the country's primary logistics hubs.

AboitizPower, via its eight private distribution utilities (PDUs), would carve 2.74 per cent of the captive connections and 6.35 per cent of electric sales for themselves. The Aboitizes would later partner with the Garcia-Escañó family in the management of Visayan Electric Company (VECO), which covers 2.23 per cent of connections and 4.59 per cent of sales.

PDUs vs. ECs in HUCs

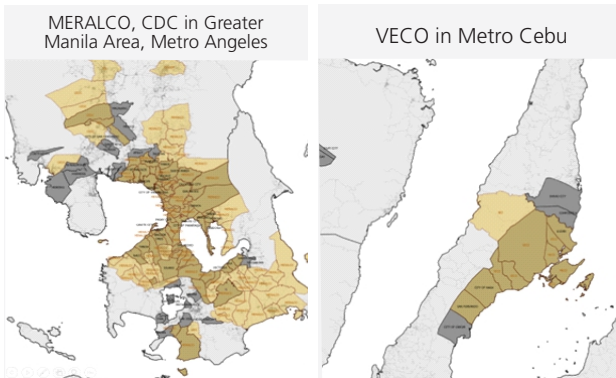
If we total the share of all PDUs in terms of electricity sales, we will arrive at a whopping 70.69 per cent. The reason for this is simple: PDUs have strategically attempted to corner the connections in highly urbanized cities (HUC): Meralco for Greater Manila Area, VECO for Metro Cebu, DLPC for Metro Davao, CLPC for Cotabato, CEDC for Clark, APEC for Albay (and other future San Miguel DUs), MORE for Panay Island. Since these HUCs expand in terms of built-up

area, encroaching on areas previously provisioned for by ECs, there's a tendency for the coverage of PDUs to expand accordingly. Moreover, as other areas urbanized, the more they attract profiteering PDUs. These PDUs aim to sway policy makers and the public by promising to beat ECs in providing more reliable and quality services for emerging megacities, for profit.

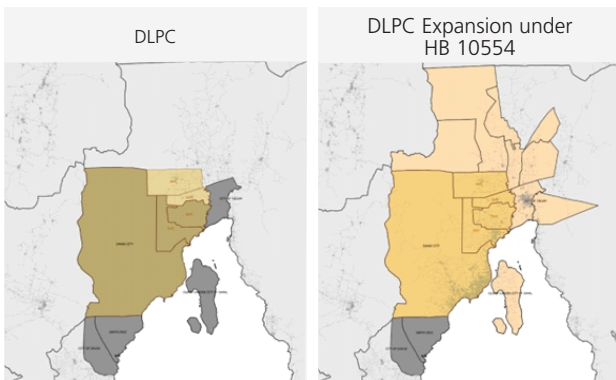
Consider Greater Manila Area (GMA).⁵ Of the 96 towns covered by the Greater Manila Area, 71 are within Meralco's franchise area. Of the 113 towns covered by Meralco, 71 are spanned by the GMA. This means there is room for Meralco to eat up the other 25 towns (mostly in Pampanga) in GMA or for GMA to eventually expand to the other 42 towns in the Meralco franchise area. Some of the areas in Pampanga are already with CEDC anyway, which is owned by Meralco.

It is not just the Greater Manila Area. Let's check out other "metropolitan arrangements"⁶ and how PDUs used them as basecamp from which to launch their assaults on EC areas:

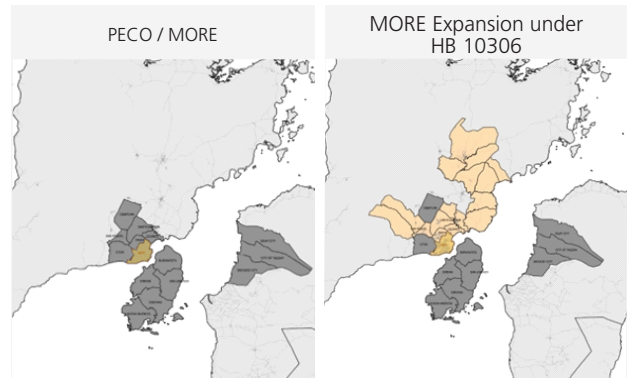
Metro Cebu, which includes refers to Cebu City, Compostela, Consolacion, Cordova, Lapu-Lapu, Liloan, Mandaue, Minglanilla, Naga, Talisay. Note that with the exception of Compostela, Cordova, and Lapu-lapu, all of them are VECO areas. Lapu-lapu is shared between Salcon Group's MECO and Aboitiz's MEZ (Aboitiz partially owns VECO anyway). In August 2005, the Region 7 RDC expanded Metro Cebu to include Carcar (CEBECO I), Danao (CEBECO II), San Fernando⁷(VECO). It is not too inconceivable to project Compostela, Cordova, Carcar, and Danao eventually going to VECO.

Figure 1: Expansion of MERALCO-CDC and VECO

Metro Davao, which includes Davao City, Panabo, Sta. Cruz, but later expanded to include Digos, Samal, Tagum, Carmen. Note that Davao City, Carmen, and Panabo are already under Aboitiz's DLPC. But House Bill No. 10554 (2021) expanded the franchise of DLPC to include Tagum City, Island Garden City of Samal, Carmen, Dujali, Santo Tomas, Asuncion, Kapalong, New Corella, San Isidro, and Talaingod in Davao del Norte, and Maco, Davao de Oro. This effectively covers the entire Metro Davao save for Digos and Sta. Cruz.

Figure 2: Expansion of DLPC under HB 10554

Metro Iloilo-Guimaras (MIG) / Iloilo-Guimaras Metropolitan Area, which includes the highly urbanized city of Iloilo City, five municipalities in Iloilo Province (the Regional Agro-Industrial Center of Pavia, Oton, Leganes, Santa Barbara, San Miguel; Cabatuan, which now houses the new Iloilo International Airport, was later added⁸), and all the municipalities of the Guimaras Province (Jordan, Buenavista, Nueva Valencia, San Lorenzo, Sibunag). Of these towns, only Iloilo City is under Razon's MORE so far, but House Bill No. 10306 (2023) recently lapsing into law sought to expand MORE's franchise area to include Passi City, Alimondan, Leganes, Leon, New Lucena, Pavia, San Miguel, Santa Barbara, Zarraga, Anilao, Banate, Barotac Nuevo, Dingle, Dueñas, Dumangas, and San Enrique. This

Figure 3: Expansion of MORE under HB 10306

almost covers all but two of MIG's coverage in the Iloilo Province.

Metro CAMADA, which includes Calasiao, Mangaldan, Dagupan City in Pangasinan. Calasiao and Dagupan City is now under PDU DECORP of the Llamas family⁹, with only Mangaldan under CENPELCO, though there is pressure to transfer to DECORP.¹⁰

Metro Cagayan de Oro (Metro CDO), which includes the two chartered cities of Cagayan de Oro and El Salvador, 7 municipalities of Misamis Oriental: Alubijid, Claveria, Gitagum, Jasaan, Laguindingan, Opol, and Tagoloan, and 7 municipalities of Bukidnon: Baungon, Libona, Malitbog, Manolo Fortich, Sumilao, and Talakag. Right now, CDO City, Jasaan, Tagoloan is under PDU CEPALCO of the Abaya family, but CEPALCO's expansion to include under areas under Metro CDO is always possible.

Metro Olongapo, which includes Olongapo City and Subic, but later expanded to include Castillejos in Zambales and Dinalupihan, Hermosa, and Morong in Bataan. Parts of Olongapo City, Subic, Hermosa, and Morong are now under Aboitiz's SEZ and OEDC owned by Abaya's CEPALCO. The rest, including the entire Dinalupihan, is still with PENELCO.

Metro Angeles, which includes Angeles City, San Fernando City, municipalities of Mabalacat, Porac, and Bacolor. Angeles City is already under PDU AEC owned by Peter Nepomuceno. San Fernando City is under Aboitiz's SFELAPCO. Mabalacat and Porac is with CEDC owned by Meralco. Only Bacolor remains with PELCO II.

Metro Batangas, which includes Batangas City, Bauan, San Pascual. Batangas City and San Pascual are now with Meralco, while Bauan with LGU-owned FBPC. So it is not inconceivable for Bauan to be absorbed by Meralco as well.

Metro Bacolod, which includes provincial capital Bacolod City, and Talisay City, Silay City of Negros Occidental. They are all under CENECO, so we can expect movements to privatize CENECO soon.¹¹

Metro BLISTT (formerly Metro Baguio), which includes Baguio City, La Trinidad, Itogon, Sablan, Tuba, and Tublay (added in 2009). All areas are under BENEKO so far, which is probably why there is a forcible takeover by NEA last year (through EO 156), probably with the intent of privatization.

Metro Naga, which includes Naga City and 14 neighboring municipalities of Camarines Sur province: provincial capital Pili, Bombon, Bula, Calabanga, Camaligan, Canaman, Gainza, Magarao, Milaor, Minalabac, Ocampo, Pamplona, Pasacao, and San Fernando. All areas are under CASURECO. CASURECO is under serious debt to San Miguel, which has recently taken over ALECO, so we can expect a similar move on the horizon.

Supply

Meanwhile, the list below from the shows that the same families that own generation companies and distribution utilities are also members of the Retail Electricity Suppliers Association (RESA). This indicates that on top of PSAs that synergistically benefit co-owned GenCos and DUs, they also get to manage the prices in the contestable retail power market.

Table 3: Owners of the Retail Electricity Suppliers

Aboitiz	Aboitiz Energy Solutions, Inc. (AESI) Advent Energy, Inc. (AdventEnergy) Prism Energy, Inc. (Prism Energy) SN AboitizPower – Magat, Inc. SN AboitizPower RES, Inc. (SNAP-RES) TeaM (Philippines) Energy Corporation (TPEC)
Aboitiz, Garcia-Escaño	PRISM Energy Inc. Visayan Electric Company Local Retail Electricity Supplier (VECO Local RES)
Ayala	AC Energy And Infrastructure Corporation AC Energy Corporation DirectPower Services, Inc. Ecozone Power Management, Inc. (EPMI)
Cariño (Noel)	SunAsia Energy, Inc. - Megawatt Solutions, Inc.
Consunji	SMPC - Sem-Calaca RES Corporation (SCRC)
Foreign	Aviva - Mabuhay Energy Corporation Pilipinas Shell - Shell Energy Philippines Inc. (SEPH) Power Partners Ltd. Co. - GNPower Ltd. Co. ("GNPower")
Garcia-Escaño	Vivant Energy - Corenergy, Inc. (Corenergy)
Gotianun	FDC Retail Electricity Sales Corporation
Lopez	Bac-Man Geothermal Inc (BGI) Green Core Geothermal Inc. (GCGI) First Gen Energy Solutions Inc. (FGES)
Pangilinan, Gokongwei	Clark Electric Distribution Corporation Local RES Global Energy Supply Corporation (GESC) MERALCO - MeridianX, Inc, Mpower Vantage Energy Solutions and Management Inc. (Vantage Energy) Mgen - SOLVRE, Inc.

Saaverdra	Citicore Power, Inc.
Sy	SM Group - Premier Energy Resources Corporation (PERC)
Valencia	Millennium Power RES, Inc.
Villar (PAVI)	Kratos RES, Inc. (Kratos)
Zobel (Iñigo), Ang (Ramon) (SMCGPH)	Masinloc Power Partners Co. Ltd (MPPCL) San Miguel Consolidated Power Corporation (SMCPC) San Miguel Electric Corp. (SMELC)
(Unknown)	Ferro Energy, Inc.

This is corroborated by the list of retail electricity suppliers with contestable consumers CCs from the 40th EPIRA status report (as of April 2022). From the graph, the Aboitiz group corners 20 per cent of all the CCs, the Ayala Group has 14.6 per cent, Meralco group has a whopping 44.6 per cent, and EDC another 8.8 per cent. Together with the Yuchengco group, these groups have 89 per cent share of the total.

Table 4: List of Suppliers with Contestable Consumers

Suppliers	Number of CCs
Aboitiz Group	363
Aboitiz Energy Solutions, Inc.	144
AdventEnergy, Inc.	123
SN Aboitiz Power - RES Inc.	27
San Fernando Light & Power	1
PRISM Energy, Inc.	51
SN Aboitiz Power-Magat, Inc.	17
Ayala Group	256
Ecozone Power Management, Inc.	24
DirectPower Management, Inc.	87
AC Energy and Infrastructure Corporation	10
AC Energy Corporation	135
San Miguel Group	128
SMEC	
SMC Consolidated Power Corp.	101
Masinloc Power Partners Co., Ltd.	27
MERALCO Group	784
Manila Electric Co. (Mpower)	610
Vantage Energy Solution and Management, Inc.	129
Clark Electric Distribution Corporation	12
MeridianX Inc.	1
Global Energy Supply Corp.	32

Suppliers	Number of CCs
EDC Group	154
First Gen Energy Solutions	144
Bac-Man Geothermal, Inc.	123
Green Core Geothermal, Inc.	27
Yuchengco Group	5
EEl Energy Solutions Corporation	5
Others	194
Global Energy Supply Corp.	–
GNPower Ltd. Co.	4
TEAM (Phils.) Energy Corp.	22
Shell Energy Philippines, Inc.	25
KEPCO SPC Power Corporation	7
Premier Energy Resource Corp.	17
FDC Retail Electricity Sales Corporation	21
Kratos RES Inc.	36
Citicore Energy Solutions	16
Corenergy, Inc.	16
Anda Power Corporation	4
SEM-Calaca RES Corporation	8
Batangas II Electric Cooperative, Inc. - Local RES	1
Mabuhay Energy Corporation	16
Solar Philippines Retail Electricity, Inc.	1
Mazzaraty Energy Corporation	–
EEl RES, Inc.	–
Total	1884

Worse, there has been some sort of consolidation over time. From the EPIRA report¹²:

“Comparing the June 2021 versus the February 2022 data, there is a recorded increase of twenty-six (26) per cent for RES associated with the Meralco Group, twenty-three (23) per cent for Energy Development Corporation (EDC) Group, eight (8) per cent for affiliated RES of Aboitiz Group, five (5) per cent for Ayala Group, six (6) per cent for San Miguel Group and the remaining twenty-four (24) per cent increase belongs to other groups.”

The fact that the same corporations owning DUs and GenCos are also the ones owning RESs makes for a very distorted market. It's like being made to choose between

Head & Shoulders vs. Pantene, when they are both owned by Procter & Gamble, or Ariel vs. Tide, when both are also owned by P&G. No real choice exists, except whether to participate in the market or not.

¹Apologies to Alfred W. McCoy.

²It would be interesting to examine all the Power Supply Procurement Plans (PSPP) to find out if these private distribution utilities entered into Power Supply Agreements (PSA) with generation plants that are owned by the same families and groups. While that can be an exercise for another day, substantial documentation has already been produced about the so-called “sweetheart deals.”

³Bilyonaryo.com (2022)

⁴Bilyonaryo.com (2020)

GMA is defined as Metro Manila plus a built-up area surrounding it composed of select cities and municipalities in neighboring provinces of Laguna, Cavite, Rizal, Bulacan, Pampanga, and Batangas. One definition is that GMA is the aggrupation of localities that have at least 1,000 people/km² and are in a contiguous 1,000+ people/km² density zone with Metro Manila (or either projected to become so or completely surrounded by localities that match these criteria).

This includes, on top of the cities and municipalities of Metro Manila: from Bulacan – Meycauayan, Marilao, Santa Maria, San Jose del Monte, Bocaue, Malolos, Balagtas, Bulacan, Guiguinto, Plaridel, Pandi, Calumpit, Pulilan, Hagonoy, Baliuag, Obando, Paombong; from Cavite – Bacoor, Imus, Kawit, General Trias, Gen. Mariano Alvarez, Carmona, Cavite City, Tanza, Rosario, Noveleta, Naic, Silang, San Pedro; from Laguna – Biñan City, Santa Rosa, Cabuyao, Calamba, Los Baños, Bay, San Pablo; from Rizal – Antipolo, Cainta, San Mateo, Taytay, Angono, Binangonan, Montalban, Cardona, Morong, Teresa; from Batangas – Lipa, Santo Tomas, Tanuan, Malvar, Padre Garcia, Mataas na Kahoy, San Jose, San Pascual, Batangas City, Talisay, Bauan; from Pampanga – Apalit, Masantol.

It is also reasonable to expand GMA to include localities not contiguous with Metro Manila's 1,000+ people/km² density zone, but have a density of over 1,000. In that case, we would have to include the following: from Batangas – Taal, Santa Teresita, San Nicolas; from Cavite – Mendez; from Laguna – Victoria, Pagsanjan, Pila, Santa Cruz (provincial capital); from Pampanga – Guagua, Angeles, Mabalacat, Magalang, Mexico, Santa Ana, Santa Rita, City of San Fernando (provincial capital).

The reader is referred to Deuskar & Zhang (2015) on the built-up area surrounding Metro Manila.

⁶See the 2002 study by Ruben G. Mercado and Rosario G. Manasan of the Philippine Institute for Development Studies (PIDS) identified other such “metropolitan arrangements” (Mercado & Manasan 2002) with the National Economic and Development Authority (2007) adding a few more.

⁷See CYR (2005) for more details.

⁸Note however that the original members of the metropolitan area is just Iloilo City and its four neighboring towns, as defined by Metro Iloilo Development Council (MIDC), MIGEDC's precursor. EO 559 creating MIGEDC added the Municipality of Sta. Barbara together with the Province of Guimaras.

⁹DECORP's franchise area includes Manaoag, San Carlos City, San Fabian, San Jacinto, Santa Barbara which are outside Metro CAMADA.

¹⁰Micua (2015)

¹¹Delilan (2022)

¹²Department of Energy (2022). The author found of the existence of this data from Wilson Fortaleza.

The Price of Profit in Power: Is it worth it?

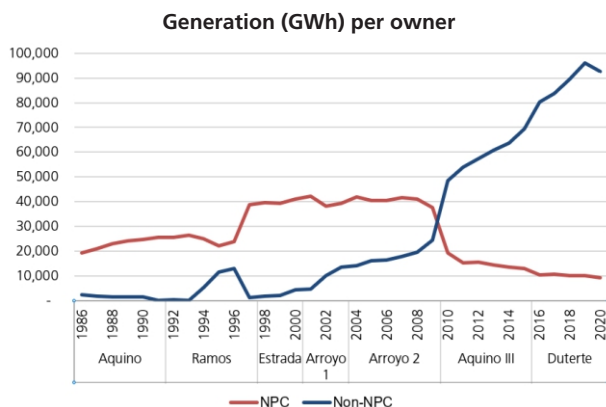
This final section explores power privatization by the numbers in order to answer the most important question: is it worth it? We will explore the public-private mix in power generation and the financials of the power parastatals before and after EPIRA to examine if the intention of the law – unwinding the government's liabilities while increasing its financial viability – has been accomplished.

Next, we will look at revenues and profit in the power sector: from the perspective of power parastatals, the private sector, and the industry as a whole. Was the appropriation of the power sector surplus fair? Finally, investments in the energy sector will also be examined. Supposedly, the promise of profit encourages new investments, which were expected to help the sector grow so that it serves — and benefits — the economy. Has this been taking place?

Transfer: From Public to Private

The extent of privatization can be gleaned from the Chart 1 below, which traces the power generation NPC vs non-NPC. Some notable events in the country's brief history have clear imprints in the data. For instance, the plateauing and then eventual decline in NPC's power production by 1991 is visible, with IPPs taking up the slack from 1994 to 1996. After the BOT Law of 1995 took effect, however, the IPPs contracted by NPC become classified as NPC-IPP, hence their sharp decline in 1997.

Chart 1: Power Output across Ownership

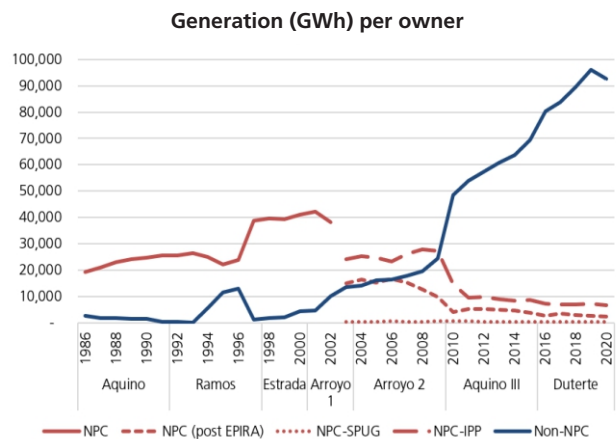


Then, from 1997 to 2009, the long plateau began. After EPIRA was passed, NPC stopped increasing its generation as the private sector slowly took on its role to provide electricity to the growing economy.

If data is disaggregated, however, it will show that production of NPC-IPPs will still enjoy some uptick after EPIRA from 2003 to 2010. This compensated for the

decline in production of NPC-owned plants and NPC-SPUG during the same period, which explains the plateau. Nonetheless, by 2010 (Aquino III government), NPC generation rapidly declined and was replaced by private power.

Chart 2: Power Output across Ownership (NPC disaggregated after EPIRA)



Aquino III's drive towards increasing the country's generation capacity has been behind this rapid growth, perhaps to distinguish himself from the legacy of her mother's term when the opposite took place. In just six years, installed capacity grew by 8.2 GW, while actual power production expanded by 30 TW – both figures representing the biggest increases compared with the five previous administrations.¹

For his part, Duterte only continued the trend of increasing power production immediately before the slowdown prompted by CoViD-19. However, the power supply expansion largely came from augmenting coal power production. Power generated from coal rose from 43,303 GWh in 2016 to 57,890 GWh which is more than half of the total power generated (106,041 GWh) in 2019.²

But then again, that's just the bird's eye view.

These pieces of data don't indicate how the evolution of power generation was determined by the privatization of assets and liabilities of what were previously state-owned corporations. The next subsection provides a deeper examination of privatization based on the financials of the power parastatals.

Unloading: Cancelling Liabilities by Selling Assets

The next three charts show how the financial conditions of the energy GOCCs, specifically NPC, NTC, PSALM, NEA, and PNOG, evolved through the years.

Chart 3: Energy Financials (1)

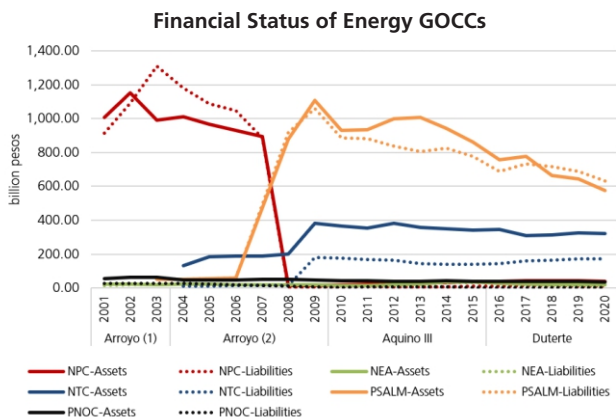
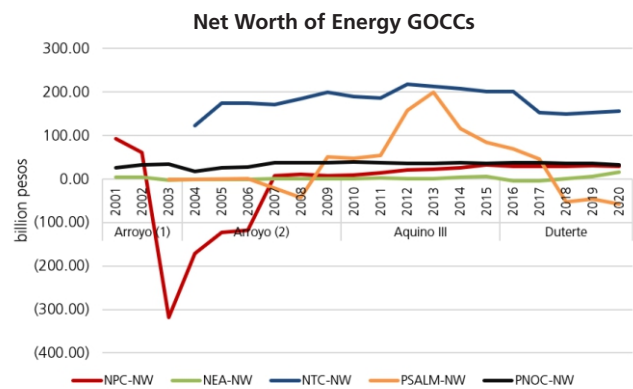


Chart 4: Energy Financials (2)



Based on the charts above, it took some time before most assets and liabilities of the NPC were transferred to the PSALM, as mandated by EPIRA.

From 1.01 trillion Philippine pesos in 2004, the assets of NPC rapidly shrunk to merely 15.78 billion Philippine pesos in 2009, or a plunge of 995.33 billion Philippine pesos). Meanwhile, from 50.55 billion Philippine pesos in 2004, PSALM's assets grew to 1.11 billion Philippine pesos, a 1.06 trillion Philippine pesos increase). The movement in liabilities is similar: for NPC, these fell from 1.18 trillion Philippine pesos in 2004 to merely 7.74 billion Philippine

pesos in 2009, (a drop of 1.17 trillion Philippine pesos); for PSALM, these rose from 51.74 billion Philippine pesos to 1.06 trillion Philippine pesos or an increase of 1.01 trillion Philippine pesos).

Meanwhile, the net worth of NPC improved from 171.13 billion Philippine pesos to 8.03 billion Philippine pesos, or an improvement of 179.16 billion Philippine pesos. PSALM's net worth also increased given all the transfers, starting with a 1.51 billion Philippine pesos (PSALM's initial capitalization, it appears, came from debt) to 50.32 billion Philippine pesos.

Table 5: Transferring NPC Assets and Liabilities to PSALM

Source in ₱'000,000		NPC			PSALM			Diff.
		2004	2009	2009-2004	2004	2009	2009-2004	
Assets	Cash and Investment in Securities	23,458	1,563	(21,895)	6,235	62,032	55,797	33,902
	Current Assets	138,194	5,007	(133,186)	529	195,852	195,323	62,137
	Equipment, Land & Related Improvements & Others	146,132	9,038	(137,095)	79	273,670	273,591	136,497
	Rest of Assets	703,326	169	(703,157)	43,704	577,445	533,741	(169,415)
Total Assets		1,011,110	15,777	(995,333)	50,546	1,109,000	1,058,454	63,121
Liabilities	Domestic Creditors	150,603	6,524	(144,080)	2,961	114,260	111,298	(32,781)
	Current Foreign Creditors	931	101	(830)	0	40,858	40,858	40,028
	Long-term Domestic Creditors	14,696	0	(14,696)	0	491,358	491,358	476,661
	Foreign Creditors	1,014,574	1,048	(1,013,526)	48,326	243,696	195,370	(818,156)
	Rest of Liabilities	1,435	71	(1,364)	448	168,510	168,061	166,698
Total Liabilities		1,182,239	7,743	(1,174,496)	51,735	1,058,681	1,006,946	(167,550)
Net Worth		(171,129)	8,034	179,163	(1,189)	50,319	51,508	230,671
Total Assets = Total Liabilities and Net Worth		1,011,110	15,777	(995,333)	50,546	1,109,000	1,058,454	63,121
Source		BESF 2006	BESF 2011		BESF 2006	BESF 2011		

What assets and liabilities were transferred?

More fine-grained data reveals that there has been some restructuring in the assets and liabilities. For NPC, current assets in cash and investments shrunk by 21.9 billion Philippine pesos, but for PSALM, it will increase by 55.8 billion Philippine pesos – a 33.9 billion Philippine pesos differential.

NPC's current assets that are “non-cash” and “non-securities” will shrink by 133.19 billion Philippine pesos, but for PSALM, it will increase by 195.32 billion Philippine pesos – a 62.14 billion Philippine pesos differential. NPC's assets in “equipment, land, and related improvements” will shrink by 137.1 billion Philippine pesos, while for PSALM, it will increase by 273.6 billion Philippine pesos – a 136.5 billion Philippine pesos differential.

Meanwhile, “rest of assets” will follow the opposite behavior, with the figure shrinking by 703.16 billion Philippine pesos in NPC and increasing by only 533.74 billion Philippine pesos for PSALM, leading to a 169.42 billion Philippine pesos differential. This means that the “rest of assets” category in NPC will be reflected more precisely under PSALM. The hypothesis is that while NPC classifies the power plants it owns in “rest of assets” (a combination of their net worth), PSALM opts to itemize all assets of all its plants.

creditors. A huge amount seems to have been transferred to the “rest of liabilities”: 166.7 billion Philippine pesos. This must be investigated further, though the correspondence of that amount with the increase in “rest of assets” will allow one to suspect that the debts of the NPC plants it inherited were lumped together, probably for better debt management. As for current debts, there seems to have been a movement from domestic to foreign creditors – opposite that of long-term debts.

Meanwhile, the earliest data available for the NTC at the Budget of Expenditure and Sources of Financing (BESF) is for the year 2004, when it had a net worth of 122.85 billion Philippine pesos. From 2002, the first year after EPIRA, to 2004, NPC lost 232.01 billion Philippine pesos in net worth and 141.93 billion Philippine pesos in assets. It may be possible that NTC was created from the assets of NPC, though this has to be investigated further.

It is also interesting to note that one year after the successful bid of NGCP in December of 2007, the liabilities of NTC grew by 163.91 billion Philippine pesos in 2009, while its assets grew by 192.53 billion Philippine pesos. It seems that a massive debt-financed increase in paper capital may have taken place. More detailed data would show an increase of 178.94 billion Philippine pesos in “rest of assets” (non-current, not “equipment, land, and improvements”). It also seems likely that the NGCP franchise had some considerable effect on the NTC's valuation of its assets.

Table 6: Transferring NPC Transmission Assets and Liabilities to NTC

Source in ₱'000,000		NPC			NTC 2004	Diff.
		2002	2004	2002-2004		
Assets	Cash and Investment in Securities	30,259	23,458	(6,801)	545	(6,256)
	Rest of Current Assets	58,264	138,194	79,929	13,854	93,783
	Equipment, Land & Related Improv. & Others	268,936	146,132	(122,804)	117,600	(5,204)
	Rest of Assets	795,585	703,326	(92,259)	1,421	(90,839)
Total Assets		1,153,045	1,011,110	(141,935)	133,420	(8,515)
Liabilities	Current Domestic Creditors	50,903	150,603	99,700	9,948	109,648
	Foreign Creditors	69,458	931	(68,528)	0	(68,528)
	Long-term Domestic Creditors	0	14,696	14,696	0	14,696
	Foreign Creditors	971,424	1,014,574	43,150	0	43,150
	Rest of Liabilities	404	1,435	1,031	621	1,652
Total Liabilities		1,092,189	1,182,239	90,050	10,569	100,619
Net Worth		60,886	(171,129)	(232,015)	122,851	(109,164)
Total Assets = Total Liabilities and Net Worth		1,153,045	1,011,110	(141,935)	133,420	(8,515)
Source		BESF 2004	BESF 2006		BESF 2006	

Table 7: PNOC Loses Assets, Gains Cash, Reinvests

Source in ₱'000,000			PNOC			PNOC			Diff.
			2006	2008	2006-2008	2008	2009	2008-2004	
Assets	Current Assets	Cash & Invest. in Sec.	8,656	21,404	12,748	21,404	6,394	(15,010)	(2,262)
		Rest of Current Assets	3,071	3,689	618	3,689	2,944	(745)	(127)
	Rest of Assets	Equipment, Land & Related Improvements & Others	184	165	(19)	165	157	(8)	(27)
		Rest of Assets	34,158	24,158	(10,000)	24,158	36,081	11,923	1,923
Total Assets			46,069	49,416	3,347	49,416	45,576	(3,840)	(493)
Liabilities	Current	Domestic Creditors	2,988	1,712	(1,276)	1,712	573	(1,139)	(2,415)
		Foreign Creditors	1,360	1,460	100	1,460	937	(523)	(423)
	Long-term	Domestic Creditors	0	166	166	166	0	(166)	0
		Foreign Creditors	11,717	4,570	(7,147)	4,570	3,357	(1,213)	(8,360)
	Rest of Liabilities	2,375	3,705	1,330	3,705	2,459	(1,246)	84	
Total Liabilities			18,440	11,614	(6,826)	11,614	7,327	(4,287)	(11,113)
Net Worth			27,629	37,802	10,173	37,802	38,249	447	10,620
Tot. Assets = Total Liabilities + Net Worth			46,069	49,416	3,347	49,416	45,576	(3,840)	(493)
Source			BESF 2008	BESF 2010		BESF 2010	BESF 2011		

As for PNOC, assets, liabilities, and net worth showed little movement throughout the years after EPIRA, despite the privatization of PNOC-EDC in 2006.

A closer look at the items of assets and liabilities, however, showed a massive restructuring. From 2006 to 2008, the “rest of the assets” fell by P10 billion as cash and securities increased by P12.75 billion. Interestingly, the following year, cash and securities decreased by P15.01 billion as the rest of the assets increased by P11.9 billion. It seems that after selling EDC, PNOC quickly reinvested the amount in other assets.

However, while PNOC lost 15.01 billion Philippine pesos in cash, it only invested 11.9 billion Philippine pesos: where did the rest go? In fact, total assets decreased by 3.8 billion Philippine pesos. Data showed that total liabilities decreased by 4.49 billion Philippine pesos, which means PNOC also paid their other liabilities in cash. Its net worth improved by 447 million Philippine pesos.

Finally, for NEA, it is barely visible in the chart above, but its assets have more than doubled from 16.06 billion Philippine pesos in 2011 to 36.03 billion Philippine pesos in 2014. It can be remembered that Republic Act No. 10531, or the “National Electrification Administration Reform Act of 2013”, was signed during this period. Section 5 of the Act increased the authorized capital stock of NEA to 25 billion Philippine pesos. However, liabilities of NEA also grew from 2011's 13.95 billion Philippine pesos to 2014's 31.09 billion Philippine pesos; accordingly, NEA's net worth only increased

from 2011's 2.11 billion Philippine pesos to 2014's 4.94 billion Philippine pesos. The figure is still worth more than double but looking at net worth rather than assets is far less impressive.

It can already be gleaned based on the facts above that the objective of the government in privatization was to merely reduce liabilities – never mind the potential revenues to be generated from assets.

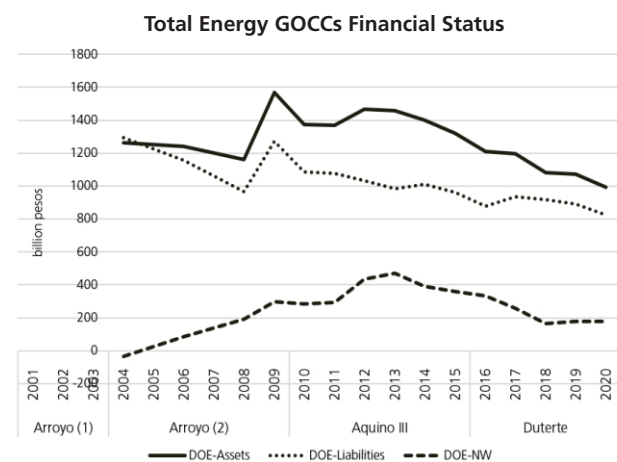
Chart 5: Energy Financials (3)

Chart 5 above shows the combined assets, liabilities, and net worth of NPC, PSALM, NTC, NEA, and PNOC from 2004 to 2020.

In 2008, assets and liabilities increased substantially, coinciding with the transfer of NPC assets to PSALM and the privatization of the NTC and PNOC-EDC, followed by a sharp decline. Since then, total assets went up a bit and then began its long, steady descent, losing around half a trillion from 2013 to 2020.

The liabilities, however, will only decline by less than 200 billion Philippine pesos during the same period. The power parastatals' sales didn't make much dent on the liabilities. The result is a continuing decline in net worth from 2013 to 2020. As a result, even if it appears that the privatization program worked to fix the financials of the state energy sector by 2013, it ended up worse compared to 2008.

But to understand what privatization has really cost us, we have to express it in terms of profit rate – who is now appropriating the surplus the power sector creates?

As we said earlier, the public nature of power parastatals implies that its “electricity-induced profits” are somehow

transferred to consumers in their other economic activities. Privatization then implies that the same profits are reinternalized, appropriated by the new corporate owners. Let's examine the rate of returns of the power parastatals two decades after EPIRA.

Profitability: Appropriation of Surplus by New Owners

The table below shows the evolution of the rate of return of energy GOCCs before tax and subsidies.

For NPC, despite huge fluctuations in the returns (dipping to -50.1 per cent at the height of privatization effort, when it has transferred the most profitable assets to PSALM and leaving it with NPC-SPUG), its profitability has barely improved – from - one percent in 2001 to merely 0.7 per cent p.a. in 2020. Meanwhile, PSALM's rate of return just hovering between -three per cent to four per cent, and mostly between -1 per cent to one per cent p.a.

Table 8: Profitability of Energy GOCCs

		Rate of Return (before tax and subsidies)					
		NPC	NEA	NTC	PNOC	PSALM	
c	Arroyo (1)	2001	-1.0%	-4.9%		1.1%	
		2002	-2.9%	-6.6%		-0.2%	
		2003	-11.4%	-32.3%		-4.8%	-2.7%
		2004	-3.3%	-2.2%	11.3%	1.1%	0.3%
c	Arroyo (2)	2005	7.2%	-3.7%	8.7%	2.0%	
		2006	7.5%	-6.0%	10.4%	19.7%	1.1%
		2007	13.4%	-10.3%	12.5%	124.7%	
		2008	-50.1%	-2.6%	13.9%	45.9%	2.1%
		2009	-18.2%	-0.7%	3.4%	5.3%	1.4%
i	Aquino III	2010	-15.3%	0.8%	3.8%	2.9%	-0.4%
		2011	-10.3%	1.3%	3.6%	12.1%	-1.1%
		2012	1.5%	2.3%	3.0%	3.8%	2.0%
		2013	1.8%	2.1%	2.2%	1.9%	4.1%
		2014	4.7%	1.6%	1.5%	11.8%	1.0%
		2015	10.7%	0.9%	1.4%	4.5%	-1.7%
		2016	3.9%	2.2%	1.5%	12.4%	1.2%
e	Duterte	2017	3.6%	0.9%	1.7%	0.8%	-0.7%
		2018	4.1%	1.1%	1.6%	1.9%	-1.3%
		2019	5.1%	1.1%	1.5%	2.2%	2.0%
		2020	0.7%	1.1%	1.1%	0.1%	-1.8%

PNOC's RoR is more erratic. While it did reach 124.7 per cent in 2007 and 45.9 per cent in 2008, no breakdown has been made available in the BESF table. However, it is important to note that these years were the first two years when EDC was privatized via its listing in the stock exchange. In any case, the RoR would rapidly drop to merely 0.1 per cent in 2020.

Meanwhile, the RoR (before tax) of EDC at the same year is at 9.09 per cent; after tax it is 7.88 per cent - still much higher than PNOC's. What's more striking is the rapid decline in the RoR of NTC, from hovering between eight per cent to 14 per cent p.a. in 2004 to 2008 down to around 3% in 2012 to just 1.1 per cent in 2020.

This dismal rate of return is more disappointing considering that the NGCP – tasked to manage NTC's assets - have consistently earned more than NTC from 2009 (the start of privatization) to 2015. This is despite the profit rate of NGCP being regulated by its Weighted Average Cost of Capital (WACC) at around 15-16 per cent. The table below compares the operating income of the NGCP and the net income of NTC, which consistently is at mostly less than half than NGCP's. It can be concluded that the privatization of the transmission grids constitutes a "subsidy" to its new private owners, the SGCC (which happens to be a state company of China) and Synergy Grid

The table below shows the comparative profitability of major companies engaged in generation and/or distribution.

Table 9: Comparing NGCP and NTC Revenues

	2009	2010	2011	2012	2013	2014	2015
NGCP¹							
Maximum Allowable Revenue (Set by ERC)	39.51	44.99	44.89	42.90	44.57	42.51	43.08
Revenue	39.53	45.21	45.61	44.60	44.52	45.19	45.70
EBITDA	33.32	36.45	38.01	37.32	36.24	36.60	37.36
Operating Income	26.42	28.76	30.89	30.18	28.77	29.08	29.57
NTC							
Net Income	15.42	18.57	21.60	20.84	21.19	22.06	22.51
Gross Revenue	20.08	18.42	17.55	17.29	13.82	11.07	10.54
Net Income (Before Tax, Subsidies)	12.80	13.68	12.71	11.41	8.03	5.22	4.93
Net Income & Subsidies	12.80	14.70	12.71	12.28	9.53	5.22	4.93

Table 10: Comparative Profitability of Power Companies

2020	Asset Sizes (billion pesos)	Net Worth (billion pesos)	Installed Capacity (in GW)	Rate of Return (before Tax, Sub.)	Value of Installed Capacity (MW/billion)
NPC (2003)	1,005.99	95.51		-1.03%	
NPC	43.53	29.16	0.21	0.07%	4.91
PSALM	662.52	-52.18	2.85	-1.78%	4.30
SMCGPH	610.02	226.30	5.30	3.44%	8.69
AboitizPower	397.93	134.59	4.83	5.25%	12.13
FirstGen	274.37	142.08	2.31	8.39%	8.42
MERALCO	390.27	80.73	1.40	5.74%	3.59
EDC	146.32	63.23	1.25	9.09%	8.56
ACEN	63.58	21.36	0.90	6.86%	14.18
SPC	11.44	10.56	0.35	15.35%	30.79
SMPC	71.15	42.19	0.35	4.81%	4.92
PERC	13.41	7.83	0.12	5.13%	8.81
Total (2020)	2,684.51	705.84	19.88	5.60%	7.40
Total Power Sector (2020)	3,550.45 (estimated)		26.29	13.89% (estimated)	7.40

Note: Power sector asset size was estimated by assuming that the total share of the aforementioned firms in total installed capacity (75.61 per cent), is also their total share in assets. The rate of return for the total power sector is thus estimated by dividing the electricity GDP to the estimated asset size.

The whole privatization initiative under EPIRA did not seem to improve NPC's profitability that much – from -1.03 per cent of the original NPC behemoth to slightly improved 0.07 per cent of the leaner NPC. But PSALM, which took over the NPC's assets and liabilities, had it a bit worse at -1.78 per cent.

Meanwhile, the new corporate power overlords have been getting returns of at least around 5 per cent (except Meralco). The highest is the 15.35 per cent of SPC Power Corp. owned by the Salcon Consortium, in control of 352 MW. Note that SPC is 37.86 per cent owned by KEPCO, even if Dennis Villareal is in control of at least 41 per cent via Intrepid and JAD Holdings.⁴

13.89 per cent as of 2020, which we obtained by assuming that the total share of NPC, PSALM, SMC GPH, AboitizPower, FirstGen, Meralco, EDC, ACEN, SPC, SMPC, PERC in total installed capacity (75.61 per cent), is also their total share in assets. This pegs the total 2020 returns at 493.16 billion Philippine pesos. We have to take this with a grain of salt though, as this ignores the transmission and distribution sectors. Note, however, that this is not too far from the WACC rate imposed by the ERC on distribution and transmission utilities.

In any case, there are at least two data sources, summarized as Table 11 and 12 below. The first table is the Input-Output tables of the Philippines, which describes the sale and purchase relationships of various sectors in the economy, including the electricity sector. The primary inputs include payment to labor (wages), payment to the capital owner (surplus), and payment to the government (taxes net of subsidies). One can consider the data from 1994 and 2000 as pre-EPIRA and 2006 and 2012 as post-EPIRA.⁵

Table 11: Data on the Electricity Sector from the Input-Output Tables

	1994	2000	2006	2012
Technical Coefficients				
Total Intermediate Consumption	0.4896	0.3129	0.3200	0.3200
Own Consumption of Electricity	0.0128	0.0041	0.1246	0.0847
Compensation of Employees	0.0822	0.1131	0.0880	0.0747
Gross Operating Surplus	0.4030	0.5423	0.5219	0.6011
Net Operating Surplus	0.2582	0.3815	0.3825	0.5390
Consumption of Fixed Capital	0.1448	0.1608	0.1394	0.0620
Taxes less Subsidies on Production	0.0252	0.0317	0.0701	0.0042
Total Primary Inputs	0.5104	0.6871	0.6800	0.6800
Total Inputs	1.0000	1.0000	1.0000	1.0000
Transactions (in million)				
Total Intermediate Consumption	39,270	52,432	92,283	231,965
Own Consumption of Electricity	1,030	694	35,915	61,379
Compensation of Employees	6,592	18,953	25,377	54,151
Gross Operating Surplus	32,325	90,860	150,487	435,641
Net Operating Surplus	20,708	63,923	110,301	390,668
Consumption of Fixed Capital	11,617	26,937	40,186	44,973
Taxes less Subsidies on Production	2,023	5,313	20,202	3,038
Total Primary Inputs	40,940	115,126	196,066	492,830
Total Inputs	80,209	167,557	288,349	724,795
Transactions (in million) - 2018 prices				
GDP Deflator (1994 - Total, Others - Electricity)	0.3459	0.6146	0.8392	0.9951
Total Intermediate Consumption	113,522	85,309	109,972	233,099
Own Consumption of Electricity	2,978	1,129	42,799	61,679
Compensation of Employees	19,055	30,837	30,241	54,416
Gross Operating Surplus	93,445	147,834	179,332	437,769
Net Operating Surplus	59,863	104,006	131,443	392,577
Consumption of Fixed Capital	33,582	43,827	47,889	45,193
Taxes less Subsidies on Production	5,849	8,645	24,074	3,052
Total Primary Inputs	118,349	187,315	233,647	495,238
Total Inputs	231,870	272,625	343,619	728,337

Based on technical coefficients for the net operating surplus, it appears that EPIRA facilitated a rapid increase in the net operating surplus in the electricity sector – what the electricity capital owners get after spending for taxes, wages, and capital consumption or depreciation. The source of the increase is likely the rapid decrease in capital depreciation expenses as well as the intermediate inputs (wages are stagnant).

Similar but official figures can be used from the ASPBI (see Table 12 below), which measures a revenue-per-expense ratio of 1.19 – down from early EPIRA days of 1.28. If the industry's expenditure growth is assumed to be proportional to asset growth, then the behavior of the ratio likely mirrors that of RoR.⁶

Table 12: Return from Spending in the Power Sector

Revenue per Expense of Power Establishments		All	Total Employment of 20 and Over
Arroyo (2)	2004		
	2005	1.28	1.28
	2006		
	2007		
	2008		
Aquino III	2009	1.47	
	2010	1.48	1.48
	2011		
	2012		
Duterte	2013	1.21	1.21
	2014	1.19	1.20
	2015	1.21	1.21
	2016	1.21	1.21
	2017	1.20	1.20
	2018		
	2019	1.19	

But where does the surplus go to?

