



TOWARDS A JUST AND SUSTAINABLE ENERGY SECTOR



NO TO
KALIWA, KANAN,
LAIBAN DAMIS!
Individeo Youth

Filipinos Rising for Climate Justice!
No to Big Mining! No to Reclamation!
No to Mega-Dams! Reject Marcos Lies!

Bali Strikes
for
Climate Justice

Towards a Just and Sustainable Energy Sector

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Executive Summary

Climate change is a serious global threat. Philippines, in particular, was ranked in the World Risk Report 2022 with the highest disaster risk. This was because of the country's high exposure and susceptibility to disasters, as well as low coping and adaptive capacities.

According to the United Nations, energy is at the heart of the climate change and is the key to the solution as most of the earth's greenhouse gases are generated through energy production. Development of the energy sector can also significantly improve the lives of the people. Hence, it is imperative for the Philippines to improve its energy sector in order to contribute to addressing climate change, as well as improve the socio-economic well-being of Filipinos.

The Philippine energy sector faces several challenges which deprive the Filipinos from their right to development. These include coal-dependence, complete privatization, low security, affordability, and accessibility, and development aggression of energy projects.

Based on the aforementioned challenges, the energy sector must shift into a just and sustainable sector in order to appropriately respond to the climate crisis and to the needs of the Filipino people. This basically means that the energy sector must be improved to address the climate crisis, guided by the principles of environmental justice, climate justice, and energy justice.

This can be done by incorporating this concept in existing national laws and plans such as the Renewable Energy Act of 2007 and the National Renewable Energy Plan 2020-2040. Novel laws and plans that will include this concept can also be crafted.

To contribute to addressing climate change and its impacts, the country needs to pursue the national targets of renewable share in the energy mix as stated in the NREP 2020-2040m alongside improving climate mitigation and adaptation measures. Progress on these can be monitored by the DoE together with the Climate Change Commission in collaboration with decision makers and civil society organizations.

Existing and "already planned" coal plants must be covered by the coal moratorium. Existing ones shall be put into a closure or conversion plan by the DoE which can be done with the help of DENR and DOST. Local government units can pass ordinances banning coal mining and coal plants and encouraging the transition to renewable energy.

The social acceptability components of the Philippine Environmental Impacts Statement System must be strengthened. This can be done by requiring endorsement and opinions of people's organizations and civil society. Consent and endorsement given by communities must also be validated on the ground before submission as part of the EIS. The validation can be done in collaboration with the Commission on Human Rights, civil society, and members of communities. They can also be involved in the Environmental Impacts Assessment Review

Committee. Presence of human rights violations on environmental defenders in project sites shall be included in the EIS and investigated for any connection to the project concerned.

Increased emphasis must be given to social management measures. Compensation given to the most affected communities must be adequate and appropriate and must be annually monitored by the Multi-partite Monitoring Team (MMT) joined by genuine representatives. A special audit on energy projects can also be conducted by the DENR, similar to the mining audit that the agency did in 2016-2017. Erring projects must be penalized accordingly.

The country's geography must be studied and assessed for potential solar, hydropower, wind, and geothermal power establishments. This is essential to be able to ramp up the establishment of new renewable energy sources. Finance mechanisms and incentives for renewable energy project shall encourage both large-scale and community-based projects.

Minimizing environmental impacts of renewable energy projects can be enhanced by allocating budget in renewable energy research and development with the purpose of fully transitioning into renewable energy. Especially in cases of severe environmental and livelihood disruption, host communities and the most affected must be fully compensated even after the dam is built.

Guided by a framework of energy democracy, establishing small-scale and community-based generation, transmission, and distribution can lower environmental disruption and prices for the host community. Ensuring consumer participation in the ERC, establishing government-owned power establishment and facilities will help regain government sovereignty in the energy sector and thus, weaken the current energy monopoly. Through these, the energy sector will be bit by bit returned to the control of the people instead of being monopolized. Nonetheless, EPIRA must still be reviewed especially after its failure more than 2 decades since its enactment.



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I. Philippine Energy Sector: Status and Challenges

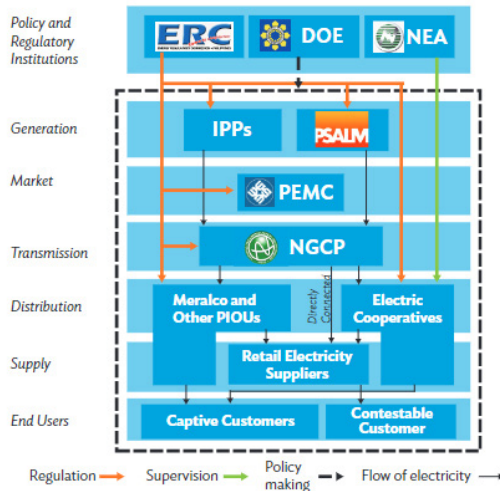


Figure 1. Structure of Philippine Energy Sector (Asian Development Bank, 2018)

The structure of the Philippine energy sector can be divided into the following systems:

1. Investment and regulatory – Includes national plans, governing laws and implementation, research and development, exploration of new energy sources, importation of coal, and ownership of assets.
2. Generation – generation of power from fossil fuel or renewable sources (e.g., through a power plant).
3. Market – a centralized venue (i.e., Wholesale Electricity Spot Market) for buyers and sellers to trade electricity as a commodity.
4. Transmission – transmission services from generation to distribution establishments/firms; operated solely by National Grid Corporation of the Philippines).
5. Distribution – includes procurement of electricity by distribution utilities and the actual retail distribution.
6. Consumers – consumers of electricity from distribution facility.

Climate Mitigation Commitments

The Conference of the Parties (COP) is the annual gathering of member states of the United Nations (UN) who are signatories of the UN Framework Convention on Climate Change (UNFCCC). It intends to create plans, evaluate, and make necessary decisions towards the global goal of adaptation (GGA).

GGA is considered the main component of the Paris Agreement that aims to improve resilience and lessen susceptibility to climate consequences.

In the 21st COP, 195 nations adopted the Paris Agreement which aimed to attain global net zero greenhouse gas emissions by the middle of the century and limit warming to 1.5 degrees Celsius through interventions such as accelerating coal phase-out, investing in renewable energy; curtailing the destruction, protecting, rehabilitating, and restoring ecosystems, increasing resilience of communities and infrastructures, and facilitate the provision of climate finance all through collaboration between governments, businesses, and civil society (UN Climate Change Conference, 2021).

