The Climate Reality Project®
PHILIPPINES

MURANG KURYENTE

Accelerating Renewable Energy in the Philippines

In 2008, the Philippines marked a legislative milestone in the passage of Republic Act No. 9513, or the Renewable Energy (RE) Act, which sought to reduce the country's dependence on fossil fuels and accelerate the development of RE nationwide.

Recognized as the first and most comprehensive renewable energy law in Southeast Asia, the RE Act signaled to energy players and stakeholders to embed RE into national development strategies and programs. However, it is only in recent years that we've seen the mechanisms of the law being fully implemented and realized—driven by the urgency of transitioning to low-carbon systems due to climate change while providing more access to cheaper and reliable electricity to our people.

In this Murang Kuryente series on renewable energy, we feature the salient provisions of the RE Act of 2008 and unpack its potential and mechanisms in reforming our country's energy system to be more aligned with our climate and energy security goals.

WHAT DOES THE RENEWABLE ENERGY ACT OF 2008 AIM TO ACHIEVE?

The RE Act aims to promote the development, utilization, and commercialization of renewable energy resources in the Philippines. It anchors on the premise that fossil fuel dependence exposes the country's economy to importation costs and volatilities in the global market, such as price fluctuations and foreign exchange, that trickle down as additional costs to industries and consumers.

The law has the following objectives:

- Accelerate the exploration and development of RE to achieve energy self-reliance, through the adoption of sustainable energy development strategies.
- Increase the use of RE by developing national and local capabilities and providing fiscal and non-fiscal incentives.
- Encourage the development and use of RE as tools to effectively prevent or reduce harmful emissions and thereby balance the goals of economic growth and development.
- Establish the necessary infrastructure and mechanisms to carry out the mandates in this law and related laws.

WHAT ARE THE ON-GRID AND OFF-GRID MECHANISMS TO INCREASE THE SHARE OF RENEWABLE ENERGY IN THE POWER GENERATION MIX?

The RE Act is seen as a vehicle to achieve the clean energy scenario of the Philippines that targets to increase the share of RE in the country's power generation mix to 35% by 2030 and 50% by 2040.

To advance RE, different energy mechanisms were put in place, such as the (1) Renewable Portfolio Standards (RPS), (2) Feed-in Tariff (FIT) System, (3) Renewable Energy Market (REM), (4) Net-metering, (5) Green Energy Option Program (GEOP), (6) Renewable Energy Development in Off-Grid Areas, and (7) Government Share.

- **Renewable Portfolio Standard.**
  Distribution utilities, electric cooperatives, and retail electricity suppliers are mandated to partake in the RPS, which sets the minimum percentage that they must source or generate from RE resources every year, starting at 1% in 2020.

  In 2023, the RPS was increased to 2.52% and is still subject to increase to achieve the target of the country's clean energy scenario.

- **Feed-in Tariff System.**
  The FIT system subsidizes and incentivizes RE generators by allowing fixed payments in contracts and priority connection to the grid. FIT resumed in 2024 after its temporary suspension in 2021 when the costs of RE technologies and systems became more competitive.

- **Renewable Energy Market.**
  REM serves as an avenue for distribution utilities, electric cooperatives, and retail electricity suppliers to grant and trade Renewable Energy Certificates (REC), necessary for the validation of the RPS. Each certificate equates to one megawatt per hour renewable energy generation.

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- **Net-metering for Renewable Energy.**
  The net-metering program allows end-users with less than 100 kilowatts per hour installed RE capacity to export excess generated power to their distribution utility for gained credits that can be deducted from the next monthly bill.

  However, the program clarifies that end-users remain as net customers. This means that their consumption should still be higher than generation; thus, net-metering programs must not be ventured for business purposes.

- **Green Energy Option Program.**
  End-users with an average monthly peak demand of at least 100 kilowatts for the past 12 months can participate in GEOP to source 100% power from RE suppliers.

  GEOP switchers gain significant financial savings from cheaper power costs and improved sustainable portfolios while contributing to the goal of increasing the share of RE in the power mix.

- **Government Share.**
  The government's share for existing and new RE projects should be equivalent to 1% of the developer's gross income but should be 1.5% for geothermal energy. This is waived for microscale projects or those that are not greater than 100 kilowatts per hour.

