ENERGY TRANSITION PARTNERSHIP

Powering Prosperity and Enabling Sustainability in South East Asia

PHILIPPINES TECHNICAL ASSISTANCE PROGRAM

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Executive summary

1. **Over the past two years, the Southeast Asia Energy Transition Partnership (ETP) has been delivering pivotal technical assistance to accelerate the Philippines' clean energy transition.** ETP facilitates the revision of the Philippine grid code and distribution code, and other regulations to enable more variable renewable energy into the power system. In parallel, ETP is drafting the rules for the integration of energy storage systems in the electricity spot market. ETP is working with the Department of Energy to address transmission interconnection challenges, stimulating dialogue among agencies that contributed to the approval of the long-delayed Transmission Development Plan. ETP will ensure that recommendations are adopted and implemented, with a commitment to provide the necessary support to see them through.

2. **ETP is continuously developing impactful and responsive projects to address bottlenecks in the clean energy sector.** Projects are aligned with the direction and priorities of the government, particularly in the development of the offshore wind sector and ensuring sustainable energy supply. ETP will be supporting the development of an offshore marine spatial planning tool and establishing a streamlined permitting and consenting process to facilitate the completion of 31GW of offshore wind projects. ETP is also building on the work undertaken on the grid codes and the transmission network with a smart grid program for distribution utilities. In addition to these, ETP will deliver policy work and capacity building on power sector planning, energy efficiency, renewables in the electricity market, and asset-based early retirement of coal-fired power plants

3. **ETP strengthens collaboration with other donor partners to leverage their expertise and resources and deliver high-quality outputs.** The program strives to build on the work of other development partners, collaborate with ongoing programs, and support the government of the Philippines to align its energy transition with both the Paris goals and with the best international practices and available technologies and information products.

4. **ETP aims to contribute to the Philippines' clean energy targets at a minimum and facilitate their achievement at a shorter timeline by addressing persisting challenges.** The government announced a move towards a Clean Energy Scenario (CES) in the Philippine Energy Plan 2022 - 2040, characterized by efficient energy consumption and higher RE in the mix. Renewable energy fiscal and market policies are in place, including net metering, the Green Energy Option, and the Renewable Portfolio Standards (RPS). However, wind and solar resources go largely untapped because of the following impediments:

a. Delays in enforcing RE policies, and lack of cohesiveness between policies and existing regulations.
b. Tedious permitting process that delays and adds costs to RE projects.
c. Transmission grid interconnection issues due to limited capacity in some areas and lack of interconnection points,
d. Distribution grids are not prepared for the influx of more distributed variable RE.
e. Under-investment in renewable energy
f. Challenges in cascading national-level policies to the local levels because of limitations in capacity and in resources.

5. **Energy Efficiency can play a vital role in controlling GHG emissions. The Energy Efficiency and Conservation (EEC) Act (RA 11825) needs support to be effectively implemented.** The Philippines' high electricity tariffs ($0.2/kWh for the residential sector) and threats to energy security drive the government's push for EE. The EEC Act was signed into law in 2019 requiring energy-intensive end-users to set annual energy conservation targets and implement them. However, there are limited energy efficiency (EE) practitioners and energy service companies (ESCOs) that can cater to these facilities, and savings-based cash flows are still considered high-risk by the financing sector. Even the public sector faces procurement issues when engaging with ESCOs for larger EE projects.

6. **ETP's interventions are hinged on creating an enabling environment for private sector investments and engagement in renewables and energy efficiency.** An estimated $120 billion of investments in RE alone is required to realize the CES vision. Encouraging the private sector is critical for success. To support this, ETP strives to provide the government with the appropriate tools, expertise, and analytics to create and implement responsive policies that will open the clean energy market to more diverse players. It works to untangle existing regulations, streamline processes, and make them appropriate for renewables. It delivers evidence, plans, and roadmaps to reduce risks for emerging renewables and variable RE. Through capacity building, ETP increases knowledge and awareness and enhances risk mitigation skills. While energy transition is at the forefront of support, building the local green industry and creating jobs are indirect outcomes of these interventions.

A. Country Targets

7. **The Philippines' targets are set to sustain and continuously improve the country's national development.** Complementary to this, sectoral targets such as energy and climate change have been defined to support national development. These are in the Philippine Energy Plan and the country's NDC submission, which is updated periodically based on national circumstances. ETP's four strategic outcomes contribute to achieving the Philippines' development targets and are shown in Figure 1.

Figure 1. ETP's Contributions to the Philippines' National Targets

ETP's Impact

ETP aims to assist the Philippines in achieving both the SDGs and Paris climate commitments by 2030, with a particular emphasis on aligning climate action plans with targets and commitments, reducing or avoiding GHG emissions, minimizing air pollution's impact on health, and creating green jobs in low-carbon industries.

ETP's Strategic Goal (SO)

SO1 Policy alignment with climate commitments
SO2 De-risking EE and RE investments
SO3 Sustainable and resilient infrastructure
SO4 Knowledge and awareness building

Country Target

Indicator	Target	Commitment Document
Nationally Determined Contribution, GHG emission reduction	2.71% *Unconditional* 72.29% *Conditional* **by 2020-2030**	Philippines Nationally Determined Contribution Communicated to the UNFCCC 2021
Smart Grid System	Full Smart Grid System **by 2040**	National Smart Grid Policy Framework
Renewable Energy Share in the Power Generation Mix	35% **by 2030** <50% **by 2040**	Philippine Energy Plan 2020-2040
Energy Intensity reduction	32% **by 2025**	Philippine Energy Plan 2020-2040
Electrification	100% **by 2028**	NEA Strategic Thinking Conference-Workshop 2023
Energy Savings on oil products and electricity	5% **by 2040**	Philippine Energy Plan 2020-2040
Electric vehicle penetration	10% **by 2040**	Philippine Energy Plan 2020-2040

B. Steering Policy and Regulatory Framework

8. **The Philippines NDC demonstrates low ambition without international support, but large ambition with it. That is, the NDC has an unconditional GHG target of 2.71%, compared to a 72.29% conditional on international support.** The Philippines NDC is ambitious and is consistent with a 1.5°C warming limit required under the Paris Agreement. However, current policy projections show the Philippines is not on track to meeting its NDC target[1]. The NDC covers mitigation and adaptation for the agriculture, waste, industry, transport, and energy sectors for the period 2020-2030. This commitment is referenced against a projected business-as-usual cumulative economy-wide emission of 3,340.3 $MtCO_{2e}$ for the same period. While the Philippines is not a significant contributor of global GHG emissions, its unconditional targets can be made more aggressive given the energy sector's shift towards the CES, greater private sector interest, and financing sector's adoption of Environmental, Social, and Governance (ESG) requirements.