As one of the initiatives to attain this, over 40 countries have signed to phasing out coal and switching to renewable energy. The major international banks also committed to ending international public financing of new coal power by the end of 2021.

National Plans and Prospects on Energy

Philippines is a signatory to the Paris Agreement concurrently committing to climate climate mitigation, adaptation and finance. In terms of climate mitigation, this includes meeting the global goal of the reduction of global greenhouse gas emissions to ensure that global temperature rise remain below 2 degrees Celsius above the pre-industrial levels by 2030.

Only about one-fourth of the current Philippine power generation mix is provided by renewable energy while the rest comes from fossil fuel, dominated by coal. According to the UN, transitioning from fossil fuels to renewable energy is key to addressing the climate crisis. This calls not only for increasing the share of renewable energy but also decreasing the country's reliance on fossil fuel in its energy mix in order to help address climate change.

In the COP26 last 2021, the Philippines submitted an ambitious 75% reduction of greenhouse gas emissions by 2030. However, 72.29% of this pledge was "conditional" or dependent on the support of climate finance, technologies and capacity development, which shall be provided by developed countries, as prescribed by the Paris Agreement, while only the remaining 2.71% were "unconditional" or shall be implemented mainly through domestic resources.

¹Global Goal on Adaptation is a key part of the Paris Agreement, directs nations to increase their capacity for adaptation, strengthen their resilience, and lessen their vulnerability to climate change.

²Paris Agreement is a global climate change agreement, aims to limit global warming below 2°C and pursuing efforts to limit it to 1.5°C and It strengthens countries' ability to deal with the impacts of climate change and supports them in their efforts.

Philippines had set a target of 35% renewable energy in the power generating mix by 2030 and 50% by 2040 (National Renewable Energy Plan, 2020-2040). This appears to be a positive goal as switching from fossil to renewable energy is key to addressing the climate crisis. However, the country also targets to increase oil (625% increase), gas (2,444% increase), and coal (2,428% increase) production by 625%, 2,444%, and 542%, respectively, by 2040 (Figure 1) and also increase domestic utilization of these energy sources “to contribute to the energy supply requirements of the country.” (Philippine Energy Plan 2020-2040).

Table 1. Philippine crude oil, gas, and coal production in 2020-2022 and targets by 2040

	2020-2022	2023-2040
Crude oil	2.7 MMB	66 MMB
Gas	0.56 TCF	3.5 TCF
Coal	52 MMT	282 MMT

Prospective additions on oil and gas will be done by awarding new service contracts, discovery of new oil and gas fields, exploration activities. The lifting of moratorium on energy exploration in the West Philippine Sea is also expected “to bring more investments in oil and gas business in the country.” The increase in coal production on the other hand is expected to come from “existing and future” Coal Operating Contracts and Small-scale Coal Mining Permits.

Philippines is not yet on its way to transitioning from fossil fuel to renewable energy. Despite the plan to increase renewable share in the energy generation mix, the country also intends to continue utilizing more amounts of fossil fuel in terms of raw amounts. Plans for the development of fossil fuels, and in particular coal, are incompatible with the goals of the Paris Agreement. Its target is dependent on financial, technical, and capacity-building assistance. Hence, the country is currently not on pace to reach its Paris Agreement target (Chapman et al., 2020).

Dependence on Coal

Coal contribution continuously increased annually and still dominates the gross power generation mix, contributing 57% of the total in 2021. Only 23.4% is from RE while natural gas and oil-based power generation contributed 17.7% and 1.4% respectively in the same year.

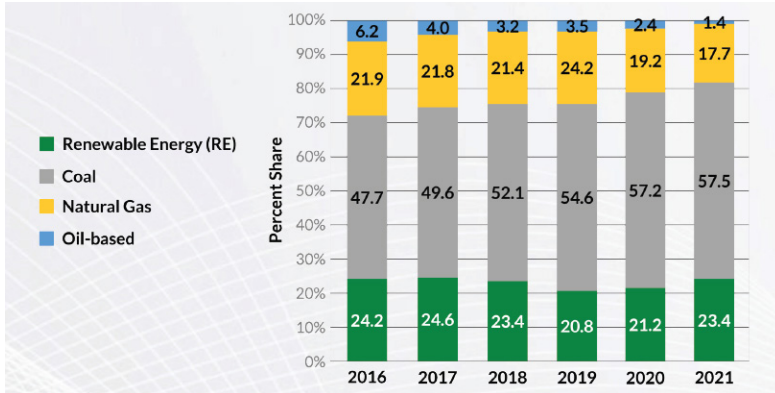


Figure 2. Gross Power Generation Mix, 2021 (Department of Energy, 2022)

In 2018, Environmental Compliance Certificates (ECCs) were issued to 28 coal-fired power plants, 23 oil-based power plants, 8 natural gas-fired power plants, 9 geothermal power plants, 29 hydro plants, 13 biomass power plants, 6 wind power, 18 solar, 2 petroleum refineries, and 1 gas processing plant (Department of Energy [DoE], 2020).

Despite the Coal Moratorium Advisory issued by the Department of Energy (DoE) on December 2020, it does not affect existing coal power plants with firm expansion plans, committed coal power projects, and indicative coal power projects with significant progress in securing the necessary permits. The DoE remains committed to establish 3.8 GW of new coal power plants by 2028 and potentially an additional 4.4 GW by 2030.

Coal is currently the dirtiest energy source in the Philippines and has been seen to cause negative impacts on the health, environment, and livelihood of communities around its power plants. Greenpeace previously projected that coal plant pollution could kill up to 2,400 Filipinos each year due to stroke, heart disease, and other cardiovascular and respiratory disorders, and the Filipino public is opposing the construction of new coal-fired power plants.

The government is also “focused on exploring and developing the country’s coal resources.” The DoE currently administers 27 Coal Operating Contracts, 21 of which are in the development/production stage and six (6) in the exploration stage. Coal production stood at 81.33 MMMT from 2016 until 2021 and is expected to increase by 542% by 2040.

The Philippines has been heavily reliant on the importation of oil and coal for power generation. Around 75% of coal used by the Philippines for energy is imported, mostly from Indonesia (DoE, 2016). As a result, the country faces price volatility and supply constraints such as the tripling of coal price seven (7) months since Russia invaded Ukraine. These factors, on top of the “automatic pass through” provision, contributed to Philippines having the highest electricity rates in Asia (Energy Tracker Asia, 2022) and one of the highest prices for power in the entire globe.