- **Renewable Energy Development in Off-Grid Areas.**
  In providing missionary electrification, the National Power Corporation's Small Power Utilities Group must source a minimum percentage of its total annual generation from available renewable energy resources in the area.

WHAT ARE THE INCENTIVES FOR RENEWABLE ENERGY PROJECTS AND ACTIVITIES?

Developers of RE facilities are entitled to fiscal and non-fiscal incentives:

- **Income Tax Holiday.**
  New RE developments shall be exempted from income taxes for the first seven years of their commercial operations.

- **Duty-free Importation of RE Machinery, Equipment, and Materials.**
  RE developers receive free tariff duties during their first 10 years of operations.

- **Special Realty Tax Rates on Equipment and Machinery.**
  Realty and other taxes on the development and improvement of RE energy facilities should not exceed 1.5% of their net book value.

- **Net Operating Loss Carry-Over.**
  The allowable deductions on the gross income that have not been offset in the first three years shall be carried over as deductions on the gross income in the next seven consecutive taxable years.

- **Corporate Tax Rate.**
  A 10% corporate tax rate shall be imposed on RE developers after the seven-year income tax holiday.

- **Accelerated Depreciation.**
  RE developers can apply for accelerated depreciation if the income tax holiday is not fully claimed.

- **Zero Percent Value-Added Tax Rate.**
  RE developers can apply for accelerated depreciation if the income tax holiday is not fully claimed.

- **Cash Incentive of Renewable Energy Developers for Missionary Electrification.**
  RE developers engaged in missionary electrification of off-grid areas are entitled to a cash generation-based incentive per kilowatt hour rate generated power.

- **Tax Exemption of Carbon Credits.**
  The gross income of renewable energy developers shall be exempted from carbon tax credits.

- **Tax Credit on Domestic Capital Equipment and Services.**
  RE developers who purchase from a domestic manufacturer shall receive a full tax credit.

Manufacturers and suppliers of locally-produced renewable energy equipment and components can also enjoy tax and duty-free importation, income tax holidays, and zero VAT transactions. Moreover, farmers engaged in the plantation of biomass resources are also entitled to duty-free importation and VAT exemption on agricultural inputs, equipment, and machinery.

WHAT ELSE DID THE RENEWABLE ENERGY ACT OF 2008 PROVIDE?

- Creation of the National Renewable Energy Board (NREB), which is an advisory and recommendatory board, and the Renewable Energy Management Bureau (REMB) under DOE.

- Establishment of the Renewable Energy Trust Fund (RETF) to finance, research, develop, and promote RE systems; conduct market assessments; and propagate knowledge on renewable energy.

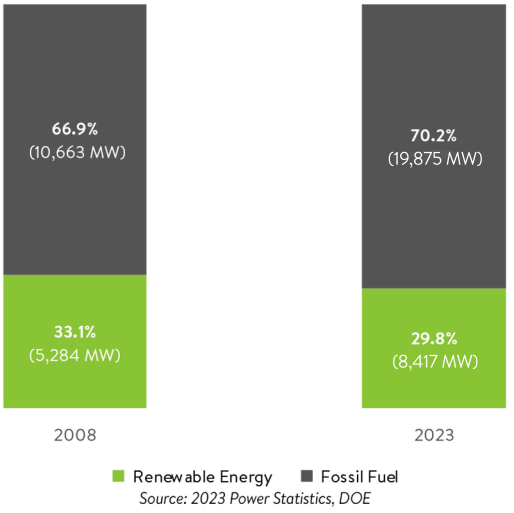
- Provision of preferential financial packages (Financial Assistance Program) by government financial institutions for renewable energy projects endorsed by the DOE.

- Adoption of Waste-to-Energy Technologies or the conversion of biodegradable materials to energy, in compliance with the Clean Air Act and the Ecological Solid Waste Management Act.

WHERE ARE WE NOW WITH RENEWABLE ENERGY AFTER THE RE ACT?