9. **A moratorium on greenfield coal power plants was issued by the Department of Energy in 2020 in response to the NDC commitments. This significant advisory is expected to reduce demand for domestic coal.** The new administration, which took over in June 2022, has sustained the moratorium on coal. The rising costs of imported fuels and the market's preference for more sustainable energy sources were cited by the new DOE Secretary among the reasons for sustaining the moratorium. In addition, DOE intends to preserve investor confidence with a consistent core policy towards clean energy.

10. **The Renewable Energy Act (RA 9513) is the overarching policy for renewable energy development, assigning incentives and expanding the market for renewable generation.** The DOE preliminarily released the National Renewable Energy Program 2020-2040 (NREP), which is the RE Act's implementation plan to attain the goal of 35% RE share in the power generation mix by 2030. Its framework calls for a whole-of-government approach involving all sectors including the local government units (LGUs) to facilitate the implementation of RE projects, particularly in local-level permitting. All the market mechanisms of the RE Act are now in place including the Renewable Portfolio Standards (RPS), Green Energy Option (GEOP), the Green Energy Auction Program (GEAP), and the Net-metering Program. Support programs, dubbed "transition enablers," have been set up to create an enabling environment for RE investments. These include the Energy Virtual One Stop Shop (EVOSS), a web-based platform for coordinated submission and monitoring of the processing of permits. Another is Competitive Renewable Energy Zones (CREZ) which are RE resource-rich areas that are prioritized for transmission upgrades.

[1] https://1p5ndc-pathways.climateanalytics.org/countries/philippines/

11. **The Energy Efficiency and Conservation (EEC) Act was passed into law in 2019 to institutionalize energy efficiency as *a national way of life*.** Prior to the EEC Act, there had been many energy conservation programs implemented including an energy labeling system for household appliances and the Government Energy Management Program (GEMP) that mandates public buildings to reduce power and fuel consumption. The EEC Act reinforces these programs and expands them by requiring commercial and industrial end-users to set up annual energy targets and implement efficiency measures. Demand Side Management is another feature of the Act that promotes energy efficiency through load management. Compared to the RE Law, the EEC Act is relatively new and rules and necessary systems are still being put into place.

12. **The full implementation of the RE Act and the EEC Act requires a transformation of existing institutional and regulatory structures as well as technological innovation and upgrades.** While the RE and EE policies are in place, their limited implementation has slowed the country's energy transition. The lack of capacity to develop the practical guidelines for these policies and the limited government resources to enforce them are contributing factors to this. In addition, existing institutional and regulatory structures need to be undone and adapted for the new clean energy policies to fit in. The passing of the Electricity Power Industry Reform Act (EPIRA) in 2000 restructured the power sector from a vertically-integrated power system and unbundled it into four main sectors: transmission, electricity market, distribution, and generation. The whole industry was privatized with a regulator established to ensure fair competition, with the aim to lower tariff rates and enhance energy supply reliability. The existing rules and policies were designed around conventional energy. Power planning and regulations need to adapt to allow more variable renewable energy into grids, open the market to a more diverse set of players, and take into consideration the increasing importance of end-users in balancing future energy supply and demand.

C. Issues and Challenges

13. **Energy Affordability:** The Philippines has one of the highest tariffs in Southeast Asia and faces challenges both in making electricity rates competitive and affordable, as well as increasing energy access in underserved and remote areas. A comparative cost per kWh from different energy sources demonstrates the competitiveness of solar and wind energy in the long run, even before factoring in the costs of externalities. Currently, the country has the second highest electricity tariff in the region at around P10/kWh ($0.20/kWh) for households. In some areas, the tariffs are even higher due to differences in power supply sources of the distribution utilities. It has been known that utilities that source from renewable energy have lower tariffs, but others have not followed partially because of existing long-term contracts will fossil fuel-based supply. In addition, the Purchase Power Agreements signed by the Philippine government in the past had assured energy generators and suppliers of guaranteed payments and thus, resulted in inefficient pricing and market distortion. While tariffs are high, the uptake of energy efficiency has been slow.

14. **Policies and regulations** of the different agencies and the different levels of government involved in energy policy and climate change are not harmonized. Energy policies and regulations issued by the different energy agencies are sometimes not consistent. There is a need to align divergent policies on energy and the Philippine Energy Plan. The latter has a framework for ensuring an optimal energy mix by 2030 in recognition of the country's quest to attain a middle-income status under the AMBISYON 2040 roadmap. However, policies still exist that grant various tax incentives on coal-fired power plants as part of the government's intention to increase generation capacity and promote economic growth[2]. Furthermore, there is a need to manage the interests of various energy stakeholders in promulgating legislation to ensure a just energy transition in the country. However, when parties are unable to maximize their interests at the energy policy formulation stage, these groups seek judicial intervention which in turn delays and sometimes prevents policy implementation.

15. **Delays in implementing clean energy policies.** It took 11 years for the government to develop rules and set up the necessary systems to implement the RE mechanisms in the RE Act (RA 9513). The delay may be attributed to the lack of capacity, limited resources to establish necessary systems, and the need to coordinate with other agencies and stakeholders. Various agencies will have different capacities and levels of understanding of these mechanisms. DOE and other agencies rely heavily on technical assistance from the donor community to support, develop and implement policy mechanisms.