The cost of renewable energy is falling around the world, but the country has shown few signs of moving away from coal, despite ratifying the Paris Agreement to combat climate change and passing legislation encouraging a shift to renewable energy (Torralba, 2018). This has been due to coal being the most profitable energy source for a long time. However, according to a recent analysis by the Institute for Climate and Sustainable Cities (ICSC), shifting from coal has become unreliable and costly and shifting to more renewable energy sources will help lower electricity costs. This is due to renewable energy being flexible, cheaper, reliable, predictable, clean, indigenous, and more appropriate to the Philippine geography. All proposed and committed coal plants are projected to become stranded assets which will increase electricity cost. Coal is also seen to be less secure long-term investment as more affordable and cleaner alternatives such as hydroelectric, solar, and wind energy increase.

The Renewable Energy Act of 2008 provides the legal and institutional framework necessary for harmonizing policies on the development of renewable energy technologies which it intended to make it possible for the Philippines to develop and use resources including solar, wind, hydropower, ocean, and biomass energy to quickly advance toward its goal of becoming 60% energy self-sufficient by 2010. It promotes efficient and cost-effective commercial application of renewable energy by offering fiscal and non-fiscal incentives, institutionalizing the development of national and local capabilities in the use of renewable energy systems, and accelerating the exploration and development of renewable energy resources as well as increasing the utilization of renewable energy. The renewable energy law helped in the increase of renewable energy power generation establishments and the country must continue to utilize its rich potential for solar, wind, and other renewable energy.

Despite these apparent improvements, there are still a lot to be done to make renewable energy the major energy contributor, let alone remove coal from its power mix. Aside from this, challenges in privatization and the human rights impacts of the energy sector still remain to be addressed.

Privatization and Liberalization

Following the power crisis in the late 1980s to 1993, there was a huge clamor for reform in the power sector. This resulted to the passing of the Republic Act 9136 or the Electric Power Industry Reform Act (EPIRA) in June 2001. EPIRA aimed to ensure affordable and reliable electricity by paving the way to the privatization of generation, transmission, and distribution systems

IEA. (2017). Renewable Energy Act – Policies. <https://www.iea.org/policies/4754-renewable-energy-act>

of the energy sector. Among the salient features of the EPIRA are (1) unbundling of the industry; (2) deregulation of the generation sector; (3) establishment of the transmission company; (4) transformation of the ERB into the Energy Regulatory Commission (ERC) as an independent regulator of the industry; (5) creation of the wholesale electricity spot market (WESM); (6) mandating of open access to distribution utility lines to implement retail competition; and (7) selling off National Power Corporation (NPC) assets (Republic Act No 9136, 2001). The market operation was given to the autonomous Philippine Electricity Market Corporation.

Prior to the industry reform, the NPC held a monopoly on the sector's generation and transmission operations, with the distribution and supply operations being handled by public and private distribution utilities as well as electric cooperatives. Meanwhile, the Energy Regulatory Board (now transformed into Energy Regulatory Commission) was responsible for regulating the energy industry (Antonio, 2013).

Energy generation is currently dominated by San Miguel Corporation (22%), Aboitiz (21%), and First Gen (15%) with a cumulative market share of 58%. To prevent monopolization, a cap of 25% market share of the national generation capacity is implemented. The transmission is solely owned and managed by the National Grid Corporation of the Philippines, reaching only main islands in the country. The distribution is entirely privatized, with Meralco holding 80% of the market, and the rest by electric cooperatives and private investor-owned utilities.

Energy Security, Affordability, and Accessibility

After more than 20 years since the enactment of EPIRA, it has failed to lower prices and ensure a reliable supply of electricity for the country.

In the second quarter of 2021, the Luzon grid had an insufficient supply majority due to unplanned outages, rendering it to be placed on red and yellow alerts. This resulted in power interruptions in some areas being served by the distribution utilities in Luzon. In September 2022, the NGCP once again declared two yellow alerts and a red alert in the Luzon grid due to power outages, mostly due to coal-fired power plants. According to ICSC, coal plants experience frequent outages, historically exceeded the maximum allowable duration of planned and unplanned outages, and are unavailable to supply power around 17% of the time. This calls for increased security which can be addressed by increasing generation facilities. In doing this, renewable energy sources must be prioritized. More so, renewable facilities must replace coal plants that are old and have questionable reliability.

Meanwhile, household electrification in December 2021 was 95.41%, with 1.1 million households yet to be provided with electricity. This could be attributed to limited transmission services which only reach the main islands. The current transmission system is also at risk of disruption from common natural disasters such as typhoons and earthquakes.

EPIRA envisioned that complete privatization will create competition. However, the current energy sector is now dominated by private monopolies. The power generation sector has become consolidated and controlled by the groups that also control the distribution. San Miguel Corporation and Aboitiz group, the two (2) biggest power generation corporations, are also strong players in the industry of power distribution. New projects for Meralco are mostly owned by Metro Pacific Investments Corporation – a huge power generator and distributor and a major investor in Meralco itself. Some distributors, such as Meralco, even get their power from generation companies controlled by Meralco's owners. This monopolization weakens competition and makes the energy sector vulnerable to abuse in prices and supply. According to one study, the rates for more than 90% of distributed power are based on non-transparent and hazy relationships between generation companies and distribution utilities.

Since the government has given the private sector control over a strategic public utility and has lost the ability to steer the country's long-term growth, many of the problems we are currently facing are related to the government's current energy and power industry framework, policies,

, programs, and projects. Through the EPIRA, the government has also fully opened the chance for foreign and private investors to explore, exploit, and plunder our energy resources, which also puts the nation's energy potential up for sale. The privatization and liberalization of energy resources and development burden the Filipino people with high utility costs and long-term energy insecurity, which has long-term and strategic repercussions for our national development (AGHAM, 2015).

Development Aggression of Energy Projects

Attacks on environmental human rights defenders, also known as environmental defenders, increased in the previous decade. The United Nations defines environmental defenders as “individuals and groups who, in their professional capacity and in a peaceful manner, strive to protect and promote human rights relating to the environment...” In 2018, Philippines was declared the deadliest in the world for defenders of the environment. These violations range from red-/terror-tagging, threat and harassment, illegal arrest, displacement, and killing. The following are a few of these cases that are linked to energy projects.