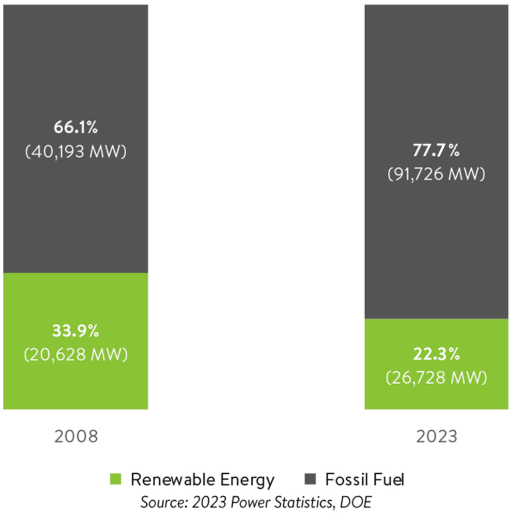
While renewable energy increased in terms of installed capacity and power generation mix, the growth is small compared to fossil fuels—particularly, coal—which gained significantly in both areas.

INSTALLED CAPACITY



Source: 2023 Power Statistics, DOE

POWER GENERATION



Source: 2023 Power Statistics, DOE

We see the stark difference when looking at the percentage shares. For example, the 2023 power generation figures recorded a 22.3% share of renewable energy and a 77.7% share of fossil fuels in our energy mix, revealing an 11.6% decline for renewable energy (and an 11.6% increase for fossil fuels) from its share in 2008.

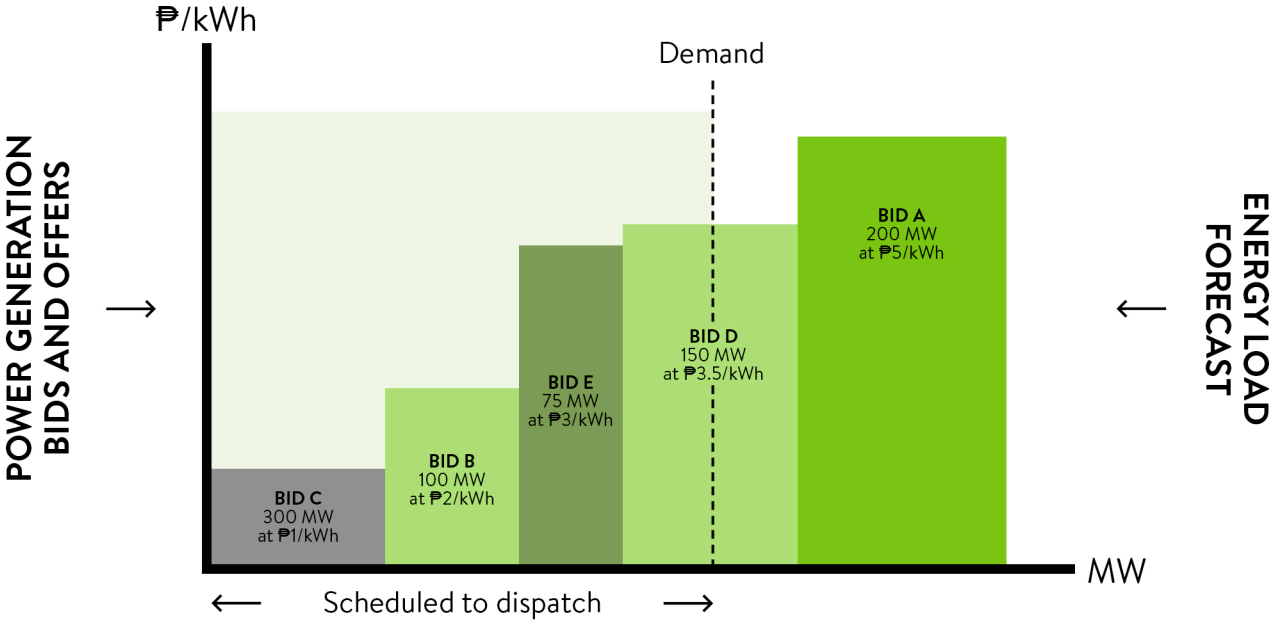
HOW IS THE GOVERNMENT ADDRESSING THIS DOWNWARD TREND ON RENEWABLE ENERGY?

The Philippines had set targets to increase the share of renewable energy in the power generation mix to 35% by 2030 and 50% by 2040, requiring an additional capacity of 73,900 MW.