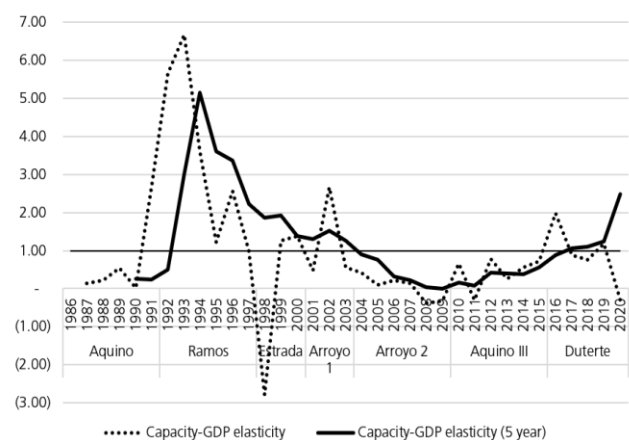
Usually, net income is either consumed or reinvested. In the firm context, either the firm gives back the profits to shareholders as dividend or it keeps it – reflecting as an increase in the value of capital. It does so by investing, either in new equipment, or as compensation to its labor force (which inevitably includes “management labor”) to incentive growing productivity.

In the next section, we will examine the investment behavior in the Philippine power sector.

Investment: Where the Profits Go

One way to ascertain if total power sector investments have increased under EPIRA is the elasticity of electricity production to GDP. Is the supply of power increasing faster than the economy? In a normal economy where power needs are fully met, and where there is no electricity glut, the elasticity should be near 1. If it is much higher than 1 for a considerable length of time, then it might indicate some inefficiency and a glut in power investments. If it's below 1, then the country may have to prepare itself for rotating brownouts in a few years.

Chart 6: Capacity Additions and the Economy



The patterns across administrations can be seen in the chart above, where the five-year electricity-to-GDP elasticity and a 5-year moving average (MA) has been calculated to smoothen out the curve. It can be observed that elasticity was dangerously low during the Aquino years, clearly predicting a power shortage in a few years. True enough, as indicated in Chapter 2, Ramos' first years in power have been characterized by rotating brownouts that lasted for several hours.

Ramos then entered into anomalous and onerous contracts with IPPs, a move that rapidly closed the gap between energy supply and demand but also causing a glut in the power market (5-year elasticity exceeded 5!). In effect, succeeding administrations were prompted to grow the economy faster before even attempting to add new generation capacity.

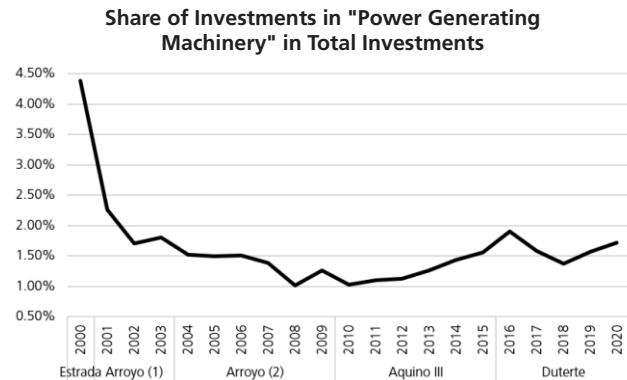
As a result, a sustained decrease in capacity was reported from Estrada's term to the first term of Arroyo; by 2004, the-year elasticity is back to 1. Arroyo slightly underinvested in power, with the -year elasticity being below 1 for the rest of her term. By 2008-2009, it would be almost zero. This will be compensated by the gradual increase during the time of Aquino III and Duterte, pushing the elasticity back to 1.

Table 13: Commissioned MW in Installed Capacity per Admin as of 2020

Duterte	6,066.7
Cusi, A.	6,066.7
Aquino III	4,211.3
Almendras, J.R.	573.4
Monsada, Z.	1,376.1
Petilla, J.	2,261.9
Arroyo (2)	1,013.3
Ibazeta, J.	204.4
Lotilla, R.	380.4
Perez, V.	84.4
Reyes, A.	344.1
Arroyo (1)	2,486.6
Perez, V.	2,486.6
Estrada	3,107.5
Tiaoqui, M.	3,107.5
Ramos	4,132.9
Bomasang, R.	21.2
Lazaro, D.	1,415.3
Viray, F.	2,696.4
Aquino	238.6
Bomasang, R.	91.8
De La Paz, W.	128.3
Others	18.5
Marcos	4,539.0
Velasco, G.	4,337.8
Macapagal	9.9
Garcia	144.3
Magsaysay	105.0
Quirino	219.0
Quezon	22.8

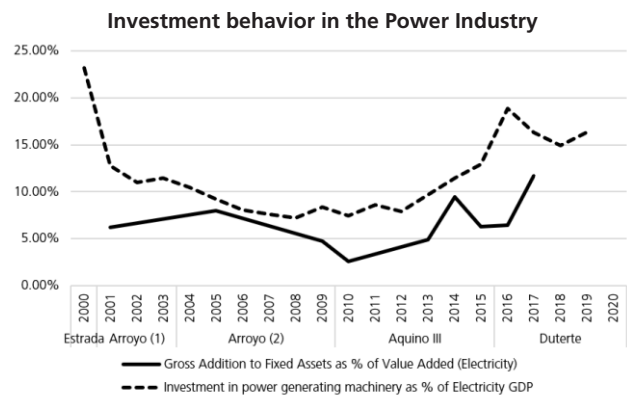
Based on the amount, in MWs, of installed capacity commissioned per administration (see Table above), (Cory) Aquino's administration has stood out – her move to dismantle Velasco's state energy complex did have an effect on power investments. It is also notable that the second Arroyo administration, despite having defeated the fiscal crisis, still had lower generation investments than the first one, perhaps because of other priorities.

Chart 7: Power Investments in Total Investments



As can be gleaned from the table above, of the total investments (capital formation) made during the year, investments in power generating machinery have only hovered between one per cent to two per cent after EDSA II which ousted Estrada from power. It reached its lowest level in 2008, when Arroyo was supposedly bringing in investments from China (the aborted infamous National Broadband Network project comes to mind). Aquino III will increase this share to its highest since Estrada, followed by an uneven growth under Duterte, indicating that the volume of power investments also depends on the priorities of each administration.

Chart 8: Power Investment



Since the Philippines is a market economy, a huge part of investments in any given sector will most likely come from the gains of the sector itself. The ability of a power company to provide additional capacity, for instance, largely depends on its capacity to generate power now and earn a surplus from it. Either the sector's surplus is reinvested in the sector, or it is used to give signals to the capital markets (especially banks) to invest more in the sector.

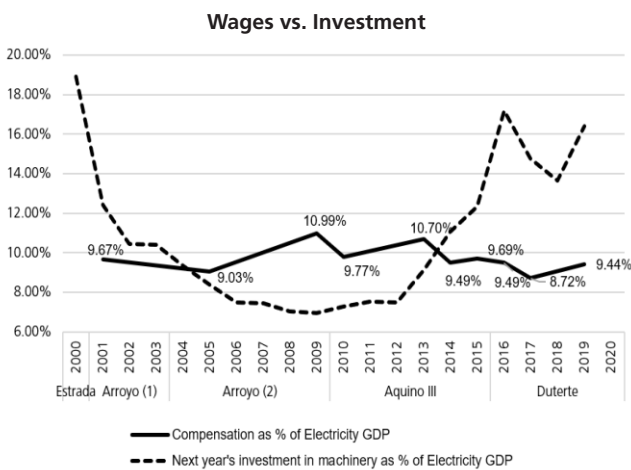
The chart above compares power investment to power production and sales from two angles: one from the national accounts, where the ratio of investments in power

generating machinery is taken as a share of the electricity GDP, and the other from the Annual Survey for Philippine Business and Industry (ASPBI), where the power sector's gross addition to fixed assets is considered as a share of the value-added. It appears that the two ratios above generally point to the same pattern: a decreasing one during Arroyo, and rapidly increasing during Aquino III.

Finally, it will also be conceptually useful to compare the share of revenues going to the workers of the power companies, including "management labor" vs. that which goes to next year's investment.

Based on the chart above, the compensation share is incredibly stable, hovering from 9-11% of the total electricity GDP. Therefore, since it has already been established that the share of investment is increasing, it can also be said that investments are extracted more from the power sector's surplus or from outside reinvestment, and not from reducing wage share.

Chart 9: Allocating for the Labor vs. Capital



This brings us to the question of the effect of investments. Supposedly, new investment in the electricity sector should not only power an expanding economy (which we have demonstrated with an electricity-GDP elasticity greater than or equal to 1), but should also improve the overall capacity of the power sector to do so. This requires us to look at how the efficiency of the power sector has evolved through time, especially immediately before and after EPIRA took effect.

Efficiency: A Better Power Sector?

There are several ways to examine technical progress within the power sector.

One way is to look at how much of installed capacity is actually being used, which indicates how good the electricity sector is in mobilizing its existing resources for

power generation. This depends on the mix of fuels, energy sources, and technologies the sector harnesses for generating power. The method for measuring this is the "capacity factor" – the unit-less ratio of actual electrical energy output over a given period of time divided by what is supposed to be the continuous maximum electrical energy output over that period as determined by existing generation capacity.

Another is to determine how much power is not being used to serve the needs of the economy. This takes place in two ways. First, the utilities themselves – from generation, to transmission, to distribution – use power to operate. The more the utilities consume in proportion to what they produce, the less there is that is available for everyone else. Second, substantial energy is dissipated due to technical causes, the so-called "systems losses".

The two charts (10 and 11) below trace the development of capacity factor and power consumed by the utilities and systems losses from 1987 to 2020.

Chart 10: Technical Efficiency of the Power Sector (1)

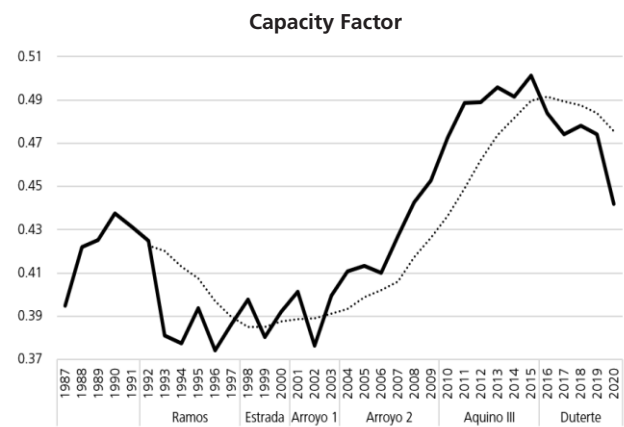
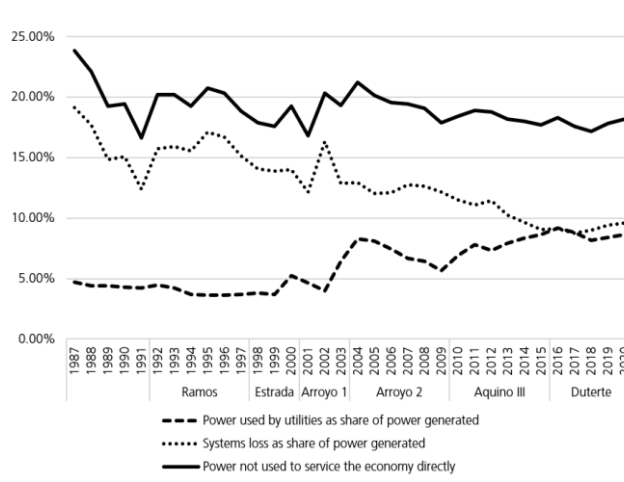


Chart 11: Technical Efficiency of the Power Sector (2)



The capacity factor (Chart 10) increased post-EPIRA, indicating a huge increase in the utilization of installed capacity. Can this be interpreted as increasing efficiency? Not necessarily, because as indicated in Chart 6, capacity additions did fall from 2001 to 2010 – the same period when capacity factor was increasing. It is more probable that the power sector is simply operating more to power a growing economy despite not having new installed capacity.

The better measure is the share of power not used to service the economy directly.

Based on chart 11, this figure did not really manage to break free from the 17-20 per cent range even as systems losses dropped considerably after the enactment of EPIRA. The reason is that the power used by the utilities for themselves has increased, negating the reductions in systems losses. This might need to be investigated further, as this may only be a case of a classification strategy to meet the ERC-set cap on passed-on systems loss.⁷

Not Worth It

The record of privatization is clear.

The plan to transfer power production from the public to the public sector was successfully implemented, but it did not necessarily improve the total financial health of the energy parastatals, with PSALM's net worth now going to negative as liabilities remain at more than half a trillion. It did, however, increase the surplus captured within the electricity sector, with private power earning several hundreds of billions in returns annually.

Profits are not necessarily reinvested to expand generation capacity commensurate to the expanding economy it serves, and probably even not in increasing the sector's efficiency, with the decrease in systems losses compensated by the increasing rate of power used by the utilities themselves. No wonder power prices have not been drastically reduced as privatization has promised.

So what can we make of the humongous profits made in the electricity sector? It is not worth it; power privatization is an expensive experiment that failed to deliver its promises.

Unlike the electricity arms race between the state and the private sector in the 1930s to 1960s, or the dominance of the government in the power sector in the 1970s to mid-1980s, there was no radical expansion of capacity or efficiency in the so-called power sector reform. Moreover, any resulting efficiencies were captured by a handful of family-owned corporations, coddled by politicians, and doing all they can to prevent the public from taking a slice of their pies.

It is time to explore alternative models of ownership in the power sector.

Generation firms, once more, must be considered as public utilities. Given the profitability of the transmission system, its national security implications, and its nature as a natural monopoly, it should be renationalized.

Large private distribution utilities such as Meralco, VECO, APEC, CLPC, and DLPC can then be converted into either ECs or subsidiaries of that renationalized transmission company, allowing for better load and demand management in key urban agglomerations. These agglomerations tend to grow into “megaregions” with geographically dynamic built-up areas – like the Greater Manila Area which has infringed parts of Central Luzon and Calabarzon, Metro Cebu, and Metro Davao, and therefore the franchise areas cannot be statically defined.

In the final chapter, we explore some of these proposals in detail.

¹Oplas Jr. (2021)

²Ibon Foundation (2020)

³Data on NGCP was from Sen. Win Gatchalian's policy brief in Gatchalian (2017).

⁴See www.spcpowergroup.com/about-us/corporate-profile/.

⁵The 2018 IO table, while available, is not used, due to the lack of data on capital consumption.

⁶French Thomas Piketty (2014) observed that in economies, the capital-income ratio β would equalize with s/g , where s is the savings rate and g is the growth rate in production. s would be equal to around 20% given Table 11, while the growth of electricity production has an average of around 5%. Therefore, β for the power sector should be around 4.

⁷Gatchalian (2018)

The Future of Ownership in Power

An effective approach to reforming the ownership of the power sector in the Philippines must avoid a one-size-fits-all approach. After all, the evolution of the sector – in terms of technology, social organization, and interaction with other sectors – is such that the effectiveness of ownership modalities is always transient.

The model of a Meralco-Napocor Cold War of the 1930s-60s, effective as it had been in rapidly developing the power sector after American rule, was proved inferior by Secretary Velasco's project of energy self-sufficiency via the state's NPC-PNOC behemoth in the 70s. When that behemoth proved to prop up Marcos' crony capitalism, it had to be dismantled by a post-dictatorship movement in the 80s and 90s. The resulting inefficiencies prompted the EPIRA project, from which emerged the constellation of power conglomerates in the 2000s.

Now, it is clear that these power conglomerates failed to increase installed capacity as fast as production. They also failed to improve power sector efficiency. All of these while reaping obscene market profits in generation and supply, and obscene regulated profits through the WACC system in distribution and transmission. All of these have resulted in extremely high power prices that serve to stunt industrial development and initiatives to end income poverty.

EPIRA has been discredited in the eyes of Filipino consumers and polity; only the most radical proponents among economists hold on to the EPIRA model.

This means, however, that what we will replace EPIRA with – specifically on the matter of ownership – cannot proceed with the ideological approach taken by Velasco in the 70s and EPIRA in the 2000s. The national government, local government, cooperatives, GOCCs, private companies, and consumers will all partake in the creation and consumption of power under a superior setup, the extent of their role and influence determined by pragmatic considerations.

In this chapter, we outline some key elements of a new approach to power ownership. But first, some theoretical considerations.

Power as Public Utility

The debate between proponents and opponents of privatization almost always redounds to the status of the power sector – is it a public or private good?

Privatization proponents insist on unbundling the sector (generation, transmission, distribution, and supply) and assigning each bundle a different status. But even as the power sector was unbundled, all the bundles end up in the hands of the private sector anyway, because even the

natural monopoly that is power transmission was later transferred to the hands of business at the behest of those proponents. A huge part of the distribution sector is also under the control of private distribution utilities. For proponents, it is enough that they are regulated, and that their profit is set transparently based on prevailing rates (via WACC).

Opponents of privatization argue, however, that the critical and strategic nature of the power sector requires some form of nationalization of a substantial part of that sector, if not all of it – which they demand to declare as a “public good” or a “public service”. That it is decisive to the operations and development of all of society and the economy behooves a society to put electricity in the hands of the public, exercising its power via the government or some other non-market form.

This is where the confusion begins, because the economist criterion for a “public good” is not necessarily aligned with the idea of a progressive advocate. Even categories such as natural monopolies can be considered as not a public good by economists if it is either excludable – one can physically be excluded from consuming the good or service, or rival – the consumption of one affects the ability of another to consume. It does not matter how high the barriers to entry are, how inelastic the demand is, or how great dependent the other sectors are on it – if the sector is excludable and rival, it should be privatized or it will be exploited by free-riders or rent-seekers. Eventually, the provider of the good, in our case the State, will be disincentivized to expand or increase the quality of the good provided. The promise of profit under privatization encourages the development of that sector.

For the more radical opponents of privatization, this argumentation is unacceptable. The existence of profit in a sector that follows the privatization initiative only opens avenues for further exploitation of the working class. Instead of the workers in the power sector working for the benefit of everyone – and the share of the social surplus created in the power shared by everyone in the economy – privatization allows the expropriation of that surplus through the institution of profits and capital accumulation.

Some of the people who subscribe to this view, however, allow for the possibility that capital accumulation in the power sector may actually be progressive, but this is only true in the early stages of development. And this already occurred during the 1930s-60s radical expansion of the power sector under Meralco-Napocor competition. By 1970s, the public-led model (with the state acting as a proxy for the public), is already seen as superior.

We won't delve into either of these two extremes. Instead, we consider the case where we concede that capital accumulation can still lead to the development of the

power sector, but only in a transient sense. Moreover, we also take a more nuanced look into the power sector, not as a “public good” – which can lead to intense (but tactically pointless) debates, but as a “public utility” – which can be better linked to our existing legal and institutional understanding of a utility. In fact, our Supreme Court recognizes “public utilities”, adopting the definition that they are businesses or services “engaged in regularly supplying the public with some commodity or service of public consequence” (G.R. No. 124293).

The court elaborates:

☞ *To constitute a public utility, the facility must be necessary for the maintenance of life and occupation of the residents. However, the fact that a business offers services or goods that promote public good and serve the interest of the public does not automatically make it a public utility. Public use is not synonymous with public interest. As its name indicates, the term 'public utility' implies public use and service to the public. The principal determinative characteristic of a public utility is that of service to, or readiness to serve, an indefinite public or portion of the public as such which has a legal right to demand and receive its services or commodities. Stated otherwise, the owner or person in control of a public utility must have devoted it to such use that the public generally or that part of the public which has been served and has accepted the service, has the right to demand that use or service so long as it is continued, with reasonable efficiency and under proper charges.*

...

☞ *Public use' means the same as 'use by the public.' The essential feature of the public use is that it is not confined to privileged individuals, but is open to the indefinite public. It is this indefinite or unrestricted quality that gives it its public character. In determining whether a use is public, we must look not only to the character of the business to be done, but also to the proposed mode of doing it. If the use is merely optional with the owners, or the public benefit is merely incidental, it is not a public use, authorizing the exercise of jurisdiction of the public utility commission. There must be, in general, a right which the law compels the owner to give to the general public. It is not enough that the general prosperity of the public is promoted. Public use is not synonymous with public interest. The true criterion by which to judge the character of the use is whether the public may enjoy it by right or only by permission."*

The problem is that Section 6 of EPIRA has already declared that “power generation shall not be considered a public utility operation”. Section 29 does the same for the supply

of electricity in the contestable market (which means DUs and ECs remain as public utilities). The wisdom of these provisions has been contested ever since.

One argument to consider is that even if we concede that clients of subsectors of the power sector don't have the legal right to demand its services (no DU or EC is entitled to the power of any particular GenCo outside of contractual obligations in an unbundled setting), if we consider the power sector as a whole, then consumers can now be said to have moral right for power because it is of public consequence.

Consider that under EPIRA, the DU is a public utility, from which the public can demand power and for which the public can demand regulation. However, the DUs themselves are under the mercy of the anarchy of generation utilities which can opt to sell them power on their own terms as long as it is within the parameters of the competition law¹. If DUs are public utilities, then why can't we demand the same status from the generation sector? Perhaps, this is why cross-ownership is something to be expected – no private DU would want to be at the mercy of the gencos as a class of electricity producers, even with the existence of a supply sector.

But here's a stronger critique, especially with the recent amendment of the 86-year-old Public Services Act² via Republic Act 11659 that removes the public utility status of telecommunications, expressways, airports, and shipping, among others: A law like EPIRA or RA 11659 that limits what can be considered “public utility”, a concept that evolves through time, necessarily constrains the options of a government and removes its regulatory instruments in a period of rapid technological evolution in services.

Consider, for instance, that ice plants were regarded as public utilities before, while internet services as late as the mid-90s were thought of as a purely private-sector endeavor. Straight jacketing what a public utility is, and what it is not, constrains our ability as a society to properly regulate economic activity, either making us under-regulate what is supposed to be a public service or over-regulate what no longer is a public service.

For instance, what if a sector that became indispensable to the population afterward attains a monopoly or oligopolistic status? The government no longer has the flexibility to declare it as a public utility, even if it becomes necessary to do so. On the other hand, there are specific sectors that can lose their “noncontestable” status and therefore their status as a public utility. Consider the likely evolution of the power industry to that dominated by solar photovoltaic (PV) and off-grid systems which can easily be purchased from open markets. That's not the case now (and that is why the power sector rightly remains a public utility) but it can very well be soon. A status of “public utility” can be a fetter to innovation and entry of foreign technology.

A better reform for the public services act is to modify what “public utility” means in a more principled and flexible manner. Emmanuel De Dios came up with three such categories: (a) broad public access or dependence (inelasticity of demand); (b) inherent seller-concentration (non-contestability), and (c) nontrivial implications for civil defense or national security. This means that economic sectors can attain or lose or attain again a status of being a “public utility” based on whether the public really demands it or if the barriers to entry become impenetrable.³

The main issue is this: Filipino consumers did not have a good time with both Filipino capitalists (Ramos onwards) and Filipino bureaucrats (Marcos era) in control of what was considered “public services”. The telecoms services may have become a cash cow under Ayalas and Pangilinan, but pre-liberalization, it has stagnated under the monopoly of state-owned PLDT. Same with water (MWSS) and power (post-Velasco NPC). For Filipino consumers, the issue of ownership cannot be separated from effective provision.

Power Value Chain

We should also analyze the soundness of EPIRA's idea to partition the power sector into four: generation, transmission, distribution, and supply. EPIRA declared generation and supply as within the purview of the private sector, ending the need to request Congressional franchise and effectively liberalizing the sector. The massive generation capacity under NPC would then be privatized. Transmission and distribution, however, are declared as public utilities, subject to regulation.

But what EPIRA missed are other power subsectors, those which have the potential to surpass the major four in later importance. We can identify at least two – energy exploration, battery storage, and power manufacturing. It is crucial to map out these subsectors so we can approach the power industry as a “value chain”, and determine appropriate ownership modalities for each segment of the chain and if (vertical) integration is more effective.

Consider exploration, for instance. In hindsight, the operation of the Malampaya gas field is arguably the most critical development in the power sector during the entire EPIRA, powering up to 40 per cent of Luzon's power requirement, and yet EPIRA has little to say on the regulation of the exploration sector. PNOC was already gutted at this point, so what is left is to bid out Service Contract 38, under the old rules of Presidential Decree No. 87, s. 1972. EPIRA could have ensured better and fairer coordination between exploration and generation sectors, especially now that the corporate giant that is San Miguel, which exercises the largest control over distribution, is also poised to become one of ASEAN's leading LNG exploration companies.⁴

The main issues with exploration are that 1) it involves the extraction and the utilization of non-renewable patrimonial resources, 2) it increases our country's contribution to global GHG emissions and compromises our climate mitigation commitments⁵, and 3) it directly feeds our conventional hydrocarbon generation plants. With these issues alone, we are compelled to include a strict nationalization and regulation of all exploration initiatives in any new power reform act.

Obviously, we cannot let cross-ownership in (domestic) exploration and generation, especially as we have to rationalize the use of our remaining hydrocarbon resources for developmental purposes. Cross-ownership in exploration and generation, especially given the cross-ownership in generation and distribution, would orient the exploration sector towards maximum exploitation for preferred clients. Unfortunately, SMC, FirstGen, Alsons Power (via ACR), and Manuel Pangilinan's companies (Philex, Meralco) are engaged in both. In fact, the majority of our petroleum exploration service contracts is operated by familiar private players, including Shell, Philodrill, PHINMA, and PXP (see Table 13).

Table 13: Petroleum Service Contract Operators

Source: www.doe.gov.ph/energy-resources?q=energy-resources/sc-operators

Service Contract # (Location)	Contractor
SC 37 (Cagayan)	PNOC Exploration Corporation (PNOC-EC)
SC 57 (Calamian/NW Palawan)	
SC 58 (W Calamian/NW Palawan)	
SC 59 (SW Palawan)	
SC 63 (SW Palawan)	The Philodrill Corporation
SC 6A and SC 6B (Octon and Bonita)	
SC14 A & B (Nido and Matinloc)	Galoc Production Company WLL (GPC)
SC 14C (Galoc Field)	
SC 38 (Malampaya Field)	Shell Philippines Exploration B.V.
SC 40 (Visayan - Northern Cebu)	Forum Exploration, Inc.
SC 44 (Visayan - Central Cebu)	Gas2Grid Limited (G2G)
SC 49 (Visayan - Southern Cebu)	China International Mining Petroleum Co. Ltd
SC 50 (Calauit/NW Palawan)	Frontier Oil Corporation
SC 52 (Cagayan)	
SC 51 (East Visayan)	Otto Energy Investments Limited (OEIL)
SC 53 (Onshore Mindoro)	Mindoro-Palawan Oil & Gas, Inc.
SC 54 A & B (Northwest Palawan)	Nido Petroleum Philippines Pty. Ltd.
SC 55 (Southwest Palawan)	Otto Energy Investments Limited (OEIL)
SC 56 (Sulu Sea)	TOTAL E&P Philippines B.V.

Service Contract # (Location)	Contractor
SC 69 (East Visayas)	PHINMA Petroleum and Geothermal Inc.
SC 70 (Central Luzon)	Polyard Petroleum International Company Ltd.
SC 72 (Recto Bank)	Forum (GSEC101) Ltd
SC 74 and SC 75 (Northwest Palawan)	PXP Energy Corporation

Perhaps the best option would be to empower PNOC-EC, so it can once again take on exploration projects with appropriate exit strategies and consideration of emission targets. The immediate step would be the gradual transfer of the remaining Service Contracts (SC) to the PNOC-EC, with PNOC-EC having the right of first refusal to new Scs.

Next is the Battery Energy Storage System (BESS) subsector. This is a critical subsector given that lithium-ion batteries are subject to global supply chain constraints, especially with the scarcity of lithium resources. Now, various power players have already invested in their own BESS services, but an amendment in the EPIRA can be done such as to allow NPC to evolve its own BESS subunit to service the needs of the NPC-SPUG. Eventually, an NPC-BESS parastatal can be created for the purpose of generating a domestic capacity for manufacturing energy storage systems.

This brings us to the last item: power sector manufacturing. Now, almost all subsectors in the power sector are reliant on various complex manufactures – including transmission lines, transformers, thermal engines, etc. Given the relative permanence of this requirement, a visionary state would have built local industrial capacity to produce these manufactures. Alas, we left these to the private sector owners of the generation, distribution, and transmission subsectors, who will naturally be reliant on imported materials. It behooves succeeding governments to develop a “Philippine Power Sector Manufacturing Plan” to outline strategies for creating such a subsector.

The importance of this is highlighted given the possibility of ramping up our solar PV manufacturing capabilities, especially with the local availability of critical resources such as black sand. Moreover, should we succeed in ensuring the relative abundance of solar PV rooftop solutions in the Philippines, we will effectively convert the power generation sector from an oligopolistic endeavor requiring a public utility status to a commodity sector, not unlike the mobile phone or automotive sector.

Integration of Nationalized NGCP and Metropolitan DUs

There weird EPIRA setup that unbundled the power sector and then allowed cross-ownership among private firms

anyway, except for transmission, doesn't make much sense even in its own logic. If the intent is to prevent conflict of interest, then why allow cross-ownership in generation and distribution but not in transmission? Is it to prevent the vertical integration of transmission and distribution? But for what purpose, when integration of distribution and generation has occurred anyway? In fact, when the NPC's transmission assets were unbundled for privatization, EPIRA mandated that the TransCo hold on to sub-transmission assets while facilitating their transfer to PDUs, which means the previous system operated under a unified transmission and distribution.

We can imagine that under a setup where NGCP is renationalized, when it becomes a GOCC once more (with majority government share), it would even make sense if NGCP would also obtain corporate control over the major PDUs, at least those that operate in HUCs. NGCP, by law, would become majority owners of PDUs like Meralco (Greater Manila Area), VECO (Metro Cebu), DLPC (Metro Davao), CLPC (Cotabato), CEDC (Clark), APEC (Albay) (and other future San Miguel DUs), MORE (Panay Island), etc. Anyway, they are both considered public utilities, so the regulatory regime need not drastically change.

The main argument is that this allows for better load and demand management in key urban agglomerations. These agglomerations tend to grow into “megaregions” with geographically dynamic built-up areas – like the Greater Manila Area which has infringed parts of Central Luzon and Calabarzon, Metro Cebu, and Metro Davao. Franchise areas cannot be statically defined when city boundaries themselves are dynamic.

These ever-expanding metropolitan agglomerations serve as attractors to PDUs, and perhaps, the rapid urbanization of these areas means that they require more than what their current ECs can give them. If and when they are taken over by PDUs, then the logical move would be for these PDUs to be taken over by the government. As for ECs, they should be encouraged to continue to operate, but only to the extent that they can prove themselves to be more efficient or less costly than an (NGCP-owned) corporate DU alternative.

Future of Cooperative and Local Power

Now, these electric cooperatives have long been the dominant distribution utilities (DU) in their respective areas, some of whom have already ventured into electricity generation via solar, such as BENEKO. Some have remained problematic, however, in terms of governance and financing, leading to groups of lobbyists demanding that they be replaced by private DUs and other energy options. The moribund status of the worst of the ECs is threatening the cooperative model itself.

This need not be the case, if we give the ECs a way out of their problems and into the future, via State support. We imagine a program in which the State subsidy program, contingent on strict democratic governance reforms within the EC, will allow the conversion of ECs into multipurpose cooperatives, and give them a massive infusion in capitalization. These ECs, now called “local economy cooperatives” (LEC), are then designed to eventually replace the function of conglomerates, especially in the local economies. They will be the public's primary instrument to implement a “local industrial policy”.

The LEC will primarily be an “investment” cooperative (which means it is mainly a “financial service” cooperative) that can both finance and start its own enterprises. It will automatically have in its membership roster all registered voters in the previous franchise area of the EC. These members will automatically be entitled to dividends and other benefits, as long as they remain active voting residents of the area.

This is not to say that ECs are selected because they are automatically seen as the dominant cooperative in their areas of operations. Some tertiary coops and multipurpose coops are even larger and more financially robust. But what sets apart the ECs is their experience and mandate of energy planning, which is a necessary factor in local physical and industrial planning in towns and provinces. Setting up the ECs as a cooperative to set the pace of the local economy is a chance to fully rationalize energy use and production.

We can also envision the transformation of ECs total energy cooperatives (TEC), venturing in power generation, and eventually, in petroleum importation, refining, and marketing (gas stations). As TECs, they will end the dominance of international players in the domestic downstream oil industry. To make this possible, the combined force of the PNOC, NPC and government financial institutions will be mobilized via a TEC program to provide the requisite technical capacity and financing to existing ECs. This eliminates the need of a Petron buyback, as TECs compete with Petron and other players instead.

If this is accomplished, the new TECs will then be in the position to solve the long-time problem of mainstreaming electric vehicles (EV) in the Philippines, provided they gain a combined expertise in connecting to the electricity grid and marketing systems targeting vehicles. If they do so⁶, they'll have the ability to exapt their petroleum marketing outlets into EV charging outlets. ECs like the Romblon Electric Cooperative (ROMELCO) have shown their capacity to do so; this is something we can do at scale.

As for LGUs, the 1991 Local Government Code (LGC) doesn't give a mandate to LGUs to invest in any subsector

of the power industry, but it can do so through Local Economic Enterprises (LEE). It is high time for LGUs to maximize this avenue both for service delivery and revenue generation.⁷ It can invest in LGU BESS, in generation capacity, or even in solar PV off-grid stations for communities as part of its housing mandate. Fortunately, the DBM has already issued Local Budget Circular 111 dated June 10, 2016 encouraging LGUs to set up and operate LEEs.⁸ The LGU can also seek to improve existing LEEs, from recommendations in (Manasan & Castel, 2010).

¹ Republic Act No. 10667 or Philippine Competition Act of 2015

² Commonwealth Act No. 146 or the Public Services Act of 1936

³ De Dios (2013)

⁴ De Torres, Soresca, & Gerona (2021)

⁵ Check out our INDC, where we vowed to “undertake GHG (CO₂e) emissions reduction of about 70% by 2030 relative to its BAU scenario of 2000-2030”.

⁶ See romelcoinc.com/index.php/blog-post/ev-is-finally-out/.

⁷ LGC provisions that govern LEEs are Sections 3(b), 3(f), 3(l), 15, 17(a), 17(j), and 17(g).

⁸ Department of Budget and Management (2015)

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Appendix I. Electricity and the Economy

Chart 12: Share of Electricity Sector in the Economy

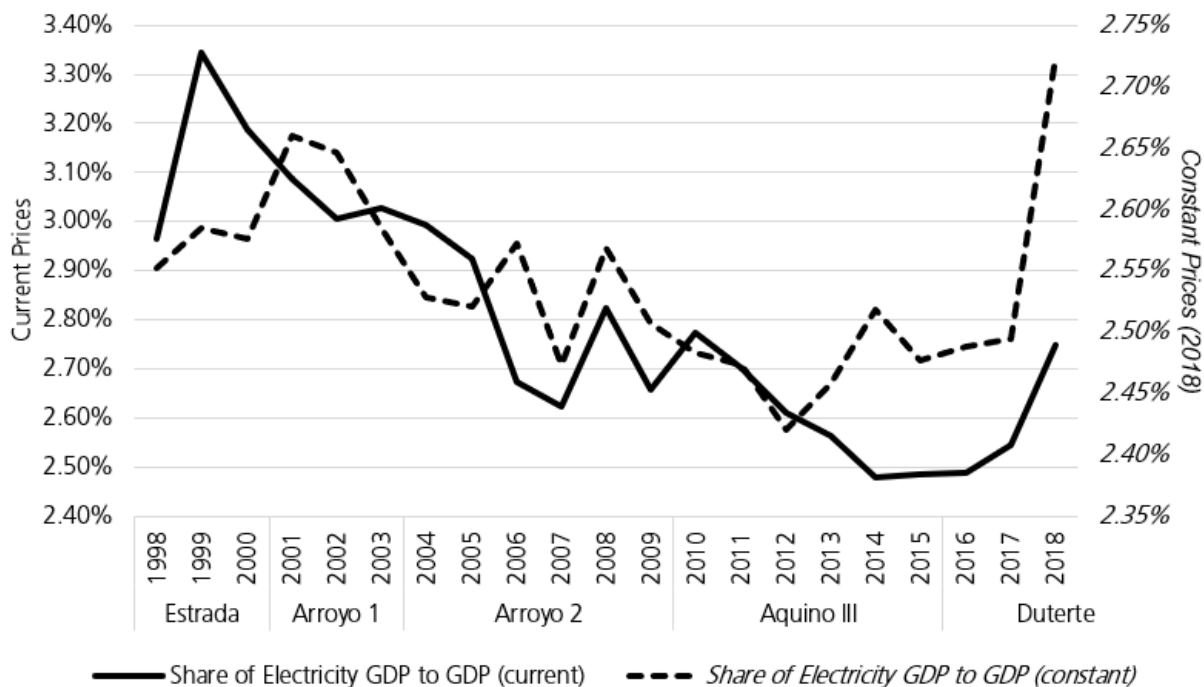
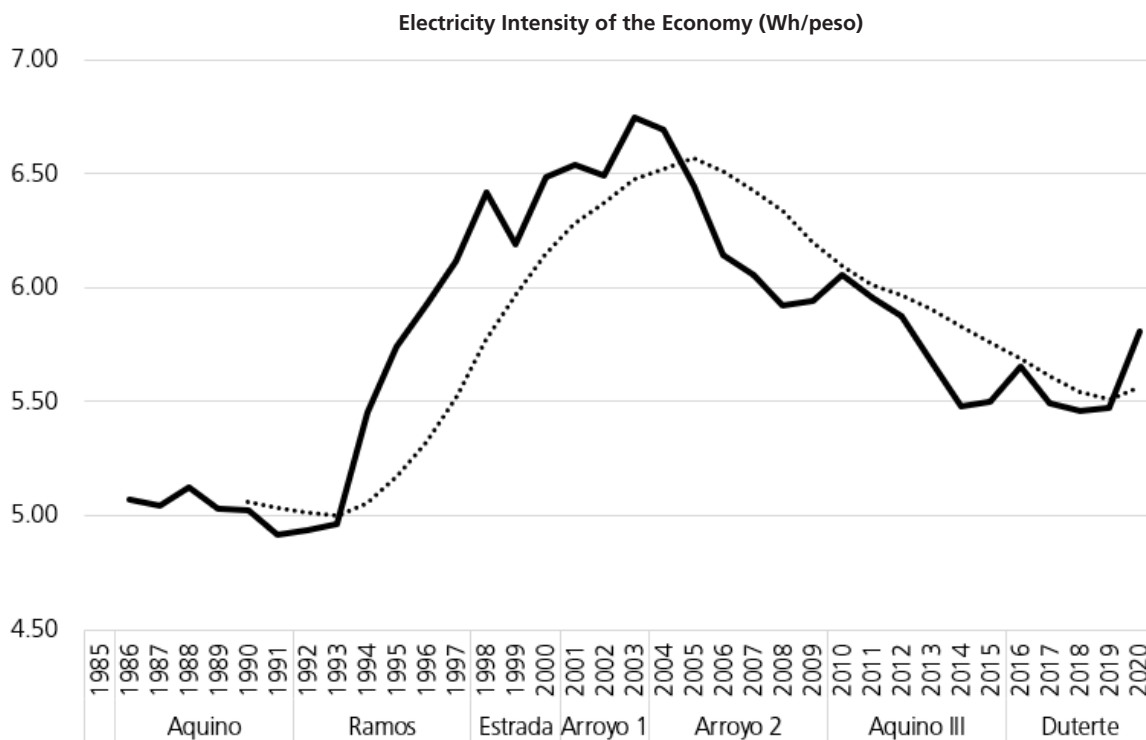


Chart 11: Power Efficiency of the Economy



Appendix II. Installed Capacity by Ownership, Island Group

Installed Capacity in MW (includes On/Off-Grid, BESS)	Luzon	Visayas	Mindanao	Grand Total
Grand Total	17,384.4	3,818.1	4,408.7	25,611.2
Zobel (Inigo), Ang (Ramon)	4,648.0		300.0	4,948.0
Aboitiz	3,594.5	544.1	644.9	4,783.5
Lopez	2,604.2	955.1	116.7	3,676.0
NG - PSALM	1,615.9		1,233.1	2,849.0
Pangilinan, Gokongwei	1,033.5	871.7		1,905.2
Consunji	1,078.6			1,078.6
Ayala	608.7	293.0		901.7
Valencia	748.0			748.0
Foreign	140.5	49.8	502.3	692.6
Alcantara			522.4	522.4
Garcia-Escano	269.6		178.5	448.1
Gotianun			405.0	405.0
(Unclassified)	218.6	79.5	64.0	362.1
Salcon Group		352.2		352.2
NG - NPC	119.4	24.8	69.2	213.4
Brown		135.0	55.6	190.6
Araneta		162.9		162.9
Yuchengco	82.1	36.0	15.0	133.1
Saavedra	40.3	85.0		125.3
Chan (Iloilo)		88.5		88.5
Leviste	86.2			86.2
Ting (Pampanga)	83.7			83.7
Zamora	64.5		10.9	75.4
Abaya (Ramon)			69.0	69.0
Salvame (Edgardo)			57.0	57.0
Perez (Vince)	54.0			54.0
Nepomuceno (Peter)	53.7			53.7
Pangilinan	31.9	16.3		48.2
Gokongwei		46.0		46.0
Tan (Lucio)	2.0	43.0		45.0
Co (Elizaldy)	29.7	8.1		37.8
Lobregat			35.9	35.9
Cooperative	9.7	9.2	16.7	35.5
Romero (Rep. Michael)			28.6	28.6
Co (Lucio)	24.0	2.4		26.4

Vergara	25.6		25.6
Bella (Geronimo)		25.0	25.0
Tan (Leoncio)	20.0		20.0
Violago	20.0		20.0
Ting	19.6		19.6
Tan Suy Lim		18.4	18.4
Tiu (Dexter)	16.4		16.4
Tan (David)	15.3		15.3
Borja		15.0	15.0
Lu		15.0	15.0
Huang See (Alfred)	13.0		13.0
Villar		9.9	9.9
Atayde (Leandro)		7.6	7.6
NG (NIA + PNOC-RC)	7.2		7.2
Golez (Rodolfo Jr.)		5.7	5.7
Uy (Alan)		3.0	3.0
See	2.8		2.8
Diaz (Amando)	2.2		2.2
LGU	1.0		1.0

Major Cross-Owners	Exploration	Generation (2020)	Transmission	Distribution (2015)	Supply (2020)
Zobel's TFH (39.57%), Ang's Privado (32.85%) – SMC/CPH	Petron; SMC may also work with PNOC-RC on LNG Exploration in Limay	4.95 GW, via: AHPC, MPPCL, Petron, SCPC, SMEC, SPPC, SPDC	(Lost bid for NGCP ownership to China's SGCC, Razon's MORE, and Coyiuto's Calaca High Power)	180,000 CC, 300 GWh Sales, via: APEC	MPPCL, SMCPC, SMELC
Aboitiz Family – AboitizPower		4.74 GW, via: APRI, CPPC, CLPC, EAUC, GNPowder Mariveles, HEDCOR Bukidnon, HEDCOR Sibulan, HEDCOR Tudaya, HEDCOR Inc., Luzon Hydro Corp., SACASUN, SNAP Benguet, SNAP Magat, TLI, TLI Team Energy, TMI, TMO, TPVI, TSI, TVI, CRH Aboitiz Hold.		486,000 CC, 3,579 GWh Sales, via: Balamban Enerzone Corp., CLPC, DLPC, Lima Enerzone, Mactan Enerzon, Malvar Enerzon, SFEPC, Subic Enerzone * Co-owns VECCO with Vivant	AESI, AdventEnergy, Prism Energy, SN AboitizPower (SNAP) – Magat, Inc. SNAP-RES, Team (Philippines) Energy Corporation (TPEC)
Lopez Family	EDC, FGP	3.68 GW, via: EDC and FirstGen, which owns – BGI, EBWPC, GCGI, FGPC, FGBPC, FG Hydro, FNPC, PMPC, BPC * Also owns 3.95% of MGEN's 1.91 GW via FPHC		(Lost PECO's franchise to Razon's MORE Power) * But owns 3.95% of Meralco's 5,784,000 CC, 29,558 GWh Sales via FPHC	BGI, GCGI, FGES
Pangilinan's MPIC (45.6%), Gokongwei's JG Summit (29.56%) – Meralco		1.91 GW, via: MGen, which owns – BSEC, GBP, GBP-CEDC, GBPC-PEDC, GBPC-PPC, GBPC-TPC, PEPOI, Quezon Power		5,784,000 CC, 29,558 GWh Sales, via: Meralco, CEDC	CEDC Local RES, GESC, Meralco – Meridian X, Meralco – Mpower, Vantage Energy, MGen - SOLVRE
Consunji Family – DMCI Holdings		1.08 GW, via: DMCI Power, SMPC, which owns – SCPC, SLPGC			SCRC
Ayala Family – ACEN		901.7 MW, via: BPGC, CIP II Power Corp., MONTESOL, ISLASOL, NLREC,			ACEN, AC Energy and Infrastructure Corporation, DirectPower, EPMI

Major Cross-Owners	Exploration	Generation (2020)	Transmission	Distribution (2015)	Supply (2020)
Valencia, Jose Miguel		NWPDG, One Subic, SACASOL, SLTEC 748 MW, via: PEI, MEI			Millennium Power RES, Inc
Alcantara Family – Alsons Consolidated Resources, Inc. (ACR)	ACR	522.4 MW, via: Alsons Power, which owns – MPC, SEC, SPPC, WMPC			
Garcia-Escano Family – Vivant		448 MW, via: Vivant Energy, which owns – 1590 Energy Corp., BPC, Minergy, NBPC		396,000 CC, 2,586 GWh Sales, via: VECO * Co-owned with AboitizPower	PRISM Energy Inc., VECO Local RES
Gotianun Family - Filinvest		405 MW, via FDC Utilities			FDC Retail Electricity Sales Corporation
Salcon Consortium, composed of KEPCO (37.96%) - Korea, Intrepid Hold. (21.51%) - Villareal, JAD Hold. (19.59%) – Villareal, Henares, Lim Chan Lok, etc.		352 MW, via: KEPCO Salcon Power Corp., SPC, SIPC		106,000 CC, 524 GWh Sales, via: Mactan Electric Co., Bohol Light Co.	
Razon, Enrique – MORE	Prime Infrastructure Holdings Inc. (eyeing Service Contract 38 - Malampaya)		(Formerly owned 30% NGCP stake via Monte Oro Grid Resources Corporation, owned by MORE)	59,000 CC, 467 GWh Sales, via: MORE Power	
Sy Family			38.93% of SGP (Synergy) which owns 67% of One.Taiwan,		SM Group - Premier Energy Resources Corporation (PERC)

Major Cross-Owners	Exploration	Generation (2020)	Transmission	Distribution (2015)	Supply (2020)
Saaverdra Family, via Citicore Power, Inc.		125.3 MW, via: Citicore Renewable Energy Corp. (CREC)	which owns 30% of NGCP		Citicore Power, Inc.
Abaya Family		69 MW, via: CEPALCO, Minergy		179,000 CC, 1,071 GWh Sales, via: CEPALCO, OEDC	
Salvame Family		57 MW via KEGI		13,000 CC, 22 GWh Sales via Ibaan Electric and Engineering, Corp.	
Nepomuceno, Peter		53.7 MW, via Angeles Power Inc. (API), J Ten Equities, Inc.		106,000 CC, 503 GWh Sales via Angeles Electric Corp.	
Pangilinan, Manuel	Owned 70% of Service Contract 72 (Recto Bank), via Philex Mining, FEC Res. (2012)	48.2 MW, via Hawaiian Philippines Company (HPCo), Central Azucarera Don Pedro, Inc. (CADPI), and San Carlos Bioenergy, Inc. (SCBI)	(Lost bid for NGCP ownership)		
Vergara Family		25.6 GW, via First Cabanatuan Venture Corp. (FCVC)		67,000 CC, 212 GWh Sales via Cabanatuan Electric Corp.	
Borja Family		15 MW, via Iligan Light and Power Inc. (ILPI)		62,000 CC, 203 GWh Sales via Iligan Light & Power Inc.	
Villar Family – via Prime Asset Ventures, Inc. (PAVI)		9.87 MW. Via PAVI Green Renewable Energy, Inc.			Kratos RES, Inc. (Kratos)

POWER & PROFIT

Accumulation in the Philippines' Privatized Power Sector



1 WHAT IS EPIRA?



The enactment of EPIRA led to the dominance of key conglomerates like:

AYALA ABOITIZ
RAMON LOPEZ
ANG CONSUNJI GARCIA

shaping an **OLIGOPOLISTIC** structure with cross-ownerships and vertically integrated operations.