Lianga Massacre. On September 1, 2015, the executive director of the Lumad school Alternative Learning Center for Agriculture and Livelihood Development, Emerito Samarca, and the Manobo Lumad leaders Dionel Campos and Bello Sinzo were brutally shot and killed by members of the paramilitary group Magahat Bagani. Samarca was found hogtied and throat slit in one of their school rooms while Campos and Sinzo were executed in front of their community members. This caused the Manobo to fear for their lives and evacuate (“bakwit”) to sanctuaries, mostly in Manila. The victims were red-tagged prior to this incident due to their opposition to Andap Valley Complex mining, and land conversions, and plantations. The paramilitary group was identified with the military's 36th Infantry Battalion.

BusinessMirror. (2019). After 18 years, Epira failed to give PHL energy security: Rene E. Ofreneo. <https://businessmirror.com.ph/2019/05/02/after-18-years-epira-failed-to-give-phl-energy-security/>

On June 15, 2021, two lumad farmers and a 12-year-old student were killed by soldiers in Lianga. The farmers, Willy Rodriguez and Lenie Rivas, were members of Malahutayong Pakigbisog alang sa Sumusunod (Mapasu),

a Lumad organization opposing development aggression, including coal mining, in their ancestral lands. They were collecting abaca heaps as part of their livelihood when they were fired on indiscriminately by the soldiers. This left them and the grade 6 student Angel Rivas dead. Reports from their relatives revealed that the victims' faces and limbs were smashed, while the women's genitalia were shattered, raising the possibility that they were tortured and raped before dying. They were presented as New People's Army rebels as the military's justification for the treacherous massacre.

Kaliwa Dam. Hydropower project Kaliwa Dam planned on General Nakar in Quezon Province and Tanay in Rizal Province is one of the flagship infrastructures, approved as of 2019, under the "Build, Build, Build" program of the Duterte administration. This China-funded project was rail-roaded with an iron fist by the Duterte administration and was justified to solve the water supply shortage in Metro Manila. However, this will entail permanent and irreversible changes in the ecology of the area, including the deforestation of around 300 hectares of protected forests in the ancestral domains of 20,000 Dumagat and Remontado indigenous people. This also endangers the erosion of the livelihood, shelter, medicines, values, and culture of the indigenous people.

The ground zero of the project was encamped by the military, including the 85th Infantry Battalion under the 2nd Infantry Division. Aside from causing fear and harassment to the locals, this further caused the detainment of a Dumagat who was also accused of being a New People's Army member.

It was already 92.67% completed in Detailed Engineering Design as of September 2021 despite the lack of Free Prior Informed Consent from the indigenous people in the area. Due to controversies in the permit acquisition for the project, the DENR put on hold the issuance of ECC in October 2022. Nonetheless, reports from the indigenous people in the area indicate that operations involving large machines have already started, and that the locals were already displaced and further prohibited from going back to their houses in the ground zero of the project.

Gened Dam. The Gened Dam 1 hydroelectric power project by Pan Pacific threatens to engulf native Isnag communities along the Apayao-Abulug River in Apayao, increase flooding downstream, and negatively impact the nation's biodiversity. It is expected to submerge barangays Waga, Bulo, Laco, Magabta, Poblacion, Badduat, Luttuacan, Nagbabalayan, and Cabetayan in the Municipality of Kabugao as well as barangay Lt. Balag in the Municipality of Pudtol. This accounts to 4,600 people and 898 households in

the eight Kabugao barangays and 42 homes in Pudtol. Pan Pacific also plans to construct the 335 MW Gened 2, 50 MW Aoan Dam, and 120 MW Calanasan Dam in addition to this hydropower facility.

On February 2019, the project was rejected by the Isnag indigenous group during a consensus-building session organized by the National Commission on Indigenous People in Poblacion, Kabugao. A negotiation was held at the same place, two years later on January 15, wherein more than 300 elders and leaders attended. The Isnag people maintained their earlier rejection of the Gened Dam 1 and distributed “A Resolution Strongly Expressing Our Opposition and Banning of the Proposed 150 MW Generated 1 HEPP of Pan Pacific Renewable Power Philippine Corporation (PPRPPC) and Withdrawing Our Yes to Negotiation Only Consent from Continuing the FPIC Process in Whatever Stage”.

Additionally, the Isnag indigenous people of Apayao declared that the dam builder and the Cordillera top official of the National Commission on Indigenous Peoples were “unwanted and unwelcome” in their ancestral lands. The Isnags’ source of food, water, livelihood, and culture, and even graveyards will be removed from the only place they have ever called home by this project.

The project’s free, prior, and informed consent (FPIC) process was allegedly manipulated by NCIP Cordillera and its Apayao office despite the resounding opposition of the locals, according to a press release published online by Kabugao Youth on August 20, 2021.

The continued presence of AFP-PNP forces in Isnag towns, particularly in the municipalities of Calanasan, Kabugao, Pudtol, and Conner, contributes to daily tensions and on days of community consultation as the Isnag opposition grows in its defense of the rights of their indigenous people and assertion of their ancestral lands, means of subsistence, and resources.

Additionally, in an attempt to allegedly stop project protesters from taking part in the FPIC process by threats, harassment, and intimidation, the NCIP also utilized the local force of the Philippines National Police (PNP). The community responded by enacting a second resolution the same day against the construction of the Gened-2 dam, claiming that both the PPRPPC and NCIP failed to communicate with the Indigenous organizations in “good-faith.” The National Task Force to End the Local Communist Armed Conflict have red-listed Isnag elders, leaders, and legitimate organizations and personalities who oppose the destructive hydroelectric project.

San Juan Geothermal Power Plant. The 26,537-hectare San Juan Geothermal Power Plant is set to be erected in the Municipalities of San Juan, Lobo, Rosario, and Taysan in Batangas Province. This is set to convert massive farmlands and displace farmers in 12 barangays in San Juan and many more in the other municipalities. Reports say that anomalous land selling, even of those that issues with Certificate of Land Ownership, has been rampant since the start of the pandemic lockdown in 2020. In Brgy. Sapangan, San Juan, more or less 92 hectares of land which were home to 24 families were reportedly already sold. In 2021, these purchases were observed to have become more aggressive, with land agent arriving in vans. In October 2022, military presence has been increasing in areas where farmer organizations are based.