16. **Tedious permitting** is a barrier to entry for new RE players, delays and adds costs to RE projects. About 360 signatures from 74 different agencies were required for a typical run-of-the-river hydropower project, which is equivalent to about 1,350 days of work[3]. Other types of RE projects will require almost the same number of approvals. The government established the Energy Virtual One Stop Shop (EVOSS), an online tracking platform of the permitting process to address this concern and streamline the process. However, EVOSS has not yet successfully addressed the issue because not all national agencies and LGUs have taken part. As a result, many big players are dominating the industry. The cost of the complex licensing process significantly adds to the project cost making it difficult for new actors with limited funds.

17. **Implementation of clean energy policies is difficult to cascade to the local government level (provincial and municipal levels).** The role of LGUs in the energy sector is defined by the LGU Energy Code[4]. It requires integrating national energy policies and programs into local development plans, and to harmonize and fast-track the permitting process. Local-level permitting has been identified as the most

[2] Under the Investment Priorities Plan (IPP), power generation is one of the activities eligible for fiscal and non-fiscal incentives provided by Executive Order 226 Omnibus Investments Code. The tax incentive does not differentiate between fossil fuel or renewable energy generation.

[3] Sponsorship speech of Senator Gatchalian on Senate Bill No. 1439, otherwise known as the Energy Virtual One Stop Shop of 2017, Session No. 80 Seventeenth Congress First Regular Session.

[4] DOE-DILG Joint Memorandum Circular 2020-1

challenging to secure because there is no standard permitting process in LGUs and no designated offices in LGUs to handle energy projects. Given that energy has never been under the purview of LGUs, they have not built the capacity to incorporate energy in local-level planning, nor initiate energy-related projects. Extensive capacity building and even creating new job positions are required for LGUs to perform their new energy-related responsibilities.

18. **Transmission Grid interconnection issues.** The current grid infrastructure needs to be expanded and upgraded to accommodate more RE capacities. The government established the *Competitive Renewable Energy Zones (CREZ)* to prioritize RE-rich areas to be upgraded. However, a more holistic and long-term technical and economic assessment and planning need to be done to ensure that RE projects can connect to the grid and that the grid can properly manage the influx of variable RE.

19. **Distribution grids are not prepared for the influx of more distributed variable RE.** Rising integration of more distributed variable RE poses technical risks to the grid such as fluctuation in system frequency, high volt export in limited networks, congestion, and higher reserve requirements. It will be essential to upgrade distribution into smart grids to ensure grid stability and reliability. The expected uptake of electric vehicles in the future will also require smart grids.

20. **Under-investment in renewable energy and energy efficiency projects.** The acute underinvestment in RE and EE programs prevails despite the passage of the RE Act (RA 9513) and EEC Act (RA 11825), and the push from the finance sector by raising ESG[5] requirements. In addition, there are limited de-risking instruments for RE and EE investments. The restructuring of the power sector under the EPIRA[6] privatized the power industry that prevented the government from investing in generation plants. However, the investment environment has not been encouraging to stimulate private sector participation. Recently, the Philippines lifted foreign direct investment (FDI) restrictions for renewables, allowing 100% foreign ownership of renewable energy facilities. The announcement led to pledges from various countries on renewables including USD13.7 billion from China, total USD6.4 billion from Singapore[7], total USD24.7 billion from Switzerland[8], and total USD10 billion from the European Union[9]. These FDI can supply the renewables sector with finance, technical expertise, and technologies. From an economic perspective, it will also boost the economy and create jobs. However, there are also risks. An influx of foreign investment may make it harder for local actors to compete. In the long term, sustaining the industry's growth may be over-dependent on foreign resources.

21. **The government has prioritized development of the offshore wind industry, given the significant untapped potential.** The Offshore Wind (OSW) Energy Roadmap,

[5] Environmental, Social, and Governance
[6] Electric Power Industry Reform Act of 2001
[7] Total Singapore pledge for renewables and information technology
[8] Total Switzerland pledge for renewables, information technology, electronics
[9] Total EU pledge for renewables, shipbuilding, and green metals

prepared by World Bank (2022), estimates over 178 GW of OSW energy potential in the Philippines. The private sector has already expressed strong interest to invest in developing OSW with 31GW of projects awarded with service contracts and additional letters of intent submitted to the DOE by interested project developers. However, before actual investments are committed several impediments stand in the way. There is a need for a comprehensive understanding of the other uses of potential sites, i.e. fishing, transport, and defense to reduce risks of conflict during the project development stages. The regulatory framework for ocean and marine RE projects also needs to be established, which includes a streamlined consenting process, analysis of costs and possible tariff rates. Plans for grid interconnection also need to be strengthened.

22. **Transport sector is one of the highest contributors to the total energy demand. The use of electricity and synthetic liquid fuel in vehicles can generate the greatest impact in the reduction of GHG emissions.** However, the government's infrastructure programs have contributed to rising vehicle ownership and high-road use. There should be more investment in efficient and integrated mass transport systems and decarbonize the existing public vehicles.

23. **Remote off-grid areas are dependent on diesel generators**. These are mostly remote islands served by electric cooperatives with power generation provided by the government (NPC-SPUG[10]). About 91% of the 623MW capacities in off-grid areas are diesel, with only 9% RE. DOE's Off-grid Renewable Portfolio Standards mandates displacing a portion of diesel with RE. Its enforcement was postponed to assess the optimal power supply mix in each area and understand the impact of tariffs. The private sector has no interest in these areas without any enabling incentives to service a small market. The 2021 electrification rate is only at 93%, failing the 2020 target of 100% electrification. Because of the limited power supply, social services in these areas are either lacking or absent. The electric cooperatives and LGUs can be pivotal to intensify electrification but will need aggressive policy push and support. The mechanisms to involve the private sector here have failed. LGUs need to step up and view the problem from a humanitarian lens.