- To ensure and accelerate the total electrification of the country; to ensure the quality, reliability, security, and affordability of the supply of electric power;
- To ensure transparent & reasonable prices of electricity in free and fair competition and public accountability for economic efficiency.

This study will explore the question of profit and competition in the power sector. To do this will cover:



2 POWER UNDER ADMINISTRATIONS

MARCOS

- NPC, PNOC, and DOE operated nationalized power
- Power and profit consolidated in the hands of Marcos cronies

AQUINO

- Dismantling of state power towards private sector
- Electricity demand outpaced supply and blackouts threatened the growing economy

RAMOS

- Passed the Build-Operate-Transfer (BOT) Act of 1994, to get independent power producers (IPP) to operate
- Resulted to oligopolistic competition of mega-conglomerates and left NPC with humongous debts

ARROYO

- Signed EPIRA, which permanently shut off state power over the energy sector
- Resulting to a feudal war between private companies and family based enterprises

MARCOSIAN THERMODYNAMICS:

electric power → economic power
political power ←

WHY WAS AQUINO GOVT UNABLE TO INCREASE GENERATION CAPACITY?

- Marcos' developmental aggressions had left the economy in a state of stagnation
- Government was fiscally challenged because of deficit from Marcos gov't

IF NPC IS INDEBTED, WHY CAN'T NEXT GOVT TAKE THE SLACK?

- Extrada tried during his presidency, but failed to make meaningful impact.

WHAT HAS BECOME OF CAPITAL ACCUMULATION IN THE POWER SECTOR?

- Let's see the present state of the power sector, after EPIRA was enacted.

3 PRESENT STATE OF THE POWER SECTOR

11 families control almost 3/4th of generation

TRANSMISSION is fully-privatized

owned by the State Grid State Corporation of China (SGCC)

DISTRIBUTION private DUs command 70% of electricity sales

owned by Sy's One Talaipin

PROFIT

main strategy: **primary goal! accumulation & privatized the power industry**

From public to private — eliminate inefficiencies & encourage technological operating through profit motive.

PDU vs. ECs in HUCs

- PDU's have captured HUC markets resulting to high electricity sales
- HUCs expand in built-up area encroaching on areas previously serviced by ECs

EPIRA of 2001

Electric Power Industry Reform Act of 2001
Republic Act No. 9136

owned by Ayala's Pacific

Under EPIRA, the generation sector consolidated to the extent that just 11 families — Zobel, Ang, Aboitiz, Lopez, Pangilinan, Cokongwaj, Consunji, Ayala, Valenda, Alcantara, Garcia-Escario — own 74.23% of our generation capacity.

4 THE PRICE OF PROFIT IN POWER

IS IT WORTH IT? PROFIT ≠

EPIRA

- Facilitated rapid increase in net operating surplus
- Profits are usually reinvested for new equipment/labour. Yet, wages remain stagnant.

POWER PRIVATIZATION

Is an expensive experiment that failed to give us promises

Did not increase the sector's capacity and did not reduce electricity did not reduce as promised.

WHAT IS THE FUTURE OF THE POWER SECTOR? HOW SHOULD IT BE REFORMED?

- POWER AS PUBLIC UTILITY**
economic sectors can attain or lose or attain again a status of being a public utility
- POWER VALUE CHAIN**
appropriate power industry value chain to determine appropriate ownership modalities for each segment
- INTEGRATION OF NATIONALIZED NGCP and METROPOLITAN DUs**
NGCP becomes renationalized (with majority of government share) and obtains corporate control over PDUs in HUCs
- LOCAL ECONOMY COOPERATIVES**
State should encourage for ECs to form into public cooperatives; and give them a massive infusion in capitalization.

Summary

Driven by a historical pursuit of power in both electric and market terms, the Philippine economy has undergone significant changes in the power sector. The Electric Power Industry Reform Act (EPIRA) of 2001 privatized the electric power industry, emphasizing profit as a driving force for efficiency and technological development. This shift led to the dominance of key conglomerates like Zobel & Ramon Ang, Ayala, Lopez, Aboitiz, and others, shaping an oligopolistic structure with cross-ownerships and vertically integrated operations.

The historical context includes the battle for hydroelectric energy during the American period, the expansion of public and private power sectors under different administrations, and the nationalization of the power sector by President Marcos. The subsequent dismantling of state power parastatals by President Aquino marked a shift towards private sector involvement, culminating in the passage of EPIRA in 2001.

Under President Arroyo, key acts included the creation of the National Grid Corporation of the Philippines (NGCP) and an attempt at a state takeover of Meralco. Arroyo's third significant act was the inauguration of natural gas landing from the Malampaya field, a critical component of the country's energy sector.

The power sector continued to evolve under subsequent administrations, with Arroyo's privatization initiatives facing mixed success. The paper points out that EPIRA did not significantly improve the profitability of the National Power Corporation (NPC) or its successor, the Power Sector Assets and Liabilities Management Corp. (PSALM). The sector's consolidation into the hands of a few firms, traced back to the regimes of Arroyo, Aquino III, and Duterte, characterizes the present power landscape.

The current state of the power sector reflects a transition to a new era defined by EPIRA, with a slow consolidation of generation plants, distribution utilities, and power suppliers into the hands of a few influential firms. Despite the privatization initiative, NPC's profitability has not seen substantial improvement, and PSALM faces challenges. Overall, the power sector's evolution is intricately tied to historical, political, and economic developments in the Philippines.

EPIRA's Fake Promise of Cheaper Electricity - 20 Years Later, mahal pa rin, mahal

by Maitet Diokno

August 2024

Twenty years ago, we were promised cheaper electricity in exchange for electricity reforms in the much-heralded EPIRA Law. Today, 20 years later, it is clear that such a promise was a sham. Not only was this promise abandoned. The cruel truth is, from the start, the Electric Power Industry Reform Act (EPIRA) was never about bringing down electricity rates.

Why do I say this?

If the central goal of EPIRA was to bring down electricity rates, then all actions of all agencies involved in the power sector should have been focused on this main goal. A timetable should have been set with clear targets made known to all agencies and the public and incorporated in the implementing rules and regulations. Then today, 20 years later, we would be enjoying cheap, affordable electricity. Instead, what have emerged over the last 20 years are actions and decisions that have kept Philippine electricity prices from falling significantly and remaining above electricity rates of Association of Southeast Asian Nations (ASEAN) neighbors and many parts of the world.

Instead, in the first decade after EPIRA, electricity rates went up faster than inflation.

A 2013 comparative study of electricity rates in the Philippines and its Asian neighbors showed that residential customers in the Philippines paid nearly four times the price levied on their counterparts in Indonesia. Industrial customers were charged at least 60 per cent more than their equivalent in Thailand.

In fact, the Asian Development Bank (ADB) which provided the financial support for EPIRA admits in an evaluation report that “While ADB had endorsed the reforms on the basis that they would bring economic power prices, *the goal of making retail power cheaper was clearly a chimera...*”¹

Twenty years ago, the actual target of the EPIRA was the public sector in electricity: the National Power Corporation (NAPOCOR), which at that time had control over electricity / power planning, transmission, system operation, as well as most of generation and supply.

But the Napocor was saddled with humongous debts of the Marcos era, and overpriced contracts with

independent power producers of the Ramos era. The solution offered by EPIRA was to get rid of the victim — NAPOCOR and, by transference, the Filipino electricity consumers. Corruption that was endemic to the power sector would not be addressed. Let the private sector take over generation, distribution, and transmission. Let generation be deregulated and let competition flourish, said the EPIRA pushers, and this would bring down prices. The implication here was that the private sector was clean, and not itself party to the corruption that had been taking place in the power sector from the start. And that the Energy Regulatory Commission would police the players and protect consumers. NOT!

So, in the 20 years after EPIRA was passed, the generation assets of the Napocor were sold off, and its debts transferred to a new public entity —the Power Sector Assets and Liabilities Management Corporation (PSALM) — which would eventually pass on the burden of the debts and contracts of NAPOCOR to—you guessed it—the Filipino consumers.

And the power sector, rather than bringing affordable reliable electricity to all consumers, poor and rich, living in remote areas or in the center of the metropolis, has more than ever become a playground for individuals, politicians, bureaucrats and corporations with money and influence. EPIRA was passed in the name of Filipino electricity consumers. But its actual design was meant to benefit the few, already wealthy, and powerful, players. This paper looks at electricity prices twenty years after EPIRA. Why is electricity still expensive today? What is needed to make electricity more affordable and more accessible?

Brief Scan of Power Sector Today

But first a brief look at the power sector as it is today.

There have been changes since EPIRA was passed, but some things remain the same. The National Power Corporation is but a shadow of its former self. It has largely been dismantled. Its debts and assets have been transferred to PSALM. Many of its generation assets have been sold off to business groups, some of which are new to the power sector. Napocor's contracts with independent power producers (IPPs) have been auctioned off to the private sector. Its transmission assets have been assigned to another government corporation — Transco—but

¹(Source: ADB, Philippines: Electricity Market and Transmission Development Project, March 2016, p. 41; emphasis added)

transmission is now in the hands of a company whose single biggest owner is — wait for it—the government of China!

Manila Electric Company (Meralco) still is the single biggest distributor of electricity in the country. The table below compares Meralco with the second largest privately-owned distributor, Visayan Electric Co. Inc. (VECO), and with the smallest rural electric cooperatives (ECs) in the Bangsamoro autonomous region.

Table 1: Meralco, the Biggest Distribution Utility

	Captive Connections	Electricity Sales (mWh)	Households Energized (%)	Peak Load (MW)	System Loss
Manila Electric Co. (Meralco)	5,781,845	29,093,729	97.3	9,298.44	6.4%
Visayan Electric Co. (VECO)	395,690	2,585,704	97.1	474.88	7.5%
Sulu Electric Cooperative (SULECO)	15,208	32,685	30.8	7.87	31.0%
Tawi-Tawi Electric Cooperative (TAWELCO)	11,045	16,544	27.8	4.92	23.9%
Siasi Electric Cooperative (SIASELCO)	2,859	2,556	31.5	0.01	10.2%

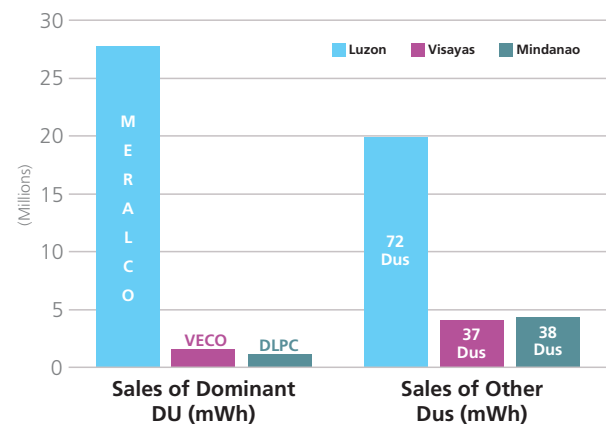
From the above table² it is clear that, while its franchise area limits it to Luzon, Meralco enjoys tremendous power in choosing its supplier of electricity. It has the greatest number of connections, accounts for more than half of nationwide electricity sales, and has the biggest demand at peak hours of 6,300 megawatts (MW).

In 2020, according to its report filed with the Securities and Exchange Commission (SEC), it had over seven million connections and sold 44 million megawatt-hour (mWh) of electricity that year. In May 2022, Meralco expects demand for electricity in its franchise area to peak at 12,387 MW.³ Being this big, Meralco can choose which electricity it will buy from which supplier. It has leverage. It dominates.

In stark contrast, three of the smallest electric cooperatives in the Bangsamoro autonomous region show very low household energization, connections of less than 20,000 with minimal demand, and double-digit system losses (as much as 31 per cent for the Sulu Electric Cooperative).

The figure below gives a visual account of the size of Meralco vis-a-vis its two “closest” rivals — VECO in Cebu and Davao Light and Power (DLPC) in Davao — and in relation to all other distribution utilities in the country.

Figure 1. Meralco compared with other Distribution Utilities, 2015



Over the past 20 years, big business groups have tried — some successfully — to take over distribution utilities throughout the country.

San Miguel Corporation took over most of the Albay Electric Cooperative and renamed it Albay Power Electric Company. It also owns and manages the Olongapo city distribution utility.

The Aboitiz Group has the greatest number of distribution utilities under its wing (nine in its 2020 report filed with the SEC). And it continues to eye more rural electric cooperatives, whether ailing or successful, in the three major islands of Luzon, Visayas, and Mindanao.

The group of Enrique Razon, owner of International Container Terminal Services (ICTSI) which runs the container port in Manila, has obtained the franchise for the area of Iloilo formerly controlled by Panay Electric Company (PECO). PECO is no longer on the list of distribution utilities on the website of the Department of Energy. Razon's Monte Oro Resources & Energy, Inc. (MORE) Power is on the said list.

On the supply side, when EPIRA was enacted, much of the generation assets were held by the government through the National Power Corporation then PSALM. In that sense, ownership of supply was highly concentrated. Today, concentration still exists, with a few distinct differences. One is that ownership has gone from public to private. Another is that instead of one entity — PSALM — owning the generation assets, there are four to six groups that play a significant role in supply. See table below.

²https://www.doe.gov.ph/duprofile?title=CEDC&field_du_group_value=&field_du_region_value=

³<https://powerphilippines.com/meralco-2022-luzon-peak-demand-at-12387mw-in-may>
 (The EPIRA law of course compels Meralco to purchase the cheapest available electricity for the benefit of its consumers; unfortunately, this is not being monitored regularly and openly to the public by the Energy Regulatory Commission (ERC) or the Department of Energy (DoE).)

According to data from the Energy Regulatory Commission (ERC), six business groups have ownership and control of two-thirds of current installed generation capacity. The government-owned PSALM Corporation, which owns and operates the Agus and Pulangui hydropower plants in Mindanao, and the *Caliraya-Botocan-Kalayaan* (CBK) hydro power plants in Laguna, holds another 10 percent of installed capacity.

Table 2: Ownership and Control of Electricity Generation, 2020

	Installed Generation Capacity (in MW)
SAN MIGUEL / Ang and Zobel de Ayala	5,299.8
ABOITIZ	4,833.2
LOPEZ	3,676.0
MERALCO / Pangilinan and Gokongwei	1,912.7
DMCI / Consunji	1,082.8
AYALA CORP	901.7
Sub-Total	17,706.2
Percent of total installed capacity	67.3%
Add: National Government (includes PSALM & NAPOCOR)	3,069.7
<i>Share of total installed incl Gov't</i>	<i>79.0%</i>

In summary, 20 years after EPIRA, a lopsided electricity industry continues to exist with a Goliath of a distribution utility dominating the distribution side. On the generation side, a few big business groups dominate the supply of electricity, with the top three coming close to the ERC ownership limits.

The shadow of competition is not evident.

Electricity Price Trends

What hardly changed over the last 20 years was the price of electricity. It remains among the highest in Asia, still following Japan. And it continues to weigh heavily on household budgets to this day.

The graph below tracks the movement of Meralco average generation rates and the average settlement rates in the wholesale electricity spot market from 2006 to 2020.

Meralco's generation rates have not fallen significantly between 2006 and 2020.

It was five Philippine peso per kilowatt hour in 2006, peaking at 5.75 Philippine peso in 2012. The lowest level it fell to was 3.90 Philippine peso per kWh in 2016, but in the following years, the rate increased, surpassing five Philippine peso per kilowatt hour in 2018 and 2019. In 2020 the average generation rate fell to 4.36 Philippine peso. It is important to note that in 2011, 2013 and 2014, Mindanao electric cooperatives succeeded in contracting aggregated power at rates lower than Meralco's. Considering the smaller size and scale of the Mindanao electric cooperatives even with their combined demand requirements, it is surprising that this Goliath failed where its tinier industry counterparts succeeded.

The Wholesale Electricity Spot Market (WESM) rates exhibited far more volatility than Meralco rates, swinging from five Philippine peso in 2006, down to below three Philippine peso in 2009, then jumping to nearly nine Philippine peso the year after. The WESM rate was lower than Meralco's in 2020.

The table below presents the structure of electricity prices in the Philippines, based on 2020 data.⁴

Generation rates account for half of what we pay for electricity: 45 per cent for Meralco, and over 50 per cent for rural electric cooperatives in Luzon, Visayas, and

Table 3: Residential Electricity Rates, MERALCO and Rural Electric Cooperatives

Sources of basic data: National Electrification Administration (NEA) and Department of Energy (DoE)

Rate Structure	MERALCO (Residential)	Rural Electric Cooperatives (Ecs)		
		Luzon	Visayas	Mindanao
Period covered	Sep 2020	Jun 2020	Jun 2020	Jun 2020
Electricity Rate (in PhP/kWh)	9.05	8.73	8.69	9.38
% of Total Electricity Rate				
Generation	45.4	54.1	52.8	56.8
Transmission	8.7	11.8	10.4	9.8
System Loss	4.5	7.1	7.0	8.3
DSM*	28.9	19.6	21.1	18.0
RFSC**	n.a.	4.4	4.0	5.3
Taxes, universal charges, subsidies, etc.	12.6	3.1	4.7	1.8
Notes:				
*DSM – distribution, supply and metering charges of distribution utilities				
**RFSC – Reinvestment Fund for Sustainable Capital expenditures of rural ECs.a. – not applicable				

⁴ DSM – distribution, supply and metering charges of distribution utilities

**RFSC – Reinvestment Fund for Sustainable Capital expenditures of rural ECs

Sources of basic data: National Electrification Administration (NEA) and Department of Energy (DoE)

Mindanao. Distribution and transmission rates, taxes, and system loss make up the rest of the electricity price. (For rural electric cooperatives, there is a charge for the reinvestment fund for sustainable capital expenditures of Ecs.)

For a household in the Meralco franchise area consuming 200 kWh a month, the electricity charges in December 2021 were as follows:⁵

Table 4: MERALCO Electric Bill for Residential Customers

Total bill (in PhP)	1,945.95
PhP per kWh rate (Dec 2021, 200 kWh consumption)	9.73
Of which charges for:	
Generation	56.8 %
Distribution	17.3 %
Taxes	9.8 %
Transmission	7.3 %
System Loss	4.9 %
Universal charges	3.1 %
Subsidies	0.8 %
Total	100.0 %

There are underlying factors that explain why generation rates account for at least half of electricity rates, and why electricity rates have not fallen despite a number of significant studies demonstrating how this can happen. These factors, which we will attempt to clarify in detail in subsequent sections, are:

1. Rather than competition, there is concentration in the electricity market, bestowing power on industry players which have exercised this with impunity.
2. With privatization as the key ideological framework behind EPIRA and the electricity reforms, the power sector is seen and used as a lucrative playground for profit-taking, rather than as a vital sector for the inclusive development of all Filipinos. In a very perverse sense, electricity rates must ensure the profitability of the industry players more than the welfare of consumers.
3. The spot market is gamed. The company that oversees the “independent” market operator is composed of the big players and a few rural electric cooperatives. In reality, however, the spot market accounts for only ten per cent of electricity bought and sold. Much of the electricity obtained by distribution utilities and passed

on to electricity consumers are from bilateral contracts with generation companies.

4. Regulatory lapses are the norm in an industry that desperately needs regulation. While there is a Magna Carta for electricity consumers, and while codes have been published for distribution and transmission, the enforcement of rules and protection of consumer welfare are rarely seen.
5. Electric power is politics and politics has not been divorced from electric power. Electricity governance is extremely weak, which works to the benefit of corrupt politicians and industry players. Deals involving cronies are widespread, in total disregard of bidding and procurement rules. Nothing is too small or too big to be acquired — be it transmission, the Malampaya fields, or rural electric cooperatives. Communities and consumers hardly figure, if at all, in this business model.

Electricity Market Concentration

The Energy Regulatory Commission recently set limits on ownership of generating units for each of the grids of Luzon, Visayas, and Mindanao, and for the national grid as a whole.

In keeping with the EPIRA, no single business group can control 30 per cent of Luzon, Visayas, and Mindanao grids. Taken as a whole, no entity can control over 25 per cent of the installed generation capacity. As of this writing, and based on data from the ERC, the market caps are as follows:

Table 5: ERC-Determined Ownership Caps over Installed Generating Capacity

Source: ERC Resolution 5, Series of 2021

Grid	Ownership Cap over Installed Generation (in MW)
Luzon	4,792
Visayas	1,014
Mindanao	1,220
National	5,856

As of this writing, we have not identified any of the big players in violation of this rule.

But the bigger generation companies are approaching the limit for some of the grids. San Miguel's installed capacity in Luzon (including plants it controls as IPP Administrator) is already 91.1 per cent of the cap for Luzon. The Lopez group is hitting 88.5 per cent of the cap for Visayas. The Aboitiz group has 78.1 per cent of the Mindanao cap, and over 50 per cent of the corresponding limits for Luzon and Visayas.

⁵Source of basic data: MERALCO

Nationwide, the Aboitiz group's installed capacity accounts for 82 per cent of the ERC-set ownership limit for the national grid. San Miguel is a close second, and the Lopez group, third.

Table 6: Comparison of 2020 Installed Capacity with ERC Ownership Caps in percent

Source of basic data: ERC

Installed Generation as Percent of ERC Cap				
	National	Luzon	Visayas	Mindanao
Aboitiz	82.0%	69.6%	50.5%	78.1%
San Miguel	79.9%	91.1%	0.0%	25.7%
Lopez	60.2%	52.5%	88.5%	8.8%

In a study on market power in the Philippine electricity market in 2008 —confined to Luzon and Visayas markets—, Danao (2008) estimated a measure of concentration called the Herfindahl-Hirschmann index. A value of over 2,500 implies a highly concentrated market, without the possibility of any competition. The value obtained by Danao for 2008 was 3,549.

Using the same measure and applying it to installed capacity in Luzon and Visayas in 2021 (ERC data), we identified the plants owned by the dominant businesses engaged in generation in Luzon and Visayas. The resulting estimate of the Herfindahl-Hirschmann index is 2,850. This is lower than the 2008 estimate, but being above 2,500, nevertheless indicates a highly concentrated market in Luzon and Visayas.

From its inception in 2006, the wholesale electricity spot market has been marked by anti-competitive behavior. Among the malpractices documented by the WESM itself are as follows:

- As a general, regular practice, suppliers offer less electricity to the market than the registered and available capacity of the plants they control. (This is a blatant violation of the “must offer” rule in WESM.) In its first year of operation, the electricity offered in WESM to buyers ranged from 55 per cent to 66 per cent of the available capacity of the sellers. In January and February 2010, 28 of the 59 days of this two-month period saw offered capacity *below* peak demand. Yet the available capacity could more than meet demand for electricity at its peak. When supply is withheld, an artificial shortage is created, which could result in higher prices of electricity that consumers — not distribution utilities or the transmission company — are made to bear.
- As early as the third and fourth months of WESM operations, an investigation within WESM was initiated because of a 73 per cent price spike that could not be explained by market conditions. Three plants — then

owned by PSALM — suddenly began offering their capacity at uniform prices and at prices that were double if not triple the prices offered a week earlier. This change in pricing behavior could not be explained by a change in the supply or demand for electricity. The board of trustees of the Philippine Electricity Marketing Corporation (PEMC), which ran WESM, found PSALM to have engaged in market abuse.

- The three plants investigated were the Ilijan natural gas plant in Batangas, the Pagbilao coal plant in Quezon, and the Sual coal plant in Pangasinan. Subsequent market assessment reports by WESM identified these three plants as both price setters and as pivotal suppliers. A plant is a price setter if its accepted offer for a particular trading hour is equivalent to at least 95 percent of the price for that period. A plant is a pivotal supplier if its capacity is needed to fully supply demand at a given trading period. When a plant is a price setter or a pivotal supplier, it has market power. Its power is greater when it is both a price setter and a pivotal supplier.

In its market assessment report for 2018, the PEMC provided information on the characteristics of the electricity market in Luzon and Visayas for the five-year period 2014 to 2018. Significant highlights from this report and the 2015 market assessment report are as follows.

Table 7: Installed Generation in 2020 as Per Cent of 2020 ERC Caps

	2014	2015	2016	2017	2018
Average Capacity Gap (MW)	2,263	2,344	2,582	1,967	2,337
% of which hydro	48.9%	40.4%	35.4%	38.9%	33.6%
% of which coal	16.7%	26.5%	25.7%	26.5%	36.9%
Forced outages (MW)		756	791	1,205	955
% of all outages		38.0%	40.0%	52.0%	42.0%
Average WESM price (PhP/mWh)	4,904	3,830	2,947	3,349	3,618
Top price setters	2015	Sual coal, Pagbilao coal, Masinloc coal			
	2018	Masinloc coal, Pagbilao coal, Sual coal			
Top pivotal suppliers	2015	Sual coal, Ilijan natural gas, Pagbilao coal			
	2018	Sual coal, Ilijan natural gas, Sta. Rita natural gas			
Top price setters & pivotal suppliers	2015	Sual coal, Ilijan natural gas, Sta. Rita natural gas			
	2018	Ilijan natural gas, Sta. Rita nat gas, San Gabriel nat gas			

The average capacity gap is the average difference (in megawatts) between the capacity offered by the generator/supplier for a particular plant, and the maximum available capacity of the plant. Forced outage is any unplanned reduction or suspension of electricity output that is not the result of a scheduled maintenance or of a force majeure event. A plant is a price setter if its accepted offer for a particular trading hour is equivalent to at least 95 percent of the price for that period. A plant is a pivotal supplier if its capacity is needed to fully supply demand at a given trading period.

The same plants identified as pivotal suppliers and price setters in 2006, when WESM began, are the same pivotal suppliers and price setters today. All three big generator groups own and control these plants.

Gencos' Behavior during Malampaya Shutdown

The behavior of other generation companies when the Malampaya natural gas plant is on shutdown and is unable to supply natural gas to Ilijan, Sta. Rita, San Lorenzo, and San Gabriel, is further indication of anti-competitive behavior of power players.

In a brief presented to the Supreme Court in 2014, Prof. Rowaldo del Mundo of the University of the Philippines, using information and data submitted to the Supreme Court by the Philippine Electricity Market Corporation, concluded that there was "abnormal market behavior" of generators during the times that the Malampaya natural gas pipeline was closed for maintenance or for a turnaround shutdown. See table below.

Table 8: WESM: Capacity Gap, Forced Outages, Price Setters and Pivotal Suppliers

Average and Highest Market Price during Malampaya Shutdown, 2010 to 2013			
Outage Duration	Outage Type	Average Price	Highest Price
Feb 10 – Mar 12, 2010	Turn-Around Shutdown	11.18	25.00
October 20 – 26, 2011	Maintenance Shutdown	9.11	45.00
July 13 – 21, 2012	Maintenance Shutdown	7.14	54.01
Nov 11 – Dec 10, 2013	Turn-Around Shutdown	22.85	62.00

Focusing on the price spike in 2013, Del Mundo identified several plants and generation companies as price setters during this period.

Table 9: Average and Highest Market Price during Malampaya Shutdown, 2010 to 2013

Source: Rowaldo del Mundo, *Amicus Curiae Memorandum to the Supreme Court*, 3 March 2014

Genco	Plant	No. of Times Price was Set	Comment
Therma Luzon	Pagbilao Coal	14	Also, a price setter before Malampaya shutdown
PSALM	Kalayaan Hydro	12	Also, a price setter before & after shutdown
SN Aboitiz	Ambuklao Hydro	29	Also, a price setter before & after shutdown
SN Aboitiz	Magat Hydro	13	Also, a price setter before shutdown
SN Aboitiz	Binga Hydro	4	Also, a price setter after shutdown
1590 EC	Bauang Diesel	162	Also, a price setter before & after shutdown
CIP II	CIP 12 Diesel	2	Also, a price setter before shutdown
Udena	Subic Diesel	42	Also, a price setter before & after shutdown
Trans Asia	TAPGC Diesel	13	Also, a price setter before & after shutdown

Therma Mobile	Navotas Diesel	57	Also, a price setter after shutdown
Panasia	Limay Oil TPP	157	Also, a price setter before & after shutdown

In addition to bidding high prices during the time of the Malampaya shutdown in 2013, several generation companies also offered widely divergent capacities during this time. One rule in WESM is that a generation company "MUST OFFER" all its capacity to the market. As del Mundo points out, some generation companies apparently withheld supply. See table below.

Table 10: Price Setters, Spike of 2013

Source: Rowaldo del Mundo, *Amicus Curiae Memorandum to the Supreme Court*, 3 March 2014

(in MW)	Weekday Capacity Offer		Weekend Capacity Offer	
	Peak	Off-Peak	Peak	Off-Peak
Genco / Plant				
PSALM / Kalayaan Hydro	145	95	121	84
SN Aboitiz / Magat Hydro	95	69	89	75
SN Aboitiz / Ambuklao and Binga Hydro	201	143	178	148
First Gen / Pantabangan Masiway Hydro	42	9	34	8
SPDC / San Roque Hydro	107	3	107	3

In the years following the above-mentioned events, the Malampaya plant has shut down for a few weeks, resulting in what WESM calls "interesting pricing events." The pricing and behavior patterns are similar to the above.

For example, in 2015 the Shell exploration company that operates the Malampaya rig restricted gas supply to natural gas plants from 11-15 May. (This followed Malampaya's scheduled shutdown from 15 March to 11 April.) Similar restrictions were enforced in June and July of 2015.

The WESM reported that there were 39 intervals in 2015 when prices "went above the upper threshold". Among the "interesting pricing events" identified by WESM were for the days that natural gas was restricted. From 11 to 18 May, when the supply margin fell below 100 (except for 14 May), the market price ranged from 24,801 Philippine peso per mWh to 29,130 Philippine peso. The price setters during this period were largely the Bauang diesel plant, the Limay oil thermal plant, the Therma Mobile oil plant, the Cebu Energy coal plant, and Toledo Power coal.

In June 2016 there were forced (unplanned) outages of coal plants when demand for electricity in Luzon and Visayas was high. These plants include Sual, Calaca, Southwest Luzon Power, Quezon Power, Cebu Energy and Kepco SPC. These forced outages were on top of planned outages of other coal plants like Pagbilao. As a result of this massive loss of capacity in the Luzon-Visayas grid, the

National Grid Corporation of the Philippines declared a yellow alert for 40 trading intervals, and red alert for 13 intervals.

Not surprisingly, with such unplanned outages leading to yellow and red alerts, there were again “interesting pricing events” from 11-19 June. During this period, the supply margin fell to as low as one and stayed below 50 except for two days. During this period, the market price ranged from 23,548 Philippine peso per mWh to as high as 33,467 Philippine peso per mWh. Note that the latter exceeded the upper limit of 32,000 Philippine peso per mWh pegged by the WESM Tripartite Committee in 2015. (The upper limit was originally 62,000 Philippine peso per mWh.)

What Market? Bilateral Contracts Dominate

According to WESM, spot market transactions in 2020 constituted only 14 percent of total electricity sales in Luzon and Visayas. In fact, bilateral contracts are the main vehicle for the sale of electricity. The table below shows that distribution utilities rely more on bilateral contracts with generation companies than on the spot market, for the supply of electricity.

Table 11: Share in Electricity Sales (in %)

Source: WESM / PEMC

	Spot Market	Bilateral
2014	11.2	88.8
2015	12.0	88.0
2016	16.72	83.3
2017	19.0	81.0
2018	20.9	79.1
2019	13.0	87.0
2020	14.0	86.0

Since Meralco is the country's biggest distributor, it is instructive to examine its purchasing behavior.

From whom has Meralco purchased electricity in recent years?

According to its financial statement for 2020 filed with the SEC, Meralco purchased electricity primarily from the Lopezes, followed by San Miguel Corporation, then its own generation companies. In 2018 and 2019, Meralco bought more from the wholesale electricity spot market than from its own generation companies — 15 per cent in 2018 (in Philippine peso terms).

But that behavior changed in 2020 when the pandemic-induced economic lockdown resulted in reduced electricity consumption. Meralco shifted from the spot market to its affiliates, buying only 8.7 per cent (in Philippine peso terms) from WESM in 2020. See table below.

Table 12: Meralco Purchases of Electricity (in PhP millions)

Source: Meralco

	2020	2019	2018
Lopez	52,838	67,636	59,581
San Miguel	48,608	64,452	58,336
Aboitiz	7,549	14,106	13,871
DMCI	3,684	6,075	14,734
Ayala	9,023	0	1,954
Own Subsidiaries	14,714	6,738	2,258
Quezon Power	13,990	17,032	15,767
WESM	14,523	27,084	29,127
Solar Philippines	338	0	0
Millenium Energy	307	500	0
Others	1,683	1,729	965
Total Purchased Power (PhP m)	167,241	205,273	196,489

Meralco's own subsidiaries are San Buenaventura Coal Fired Power Plant, the Cebu Energy Development Corporation, and the Panay Energy Development Corporation — all coal fired plants, with the latter two in Cebu and Panay, respectively.

The generation companies of Meralco's former dominant stockholders — the Lopez Group and San Miguel Corporation — continue to supply Meralco even though the Lopezes hold a minority stake and San Miguel has no stake at all in Meralco. Quezon Power has been a long-time supplier of Meralco. It is currently owned by a Thai company. Note also from the above table that Meralco's purchases from the Aboitiz group are much smaller compared with its purchases from the Lopez Group and San Miguel. In fact, in 2021, Meralco bought more (in peso terms) from the Ayala Corporation's energy unit — a relatively new player in electricity generation—than the Aboitiz group.

Monthly data on Meralco's purchasing behavior from January to December 2021 are available on its website. We compiled the information in the following table, which shows full-year levels.

Table 13: Meralco's Purchasing Behavior in 2021

Source: Meralco

	Total	Meralco IPPs	Meralco PSAs	WESM	Net Meter Customers	Others
Purchases in mWh	33,258,398	12,853,489	17,157,231	3,231,865	11,208	605
% of Total	100%	38.7%	51.6%	9.7%	0.0%	0.0%
Amount Paid (PhP M)	159,229	65,025	77,973	16,179	52	0
% of Total	100%	40.9%	49.0%	10.2%	0.0%	0.0%
Ave. Price (PhP / kWh)	4.79	5.06	4.54	5.01	4.68	n/a
Purchases from Lopez Group						
in mWh	12,558,362	10,164,050	2,394,312			
in million PhP	60,982	49,181	11,801			
in PhP / kWh	4.86	4.84	5.06			
in % of total amount paid	38.3%	30.9%	7.4%			

In 2021, Meralco paid the most in terms of pesos per kilowatt-hour to its independent power producers.

These include Quezon Power (coal), First Gas Sta. Rita (natural gas), and First Gas San Lorenzo (natural gas). It paid the least to its bilateral contractors covered by a power supply agreement (PSA). These include Therma Luzon, First Gas San Gabriel, San Buenaventura Power, AC Energy, San Miguel Energy, South Premier Power, First Gen Hydro, Panay Energy Development Corp. (PEDC), Solar Philippines Tarlac Corp. (SPTC), Powersource First Bulacan Solar Inc. (PFBS), and PSALM. Therma Luzon is an Aboitiz company. First Gas and First Gen are Lopez companies, AC Energy and Powersource First Bulacan Solar are part of the Ayala Group, San Miguel Energy and South Premier are part of San Miguel Corporation.

Meralco owns San Buenaventura and Panay Energy Development Corporation.

Meralco paid its net metering customers an average of 4.68 Philippine peso per kilowatt-hour, slightly more than its contractors covered by PSAs. (Please note that net metering customers of Meralco are charged by Meralco more than 4.68 Philippine peso per kilowatt-hour for electricity they purchase from Meralco.) It paid an average of 5.01 Philippine peso per kilowatt-hour for electricity it purchased through WESM in 2021.

If we dig into the Meralco data even further, we see that more than a third of Meralco's payments for electricity in 2021 (in peso terms), or 38.3 per cent, went to the Lopez Group.

That year, the Lopez group was paid more than the average paid by Meralco to all its non-Lopez suppliers. The natural gas and hydro plants of the Lopez group received an average of 4.86 Philippine peso per kilowatt-hour in 2021, while that same year, the other non-Lopez suppliers received an average of 4.75 Philippine peso per kilowatt-hour. The Lopez natural gas plants were paid an average of 4.83 Philippine peso per kilowatt-hour in 2021, while its hydroelectric plant was paid 5.41 Philippine peso per kilowatt-hour! Relinquishing their hold over Meralco was clearly not a losing proposition for the Lopezes.

Must contracted electricity be expensive? The rural electric cooperatives tell us it need not be.

In September 2014, electric cooperatives from Region 1 and the Cordillera Administrative Region, as well as from Region 11 banded together and formed two groups for a joint procurement of electricity. At that time, the Northern Luzon group had contracts for electricity priced at five Philippine peso per kilowatt-hour. And the Mindanao electric cooperatives were being offered "take it or leave it" electricity at rates ranging from 5.50 to 6.30 Philippine peso per kilowatt-hour.

The result of this competitive supply procurement was a much lower contract price of 3.33 Philippine peso per kilowatt-hour for the Northern Luzon group, and 3.32 Philippine peso per kilowatt-hour for the Mindanao group. At that time, Meralco's generated power was five Philippine peso per kilowatt-hour. If the Mindanao and northern Luzon cooperatives could command a lower contract price, why couldn't Meralco do the same?

Least Cost Provision in EPIRA

According to Section 23 of the EPIRA law (Republic Act 9136), "A distribution utility shall have the obligation to supply electricity in the least cost manner to its captive market, subject to the collection of retail rate duly approved by the ERC." Professor Rowaldo del Mundo of the University of the Philippines, in his amicus curiae submitted to the Supreme Court in 2014⁶, explains what this provision means.

⚙️ The least-cost mandate of DUs implies that their power supply contracts must also be based on least-cost mix of generation to supply their customers." (p. 7)

⚙️ ...[I]t is important that the industry has institutions and organized implementation mechanisms that will ensure security and least-cost supply of electricity to consumers. In a monopoly industry structure, the regulatory authority reviews the power development program to make sure that the capacity, timing, type and siting of power plant, transmission and distribution projects are least-cost among technically feasible alternatives. In addition, the utility company is also mandated to optimize the generation schedule of power plants. The tariff is then set to recover not the full costs but only the costs that are deemed just and reasonable (i.e., the efficient or least cost expenditures)." (p. 15)

To ensure that consumers are given the most reasonably priced electricity, the distribution utilities along with the regulatory agency must determine the optimal generation mix, current and planned, that will yield the least cost of electricity to consumers. The optimal mix not only looks at, say, fossil fuel versus renewable energy, hydro, coal, geothermal, solar, biomass, natural gas, etc., but also looks at the capacity level at which each generation plant will operate and supply electricity to the distribution utility.

As early as 2008, del Mundo and his colleagues at the University of the Philippines did a computer simulation of 11 different scenarios of Meralco power purchases. Their conclusion, based on this least-cost simulation, was that Meralco's generation cost in 2007 until the first quarter of 2008 could have been lowered by 50 centavos per kilowatt-hour. (Espos et al, 29 September 2008, p. 9)

In his explanation to the Supreme Court in 2014, del Mundo says that enforcing the least cost provision requires Meralco and other distribution utilities to contract power optimally (in terms of capacity offtake and generation mix), to have control over who supplies it with electricity, and when this is supplied or delivered to Meralco. Del Mundo also questions the practice of Meralco and the regulators to allow such provisions in (some) contracts as capital cost escalation.

To assist the Supreme Court in its review of Meralco rates, del Mundo examined the supply contracts that Meralco submitted to the Supreme Court in 2014. Thirteen contracts were submitted by Meralco, of which three were Power Purchase Agreements (PPAs) wherein a minimum energy quantity (MEQ) was guaranteed. The suppliers involved are identified by Meralco as its independent power producers or IPPs. (They are Meralco's IPPs to this day.)

Del Mundo examined the guaranteed capacity offtake of Meralco for each of these three IPPs.

The first one, Quezon Power, had a guaranteed MEQ of 75-85 per cent, which from a technical point of view, is "within the range of optimal capacity factor for base-load coal-fired power plants." The next two IPPs are natural gas plants of the Lopez group (Sta. Rita and San Lorenzo), both of which carried a guaranteed capacity of 83 per cent. Del Mundo advised the Supreme Court that:

⚙️ This [guaranteed MEQ of 83%] is outside the range of optimal capacity factor for intermediate power plants and hence cannot be considered as least-cost. The blended cost of power for the consumers could have been much lower if the guaranteed capacity factor was between 40 per cent to 60 per cent only. The country could also have saved the natural gas fuel that was burned and extended the life of the Malampaya gas reserve. Capacity factor is a specific parameter in the Annexes of the PPA that was missed by the Energy Regulatory Board (predecessor of ERC) when it reviewed and approved the contract that could have ensured that only least-cost will be pass-on to the consumers." (del Mundo, 2014, p. 29)

The last point mentioned above is that the regulator itself overlooked the least-cost provision when reviewing Meralco's contracts with its IPPs.

Another contract discussed in detail was that of Meralco with Therma Mobile for its diesel power plant in Navotas.

While the capacity factors specified in the contract were found to be reasonable, what del Mundo found unusual was the guarantee of a maximum energy quantity rather than a minimum energy quantity. A contractual maximum energy quantity shifts decision making away from Meralco to Therma Mobile of what capacity to sell to Meralco.

Del Mundo points out: "Since it is the DU who has least-cost obligation, it is important that the control or decision on what level of contracted capacity and when to deliver the contracted capacity be at hands of the DU so that it can schedule the power supply from all power supply contracts that will optimize or minimize the total cost." (p. 30)

⁶ For Supreme Court case SC-2014-0012

Furthermore, according to del Mundo, of the 13 contracts submitted by Meralco, five “major contracts representing 72 per cent of the total capacity contracted by MERALCO” contained provisions for the escalation of capital recovery fees. Del Mundo commented:

⊕ While it is common to escalate or index O&M and fuel components of the price, the capital recovery component if escalating must be evaluated carefully since the capital costs (equity and financing) had already been fixed by the power developer during project development and financing phase of the project. The cost items that escalate in the future, if any, must be scrutinized and should be proven to be subject to inflation. If the escalation of capital recovery component is not found to be reasonable, then allowing the escalation clauses in the contract may be deemed violation of the least cost obligation of the DU.” (pp. 31-32)

In summary, del Mundo says that in order for Meralco and other distribution utilities to comply with the least cost provision in EPIRA, they cannot stop supply contracting.

⊕ After contracting, DUs must optimize the schedule of power supply considering the price structure of the contracts, forecast price in WESM and the hourly characteristics of their load with the objective of minimizing total generation cost. This is one of the reasons why the power supply contracts have technical annex called “‘Operating Procedures’” (in the case of MERALCO contracts), “‘Commercial Protocol’”, and “‘Nomination Procedures’” in the contracts of the GENCOs with other DUs.” (p. 33)

Battle for control of Meralco

Considering Meralco's dominant position in the electricity sector, who owns and controls it matters.