*Data on energy-related HRVs. Liangga Massacre, Calaca coal-fired power plant, Kaliwa Dam, Gened Dam, San Juan Geothermal PP

NO TO AHUNAN HYDROPOWER PROJECT



II. Case Spotlight: Ahunan Dam in Pakil, Laguna

The 1400 MW Ahunan Pumped-Storage Hydropower Project, also known as Ahunan Dam, is planned to be built on the east bank of Laguna de Bay, across Mt. Ping-as, in the Municipality of Pakil, Laguna, Region IV-A (CALABARZON). The project area covers 299.40 ha across the barangays (village) of Baño, Burgos, Rizal, and Taft (Figure 2).

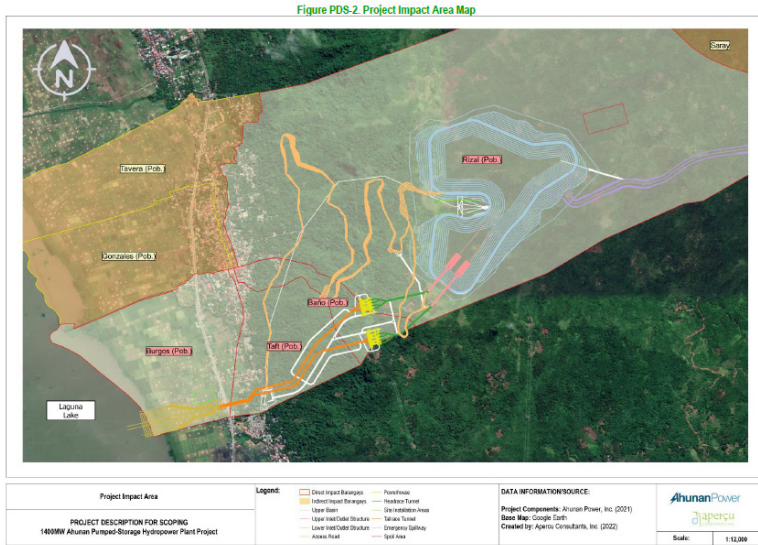


Figure 3. Project Area in the Municipality of Pakil, Laguna (Ahunan Power and Apercú Consultants Inc., 2022)

Investing \$1.1 billion, tycoon Enrique Razon’s Prime Metro Power Holdings Corp. and JBD Water Power Inc. formed on September 17, 2020, the project proponent Ahunan Power Inc. According to the project timeline, the planning, permit processing, and feasibility studies for the Ahunan Dam were anticipated to start in the third quarter of 2021 while the completion (commercial operation stage) of the dam is targeted for the first quarter of 2027. It is projected to contribute an additional 1,400 MW, which will help realize the goal of the clean energy scenario.

Pakil, Laguna

Pakil, Laguna is a fifth-class municipality separated into a Western and an Eastern parts by the Laguna Lake. The Eastern part consists of the villages Baño, Taft, Rizal, Burgos, Gonzales, and Tavera, collectively known as “Poblacion” and wherein almost half of the population of Pakil reside. Located in Poblacion are the Pakil municipal hall, public school, the historical St. Peter of Alcantara Parish Church, public plaza, and also Mt. Ping-as.

Mt. Ping-as is an important source of livelihood, water and other natural resources for the locals in and outside of Pakil. The forest lands are owned by different people and has been a site for planting (locally termed “kaingin”) crops for food and trees for wood. The mountain has been a source of free-flowing water for Pakil and Laguna Lake. Pakil specifically has a free-admission public swimming pool, with some of its water supplied by a nearby spring. Several people, not only from Pakil but even from nearby municipalities and provinces, also regularly collect gallons of water from this spring. The waters are also redirected into some part of Poblacion to provide free water for drinking, bathing, and washing clothes. The river that connects the spring and Laguna Lake has also become a rich spawning ground for edible fish like Tilapia. Catching fish in this river is prohibited but fish that reach further into the farmlands and the Lake can be caught by anyone for free.

⁵Alena Mae S., Flores Razon-led company building \$1.1-b pumped-storage plant (February 27, 2022,)



Figure 4. Clear, “blue” river running through Pakil Laguna



Figure 5. Free-flowing water being used for laundry

Mt Ping-as is also an important landmark for the feast of Our Lady of Turumba whose feast is claimed as the “largest and longest festival in the Philippines.” On the last Saturday of May, devotees hike up the mountain to pass holy stations and eventually reach the Cross of Pakil. This is called “Ahunan sa Ping-as” (Ascent to Ping-as). After their ascent, the locals would then bathe and drink the water from the pools, as they believe that the water would cure diseases and ailments. This iconic feast has been participated on by the family of the Philippine national hero, Jose Rizal, and was even referenced in one of his novels.



Figure 6. One of the 14 “stations” that devotees of Our Lady of Turumba stop by during hikes

Potential Damages

The 1400-MW hydropower project has drawn criticism from locals and groups concerned about its potential effects on nearby communities, which might exacerbate local floods and typhoon effects. Project seismicity and risk of landslides are also high, based on the project description for scoping.

The dam will be having a moderate to high seismicity, covered by four active faults and subduction zones: East Luzon Trough, Philippine Fault Zone, Lubang Fault, and West Valley Fault.

Some residents also mentioned having a history of landslides and muddy floods that caused mass evacuations during typhoons way back early 2000s. They think that deforestation and road clearing will exacerbate these types of problems if the dam pushes through. The project area also experiences rainy season for ten months every year which increases the risk for these types of disasters. As early as the first half of 2022, when tree-cutting and apparent road clearing operations have started, the locals reported muddy water flowing down from the mountain during weak rains which was unusual. They also raised that the villages Gonzales and Tavera, despite considered indirect impact villages, are still at risk of these landslides because the planned roads cover the parts of the mountain facing these villages.



Figure 7. Apparent evidence of road-clearing operations on top of Mt. Ping-as

Over 300 hectares of land are expected to be impacted by the project. This will cause massive deforestation, disruption of natural water flow, and loss of biodiversity. Livelihood dependent on mountains lands and water flowing from the water, such as farming and fishing will be disrupted or gone altogether. The promise of livelihood will also be temporary. 2000 constructions workers will be required during the construction phase but only 100 high-skilled workers will be hired upon start of dam operations. Residents are also concerned for the safety of the celebration of the Feast of Turumba because of the proposed changes in Mt. Ping-as.

Underhanded Railroading of Resolutions

Most residents that we were able to interview said that they only learned about the project in 2020 by accident – either by overhearing some barangay officials or reading a social media post. Despite the absence of public consultation, the municipality of Pakil and the barangays near the project area have railroaded resolutions to help Ahunan Dam acquire the necessary permits, licenses, and documents from the national government.