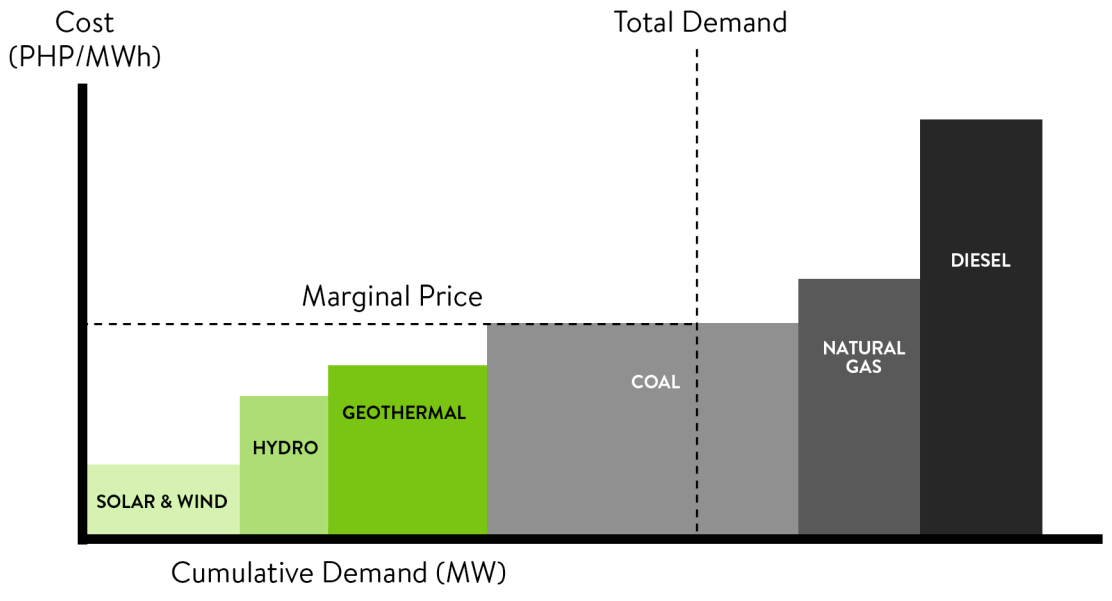
The government also allowed 100% foreign ownership on RE projects and implemented a coal moratorium. The moratorium banned the development of new coal-fired power plants in the country.

Additionally, the introduction of the Wholesale Electricity Spot Market (WESM) in the electric industry also played a crucial role in upscaling RE in the country. WESM is a centralized venue for the large-scale buying and selling of electricity where power is traded as a commodity based on energy supply and demand. Operations for Luzon started in 2006, 2015 in Visayas, and 2023 for Mindanao. It is governed by the Philippine Electricity Market Corporation (PEMC) and operated by the Independent Electricity Market Operator of the Philippines (IEMOP).

RE power plants have been given preferential dispatch orders in the WESM through the following steps:



- The WESM schedules the trading activities of the market every five minutes.
- In dispatch operations, the total demand requirement is first determined based on the energy load forecast.
- Power generation companies submit price bids and offers.



- WESM arranges these offers from the cheapest to the most expensive—a procedure called the “merit order system.” This urges companies to bid the cheapest possible prices they can offer in order to be prioritized.

- The cumulative offers that will meet the total load requirement will be dispatched.

- The generation company with the highest price included in the dispatch sets the marginal price, which will also be the amount paid to the other dispatched companies regardless of cheaper offers.

HOW DOES RENEWABLE ENERGY IMPROVE THE CURRENT ENERGY SYSTEM?

Electricity in the Philippines is among the highest in Asia because distribution utilities and electric cooperatives heavily source power from fossil fuel companies.

In 2023, the country generated 77.7% of its power from coal, oil, and natural gas which are exposed to price volatilities and foreign exchange costs in the global energy market; therefore, largely influencing the power costs shouldered by consumers.

The monthly electricity bill is computed through the total amount of all generation charges, transmission charges, distribution charges, government taxes, and other charges.

- **Generation Charge.**
  Largest component of your bill, which includes the generation charge or the weighted average costs of electricity sold by suppliers to the distribution utility.