24. **The Wholesale Electricity Spot Market (WESM) is an untapped market for renewables.** Renewable energy enjoys priority dispatch in the WESM, but is still viewed as a high-risk market by RE developers and debt providers. However, WESM can be an economically viable market for renewables too, with spot prices sometimes higher than the feed-in-tariff rates.

[10] National Power Corporation - Small Power Utilities Group

D. ETP High Level Technical Assistance Program for the Philippines

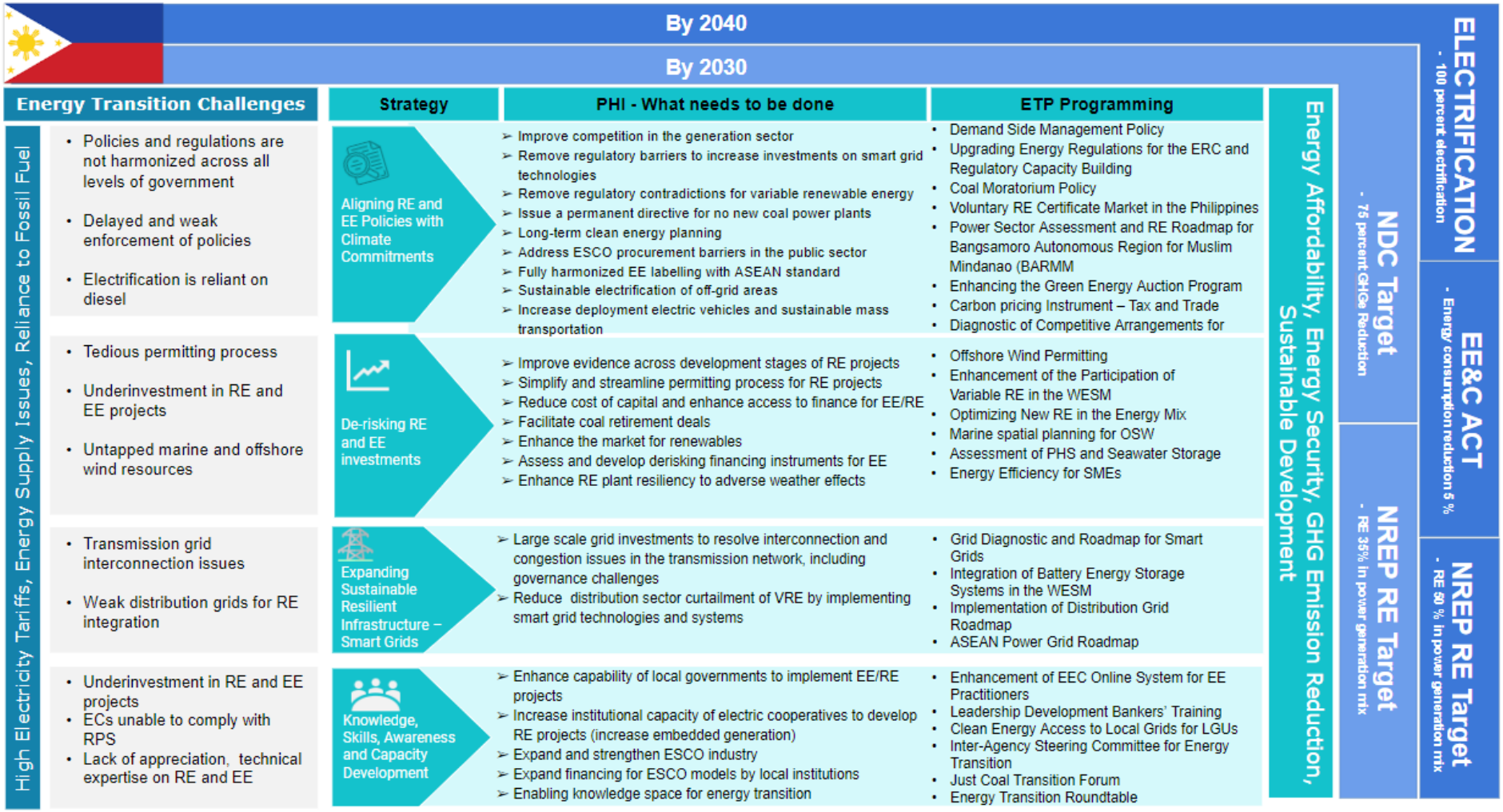
25. **ETP brings significant technical and financial resources and coordination capacity to improve the readiness of the Philippines to pursue its goals and support a transition to a low-carbon energy system**. ETP serves as an innovative platform that will design and coordinate interventions within four intertwined outcome areas that drive enhancing the capacity of the Government, private sector, and civil society to promote the energy transition and contribute to attaining the Government's NDC and the objectives under the Clean Energy Scenario. ETP's 5-year TA plan is high-level and a live document and provides context for the concepts that ETP will explore in detail with its counterparts.

26. **ETP's activities are planned and designed under the four strategic outcomes areas** of (i) strengthened RE and EE policy enabling environment in alignment with NDC commitments, (ii) Increased public and private investments to RE and EE projects, (iii) Increased the amount of distributed RE into the smart grids, and (iv) Increased development and accessibility of RE/EE knowledge and awareness building. These four outcome areas address key energy transition challenges in the Philippines to create a more enabling environment for unlocking private sector investments. A summary of ETP's projects is depicted in Figure 2.

27. **ETP has conducted a series of dialogues with the central government agencies**, including those championing energy transition, such as the Department of Finance, the Department of Energy, the National Economic Development Agency, the Energy Regulatory Commission, as well as key renewable energy and energy efficiency experts. ETP's level of involvement depends on the funding available for its technical assistance program. At the Pledged Level of Resources, the following program will be possible for ETP implementation.

28. **ETP's activities will be implemented in the context of coordination and alignment of development partners' assistance nationally and regionally.** ETP will also support the coordination and alignment of development partners' assistance to avoid overlaps and gaps and enhance information sharing and alignment discussions in the context of the Philippines' commitments under its NDC and accession to the Glasgow pact.