On September 21, 2020, the Sangguniang Bayan (SBn) made Resolution No. 094 series of 2020: Resolution Interposing No-Objection o the Technical, Geological, and Feasibility Studies and Tests, Financing for the Decvelopment Plan for a Hydroelectric Pumped Storage Power Plant in the Eastern Section of Pakil, Laguna as Presented by the JBD Management & Consulting Services Under HSC No. 2019-10-817. This was reportedly done as per the request of the mayor to the SBn on July 9, 2020.

On February 15, 2021, the mayor requested another resolution from the SBn to “help Ahunan Project Inc.” obtain the necessary permits, documents, and licenses from the national government agencies. This resulted on March 26, 2021, in Resolution No. 021 Series of 2021: Resolution Interposing No-Objection to the Pre-Feasibility Studies and Permitting for Pre-Planning Development on the Construction of a 350-Megawatt Hydro Power Plant by Joint Venture Prime Metro Water Holdings Corporation and the JBD Management & Consulting Services Inc. in the Municipality of Pakil.

Similar resolutions from the four “direct impact villages” – Taft, Baño, Burgos, and Rizal – was released on May 2021 “despite Pakil residents not knowing, let alone consulted, about this.” These were “received” by the mayor’s office in the same month. On September 14, 2021, the SBn released “A Resolution Interposing: No-Objection to the Proposed 1400-Megwatt Hydro-service Power Project of Ahunan Power, Inc. Covering Around 300+ Hectares of Land in Barangays Taft, Rizal, Burgos, and Baño in Pakil, Laguna,” again said to be without appropriate consultation to their constituents.

Negative Reception on “Consultations”

There have been a few attempts at “consultations” from Ahunan Dam proponents. On September 10, 2021, a “public hearing” was done at Pakil Elementary School wherein some local government officials and a few residents attended. Some of the residents in attendance voiced out their opposition to the project while others remained silent as a caution to possible retaliation from the government. Most Pakil residents, however, were unaware of this meeting. On October 12, 2021, the mayor invited landowners to discuss selling their land, but most of the landowners did not attend as they don’t want to sell their land. From October to November 2021, the social impact arm of Ahunan Dam launched an information, education, and communication (IEC) drive in the affected villages. This was reciprocated by “staunch opposition” and “doubts” by the residents. On November 16, 2022, the proponents denied that a “reservoir” or a “large swimming pool” will be built and not a dam. Among the more or less 30 people who attended, none agreed to the project and everyone expressed their doubts and rejection of the project.



Figure 8. “No to Ahunan Hydro Power Project” poster hanging on a house in Pakil, Laguna

On March 2, 2022, a public meeting was done wherein the dam proponents once again tried to explain the project to the community. The residents in attendance questioned the project’s integrity and also expressed their rejection. This led to a later round table discussion (RTD) among landowners who don’t want to sell their lands but were experiencing “harassment”. This RTD further led to the establishment of the local organization Mamamayang Nagmamahal sa Pakil (People who Love Pakil) (MNPk) whose first action was a signature campaign against the dam.

On April 16, 2022, the mayor called for a public question-and-answer event. After the mayor presented the project, four local engineers questioned the safety of the project. The mayor was only able to promise to show them the “detailed engineering design” once it is available. This caused a violent reaction from the attendees as they question why the project was quickly accepted by the LGU despite not having a detailed design yet.

MNPK repeatedly engaged to demand an explanation from the SBn on why they released resolutions without proper consultation. This eventually forced the SBn to retract its latest resolution in August 2022.

Unclear Legality of Ongoing Operations

Since the first quarter of 2022, the residents have observed the presence of workers who clear trees using hacking knives, fetch down coal made from the cut trees, and “machines for water” with long PVC tubes carried by at least ten men who repeatedly go up and down Mt. Ping-as. A makeshift tent was also seen at the top of the mountain although most of the workers rent houses at the foot of the mountain. Bulldozers, backhoes, trucks carrying steel, and a machine for road clearing were also seen operating at Mt. Ping-as.



Figure 9. Equipment and makeshift tents of alleged workers of Ahunan Dam

These operations were said to have been halted during the May 2022 election but resumed a few days later. During this time, hikers in Mt. Ping-as saw armed personnel who questioned and intimidated people going up the mountain.

On the last Saturday of May, an event called “Ahunan sa Ping-as” is celebrated in Pakil in which most of the locals hike the mountain. The locals who participated were able to confirm the presence of ten guards, tent and hammocks of the workers, machinery used to dig for the water pipes (about 500 meters deep), and several cut trees that were almost unnoticeable as they were quickly transformed into charcoal.

A response letter from DENR to the locals on May 13, 2022 said that Ahunan Dam is “still in the process of Environmental Impact Assessment,” and that the project is considered environmentally critical. On May 15, 2022, MNPK asked the mayor through a letter on what exactly is happening on Mt. Ping-as despite the apparent absence of permit but there was no response. As of November 2022, Ahunan Dam still has no ECC.

Civil Political Human Rights Violations

Ahunan dam opposition in Pakil experienced human rights attacks. Three of the most notable instances were on Vertudez “Daisy” Macapanpan and 2 other young local environmental defender.

The 69 year old Vertudez “Daisy” Macapanpan was a key person in the formation of the local organization MNPK. She was arrested without a warrant on June 11, 2022. She was recorded being surrounded and pulled from the ground into the police vehicle by arresting officers in full battle gear from the Philippine National Police - Special Action Force. A relative of Daisy said that she was violently “carried like a pig”. The warrant was served after the violent incident and showed “vague and inconclusive” reasons for the arrest. Nonetheless, it was believed that she was arrested because of her involvement in opposing Ahunan Dam.



Figure 10. “Free Daisy Macapanpan” poster at Brgy. Rizal, Pakil, Laguna

Two young environmental defenders, one who was member of the organization Kalikasan-Southern Tagalog and another who was from the Network Opposed to Ahunan Dam, received death threats on different instances. Both instances were sent via phone message by anonymous numbers and said that they were “being watched” and that “something bad will happen if they don’t stop opposing [Ahunan Dam]”.

It was apparent that the locals fear of speaking out against Ahunan Dam. Many of the residents we invited for interview refused to be recorded or refused to be interviewed at all. Others also claimed that several others were against the project who remain silent in public consultations as they were afraid of the authorities. So-called development initiatives, including those using renewable energy, should constantly consider these social and environmental expenses in light of the growing effects of climate change.