For the longest time the Lopez Group was associated with Meralco. This changed after EPIRA. Ownership of Meralco shifted hands from the Lopezes to two business groups: Philippine Long-Distance Telecommunication (PLDT)/Metro Pacific, and JG Summit. But this change in ownership was far from smooth.

In October 2008, the Government Service Insurance System (GSIS) sold its entire 27 per cent stake in Meralco to San Miguel Corporation. That same year, the Social Security System (SSS) entered into an agreement to sell its six per cent stake in Meralco to a company called Global 5000, which later became SMC Global Power Corporation. The 2008 deal with the SSS would be

completed in 2012, when SMC Global made its final payment for these shares. This was the first challenge to the Lopezes after EPIRA, coming from a rival business group.

In response to the entry of San Miguel into Meralco, the Lopez group in March 2009 entered into an “Investment and Cooperation Agreement” with the PLDT. This agreement called for the initial acquisition by PLDT of 20 per cent of Meralco shares from the Lopezes.

What transpired between 2009 and 2013 was a scramble for controlling shares of Meralco.

In October 2009 Oscar Lopez sold a stake of 13.4 per cent to PLDT affiliate Metro Pacific. By March 2010 Metro Pacific and PLDT had a combined stake of 34.8 per cent in Meralco. This grew to 38.9 per cent in May 2011 and to 45.4 per cent in October 2011. The shareholdings of the Metro Pacific/PLDT group headed by Manny Pangilinan rose further to 48 per cent in January 2012.

By March 2012, the two contending groups in Meralco were the PLDT/Metro Pacific Group (48 per cent) and the San Miguel Group (33.2 per cent). The Lopez Group held a minority share (3.9 per cent) by then and was no longer represented in Meralco's Board of Directors.

In July 2013, San Miguel signaled a retreat by selling 5.7 per cent of its stake to PLDT / Metro Pacific and the GSIS. A few months later, in September 2013, San Miguel would sell its entire remaining stake of 27.1 per cent to the JG Summit (Gokongwei) Group. San Miguel left Meralco which is now owned and controlled by PLDT / Metro Pacific and the JG Summit Groups. But the former remains a significant player in the generation and a major supplier of Meralco.

Rate Setting after EPIRA

What is in the electricity rate that makes electricity so expensive in the Philippines?

What we have discussed so far is that the Philippine electricity market tends to be lopsided in favor of big players — the bigger utilities and the big generation groups. Furthermore, the least cost provision in EPIRA is not being observed by distribution utilities nor enforced by the regulatory body. Generation is contracted more than traded. And contracted electricity carries provisions that favor the suppliers over consumers. Generation that is traded in the spot market is subjected to frequent events of supply withholding and above market price offers by players that actually have the power to set prices and act as pivotal suppliers. And the regulators — well, as will be discussed in a later section — the regulators seem to be more and more incompetent and negligent.

This section looks at specific elements in the price of electricity that contribute to its high cost, in addition to what has already been discussed. Specifically, we look at the taxes being imposed on electricity consumers, on stranded debts of the National Power Corporation being collected from all consumers, whether rich or poor, and the rate setting scheme currently in effect as determined by the Energy Regulatory Commission.

Taxes

Meralco rates as of December 2021 and based on a monthly consumption of 200 kWh, include taxes that constitute 9.8 per cent of the total monthly bill. All local taxes, business permits and real property taxes, are passed onto consumers. Consumers are also charged a value added tax on generation, transmission, distribution, system loss, subsidies, and real property and other local taxes. Take note: on top of shouldering the local taxes and the system loss, consumers must pay a value added tax (VAT) on these of 12 per cent and 10.96 per cent, respectively.

The income taxes of the distribution utilities are technically not passed on to consumers, following a Supreme Court decision in 2002. But in calculating the annual revenue requirement of the utilities, the ERC allows the inclusion of income taxes. Implicitly therefore the distribution charge in our bills contains a portion for the payment by the utility of income taxes.

Take note also that the National Grid Corporation of the Philippines itself pays only a three percent franchise tax to the government. But even this amount is fully passed on to consumers, who must pay an additional 10.41 per cent VAT on transmission.

A study in 2013 of electricity prices in the Philippines notes that residential customers are charged more taxes (percentage wise) than industrial and commercial customers. Also, Luzon consumers are charged more taxes than their compatriots in Visayas and Mindanao. The reason for these differential tax rates, it seems, is renewable energy!

☞ Much of these tax differences are due to incentives afforded to users of renewable energy since power generated from renewables is VAT-exempt. Consequently, localities that source more power from renewables such as Mindanao (hydro) and Visayas (geothermal) are levied lower taxes." (CATIF, 2013; p. 35)

According to a government survey of household energy consumption in 2011, households earning below 10,000 Philippine peso a month consumed on the average only 56

kilowatt-hours a month. That same year, households earning a monthly income from 10,000 Philippine peso to below 30,000 Philippine peso, had an average monthly electricity consumption of 137 kilowatt-hours. (These are the two poorest income groups.) Data on electricity consumption from 2011 to 2020, obtained from the DoE, show an average annual growth in consumption of seven percent. We applied a conservative four percent growth to the 2011 baseline data (considering the low incomes of the given households) and estimated what a poor household's electric bill would look like in 2020. These are shown below.

Table 14: Estimate of Low-Income Residential Customer's Electric Bill in 2020 and 2021

Current Monthly Bill (our estimates)	EC Customer		Meralco Customer	
	Poorest*	Next**	Poorest*	Next**
Est. monthly kWh use	83	203	83	203
Generation	402.55	984.55	458.91	1,122.39
Transmission	79.68	194.88	59.28	144.98
System Loss	54.78	133.98	39.67	97.03
DSM	144.42	353.22	148.45	341.03
RFSC	33.20	81.20	33.20	81.20
<i>Subsidies, UCs, Taxes, etc.</i>	<i>24.90</i>	<i>60.90</i>	<i>104.29</i>	<i>254.28</i>
Other Charges	-3.32	-8.12		
Subsidy Charge	2.49	6.09	0.00	0.00
Universal Charge	22.41	54.81	24.67	60.33
Other Taxes	3.32	8.12	79.62	193.94
Total	736.21	1,800.61	810.60	1,959.71
*with household earning below PhP10,000 a month **with household earning from PhP10,000 to below PhP30,000 a month				

For poor households earning below 10,000 Philippine peso a month, a bill of 700 Philippine peso to 800 Philippine peso is not inconsequential. This amount constitutes at least seven to eight percent of a poor family's monthly income. A bill of 2,000 Philippine peso is at least a fifth of one's family income! Compare this with the share of 2.5 per cent for poor families in the US and only one percent in Japan. The tax component of this bill, including universal charges, may seem small to some readers but the trade-off between having electricity at home and forgoing a meal can be quite real to families on very tight budgets. For Meralco customers in the lower income groups, the tax component eats 13 per cent of their total bill.

Why the focus on poor families? It's because, based on government data for 2011, nine out of ten families that consumed electricity earned below 30,000 Philippine peso a month.

We derived the following profile of electricity consumers based on the 2011 Survey of Household Energy Consumption. The inequity is stark; very clearly, energy poverty and energy inequality are serious problems in the Philippines.

Stranded debts of NPC

One objective of EPIRA was to deal with the debts of the National Power Corporation.

Table 15: Profile of Household Electricity Consumers, 2011

Source: Philippine Statistical Authority

Monthly Income Class	No. of Households Using Electricity (in thousands)	Average Monthly Consumption (kWh)
Total	18,282	108
<10,000	10,645	56
10,000 to 29,999	5,692	137
30,000 to 59,999	1,537	266
60,000 to 99,999	305	425
100,000 & above	102	626

Let us not forget that since the time of the Bataan Nuclear Power Plant — the Marcos monstrosity in Morong — through the onset of EPIRA, the bleeding of the National Power Corporation has been intimately linked to the government's fiscal and debt woes. From 1981 to 1986, the NPC accounted for nearly half (46 per cent) of the deficits of government-owned non-financial corporations. At the end of 1982, slightly over a fifth of the country's medium- and- long-term external debt was owed by Napocor.

If the Marcos era was marked by an overpriced nuclear power plant supplied by an American multinational brokered by a crony, the Ramos era saw a mushrooming of deals that involved more multinationals and billions more of dollars. The Power Purchase Agreements with Independent Power Producers created a new monster that walked like the debt, talked like the debt, and moved like the debt: contingent liabilities of the Napocor which were 1.6 times its debts as of end-2002.

In compliance with EPIRA (passed in 2001), the debts and financial obligations of NAPOCOR were transferred to the Power Sector Asset and Liability Management Corporation (PSALM).

On its website, PSALM reports that Napocor's initial financial obligations amounted to 830.7 billion Philippine peso in 2000. This rose further to 1.241 trillion Philippine

peso in 2003, because new IPPs came in that were included in NPC's obligations, and because the peso devalued against the US dollar. (See table.)

Over the succeeding years, the electricity-related obligations of Napocor / PSALM have been declining, falling to 367.2 billion Philippine peso in September 2021. A universal charge for the stranded debts of the Napocor / PSALM is being collected from all consumers to pay for these debts, primarily because the privatization proceeds were not sufficient to pay for the debts. The charge amounts to 4.28 centavos per kilowatt-hour billed every month to all electricity consumers, whether rich or poor. The PSALM reports that as of end-2021 it has collected about 12 billion Philippine peso in universal charges for the electricity related debts. It applied with the ERC to collect about 80 billion Philippine peso more, but the ERC has dismissed this because of the *Murang Kuryente Act*.

Table 16: Financial Obligations of NAPOCOR / PSALM, 2000 to 2021

Source: www.psal.gov.ph/financial/obligations

Outstanding Financial Obligations of NPC / PSALM			
	Debts	IPP Lease Obligations (in PhP Billions)	Total
2000	319.1	511.6	830.7
2001	327.6	535.4	863.0
2002	396.0	630.4	1,026.4
2003	483.4	757.2	1,240.6
2004	368.6	724.7	1,093.3
2005	374.4	637.1	1,011.5
2006	376.5	575.0	951.5
2007	320.4	453.1	773.5
2008	326.0	487.9	813.9
2009	322.0	441.5	763.5
2010	307.0	394.2	701.2
2011	348.1	348.4	696.5
2012	364.7	297.4	662.1
2013	357.1	289.7	646.8
2014	324.0	258.2	582.2
2015	305.4	245.4	550.8
2016	275.4	230.9	506.3
2017	263.3	202.9	466.2
2018	264.5	184.6	449.1
2019	273.4	148.8	422.0
2020	268.3	113.4	381.7
2021	268.4	98.8	367.2

Costing Capital and Profits

This section looks at changes in the setting of distribution charges that have resulted in higher charges for consumers.

After EPIRA, the ERC changed the system for setting the rates of both electric cooperatives and privately-owned distribution utilities. Both sets of utilities saw a shift to performance-based rate setting (PBR).

Previously, electric cooperatives were allowed to generate enough cash to cover their costs plus an allowance strictly for reinvestment.

With the enactment of EPIRA, the electric cooperatives were placed in seven groups (Groups A to G) based on the number of customers and the consumption level of their customers. The ERC then set an initial tariff for each group along with a tariff glide path. The tariff glide path has an escalation factor to reflect current costs, a performance incentive index, and an efficiency factor.

The 2013 study produced for the United States Agency for International Development (USAID) found that with this change in price setting for electric cooperatives, lower rates would result for more cooperatives.

Of the seven groups (A to G) classified by the ERC, it was expected that cooperatives in Groups A, C, E, F and G would have lower residential rates, while those in Groups B and D would have higher prices for their residential consumers. The highest rate increase would be for residents of Sorsogon, while industrial customers of Cebu would enjoy the biggest rate drop.

The rate setting for privately-owned distribution utilities, in contrast to that of rural electric cooperatives, would have the result of a higher distribution charge for all privately owned DUs.

Prior to post-EPIRA PBR, privately-owned DUs were granted higher distribution charges because they were allowed a return on their capital investment. But the new rules for setting distribution wheeling rates for private DUs would, according to the 2013 study, “widen the gap” between ECs and private DUs.

There are two main reasons for this.

For one, distribution assets of the privately-owned utilities were revalued at replacement cost to determine the RAB or regulatory asset base. Prior to the shift to performance-based regulation (PBR), the regulatory asset base was valued on the basis of historical price. The move from historical valuation to valuation at replacement cost has resulted in a higher RAB for the private utilities.

In the case of Meralco for the first regulatory reset (July 2007 to June 2011), the RAB nearly doubled from 54.9 Philippine peso billion using historical cost, to 104.3 Philippine peso billion using replacement cost. Note that the latter includes only what the ERC identified as “prudent” investments. Yet the shift from historical pricing to replacement cost pricing is nearly double. See table below.

Table 17: Meralco's Regulatory Asset Base: Replacement vs Historical Cost (in million pesos)

Source: CATIF, 2013, Table IV.32, p. 120

	Replacement Cost	Historical Cost
RAB, beginning of 2007	96,375	48,819
Less: Depreciation of assets during 2007	-5,057	-2,730
Plus: Inflation of asset base to June 2007	4,201	
Plus: Approved capital expenditure in 2007	6,936	6,936
Less: Depreciation on 2007 additional assets	-179	-179
Less: Disposal of assets during 2007	-52	-52
Plus: Construction-work-in-progress (CWIP)	2,106	2,106
RAB, end of 2007	104,330	54,900
Replacement cost over historical cost	1.9x	

When the RAB increases, the annual revenue requirement then goes up, and the regulated distribution charge also rises accordingly. Add to this the second reason behind higher distribution charges: the application of a weighted average cost of capital (WACC) on the higher RAB.

The shift from return on rate base to performance-based regulation also meant a shift from a 12 per cent rate of return on rate base, to a WACC that ranged from 12.8 per cent to 16.3 per cent of the higher RAB for private distribution utilities in their first period of regulatory reset. (See table on page 22; more on WACC later.)

What is the main criticism of this shift to replacement cost? The USAID study (2013) explains as follows:

⚙ While it is recognized that the objective of asset revaluation is to set the rate base that would support capital investments necessary for efficient production (or delivery of services), the contention is that the application of replacement cost *should not have extended to assets that are already sunk* because it does not create additional incentive for future capital investments. It is argued that enticing a regulated firm to commit capital to a network utility requires only an assurance that it can secure returns on its investment over time at rates that are competitive with those offered by alternative investment

Table 18: Comparing Meralco's RAB and ARR using Replacement and Historical Costs (in million pesos)

Source: CATIF, 2013, Table IV.32, p.121

	2007	2008	2009	2010	2011
Closing value of Meralco at replacement cost	54,900	59,651	64,042	66,549	68,532
Average RAB for the Year of replacement cost		57,276	61,847	65,296	67,541
Increase over RAB at historical cost	49,430	48,480	46,801	45,589	45,029
Percent decrease in RAB without asset revaluation		-45.8%	-43.1%	-41.1%	-40.0%
ARR - Historical Cost Asset Valuation		25,702	28,133	29,727	32,173
ARR - ODRC Asset Valuation		33,852	33,622	36,566	38,122
Percent decrease in ARR without asset revaluation		-24.1%	-16.3%	-18.7%	-15.6%
ODRC - Optimized Depreciated Replacement Cost; supposedly includes only "prudent" investments		ARR - Annual Revenue Requirement RAB - Regulatory Asset Base			

opportunities. *When an asset is considered sunk, it has no alternative use, or put differently, it cannot be transferred to another activity. As such, a sunk asset has zero economic value or opportunity cost, and the investor no longer expects to secure returns for it.* (CATIF for USAID, 2013, p. 119; emphasis added)

With the adoption of replacement cost as the basis of valuation of distribution assets, the regulatory asset base (RAB) and annual revenue requirement (ARR) of Meralco for the 2007 to 2011 regulatory period looked as follows:

As the above table shows, the shift to replacement cost resulted in an estimate of RAB that was from 40 per cent to 45 per cent higher than if the RAB were valued at historical cost.

This meant that Meralco, in 2008, was allowed an annual revenue that was eight billion Philippine pesos higher than at historical cost, for a total four-year "bonanza"— thanks to the shift to replacement cost valuation — of 26.4 billion Philippine pesos from 2008 to 2011.

The annual revenue requirement (ARR) is calculated by adding together the projected operating expenses, depreciation, corporate income tax and other taxes. On top of this there is the Guaranteed Service Level (GSL) allowance of 0.5 per cent of the ARR. Not to be missed is the return on capital using the applicable weighted average cost of capital (WACC) applied on the regulatory asset base (RAB). The latter includes an allowed working capital factor — the latter ranging from three per cent to 7.8 per cent of the projected operating expense, which is then added to the RAB, from which the return on capital is estimated and added to the annual revenue requirement.

Seen another way, the new ODRC asset valuation introduced by the ERC allowed Meralco to generate a margin of 58.9 billion Philippine peso from 2008 to 2011 in excess of its operating costs, depreciation, corporate income tax, and other taxes. This gross margin was equivalent to 42 per cent of Meralco's total four-year annual revenue requirement based on the ODRC asset valuation system. See following table.

Table 19: Humongous Gross Margins of MERALCO using ERC-approved ODRC asset valuation

	2008	2009	2010	2011	2008 - 2011
Meralco ARR - ODRC Asset Valuation	33,852	33,622	36,566	38,122	142,162
Less:					
Operating Expenses	11,261	11,740	12,203	12,740	47,944
Regulatory Depreciation	3,299	4,090	4,792	5,486	17,667
Corporate Income Tax	3,343	3,930	3,916	4,862	16,051
Other Taxes	297	272	263	231	1,063
Sub-Total	18,200	20,032	21,174	23,319	82,725
Gross Margin over OPEX, Depreciation, Taxes	15,652	13,590	15,392	14,803	59,437
Gross Margin as % of ARR -ODRC Asset Valuation	46.2%	40.4%	42.1%	38.8%	41.8%

The return on capital depends on the weighted average cost of capital determined for each group of private utilities. In the case of Meralco, which belongs to the first group, the return on capital was placed at 12.8 per cent during the regulatory period 2007 to 2011. Other groups of distribution utilities were allocated different levels of WACC: Group B – 16.27 per cent; Group C – 15.01 per cent; and Group D – 14.97 per cent. The utilities in each group are listed below, along with the corresponding WACC and working capital factor allowed by the ERC for each group.⁷

Table 20: ERC-approved Weighted Average Cost of Capital and Working Capital Factor, Private Distribution Utilities

Source: CATIF, 2013, Table VI.31, p.118

Group	Distribution Utility	First Regulatory Period	WACC (%)	WCF (%)
A	MERALCO, DECORP, CEPALCO	1 Jul 2007 - 30 Jun 2011	12.8	3.0
B	CLPC, ILPI, MECO	1 Apr 2009 - 31 Mar 2013	16.3	4.9
C	CELCOR, LUELCO, TEI, VECO, IEEC, DLPC	1 Jul 2010 - 30 Jun 2014	15.0	6.9
D	AEC, SEZ, CEDC, BLCI, SEPALCO, PECO	1 Oct 2011 - 30 Sep 2015	15.0	7.8

On Estimating the WACC

The WACC generally depends on an assessment of market risk. A mathematical formula is used to calculate the WACC, but the actual variables used are ascertained by the ERC — and the industry players, of course, after looking at various assessments of doing business in the Philippines. The country rating of the Philippines by the various credit rating agencies is reviewed. The World Bank rates countries in terms of doing business. There are also country ratings of susceptibility and vulnerability to disasters resulting from climate change. And of course, there are the political risks that include an assessment of governance, transparency, accountability, and the way these impact the business of electric power.

In its final calculation of the WACC applicable to the second regulatory period of the first entry group (including Meralco), the ERC explains that it determined three main elements to arrive at the WACC. These elements are the risk-free rate in the Philippines, the return on equity, and the return on debt. To arrive at these estimates, the ERC pre-determines the debt-equity ratio to use for all utilities,

as well as the market risk premium to apply in the calculation of the return to equity. These assumptions are crucial for determining the WACC.

For the first element, the ERC used direct and indirect measures of the risk-free rate in the Philippines. For the direct measure, it looked at Philippine Treasury bond yields with maturities of five years, ten years, and 20 years. It also looked at average yields over a 16-day to 31-day trading period. It then concluded: “[T]he ERC prefers a measure of 10.87 per cent pa as the risk-free rate using a direct measure of the Philippine Treasury bonds rates...” (ERC, 15 Aug 2007, p. 4)

The indirect measure of the risk-free rate involved a comparison of US dollar denominated bonds of the Philippine Government with US treasury bonds, factoring in inflation in both the US and the Philippines. It arrived at a risk-free rate of the Philippines of 7.55 per cent, based on an indirect method. This is what the ERC chose to use as the risk-free rate of the Philippines.

The ERC next estimated what is called the “asset beta” of the distribution business in order to calculate the return on equity. The asset beta is “assumed to embody the operational risk” for a certain group of similar assets — in this case, the assets of distribution utilities. If the risk is perceived to be equal to the market risk, the asset beta has a value of one. If it is considered less risky than the value is below one. In this estimation, the ERC adopted a beta asset value of 0.688. It then calculated the equity beta (Beta_e) by using the formula

$$\text{Beta}_e = 0.688 \times [1 + (0.45/0.55)]$$

The resulting equity beta is 1.25. The portion of the above formula (0.45/0.55) is what the ERC sets as the share of debt and equity, respectively, of the utilities. The ERC set debt at 45 per cent and equity at 55 per cent. Note that if the share of the debt is 30 percent, the resulting equity beta would be below 1. (The final WACC would also be lower.)

Having calculated the equity beta, the ERC then calculates the return on equity (r_e). The formula it used adds the equity beta (b_e) multiplied by the market risk premium (set by the ERC at 6%) to the risk-free rate of the Philippines (r_f). The formula reads as follows:

$$r_e = r_f + (\text{beta}_e \times \text{MRP}) = 7.55 + (1.25 \times 6) = 15.05\%$$

⁷ MERALCO – Manila Electric. DECORP – Dagupan Electric. CEPALCO – Cagayan Electric Power & Light. CLPC – Cotabato Light & Power. ILPI – Iligan Light & Power. MECO – Mactan Electric. CELCOR – Cabanatuan Electric. LUELCO – La Union Electric Cooperative Inc. TEI – Tarlac Electric. VECO – Visayan Electric. IEEC – Ibaan Electric & Engineering. DLPC – Davao Light & Power. AEC – Angeles Electric. SEZ – Subic Enezone. CEDC – Clark Electric Distribution. SFELAPCO – San Fernando Light & Power. PECO – Panay Electric. BLCI – Bohol Light.

Next, the ERC determined the return on debt (r_d) by adding a debt margin to the risk-free rate. The ERC adopted a debt margin of 2.5 percent, thus arriving at a return on debt of 10.05 percent.

With a return on equity of 15.05 per cent, and a return on debt of 10.05 per cent, and assuming a share of equity of 55 per cent and of debt of 45 per cent, the “vanilla WACC” set by the ERC for the second regulatory period was 12.80 per cent, calculated as follows:

$$\text{WACC} = (r_e \times 0.55) + (r_d \times 0.45) = (15.05 \times 0.55) + (10.05 \times 0.45) = 8.2775 + 4.5225 = 12.8\%$$

For the third regulatory period (July 2011 to June 2015), the ERC set a WACC of 14.97 per cent for Meralco and 15.04 per cent for the National Grid Corporation of the Philippines (transmission).

In October 2019, the Supreme Court of the Philippines voided the ERC’s use of replacement cost in the valuation of Meralco’s regulatory asset base (RAB).

The decision was based on a petition filed by the National Association of Electricity Consumers for Reforms (NASECORE). The latter had filed earlier petitions with the ERC and with the Court of Appeals, questioning, among others, whether the ERC had given proper credence to earlier findings of the Commission on Audit on its valuation of the regulatory asset base of Meralco. NASECORE’s petitions with the ERC and the Court of Appeals were both dismissed, which prompted it to go the Supreme Court.

The October 2019 decision of the Supreme Court (G.R. No. 226443), penned by then Justice Antonio Carpio, makes several points worth noting.

A major finding is “that the ERC failed to properly consider the findings of the COA as well as to comply with its statutory mandate to approve a rate that provides electricity to consumers “in the least cost manner” as expressly provided in ERC’s charter.” The choice of the ERC to use Optimized Depreciated Replacement Cost to estimate the value of the Regulatory Asset Base of transmission and distribution utilities, as described in said decision, was “difficult to justify — *almost irrational*.”

The Supreme Court pointed out four “material defects” in this methodology, as follows:

1. It does not achieve the purpose of obtaining electricity prices under competitive conditions.
2. Depreciated replacement cost is an “invalid substitute for fair value and is an almost meaningless number in the economic and accounting sense.”

3. When technological progress rapidly lowers the replacement cost of assets, using the current market equivalent asset to estimate RAB rather than the prudent value at the time the investment was made (historic value) can actually be detrimental to the utility.

4. “ODRC results in wealth transfers from electricity consumers to the utilities’ shareholders. Electricity consumers end up paying more for the infrastructure than it costs the shareholders to provide it, with a WACC to boot. Utility shareholders thus earn a return higher than is prescribed by their regulatory cost of capital.”

The Supreme Court thus “partly granted” the petition of NASECORE and voided the use of replacement cost in the valuation of the RAB. It remanded the case to the ERC and gave the ERC 90 days from the finality of this decision to (1) determine an appropriate method of valuing the RAB and (2) set parameters for what costs of Meralco will fully or partially be passed on to consumers.

As of this writing, this case is pending in the Supreme Court. Motions for reconsideration have been filed by the ERC, Meralco, and other respondents.

In the meantime, the ERC has announced plans for a fifth regulatory reset of the distribution rates even as this case remains unresolved in the Supreme Court.

In December 2021 the ERC issued new rules for the setting of distribution wheeling rates which seem no different from the method that the Supreme Court voided in its October 2019 decision. The decision of the Supreme Court also has implications for transmission charges of the National Grid Corporation of the Philippines (NGCP).

Regulatory Lapses

“If regulation fails to facilitate effective competition, prices in an unbundled industry are inevitably *higher* than under vertical integration.” This comment comes from a 2013 study of electricity prices in the Philippines. (CATIF, 2013, p. 126; emphasis added)

How has electricity regulation fared in the Philippines since the passage of EPIRA?

As explained in detail in an earlier section, the ERC has not demonstrated a capability or willingness to comply with the mandate in EPIRA of providing electricity to consumers in a least cost manner — a mandate the Supreme Court reminded the ERC of in a decision of October 2021. A system to ascertain and monitor the least cost for consumers should have been immediately set up by the ERC, to facilitate its review of power supply agreements and purchase contracts, regulatory rate setting, and the like. This system should then have been regularly implemented and enforced and improved. This has not happened.

The Meralco disclosure report filed with the Securities and Exchange Commission in March 2021 provides an extensive narrative account of pending legal issues primarily with the ERC. The report lists 30 legal proceedings — some whose origins date back to 2000 — that are awaiting final resolution, not only at the level of the ERC, even as high as the Supreme Court.

ERC Case No. 2001-900 RC is a case in point. (Take note this is just one of 30 cases in the Meralco disclosure.)

It began with a rate hike application in 2000 filed by Meralco with the Energy Regulatory Board, the predecessor of the ERC. Before the Meralco petition could be resolved, the ERC was established by EPIRA. The newly formed ERC then issued an order to all distribution utilities to submit their applications for the unbundling of tariffs and consolidated the original Meralco petition with the unbundling petition. The ERC then rendered a decision in March 2003, and a modified decision in May 2003 in response to a motion filed by oppositors. Not satisfied with the modified decision of the ERC, oppositors filed a petition for review with the Court of Appeals.

In July 2004, the Court of Appeals (CA) annulled the ERC decisions of 2003 mainly on grounds that Meralco should have first undergone a thorough audit by the Commission on Audit. The ERC and Meralco filed a motion for reconsideration with the CA which the Court subsequently denied in January 2005. Both the ERC and Meralco then ran to the Supreme Court. In December 2006 the Supreme Court granted the petitions of the ERC and Meralco, set aside the CA decisions nullifying the ERC decisions of 2003, and reinstated said ERC decisions. But the Supreme Court also directed the ERC to request the Commission on Audit to do a complete audit of Meralco.

COA submitted its Report No. 2009-01 wherein it raised some questions such as the valuation of Meralco's rate base and the inclusion of certain assets in the rate base that were not related to Meralco's core business of distributing electricity. The ERC by and large ignored the COA report and issued an Order in June 2011 affirming its 2003 decisions. One of the original oppositors to the 2000 application then filed a motion for reconsideration which the ERC dismissed in February 2013. The oppositor, NASECORE, then filed a petition for review in April 2013 with the Court of Appeals. The CA denied NASECORE's petition in February 2016, as well its motion for reconsideration. NASECORE then filed a petition with the Supreme Court.

In October 2019 the Supreme Court partially granted the NASECORE petition and voided the use of replacement cost in the valuation of the regulatory asset base. This decision prompted Meralco, the ERC, and other distribution utilities to file a motion for reconsideration.

One year before EPIRA was passed this case was born, and 20 years later, this case is still pending with the Supreme Court.

Another petition filed by Meralco in June 2015 was a proposed interim average rate, which the ERC provisionally approved. Meralco did this because the third regulatory period covering its distribution rates was lapsing by the end of June 2015 without a new regulatory regime in place. The ERC's failure to conduct a fourth regulatory reset continued through the next seven years. (Note that a regulatory period should cover four years.) The ERC is currently undertaking a fifth regulatory reset for the period July 2022 to June 2026 without having conducted a fourth reset. The ERC argues that it can conduct a retroactive regulatory reset for the fourth lapsed period even as it is undertaking a fifth reset.

But the whole idea of performance-based rate setting is to correct over- and under-recoveries from the past period as you look prospectively into the next.

NASECORE's Pete Ilagan, in a submission to the ERC, thus comments: "The instant proceeding for public hearing on Rules for Setting Distribution Wheeling Rates (RDWR) and Regulatory Reset for the July 2022 to June 2026 Fifth Regulatory Period is premature, anomalous and an aberration from the norms of Performance Based Regulation (PBR) absent the Commission's clarification on the missed Fourth Regulatory Period covering the period 01 July 2015 to 30 June 2019, where no similar proceeding was ever held."

Note also that the ERC is undertaking a fifth regulatory reset under the same asset valuation method that the Supreme Court voided in its October 2019 decision. The latter case is still pending which adds to the confusion and mayhem surrounding electricity rates setting.

The ERC has also shown its lack of understanding of market abuse and the exercise of market power in the wholesale electricity spot market.

In the first year of WESM's inception, a case of market abuse was referred to the ERC by an investigating committee of the Philippine Electricity Market Corporation (PEMC), which operates the WESM.

The committee found evidence of unusually high price offers that could not be explained by supply or demand factors. Yet the ERC dismissed this case supposedly because of lack of evidence.

The "evidence" that the ERC could not find was apparently a document containing a written agreement between the trading teams of PSALM that they would collectively engage in price fixing. The thing is, the exercise of market

power does not need a piece of paper, much less collective action. It just needs the holders of such power to flex their muscle unilaterally. The ERC should have assessed if the PSALM trading teams had market power, and if they used it. Instead, they looked for a piece of paper, and having found none, dismissed the case.

A more recent case involves a set of eight decisions issued by the ERC in September 2021 against eight generation companies owned by big business groups.

Rather than charge these players with withholding supply, which drove spot market prices up in the trading intervals that supply was withheld, the ERC found these companies to have generating units on unplanned outage days that were in excess of the maximum allowable limit in a year. (The period covered ran from 3 January to 25 April 2021.) The ERC levied a penalty on these companies for violating this rule. Total penalties amounted to 16.6 million Philippine Peso, with individual penalties ranging from 135,400 Philippine peso to over four million.

Penalizing generation companies is a good way of demanding accountability from the errant players, but the work of ERC remains incomplete.

For one, the use of unplanned outages is not unique to the January-April 2021 period. Less than two weeks later, in the three-day period from May 31 to June 2, also in 2021, the system operator of the Luzon grid had to declare a yellow alert on 11 intervals during this three-day period. This means that 11 times during those three days, there wasn't enough synchronized generating capacity to stabilize or restore frequency in the grid and cover the loss or failure of a generating unit.

During the same three-day period, it declared a red alert on 26 intervals. This meant that 26 times during that period, the primary reserve went down to zero, indicating a lack of generating capacity to cover demand.

The problems here are the forced outage rates of the generating companies that are way above norm.

And the transmission system operator, the National Grid Corporation of the Philippines (NGCP), failed to secure firm contracts to cover the reserves needed for the stability of the Luzon-Visayas grid. The cost to consumers and the economy of outages and system instability are definitely more than the penalties imposed by the ERC on the eight generation companies. And the NGCP was not penalized at all.

Similar events occurred in 2016 and whenever the Malampaya rig would lower its supply of natural gas to the natural gas plants in Batangas. It seems the penalties imposed by the ERC are not a deterrent for repeated

behavior of this sort. We venture to guess that the price spikes resulting from the artificial shortage created by withholding supply, yielded bonanzas that more than cover these penalties. What about consumers who bear the burden of higher spot prices? Very clearly the penalties do not result in direct refunds to them. Again, the promise of cheaper electricity is thwarted.

Corruption, oh the corruption

One can actually plot the history of the power sector in the last 50 years with corruption scandals: the Bataan Nuclear Power Plant (BNPP) in the 1970s and 1980s, the onerous contracts with independent power producers in the 90s and early 2000s, the market abuse in WESM, the flawed deal with the National Grid Corporation, attempts of private power companies to take over rural electric cooperatives, and just recently the fraudulent sale of part of the Malampaya grid to a Duterte crony.

The passage of EPIRA in 2001 was itself tainted with payola money.

Two members of the House of Representatives — Etta Rosales and Rene Magtubo — who voted against EPIRA were each given, on an unsolicited basis and without any prior notice, 500,000 Philippine peso despite their opposition to the bill. Representative Rosales, who returned the payola to the Speaker of the House Sonny Belmonte, was even urged by the Speaker to use the money for the charity / “NGO” work of her party-list. (The Speaker apparently wanted everyone to have a share in the payola, including those who voted against EPIRA.)

Bataan Nuclear Power Plant (BNPP)

When the fiasco of the BNPP became public knowledge, the scale of the corruption was horrendous. The Marcos government bought a 600-MW nuclear plant at nearly ten times the original offered price.

At first the government was negotiating with General Electric (GE) for two units for a total amount of 500 million US dollars. The National Power Corporation had talks over nine months with GE for two 600-MW units. On the same day GE submitted its final prospectus (14 June 1973), the Napocor board, on the instructions of Marcos, decided to award the contract to another US company: Westinghouse. Westinghouse was introduced to Marcos by his golfing buddy, Herminio Disini, just a few weeks before the NAPOCOR award.

By the time a contract was finally signed (1976), only one nuclear plant was to be built, but the amount had ballooned to 1.1 billion US dollars. During the construction phase of the plant, more adjustments were made to the price; by 1984, when construction was completed the

BNPP price had grown to 2.3 billion US dollars— nearly ten times the original proposed amount.

The BNPP was financed by the US Export Import Bank which did not acknowledge the corruption involved and any culpability in it. In the end, the Filipino people paid for this monstrosity with a power crisis of the 1990s, and diminished government spending on social and physical infrastructure. By 2007 the US Export Import Bank was fully paid.

IPP Contracts

The promise of Fidel V. Ramos to solve the power crisis in just a few months was actually fulfilled — but we didn't know until much later that the “solution” carried heavy costs in terms of overpriced contracts with independent power producers.

In a statement dated 14 June 2000 submitted to the Senate Committee on Government Corporations, the Freedom from Debt Coalition (FDC) wrote:

“ The magnitude of these contractual obligations put to shame the fraudulent debts of the Marcos era such as the Bataan Nuclear Power Plant, which incidentally also involved the NPC. We have read, among others, a World Bank study entitled “Power Sector Study: Structural Framework for the Power Sector, Philippines” (1995) and we have also been able to review the contracts and pertinent government documents regarding the Casecan multipurpose project. On the basis of these and other data gathered, we have long suspected that the contracts of NPC to purchase power from IPPs contain provisions that are at the very least financially burdensome to NPC and at worst are irregular, unconscionable.” (Freedom from Debt Coalition, statement to the Philippine Senate Committee on Government Corporations, 14 June 2000, p. 1)

A government interagency committee that was created in 2001 to review the contracts of NPC with independent power producers released its findings in mid-2002.

Of the 35 contracts that were reviewed by the committee, only six had no legal or financial issues.

On the other end of the spectrum were five contracts that had both legal and financial issues “that need to be referred for appropriate study, renegotiation and possible legal action.” Another 11 contracts had financial issues “that may require renegotiation” of the financial terms. Another 11 contracts, “while passing the review, have some remedial financial issues that need to be addressed to assure that the government and the public are not being financially prejudiced.” Finally, the last two contracts reviewed were found to be financially sound but had “some remedial policy issues”.

By March 2004, the PSALM reported that of the 29 contracts with legal, financial, and/or remedial issues, it was able to conclude renegotiations with 20 contracts, saving about three years of payments worth nominally 2,949 million US dollars (or 1,036 US dollars in discounted present value). The estimate of PSALM was that this generated a savings of 9.8 centavos per kWh, of which only 2.6 centavos per kWh would go to electricity consumers in the form of a reduction in the universal charge for stranded contract costs. (The bigger savings of 7.2 centavos per kWh would go to the National Power Corporation/PSALM.)

Of the remaining nine unresolved contracts, PSALM said that one expired, and eight could not be renegotiated because:

- four of the eight were with a government-owned corporation (PNOC–EDC which was later bought by the Lopezes).
- two of the eight belong to Covanta, a US corporation that was going through “severe financial difficulties”; and
- the remaining two (Bauang Power, now in the hands of the Garcia-Escano family through Vivant Corporation, and Mindanao Power Barges now under the Aboitiz Group) showed “no inclination to provide any concessions to the government.”

The PSALM thus concluded in said report:

“ In light of the above-described results, PSALM considers the IPP renegotiations to have been essentially completed as of the end of 2003.” (PSALM Progress Report on the Implementation of Republic Act 9136 or EPIRA, October 2003 to March 2004, p. 9)

How much has PSALM collected from electricity consumers to pay for the stranded contract costs in relation to these IPP contracts? (The stranded contract costs, according to PSALM, are the difference between the contracted price in the contract, and the price of electricity that the IPP Administrator was able to sell in the market.) As of the end of 2021, PSALM reports, it collected 80.909 billion Philippine pesos from electricity consumers to cover its stranded contract costs.

From 2007 to 2013, the PSALM sought the ERC's approval of the collection of a total of 104.6 billion Philippine pesos in universal charges for stranded contract costs (USCC). PSALM was allowed by the ERC to collect 75.28 billion Philippine pesos in USCC charges.

From 2017 to 2019, PSALM again applied for the collection of 15 billion Philippine pesos in stranded contract costs through the UC-SCC. The PSALM was able to collect 5.117 billion Philippine pesos of this total.

But in Feb 2020, the ERC discontinued the UC-SCC in view of the full recovery of the aforementioned amount. And in May 2020, the ERC dismissed the outstanding request of PSALM for the collection of the UC-SCC in view of the effectiveness of the “*Murang Kuryente*” Act.

WESM Market Abuse

Earlier sections of this paper have discussed the abuse in the wholesale electricity spot market.

Many of the plants identified as price setters and pivotal suppliers are the very IPPs whose expensive contracts were until recently being collected from us through the Universal Charge for Stranded Contract Costs. Until the market operator of the WESM is truly independent (it is not) and until the ERC fully comprehends market power and market abuse in the current century (it does not) then we can expect the abuse to continue.

National Grid Corporation of the Philippines

In 2008, the government entered into a 25-year concession agreement with the National Grid Corporation of the Philippines for the operation and management of the Luzon-Visayas and Mindanao grids. Implementing rule 22 of EPIRA requires that the privatization of transmission “shall result in maximum present value of proceeds to the National Government.” (Emphasis supplied)

This requirement was not met.

For one, NGCP was levied a three percent franchise tax in lieu of income taxes. The National Government therefore lost tax revenues estimated at 94.3 billion Philippine pesos during the 25-year concession period.

For another, without privatization, the government-owned Transmission Company that owns the transmission assets would have earned, in present value, 172.5 billion Philippine pesos more than the concession fees expected from the NGCP in the 25 years of the concession period.

What's atrocious about NGCP is the excessive manner in which it earns profits — because it was spared of all risks by the government under the concession agreement — without shelling out any taxes. (The only tax it is being made to pay is the three per cent franchise tax, but the ERC allows it to pass this on to consumers.)

The table below shows the dividends that NGCP gave its stockholders from 2009 to 2018. The total amount for this ten-year period is 187.8 billion Philippine pesos. Compare this with the concession fee of 168.9 billion Philippine pesos, which as of this writing has not even been fully paid.

The failure of the privatization of transmission has resulted in excessive profits—perhaps not illegal, but definitely unconscionable — for the owners of NGCP — two billionaires and a state-owned corporation of China.

Table 21: NGCP: Obscene Profits, 2009 to 2018

Year	Gross Revenue	Net Income	Cash Dividend	Payout Rate
2009	39,527	15,424	6,839	44.3%
2010	45,208	19,411	15,000	77.3%
2011	45,613	21,598	22,000	101.9%
2012	44,595	20,771	18,000	86.7%
2013	44,516	21,231	24,000	113.0%
2014	45,193	22,065	24,000	108.8%
2015	45,703	22,507	21,000	93.3%
2016	45,335	21,241	20,000	94.2%
2017	45,410	20,699	19,000	91.8%
2018	45,402	20,980	18,000	85.8%
2009 - 2018		205,928	187,839	91.2%

Cooperatives for Grabs

In the last 20 years since the passage of EPIRA, some rural electric cooperatives have been acquired by private business interests.

One of the more controversial takeovers was that of the Albay Electric Cooperative (ALECO). The cooperative had many problems with its service, which made it ripe for a takeover. ALECO was divided into APEC — Albay Power and Electric Corporation, owned by San Miguel Corporation and the original entity. The union of rank-and-file employees resisted the acquisition, but the National Electricity Administration (NEA), the DoE and the local governments of Albay all favored it.

On the day the members were to vote for or against the private sector participation, some member-consumer-owners were brought to the wrong voting place, or the voting place they had always been going to had been closed for no apparent reason and without any prior warning. Clearly a maneuver was taken to suppress the will of the member-owners.

The privatization of ALECO was supposed to address high system losses, unreliable service, mounting debts of the cooperative, and high electricity rates. None of these have been addressed by San Miguel. Instead, the debts of ALECO were lodged with the residual cooperative.

At present, efforts of workers and member-consumer-owners continue to reclaim ALECO from APEC — no doubt a difficult battle but one which continues to this day.

Benguet Electric Cooperative or BENECO is going through a mix of conflicts with accusations of corruption and self-aggrandizing behavior of BENECO board members and key officers.

But the storm inside BENECO began when the NEA appointed a favored politician, with no experience or track record in running an electric cooperative, as the new General Manager (replacing the deceased GM Gerry Verzosa who passed away in September 2020).

The political appointment by NEA of Anna Maria Banaag Rafael unleashed a wave of protests from Baguio residents and from within BENECO itself.

As columnist Isabel Ongpin describes the events that have unfolded, a “can of worms” has been opened revealing the rot within that has not been addressed over the years. BENECO is a top-ranked electric cooperative with apparently serious governance issues. The election of board members is apparently non-transparent, likewise major decisions and actions such as registration of BENECO with the Securities and Exchange Commission. The thing is, NEA is itself a tainted pot that can hardly call the kettle black. If NEA was trying to stage a corporate takeover of BENECO, perhaps it is time that the member-consumer-owners of BENECO seriously stake their claim, assert their ownership, and clean up the cooperative.

The Aboitiz Group, Meralco, and San Miguel Corporation now have 11 small distribution utilities — including a few cooperatives — under their wing. The big players, it seems, keep wanting more.

Cozy Company

The latest scandal to blacken the power sector is the acquisition by Duterte crony Dennis Uy of a 45 per cent stake in a service contract for the extraction of natural gas from an offshore rig in Malampaya, 65 kilometers northwest of Palawan. Chevron, which held the said stake, sold it to UC Malampaya, a company owned by

Dennis Uy. This deal sparked an investigation by the Senate Committee on Energy, especially after questions were raised about the qualifications of the crony company, and about the process which resulted in the approval of the transaction by DoE Secretary Alfonso Cusi.

UC Malampaya had no audited financial statements available for review by the DoE. A Department Circular of the DoE requires the submission of audited statements of the last three years. All the Dennis Uy company submitted was an unsigned and unaudited statement for the first three quarters of 2021. And it failed to submit an official financial plan, instead it turned over just a draft. Yet Secretary Cusi approved the transaction.

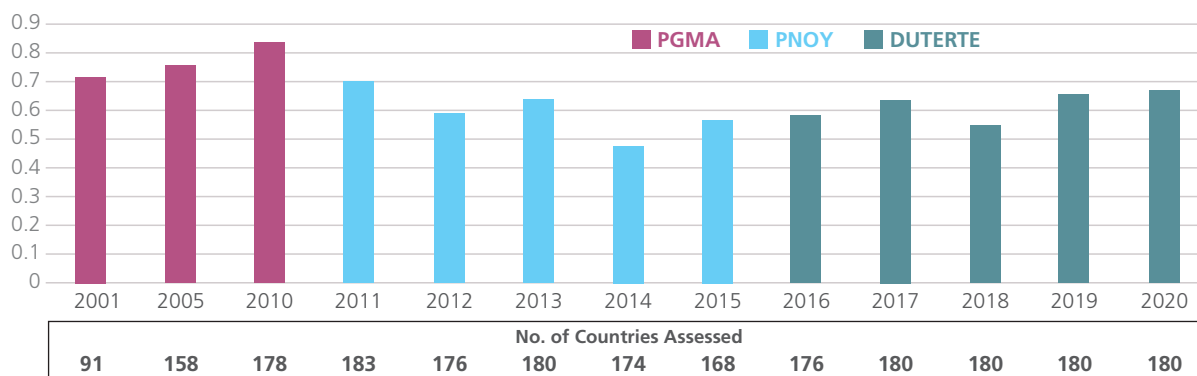
UC Malampaya was established in Singapore in September 2019, less than two months before it signed the deal with Chevron Malampaya. The company is a startup, without any track record in oil and gas exploration, operation, and development. Its working capital in the unaudited unsigned financial statement was a negative balance. Yet Secretary Cusi approved the transaction.