Figure 2: Summary of ETP's Energy Transition Analysis and Programming in the Philippines



Strategic Outcome Area 1: Policy Alignment with Climate Commitments

29. The move towards the Clean Energy Scenario (CES) is the energy sector's contribution to attaining the NDCs. The DOE's Philippine Energy Plan 2020 - 2040 defines the CES as reduced energy consumption and a diversified energy mix dominated by renewables compared to the reference or business as usual scenario. An estimated $120 billion of investments need to be mobilized for the CES to happen. Creating an enabling policy and regulatory environment is critical to encourage investments and facilitate the CES and the Philippines' NDCs.

30. In 2020, the Philippines issued a coal moratorium on greenfield coal power plants to contribute to achieving the country's climate goals. The increase in demand is expected to be supplied by incoming renewable projects. However, there is a general opinion that renewables are not coming online fast enough. Particularly in the Luzon grid, supply reserves approach critical levels during the summer months. The moratorium is an advisory and can easily be overturned should there be a critical risk to the power supply. To sustain and turn the moratorium into a policy, the government needs evidence to understand the required renewable energy capacity additions, the associated investments needed, and the impact of tariffs. This evidence will also support the government in promoting the early retirement of coal-fired power plants.

31. To achieve the CES, the government prescribed the Renewable Portfolio Standards (RPS), a mandatory scheme requiring distribution utilities to source a portion of their electricity sales from renewables. The RPS was increased from the minimum 1% to 2.52% annual increments to reach the 35% RE target by 2030. To support distribution utilities procure renewable generation, DOE initiated the Green Energy Auction Program (GEAP). The first round of green auctions for 2000 MW was conducted in June 2022, with some success. However, it did not achieve the level of competition expected in an auction.

32. The enabling conditions for accelerating energy transition require the implementation of a cohesive and structured policy and regulatory reform led by the Department of Energy and the Energy Regulatory Commission. Current regulations are still anchored to the industry-wide reform under the Electricity Power Industry Reform (EPIRA) Act in 2000, which was focused on energy supply reliability and affordability. Many rules, technical standards, and tariff-setting methodologies are still based on the performance and economics of fossil-fired power plants. ETP's ongoing project, *Upgrading the Energy Regulations*, contributes to making both regulations more flexible to create a more competitive investment environment for clean technologies.

33. The Energy Efficiency and Conservation (EEC) Act (RA 11825) was enforced in 2019 that aimed to provide a comprehensive policy for managing energy use. It strengthens existing policies on energy labeling, minimum energy performance standards, and the government energy management program and expands its coverage to more end-users. It has provisions for compliance of energy-intensive commercial and industrial end-users and prescribes demand-side management functions of the distribution sector. One emerging concern in the implementation of the EEC Act is the delineation of roles among the different agencies. According to the EEC Act, the DOE is the regulator for EE compliance. The ERC only covers the power industry, including power plants, and not the end-user. However, in areas such as demand response, there is an overlap of scope between power generators and the end-users. This makes it challenging to set clear rules for demand side management strategies. A tender to support the development of the Demand Side Management (DSM) policy and address these issues is ongoing for Q1 of 2023. The DSM policy work will work closely with electric cooperatives and will be aligned with the planned distribution sector smart grid work, under ETP's third strategic outcome.

34. Current government procurement rules limit the adoption of energy efficient technologies and implementation of projects using savings-based models. Under a UNOPS initiative to analyze public procurement issues in the Philippines, ETP will take part by contributing to the analysis of barriers and options for public sector procurement of ESCO services and energy efficiency equipment.

35. The policy and regulatory transition will need to undo decades of policies anchored on fossil fuels and revise them to make them more enabling for clean energy. Given the significant role of the private sector in the energy industry, it is DOE's role to champion energy transition under the purview of ERC to ensure country-wide alignment with the goals under the NDC and the CES. This includes the provision of competitive and transparent market conditions to target the low-carbon energy sector and economy. ETP will contribute to policy diagnostic and matrices, regulatory inputs, tools and capacity development, and institutional capacity building to ensure timely and efficient implementation of the clean energy scenario to deliver on the GHG reductions envisioned under the NDC.

Table 1. Outcome Area 1: Policy Alignment with Climate Commitments

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
Ongoing: Upgrading Energy Regulations for the Energy Regulatory Commission of the	ERC is an independent, quasi-judicial regulatory body. ERC is tasked to promote competition, encourage market	The project supports a broad scanning of its regulatory framework for the energy sector to ascertain that all the	Intermediate result (2021-2025): - Prepare a policy reform agenda as a basis	The project inherently requires collaboration between ERC and DOE to ensure that the proposed amendments to the regulations are consistent with DOE's