III. The Need for a Just and Sustainable Energy Sector and Industry

From the previous sections, we have established the need to transition from fossil-fuel-dependent energy sources to renewable energy sources. In addition, we have also seen that it is not enough to use renewable energy sources as these have caused various environmental, social, economic and cultural issues. Additional characteristics of renewable energy sources need to be identified and considered for a just and sustainable energy sector.

Just Energy

Energy justice is closely related to environmental justice and climate justice. Environmental justice is “the principle that all people and communities have the right to equal protection and equal enforcement of environmental laws and regulations.” It comes from the recognition that there are communities that are negatively affected by activities and policies that disrupt ecological balance and that certain groups are disproportionately affected. In addition, these groups have less capacities to cope with these impacts, have less or no access to information about these activities and policies, and have less or no decision-making power over them.⁷ Environmental justice fights back against systemic issues, promotes more sustainable and healthier communities and aims to improve the quality of life for those who are impacted.⁸

With the increasing awareness and understanding of climate change through the years, it became evident that it is also a justice issue. There are three reasons according to Harlan, et al. (2015), “First, there are causes of climate change: social inequalities drive overconsumption, a key source of unsustainable level of greenhouse gas emissions. Second, the impacts of climate change are unequally felt by the rich and poor and disparate impacts will continue to increase in future generations. Third, policies designed to manage climate change have starkly unequal consequences, and the processes are decided tend to exclude the poor and the powerless.”⁹ Therefore, according to the United Nations Environment Programme, climate justice “is a term used for framing global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature. This is done by relating the effects of climate change to concepts of justice, particularly environmental justice and social justice and by examining issues such as equality, human rights; collective rights, and the historical responsibilities for climate.”¹⁰

Energy justice is part of the environmental justice and climate justice concept and movement. It recognizes structural pillars of energy injustice, according to Lee and Byrne (2019). The first characteristic of the modern energy system is having a preference for large-scale technical systems and distancing from local decision-making processes. This means that primacy is placed on efficiency of production while having less consideration for local participation. The second characteristic is centralizing energy production and distancing supply from users which results supposedly in low-cost power but has governance implications at the local level. And lastly, it has a 'risk-taking' tendency as a necessity for technological innovation and social progress which accepts the principles of 'necessary risk' and 'normal accidents'.¹¹

⁶ <https://www.climaterealityproject.org/environmental-justice-101>

⁷ <https://www.washingtonpost.com/magazine/2022/06/14/climate-justice-green-new-deal/>

⁸ <https://www.climaterealityproject.org/environmental-justice-101>

⁹

https://books.google.com.ph/books?hl=en&lr=&id=kjIJCgAAQBAJ&oi=fnd&pg=PA127&dq=climate+justice+definition&ots=BYuk2XLOiB&sig=n3SDQxWCvfGkIo0_KFTDbHNvp9E&redir_esc=y#v=onepage&q=climate%20justice%20definition&f=false

¹⁰ <https://leap.unep.org/knowledge/glossary/climate-justice>

¹¹ <https://www.frontiersin.org/articles/10.3389/fenrg.2019.00099/full>

Despite have numerous definitions and descriptions, energy justice is often broken down into three tenets. According to Jenkins et al. (2016), the first aspects is distributive justice which looks into where injustices emerge such as the location of production facilities. The second aspect is recognition-based justice which focuses on which sections of society are ignored and misrepresented. The last aspect is procedural justice which explores the ways in which decision-makers have sought to engage with communities.¹²

Eight core principles were developed subsequently from the three tenets according to Sauraw (n.d.):¹³

1. the availability principle urges to have sufficient modern energy resources;
2. the affordability principle argues that all people, including the poor, should get energy at a reasonable cost and should pay no more than 10 per cent of their income for energy services;
3. the due process principle requires countries to follow the rule of law and human rights in their production and use of energy;
4. the good governance principle implies that all people should have access to all information regarding energy and environment, and citizens must be able to participate in fair, transparent and accountable forms of the energy decision-making process;

5. the sustainability principle is an obligation on the state to ensure long-term sustainable energy development with prudent management and to confirm sustainable use and sovereign rights over natural resources;
6. the intragenerational equity principle is a principle which emphasizes that people have the right to fairly access a certain set of minimal energy services enabling them to enjoy a basic minimum of well-being;
7. the intergenerational equity principle suggests future generations have a right to enjoy a good life undisturbed by the damage our energy systems inflict on the world today; and finally,
8. the responsibility principle refers to the duty of all nations to protect the natural environment and its sustainability as well as diminish energy-related environmental threats.

Energy justice is also defined as referring to “achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system (‘frontline communities’)” focusing on “the

¹²<https://www.sciencedirect.com/science/article/abs/pii/S2214629615300669>

¹³<https://www.un.org/en/chronicle/article/quest-energy-justice-framework-bangladesh>

concerns of marginalized communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities.”

From the previous definitions and the interviews with local communities, we uphold the following definition on a just energy. Just energy has the following principles:

- Recognizes all people have equal rights
- Recognizes there have been violations to human rights, also called injustices, related to the energy sector and industry
- Recognizes that negative impacts from the energy sector are more greatly felt by certain groups such as poor, vulnerable and marginalized groups
- Recognizes that these injustices are a result of systemic issues related to poverty and inequality
- Recognizes that upholding human rights is the responsibility of the State
- Promotes sustainable development
- Ensures democratic participation in decision making processes especially the affected communities and the poor, marginalized and vulnerable groups
- Ensures the due process principle where in the rule of law is followed and human rights are upheld
- Ensures accountability for the proponents in the energy sector that have caused negative impacts on communities by providing reparation for those affected
- Ensures access to information and transparency on activities and policies related to the energy sector for the affected communities and general population
- Upholds the precautionary principle wherein action for environmental protection is called for in the presence of a threat or risk of serious damage despite the lack of scientific certainty on potential impacts
- Emphasis on the identification of the impacts on the poor, marginalized and vulnerable groups and communities
- Ensures that groups and communities do not experience development aggression

Sustainable Energy

¹⁴ <https://iejusa.org/section-1-defining-energy-justice/>

¹⁵ <https://www.iisd.org/articles/deep-dive/precautionary-principle>

Sustainable energy is often used interchangeably with renewable energy. Renewable energy is defined as energy that “comes from sources that naturally renew themselves at a rate that allows us to meet our energy needs” while sustainable energy “comes from sources that can fulfill our current energy needs without compromising future generations.”