DoE regulations require prior approval of any transfer of any portion of a Service Contract. This did not happen. Yet Secretary Cusi approved the transaction.

The coziness of Secretary Cusi with Dennis Uy can be traced to 2017, when the Secretary sold his business, Starlite Ferries, to Dennis Uy's company Chelsea Logistics, reportedly for Php3 billion. (<https://www.bilyonaryo.com/2017/05/16/2go-expansion-dennis-uy-buy-al-cusis-starlite-ferries-p3b/>) This probably explains why the Secretary's declared assets rose from 162.7 million Philippine pesos in 2016 to 1.4 billion Philippine pesos in 2017. Cusi was appointed to the Department of Energy in July 2016.

Not surprisingly, the Philippines's rank in the global corruption perception index is rising — along with electricity rates.

Figure 2: Corruption Perception Index, Philippines Ranking



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Acronyms and Abbreviations

ADB	Asian Development Bank	NAPOCOR	National Power Corporation
AEC	Angeles Electric Corporation	NASECOR	National Association of Electricity Consumers for Reforms
ALECO	Albay Electric Cooperative	NEA	National Electrification Administration
APEC	Albay Power Electric Company	NGCP	National Grid Corporation of the Philippines
ARR	Annual Revenue Requirement	NPC	National Power Corporation
ASEAN	Association of Southeast Asian Nations	ODRC	Optimized Depreciated Replacement Cost
BLCI	Bohol Light Company, Inc	OPEX	Operating Expenses
BNPP	Bataan Nuclear Power Plant	PBR	Performance Based Rate Setting System
CA	Court of Appeals	PECO	Panay Electric Company
CBK	Caliraya-Botocan-Kalayaan Power Plant	PEDC	Panay Energy Development Corporation
CEDC	Clark Electric Distribution Company	PEMC	Philippine Electric Marketing Corporation
CELCOR	Cabanatuan Electric Corporation	PFBS	Powersource First Bulacan Solar, Inc
CEPALCO	Cagayan Electric Power and Light Company	PHP	Philippine Peso
CLPC	Cotabato Light and Power Corporation	PLDT	Philippine Long Distance Telephone Company
COA	Commission on Audit	PSA	Power Supplement Agreement
CSP	Competitive Supply Procurement	PSALM	Power Sector Assets and Liabilities Management Corporation
DECORP	Dagupan Electric Corporation	RAB	Regulatory Asset Base
DLPC	Davao Light and Power Corporation	RDWR	Rules on Distribution and Wheeling Rates
DMCI	DM Consunji, Inc	REC	Rural electric Cooperative
DOE	Department of Energy	RFSC	Reinvestment Fund for Sustainable Capital Expenditures of Rural electric Cooperatives
DSM	Distribution, Supply, and Metering Charges	RORB	Return on Rate Base
DU	Distribution Utility	SEC	Securities and Exchange Commission
EPIRA	Eelectric Power Industry Reform Act / Republic Act No. 9136	SEZ	Subic Enerzone
ERB	Energy Regulatory Board (Predecessor of ERC)	SFELAPCO	San Fernando Light and Power Corporation
ERC	Energy Regulatory Commission	SIASELCO	Siasi Electric Cooperative
GE	General Electric	SMC	San Miguel Corporation
GSIS	Government Service Insurance System	SPTC	Solar Philippines Tarlac Corporation
GSL	Guaranteed Service Level	SSS	Social Security System
HECS 2011	Household Electricity Consumption Survey of 2011	SULECO	Sulu Electric Cooperative
ICTSI	International Container Terminal Services, Inc.	TAWELCO	Tawi-tawi Electric Cooperative
IIEC	Ibaan Electric and Engineering Company	TEI	Tarlac Electric, Inc.
ILPI	Ilagan Light and Power Inc	TRANSCO	Transmission Corporation of the Philippines
IPP	Independent Power Producer	US EXIMBANK	US Export Import Bank
IPPA	IPP Administrator	USAID	US Agency for International Development
JG SUMMIT	JG Summit Corporation	USCC	Universal Charges for Stranded Contract Cost
KWH	Kilowatt-Hour	VECO	Visayas Electric Company
LUELCO	La Union Electric Cooperative, Inc.	WACC	Weighted Average Cost of Capital
MECO	Mactan Electric Company	WCF	Working Capital Factor
MEQ	Minimum Energy Quantity	WESM	Wholesale Electricity Spot Market
MERALCO	Manila Electric Company		
MORE POWER	MORE Electric and Power Corporation		
MWH	Megawatt-Hour		

After Electricity access in private hands: Leave no one behind?

by Melba Vera Tutor

August 2024

No country has ever industrialized and achieved a high level of development without expanding electricity access. Electricity promotes productive activities, social empowerment, and an overall good quality of life. Electricity reforms swept Southeast Asia in the 1990s with the promise of good quality, reliable, affordable, and universal electricity access. In the Philippines, the power sector reform enabling law was passed in June 2001 through the Republic Act No. 9136, now commonly known as the Electric Power Industry Reform Act of 2001 (EPIRA).

In this paper, we review the Philippine's progress regarding the two banner objectives of EPIRA — total electrification (EPIRA Section 2.a) and quality, reliable, secure, and affordable supply of electric power (EPIRA Section 2.b) — twenty years since the law was passed. This paper belongs to a series of studies of the Center for Power Issues and Initiatives, Inc. (CPII) that assesses EPIRA implementation. It puts particular emphasis on the review of government's programs affecting off-grid and missionary electrification, as most of those without electricity access reside in these areas.

The specific objectives of this paper are as follows:

- to review the evidence on the benefits of electrification access;
- to review the power sector industry structure, policies, and programs on total electrification under EPIRA;
- to examine the progress of electricity access in the Philippines; and
- to analyze the government's policies and strategies in attaining total electrification and promoting reliable and secure electricity.

Access to electricity

In this section, we provide an overview of the multidimensional benefits of electricity access and the deep interrelationship between poverty and electricity. We also review a couple of studies specifically looking at the impact of electricity access in the Philippines. Lastly, we review some evidence on the impact of electricity reforms on universal electricity access.

Multidimensional benefits of access to electricity

Raitzer, Blöndal, & Sibal (2019) conducted a systematic review of studies investigating the impact of energy interventions. They found positive and substantial benefits on time allocation, educational outcomes, gender equality, women empowerment, labor, household income, consumption, and expenditure, indoor air quality, and fertility. The following paragraphs are lifted from their paper (pages 22-28, italics in original):

- ***Electrification can lead to substantial changes in time use.*** Several studies find that access to electricity resulted in positive changes in time allocation, especially among women and children. Grid electricity and provision of solar home systems were found to lead to increased study time for schoolchildren after nightfall in several countries (Bensch, Kluge, and Peters [2011]; Bensch, Peters, and Sievert [2012]; Grimm, Peters, and Sievert [2013]; Asaduzzaman et al. [2013]; Banerjee, Singh, and Samad [2011]).
- ***Electrification can lead to improved educational outcomes for children.*** Impact evaluations have found positive effects on school enrollment, with an average increase of about seven per cent (Barkat et al. 2002; Aguirre 2014; Barnes and Binswanger 1986). Household electrification has been found to increase school attendance by six point three per cent for boys and nine per cent for girls in Vietnam (Khandker, Barnes, and Samad 2013).
- ***Educational outcomes of electrification can reinforce gender equality,*** as the estimated effects tend to be greater for girls than for boys. This pattern is evident for a range of educational outcomes, such as years of schooling, attendance, literacy, and time allocated for studying at home.
- ***Electrification can impact female empowerment.*** Burney et al. (2017) observe significant effects of solar microgrids for irrigation on an index measuring female empowerment. Grogan (2018) finds significant increases in female paid work time from rural electrification in Guatemala. PWC (2017) also finds that training on energy use, coupled with electricity access, can help to change the relative role of women in household decision-making.

- **Electrification can affect labor outcomes.** Jimenez (2017) observes that selected studies find significant and large effects of access to electricity on labor market participation, particularly on employment and hours worked per month...The average of the reviewed studies is that access to electricity leads to an increase in labor market participation by 25 per cent, with women tending to benefit more in terms of labor outcomes.
- **Access to electricity can lead to increased household income, consumption, and expenditure.** Household electrification was found to raise total income by 28 per cent and expenditure by 23 per cent in Viet Nam (Khandker, Barnes, and Samad 2013). In the Philippines, Chakravorty, Emerick, and Ravago (2016) find a 38 per cent increase in household expenditures and a 56 per cent decrease in the deprivation index due to electrification.
- **Electricity can help improve indoor air quality and human health.** An electrification program in El Salvador was found to reduce overnight minute-by-minute fine particulate matter (PM2.5) concentration by 65 per cent, resulting in a six per cent reduction in incidence of respiratory infections among children under six (Barron and Torero 2015b).
- **Electricity access can reduce fertility.** Increased television viewing due to electrification has been observed to reduce fertility by 18 per cent –24 per cent in Indonesia, partly as a result of increased exposure to family planning information that helps increase utilization of contraception (Grimm, Sparrow, and Tasciotti 2015).

Poverty and electricity

Electrification is also an important marker of overall welfare. This means that electricity deprivation is a significant proxy of deep poverty and multiple deprivations. Alkire and Vollmer (2021) investigates the interrelations of multidimensional poverty and electricity by looking at the global Multidimensional Poverty Index (MPI).

The global MPI measures a person's welfare by looking at ten specific indicators that cover health, education, and standard of living. It was developed by Alkire and Santos (2010) with the United Nations Development Program's Human Development Report Office. Since its first publication in 2010, it has been tracking the different deprivations experienced by people all over the world, providing disaggregated results with respect to geographical location, gender, race, and other sources of disparities.

Access to electricity is one of the indicators in the standard

of living dimension. Alkire and Vollmer (2021) found that almost everyone (99.4 per cent) who is deprived of electricity is also deprived in at least one other welfare indicator. This makes access to electricity the most interlinked of all the deprivation indicators in the global MPI. Thus, when we examine people who do not have access to electricity, we will find that they suffer from other indicators as well.

For instance, the study found that (Alkire and Vollmer, 2021, pages 3-4):

- Of those deprived of electricity, 96 per cent are also deprived of cooking fuel.
- 86 per cent of those deprived of electricity also live in precarious housing, built using non-improved materials.
- 83 per cent of those who do not have access to electricity also lack sanitation facilities, use unimproved toilets, or are forced to share toilets with other households.
- 55 per cent of the energy poor also draw their drinking water from unimproved sources or that the sources are 30-minutes away or farther from home.
- Just under half of the energy poor have at least one person who is malnourished in their home (45 per cent).

Another interesting finding of the Alkire and Vollmer (2021) study is that improvements in access to electricity is associated with improvements in the other indicators of the global MPI. This is what they observed when they looked at 13 countries with data over time. Thus, from a policy perspective, the foregoing review of the benefits of electricity and its interlinkages with other welfare indicators make access to electricity a very crucial intervention to promote development.

Focus on Philippines rural electrification

So far, we have looked at evidence at a global perspective. In this section, we will review two recent papers that examined the impact of electrification in the Philippines.

Chakravorty, et.al. (2016) looked at the causal impact of rural electrification in the Philippines. Using data from the Department of Energy (DOE) on unelectrified barangays in 2003, they predicted, using GIS data and least-cost first principle, the evolution of electrification in rural barangays for the period 2005 to 2009. They matched this data on actual and predicted electrification status with the Family Income and Expenditure Survey (FIES) and Annual Poverty Indicators Survey (APIS) for the years 2003 up to 2014. These surveys are repeated cross-sectional household surveys that collect information on income, expenditure, and non-income welfare indicators.

Using instrumental variables regression, they estimated the impact of barangay-level electrification on household expenditures and income. They then calculated the cost of electrifying the villages using the parameters from the government's Barangay Line Enhancement Program (BLEP). They compared these program costs vis-à-vis the estimated benefits of electrification to assess the cost effectiveness of expanding electricity access to rural barangays.

Like studies in other parts of the world, the authors found that electrification has substantial positive benefits. For instance, they found that electrification leads to a 38 per cent increase in annual household expenditures and almost 42 per cent increase in total household income. These impacts were observed even though only 23 per cent of households in a barangay are electrified upon the arrival of electricity in a barangay.

Their cost effectiveness analysis showed that the infrastructure costs of electrifying a barangay are recovered, on average, after just one year of the observed benefits in household expenditures. This suggests that the benefits to the households and communities far outweigh the costs of extending grid access to electricity in rural barangays. They found that the benefits gained accrue mostly to those who earn agriculture income, the predominant income source in the sample barangays.

Meanwhile, Lozano & Taboada (2021) tried to look at the impact of electrification on sustainable development using a different approach. They studied two case islands that are isolated barangays and with different electrification levels and technologies. First is Gilutongan Island in Cordova, Cebu, which has electricity for four point five hours every night from a diesel generator. Second is the Cobrador Island in Romblon, which has 24-hour electricity through a hybrid solar PV and diesel system.

The authors used eight indicators of sustainable development encompassing the technical, social, economic, and environmental dimensions to look at the effect of the different electrification levels and technologies. For instance, one technical indicator is reliability of service, and their measure is the number of power disruptions experienced by users. Data were collected through household surveys and on-field observations for each of the eight indicators over a period of one week per island.

Using exploratory factor analysis, they found that the current electrification system in Gilutongan Island suggests a low impact on sustainable development due to the limited access for productive uses of electricity. On the other hand, Cobrador Island showed improvements in almost all aspects of the sustainable development index, suggesting that the community can reap the benefits of

their electricity access. However, the residents showed that their access is constrained by the unaffordability of tariffs which cost five to ten per cent of their income.

Overall, these two studies focusing on the Philippines showed that there are significant gains to electricity access at the barangay level, even with incomplete household-level access. This shows that the government must continue electrifying “last-mile” areas.

Moreover, we also saw that limited electricity access, such as a few hours at night, will not lead to the desired development and economic transformation. There is a need to expand availability to near-24 hours supply. Finally, we saw that 24-hour availability should be coupled with affordability since the residents' capacity to pay will ultimately determine whether they can access electricity and gain from its benefits.

Electricity reforms: Road to universal access?

Despite the well-established gains to electricity access, the number of families and individuals without electricity abound.

The International Energy Agency (IEA) estimates that around 770 million people do not have access to electricity in 2019 and based on existing policies and the current Covid-19 crisis, there will still be 660 million people without electricity by 2030 (IEA, 2020).

This is a far cry from the goal of universal access by 2030 that countries committed to achieve in 2015 when they adopted the Sustainable Development Goals (SDGs). Meanwhile, the 2020 global Multidimensional Poverty Index (MPI) shows that almost one billion people lack power in their homes and more than half of them are children under 18 years of age (Alkire and Vollmer, 2021). The recognition of the multitude of benefits of electrification provided the impetus for many countries to adopt various measures to broaden energy access.

In the 1980s, several global trends created the preconditions that will be used for advocates of power sector reforms. Some of these are technological change, macroeconomic shocks, politicization of tariffs, and the growing dominance of the ideology that markets are “better” than the state (Victor, 2005).

The power sector reforms that happened in Chile in 1983 and then England and Wales in 1985 swept all through the developing world through the pressure of structural adjustment programs imposed by international creditors and donors. Many developing countries like the Philippines, Indonesia, and Thailand implemented the so-called “textbook” model of power sector reform and were promised a more resilient energy sector with broader and

more reliable access, sourced from sustainable resources, and more affordable for all. The “textbook” model for market reform, as summarized in Victor (2005) includes the following elements:

- 1) Corporatization of the state enterprise(s)
- 2) Enactment of a framework energy law
- 3) Creation of an independent regulator
- 4) Restructuring (unbundling) of the core enterprise(s)
- 5) Attract greenfield private investment
- 6) Privatization of the state enterprise(s)
- 7) Competition for wholesale supply of electricity
- 8) Retail competition

The Philippines implemented this standard model of reform in almost its entirety.¹

After almost a decade of debates and negotiations, the country's framework energy law, Republic Act No. 9136, was finally enacted in 2001, called the Electric Power Industry Reform Act or EPIRA. Bruscal and Ancheta (2018), in their review of EPIRA, claims that EPIRA's design is “well-thought” since it follows the features of historically successful power restructuring programs. Does adopting a “textbook” design guarantee success? The country's experience suggests otherwise.

The banner policy objectives of EPIRA are (a) to ensure and accelerate the total electrification of the country; and (b) to ensure the quality, reliability, security, and affordability of the supply of electric power (EPIRA Section 2, Policy Objectives).

Bruscal and Ancheta's (2008) review points out that these provisions on social equity are “deviations” from the “ideal” design, which are costly to all end-users. It is inimical that the promises used to justify the reform are considered as mere costly deviations. However, the reviewers may just be reflecting on the fact that the way the energy planners and regulators have behaved in implementing EPIRA does suggest that electricity for all was just a ruse.

In fact, analysts that looked deeper into EPIRA have claimed that there is nothing inherent that would promote total electrification in its design (Sharma, Madamba, & Chan, 2004). The authors commented (emphasis added):

The privatization of the industry appears to be the ulterior motive of the Philippine electricity reform program...Further privatization — assisted by cost pass-through regulation and sovereign guarantees for returns on investments — can only result in further cherry-picking of the remaining electricity assets, leaving the financially unattractive assets (e.g., unsold generating assets of the PSALM Corp) and services (e.g., missionary

electrification, building the institutional capacity of the Ecs) in the public domain. It is therefore *not understandable how such privatization will contribute towards the attainment of national policy goals of 'ensuring total electrification, enhancing affordability, protecting public interest, assuring the development of socially and environmentally compatible resources, promoting utilization of indigenous and new renewable energy resources and reducing dependency on imported oil, and encouraging the efficient use of energy and other modalities of demand side management'* (Senate and House of Representatives, 2001). (Sharma, Madamba, & Chan, 2004)

Globally, the evidence that power sector reforms delivered on its promises is weak at best. A systematic review of existing literature suggests that market-based power sector reforms have “limited” effects on end-users (Bensch, Sievert, Langbein, & Kneppel, 2016). The review found that liberalization and private sector involvement are “weakly associated” with better supply efficiency and investment, and even when those effects are found, they are not usually significant. Thus, the all-too-common argument that private sector take-over of the electricity sector will unleash efficiency, dynamism, and broad access appears to be more of an ideology than fact.

EPIRA's electrification roadmap

In this section, we briefly review the country's electrification task, as well as the industry set-up and institutional arrangements under the EPIRA regime. We also look at the major policies, plans, and programs implemented by the government to tackle the challenge of total electrification.

Overview of the electrification challenge

The Philippines continues to be on the low end of both electricity consumption and installed capacity for power generation compared to its neighbors in ASEAN.

Even though the country's GDP per capita is higher than Vietnam, we have the lowest consumption and installed capacity per unit of population in the region (Department of Energy, 2016). Our electricity consumption per capita in 2020 is only 897 kWh, much lower than Vietnam (2,745 kWh in 2020) or Indonesia (1,039 kWh in 2019) (Our World in Data, 2022). The Energy for Growth Hub proposes a so-called new “Modern Energy Minimum” of 1,000 kWh per person per year as a “development-inclusive” threshold that is “consistent with the income aspirations and development goals of all people” (Energy for Growth Hub, 2021).

¹ For a more in-depth discussion of EPIRA, see Patalinghug (2003).

The Philippine power system is comprised of two major systems: (a) main grid; and (b) off-grid or Small Island and Isolated Grids (SIIGs) (Figure 1).

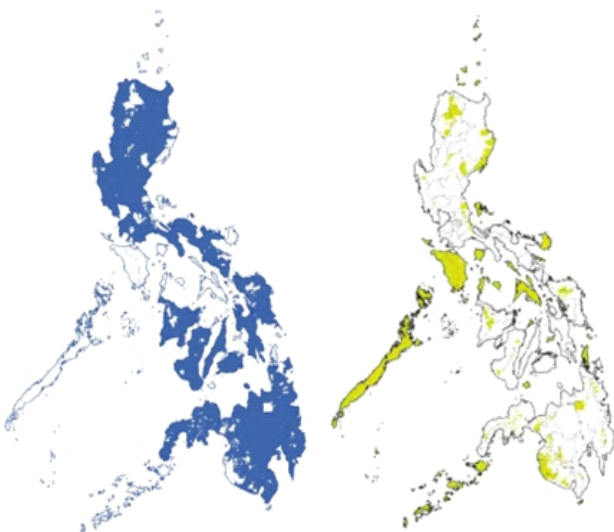
The main grid consists of three separate grids, one for each of the islands of Luzon, Visayas, and Mindanao and is the high voltage transmission backbone. Until now, only the Luzon and Visayas grids are interconnected. The off-grid or SIIGs, as indicated by the yellow portions in Figure 1, are also spread out across the three major islands and they can be islands, coastal, or land-locked areas that are not connected to the main transmission line. EPIRA (Section 70) refers to service provision in off-grid areas as missionary electrification.

According to the Philippine Energy Plan 2020-2040, the main grid is served by 100 electric cooperatives (ECs), 24 private investor-owned utilities, and two LGU-owned utilities while the SIIGs are served by 21 electric cooperatives, one multi-purpose cooperative, and three LGU-owned utilities (Department of Energy, 2020).

In its power sector development planning, the government distinguishes between “unserved”, “underserved”, and “unviable” areas. Unserved areas are those without electricity access, i.e., there are no distribution lines in the locality, and they also do not have any solar PV home systems or mini grids. Meanwhile, underserved areas are those with electricity service that is less than 24 hours a day, regardless of the generation source (Olap, 2018). An “unviable” area refers to a geographical area within the franchise area of a distribution utility (DU) where the immediate extension of distribution line is not feasible as doing so will compromise the financial viability of the DU.

Figure 1: Main Grid and Small Island and Isolated Grids (SIIGs)

Source: Department of Energy



EPIRA's banner objectives are not timebound.

Over the years, the EPIRA implementing agencies, primarily the Department of Energy (DOE), have announced electrification targets that have also been revised and redefined along the way when these were not met.

For instance, based on DOE's Department Circular 2003-04-004, the government is pursuing 100 per cent barangay electrification by 2006 and 90 per cent electrification of households by 2017. DOE's Department Circular 2006-04-0003 revised the 100 per cent barangay electrification target to 2008. In 2009, then DOE Secretary Angelo Reyes issued Department Circular No. 2009-09-0012 stating that the electrification of all barangays by yearend is the top priority of the energy sector, and all agencies are commanded to “adopt a “blitzkrieg” operation approach as the main strategy to provide guidance to all officials, groups, offices, and units to act with dispatch in addressing all directional, administrative, and logistical requirements for the energization of the remaining unlit barangays.”

Even so, we find later that the DOE's Missionary Electrification Development Plan 2009-2013 has set the total barangay electrification to 2010.

Meanwhile, the Power Development Plan 2016-2040 identified the following electrification goals: (a) 100 percent electrification of targeted and identified household accessible to grid (based on 2015 Census) and accomplishment of off-grid targets by 2022; (b) Electrification of all targeted and identified households (household beyond 2015 Census) and 100 percent electrification of target household in off-grid areas within the period 2023-2040 and (c) total electricity access by 2040.

Evidently, the Philippine Government, a signatory to the Sustainable Development Goals, is looking forward to missing the SDG target of universal electricity access at the population level, which it committed to accomplish by 2030.

Electrification set-up

Let us review how electrification should be carried out under EPIRA.

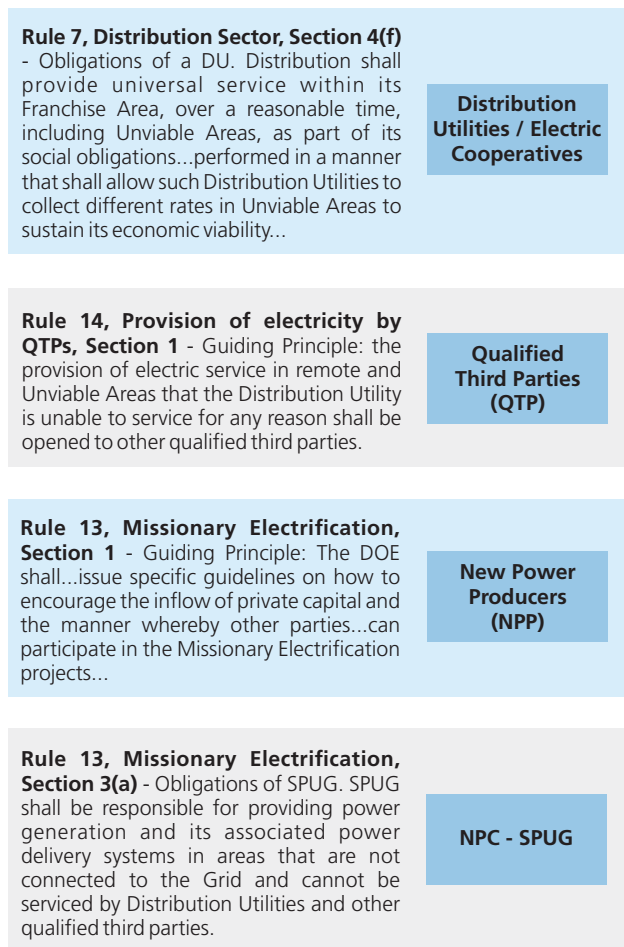
Figure 2 demonstrates the key provisions in the EPIRA Implementing Rules and Regulations pertaining to electrification.

At the top are the DUs and ECs, which are obligated to “provide universal service within their franchise area...including unviable areas, as part of their social obligations...”. Thus, DUs and ECs are the primary entities

that have the obligation to provide electricity service, and they are expected to carry out their mission in an economically sustainable manner. If certain areas within the DU's franchise area cannot be serviced, the provision of electricity service can be transferred to an adjoining DU or EC.

Figure 2: Electrification in the context of EPIRA

Source: Adapted from Talag (2014)



If DUs or ECs are unable to provide electricity service to portions of their franchise area “for whatever reason”, next in line are so-called Qualified Third Parties (QTPs). A QTP can be a private firm, local government unit, cooperatives, NGOs, generation companies that “has demonstrated the capability and willingness to comply with the relevant technical, financial, and other requirements” (DOE DC 2019-11-0015). The DOE is responsible for declaring areas that are open for QTP participation, and the Energy Regulatory Commission (ERC) qualifies and authorizes QTP participants. QTPs can provide both power generation and distribution services, or just distribution services.

New Power Producers (NPPs) take on the role of independent power producers for generation. They can produce and supply electricity to newly declared unviable or waived areas of DUs, or they can take over any of the generation plants operated by the National Power Corporation-Small Power Utilities Group (NPC-SPUG). Together, QTPs and NPPs are the two main channels through which EPIRA promised to infuse new private capital into the power industry to achieve total electrification in off-grid areas.

Finally, at the bottom of the rung is the NPC-SPUG. When an off-grid and unviable area cannot be serviced by DUs/ECs or any other QTPs, the NPC-SPUG is responsible for providing power generation and its associated power delivery systems.

Thus, in this set-up, NPC-SPUG is supposed to be the “implementer of last resort”. Nevertheless, when the NPC-SPUG is also unable to reach dispersed households and communities, the responsibility of providing limited power generation through stand-alone systems ultimately resides with the ECs.

Annex 1 presents a summary of the key power industry agencies and their primary role in missionary electrification.

Overall policy, planning, and strategy formulation resides with the DOE, and it is responsible for coordinating with the other power industry agencies to come up with a unified and integrated power development program. Specifically for total electrification, the DOE is responsible for preparing the Missionary Electrification Development Plan, which consolidates the strategies of the power industry players with regard to expansion of electricity access in missionary areas.

The National Electrification Administration (NEA) has a critical role of supervising all electric cooperatives in the country, whether they are serving grid or off-grid areas. All NEA's electrification programs are coursed through the ECs. The NPC-SPUG, aside from being the implementer of last resort, is also tasked with consolidating and submitting the petition for the Universal Charge for Missionary Electrification (UCME) subsidy of the SPUG, renewable energy developers, NPPs, and QTPs. The ERC, as the regulatory agency, is responsible for approving the various rates charged to consumers, as well as the subsidized rates used to compute the UCME that will be collected from all consumers. The ERC also is the approving body for power supply and QTP agreements, and the issuing body for the Certificate of Compliance of generation companies and Authority to Operate of QTPs.

Electrification programs

Government electrification programs are also categorized into grid and off-grid types. Figure 3 provides a summary of the four major grid electrification programs.

The Barangay Line Enhancement Program (BLEP) extends distribution lines to clusters of households that are currently electrified using off-grid sources. This is in line with the government's strategy to eventually connect all households to grid electricity. In 2011, NEA targeted 2,341 barangays for the BLEP (Navarro, 2013).

NEA has been extending distribution lines to sitios since 2006, using internal funds and some legislators' Priority Development Assistance Fund (PDAF) (Navarro, 2013). The Aquino administration adopted sitio electrification as a key component of its socio-economic development roadmap. Thus, in 2011, NEA was given the go signal to formalize its sitio electrification activities into the Sitio Electrification Program (SEP) and instead of NEA's original plan to connect all unelectrified sitios to the grid by 2020², the target has been moved to 2015.

As an additional strategy to reach its goal of 90 per cent household electrification by 2017, the DOE started the Nationwide Intensification of Household Electrification (NIHE) program in 2015. It aimed to energize at least 475,000 households until 2017 by providing a subsidy of 3,750 Philippine pesos for house wiring materials (at least two bulbs, one convenience outlet, service drop wire, and kilowatt-hour meter) to indigent households that can be connected to the DUs' system (International Renewable

Energy Agency (IRENA), 2017). Due to low implementation accomplishment, the DOE implemented a NIHE Phase 2 for 2018 onwards. The so-called enhanced NIHE scheme included funding for additional poles to households that are more than 30 meters away from the nearest DU tap point.

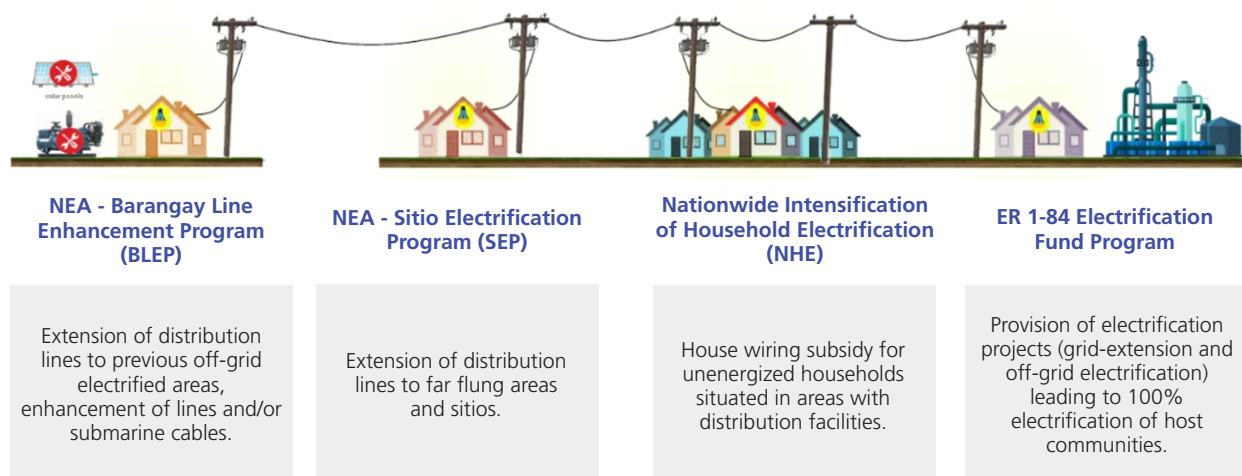
The Benefits to Host Communities, also known as the Energy Regulations 1-94 (ER 1-94), as amended, mandates power generators and/or energy resource developers to allocate one centavo per kilowatt-hour (P0.01/kWh) of the total electricity sales as financial benefits to host communities for electrification, development and livelihood, reforestation, watershed management, health and/or environment enhancement. This fund should finance various electrification projects in the community until 100 per cent electrification is reached.

The government's off-grid electrification programs are illustrated in Figure 4.

One of the first electrification loans after EPIRA was the Rural Power Project fund by the World Bank-Global Environment Facility (WB-GEF), which was approved in 2003. One of its components is testing and developing a fee-for-service model in providing solar home systems. This was designed for dispersed households in far-flung areas that are not viable for line extension or connection to the grid. Under this model, DUs or electric cooperatives set up a minimum capacity solar home system installation in an eligible household, and the household pays for a fixed fee to cover the EC's maintenance cost.

Figure 3: Grid Electrification Programs

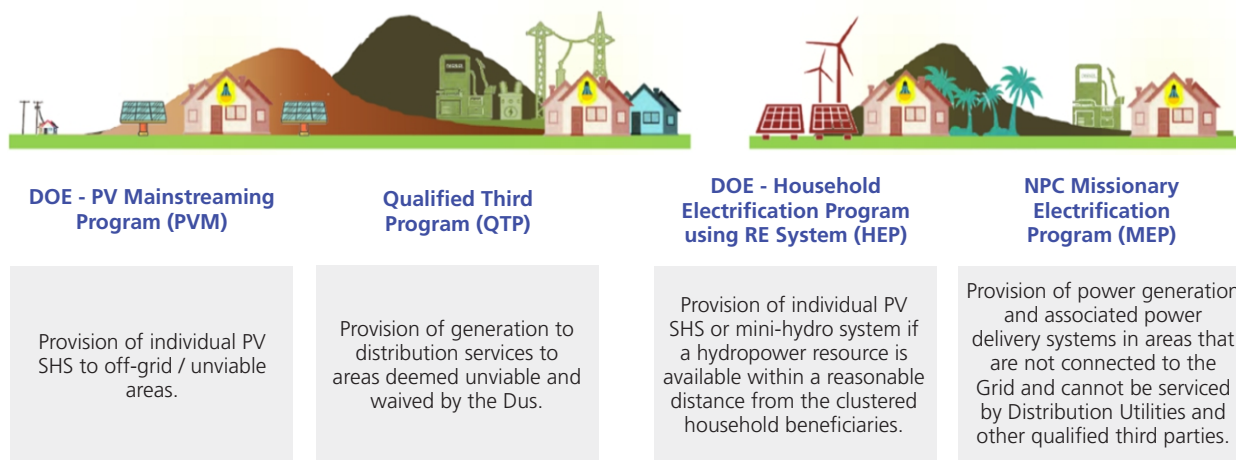
Source: DOE Household Electrification Development Plan 2013-2017, image from (Olap, 2018)



² Based on NEA's submission to the DOE for the 2010-2016 MTPDP

Figure 4: Grid Electrification Programs

Source: DOE Household Electrification Development Plan 2013-2017, image from (Olap, 2018)



The latest donor-funded project of the DOE that supports this solar PV mainstreaming business model is the Access to Sustainable Energy Project (ASEP) of the European Union.³ It aims to implement 40,500 solar home systems of 50-watt peak capacity each, in Mindanao. Target households are those without access to the grid and are not programmed to be energized through any of the DU, DOE, or NEA's programs within the next five years. The system includes a solar panel, controller, four LED bulbs, and lithium-ion batteries.

Under the fee-for-service model, the EC leases the system to the household for a fixed monthly fee and the EC is responsible for the repair, maintenance, and replacement of identified components. All capital costs are covered by the ASEP funds as a subsidy. In addition to the fixed monthly fee, the eligible households also pay a one-time participation fee. Based on ERC's decision, the benchmark tariff that ECs can charge are 207-222 Philippine pesos for a 50Wp SHS, and Php180-Php195 for a 30Wp SHS per month (Energy Regulatory Commission, 2017).⁴ The DOE is also implementing a locally funded solar PV mainstreaming project to augment the ASEP.

The DOE Household Electrification Program using RE System (HEP) involves not only solar PV solutions but also mini-hydro and micro-grid systems that are developed depending on the available resources in the area. While NIHE is implemented by implemented by Electric Power Industry Management Bureau (EPIMB) of the DOE, HEP is implemented by the Renewable Energy Management

Bureau (REMB). It aims to provide electricity access to 26,900 households in dispersed areas (International Renewable Energy Agency (IRENA), 2017). Meanwhile, we have described QTP and NPC's missionary electrification through SPUG in the earlier section.

Overall, the private sector has no major role in most of the grid and off-grid electrification programs since EPIRA's enactment.

As mentioned earlier, DUs and ECs are primarily responsible for total electrification, and electric cooperatives are not private nor for-profit enterprises. The electrification gap, especially in off-grid and unviable areas are still taken on by the government. The private sector is merely "encouraged" to participate. EPIRA mandates that the NPC-SPUG should privatize its assets but at the same time raise the level of its operations to commercially sustainable levels so that the private sector will be enticed to take over. Finally, even the electrification fund, the UCME, is charged to all consumers, not the private sector.

One common issue among these electrification programs is the government's lack of strategy to address the concerns of households and communities regarding "capacity to pay", or as the government calls it, "willingness to connect". Navarro (2013), in the case of the SEP, describes the government's "circular reference trap" as follows: "to increase electricity access and thereby help reduce poverty in hard-to-reach and poverty-stricken sitios, line extension to sitios under the SEP is being

³Program details discussed here are from NEA's Memo to ECs: Solar PV Mainstreaming for Household Electrification, 10 May 2016 (National Electrification Administration, 2016)

⁴The tariffs are classified into 3 zones based on their distance to the nearest office of an electric cooperative. Zone A is less than 40 km and Zone B 40-45 km to the nearest office; Zone C is more than 45 km to the nearest office and includes small islands and islets.

implemented; but actual electrification is low because in the first place, the households are poor and cannot afford to connect to such lines" (Navarro, 2013). This conundrum hints not just the SEP but the other fee-for-service programs as well. The government merely cites this "capacity to pay" issue as a cause of the slowdown of electrification progress.

Aggregating the number of beneficiaries of all these grid and off-grid electrification programs is an impossible task. The government, until now, has not established the unified databased of electrification programs that it has set out to do more than five years ago. Thus, the accomplishments of these programs will be ultimately reflected in the barangay, sitio, and household electrification rates that we will review in the next section.

Electrification policies and plans

Despite claiming to recognize the urgency of providing electricity services to all, the government's definitions on policy proclamations have somehow remained vague.

For instance, the DOE's Department Circular 2014-09-0018 states that "every Filipino family shall have an equal opportunity to access basic electricity services". What is basic electricity service? The same Circular defines basic electricity service as the "minimum amount of electricity to be provided as part of social services being provided by the Government to every Filipino family in order to promote just and equal opportunity for poverty alleviation and improved quality of life". Finally, the Circular states that "a household shall be deemed "electrified" if it has access to basic electricity service on a sustainable basis and at an affordable basis."

All these definitions are somewhat circuitous and can be confusing to operationalize. More importantly, it prevents the public from having a clear measure with which to assess the government's performance and demand accountability. None of the several power or electrification development plans defines basic electricity services either.

In the DOE's Power Development Plan 2016-2040, the agency indicated the need to "issue a policy on the definition of electricity access to clarify issues and concerns on the definition of energized/electrified households in grid area and in off-grid areas. The said policy shall provide guidelines on the minimum requirement on the number of hours of electricity service for household connected to grid and the household energized through interim solutions such as gensets and individual PV Solar Home System." As of this writing, no such policy has been issued.

Nonetheless, according to an IRENA (2017) report, based on DOE's implementation, it appears that basic electricity service is "equivalent to the level of service that can be

derived from a solar home system, a solar kit or about four hours from a diesel mini-grid."

Based on our review of evidence earlier, this level of electrification is not enough to allow families to use electricity productively in a way that will lead to poverty alleviation or socio-economic development. Currently, the government is considering two things when they say an area or a household is electrified: (1) if a distribution line connected to the grid or a micro-grid is present in the area and households can connect if they want to; and (2) if the household is using electricity even at the minimum level, e.g., one or two lightbulbs for less than five hours a day.

Moreover, the government lacks even the basic elements of what can be considered a serious government effort to achieve its objective. Twenty years after EPIRA, there has yet to be a unified strategy for total electrification.

In fact, it was only in 2018, through Department Order No. 2018-05-0010, that the DOE started talking about its task to formulate a National Unified Strategy for Total Electrification. According to the DOE's Annual Report for 2018, the National Unified Strategy shall contain the following: a) an inventory and uniform database of all unserved, underserved, and unviable areas in the country; b) a list of electrification projects and number of household beneficiaries; c) a list of proposed programs and actions to address the last-mile stretch of household electrification; d) the budgetary requirements for each program/project; e) recommendations on issues that will be encountered by DUs in implementing the project; and f) the identification of potential partners, specifically in the off-grid electrification of the country. As of this writing, the DOE has not released this National Unified Strategy.

Senator Sherwin Gatchalian, chairman of the Senate Committee on Energy, said: "We've been allocating billions of pesos to NEA and DOE for its electrification program and still, they always fail to meet their yearly targets. What concerns me even more is how these agencies spend their budget since they still don't have a defined and cohesive strategy on how they will pursue this program... this is very elementary information that we need in order to achieve our goal of 100 per cent electrification. It is very difficult to allocate a big amount without a strategy." (Office of Senator Win Gatchalian, 2019).

The key development plans covering electrification are: 1) Philippine Energy Plan (PEP); 2) Power Development Plan (PDP); 3) Distribution Development Plan (DDP); 4) Transmission Development Plan (TDP); 5) Missionary Electrification Development Plan (MEDP); and 6) Household Electrification Development Plan (HEDP). These have planning horizons of five to 20 years but are released erratically.

For instance, the DOE released a Philippine Energy Plan 2018-2040, which they replaced two years later with PEP 2020-2040 that was only signed in 2022.

The MEDP is the key document for off-grid electrification, and the last one released was for 2016-2020. For achieving the 90 per cent household electrification goal by 2017, the DOE released the HEDP 2013-2017. To spearhead and coordinate its implementation, the DOE created the Household Unified Strategic Electrification (HOUSE) Team in 2014⁵, which was replaced by the “Task Force E-Power Mo” (TFEM)⁶ in 2018 to then take the lead in coordinating efforts to achieve the new target of 100 per cent household electrification by 2022. This target did not sit well with President Rodrigo Duterte, who asked for its achievement in 2020, which the government ultimately missed. He then signed Executive Order No. 156 in December 2021 to ramp up efforts to achieve total electrification. These results are not surprising since the MEDP and HEDP do not specify any program for unserved areas, or areas where no private sector players are interested in operating.

In fact, the government's efforts, as mandated by the EPIRA framework, are focused on enabling the privatization of NPC-SPUG operations, promoting the participation of QTPs and NPPs, and the phase-out of the universal charge for missionary electrification (UCME) subsidy. Annex 2 lists the Circulars and Orders released by the DOE specifically related to off-grid and missionary electrification since EPIRA.

The Omnibus Guidelines on Enhancing Off-grid Power Development and Operation (DC 2019-01-0001) appears particularly ominous to achieving total electrification. It opened all off-grid and unviable areas to private sector participation, while at the same time firmed up the preparation of plans for the disposal and divestment of NPC-SPUG's assets and the eventual phase-out of the subsidies for operating in missionary areas. This all-out Private Sector Participation (PSP) policy in off-grid areas can leave unserved areas out on a limb since the government cannot force a private sector operator to energize households. Moreover, if there are no takers for NPC-SPUG's assets but the UCME is phased-out, then underdeveloped areas will continue to have unaffordable and unreliable power, and therefore unable to escape the

poverty trap. There is certainly a need to rationalize the UCME, and that is to change its purpose from being a fuel subsidy to being a fund for expanding access to unserved areas, improving service in underserved areas, and promoting the adoption of renewable sources for off-grid areas.

How much longer until Filipinos enjoy universal electricity access?

In this section we will look at the current state of electrification in the country again based on EPIRA's top 2 policy objectives — total electrification and quality, reliable, and secure supply. On total electrification, we will also follow the government's hierarchy in setting electrification targets: barangays, sitios, then households.⁷ The Philippines has not yet reached population-level electrification targeting.⁸

Accelerated total electrification?

The government has set a low standard in considering a barangay energized.

For grid electrification, a barangay is considered electrified if the distribution line reaches the barangay hall or barangay center (Navarro, 2013). For off-grid, only 20 household connections are required to consider a barangay electrified (Navarro, 2013). In fact, the NEA currently implements the concept of “potential” households, indicating that at least twenty households should be able to potentially connect to an off-grid area it will set up. The actual number of beneficiaries can be less or more than twenty. Even if it is less than twenty, they will still consider the barangay as energized if their initial determination shows that there are at least twenty potential household beneficiaries.

Based on the DOE's MEDP 2016-2020, the government claims that “previous programs and activities of the government resulted in 100 per cent barangay electrification, with only six (6) barangays remaining as unserved due to geographical and security reasons.” One wonders whether the government has given up on these six barangays, hence the claim 100 per cent barangay electrification.⁹ Meanwhile, based on NEA's 2019 Status of Energization, eight barangays remain unelectrified: six in Maguindanao (three in Talayan, one in Shariff Saydona

⁵Department Circular No. DC2014-09-0018

⁶Department Circular 2018-05-0010

⁷By households, the government pertains to household connections, i.e., housing unit. It is definitely possible that one housing unit consists of more than one household or families, and that these multiple households or families may have different arrangements or access to electricity.

⁸It makes sense to have population-level targeting because a household can be composed of several individuals who may have differential access to electricity. Moreover, as mentioned earlier, the government counts housing units; thus, individuals who are homeless are not serviced with electricity. But the government's commitment to the SDGs is 100% electricity access for the population.