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
Philippines (ERC) and Regulatory Capacity Building Energy Regulatory Commission (ERC)	development, ensure customer choice and penalize abuse of market power in the electricity industry. Some regulations hamper wider participation implementation of renewable energy and energy efficiency projects.	regulations enable and facilitate energy transition and identify any areas within its regulations that may work against or impede efforts of the Philippines to move toward a low carbon economy and to reach its stated NDC.	- Recommend revisions and enhancements to RE/EE policies, laws, and regulations Long-term result (2026-2030): - Contributed to the 35% RE share of the generation capacity mix	policies. There is also space for collaboration with ADB's work on ancillary services. ETP's work on battery energy storage systems (BESS) with PEMC should also be aligned with the recommended rules for BESS in the grid codes that this work is delivering.
Carbon Pricing Instrument - Tax and Trade Department of Finance (DOF)	There is an absence of a legal framework that governs carbon and pricing system and the capacity to establish the framework; for example, what is the unit of measurement to measure captured carbon, best international practices and how can the carbon pricing process be governed transparently.	The Project shall develop studies to address pertinent gaps in policy formulation and implementation in establishing a sophisticated carbon market framework that will govern the carbon tax system or integrate with an emission trading system transparently. The Project shall institutionalize the adaptation of a prudent legal framework for carbon pricing and taxing that will	Intermediate result (2021-2025): - Policy brief on carbon pricing tax or cap and trade integration to support policy development that will price externalities and provide a level playing field among technologies, - impacts well addressed and mitigated for the lowest income groups. Long-term result (2026-2030): - Reduced fuel consumption in the country's Total Final Energy Consumption by 10%.	The World Bank Partnership for Market Readiness (PMR) has conducted studies on various carbon pricing instruments. This project will build on the PMR output, working collaboratively with the WB, and expanding existing work to consider current energy and fiscal scenarios and directions. The work will require cross-sectoral consultations to gauge the appetite and impact of a carbon pricing scheme.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
		objectively be aligned with the ambitious climate goals of NDC and NZE commitments.		
Demand Side Management Policy DOE - Energy Utilization and Management Bureau (EUMB) and National Electrification Administration (NEA)	The DOE - Energy Utilization and Management Bureau (EUMB) has a draft of a DSM policy but specific provisions for demand response, assignment of authorities, and the potential for third-party participation (such as ESCOs) are still lacking. DSM plans must consider the impact on the utility's consumers, as well as on the distribution utility's finances, integrity, size, and physical capability.	The Project supports the development of the DSM policy, by looking at international best practices, building the capabilities of EUMB and distribution utilities on DSM planning, and clarifying roles among authorities.	Intermediate result (2021-25): - Policy brief for the DSM policy and draft DSM policy - DSM toolkits for DUs - Reduced electricity and fuel consumption by 10%. Long-term result (2026-30): - Obtained 35% of the 170 GW renewable energy potential	The EU and UK have implemented several energy efficiency projects with the EUMB, specifically the Access to Sustainable Energy Program (ASEP) and Low Carbon Energy Programme (LCEP). Both projects have been completed. The ASEP supported some preliminary work for the development of the DSM policy. This project can build on the outputs of both programs. ETP, in conjunction with the ETC, will manage an EE TWG, seeking and promoting collaboration between development partners.
Ongoing: Implementation of Voluntary RE Certificate Market in the Philippines	Compliance with the Renewable Portfolio Standards (RPS) requires the trading of RE certificates (REC) in the RE Market (REM). One REC is	The Project will develop the Voluntary RE Market, including setting rules to operate and govern it, and allow its interface with the current Mandatory RE Market. It will also facilitate	Intermediate result (2021-2025): - Voluntary RE Market Policy brief and Draft Policy - Revised RE Market rules to incorporate the voluntary REC trading	The work opens collaboration with international RE certificate trading markets, as well as with the private stakeholders who are interested to participate in the voluntary market.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
Philippine Electricity Market Corporation (PEMC)	equivalent to 1MWh of RE generation. There is a need to establish the Voluntary RE Market to enable the trading of RECs among non-mandated RPS participants. There is growing interest among multinational companies to purchase RECs to meet their climate and net-zero targets. Further, legacy RE plants, or those not eligible to generate RECs based on the current rules, will also be allowed to trade in the voluntary market. This work will	the interface with other registries such as the iREC to ensure that there is no double awarding of RE Certificates generated from the same RE plant. In parallel, the project will support the DOE in drafting the policy for the voluntary market.	- Operational Voluntary RE Market Long-term result (2026-2030): - Increased investments to RE	
Coal Moratorium Policy DOE - Energy Power Industry Management Bureau (EPIMB)	The former DOE secretary released a coal moratorium advisory last Oct 2020 on all greenfield coal power plants. The advisory is active unless revoked by the government.	The Project aims to provide evidence through power supply and demand modeling and scenario building to establish the coal moratorium as a national policy. The study can be	Intermediate result (2021-25) - Policy brief for coal moratorium and draft policy statement that will set the moratorium as state policy. Long-term result (2026-30): - Increased investments in RE	GIZ CASE has been conducting training for DOE's RE Management Bureau (REMB) on RE modeling and planning.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
	There is always the risk of the advisory being lifted, particularly if there is a risk to energy security.	expanded to coal phase-down scenarios.	- Additional RE capacities and increased share of RE in the power generation mix -	
Clean Energy Access to Local Grids for Local Government Units (LGUs) DOE - Renewable Energy Management Bureau (REMB) Local Government Units	The enforcement of the LGU Energy Code highlights the role of LGUs in energy planning. It encourages LGUs to incorporate RE and EE in local development plans, including local climate adaptation and mitigation plans. LGUs are encouraged to develop distributed RE projects and incorporate them in agriculture, water supply, and other productive uses. In addition, there are still 1 million Filipinos who have no access to electricity. They live in remote, unserved and geographically dispersed areas. LGUs can support	This Project shall conduct studies and facilitate efforts toward energy strategies and local plans for increased RE and EE implementation and promotion. The Project will also review legal frameworks for LGUs and distribution utilities to work together, as well as explore new business models for electrification.	Intermediate result (2021-25): - Toolkit or guidebook for LGU on local energy planning, and clarifying roles in the management of end-users - Distributed RE projects implemented by LGUs - Increased electrification Long-term result (2026-30): - Majority of the LGUs have embedded local clean energy policies in their local development plans - Increased mini- and micro- grids - More LGU - electric cooperative energy projects - Developed the blue economy with water-food-aquaculture energy nexus	The UNDP DREAMS Project has been supporting two provincial governments in developing their local RE plans. There are also efforts by the UNIDO to engage with municipal LGUs on local energy planning. ICLEI-Local Governments for Sustainability have been working with some cities to implement rooftop solar projects. The ADB has also tendered a Project to collect best practices on energy efficiency for local governments. Most of the work has been geared towards specific LGUs, but a more sustainable program that will make resources available to all LGUs is necessary.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
	distribution utilities in extending electricity services using RE resources. The technical viability of small grid RE systems has been proven. What is lacking are legal instruments and business models that will encourage LGUs to take part.			
Power Sector Assessment and RE Roadmap for the Bangsamorro Autonomous Region for Muslim Mindanao (BARMM) BARMM - Ministry of Environment and Natural Resources and Energy (MENRE)	The autonomous government of BARMM was established in 2018 to sustain peace and promote socio-economic development suitable to the culture and needs in the area. The BARMM has a separate set of agencies and policies, such as the Ministry of Environment and Natural Resources and Energy (MENRE). Power supply in BARMM is challenging, with problematic electric	The Project will assess the current power situation in BARMM, and provide recommendations on how to build a RE-based power supply. The project will also enhance the capability of MENRE on the power supply and demand analysis and planning, aligning BARMM's energy targets with the rest of the country, if not taking a more ambitious stance of higher RE share in its power generation mix.	Intermediate result (2021-25) - Power sector assessment in BARMM area - RE roadmap - Investments on RE Long-term result (2026-30): - Power supply reliability - High share of RE in the Power generation mix	World Bank, EU, and AFD and supporting the rehabilitation of the Agus Pulangi hydropower plant complex that provides power supply in BARMM and the rest of Mindanao. The EU is also supporting BARMM in strengthening governance and policy-making.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
	cooperatives and insufficient power supply. As BARMM and MENRE are drafting their laws on energy, it can be directed towards a low carbon position. However, MENRE needs support to first assess where they are and to create an investment roadmap to support them build a clean power industry.			
Diagnostic of Competitive Arrangements for Energy Transition (DCAT) - Regional Beneficiary: MEMR, PLN, Bappenas	Energy transition calls for significant investments into RE. These investments, in turn, require policy adjustments in the national frameworks to ensure a level playing field exists for the region to capitalize the globally tested market mechanisms for RE integration. However, the region has not fully capitalized on	To diagnose the legal, economic, financial and political conditions to integrate competitive and transparent market mechanisms in place of the conventional and stagnant power purchasing systems, and develop action agendas to facilitate interest and adoption of market mechanisms to integrate RE.	An in-depth assessment of the use of market mechanisms and market conditions in RE integration, and with a prudent agenda of actions for market mechanisms will provide the pathways and encourage the integration of competitive and market-based mechanisms to increase RE in energy supply mix.	ETP is combining resources in partnership with CASE, SEACEF and GREENMAP to conduct in-country consultations and establish a donor-forum with stakeholders and donors.