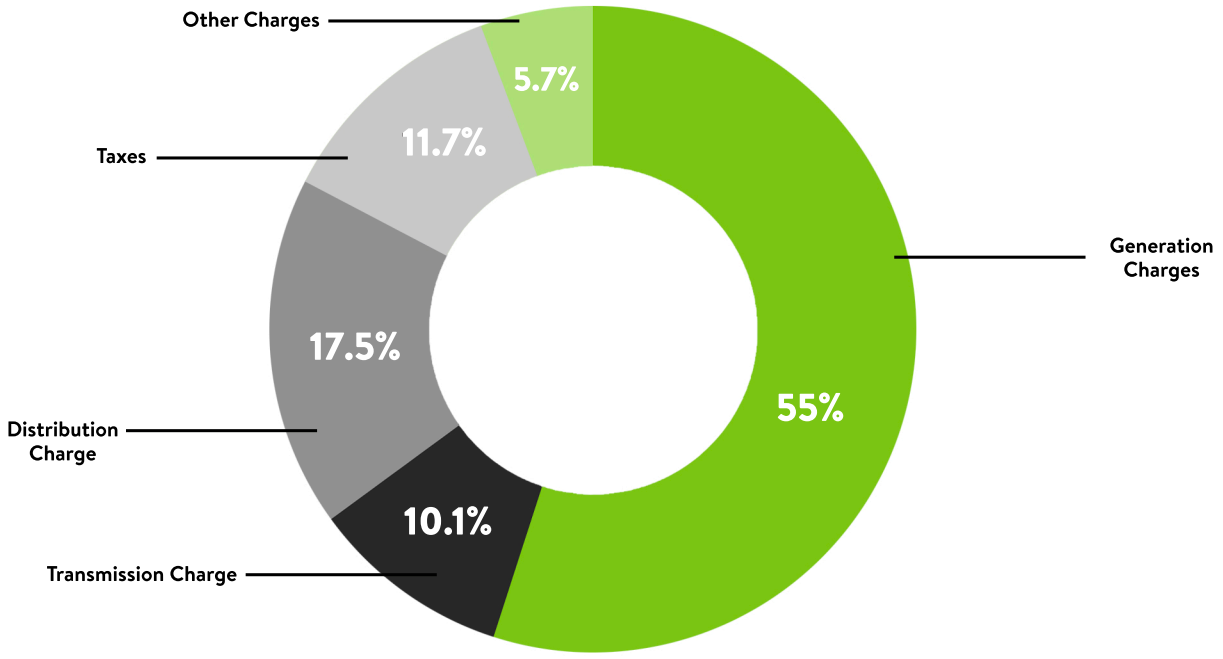
- **Transmission Charge.**
  Cost of transmitting electricity from suppliers to distribution system, paid to the National Grid Corporation of the Philippines (NGCP).

- **Distribution Charge.**
  Only portion paid to the distribution utility, which includes metering (operation of metering facilities and equipment) and supply charges (customer services).

- **Government Taxes.**
  Include franchise taxes, value-added taxes, and energy tax.

- **Other Charges.**
  Include system loss, universal charges, and subsidies.

BREAKDOWN OF CHARGES



**Based on Based on MERALCO May 2022 bill*

The country's energy regulatory practice allows consumers to pay for pasaload, which is hidden in the generation charge in our monthly electricity bill. Pasaload is the term energy experts have used to describe the automatic fuel pass-through provision in power contracts, which allows power producers and distributors to pass on additional costs from global market price fluctuations of importing fossil fuels (coal, oil, and gas) to the consumers.