⁹NEA also claims that it has electrified 100% of the barangays within the coverage area of electric cooperatives (NEA's submission to the DOE for the Medium-Term Development Plan (MTPDP) 2010-2016).

Mustapha, one in Guindulungan, one in Datu Blah T. Sinsuat), one in Aklan (Malinao), and one in Quezon (Real). It is clear that even with the low standards set by the government on barangay electrification, it still fell short. Based on its first target of 100 per cent electrification by 2006, it has been delayed by more than fifteen years.

When it comes to sitio electrification, the government's performance is trickier to assess, primarily because a sitio is not an administrative geographic unit. There is no database of sitios, and there is also no systematic GIS data on them.

Nevertheless, a sitio is a recognized and highly utilized location marker, especially in rural areas. A sitio is an area smaller than the barangay and usually distant from the village downtown or barangay "población", the center of commerce and socio-political life. The use of sitios to distinguish several distant and isolated clusters of housing units dates back to the Spanish period (Navarro, 2013). Due to this informal nature of sitios, program targeting and implementation have become very fluid.

Based on the Philippine Energy Plan 2016-2030, NEA's inventory showed that there are 32,441 unelectrified sitios (out of 103,489 nationwide) and as of 2015, NEA has energized 30,874 sitios. Thus, it failed to meet its target of 100 per cent sitio energization. However, it did so by March 2016, having electrified 32,688 sitios.

NEA's inventory of sitios meanwhile continued to expand, and the SEP continues to this day.

In 2011 when the program started, approximately 31 per cent of sitios are not connected to the grid. As of 2020, there are currently 123,726 sitios, out of which around 16 per cent remains unenergized (National Electrification Administration, 2020). In terms of electrification targeting, the DOE has dropped sitio electrification due to the sitio's informal status as a geographical unit, which has proved to be challenging for implementation and performance assessment.

For household electrification, we can look at survey data in addition to the administrative data from the government. One of the household surveys that the Philippine Statistics Authority (formerly National Statistics Office) regularly conducts is the Family Income and Expenditure Survey (FIES). FIES is a nationwide household survey designed to collect data on income and expenditure of families every three years. It has been conducted since 1985 and it is the source of the official poverty estimates of the country. It also collects information on housing characteristics such as access to electricity.

Table 1 presents the evolution of access to electricity among families from 1985 to 2018.

First, we see clearly that total electrification has not been achieved, though it looks like the government has reached its target of 90 per cent household electrification by 2017, on average, as several regions lag. For the entire country, seven per cent of families still do not have access to electricity, and progress has been sluggish since 2012. This proportion translates to 1,705,153 families or 7,285,879 individuals (Table 2).

Table 1: Share of families with electricity by region, 1985 to 2018

Source: Family Income and Expenditure Survey, various years, Brucal and Ancheta (2018) for 1985 to 2015; Author's computation using FIES 2018

Region	1985	1988	1991	1994	1997	2000	2003	2006	2009	2012	2015	2018
Philippines	57.7	59.9	61.7	66.0	70.4	76.0	77.0	82.1	85.7	88.8	91.1	93.1
NCR	97.8	97.6	96.6	98.4	99.5	99.3	99.1	97.7	98.9	98.4	90.0	97.6
CAR	40.8	51.7	48.2	56.0	56.6	66.9	72.9	79.4	83.5	89.8	93.3	94.7
Region I	67.5	70.0	71.7	73.9	75.9	83.0	85.2	89.8	93.7	94.6	95.7	96.6
Region II	55.6	61.3	57.9	61.6	63.2	72.8	73.8	81.1	86.6	90.4	94.9	95.2
Region III	78.9	82.8	84.4	86.2	91.0	93.3	92.8	94.2	94.7	95.5	97.4	96.9
Region IV-A	75.5	78.1	83.2	87.8	90.1	93.9	92.4	92.5	93.6	95.6	96.9	97.5
Region IV-B	20.3	23.0	30.3	34.5	44.1	52.9	53.8	63.1	71.1	77.5	86.1	90.2
Region V	44.8	40.7	43.8	51.1	57.3	60.9	64.7	72.0	78.4	84.0	88.3	91.8
Region VI	34.6	43.5	45.0	53.5	57.3	63.7	69.1	76.7	81.5	86.1	88.3	92.3
Region VII	39.0	43.6	48.4	54.3	59.1	66.7	69.5	77.6	80.6	85.7	88.3	89.9
Region VIII	26.4	33.2	36.7	42.7	46.8	55.2	60.7	73.3	83.1	87.5	86.4	91.8
Region IX	42.9	45.7	45.9	48.3	49.0	53.9	54.9	65.1	70.7	73.3	80.8	84.3
Region X	55.1	57.9	53.8	59.9	64.9	70.1	68.2	76.6	81.6	84.7	86.6	87.3
Region XI	47.6	50.2	51.2	53.7	63.8	72.0	67.5	75.7	78.1	83.9	87.8	86.4
Region XII	39.1	46.7	46.5	51.2	61.1	65.6	64.5	69.9	76.6	77.4	83.1	86.5
CARAGA	58.1	61.1	54.1	55.6	57.2	65.1	64.9	79.6	84.2	87.0	91.2	93.1
ARMM	28.2	20.8	21.5	23.9	34.9	39.5	35.0	49.6	56.0	58.1	54.7	84.0

Only six regions in Luzon and one in Mindanao have a share of electricity access that is higher than the national average — the National Capital Region, CAR, Regions I, II, III, and IV-A, and Caraga. Even NCR has not reached universal electricity access. More than 300,000 individuals remain in the dark in the country's capital (Table 2).

The Mindanao region is particularly alarming (Table 1). Five out of the six regions in Mindanao have the highest concentration of families without electricity. For the ARMM, it was only in 2018 that it breached the 80 per cent electrification rate. Residents of ARMM suffered from 35 per cent to 55 per cent electrification rate for the first fifteen years of EPIRA. An estimated 576,400 individuals, or 8 per cent of all individuals who do not have access to electricity, are concentrated in this region (Table 2).

Table 2: Number of families and individuals without electricity, 2018

Source: Family Income and Expenditure Survey 2018

	Number of Families	Number of Individuals
Philippines	1,705,153	7,285,879
NCR	78,533	352,163
CAR	22,577	88,098
Region I	41,612	160,490
Region II	41,192	142,687
Region III	87,505	370,971
Region IV-A	93,983	375,345
Region IV-B	72,254	306,026
Region V	105,503	447,771
Region VI	140,910	562,788
Region VII	186,293	771,969
Region VIII	86,468	344,464
Region IX	131,291	583,485
Region X	142,597	628,125
Region XI	174,716	725,927
Region XII	152,424	669,992
CARAGA	42,445	179,179
ARMM	104,849	576,400

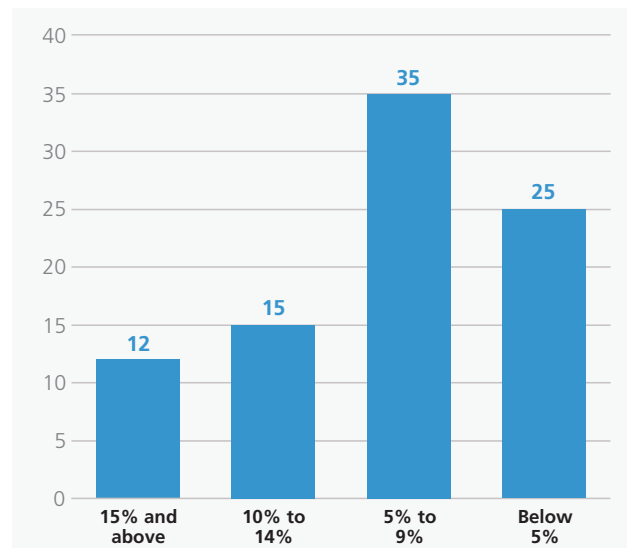
The country's challenge to achieve total electrification remain a serious one not just because of the remaining number of families without access, which is expanding every year, but also because most of those without access are spread across the entire country and unconnected to the grid. This means that sizeable investments in generation, transmission, and distribution capacity are required to reach all these unenergized families.

Figure 5 shows the distribution of provinces by share of families without access to electricity in 2018.

Here, we see that in 12 provinces, the share of families without electricity access is 15 per cent and above, while in 15 provinces, the share of those without power is 10 per cent to 14 per cent, and so on. The top 12 provinces with the highest number of unenergized families are spread in eight regions: Region VI (Iloilo, Negros Oriental, Negros Occidental); Region VII (Cebu); Region VIII (Leyte); Region IX (Zamboanga del Sur, Zamboanga del Norte); Region X (Bukidnon); Region XI (Davao Occidental, Davao del Sur); Region XII (Cotabato), and ARMM (Sulu).

Figure 5: Distribution of provinces by % of families without electricity, 2018

Source: Family Income and Expenditure Survey 2018



More importantly, we know that there is a class and income dimension to electricity access. For instance, based on housing tables from the FIES 2015, all families in the top 10 per cent of the income distribution in the country have access to electricity, while only 32 per cent of families in the bottom 10 per cent do (Housing Table 7, FIES 2015).¹⁰

Considering the various caveats to government's electrification data discussed earlier, we look at the most recent household electrification rates published by the DOE. Table 3 shows the household electrification rate by grid and we can clearly see that it missed its target of 100 per cent household electrification in 2020. For off-grid areas, we only have data as of December 2015, since as mentioned earlier, the government has yet to update the MEDP.

¹⁰Housing tables for FIES 2015 are not yet published by the PSA.

Table 3: Household electrification level by grid, December 2020

Source: DOE Philippine Energy Plan 2020-2040

	Potential HH*	Served HH	Unserved HH**	Energization Level
Luzon	13,318,261	14,971,624	210,538	98.42%
Visayas	4,401,698	4,545,661	191,102	95.66%
Mindanao	5,265,012	4,605,672	865,236	83.49%
Total Philippines	22,984,971	24,122,957	1,266,876	94.49%

Notes:
 * Potential households based on 2015 Census of Population (PSA)
 ** Unserved HH is the actual unserved HH data from the DUs/ECs

Focusing on off-grid areas, Table 4 shows that the proportion of households with electricity is truly disheartening. Overall, less than 50 per cent of households in off-grid areas are electrified, and in Mindanao, the proportion is a mere 18 per cent. These clearly undermines the 90 per cent electrification rate achieved in 2017, as reported by the DOE, since we know that several areas are left way behind.

Table 4: Household electrification level in off-grid areas, December 2015

Source: DOE Missionary Electrification Development Plan 2016-2020

	Number of Barangays	Total Potential Households	Served Households	Energization Level
Luzon	2,550	1,000,048	602,641	60.26%
Visayas	410	123,212	84,218	68.35%
Mindanao	596	420,256	74,887	17.82%
Total Philippines	3,556	1,543,516	761,746	49.35%

As of June 2020, the Department of Education (DepEd) reports that 97 per cent of schools have electricity (Department of Education, 2020). Based on September 2019 data from DepEd, 1,664 schools do not have electricity, affecting 380,529 students nationwide (Office of Senator Win Gatchalian, 2020). In addition, the DepEd and NEA also determined that a total of 39,335 schools need to upgrade electrical connections to meet the school's power requirements (Department of Education, 2020).

Overall, we observe that the Philippines, after twenty years of EPIRA, is still quite far from achieving universal electricity access.

Quality, reliable, and secure supply?

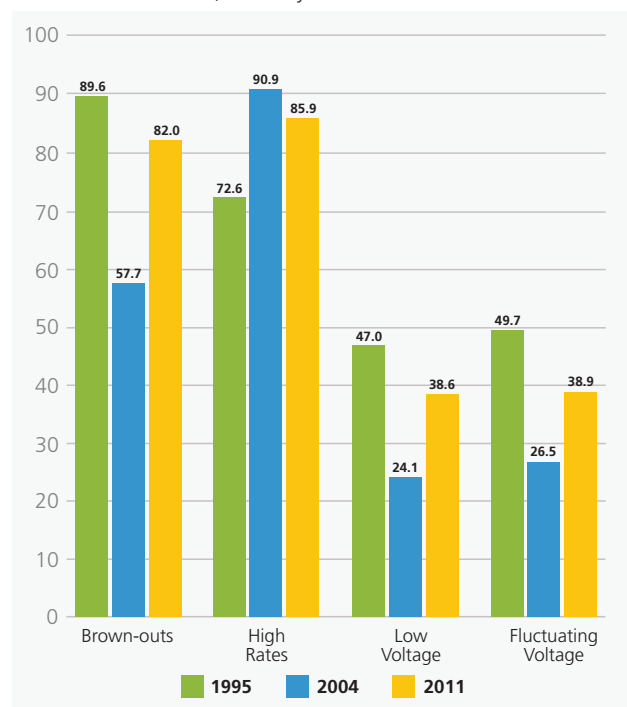
The Household Energy Consumption Survey (HECS) is a joint project of the Philippine Statistics Authority and the

Department of Energy. It is a nationwide survey of households that aims to gather data on end-use energy consumption and preferences in the residential sector. So far it has had five rounds: 1989, 1995, 2004, 2011, and 2018.

One interesting question in the HECS is the type of problems encountered by households with their electricity use. With respect to the quality and reliability of supply, we can see from Figure 6 that brownouts, low voltage, and fluctuating voltage persists even at least ten years after EPIRA. In fact, we do not even observe a downward trend on these quality of supply indicators. After a decline on brownouts, low voltage, and fluctuating voltage in 2004, the share of households experiencing these problems rose again in 2011. As much as 82 per cent consider brownouts a problem with their electricity supply, even though they are connected to the grid through utilities or electric cooperatives. In fact, as much 90 per cent of households served by utilities and cooperatives report that they experienced at least one of these problems with their electricity in 2011 (PSA and DOE, 2011)!¹¹

Figure 6: Sources of Gross Power Generation in 2020

Source: PSA and DOE, various years



Inequity in electricity access also manifests in the reliability of supply in off-grid areas. Table 5 shows that in 2020, 65 per cent of NPC-SPUG plants are operating for less than 12 hours a day. Most NPC-SPUG plants are in Luzon and only 20 per cent of these plants operate for 24 hours a day. The performance of NPC-SPUG plants in Mindanao is better,

¹¹ Only the reports from 1995, 2004, and 2011 are available in the PSA website.

with 74 per cent servicing for 24 hours. Meanwhile in terms of SIIG areas, 48 per cent have service hours of only 5 hours and 17 per cent for just 8 hours (Department of Energy, 2020).

Table 5: NPC-SPUG Plants by Operating Hours, 2020

Source: NPC Annual Report 2020

	24 Hours	12 - 23 Hours	Less than 12 Hours
Luzon	41	7	155
Visayas	23	2	23
Mindanao	20	3	4
Total SPUG Areas	84	12	182

NEA also collects reliability indicators to assess the performance of electric cooperatives. These are System Average Interruption Frequency Index (SAIFI), or the average number of interruptions and System Average Interruption Duration Index (SAIDI), the average duration per interruption in minutes. NEA's standard for SAIFI is 25 interruptions per consumer per year for on-grid EC and 30 interruptions annually for off-grid EC. Based on these

parameters, 108 out of 121 ECs were found to be compliant. For SAIDI, the acceptable duration of power interruptions per consumer for a year is 2,700 minutes for on-grid EC and 3,375 minutes for off-grid ECs. In 2019, 111 of the 121 ECs were able to comply.

Considering NEA's standards for reliability, it means that two interruptions per consumer per month with an average duration of not more than four hours per month are acceptable. However, some analysts estimate that a nationwide power outage of just one hour costs the service and industry sectors (less mining, quarrying and construction) around Four point forty-nine billion Philippine pesos in losses (Monsod, Ahmed, & Hilario, 2021).

Just as several areas lag in terms of electricity access and adequate supply, many electric cooperatives are also posting poor reliability performance. In Table 6, we present the fifteen cooperatives that have the worst performance in terms of either SAIFI or SAIDI.¹² The average number of interruptions for Lubang Electricity Cooperative (LUBELCO) in Occidental Mindoro in 2019 is more than twice the performance standard, and the average duration of each interruption is almost three days.

Table 6: Reliability performance of selected ECs in 2019

Source: NEA Compliance Report on the Performance of ECs 4th Quarter 2019

Electric Cooperatives	Average number of interruptions	Average duration per interruption (minutes)
Luzon		
Lubang Electric Cooperative, Inc. (LUBELCO)	62.29	4,049.67
Albay Electric Cooperative, Inc. (ALECO)	40.13	1,244.57
Ifugao Electric Cooperative, Inc. (IFELCO)	39.00	3,393.47
Masbate Electric Cooperative, Inc. (MASELCO)	30.29	3,716.45
Palawan Electric Cooperative, Inc. (PALECO)	26.30	1,831.20
Ilocos Norte Electric Cooperative, Inc. (INEC)	17.22	2,663.48
First Catanduanes Electric Cooperative, Inc. (FICELCO)	19.23	1,275.23
Visayas		
Province of Siquijor Electric Cooperative, Inc. (PROSIELCO)	22.89	1,640.48
Biliran Electric Cooperative, Inc. (BILECO)	19.61	1,996.15
Camotes Electric Cooperative, Inc. (CELCO)	29.85	721.88
Mindanao		
Basilan Electric Cooperative, Inc. (BASELCO)	269.70	31,201.92
Zamboanga City Electric Cooperative, Inc. (ZAMCELCO)	73.34	2,663.44
Camiguin Electric Cooperative, Inc. (CAMELCO)	42.44	1,648.22
Zamboanga del Sur II Electric Cooperative, Inc. (ZAMSURECO II)	19.59	2,313.22
Dinagat Island Electric Cooperative, Inc. (DIELCO)	27.07	470.01

¹²There were some reports of an outage in Basilan, but the data for BASELCO is possibly a typo error.

Another promise of EPIRA is to reduce our dependence on imported energy and to promote the use of indigenous, new, and renewable energy resources. Figure 1 shows the contribution of each energy source in power generation from 1986 to 2020.

One of the most striking evolutions in our energy source is the shameful expansion of coal, from six percent in 1995 to almost 60 per cent in 2020. This expansion occurred in two waves, in the 1990s, as a response to the crippling power crisis, and in 2010 onwards, when the DOE actively pursued coal as its expansion strategy. This expansion in coal effectively binds the Philippines to 30-40 more years of dirty and imported energy.

There is also an expansion in natural gas since the early 2000s, from less than two per cent in 2001 to a peak of almost 30 per cent in 2011. The levels of hydro and geothermal, the country's conventional renewable energy sources, are at their steady levels since the 1990s. There is no considerable expansion in renewable energy sources like solar and wind since the enactment of EPIRA or the passage of the Renewable Energy Act in 2008.

In the SIIGs or off-grid areas, oil-based generation dominates (Figure 8). Consumers of off-grid areas are disproportionately exposed not just to unreliable energy but also to cost swings due movements in the global price of oil, and potentially to higher prices when the government reduces the cross-subsidies. Fuel costs alone take up 75 per cent of NPC-SPUG's cost of generation (Ahmed, 2020). Thus, continuing dependence on oil-based plants will hinder the government's move for total electrification.

Unfortunately, coal and oil are still prominent in the DOE's plans for additional capacity.

As of December 2020, the total number of committed coal projects is six, with a total capacity of 4,241 MW. This represents almost half of the total committed capacity. Among indicative projects, there are nine proposed coal plants, with a total capacity of 7,048 MW. Meanwhile, a total of eight projects are included in the committed and indicative plants of the government, with a total capacity of 929 MW.

Figure 7: Power Generation by Source in GWh and % share, Total Philippines

Source: DOE Power Statistics, various years

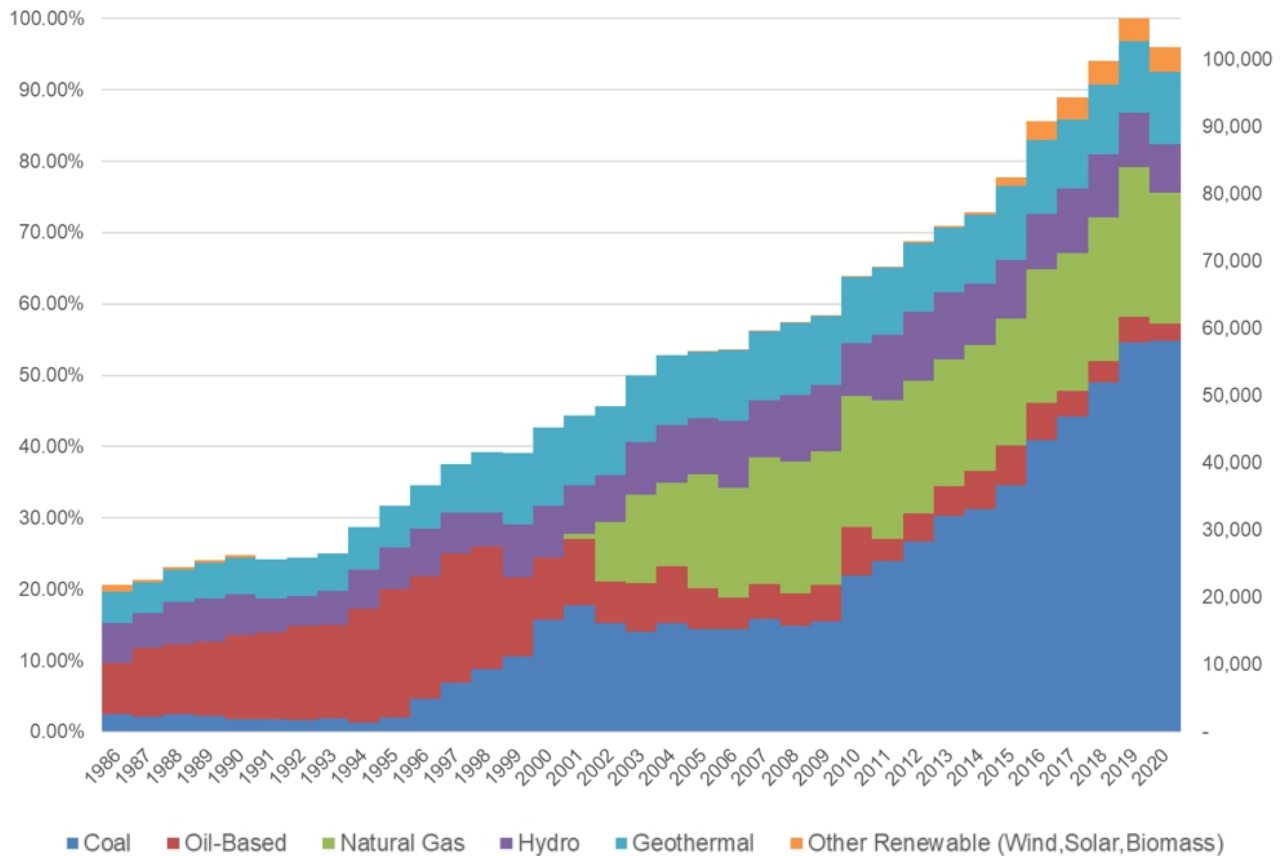
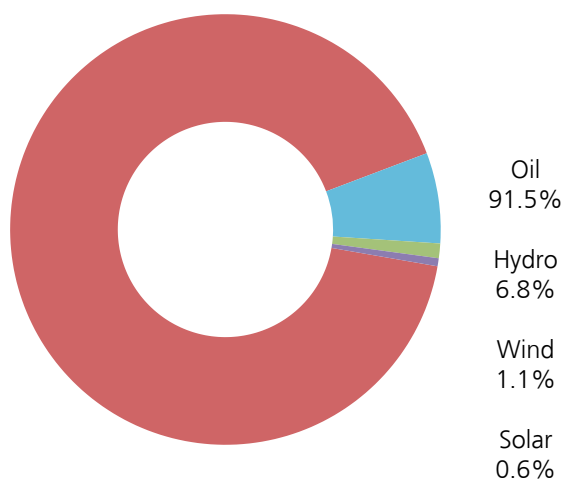


Figure 8: Gross Power Generation by Source in Off-Grid areas in 2020

Source: DOE Power Situation Report 2020



Finally, the reliability of electricity supply can also be gleaned from the perspective of businesses.

A 2015 Enterprise Survey of the World Bank also pointed

pointed to some key indications of the unreliability of supply in the country. For instance, 39.9 per cent of firms experienced outages within the period, with an average length of three hours per outage, leading to around one per cent of lost sales (Bacon, 2019). To protect their businesses from outages, 42.7 per cent own generators, and they claimed that almost 40 per cent of their electricity are sourced from these generators (Bacon, 2019).

Does Private Sector Participation save the day?

Did we experience an influx of private capital to expand electricity access in missionary areas? Hardly.

In 2004, the DOE issued Department Circular 2004-01-001, opening all NPC-SPUG areas for private sector participation. Fourteen large areas, called First Wave Areas, which account for almost 88 per cent of gross generation in missionary areas were prioritized for privatization. Then, fifteen medium-scale areas, defined as SIIGs with more than 1 GWh of generated energy, were identified as Second Wave areas by the NPC in 2007. Finally, small-scale areas, or those with an annual

Table 7: QTP Projects as of December 2020

Source: DOE PEP 2020-2040

Area	Technology	Target Households	Proponent
Daan-Bantayan, Cebu	750 kW Diesel	1,342	PSPI
Sabang, Puerto Princesa City, Palawan	Hybrid: 1.4 MW Solar + 1.2 MW Diesel + 2.3 MWh Battery	769	SREC
Candawaga and Culasian, Rizal, Palawan	268 kW Diesel	2,151	PSPI
Balut Island, Saranggani, Davao Occidental	690 kW Diesel	4,003	PSPI
Liminangcong, Taytay, Palawan	108 kW Diesel	1,199	PSPI
Tumbod, Taytay, Palawan	Line extension from Brgy. Liminangcong	395	PSPI
Lahuy Island, Caramoan, Camarines Sur	250 kWp Solar + 400 kW Diesel + 210 kWh Battery	550	FPIEC
Haponan Island, Caramoan, Camarines Sur	100 kWp Solar + 100 kW Diesel + 210 kWh Battery	87	FPIEC
Quinasalag Island, Garchitorena, Camarines Sur	400 kWp Solar + 500 kW Diesel + 210 kWh Battery	705	FPIEC
Brgy. Poblacion, Dumarán, Palawan	Hybrid: 132.8 kWp Solar + 144 kW Diesel + 351.1 kWh Battery	497	PSPI
Brgy. Manamoc, Cuyo, Palawan	216 kW Diesel	605	PSPI
Brgy. Port Barton, San Vicente, Palawan	Hybrid: 200 kWp Solar + 609.5 kW Diesel + 200 kWh Battery	1,259	PSPI

Notes: **PSPI** - Powersource Philippines, Inc.; **SREC** – Sabang Renewable Energy Corporation; **FPIEC** - FP Island Energy Corporation

generation of less than 1 GWh, were also opened for Private Sector Participation (PSP).

Prior to 2020, only so-called Small B areas, or those with gross generation below 50 MWh, were opened to QTPs. But to support the government's all-out PSP policy, the DOE issued DC 2019-11-0015, Revised Guidelines for Qualified Third Party, which declared all NPC-SPUG areas as open for QTP participation.

Twenty years after EPIRA, only 12 QTP projects are so far online, operated by only three companies (Table 7). In fact, as late as 2015, only PSPI was the operating QTP. As can be

seen in Table 7, the beneficiary households of these QTPs range from just 87 to 4,003. In 2021, the DOE opened 69 QTP areas for PSP, 6 under the Negros Occidental Electric Cooperative, Inc. (NOCECO), and 63 under the Palawan Electric Cooperative, Inc. (PALECO).

Meanwhile, Annex 3 lists the NPPs that have taken over the function of NPC-SPUG either through outright purchase or lease of existing assets, or installation of new power generating facilities. Out of 327 operating power generation facilities in missionary areas, only 37 are NPPs. Majority of these NPPs (23 facilities) were acquired only in the last five years. Thus, as predicted by analysts early on, the influx of private capital to expand electricity access in off-grid areas is very unlikely under the EPIRA framework.

The privatization of NPC-SPUG assets was supposed to reduce the dependence on government subsidies, since the commercially viable areas were the ones prioritized for private takeover. However, even after privatization, the NPPs continue to benefit from the UCME subsidies.

Are we serious about renewables?

The global consensus, as proclaimed by the International Energy Agency, is that “the least expensive way to achieve universal electricity access in many areas appears to be renewable energy sources”. The need for decentralized, modular, and renewable energy generation solutions is even made more salient by the increasing evidence of a climate breakdown. In this regard too, the Philippines seems to be on a wayward path.

The Philippines promulgated the Renewable Energy Act

of 2008, considered the first comprehensive legislation on renewable energy in Southeast Asia, to achieve its goal of tripling renewable energy capacity by 2030. Since then, the adoption of policies to promote renewable energy, and private sector uptake, has been dismal. As we saw in Figure 7, coal is the fuel source that tremendously expanded over the last decade and oil is the dominant source in off-grid areas (Figure 8).

It was only in 2012 that the ERC approved the feed-in tariffs for solar, wind, biomass, and hydropower projects. Feed-in tariffs were supposed to promote RE uptake because it provides a guaranteed price and market for RE investments. Meanwhile, according to the IRENA (2017) review, the Philippines National Renewable Energy Program does not specify any plan for renewable energy development and deployment in off-grid areas.

Even the Omnibus Guidelines of Off-grid Power does not have a concrete policy to hybridize the NPC-SPUG's diesel plants, even though estimates show that shifting away from diesel can lead to subsidy savings of up to 13.5 billion Philippine pesos per year (Ahmed, 2020).

Another analysis showed that shifting from diesel to solar photovoltaics-battery-diesel hybrid systems can lower electricity costs to around 20 per cent of the levelized cost of electricity (Ocon & Bertheau, 2019). In addition to solar and storage, several other distributed generation solutions can be tailored to local grid characteristics and resources, such as wind, run-of-river hydro, and biomass from coconut husks and fronds, all of which are cheaper than diesel power.

In 2018, the DOE released Circular No. 2018-08-0024, “Promulgating the Rules and Guidelines governing the establishment of the Renewable Portfolio Standards for off-grid areas”. This has long been anticipated in the industry and was supposed to accelerate the deployment of renewable energy sources in off-grid areas. The policy was supposed to determine the minimum percentage of energy requirements that will be sourced from renewable sources by off-grid participants.

Instead, the Circular merely mentioned that the guidelines and parameters for determining the minimum requirements will be defined in the MEDP. It looks like all the policies and strategies relegated to the MEDP are the reasons why no such Plan has been released since

2016. Without an aggressive renewable energy deployment strategy, the Filipino people will never enjoy universal, reliable, and affordable power.

Concluding Remarks

Even though universal, reliable, round-the-clock, and affordable electricity access was promised under EPIRA, its framework of ceding full control to the private sector is simply not going to deliver.

As seen in this paper, not only are we missing the target of total household electrification access, but millions of households also continue to be deprived of 24/7 electricity service and that those who do have electricity for a few hours pay for them at very high costs. The private sector does not share the urgency of the people's need for electricity, and the government is championing interim measures that are costly and unsustainable. Proposed workable solutions abound, and the country is also sitting on an abundance of renewable energy sources. Twenty years after EPIRA, we must begin again. We need a radical power sector industry restructuring that puts social and environmental obligation at the heart of electricity provision. This is the only framework true to the SDG's promise of leave no one behind.

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Annex 1: Power industry agencies and their role in rural and off-grid electrification

Source: International Renewable Energy Agency (IRENA) (2017)

Institution	Role in Rural Electrification	Primary role in off-grid/missionary electrification
Department of Energy (DOE)	<ul style="list-style-type: none"> ● Performs overall policy, planning and strategy formulation ● Carries out oversight function ● Qualifies renewable energy developers and issues Renewable Energy Service Contracts or Biomass Renewable Energy Operating 	<ul style="list-style-type: none"> ● In charge of developing the Missionary Electrification Development Plan and endorsing to ERC ● Pre-qualifies QTP, coordinates the entry of new power providers and QTPs, and issues certification of competitive selection process ● Implements projects, conducts studies and provides technical assistance on renewable energy project implementation through its ARECs
National Electrification Administration (NEA)	<ul style="list-style-type: none"> ● Supervises electric cooperatives' planning and operation ● Formulates and implements the Total Electrification Plan in coordination with the SPUG ● Reviews and assists electric cooperative in the preparation of Distribution Development Plan ● Provides electrification financing (loans and grants) to electric cooperatives ● Provides technical, financial and institutional capacity building to electric cooperatives 	<ul style="list-style-type: none"> ● Directs and provides subsidy assistance to electric cooperatives in electrification of unserved areas ● Encourages embedded generation by electric cooperatives ● Encourages use of renewable energy by electric cooperatives
National Power Corporation – Small Power Utilities Group (NPC – SPUG)	<ul style="list-style-type: none"> ● Generates power in small islands and mini-grids ● Facilitates privatization of small island grids ● Sources minimum percentage of power from renewable energy ● Collaborates with NEA on Total Electrification Plan 	<ul style="list-style-type: none"> ● Generates and distributes power in missionary areas waived by electric cooperatives and where QTP is not interested or not qualified ● Consolidates and petitions for Universal Charge for Missionary Electrification subsidy requirements of the SPUG, renewable energy developers, new power providers and QTPs ● Petitions for approval of true cost of generation rate and subsidized approved generation rate ● Releases payments of Universal Charge for Missionary Electrification funds to new power providers and QTPs
National Power Corporation – Small Power Utilities Group (NPC – SPUG)	<ul style="list-style-type: none"> ● Issues permits and Certificate of Compliance (COC) ● Issues small grid guidelines ● Approves transmission and distribution rates ● Approves Power Supply Agreements 	<ul style="list-style-type: none"> ● Approves new power providers True Cost of Generation Rate and Subsidised Approved Generation Rate ● Approves QTPs Agreements and issues Authority to Operate (ATO) ● Approves QTPs Full Cost Recovery Rate and Subsidised Approved Retail Rate ● Determines Universal Charge for Missionary Electrification rates ● Approves cash incentives for renewable energy generation in off-grid/missionary areas
Power Sector Assets and Liabilities Management Corporation (PSALM)	<ul style="list-style-type: none"> ● Manages fund/receives universal charge for missionary electrification ● Ensures collection of Universal Charge for Missionary Electrification by distribution utilities 	<ul style="list-style-type: none"> ● Releases payment of Universal Charge for Missionary Electrification funds to the SPUG ● Releases payment of renewable energy cash incentives to renewable energy developers

Annex 2: Key DOE Policies on Electrification under EPIRA

Source: DOE website

Circular / Order No.	Circular / Order Title
DC 2003-04-004	Creating an Expanded Rural Electrification (ER) Team to manage the implementation of rural and missionary electrification program for the purpose of achieving the country's total electrification
DC 2004-01-001	Prescribing the rules and procedures for private sector participation in existing NPC-SPUG areas pursuant to Rule 13 of the Implementing Rules and Regulations of the Electric Power Industry Reform Act of 2001 (EPIRA-IRR)
DC 2004-06-006	Prescribing the qualification criteria for the Qualified Third Party pursuant to Section 59 of "The Electric Power Industry Act of 2001" and its Implementing Rules and Regulations
DC 2005-12-011	Prescribing the guidelines for participation of Qualified Third Parties (QTPs) for provision of electric service in remote and unviable areas, pursuant to Sections 59 and 70 of "The Electric Power Industry Reform Act of 2001", and its Implementing Rules and Regulations (IRR)
DC 2006-04-0003	Amending Department Circular No. 2003-04-004 creating the Expanded Rural Electrification Program Team
DC 2009-09-0012	Adopting the "Blitzkrieg" Operation approach to attain 100% barangay electrification level by year-end 2009
DC 2014-07-0012	Accelerating household electrification in off-grid and isolated areas through electricity supply by regulated solar home systems
DC 2014-09-0018	Prescribing the policies for the implementation of the Household Electrification Program and creating the Household Unified Strategic Electrification (HOUSE) Team for the purpose of achieving the country's total electrification goals
DC 2018-03-0005	Prescribing the Guidelines recognizing the rights of indigenous cultural communities (ICCs) / indigenous peoples (IPs) in their ancestral domains and access to the financial benefits as host communities under the ER 1-94 Program and Rule 29 (A) of the Implementing Rules and Regulations of Republic Act No. 9136, otherwise known as "Electric Power Industry Reform Act of 2001"
DO 2018-05-0010	Creation of a Task Force to ensure access to electricity for the communities that remain unserved and underserved by distribution utilities
DC 2018-08-0024	Promulgating the rules and guidelines governing the establishment of the Renewable Portfolio Standards for off-grid areas
DC 2019-01-0001	Prescribing the Omnibus Guidelines on enhancing off-grid power development and operation
DC 2019-11-0015	Prescribing Revised Guidelines for Qualified Third Party
DC 2021-11-0039	Mandating the National Transmission Corporation as Small Grid System Operator in specific off-grid areas

Annex 3: NPP Power Plants as of December 2020

Source: DOE website

Region	Municipality/ Province	Operator	Subtype	Dependable Capacity, MW	Commercial Operation
7	Bantayan, Cebu	Bantayan Island Power Corporation (BIPCOR)	Bunker-fired	10.73	2006
4-B	Puerto Princesa City, Palawan	Palawan Power Generation, Inc. (PPGI)*	Bunker-fired	7.50	2009
4-B	Puerto Princesa City, Palawan	Palawan Power Generation, Inc. (PPGI)	Bunker-fired	4.50	2010
4-B	Narra, Palawan	Palawan Power Generation, Inc. (PPGI)	Bunker-fired	4.50	2010
5	Mobo, Masbate	DMCI Masbate Power Corporation (DMPC)	Bunker-/ Diesel-fired	21.70	2010
5	Aroroy, Masbate	DMCI Masbate Power Corporation (DMPC)	Diesel-fired	3.15	2010
5	Cataingan, Masbate	DMCI Masbate Power Corporation (DMPC)	Diesel-fired	2.00	2010
5	Caramoran, Catanduanes	Sunwest Water and Electric Company, Inc. (SUWECO)	Run-of-River	1.50	2010
4-B	Calapan City, Oriental Mindoro	Ormin Power, Inc. (OPI)	Bunker-fired	7.98	2011
5	San Miguel, Catanduanes	Sunwest Water and Electric Company, Inc. (SUWECO)	Run-of-River	2.10	2011
4-B	Calapan City, Oriental Mindoro	POWER ONE Corporation (POWER ONE)*	Bunker-fired	2.80	2012
4-B	Puerto Princesa City, Palawan	DMCI Power Corporation (DPC)	Diesel-fired	18.30	2013
4-B	Busuanga, Palawan	Calamian Islands Power Corporation (CIPC)	Diesel-fired	0.64	2013
4-B	Calapan City, Oriental Mindoro	POWER ONE Corporation (POWER ONE)	Bunker-fired	3.60	2014
4-B	Calapan City, Oriental Mindoro	DMCI Power Corporation (DPC)	Bunker-fired	15.50	2015
4-B	Aborlan, Palawan	DMCI Power Corporation (DPC)	Bunker-fired	12.30	2015
4-B	Brooke's Point, Palawan	DMCI Power Corporation (DPC)	Diesel-fired	4.25	2015
4-B	Quezon, Palawan	DMCI Power Corporation (DPC)	Diesel-fired	2.70	2015
4-B	Odiongan, Romblon	SUWECO Tablas Energy Corporation (STEC)	Diesel-fired (Hybrid)	8.50	2015
7	Lazi, Siquijor	S.I. Power Corporation	Bunker-fired	2.58	2015
7	Siquijor, Siquijor	S.I. Power Corporation	Bunker-fired	5.58	2015
4-B	Roxas, Oriental Mindoro	Mindoro Grid Corporation (MGC)	Diesel-fired	8.60	2016
5	San Miguel, Catanduanes	Sunwest Water and Electric Company, Inc. (SUWECO)	Diesel-fired	5.95	2016
5	Balud, Masbate	DMCI Masbate Power Corporation (DMPC)	Diesel-fired	4.20	2016
5	Cawayan, Masbate	DMCI Masbate Power Corporation (DMPC)	Diesel-fired	1.50	2016
4-B	San Jose, Occidental Mindoro	Occidental Mindoro Consolidated Power Corporation (OMCPC)	Bunker-fired	21.60	2017

Region	Municipality/ Province	Operator	Subtype	Dependable Capacity, MW	Commercial Operation
4-B	San Jose, Occidental Mindoro	Occidental Mindoro Consolidated Power Corporation (OMCPC)	Bunker-fired	21.60	2017
4-B	Puerto Princesa City, Palawan	Delta P, Inc. (DPI)	Bunker-fired	28.80	2018
4-B	Naujan, Oriental Mindoro	Catuiran Hydropower Corporation (CHC)	Run-of-River	8.0	2018
BARMM	Bongao, Tawi-Tawi	Kaltimex Rural Energy Corporation (KREC)	Diesel-fired	6.15	2018
4-A	Polillo, Quezon	Renesons Energy Polillo, Inc. (REP)	Diesel-fired	2.46	2019
4-B	San Teodoro, Oriental Mindoro	Ormin Power, Inc. (OPI)	Run-of-River	10.00	2019
4-B	Puerto Galera, Oriental Mindoro	Philippine Hybrid Energy Systems, Inc. (PHESI)	Onshore Wind	16.00	2019
4-B	Odiongan, Romblon	SUWECO Tablas Energy Corporation (STEC)	Ground-Mounted Solar PV (Hybrid)	5.80	2019
4-B	Pinamalayan, Oriental Mindoro	Frontier Power Technologies and Allied Services, Inc. (FPTAS)	Diesel-fired	3.00	2020
5	Bato, Catanduanes	Sunwest Water and Electric Company, Inc. (SUWECO)	Diesel-fired	4.90	2020
5	Viga, Catanduanes	Sunwest Water and Electric Company, Inc. (SUWECO)	Diesel-fired	3.20	2020

Summary

The paper evaluates the progress of the Philippines in achieving the goals of the Electric Power Industry Reform Act of 2001 (EPIRA), which aimed to provide total electrification and ensure a reliable, high-quality, and affordable electricity supply. Passed in June 2001, EPIRA sought to improve electricity access and service quality in the country. This review, part of a series by the Center for Power Issues and Initiatives, Inc. (CPII), focuses on the government's efforts in off-grid and missionary areas, where electricity access is most limited.

Electricity access is a critical marker of overall welfare. The Global Multidimensional Poverty Index (MPI) shows a strong link between electricity deprivation and other forms of poverty.

Most people without electricity also face deprivations in other areas like cooking fuel, housing, sanitation, water, and nutrition. Improvements in electricity access are associated with better outcomes in other welfare indicators, making electricity a crucial factor in promoting broader development. Overall, electricity access plays a vital role in enhancing quality of life, educational opportunities, gender equality, and health, and serves as a significant indicator of overall welfare and development.

Lozano and Taboada explored the impact of different electrification technologies on sustainable development by comparing two isolated islands with varying levels of electricity access.

Provides 4.5 hours of electricity per night from a diesel generator. The study found that this limited access had a low impact on sustainable development. Benefits from 24-hour electricity through a hybrid solar PV and diesel system. This island showed improvements across various sustainable development indicators but faced challenges with high electricity costs, consuming 5-10 per cent of residents' income. Full-time electricity access significantly enhances sustainable development, but affordability remains a critical issue. Limited access (e.g., a few hours per day) does not yield substantial developmental benefits.

Both studies underscore the substantial benefits of extending electricity access to rural areas in the Philippines:

- Even partial electrification brings notable improvements in household income and expenditure.
- Limited access, such as a few hours per day, does not effectively drive economic transformation or development. Near-24-hour electricity availability is crucial.

The benefits of continuous electricity access can be diminished if the costs are too high for residents. Affordability must be addressed to ensure that communities can fully leverage the benefits of electrification.

These insights suggest that ongoing efforts to electrify remote areas should prioritize both the extent of access and the affordability of electricity to maximize development outcomes.

Despite recognized benefits of electricity access, a significant portion of the global population remains without electricity. The International Energy Agency (IEA) reported around 770 million people lacked electricity in 2019, with an expected 660 million by 2030 due to current policies and the impact of the COVID-19 pandemic. This is far from the goal of universal access set for 2030 under the Sustainable Development Goals (SDGs). The 2020 Global Multidimensional Poverty Index (MPI) further highlights the disparity, showing nearly 1 billion people, with over half being children, lacking electricity.

In the 1980s, several global trends—including technological advancements, macroeconomic shocks, and a growing belief in market efficiency over state control—laid the groundwork for power sector reforms. Initial reforms in Chile (1983) and England and Wales (1985) set a precedent that influenced reforms worldwide, including in developing countries like the Philippines.

The Philippines adopted this model through the Electric Power Industry Reform Act of 2001 (EPIRA). While EPIRA was designed to align with successful restructuring programs, its effectiveness has been questioned.

Systematic reviews (Bensch et al., 2016) indicate that market-based reforms often deliver limited benefits to end-users. The anticipated gains from private sector involvement, such as increased efficiency and broader access, are not consistently realized.

The evidence suggests that while electricity reforms have been implemented globally with the promise of enhanced efficiency and broader access, the actual outcomes often fall short. In the Philippines, EPIRA's focus on privatization and market-driven reforms has not consistently delivered on its goals of universal electrification and improved affordability. This indicates a need for reevaluation of reform strategies to better align with the objective of universal access and to address the remaining challenges in rural and underserved areas.

The Philippine government faces significant challenges in meeting its electrification goals, despite implementing various policies and plans under EPIRA. The evolving targets and adjustments reflect ongoing difficulties in

achieving comprehensive and timely electricity access, especially in remote and underserved areas.

DUs and ECs are primarily responsible for providing universal service within their franchise areas, including in areas deemed “unviable” as part of their social obligations. They must strive to deliver electricity in an economically sustainable manner. If DUs or ECs cannot service specific areas within their franchise areas, the responsibility can be transferred to adjacent DUs or ECs.