Title of Program and Beneficiary	Current Situation	Objective	Results	Collaboration Opportunities
	these global concepts yet which could help to address the region's static nature of the conditions created by the long term Power Purchase Agreements (PPA) and the consequent lack of flexibility of consumers to price developments through current lack of competition.			

Strategic Outcome Area 2: De-risking Energy Efficiency and Renewable Investments

55. ETP undertakes activities that enhance the viability of clean energy projects to mitigate investment risks and encourage greater private sector participation. The energy sector, particularly the power industry, is predominantly private-sector led. Since the EPIRA, the government is prohibited to undertake any power generation activities aside from electrification in off-grid areas. Ensuring reliable power supply requires significant private sector investments (around $120 billion). Fossil fuel has been a reliable investment for many businesses. But, with the government's coal moratorium and a committed preference for renewables, the private sector needs to shift its investments as well.

56. While a coal moratorium is in place, the country does not have a coal phase-down roadmap. Some local commercial and development banks in the country have announced to stop financing new coal plants and divest coal investments over time, which has forced private power companies to reconsider their coal-based businesses. There is potential for private coal-fired power plants to decommission early and build their clean energy portfolio. In late 2022, ACEN completed an energy transition mechanism deal for its 246 MW coal plant and target to reach 20 GW of renewable energy projects by 2030. The successful transaction can be duplicated by other coal-fired power plants. ETP intends to support similar transactions and develop a sustainable mechanism to allow for replication.

57. The RE policies have built confidence in mainstream renewable technologies such as solar, hydro, geothermal, biomass, and wind. However, emerging technologies, such as offshore wind and ocean renewables, are perceived as riskier primarily because there are no successful precedents yet. ETP will support the government in establishing the necessary frameworks and creating robust information, and technical and economic analysis, on emerging technologies to mitigate investment risks. This work is impactful because the Philippines has immense untapped energy resources that can address the country's energy challenges.

58. ETP supports strengthening existing markets for renewable energy generation. ETP has been supporting the wholesale electricity spot market (WESM) to make it an attractive market for RE power plants. Renewables enjoy priority dispatch in the market but many still perceive them as highly volatile with little returns. ETP supports transforming the market rules to allow new technologies, like energy storage systems, to participate, and enhance the economic viability of renewables in the WESM.