The concept of sustainable energy came from the recognition of the role of energy in achieving sustainable development in the 1980s. From this, sustainable energy has taken on similar concepts of sustainable development. Many definitions arose surrounding themes such as access to affordable energy services, sustainable energy supply, sustainable energy consumption and energy security. Despite variations in focus areas, all these are rooted in the need to transform the current energy system to reduce its harmful impacts.

The study on Theoretical Aspects of Sustainable Energy by Prandecki (2014) noted the similarities of the definitions by Rogall, Hammond and Jones who used the terms dimensions, pillars and criteria. All had the following three aspects: ecological/environmental, economic and socio-cultural. Under the environmental aspect are the considerations related to greenhouse gas emissions, natural tolerance and hazards to human health. Under the economic aspect are the considerations related to impacts on the national economy, meeting the energy needs, cost-benefit analysis, job creation, profitability and prices. Finally under the socio-cultural aspect are the considerations related to the avoidance of conflicts, involvement of stakeholders, security, intergenerational equity in access and social acceptance.

Previous studies and the interviews from local communities, we therefore uphold these definitions. Sustainable energy has the following components and characteristics:

1. Environmental aspect
 - a. Ensures the least greenhouse gas emissions
 - b. Maintains ecological balance

- c. Ensures the access to natural resources and health environment for future generations to natural resources
 - d. Ensures human health
2. Economic aspect
- a. Contributes to national development
 - b. Meets the needs of local communities

¹⁶ <https://energy.sais.jhu.edu/articles/renewable-energy-vs-sustainable-energy/>

¹⁷ <https://www.sciencedirect.com/science/article/abs/pii/S1364032121000654>

¹⁸ https://www.researchgate.net/profile/Konrad-Prandecki/publication/279449185_Theoretical_Aspects_of_Sustainable_Energy/links/5592fd1a08ae1e9cb429873f/Theoretical-Aspects-of-Sustainable-Energy.pdf

- c. Does not cause negative impacts to the livelihoods and other aspects of people's lives
 - d. Accessible to the population
3. Socio-cultural aspect
- a. Does not aggravate existing issues and inequalities
 - b. Does not threaten the people's security
 - c. Socially acceptable

Just and sustainable energy (JSE) has been defined in many ways based on different experiences and contexts both at the conceptual and practical levels. What is common to all is the recognition that there are changes that needs to be made in the energy sector due to its negative impacts of people's lives and the environment. Despite the varying issues and impacts, having a common understanding of just and sustainable energy can guide communities and environmental and social movements in analyzing issues, defining alternatives and solutions and developing plans of action.

IV. A Pro-People Energy Policy

The “just” component of just and sustainable energy, as stipulated in the previous section, can be adopted in the national climate change action plan. The same component can also be added in the existing Renewable Energy Act of 2007. These will significantly emphasize that development of renewable energy should not cost the welfare of the people and the environment. National laws and regulations can also be crafted in order to support the transition to just and sustainable energy. An example of which is an existing bill currently pending in the congress called Environmental Defense Bill which aims to recognize and protect environmental defenders. This will allow environmental defenders to continue defending the environment against unjust energy projects.

The Philippines needs to strictly pursue the national target of 35% renewable energy share in the energy mix by 2030, and 50% by 2040, as stipulated in the National Renewable Energy Plan 2020-2040, alongside improving climate mitigation and adaptation measures such as disaster risk reduction and management. Monitoring the progress towards this goal shall be monitored by the DoE together with the Climate Change Commission and the information shall be shared with non-government organizations and decision makers.

The coal-dominated energy sector must be transitioned into a just and sustainable energy sector. The DoE coal moratorium must include existing “already-planned” coal plants which shall mean that no new coal plants must be built. For existing coal plants, a closure or conversion plan with a definite duration can be put in place by the DoE, which can be in collaboration with other government agencies such as the DENR and the Department of Science and Technology.

These facilities can be explored to be transformed into power plants that utilizes renewable energy or natural gas (as “transition” fuel to renewable energy). Local government units should pass ordinances banning coal mining and coal plants and encouraging the transition to renewable energy.

Energy projects must also be built not at a cost for the most vulnerable communities. This can be ensured by strengthening the social acceptability component of the Philippine Environmental Impact Statement System. This can be done by requiring (not just accepting) endorsements and opinions of people’s organizations and non-government organizations. As witnessed in the case in Ahunan Dam, it cannot be always presumed that local government units represent the interest of their constituents. Consent, endorsement, and opinions given by the communities must also be validated on the ground before submission as part of the EIS. The validation can be done in collaboration with the Commission on Human Rights, non-government organizations, or local people’s organizations. Inclusion of these aforementioned institutions and organizations in the Environmental Impact Assessment Review Committee can also be explored. Presence of human rights violations on environmental defenders in project sites shall be included in the EIS and investigated for any connection to the project concerned.

Alongside environmental management measures, increased emphasis must be given to social management measures. Compensation given to the most affected communities must be adequate and appropriate and must be annually monitored by the Multi-partite Monitoring Team (MMT) joined by genuine representatives. The MMT must include representatives from local people's organizations and non-government organizations. A special audit on energy projects can also be conducted by the DENR, similar to the mining audit that the agency did in 2016-2017. Erring projects must be penalized accordingly.

The country's geography must be studied and assessed for potential solar, hydropower, wind, and geothermal power establishments. This is essential to be able to ramp up the establishment of new renewable energy sources. Finance mechanisms and incentives for renewable energy project shall encourage both large-scale and community-based projects.

Minimizing environmental impacts of renewable energy projects can be enhanced by allocating budget in renewable energy research and development with the purpose of fully transitioning into renewable energy. As a possible innovation for instance, since hydroelectric power through mega dams can be redesigned in such a way that the natural flow of water is less disturbed. A better alternative for mega dams could be microhydroelectric technology such as instream turbines. Especially in cases of severe environmental and livelihood disruption, host communities and the most affected must be fully compensated even after the dam is built.

Guided by a framework of energy democracy, lowering the scale of generation, transmission, and distribution into community-based can lower environmental disruption and prices for the host community. A system in which local energy project can sell electricity to other communities, through "mini-grids", in case of excess supply can be explored. The energy sector is bit by bit returned to the control of the people instead of being monopolized. Ensuring consumer participation in the ERC, establishing government-owned power establishment and facilities will help regain government sovereignty in the energy sector and thus, weaken the current energy monopoly. Nonetheless, EPIRA must still be reviewed especially after its failure more than 2 decades since its enactment.

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