If DUs or ECs are unable to provide service, QTPs step in. These include private firms, local government units, cooperatives, NGOs, or generation companies. QTPs must demonstrate the capability to meet technical, financial, and other requirements set by the Department of Energy (DOE) and are qualified by the Energy Regulatory Commission (ERC). They can offer both power generation and distribution services or focus solely on distribution.

The DOE identifies areas open for QTP participation. The ERC authorizes QTPs and ensures they meet the necessary standards.

NPPs act as independent power producers specifically for generation. They can supply electricity to newly declared unviable or waived areas of DUs or take over generation plants from the National Power Corporation-Small Power Utilities Group (NPC-SPUG).

NPC-SPUG is the “implementer of last resort.” It is responsible for providing power generation and delivery systems in off-grid and unviable areas when other entities are unable to do so. If NPC-SPUG also fails to reach these areas, the responsibility falls back to the ECs, which may provide limited power through stand-alone systems.

The EPIRA framework establishes a multi-tiered approach to electrification, with DUs and ECs at the forefront, supported by QTPs and NPPs as necessary, and NPC-SPUG serving as the last resort. The DOE, NEA, and ERC play crucial roles in policy formulation, supervision, and regulation. This structured approach aims to address the diverse challenges of electrifying various regions, from well-served urban areas to remote and unviable locations.

A major issue affecting the progress of electrification programs is the financial capability of households to pay for connection costs. The “circular reference trap” occurs when households cannot afford to connect even if infrastructure is available, leading to low electrification rates in poor areas.

Aggregating beneficiaries of all electrification programs is challenging due to the absence of a unified database. This complicates tracking and measuring the success of various programs.

Policies often lack clear definitions and strategies for what constitutes “basic electricity service,” hindering the development of effective programs and accountability. For instance, the DOE’s definition of “basic electricity service” remains ambiguous and operationalizing it is challenging.

The government’s electrification plans are scattered across multiple documents with varying planning horizons, such as the Philippine Energy Plan (PEP), Power Development Plan (PDP), Missionary Electrification Development Plan (MEDP), and Household Electrification Development Plan (HEDP). These plans are released erratically and lack cohesion.

While EPIRA encourages private sector involvement, it has largely been limited. The focus has been on privatizing NPC-SPUG and promoting private sector involvement in off-grid areas, but this approach risks leaving unserved areas without adequate support if private operators are unwilling to invest.

The Omnibus Guidelines on Enhancing Off-grid Power Development and Operation may lead to gaps in electrification if private sector participation is insufficient. The phase-out of the Universal Charge for Missionary Electrification (UCME) could also leave unserved areas with unaffordable or unreliable power.

The Philippine government’s electrification programs encompass a mix of grid and off-grid strategies to address diverse needs. Despite significant efforts, challenges such as financial constraints, lack of a unified strategy, and gaps in private sector participation hinder progress. Comprehensive planning, clear definitions, and improved coordination are essential to achieving the goal of universal electrification.

The government considers a barangay electrified if the distribution line reaches the barangay hall or center for grid areas, or if at least 20 households can connect in off-grid areas. This low threshold has led to claims of near-total barangay electrification, despite discrepancies. As of 2019, eight barangays remain unelectrified, contradicting claims of 100 per cent electrification.

The continued reliance on coal and oil for power generation is a concern. Coal’s dominance has increased, binding the country to more imported, non-renewable energy sources. Additionally, reliance on oil-based generation in off-grid areas exposes consumers to fluctuating costs and unreliable supply.

The Philippines has made commendable strides in recognizing the importance of renewable energy, but it needs to bridge the gap between policy and implementation. By strengthening regulatory frameworks,

incentivizing investment, focusing on practical off-grid solutions, and enhancing public and private sector collaboration, the country can better realize its renewable energy potential and achieve its energy and climate goals.

The promise of universal, reliable, round-the-clock, and affordable electricity access, as enshrined in the Electric Power Industry Reform Act (EPIRA), has not been fully realized. The framework of transferring full control to the private sector has, in practice, failed to deliver on these critical objectives. The current situation reveals significant gaps: millions of households still lack 24/7 electricity access, and those who do face exorbitant costs for unreliable service.

The private sector, driven by profit motives, often lacks the urgency to address the basic electricity needs of the population, especially in underserved and off-grid areas. Meanwhile, the government's interim measures, though well-intentioned, are proving to be costly and unsustainable in the long term.

Overall, while there have been advancements, the Philippines needs to overcome significant obstacles to fully realize the benefits of EPIRA and ensure equitable, sustainable energy access.

Acronyms and Abbreviations

EPIRA	Electric Power Industry Reform Act of 2001	IRENA	International Renewable Energy Agency
CPII	Center for Power Issues and Initiatives, Inc.	WB-GEF	World Bank – Global Environment Facility
MPI	Multidimensional Poverty Index	ASEP	Access to Sustainable Energy Project
SDG	Sustainable Development Goals	HEP	Household electrification Program
DOE	Department of Energy	EPIMB	Electric Power Industry Management Bureau
FIES	Family Income and Expenditure Survey	REMB	Renewable Energy Management Bureau
APIS	Annual Poverty Indicators Survey	PEP	Philippine Energy Plan
BLEP	Barangay Line Enhancement Program	PDP	Power Development Plan
IEA	International Energy Agency	DDP	Distribution Development Plan
GDP	Gross Domestic Product	TDP	Transmission Development Plan
SIIG	Small Island and Isolated Grids	MEDP	Missionary Electrification Development Plan
EC	Electric Cooperatives	HEDP	Household Electrification Development Plan
DU	Distribution Utilities	HOUSE	Household Unified Strategic Electrification
QTP	Qualified Third Parties	TFEM	Task Force E-Power Mo
NPP	New Power Producers	FIES	Family Income and Expenditure Survey
ERC	Energy Regulatory Commission	ARMM	Autonomous Region in Muslim Mindanao
NPC-SPUG	National Power Corporation - Small Power Utilities Group	HECS	Household Energy Consumption Survey
NEA	NEA – National Electrification Administration	SAIFI	System Average Interruption Frequency Index
UCME	Universal Charge for Missionary Electrification	SAIDI	System Average Interruption Duration Index
BLEP	Barangay Line Enhancement Program	LUBELCO	Lubang Electricity Cooperative
PDAF	Priority Development Assistance Fund	PSP	Private Sector Participation
SEP	Sitio Electrification Program	NOCECO	Negros Occidental Electric Cooperative, Inc.
NIHE	Nationwide Intensification of Household Electrification	PALECO	Palawan Electric Cooperative, Inc.

Unconscionable Wealth Transfer: In the Transmission Sector

by Ted Aldwin Ong

August 2024

In June 2021, the Electric Power Industry Reform Act (EPIRA) marked its 20th year. This law transitioned the country's power industry from being largely state-controlled to a privatized, deregulated, and market-based sector.

The law aimed to modernize the power sector through privatization, seen as essential for fostering free market competition and the lowering of rates. A significant component of the restructuring program was the unbundling of generation, transmission, and distribution and the creation of the supply sector.

Considered one of the biggest privatization programs in the world, this power sector reform in the Philippines was funded largely by loans from the Asian Development Bank (ADB). The technical assistance part of the loan includes the establishment of the Philippine Electricity Market Corporation (PEMC) in preparation for the operations of the Wholesale Electricity Spot Market (WESM) and the creation of the National Transmission Corporation (TransCo) in preparation for the privatization of transmission—all of these are part of the declared policy objectives of EPIRA.

On the eve of EPIRA's 20th anniversary, however, power end-users in the Luzon grid experienced blackouts amidst the ongoing Covid-19 pandemic. The NGCP raised Yellow and Red Alert public warnings for May 31 and June 1, 2021, respectively, citing a "severe power supply deficiency."

The power outage sparked public criticism due to the critical need for electricity, especially for health institutions treating Covid-19 patients, remote workers, and students attending online classes. The Senate Committee on Energy initiated an inquiry into this problem on June 10 and 17, 2021. Hence, instead of celebrating EPIRA's achievements during the last two decades, the discussions focused on investigating the blackout and addressing the country's recurring power supply issues.

The proceedings brought to light multiple issues, including legal concerns under the Concession Agreement, national security, and poor performance both in system operations (SO) and transmission development projects. But despite this glaring underperformance, NGCP's shareholders were rewarded with hefty dividend payouts due to fiscal privileges and regulatory incentives that were generously accorded to their company by the government. These

privileges resulted in gigantic losses to the government by failing to generate the maximum present value from transmission privatization proceeds.

In the end, while the privatization of the transmission sector brought fresh investments to modernize the national grid, 20 years later, it is evident that both the government and consumers lost more than what the NGCP gained when it took control over the "crown jewel."

Background and Objectives of the Study

The paper intends to revisit the events and policies that led to the privatization of the transmission sector and assess their impact on the state and the people 20 years after the law was enacted.

It focuses on aspects of the privatization of transmission within the mandate of EPIRA and its implementing rules and regulations that TransCo's asset privatization shall generate "maximum present value" of proceeds to the National Government. Grid stability and reliability are also serious questions.

Today, NGCP's performance is under scrutiny by the very institutions that facilitated its transition to private ownership. While corporate greed and underperformance were the focal points of the ongoing investigation, it is crucial to acknowledge that the state bears inescapable accountability for enabling this kind of privatization.

From TransCo to NGCP: Tthe 'Crown Jewel' on a Silver Platter

The powers and functions given to TransCo are embodied in Sections 7 to 21 of RA 9136, or the EPIRA law. It was created primarily to assume the responsibility of the National Power Corporation (NPC) for the planning, construction, and centralized operation and maintenance of its high-voltage transmission facilities, including grid interconnection and ancillary services, while in transition towards privatization.

A. TransCo and its transition role to privatization

The various roles that TransCo should play as part of its facilitative role before privatization are summarized as follows:

- Assume the franchise of the NPC and continue operations of the transmission facilities,

- Establish open access,
- Exercise the power of eminent domain,
- Prepare the Transmission Development Plan (TDP), and
- Privatization by the Power Sector Assets and Liabilities Management Corporation (PSALM).

Accordingly, the transmission sector was privatized through a concession agreement between TransCo and NGCP in 2008. While TransCo remains the legal owner of the transmission infrastructure and facilities after the privatization of its assets, most of its functions were delegated, transferred (or even duplicated) with the concessionaire, and these were expressed in the franchise provisions of NGCP.

B. Switching and Winner by Default

The NGCP consortium is composed of Monte Oro Grid Resources Corporation, Calaca High Power Corporation, and the State Grid Corporation of China (SGCC), which submitted the highest offer of 3.95 billion US dollars and secured the 25-year concession contract to operate the transmission aspect of the electricity business.

Outbid by 360 million US dollars was the consortium comprising San Miguel Energy Corporation, TPG Aurora BV of the Netherlands, and TNB Prai Sdn Bhd of Malaysia, which offered 3.59 billion US dollars. Two Rivers Pacific Holdings Corporation and its partner Terna-Rete Elettrica Nazionale SPA did not participate in the final bidding, while the consortium Citadel Holdings Inc. and the Power Grid Corp. of India Ltd. backed out. Thus, NGCP won the bid by default of two qualified bidders and by a digital switch in bid price: NGCP's 3.95 billion US dollars versus the San Miguel Group's bid of 3.59 billion US dollars.

The 3.95 billion US dollars was a bargain. At that time, estimates for the upgrade of the country's 21,319 circuit kilometers of transmission line, including its submarine cable system, were 850 million US dollars. Roberto de Ocampo, former finance minister and vice chairman of disqualified bidder La Costa Development Corporation, said that had his company been allowed by PSALM to bid for transmission, it would have offered a minimum of 6 billion US dollars. De Ocampo explained that the TransCo privatization was worth more than 3 billion US dollars considering that the transmission facility is 2-in-1, a power transmission line that could serve as a broadband backbone at the same time. La Costa—a company allegedly owned by mining and telecoms businessman

Salvador Zamora—was disqualified to bid for transmission in the prequalification stage. (Mirafior and Bordamonte, 2008).

It was the privatization of the transmission sector that ushered in the Chinese government through the SGCC to have significant control over the country's power system. The composition of the NGCP Board of Directors illustrates the power of SGCC's 40 per cent ownership.

SGCC is the chairman of the NGCP. As a majority shareholder of NGCP, SGCC Vice-Chief Engineer Zhu Guangchao chairs the NGCP Board of Directors. The SGCC is not a private entity, unlike the two Filipino companies. It is owned by the People's Republic of China and has a 1.1 billion-customer market. It is considered the world's third-largest company by revenue, with recorded profits of USD 383.9 million in August 2020.

Moreover, Zhu Guangchao is not the only SGCC official in the NGCP governing body. He is joined by SGCC Philippine Office Director General Shan Shewu and SGCC Chief Representative of Africa Office Liu Ming. The SGCC representation shows its technical and financial power to decide over the country's power backbone—a clear national security concern.

Monte Oro Grid Resources Corp. is vice chairman. SM Group's chair, Henry Sy Jr., acquired Monte Oro's 100 percent stake in NGCP in 2010 and serves as one of the vice chairs of NGCP. The Sy family is among the richest business tycoons in the Philippines.

Calaca High Power Corp. is vice chairman. Robert Coyiuto Jr. is listed among Filipino billionaires, and he represents Calaca on the NGCP Board. Coyiuto Jr.'s major business includes Prudential Life and PGA Cars, the Philippine importer of luxury vehicles.

C. Franchise erodes cross-ownership restrictions and lowered tax liabilities

Similarly, it did not take a serious and lengthy lobbying effort for NGCP to secure a franchise from the Philippine Congress. Within nine months of the signing of the Concession Agreement for transmission, then President Gloria Macapagal-Arroyo signed Republic Act 9511 (December 1, 2008) granting a 50-year franchise to the NGCP, even though the Concession Agreement between the company and TransCo was only for 25 years.

The franchise granted to the NGCP had two notable provisions. Section 7 on Cross-Ownership (RA 9511) appears to have diluted the original provision in the EPIRA

¹Power Transmission, Kuryente.Org

law. The original provision prohibited cross-ownership of generation, distribution, and supply with transmission “within the fourth civil degree of consanguinity or affinity.” In RA 9511, this provision was restated to say that the cross-ownership prohibition would not apply under certain conditions:

- a) Any relative by blood or marriage of an NGCP director, stockholder, or officer who “has no employment, consultancy, fiduciary, contractual, commercial, or other economic relationship or interest” in NGCP;
- b) Similarly, any relative by blood or marriage of a Power Player director, stockholder, or officer who “has no employment, consultancy, fiduciary, contractual, commercial, or other economic relationship or interest” in said Power Player (any business interest engaged in generation, distribution, or supply).
- c) Ownership of shares of stocks in a company listed on the Philippine Stock Exchange “*even if such listed company is a Power Industry Player*, if such share ownership is not more than one percentum (1%) of the total outstanding shares of such listed Power Industry Player.
- d) Ownership of shares of stock of not more than one percentum (1%) in a company listed with the Philippine Stock Exchange that owns or controls shares of stock in NGCP, provided that such owner of shares of stock shall not own more than one percentum (1%) of the shares of stock or equity interest in any Power Industry Player.

The franchise given to NGCP also reduced the company's tax liabilities. Section 9 of RA 9511 requires NGCP to pay a franchise tax equivalent to “three percent (3%) of all gross receipts” derived by NGCP from its operation under this franchise. This 3 percent tax is “in lieu of income tax and any and all taxes, duties, fees, and charges of any kind, nature, or description levied, established, or collected by any authority whatsoever, local or national, on its franchise, rights, privileges, receipts, revenues, and profits, and on properties used in connection with its franchise, from which taxes, duties, and charges, the Grantee [NGCP] is hereby expressly exempted...”

Because of this tax exemption given to the NGCP, the PSALM was also exempt from paying any income tax or value-added tax on the concession fees paid to it by the NGCP.

The cross-ownership provision was among sections of EPIRA that were strongly lobbied for inclusion by the big players who have stakes both in power generation and distribution companies.

In the case of NGCP, the anti-monopoly provision is merely for show. From 2009 to 2021, the consortium had yet to comply with the requirement for an initial public offering (IPO). TransCo has called the attention of the ERC, but it fell on deaf ears. In fact, TransCo's move to intervene in NGCP's IPO case was denied by ERC.²

Subsequently, to avoid the IPO requirements, Monte Oro and Calaca, through One Taipan Holdings (OTHI) and Pacifica2 Holdings, Inc. (P21), swapped shares instead with a publicly listed holding company, Synergy Grid & Development Phils., Inc. (SGP).³

Take note also that Calaca was in the generation sector prior to its entry into the NGCP. There are also rumors about stakes in the consortium of other big players in the generation and distribution sectors.

D. National Security

The composition of the NGCP, with the SGCC occupying the top position, faced increasing criticism. To counter this negative public perception, the NGCP stood by the official line that the NGCP is a Filipino-led, privately owned company in charge of operating, maintaining, and developing the country's electricity transmission grid, led by majority shareholders Vice Chairman of the Board Henry Sy Jr. and Co-Vice Chairman Robert Coyiuto Jr.⁴

But subsequent public hearings were able to get into the bottom of the decision-making process within the NGCP when the company's lawyer revealed before the Senate the existence of a 'shareholders agreement', where the SGCC, the minority shareholder, may exercise a veto power, as pointed out by a newspaper columnist.⁵

²NGCP yet to complete mandated IPO, Maria Romero, The Daily Tribune, July 5, 2021; <https://tribune.net.ph/index.php/2021/07/05/ngcp-yet-to-complete-mandated-ipo/>

³https://edge.pse.com.ph/companyInformation/form.do?cmpy_id=166. As a result, SGP owned 67% of the outstanding shares of each OTHI and P21. OTHI owns controlling shares in Monte Oro Grid Resources Corporation (MOGRC), which holds 30% plus one share in National Grid Corporation of the Philippines (NGCP). P21 owns controlling shares in Calaca High Power Corporation (CHPC), which in turn owns 30% minus one share in NGCP. The share swap transaction was undertaken to formally consolidate the two major shareholders' ownership and control of NGCP through a common corporate structure. Accordingly, the effective ownership of SGP in NGCP will be 40.20%, with control of 60% voting rights through subsidiaries MOGRC and CHPC.

⁴MVIP faces delay due to submarine cable damage, NGCP News Release, February 18, 2021.

⁵<https://www.philstar.com/business/2024/01/10/2324608/chinese-presence-ngcp>

Senator Risa Hontiveros even raised the NGCP issue as a grave national security concern upon learning that operations. Because of this, she filed Senate Resolution No. 223, proposing a security audit of the power transmission facilities.⁶

While the National Security Council (NSC) confirmed the threat, it advised the committee not to panic because this vulnerability can be addressed by the NGCP-NSC partnership.

Key Issues on EPIRA and the Transmission Sector

1. Privatization, instead of yielding maximum present value from privatization proceeds, resulted in gigantic losses to the National Government in terms of TransCo revenues and tax contributions.
2. In stark contrast, we are seeing the Concessionaire earning vulgar profits and declaring cash dividends, just 10 years into the concession, in amounts way in excess of the 20-year concession fee. (By the way, the concession fee, denominated in US dollars, is pegged at an exchange rate of 42.50 Philippine pesos is to one US dollar.)
3. Onerous provisions abound in the concession contract.
4. NGCP has consistently refused to subject its operations to PHL government oversight. (Ironically, the Chinese government has FULL oversight.)
5. Broadband business is a flagrant violation of the concession agreement.
6. Poor system security and reliability performance.

The privatization of transmission through a Concession Agreement was intended to yield maximum revenue for the government. This is stated in Section 47(a) of the EPIRA, as well as in Rule 22, Section 11(a) of the EPIRA, implementing rules and regulations. To quote from the latter: “The [TransCo privatization] award shall result in maximum present value of proceeds to the National Government.” (*emphasis added*)

In a submission to the Senate, TransCo compared the present value of its projected net income had it continued to operate the transmission with the present value of the concession fees from NGCP as per the privatization deal. It turns out that TransCo's net income for the 25-year period from 2009 to 2033, discounted at a rate of 9.3992 per cent, would have yielded returns to the government of 341.4 billion Philippine pesos. In sharp comparison, the

concession fees paid by NGCP to the government for the 20-year period from 2009 to 2029, discounted at a similar rate of 9.3992 per cent, yield a value of 168.9 billion Philippine pesos—slightly less than half of the TransCo projection.

Furthermore, because the franchise granted to NGCP reduced its tax liabilities, the losses in terms of government tax revenue are estimated (in present value terms) to run to billions of pesos. Unlike NGCP, TransCo was required to pay a range of taxes, averaging nearly ten billion Philippine pesos a year prior to privatization. Had TransCo continued to operate transmission, it would have contributed, in present value terms, a total of 108.8 billion Philippine pesos in corporate income taxes to the government treasury. Compare this with the measly 3 per cent franchise tax of NGCP. Over the same period, this would have resulted in a tax return at the present value of only 16.3 billion Philippine pesos. TransCo would also have had to remit a final withholding tax of 20 per cent on its interest income. NGCP has been exempted from doing so. The estimated total loss in government tax revenue, thanks to the generous tax provisions in the NGCP franchise, is 94.3 billion Philippine pesos. These are losses on top of the previous estimate of lower returns from concession fee payments.

The numbers speak for themselves: the privatization of transmission did not yield a maximum present value of proceeds to the National Government. On this objective alone—set by the government that enacted EPIRA—the outcome is negative.

In stark contrast are the profit numbers of NGCP, leading to generous cash dividends amounting to over 90 per cent of profits earned. According to the audited financial statements of the NGCP, from 2009 to 2018, the company netted a total of 205.9 billion Philippine pesos from revenues of 446.5 billion Philippine pesos,⁷—a profit rate of 46 per cent! The net income in its first 10 years of operation already exceeded the total concession fees of 168.9 billion Philippine pesos payable over 20 years.

From the net income generated, the company declared cash dividends for its stockholders amounting to 187.8 billion Philippine pesos. This means that 91.2 per cent of the profits earned went to the pockets of NGCP's owners—including the Chinese government—in its first 10 years of operation.

The obscene profitability of NGCP suggests that the company has operated with minimal to zero risks, shifting unresolved issues—such as right-of-way disputes—onto TransCo.

⁶https://legacy.senate.gov.ph/press_release/2019/1126_hontiveros1.asp

⁷https://legacy.senate.gov.ph/press_release/2020/0210_hontiveros1.asp

In addition, the Concession Agreement has questionable provisions. For example, the annual concession fee, denominated in US dollars, is pegged at an exchange rate of 42.50 Philippine pesos to one US dollar. Now that the peso is falling to over PhP50 per dollar, this fixed rate peg spells more losses for the government—and more evidence of the failure to reach the maximum present value of proceeds.

The Concession Agreement identifies NGCP as being responsible for the Transmission Development Plan. The company maintains it has exclusive rights over this planning function and has been excluding both TransCo and the Department of Energy from taking part in it. Nor has NGCP allowed the two government agencies to review the Transmission Development Plan. (Again, take note: the Chinese government, through its parastatal, has access to this plan.)

Moreover, the NGCP's non-compliance with the provision of the concession agreement and violations of the Anti-Dummy Law and the 1987 Constitution underscoring the prohibition for foreigners to have an active participation in the management, operations, administration, or control of a corporation operating with a franchise. TransCo cited various NGCP memoranda and requests with the names of SGCC officials on the board, like Mr. Liu Zhaoqiang and Mr. Liu Xinhua.

Various significant issues were also presented, such as the power to expropriate government property being exercised by NGCP, placing government property in the name of NGCP, the failure to ensure ancillary contracts for standby power in cases of power deficiency, and its failure to comply with the Transmission Development Plan, resulting in delays in the completion of transmission projects in the Visayas and Mindanao.

The government's inability to enforce its power over a private concessionaire reveals the lopsided EPIRA in favor of a private monopoly. Among the issues raised by TransCo were the following:

- Concession agreement-related issues emanated from the commencement fee and prepayment of the concession fee by NGCP to PSALM in 2013 amounting to 57.88 billion Philippine pesos, yet with “excluded receivables” due to TransCo.
- NGCP collection of non-current receivables, an amount supposedly due to TransCo yet collected by NGCP and not remitted to TransCo. Two cases were cited: 1.) The non-current receivables paid by Central Azucarera de Tarlac to NGCP between 2011 and 2013, and 2.) Capiz Electric Cooperative (CAPELCO), wherein NGCP collected an amount from the cooperative in November 2021 but remitted it to TransCo months later.

- Collected amount of NGCP related to Connection Charges/Residual Sub Transmission Charges (CC/RSTC) for year 2007, a subject of various ERC Orders in 2011 directing NGCP and TransCo to refund over-recoveries amounting to 339 million Philippine pesos. The same issue ensued with the 2008 approval of CC/RSTC.
- NGCP collections under the Third Regulatory Period (2011–2015) of WACC, which integrated the recovery of TransCo-incurred expenses for operating expenditures related to claims in the management of right-of-way.
- Performance Incentive Scheme (PIS) approved by ERC for TransCo in 2008, amounting to 334.32 million Philippine pesos, was claimed by NGCP as an item under its account.

On the other hand, Force Majeure Event (FME), a pass-through amount charged to customers during disasters caused by typhoon, flood, earthquake, sabotage, among others, which TransCo petitioned to ERC and approved by the Commission in 2008 in the amount of 13.88 million Philippine pesos but collected by NGCP and not remitted to TransCo asserting that it is not part of “excluded receivables” due to TransCo.

In terms of grid security and reliability performance, TransCo's 2024⁸ report to the Senate paints a concerning picture of grid security and reliability, showing that the situation has deteriorated in recent years with an increasing incidence of Automatic Load Dropping (ALD) events: 18 in 2018, 46 in 2019, 22 in 2020, 24 in 2021, 26 in 2022, and 32 in 2023.

According to Professor Rowaldo Del Mundo, Associate Dean of the College of Engineering, University of the Philippines—Diliman, the rise in ALD events is a clear indicator of the grid's vulnerability, as ALDs should only be the system operator's last line of defense against power outages. One of the key factors contributing to this issue is the inadequate contracting of firm ancillary services by the NGCP, as they cover only 46 per cent of regulating reserves, 47 per cent of contingency reserves, and a mere 28 per cent of dispatchable reserves.

These combined problems of delayed transmission projects and a shortfall in securing adequate reserves, which are essential for maintaining grid stability, have undeniably weakened the system's security and reliability under privatization.

⁸Updates on TransCo LOLP presentation, Power Outages: System and Reliability Security of Luzon Grid, presented to the Senate during the May 14, 2024 public hearing.

Regulatory Capture

Intending to lower transmission charges for power end-users, ERC ordered a cap on NGCP's target revenue for 2020 at 47.05 billion Philippine pesos, but the regulatory body has yet to act on the WACC of NGCP, delayed project completion, and other rate-related issues.

▪ Failure to reset the NGCP-WACC

For instance, the Weighted Average Cost of Capital (WACC) of NGCP remained at 15.04 percent, a rate approved by the ERC for the 3rd Regulatory Period (2011–2015), when it should have been lowered considering the completion of capital expenditures and operations costs of NGCP for the period. This is a cost levied on power end-users through the transmission charge.

At 15.04 per cent WACC, the Philippines has the highest WACC compared to Malaysia (7.5 per cent) or Thailand (7.2 per cent). It appears ERC has allowed NGCP to sustain the rate charged by NGCP to its end-users for a regulatory period that has concluded, allowing NGCP to rake in a whopping 66.12 per cent of profits.

According to TransCo President Melvin Matibag,⁹ NGCP's WACC should already be brought down to 7 per cent by this time, based on their study. Then TransCo president Matibag called the attention of then ERC Chairperson Agnes VST Devanadera¹⁰ in 2018 regarding the delayed transmission rate re-setting of NGCP's WACC for the Fourth Regulatory Period (2016–2020). ERC only responded that the process is ongoing.

TransCo cited its analysis that NGCP's updated WACC would have reduced the average P0.70/kWh transmission rate by 30 to 35 per cent to about P0.20 to P0.25/kWh by this time.

▪ Chill with the big players

The ERC has obviously taken a cautious stand on the NGCP issue, as demonstrated by numerous orders seeking explanations from the consortium regarding delays in project completion, inaction to compel the NGCP to execute firm AS contracts, and allowing an unjust pass-on of transmission and non-transmission-related expenses to consumers.

Despite President Rodrigo Duterte's Executive Order No. 30 (EO 30) meant to fast-track investments and implementation of new projects under the Energy Project of National Significance (EPNS), the NGCP remained complacent by repeatedly pointing to right-of-way problems as the main cause of delays.

By June 2019, 29 NGCP transmission projects with a combined investment cost of 90.3 billion Philippine pesos had gained EPNS status. Listed under it is the biggest but longest-delayed undertaking of NGCP, the Visayas Mindanao Interconnection Project (VMIP), valued at 52 billion Philippine pesos. The VMIP interconnection was only made possible in the first quarter of 2024.

The VMIP is part of the 72 projects of the NGCP, including six of national significance, that were delayed, according to the ERC during a May 2023 public hearing.¹¹ These delays in the project timeline have caused instability in the Luzon and Visayas grids and even driven power costs higher among DUs and electric cooperatives connected to the grid.

In Panay Island, for instance, the NGCP passed on the charges termed "line rental cost" to DUs and electric cooperatives because of a dredging incident that took place in June 2021. It took months for the ERC to act on the matter, and perhaps no action would be taken if the local government units, business associations, and consumer groups did not write to the ERC.

▪ Weak to zero oversight by ERC

Slow resolutions of cases at the ERC involving transmission issues were also observed, resulting in a delay or suspension of the availment of rate reductions by power end-users. One example was the NGCP petition in 2012 to acquire the transmission assets of Panay Energy Development Corp. (PEDC), which was then supplying power to Panay Electric Company (PECO). It snoozed at the Commission, suspending the reduction of power rates for Iloilo City power end-users.

Fast forward to 2021, and Enrique Razon's MORE Electric and Power Corp.'s (MORE Power) assumption of power distribution services to Iloilo City demonstrated a smooth reconnection to the NGCP Visayas power grid with the installation of its 69-KV transmission facility. It resulted in a 3.55 Philippine pesos/kWh rate reduction.

In a related case, however, the petition filed by consumer groups with ERC demanding the settlement of refundable amounts to PECO with the eventual takeover by MORE Power was forgotten.

⁹ Atty. Melvin A. Matibag served as [TransCo president from January 17, 2017, to March 9, 2022](#).

¹⁰ Atty. Agnes VST Devanadera served as [ERC Chairperson from 2017 to 2022](#).

¹¹ <https://newsinfo.inquirer.net/1774401/fwd-ngcp-says-proper-grid-planning-with-doe-needed-to-prevent-project-delays>

During one of the Senate inquiries, then ERC Chair Agnes Devanadera was asked by Sen. Risa Hontiveros if expenses of the NGCP for advertisement, public relations, entertainment, and professional fees were passed on to power consumers. The Chairperson initially responded that she could not give any opinion because she was not privy to the details of the expenses, yet she offered a follow-through that items that are considered not prudent and necessary expenses are examined in the determination of rates and are not allowed to become part of the rate charge.

Hontiveros' question was prompted by NGCP's Annual Audited Financial Statements showing that from 2009 to 2020, the conglomerate spent billions of pesos on the following: representation and entertainment (1.454 billion Philippine pesos); advertising (1.032 billion Philippine pesos); public relations (1.268 billion Philippine pesos); and professional fees (P646 million Philippine pesos).

Perhaps it was the persistence of Sen. Hontiveros to disallow these charges that influenced the ERC later, under the leadership of Chairperson Monalisa Dimalanta, to order the disallowance of some P200-B¹² of non-transmission-related expenses of the NGCP.

These instances show the absence of strong oversight over ERC. No government body is tasked with regularly monitoring its decision-making and performance. As such, there have been no occurrences or attempts raised by the ERC or its commissioners on this matter since its creation.

Senator Hontiveros also described as “unconscionable” the payout of dividends to NGCP shareholders, which, in just a matter of 10 years, has far exceeded the total amount the government should have earned from concession fees.

From 2009 to 2020, NGCP shareholders received a total of 187.8 billion Philippine pesos in dividends, exceeding the 168.9 billion Philippine pesos total amount of concession fees that the government should realize until 2034.

This private wealth, she said, could have been used for the benefit of the public had the transmission business remained in government hands.

▪ **The government turned a blind eye to the NGCP's blatant violations.**

The gravity of NGCP issues stirred public interest in the power and influence that the Chinese government played through the SGCC, especially in terms of national security

concerns and revenue loss to the government. But high government officials appeared to have turned a blind eye and remained cozy with the NGCP despite serious issues revealed by TransCo.

TransCo highlighted that the NGCP violated provisions of the concession agreement with serious implications for national security and a violation of the 1987 Philippine Constitution. The issues were as follows:

- Non-compliance with required auditing protocols, like maintaining separate audited accounts for each related business.
- Violations of the Anti-Dummy Law and the 1987 Philippine Constitution because of Chinese nationals who are officials of the SGCC exercising participation in the management and operations of the NGCP.
- NGCP engaged in other businesses without the consent of TransCo and PSALM.
- NGCP utilization of transmission assets for use as a telecommunications backbone was uncovered by TransCo in 2017, consisting of a separate facility with 48 cores from the existing 24 cores embedded in the transmission grid. TransCo ordered the inventory, audit, and accounting of telecom facilities embedded in the transmission grid, but NGCP denied TransCo inspectors' access to the facility.

Conclusion

In 2008, the power campaigns team of the Freedom from Debt Coalition (FDC) took a bold step by campaigning against the privatization of TransCo and the granting of a national franchise to NGCP. This position was expounded in a paper titled “TransCo: The Filipino's Last Line of Defense Against Privatization,” co-authored by Matthew James Mirafior and Armando Bordamonte.

The issues raised in the paper were not based on speculative predictions but were grounded in the aim of protecting the public interest. The paper emphasized that “electricity is a critical element of national development” and should not be entrusted to powerful private sector groups.

The paper likewise evoked that privatizing the transmission would lead to government losses, worsen consumer issues, create labor problems, involve questionable auction processes, and pose significant national security concerns since the country's power backbone could also serve as broadband infrastructure. The Senate Energy Committee

¹²<https://newsinfo.inquirer.net/1859256/ngcp-told-to-refund-p200b-to-consumers>

¹³https://legacy.senate.gov.ph/press_release/2020/0210_hontiveros1.asp

has already initiated rich inquiries into the country's recurring power woes. However, security and reliability issues were not the only problems that the government and the people have endured in the past 20 years under EPIRA.

The privatization of transmission has not maximized present value for the government. Instead, it has placed in private hands the golden opportunity of earning billions of profits from a risk-free business whose regulation is more symbolic than real. It has also surrendered the priceless asset of a national broadband network—the only one in the country—and given a private entity with Chinese government equity the potential to earn far more from broadband than from transmission. Broadband should serve as a developmental asset for the equitable spread of knowledge and information, especially in hard-to-reach areas. There is no such thing under the present setup.

The Philippine Government was at a losing end from the start—debt-induced power industry restructuring charged to taxpayers and the cost of post-EPIRA implementation borne by power consumers. Yet, as seen very clearly with the privatization of transmission, the government continues to lean backwards and provide the players with a golden ticket—lock, stock, and barrel.

Executive Summary

The transmission sector is often referred to as the 'backbone' of the power industry. It plays a crucial role in ensuring the security and reliability of electricity supply from power plants to distribution utilities, which then deliver it to residential, commercial, and industrial customers. The privatization of transmission is a major component of the power sector reforms under the Electric Power Industry Reform Act (EPIRA), purportedly to address the power crisis that crippled the country during the late 1980s and early 1990s.

However, the series of Congressional investigations, particularly in the Senate, related to the recurring power crisis in the country have highlighted significant flaws and accountability issues with the National Grid Corporation of the Philippines (NGCP) and the regulators as well.

The frequent declarations of red and yellow alerts in the Luzon and Visayas grids reveal glaring deficits in what the NGCP should have accomplished under the 25-year concession agreement. This includes delayed and undelivered transmission projects over many years, failure to ensure the reliability of the entire national grid due to poor planning, a lack of firm contracted ancillary services (AS), and technical issues in maintaining line integrity when power supply is short.

Despite these failures, however, NGCP's profitability was at a record high. This is due to the guaranteed high returns accorded to it by the Energy Regulatory Commission (ERC) with a 15 percent weighted average cost of capital over a long period, minimal tax obligations with only a three percent franchise tax imposed by the government, and the privilege to profit from the broadband capability of TransCo's lines.

The outcome is a significant loss to the government, while the NGCP shareholders, including the Chinese government, enjoy hefty dividend payouts far higher than what the government should earn from the entire concession period.

In addition to the issues mentioned, there are numerous onerous provisions in the government's Concession Agreement with the NGCP that allow massive wealth transfers to the concessionaire. However, this is not entirely NGCP's fault, as the legislative and executive branches of the government share responsibility for ensuring that the latter gets what it desires. National security has become a concern as well, since China holds a 40 percent stake and veto power over NGCP operations. There were even instances wherein TransCo personnel were denied access

to NGCP facilities for inspection, despite TransCo, representing the government, being the actual owner of the transmission lines.

One of the key recommendations from the Senate hearings and the proposed amendments to EPIRA is for the State to reclaim the system operation function from NGCP.²⁴ This proposal is well-founded. A closer examination of the issues and processes surrounding the privatization of the transmission sector, however, reveals that maintaining government control over the sector would have been more beneficial overall.

Electric Cooperatives: Two Decades Under EPIRA

by Wilson Fortaleza

August 2024

More than 50 years ago, the Philippines enacted Republic Act No. 6038. The 1969 law created the NEA, which was tasked to pursue and implement the country's rural electrification policy.

The law was passed mainly due to the failure of private companies to provide electric service to unviable and/or remote locations. Only 18 per cent of the Philippine population was enjoying electric service at that time, according to the World Bank (WB). Power services then were supplied mainly by the National Power Corporation (NPC), with a few private companies hosting the distribution system in a limited number of urban areas.

The program led to the establishment of ECs throughout the country. Funded heavily by the state, the ECs were later able to put up distribution systems to energize rural areas, regardless of population density and location.

53 years later, the 121 ECs were able to energize the country's 78 provinces, 90 cities, 1,387 municipalities, 36,080 barangays and 125,123 sitios,¹ with total connections reaching 14.54 million. As of June 2023, total and connected customers have reached 15.99 million.²

In 2020, the ECs' total electricity sales stood at 23,622 GWh or 56 per cent of the country's total sales of 41,845 GWh.³ Their combined assets as of December 31, 2017, totaled 160.82 billion Philippine pesos.⁴

When the government embarked on its rural electrification program, funding was 'extremely plentiful', and ECs were established based on sound feasibility studies to ensure technical and financial viability. However, years later, several electric cooperatives were put up to meet political objectives, said a World Bank (WB) review, and, as a result of this 'politicization', the quality of operations suffered.⁵

To save the program, the Philippine government and multilateral lending agencies funded a major revitalization initiative that improved performance of most ECs. But a crippling power crisis in the late 80s and early 90s reversed these gains.

Moreover, the crisis made it more convenient for multilateral agencies, particularly the WB and the Asian Development Bank (ADB), to push for a major policy reform in the Philippine power industry. In 2001, RA 9136 or the Electric Power Industry Reform Act (EPIRA) was enacted by Congress, paving the way for the privatization and deregulation of the Philippine power industry.

Two decades later, the EPIRA has been hailed by its proponents as a policy success. But to consumers and critical observers, much is to be desired since its objectives of reducing electricity costs and ensuring supply security and reliability remain pipe dreams.

The liberalized industry under EPIRA has allowed players to grow in size and wealth.

As a result, big players in generation and transmission have encroached upon the supply and distribution sectors and are now poised to divide the spoils of the remaining substantial market in the distribution sector – the electric cooperatives.

Attempts by corporations to gain control of electric cooperatives have come in several forms of PSP. But takeover via franchise grab has increasingly become the private sector's preferred way of securing control of ECs, especially since most of their franchises will soon expire within the next ten years.

Evidently, for the electric cooperatives, surviving the next decade under EPIRA has become a difficult choice between giving up or going against the looming takeovers engineered by these corporate behemoths.

Background and objectives of the study

EPIRA did not establish a new development framework for electric cooperatives but rather prepared them to navigate the regime of deregulation, open access, and retail competition. In other words, the ECs' principal mandate remained the same: achieving total electrification while complying with EPIRA's requirements. This conundrum put ECs in a difficult bind.

¹ <https://www.nea.gov.ph/ao39/phocadownload/ENERNEA/2021/3rdQ2021.pdf>

² Can be accessed at <https://nea.gov.ph/ao39/865-nea-celebrates-its-54th-founding-anniversary>

³ NEA Report <https://www.nea.gov.ph/ao39/624-ecs-post-2-percent-growth-in-sales-in-2020-nea>, and 37th Status Report on EPIRA as of October 2020

⁴ ECs Balance Sheet as of December 31, 2017

⁵ World Bank. November 9, 1989. "Report No. 8016-PH: Philippine Rural Electrification Sector Study: An Integrated Program to Revitalize the Sector", Country Department II Asian Region.

As pointed out earlier, the ECs prior to EPIRA were saddled with financial, operational, and organizational problems which, the WB declared then, were mainly due to 'politicization'.

In this context, has EPIRA helped solve these problems or contributed to their resolution? If not, have these problems been solved owing to ECs' current best practices, regardless of EPIRA?

This review attempts to figure out how the ECs navigated or conducted themselves under EPIRA. This study will also present some examples of best performing and innovative ECs to find out whether their achievements were directly related to EPIRA, a defiance of or deviation from the same, or a result of their independent initiatives.

In the final part of this paper, the author offers an unsolicited proposition that defends and promotes a new EC model based on new social tasks demanded by the current and future needs of our society: specifically, their role in combating energy poverty, the climate crisis, and in helping realize energy democracy.

Understanding the EC model

Understanding the electric cooperative model is key to comprehending these gradual and fractional changes happening in the sector which lately is culminating into a wholesale conversion of the model via a franchise grab.

There are only three kinds of utilities providing electricity to consumers. These are the Investor-Owned Utilities (IOU), electric cooperatives (ECs), and state-owned or municipal owned utilities. IOUs or Private Distribution Utilities (PDUs) are owned by private investors who expect a certain return on their investments. Cooperatives on the other hand are 100 per cent owned by the consumers they serve. The LGU-owned utility usually becomes an option when the two other models are absent in a locality.

Cooperatives, as explained above, are organized based on the Rochdale principles.⁶ They are self-managed and democratically run enterprises with their outcomes redounding directly to the benefit of their members. In principle, the capital of cooperatives comes from the pooled assets of members that are repurposed to achieve a common goal, including delivery of services, or organizing non-profit social activities.

However, though they pursued the same cooperative principles, ECs were organized largely with extensive support from the State owing to their critical development mission of energizing remote rural communities and the huge capital requirements to build a distribution system in rural areas.

The electric cooperative concept originated from the United States. It was designed to develop rural America and was a major part of the Second New Deal under President Franklin D. Roosevelt in the mid-1930s. This program, no doubt, was a tremendous success in terms of its contribution to economic development such that up to now, ECs remain a way of life in modern America.

According to the National Rural Electric Cooperatives Association (NRECA), electric cooperatives support more than 600,000 American jobs, contribute more than 88 billion US dollars to the US GDP annually and generate over 22 billion US dollars in federal, state, and local taxes. Additionally, cooperatives invest 12 billion US dollars annually into the communities they serve.⁷

To date, America's 895 ECs (835 DUs and 63 G&T [generation and transmission entities] cover 56 per cent of the country's land mass, serve 42 million people across 2,500+ counties, and powers 20 million businesses, homes, schools, and farms in 48 states. Overall, they generate 5 per cent of total US electricity and distributes 12 per cent of all US electricity.

In addition, the NRECA said that from 2010 to 2020, coops nearly tripled their own renewable capacity from three point nine gigawatts to more than 11.4 GW and planned new capacity additions of six point four gigawatts from 2021-2024. Together, they also purchase ten gigawatts of hydro power from federal power marketing administration.⁸

Moreover, because electric co-ops are consumer-owned and not for profit, they are shaped by the specific needs of the communities they serve. This local, member-driven structure, NRECA argued, is one reason why cooperatives enjoy the highest consumer-satisfaction scores within the electric industry. Electric cooperatives, on average, score higher than all other electric companies, according to the 2021 American Customer Satisfaction Index.

⁶The [Rochdale Principles](#) are a set of ideals for the operation of cooperatives. They were first set out by the Rochdale Society of Equitable Pioneers in Rochdale, United Kingdom, in 1844, and have formed the basis for the principles (democratic control and participation) on which co-operatives around the world operate to this day.

⁷<https://www.electric.coop/our-mission/americas-electric-cooperatives>

⁸US Co-ops Facts and Figures. Can be accessed at https://www.electric.coop/wp-content/uploads/2021/10/NCS-4745_Co-ops-Facts-and-Figures-Update_10-21-21_WEB.pdf

Electric Cooperatives in the Philippines

I cited the US example to show where the EC model came from and how it works. This is to underscore the fact that Asia's first and largest rural electric cooperative program was initiated by NRECA in the Philippines. With NRECA's guidance and funding support from the United States Agency for International Development (USAID), the NEA was established in 1969 with a declared mission similar to that of REA in the US – *total electrification of the country on an area coverage basis*.

Area coverage requires that electricity service provision should be made not on the basis of economic viability but in meeting the prime objective of connecting all households, industries, and farms, located in a declared franchise area of the EC. Investor-owned DUs that are primarily profit-seeking would find thinly populated areas a disincentive because the cost of laying a kilometer of cables would only result in a smaller number of connections, lower revenues and profits, than in urbanized areas with denser populations.