BREAKDOWN OF GENERATION CHARGE

Source	% of Total kWh Purchased	(A) kWh Purchased	(B) Basic Generation Cost (PhP)	(C) Other Cost Adjustments (NSS and Other Billing Adjustments) (PhP)	(D=B+C) Total Generation Cost for the Month	(D/A) Average Generation Cost (PhP/kWh)
Bilateral Contracts with Power Suppliers						
1. Quezon power Phils Ltd. Co (QPPL)	**9.10%**	**282,411,659**	**2,123,803,040**	**142,632,895**	**2,266,435,935**	8.0253
2. First Gas Power Corporation (FGPC) - Santa Rita	20%	619,778,300	4,621,987,783	113,162,719	4,735,150,502	7.6501
3. FGP Corp. (FGP) - San Lorenzo	10.70%	333,321,176	2,274,851,945	6,016,490	2,280,868,435	6.8429
Subtotal - Independent Power Producers (IPPs)	39.80%	1,235,511,135	9,020,642,768	261,812,104	9,282,454,872	7.513
4. Fist NatGas Power Corp. (FNPC) - San Gabriel	6.80%	209,874,893	1,141,987,880	3,509,780	1,145,497,660	5.458
5. San Buenaventura Power Ltd. Co. (SBPL)	**7.40%**	**228,538,983**	**2,054,698,181**	**104,590,395**	**2,159,288,576**	9.4487
6. AC Energy (Baseload)	4.60%	144,000,000	657,931,282	25,000,000	682,931,283	4.7426
7. San Miguel Energy Corp. (SMEC)	6.50%	202,898,000	870,520,537	.(22,527,108)	847,993,429	4.1794
8. South Premiere Power Corp. (SPPC) (Midmerit)	13.30%	411,945,000	1,767,501,136	153,025,616	1,920,526,753	4.6621
9. AC Energy (Midmerit)	1.50%	47,520,000	292,167,026	8,333,333	712,453,495	6.3237
10. South Premiere Power Corp (SPPC) (Baseload)	3.90%	121,840,000	649,277,035	63,176,460	202,588,146	5.8475
11. First Gen Hydro Power Corp. (FGHPC) (Midmerit)	1.20%	36,917,000	195,652,968	6,935,179	308,795,302	3.3094
12. Other PSAs*	3%	93,307,507	342,882,778	.(34,087,476)	8,280,575,003	5.532
Subtotal - Power Supply Agreements (PSAs)	48.20%	1,496,841,383	7,972,618,824	307,956,179	2,549,682,916	6.9253
WESM	11.90%	368,170,592	2,346,474,607	203,208,309	12,216,583	6.1726
EXPORT ENERGY FROM NET METERING CUSTOMERS	0.06%	1,979,148	12,216,583	-	-	
OTHERS	0.00%	18,372	-	100,000,000	100,000,000	
TOTAL	**100.00%**	**3,102,530,630**	**19,351,952,783**	**872,976,592**	**20,224,929,375**	**6.5189**

**Based on MERALCO's generation charges [May 2022]*

- **Coal-fired Power Plants.**
  These have the highest average generation cost per kWh in the breakdown. We heavily import coal, which is volatile to global market crises and prices.

Pasaload drives up the average generation costs (majority of the bill) from fossil fuel companies, jacking up our electricity bill. This benefits fossil fuel companies but is a burden to consumers who shoulder the risks and pay more for electricity whenever the cost of coal, oil, and gas goes up in the world market.

Bilateral Contracts with Independent Power Produers (IPPs)		
Source	% of Total kWh Purchased	Average Generation Cost (PhP/kWh)
1. Therma South Inc. (TSI)	0.83%	₱15.1898
2. Sarangani Energy Corporation (SEC)	16.46%	₱9.5219
3. FDC Misamis Power orp. (Coal)	15.15%	₱12.2059
4. Asiga Green Energy Corporation	15.39%	₱5.9358
5. GNPower Kauswagan Ltd. Co.	41.79%	₱9.5300

Agusan del Norte Electric Cooperative, Inc. (ANECO) harnesses energy from five independent power producers, all of which are from fossil fuel companies except Asiga Green Energy Corporation. Asiga operates through hydroelectric power amounting to the cheapest generation cost among the breakdown. ANECO acquired almost the same quantity of power from Asiga (renewable) and FDC (coal) but the latter incurred more than twice the cost Asiga offered.

For decades, fossil fuel companies have enjoyed risk-free business operations due to pasaload, while consumers suffer by paying for this. Meanwhile, there is no pasaload in renewable energy resources because these are not imported and are locally abundant. This is proof that sourcing more power from renewable energy will lower electricity costs.

Baseload power plants, such as coal, are not flexible to match the variability of the Philippine load profile, but variable power plants, which include solar and wind energy, can adapt to the changing load demands yet maintain cheap marginal costs. If enough variable power plants enter the spot market, electricity costs can further decrease and cleaner and more reliable energy would be dispatched to meet the required load demand.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