Furthermore, Section 35 of PD 269 explicitly declared that ECs shall be operated on a non-profit basis for the mutual benefit of its members. To abide by this enormous mandate, NEA was given expanded corporate powers to make loans and provide the same for the establishment of electric coops.

In the early 1970s, electric cooperatives were formed one after another and eventually, the program was declared an unqualified success. Today, there are 121 ECs all over the country serving more than 15 million households, both on-grid, and off.

Despite the physical challenges posed by the country's archipelagic and mountainous layout, electric cooperatives were able to deliver an impressive performance, according to reviews conducted by the World Bank. Electric cooperatives had sound organizational structures, active training programs, and its directors and managers were highly motivated and dedicated.

But the political and economic crises of the 1970s and 1980s altered this encouraging development. In some cases, according to the report, EC funds were diverted to political or personal ends, leaving the coops deep in debt. An article posted on the website of the Cooperative Development Authority (CDA) even claimed that the five billion US dollars WB support to ECs was rechanneled to the anti-insurgency campaign.⁹

Much of the blame was placed on the Marcos regime which virtually suspended democratic rule and did away with accountability. Since political leadership at the very top resorted to various illegal means to obtain and hoard the fruits of power, leaders of electric cooperatives were certainly not insulated from or immune to this culture of self-aggrandizement. The report noted that the co-ops were used by directors and managers as a steppingstone to political power. Thus, appointments for EC leadership roles were sought and granted for this purpose. Likewise, the NEA's independent leadership and oversight roles were subverted by the worsening political environment.

A World Bank performance audit of electric cooperatives covering the years 1971 to 1988 — a period that included two decades of the Marcos' martial law regime — found instances of increased corruption, weak oversight, and worsening billings and collection rate performance.

According to the report, of the 117 ECs, only 22 were considered to be well-managed and financially viable. Another 24 were considered to be viable but only if they made certain operational and commercial adjustments. The remaining 71 were either seen to have pronounced needs for substantial remedial actions or considered beyond rescue. Distribution losses averaged 25 per cent, and in some cases as high as 45-50 per cent. New connections were reported to have slowed down from 30 per cent or more before 1980 to under four per cent in 1983, and even declined in 1988 as shown in this table. (See Table 1)

According to the WB, the collection rate by 1980 had dropped to 52 per cent and the NEA effectively became bankrupt. Collection efficiency dropped continuously to 36 per cent between 1987 and 1988.

Perhaps the sector's biggest problem, declared the WB, "is the participating institutions' chronic lack of technical accountability." NEA, it said, "has either been accountable to political agencies, as it was during 1979-86 to the former Ministry of Human Settlements, or to rural development agencies, as it is currently to the Department of Environment and Natural Resources (DENR). The politicization of NEA, it furthered, "created an environment that enabled the RECs [rural electric cooperatives] to become politicized."

Another factor, as disclosed by the coops themselves in previous conversations, was that local governments, military and police camps, and other government agencies incurred the biggest payment delinquencies in their service areas. This problem seems to persist to this day.

⁹Ravanera Orlando R., THE GREATEST SOCIAL INJUSTICE: ELECTRIC COOPERATIVES ARE NOT COOPERATIVES, posted October 14, 2020 at <https://cda.gov.ph/updates/the-greatest-social-injustice-electric-cooperatives-are-not-cooperatives>

Table 1: Annual Formation of RECs 1971 - 1988

Year	No. of RECs Established	No. of Consumers Served	Increase
1971	16		
1972	20		
1973	10		
1974	6	176,000	
1975	19	299,000	70.0%
1976	3	465,000	56.0%
1977	21	653,000	29.0%
1978	9	845,000	29.0%
1979	6	1,118,000	32.0%
1980	2	1,441,000	29.0%
1981	3	1,700,000	18.0%
1982	0	2,034,000	20.0%
1983	2	2,284,000	12.0%
1984	1	2,492,000	9.0%
1985	1	2,648,000	6.0%
1986	1	2,752,000	4.0%
1987	-2	2,857,000	4.0%
1988	-1	2,825,000	-1.0%
Total	117		

NEA Memorandum No. 2018-056 dated August 15, 2018,¹⁰ ordered all ECs to conduct, among others, an updated audit and submit to DOE a report on the outstanding uncollected billings of electric cooperatives to all local government units as reported to the Department of Budget and Management (DBM) for collection.

However, despite these challenges, not all ECs succumbed to the general trend of the 1980s as more than 20 of them were able to operate well, prompting donor agencies to embark on a US 200 million US dollars major rehabilitation program in to save the system.

The change in government in 1986 provided fresh air into the system, helping ECs to undergo line rehabilitation and expansion, island electrification, improvement of

collection efficiency, reduction of system loss, and upgrading of ECs to higher categories. This upgrading was made possible when NEA functioned as an interested lender to ECs for their electrification projects. By the late 1990s a significant number of ECs gradually recovered, with 70 of them securing an “A” rating under the NEA's new performance rating system. According to NEA, 117 ECs were organized until 1989, serving some 2.8 million households.

Currently, 85 out of 121 ECs received the “AAA”¹¹ rating in the 2019 Performance Assessment conducted by NEA. A triple A rating means that a cooperative has been able to fully comply with institutional, technical, and reportorial requirements.

The EPIRA regime

Many ECs were able to get back on their feet a decade after. Under EPIRA, they were given the option to convert into either stock cooperatives under the Cooperatives Development Authority or stock corporations under the Corporation Code (Sec. 57). Moreover, Section 58 of this law mandated the NEA to strengthen the technical capability and financial viability of ECs and prepare them to operate and compete in the deregulated electricity market under the regime of open access and retail competition.

As an incentive, EPIRA offered relief to ECs by way of loan condonation (Sec. 60), provided that savings from the program be commensurate to the mandated reduction in their rates. The condonation was also hinged on the NEA and the ECs' restructuring program that was later approved by the President. For this purpose, Executive Order 119¹² was issued by President Gloria Macapagal-Arroyo and the program was clearly attached to ECs' debts or the ability to amortize their loans with NEA and later, with PSALM.

EPIRA also mandated all distribution utilities, including electric cooperatives, to purchase at least ten per cent of their demand from the Wholesale Electricity Spot Market (WESM). To this end, NEA was given an additional mandate and a fund to act as guarantor of EC's power purchases from WESM to support the latter's credit standing.

¹⁰NEA Memorandum No. 2018-056, August 15, 2018. Can be accessed at <https://www.nea.gov.ph/ao39/phocadownload/MEMO%20TO%20ECs/2018/NEA%20Memo%20to%20ECs%20No.%202018-056%20-%20Directives%20to%20NEA%20to%20Undertake%20All%20Necessary%20Measures%20Towards%20the%20Electrification%20of%20Underserved%20and%20Unserved%20Areas.pdf>

¹¹The AAA rating is the highest score given by the NEA to ECs that indicates the power distribution utilities' full compliance on all parameters. The D rating is the lowest.

¹²Executive Order 119 s. 2002. Can be accessed at <https://www.officialgazette.gov.ph/2002/08/28/executive-order-no-119-s-2002/>

Unfortunately, practically all ECs were caught unprepared for WESM. When energy spot market was launched in Luzon in June 2006, only two ECs signed up — Ilocos Norte Electric Cooperative (INEC) and Camarines Sur Electric Cooperative II (CASURECO II).

To make ECs competitive and self-sufficient participants in the restructured electric power industry, the Asian Development Bank (ADB) in 2008 provided technical assistance to determine the cooperatives' investment and institutional strengthening requirements.

The study, among others, covered the viability of ECs' participation in the WESM. One of the proposals raised was to push for electricity demand aggregation to optimize cost and maximize benefits from WESM trading.

However, the consultant's report for the project concluded that electric cooperatives incurred greater price risks by participating in the WESM because of market price volatility, compared to entering bilateral contracts with Independent Power Producers (IPP) and the National Power Corporation (NAPOCOR).

The same report recommended that ECs should put priority on upgrading their systems to improve their electricity services which, at that time, said the consultant, are considered "poor and unsatisfactory."¹³ It added that aggregation can still be pursued, but it should be done by the ECs themselves at their own pace.

A recent check made on the current WESM membership showed that more than half of the 121 EC's have already enrolled either directly or indirectly in the spot market between 2006 and 2021. Unfortunately, their trading volumes are not reflected in the data sheet. With this development, were the ECs finally able to address the price risks in the volatile electricity spot market?

When the Luzon grid was placed under yellow and red alert status between May 31 and June 2, 2021, due to the unplanned outages of several power plants, WESM prices went up to as high as nine Philippine pesos per kWh, according to the report of the Independent Electricity Market Operator of the Philippines (IEMOP). This resulted in an Effective Settlement Spot Price (ESSP) for the month of May of eight point thirty-one Philippine pesos per kWh.

This is double than that of the April 2021 ESSP of four point zero four Philippine pesos per kWh or an increase of 105.69 per cent.¹⁴

The Philippine Rural Electric Cooperatives Association (PHILRECA) disclosed in a media report that 26 or about three in every five of its members in Luzon confirmed that their rates rose due to the supply shortage.¹⁵ A news report in the Visayas cited the same reason after the Negros Occidental Electric Cooperative (NOCECO) raised its rate by two point eighty-one Philippine pesos per kWh.¹⁶

A similar case happened eight years ago involving the Camarines Sur Electric Cooperative II. The cooperative imposed a three point eighty-nine Philippine pesos per kWh rate increase since it was forced to source its power supply from WESM after Bakman and Masinloc power plants went offline. WESM prices at that time was at its highest at 62 Philippine pesos per kWh.¹⁷

Evidently, volatile prices in the electricity spot market have direct impact on rates that are automatically being passed on to consumers. The same condition occurred during the declaration of red and yellow alerts in 2023 and 2024, forcing the Energy Regulatory Commission (ERC) to suspend WESM operations.

At the same time, the ADB consultant argued that since ECs are non-profit entities, they have no incentive to participate in WESM. After all, the savings they incur from WESM trading will only automatically trigger a reduction in generation rates being charged to consumers.

Unfortunately, upgrading the systems to improve service delivery as recommended faced a major challenge because under EPIRA, funding for NEA was cut significantly. The ECs, being non-profits, had no access to financial markets, and, as a result, were heavily reliant on the NEA. But because NEA has had to depend mostly on its internally generated funds, financing ECs' capital expenditures also suffered. The government's annual subsidy provided to NEA was mainly for the barangay and sitio electrification programs, which basically are extensions of distribution lines to last mile areas.

Meanwhile, a DOE Memorandum dated July 17, 2018, directed NEA to study the possibility of doing away with providing financial aid and loans to electric cooperatives. Instead, the memo said that NEA should transfer this function to other government institutions such as the Land Bank of the Philippines (LBP) and the

¹³ADB, Philippines: Rural Electric Cooperatives Development Project (TA 7012-PHI), May 2009. Can be accessed at <https://www.adb.org/sites/default/files/project-document/65082/41067-phi-tacr.pdf>

¹⁴<https://www.iemop.ph/news/supply-limitations-drove-may-2021-wesm-prices/>

¹⁵<https://business.inquirer.net/326084/electric-co-op-rates-up-as-firms-forced-to-buy-more-expensive-power>

¹⁶<https://www.sunstar.com.ph/ampArticle/1898574>

¹⁷<https://newsinfo.inquirer.net/548661/camsur-power-rate-hike-p3-89kwh>

The lack of funding sources doesn't just prevent electric cooperatives from serving their customers better. Their inability to access financial resources also curtails their abilities to expand their core competence and further develop their industry.

In "Refranchising Study"¹⁸ of electric cooperatives, Grace Yeneza of Preferred Energy Incorporated (PEI), recommended a thorough review of ECs franchises to determine whether they can still meet their obligations under PD 269 and EPIRA in the face of funding problems, and whether PSP and microgrid systems are more viable especially in off-grid areas.

Under Presidential Decree 269, electric cooperatives were granted the privilege to invest in embedded generation. However, very few electric cooperatives took this privilege seriously, owing to the lack of funds.

The benefit of having embedded source of power is quite clear as in the case of US' generation and transmission electric cooperatives. Having embedded generation eliminates transmission cost, encourages the construction of flexible power plants, including renewables, thus strengthening the coop's supply security.

But then again, the problem is obvious.

Without huge capital investment, non-profit ECs will be unable to build, let alone operate and maintain embedded generation facilities. Neither EPIRA nor the Renewable Energy (RE) law has provided funds for the purpose except for incentivizing the market for private investment and participation in the energy sector.

For instance, EPIRA allowed the entry of qualified third party (QTP) power providers in missionary areas while the RE law provided tax incentives, feed-in tariff (FIT) subsidy, and other market mechanisms for the development of renewable energy wherever and whenever possible, benefitting big RE players.

Sensing the considerable prospects of RE projects due to technological advances and the mounting global commitments in fighting climate change, government lenders like the Development Bank of the Philippines, the Land Bank of the Philippines, and other multilateral agencies have started to finance pioneering investments in new renewable energy programs within the ECs. Some of them can be found in the franchise areas of Romblon Electric Cooperative (ROMELCO), Benguet Electric

Cooperative (BENECO), Aklan Electric Cooperative (ANTECO) while other RE projects were built by private investors acting as QTPs and NPPs in off-grid areas.

NEA has listed its Completed RE Projects¹⁹ initiated by coops as shown in this Table.

Of these projects, ROMELCO's appear to be most advanced and promising as they go consistently in line with the coop's 90-10 vision (90 per cent RE and ten per cent conventional). Its first 1,350kW Cantingas mini-hydro project was conceptualized and commissioned in 2009 or eight years after EPIRA was enacted. It was followed by four other projects — the 30 kW Cobrador Solar Hybrid Power, the 22 kW Biomass Gasifier Power Plant, the 900 kW Wind-Diesel Hybrid Power Plant, and the 200 kW Distributed Solar Rooftop Power Plant — which of late boosted ROMELCO's self-generating RE capacity to 2,502 kW or about 43 per cent of its peak demand of 5,843 kW in 2020.²⁰

ROMELCO also has an electric vehicle (EV) motorcycle project and is looking at the possibility of converting motorized boats into EV. More RE projects are in the pipeline as ROMELCO has taken over and is applying for a franchise to operate the distribution systems in three underserved island municipalities of Banton, Corcuera, and Concepcion in the same province.

Curiously enough, only a few have little knowledge of ROMELCO's compelling reasons why it has embarked on embedded RE generation. And it's mainly because of EPIRA. Their main objective, said General Manager Rene Fajilagutan in an interview, "is to stay in business, and the only way to do it is by reducing the current cost of generation coming from expensive power sources."

What GM Fajilagutan fears most is the eventual removal of the Universal Charge for Missionary Electrification (UCME) subsidy as provided under EPIRA. Once this subsidy is removed, ECs in off-grid areas will have to bear the true cost of power from their current suppliers.

ROMELCO's other objectives in pioneering RE into their system also include the provision of reliable and dependable electric service to its members-consumers-owners (MCOs), the democratization of ownership of these generation facilities, and of course, its strong commitment to transition from utilizing conventional power to renewable energy.

¹⁸Can be accessed at https://pdf.usaid.gov/pdf_docs/pnadv891.pdf

¹⁹NEA Completed Renewable Projects. Can be accessed at <https://www.nea.gov.ph/ao39/downloads/category/176-nea-completed-renewable-projects>

²⁰Ben Kritz, The archetype of flexible energy supply, The Manila Times, September 26, 2021. Can be accessed at <https://www.manilatimes.net/2021/09/26/opinion/columns/the-archetype-of-flexible-energy-supply/1816088>

Unfortunately, most ECs in on-grid areas are not as driven as ROMELCO, BENECO and ANTECO²¹ in pursuing renewable energy projects or to embark on embedded generation programs. This is because for many ECs, securing contracts with power suppliers and participating in WESM trading were practically the only options encouraged under the EPIRA during the last two decades.

Only recently has ECs been encouraged to look at, let alone invest in embedded generation.

Based on NEA's latest update, some 44 ECs have already expressed interest for RE-powered embedded generation²². Of this number, 24 plan to develop hydro facilities for standby power, 14 plan to build solar PVs, three for off-grid solar hybrid, two to develop biomass plants, and one is seeking to develop a waste-to-energy facility.

Nevertheless, there is no such thing as late comers in the pursuit of social justice, democracy, and saving the planet from warming up any further. And I see the ECs, both as an organization and as a movement, most fitting and capable at performing new social tasks in addressing energy poverty, energy democracy, and climate justice.

But this is only possible if electric cooperatives would be able to stay in business in the next decade or two in the face of a planned takeover now being orchestrated by the Goliaths of the electricity industry.

That golden franchise and the power grab

When the NEA led the forcible takeover of the Benguet Electric Cooperative (BENECO) in January 2023, a huge question was raised: Whose business interests were served by the agency's hostile move?

Electric cooperatives, for their part, were no strangers to this kind of action, especially from an agency that continues to exercise martial law powers in their internal affairs. In fact, EPIRA and RA 10531 sustained and even expanded NEA's supervisory and step-in powers over ECs as provided under PD 269.

Despite the untenability of its position, NEA tried justifying its action by invoking its step-in power over an audit dispute and the selection of BENECO's General Manager, which, to begin with, had the hallmark of the agency's intention to install a GM of its choice.

Moreover, unlike NEA's legally justified takeover of a dozen ailing ECs, its move against BENECO remained questionable because the Baguio City-based cooperative is one of the top performers among the 121 ECs.

So why did NEA put its integrity on the line against the unified opposition of the Benguet people, LGUs, legislators, labor unions, and ECs' national associations? The prize must be considerable enough to enforce one's will on another's behalf.

President Duterte's assumption of NEA's step-in power through EO 156 issued last December 9, 2021, will only hasten the practice of having political appointees taking over ailing ECs even if they have no known expertise in running an electricity distribution system.

Note that EO 156 came a week after President Duterte threatened the Palawan Electric Cooperative (PALECO) in a speech that he will personally take over the coop.

NEA's takeover of BENECO has obviously failed due to the members' strong opposition and the lack of support from the coop community and other stakeholders. Yet, the hounding question to ask in this unfinished episode is: Which is next?

Under Section 43 of Presidential Decree 269, NEA was authorized to grant a franchise to an EC. Prior to this, the power to grant public service franchises in a particular area belonged to municipal and provincial governments. But NEA's franchise-granting authority was taken back by Congress when it enacted the EPIRA in 2001. Section 27 of EPIRA indicated that the power to grant franchises to persons engaged in the transmission and distribution of electricity shall be vested exclusively in the Congress of the Philippines.

The same section provides that all existing franchises shall be allowed to their full term, and, in the case of ECs, "renewals and cancellations" shall remain with the NEA for five (5) more years after the enactment of EPIRA, or until 2005. In short, although the franchising power of NEA expired in 2005, all existing franchises of ECs (with maximum life of 50 years) can neither be altered nor replaced until upon expiration.

Very little attention was paid from then on regarding the consequences of this provision and how it would later threaten the very life and the business model of electric cooperatives.

For even if ECs were not prohibited from renewing their franchises or dissolving their corporate life, no persons or juridical entities were also precluded from asking the same from Congress. In other words, ECs' franchise areas would automatically become free zones on or even before these expired.

²¹BENECO has an embedded 3-MW hydropower project while ANTECO operates a SOLAR PV Hybrid Project funded by ADB.

²²<https://www.bworldonline.com/over-40-electric-cooperatives-interested-in-developing-re-standby-power-projects/>

Table 2: Completed Projects

No.	Location / EC	Project Name / Proponent	FORM OF RE	Capacity	No. of HH Benefited	Date of Completion	Date of Commissioning	Date of Synchronization
1	Cantingas, Sibuyan Island, Romblon (ROMELCO)	Cantingas Mini Hydro Power Plant	Mini Hydro	900 kW	11,673	December 10, 2009		
2	Bgy. Dalupan, Don Marcelino, Davao Occidental (DASURECO)	Dalupan MHPP	Micro Hydro	25 kW	140 (with livelihood components)	April 2015	July 27, 2015	September 19, 2016
3	Bgy. Getsemane, Bayugan City, Agusan del Sur (ASELCO)	Getsemane MHPP	Micro Hydro	30 kW	73 (with livelihood components)	June 2015	July 29, 2015	September 22, 2016
4	NEA, Quezon City	NEA Solar Rooftop	Solar Rooftop	5 kWp	n/a	December 1, 2015		
5	Cobrador, Romblon (ROMELCO)	Solar Hybrid System funded by ADB and technology provider Korea Energy Agency (KEA)	Hybrid	30 kW Solar	244	March 3, 2016		
				30 kW Diesel				
				180 kWh Battery				
6	Dingras, Ilocos Norte (INEC)	1M Embedded Solar Farm in Dingras	Solar Farm	1 MW	16,510	March 25, 2016	July 25, 2016	
7	NEA, Quezon City	NEA Solar Rooftop	Solar Rooftop	22 kWp	n/a	February 9, 2016		
8	St. Bernard, Southern Leyte (SOLECO)	First Picohydro Power Plant in Philippines	Picohydro	1200 W	24	August 12, 2016		
9	Sitio Bagong Silang, Bgy. Alad (ROMELCO)	Biomass Gasifier Technology	Biomass	18 kW	41	September 28, 2018		
10	Malalison Island, Antique (ANTECO)	Malalison Island Power Hybridization Project donated by ADB	Hybrid	50 kW Solar	178	Dec 13, 2018	Dec 2018 to Jan 2019	February 26, 2019
				54 kW Diesel				
				173 kWh Battery				
11	Bgy. Agnay, Bagacay and Lonos (ROMELCO)	Wind Power Plant developed by Komaihaltec Inc. The Project is funded by the Ministry of Environment of Japan	Wind	300 kW (3 units)	2 MWh energy or about 12% of energy requirement of the province	February 2019		
12	Pagudpod, Ilocos Norte (INEC)	Agua Grande Mini Hydro Power Plant	Mini Hydro	1.3 MW	Grid Connected	Conducted Rehabilitation on December 2018		
13	Higatangan Island (BILECO)	PV-Hybrid System for BILECO donated by Korean Government and ELT Korea	Hybrid	30 kW	497	March 2019	For Replacement of Broken Power Conditioning System (PCS) however Diesel System is already operational	
14	COTELCO, SUKELCO, DASURECO, SOCOTECO III	EU - ASEP, DOE, LGUGC	Solar Home System	30850Wp solar panels	10,000	February 2019		
				3 LED Bulbs				
				1 Torch Light Radio				
				Radio				
				Lithium-ion Battery				
15	NEA, Quezon City	Zero Mass Water Inc.	Solar Powered Atmospheric Water Generator	Averaging 5L of drinking water/day/unit (8 units)	n/a	January 3, 2019		
16	Maramag, Bukidnon (FIBECCO)	Zero Mass Water Inc.	Solar Powered Atmospheric Water Generator	Averaging 5L of drinking water/day/unit (2 units)	n/a	March 2019		
17	San Francisco, Agusan del Sur (ASELCO)	Zero Mass Water Inc.	Solar Powered Atmospheric Water Generator	Averaging 5L of drinking water/day/unit (8 units)	n/a	February 2019		
18	Silaqui Island, Bolinao, Pangasinan (PANELCO I)	Zero Mass Water Inc.	Solar Powered Atmospheric Water Generator	Averaging 5L of drinking water/day/unit (4 units)	n/a	December 2019		
19	Old Baliwet, San Marcelino, Zambales (ZAMECO II)	"Brighten Up" Project by SGCC	Solar	30kW, 190kWh colloid batteries	1000 HH and Two (2) Schools	Inauguration at the end of June 27, 2019		
20	Baliwet, San Marcelino, Zambales (ZAMECO II)			46kW, 240kWh colloid batteries				

During the last few years, most ECs have not only grown in size, their financial viability and technical acumen became stronger and more sophisticated as well.

Today, the combined assets of Philippine ECs are estimated to reach more than 160 billion Philippine pesos. Thus, it is no longer a question of whether the power oligarchs are interested in grabbing the EC franchises but which among them are gaining foothold in this intensifying corporate war. Fortunately, the amended Public Service Act retained the distribution and transmission of electricity as a 'public utility' and a natural monopoly and thus remained exempt from foreign equity liberalization.

Electricity distribution is a cash-rich business as captive customers are required to religiously pay their monthly bills. Risk is also low to none under a natural monopoly since the absence of competition presupposes guaranteed sales and ROI for the franchise holder.

First it was ALECO

The case ALECO may provide some insights that explain how every NEA-initiated takeover involves a private business interest lurking in the background.

In May 2013, Republic Act 10531 — or the NEA Reform Act — was passed. The law gave NEA extra powers to facilitate the takeover and privatization of ailing ECs, such as ALECO. Five months later, the NEA awarded ALECO's concession agreement to San Miguel Corporation and its subsidiary Albay Power and Energy Corp. (APEC).

In short, from being a member- and consumer-owned and operated cooperative, ALECO, with its new name, became a privately led, profit-oriented entity controlled by no less than one of the largest corporations in the Philippines.

Was that just a coincidence?

Back then, I've had this fear that ECs would soon become the battleground for corporate takeovers. In my 2011 article, "My Coop Won't Cop Out" I already assumed that policymakers were already in the advanced stages of laying the groundwork of Coop privatization. Let me quote a portion of the said article:

“ Put further in a logical frame, the power business is one of the most lucrative businesses in the country and this is the main reason why big industry names are jostling to get hold of the juiciest parts of the privatized and deregulated electricity market. With market opportunities clearly in sight, they can only be as interested as the global players in getting hold of the public power's last frontier—the electric cooperatives. And most likely than not, many of them are now working with policymakers in creating the policy environment under the EPIRA they fashioned that would allow this thing to happen. It may be just a matter of time before the power Goliaths gobble up the Davids.”

ALECO thus became the launching pad of the private sector participation (PSP) model through a concession agreement. The Coop-to-Coop or C2C model to rehabilitate ALECO — as introduced by BENECO and multisectoral groups — was eventually rejected in the referendum. What took place after, specifically the failed promises to solve ALECO's debt problems, rates, and high systems losses, are now all under the auspices of the concessionaire, since ALECO's role as a coop has essentially been diminished.

Finally, the 25-year concession agreement has effectively shortened what could have been a long route to privatizing ALECO. Under EPIRA, EC privatization can only be realized through the option of corporatization, or after registering as stock cooperative under the Cooperative Development Authority (CDA). But none dared to corporatize and less than a dozen registered under CDA. The PSP model, therefore, provided the headway for the ultimate privatization of the ECs, which in the end, will happen through a franchise grab.

Again, was this case another coincidence? SMC's concession agreement with ALECO ends in 2038, or three years before the latter's franchise expires.

The case of Bicol Light and Power Corporation and Camarines Sur Electric Cooperative

Despite appearances to the contrary, power giants don't sit idly by, waiting for an electric cooperatives' franchises to expire. They always are several steps ahead in ensuring that their slice of the ECs' 14 million captive customers won't slip away.

The Bicol Light and Power Corporation's (BLPC) is a good example.

Its application for a franchise to build and operate a distribution system in the region gives us a preview of how corporate takeover of ECs will unfold in the next few years.

As early as 2014, Bicol Light and Power applied for a franchise for the entire region through House Bill 4935 even though Bicol ECs hold the exclusive franchise for these areas until the end of this decade or longer. The bill did not prosper but BLPC reapplied for the same in 2016 and was able to hurdle the final reading in May 2017. Fortunately, local political rivalry prevented the bill from reaching the Senate.

But BLPC wasn't easily deterred.

In 2019, the corporation reapplied for another franchise through House Bill 4437. It easily passed the House and is now awaiting the Senate's approval. A draft committee

report with proposed amendments has already been issued, asking for committee members' approval. Once granted, the BLPC franchise shall cover the towns of Baao, Balatan, Bato, Buhi, Bula, Nabua, and the City of Iriga, which are all under the exclusive franchise of Camarines Sur Electric Cooperative III (CASURECO III) until 2029.

CASURECO III was an underperforming coop before.

But today, it has managed to reverse the situation with the help of NEA's Task Force Rinconada which took over operations in 2017.

However, with a looming franchise grab, all the efforts and hard work made by CASURECO III to improve its performance would consequently redound to the benefit of its corporate successor.

Whether the BLPC will build a redundant system like putting up its own cables and equipment to start up its operations in CASURECO III's service area remains to be seen. It can even buy time and wait for the coop's full term or the remaining 8 years to expire.

Franchise pa MORE

MORE Power, owned by Enrique Razon Jr., Forbes Magazine's third richest Filipino in 2023, is leading the franchise grab of electric cooperatives on Panay and Negros islands.

After its successful takeover of Panay Electric Company (PECO) in Iloilo City in 2020, MORE is now spreading its wings into nearby towns, hoping to secure control of areas currently being served by Iloilo electric cooperatives (ILECO I-III).

For their part, Iloilo lawmakers have led the charge for this mission by filing House Bills 10306, 10271, and 10258. Less expected but most successful was MORE Power's takeover of CENECO through a JVA and ultimately, through a franchise grab. Prior to this, a little-known Gamba Hermanos Multipurpose Farmworkers Cooperative applied for a franchise through House Bill 3962 to distribute power for the whole island of Negros. Besides being asked about its ability to start up and run a completely different kind of business, the cooperative also faced allegations that it is being backed by an investor who plans to build a coal power plant on the island.

But MORE Power isn't just interested in ECs' franchise areas in Iloilo and Negros province. The Razon-led electric company has also applied for a franchise for areas covered by the Palawan Electric Cooperative (PALECO) under House Bill 8829 way back in January 2019.

Davao Light

On December 1, 2021, the Power Bloc at the House of Representatives raised questions over the 'hasty' approval of House Bill 10554 during the second reading at the plenary.

The bill seeks to expand the franchise area of Davao Light and Power Company, Inc. (DLPC) to cover locations already under the franchise of Northern Davao Electric Cooperative (NORDECO) such as Davao City and the Municipalities of Carmen, Panabo, Dujali, and Santo Tomas in Davao del Norte province.

Davao Light and Power is owned by the Aboitiz family. Aboitiz Power, which controls hydropower plants based in Benguet province, also holds several service contracts to develop hydropower in the area.

Expiring franchises

All these developments show that clearly, a franchise grab is already taking place in Luzon, Visayas, and Mindanao. And we can expect the number of franchise applications to pile up in the 19th Congress as franchises of electric cooperatives begin to expire.

In the next 15 years, more than a hundred franchises of electric cooperatives will be expiring one by one. For the year 2021 alone, 16 EC registrations will end, 20 by 2022, 10 by 2023, 6 by 2024, and another 19 by 2025. By 2030, most of the EC franchises have already ended.

Unfortunately, the legal defense in protecting the cooperative model is significantly weakened by EPIRA whose bottom-line framework is privatization.

The sustainability and the future of electric cooperatives were also overlooked when the authority to issue franchises was regained by the same institution that initiated the privatization and deregulation of the power industry.

Implications

A successful franchise grab will effectively kill the country's cooperative model in providing electric services to our people on a non-profit basis. As a public utility running under a natural monopoly setup, an EC's life ends when its license to operate is taken back by the State and hand it over to another player.

Under PD 269 and EPIRA, coops may, under their established organizational processes, opt to convert or even dissolve when their membership so decides. That democratic nature of a cooperative is likewise lost when an EC's future and existence no longer rests upon the general assembly of coop members but in the plenary powers of the few lawmakers.

In short, a franchise grab changes everything.

It will transform the electricity distribution system from a non-profit model into a profit-driven initiative. The majority shareholders and managers of the corporation will eventually install its officers and corporate board, disenfranchising previous EC officers.

As consumers lose their status as members, so will their claim for democratic representation. Everyone returns to the buyer-seller relationship as ownership of the EC's assets will no longer belong to the member-consumer-owners or MCOs. A franchise grab, therefore, is the coop's death certificate.

Defending the electric cooperative model

Without a doubt, electric cooperatives have been defined by inefficiency and poor service over the last five decades. This is the reason why policymakers, civil society organizations, and even members of electric cooperatives themselves have mixed opinions about the EC as a model in providing energy services throughout the country. It also doesn't help that in most ECs, democratic participation of members and their sense of ownership remain superficial, if not a pipe dream.

Nevertheless, it cannot be denied that the ECs helped energize far-flung areas of the country, introduced service innovations, and even provided aid to members in times of calamities. Indeed, all these initiatives were pursued and were later implemented even though many of the ECs faced financial, technical, and organizational difficulties in pursuing their mission.

Managing an electric cooperative is not a walk in the park and the ADB study listed several challenges, which are, as follows:

- ECs operate as a public service. They pursue a mission based on political targets imposed upon by powers that be — such as the barangay and sitio electrification — without considering their operational capacity and efficiency.
- ECs are non-profit. Their tariffs are defined by the “cash needs approach” or without any provisions for margin. As a result, ECs rely heavily on government subsidies through NEA.
- Under EPIRA, NEA's budget and its capacity to fund ECs' financial requests were greatly reduced. Government subsidy has been allocated mainly for line extensions (Barangay Line Enhancement Program and Sitio Electrification Program) to connect last mile areas and not for the improvement and upgrading of ECs' distribution system. Thus, many ECs maintain assets that have already reached the end of their useful lives.

- Local poverty contributes to ECs poor collection efficiency in remote areas.
- Politicization' remains in the system, with local officials wielding influence over EC affairs.

Lack of funds and limited access to financial resources have also prevented ECs from maximizing their privilege to build embedded generation facilities within their systems. Putting one up could have solved a lot of the ECs' problems in rates, stability, and supply security.

To date, despite most ECs' impressive performance, only a few — like the three ECs mentioned above — have attempted to put up their own embedded generation systems.

Building renewable energy generation facilities in its franchise area “is the only way for ECs to stay in business,” ROMELCO GM Rene Fajilagutan said.

I completely agree with GM Fajilagutan. The oligopolistic nature of the privatized power industry would ultimately lead to further concentration of the four industry sectors at the hands of a few big players. These huge generation companies in fact, are now in control of the newest sector of the industry – the retail supply sector.

The *37th Status Report on EPIRA Implementation as of October 2020* has noted that out of the 45 registered Retail Electricity Suppliers (RES), most are associated with the four biggest groups of companies having more than one RES or Local RES. These affiliated RES/LRESs, the report said, account for 71 per cent of the total registered suppliers. (See Table).

Table 3: List of Suppliers with Contestable Customers as of September 202

	Number of CCs
Aboitiz Group	
Aboitiz Energy Solutions, Inc.	202
AdventEnergy, Inc.	59
SN Aboitiz Power - RES Inc.	37
San Fernando Light & Power	1
PRISM Energy, Inc.	41
Mazzaraty Energy Corporation	2
Ayala Group	
Ecozone Power Management, Inc.	42
DirectPower Management, Inc.	45
AC Energy, Inc.	94
AC Energy Phils., Corp. (formerly Phinma)	55

San Miguel Group	
San Miguel Electric Corp.	22
SMC Consolidated Power Corp.	109
Masinloc Power Partners Co., Ltd.	25
Meralco Group	
Manila Electric Co. (Mpower)	472
Vantage Energy Solution and Management Inc.	54
Clark Electric Distribution Corporation	9
MeridianX Inc.	1
Others	
First Gen Energy Solutions	6
Global Energy Supply Corp.	21

Retail electricity suppliers that are affiliated with the players in the generation sector and private distribution utilities deal directly with the contestable markets within the EC franchise areas that have a monthly peak demand of 750 kW (a lower threshold that the Supreme Court had temporarily prevented from taking effect) or higher.

Under the regime of retail competition and open access (RCOA), contestable markets with a monthly peak demand of one megawatt and above were allowed to choose their own retail electricity suppliers.

Simply put, retail competition and open access pose a threat to electric cooperatives because they could lose big-ticket users in their franchise areas. Once their customers source their energy needs elsewhere, ECs could risk losing substantial revenues, which, in turn, may affect their financial viability.

In short, if electric cooperatives are unable to navigate these new scenarios under RCOA, they could be taken over by the same players who will then settle retail competition among themselves. And this could lead to another round of buyouts, acquisitions, or mergers, which are common in the privatized power industry.

To survive this onslaught, ECs should put up a strong defense against any corporate takeover attempts. To do that, coop democracy must be in full play, politically and organizationally as the battles for franchise areas will be fought hard — inside the House of Representatives and in the congressional districts where the ECs operate. A strong member-led opposition can certainly make a big difference in defending the electric cooperative model.

Total electrification, which is already nearing its completion, may no longer be the primary mission of ECs in resisting corporate takeovers.

Electric cooperatives should now be pursuing new social tasks in the communities where they operate. These include the full shift to renewable energy, the creation of climate jobs and social enterprises, the realization of energy democracy. Indeed, ECs should transform themselves into becoming major organizational partners of their communities in fighting poverty and climate change.

And accordingly, ECs must act quickly and collectively as these options may no longer be viable in the short run due to the powerful threat of corporate takeovers enabled by EPIRA through different forms of PSP, with franchise grab being the most damaging.

Executive Summary

All Electric Cooperatives (ECs) today are facing threats of corporate takeovers through many forms of Private Sector Privatization (PSP), including franchise grabs. This is because many of their franchises, which are valid for only 50 years, are set to expire in the coming years. In light of recent events, franchise grabs are occurring even years before the franchises are due to expire.

A clear example is what happened to the Central Negros Electric Cooperative (CENECO). Six years before its franchise was set to expire, it was taken over by the Negros Electric Power Corporation (NEPC), a newly established company under Monte Oro Resources & Energy, Inc. (MORE) Power owned by billionaire Enrique Razon.²³ This followed the grant by Congress of a new franchise to NEPC to become the Distribution Utility (DU) for the entire Negros region, in line with the controversial Joint Venture Agreement (JVA) that CENECO entered with MORE Power in June 2023. Under this JVA, 70 per cent of CENECO's assets would be transferred to MORE Power in exchange for over two billion Philippine pesos in asset sale, with the agreement that CENECO shall waive renewal of its franchise.

This JVA is mired in controversy—from CENECO's Board entering it without authority from the General Assembly, a sham plebiscite conducted with unlimited proxy voting, and the manifest interference of the National Electrification Administration (NEA) pointed to as a result of a conflict of interest involving its highest official. Under this JVA, CENECO's remaining role is to be a minor partner of NEPC and preside over its own funeral.

This latest episode of private takeover of an EC is not unexpected. It should be recalled that in 2014, a year after the enactment of Republic Act 10531 which gave NEA broader step-in powers to take over and implement PSP in struggling ECs, various methods such as Investment Management Contracts (IMC), Concession Agreements, and JVAs have become common in the EC community.

The first model of a concession agreement took place in 2014 between the Albay Electric Cooperative (ALECO) and San Miguel Corporation (SMC). It was hailed by NEA and Local Government Units (LGUs) as PSP success. Eight years later, ALECO terminated the contract with SMC due to its failure to improve the DU's operations, leaving the cooperative deeper into debt of over five billion Philippine pesos.

Despite this debacle, however, various forms of PSP in electric cooperatives have continued. But other than IMCs and JVAs, franchise grab has become the preferred way for the ultimate takeover of ECs. This was the case of CENECO, and soon will be between the Manila Electric Company (Meralco) and the largest of the 121 ECs in the country, the Batangas Electric Cooperative I & II²⁴ (BATELEC). They take place alongside pending franchise applications in Congress for several ECs in Bicol, Visayas, and Mindanao.

This is happening now because it was designed to happen under the Electric Power Industry Reform Act of 2001. EPIRA aims for the full privatization of the country's electric power industry, and ECs in the distribution sector are the final frontier of this project.

²³Report accessed at <https://www.pna.gov.ph/articles/1225259>

²⁴News report accessed from <https://www.philstar.com/business/2024/06/29/2366293/meralco-batelec-jv-gains-traction>

Acronyms and Abbreviations

EC	Electric Cooperatives	CASURECO	Camarines Sur Electric Cooperative
PSP	Private Sector Privatization	IPP	IPP – Independent Power Producers
CENECO	Central Negros Electric Cooperative	IEMOP	Independent Electricity Market Operator of the Philippines
NEPC	Negros Electric Power Corporation	ESSP	Effective Settlement Spot Price
MORE	Monte Oro Resources & Energy, Inc.	PHILRECA	Philippine Rural Electric Cooperatives Association
DU	Distribution Utilities	NOCECO	Negros Occidental Electric Cooperative
JVA	Joint Venture Agreement	ERC	Energy Regulatory Commission
NEA	National Electrification Administration	LBP	Land Bank of the Philippines
IMC	Investment Management Contracts	PEI	Preferred Energy Incorporated
ALECO	Albay Electric Cooperatives	RE	Renewable Energy
SMC	San Miguel Corporation	QTP	Qualified Third Party
MERALCO	Manila Electric Company	FIT	Feed-in Tariff
BATELEC	Batangas Electric Cooperative	ROMELCO	Romblon Electric Cooperative
EPIRA	Electric Power Industry Reform Act	BENECO	Benguet Electric Cooperative
WB	World Bank	ANTECO	Aklan Electric Cooperative
NAPOCOR	National Power Corporation	EV	Electric Vehicle
GWh	Gigawatt Hour	UCME	Universal Charge for Missionary Electrification
ADB	Asian Development Bank	MCO	Members-Consumers-Owners
IOU	Investor-Owned Utilities	EO	Executive Order
PDU	Private Distribution Utilities	PALECO	Palawan Electric Cooperative
LGU	Local Government Unit	APEC	Albay Power and Energy Corporation
NRECA	National Rural Electric Cooperatives Association	C2C	Coop-to-Coop
GDP	Gross Domestic Product	BLPC	Bicol Light and Power Corporation
USAID	United States Agency for International Development	PECO	Panay Electric Company
CDA	Cooperative Development Authority	ILECO	Iloilo Electric Cooperative
DENR	Department of Environment and Natural Resources	DLPC	Davao Light and Power Company
DOE	Department of Energy	NORDECO	Northern Davao Electric Cooperative
DBM	Department of Budget and Management	RES	Retail Electricity Suppliers
WESM	Wholesale Electricity Spot Market	LRES	Local Retail Electricity Suppliers
INEC	Ilocos Norte Electric Cooperative	RCOA	Retail Competition and Open Access

Authors Profile

James Matthew B. Miraflor previously worked as a statistician at the Asian Development Bank, the International Labour Organization, and the Philippine Statistics Authority, as well as a poverty policy consultant at the United Nations Development Programme and the National Anti-Poverty Commission. He completed his master's coursework in economics and computer science at UP. His research interests include economic complexity and wealth distribution.

Maitet Diokno has worked in various non-government organizations in the Philippines and in Asia. She holds a degree in economics from the University of the Philippines and two masteral degrees in economics, from the University of London, and in social enterprise development, from the Ateneo de Manila University. For more than 10 years, she ran a company that processed fiber and peat from coconut husks. More recently she worked with farmers in Mindanao to produce chips from coconut husks, helping them develop this business into a viable and sustainable social enterprise. Maitet has also been an ardent student of the electricity sector in the Philippines through an organization she co-founded called the Center for Power Issues and Initiatives (CPII). She has most recently been researching energy poverty, particularly as this impacts on Filipino women. She and her colleagues at the CPII have been advocating for renewable energy as a means to address energy poverty and democratize the electricity sector in local communities. The CPII has worked with urban poor communities for the solarization of their housing, and is pushing for a law to support the financing of solarized housing for the poor.

Melba Vera Tutor is a monitoring and impact evaluation specialist who has worked on various projects with government and international organizations. She completed a Master in Development Economics at the University of the Philippines School of Economics and is currently taking her PhD in Development Studies at the University of the Philippines Los Banos. Her research interests are poverty, agrarian reform and rural transformation, human capital development, and rural electrification.

Ted Aldwin E. Ong is a freelance writer and activist based in Iloilo City, Philippines. He has served the Freedom from Debt Coalition (Iloilo Chapter) in various capacities and led its power sector campaigns and legal engagement from 2000 to 2020, marking a period of unprecedented victories for Ilonggo consumers. He became a fellow of the Center for Power Issues and Initiatives in 2013.

Wilson Fortaleza is holding leadership positions in Partido Manggagawa (PM) and Nagkaisa, the country's biggest coalition of trade unions and labor organizations. He is also a fellow at the Center for Power Issues and Initiatives (CPII) and Board Member of the Center for Empowerment, Innovation and Training on Renewable Energy (CENTRE). He writes a regular column in a local newspaper in Romblon, and from time to time, contributes articles to national news outlets on various issues.

About the study

The assessment of the Electric Power Industry Reform Act (EPIRA) is both timely and crucial. The EPIRA, enacted to liberalize and reform the Philippine electricity sector, was designed with the lofty goal of enhancing efficiency, reducing costs, and improving service. However, after 20 years of EPIRA implementation, millions of Filipinos still suffer from high electricity rates and energy poverty. The findings are particularly relevant today as the country faces growing energy demands and a pressing need for equitable access to reliable and affordable power. It is essential to evaluate the gaps of this policy in navigating the complexities of the energy landscape today, and analyze its impact on the broader goals of affordable, reliable, and clean energy access.

The five studies in this book comprehensively and critically evaluate the EPIRA's outcomes and implications, addressing several key issues surrounding the different areas in the energy sector. This work is indispensable for policymakers seeking to understand the complexities of energy reform and its implications for national development. It also serves as a crucial resource for citizens who wish to be informed advocates for fairer energy policies. It not only provides a deep dive into the complex and often opaque workings of the Philippine energy market but also offers actionable insights into how these issues can be addressed. This work aims to inform policy decisions and contribute to the development of more effective strategies for energy reform, and offer actionable recommendations.

Website: philippines.fes.de

Imprint

Ortigas P.O. Box 12271, 1600 Pasig City,
Metro Manila, Philippines
Email: info.ph@fes.de

SA-2004-008308
PASIG CITY

Responsibility for content and editing:
Renee Magpantay-Tumaliuan | Program Manager

Contact/Order: info.ph@fes.de

Designed by:
Senando Jamolin | Layout
Francesca Denise Carlos | Cover design
Victoria Elspeth Arnaiz | Infographic

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ISBN 978-971-535-049-5

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