Table 2. Outcome Area 2: De-risking Energy Efficiency and Renewable Investments

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
Completed: Optimizing New RE in Energy Mix (e.g., Marine Renewable Energy Roadmap) (COP26 ETC Rapid Response Facility Request) DOE - REMB	The gaps and barriers are attributed to a host of political, economic, technological, and developmental issues. The support of public funds, such as the General Appropriations from Congress, is prioritized to other sectors.	The Project undertook a stocktake and scanning of Ocean Space Energy to evaluate its potential and feasibility as an alternative source of clean energy. It is being expanded in scope as per the requests of DoE.	Intermediate result (2021-2025): - A stocktake report on marine renewables - Launched at least two investments on Ocean Energy Long-term result (2026-2030): - Produced 40 GW or 35TWh per year of tidal energy - At least 33 kW per sq m per year	Three pilots on ocean renewables are being applied for partial grants to the NAMA facility. Exchanges in experience and information with these pilots can enhance the report.
Ongoing: Enhancement of the Participation of VRE in the Wholesale Electricity Spot Market (WESM) and Review of Price Caps PEMC	RE projects would prefer to secure bilateral contracts to ensure their market and to facilitate financial closure. The WESM is rarely the preferred market for RE projects because of volatility in prices. However, the WESM can be an attractive market for RE since renewables have priority dispatch in the market. Price mitigating measures or price caps are in place to	This study aims to assess the participation of renewables in the WESM, look at the historical performance of RE generation, and understand the barriers to RE participation in the market. This study will assess if the current price caps are still appropriate in the current energy landscape. It will take into consideration the increasing participation of	Intermediate result (2021-2025): - Report on the participation of renewable in the WESM with a set of recommendations to encourage RE participation - Recommendations for new price caps and rate-setting methodology - Economic analysis of RE projects in the WESM - Increased RE merchant plants in the WESM Long-term result (2026-2030):	USAID has been supporting the development of the RE Market, the trading platform of RE Certificates. The Philippine Electricity Market Corporation (PEMC) is the registrar of the RE Market. This Study can enhance the operation of the RE Market.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
	ensure that trading prices are within acceptable limits that will not lead to high tariff prices. However, the current price caps were set in 2015 and the methodology is based on fossil fuel generators.	renewables in the WESM and recommend a rate-setting methodology that accounts for the economics of renewables.	- WESM as a viable primary market for renewables	
Ongoing: Development of Marine Spatial Planning (MSP) System and Tool aligned with Good International Industry Practice DOE - REMB	The offshore wind roadmap was launched to signal private investments. Since offshore wind (OSW) is relatively new, technical and social risks can be managed by assessing how potential sites are currently used (fishing, transport, etc), and understanding surrounding geographies. This work builds on the marine stocktake report where the MSP tool can be used for scanning ocean and marine RE sites.	The Project aims to develop an MSP system and tool to support the identification of viable offshore wind and ocean/marine RE projects.	Intermediate result (2021-2025): - Marine Spatial Plan for offshore wind - Identification of offshore wind and ocean/marine RE development zones Long-term result (2026-2030): - Reduced risks to ocean conflict - Development of offshore wind industry - Offshore wind significant contribution to the power generation mix	The World Bank (WB) supported the DOE in developing the offshore wind roadmap. WB will be supporting work on OSW grid integration, regulatory work, and on the development of Environmental, Social Impact Assessment Guidelines (ESIA) and capacity building. This project is an RRF request and has brought Carbon Trust together with ETP for this project. USAID plans to support OSW through the development of standards, capacity building, regulatory work, and project financing review. These projects, including the development of the MSP tool,

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
				are included in the WB OSW roadmap.
Ongoing: Offshore Wind (OSW) Permitting DOE - REMB	Government agencies may not be aware of their responsibilities in supporting OSW development, particularly in releasing endorsements and licenses.	The Project aims to clarify the permits and consents necessary for an OSW project, identify relevant local and national government agencies, and streamline the permitting process.	Intermediate result (2021-2025): - An efficient and thorough permitting process - Clear guidelines to support private project development navigate the permitting process Long-term result (2026-2030): - Development of offshore wind industry - Offshore wind significant contribution to the power generation mix	The permitting process of other ocean and marine renewables, such as floating solar could be similar to OSW permitting. This project may be expanded to cover other ocean technologies. This project complements all other OSW projects being implemented by ETP, WB, and USAID, as recommended in the OSW roadmap.
Transitioning coal power generation to renewable energy sources	To reach the Philippines' NDC goals, there is a need to displace carbon-intensive or fossil fuel-based generation with renewables. This initiative explores options to support private sector-owned coal-fired power plants (CFPP) to take part in the energy transition process. A privately-owned CFPP has expressed interest to take part.	The project aims to accelerate the energy transition by demonstrating the viability of CFPP early retirement in the Philippines, and exploring mechanisms to replicate the process.	Intermediate Result (2021 - 2025) - Coal plant retirement transaction - Regulatory framework for the retirement of coal plants - Shifting investments into renewable energy Long-term result (2026 -2030) - Active private sector coal phase down	The ADB is implementing the Energy Transition Mechanism (ETM) that provides a facility for the early retirement of CFPPs. ACEN implemented its own energy transition deal following the ETM framework that ADB developed.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
			- Increase renewable energy projects	
Assessment of Pump Hydro and Seawater Energy Storage DOE - REMB	Energy storage systems will be important in maintaining grid stability and reliability. The country's only pump hydro storage system has been operating successfully for decades. As large variable renewable energy is expected to be integrated into the grid, new energy storage systems will be necessary.	The project aims to assess the technical and economic viability of pump hydro systems and seawater energy storage; and identify potential sites.	- Economic and technical viability analysis of pump hydro and seawater energy storage - environmental impact assessment of the technologies - Potential sites identified - Recommendations for energy storage system development	This work builds on the marine stocktake report.
Energy Efficiency Program for Small and Medium Enterprises (SMEs) DOE - EUMB Department of Trade and Industry (DTI)	The EEC Act requires commercial and industrial facilities to have annual plans for energy efficiency measures, implement them, and report them to the EUMB for compliance. Many SMEs will not have the know-how and the resources to comply with this new requirement.	The Project will design a sustainable energy efficiency support program for SMEs.	Intermediate result (2021-2025): - A sustainable program for SMEs to help them implement EE measures - SMEs implementing EE projects	UNIDO has been supporting SMEs to enhance their productivity and profitability. This project can enhance UNIDO's work by supporting SMEs to improve their energy efficiency contributing to both productivity and financial benefits.

Strategic Outcome Area 3: Extending Smart Grids

56. ETP acknowledges the critical role of the grids in the energy transition. One issue is the lack of capacity of the grids to accept additional generation capacities. The transmission grids are congested in areas where there are committed renewable energy projects. While the need to upgrade the system is well acknowledged, governance issues prevent grid investments from happening. ETP's smart grid diagnostic and roadmap development will undertake a comprehensive assessment of the technical and investment needs to prepare the transmission network for more variable renewable energy. In addition, it will examine institutional and regulatory issues that may have been delaying grid upgrades. This project has sparked strategic dialogue among relevant government agencies that led to the approval of the annual Transmission Development Plan, only the second time it has been approved over a 6-year period. This plan will facilitate investments in the grid and give confidence to RE project developers that their projects will be interconnected in time.

57. In 2020, the DOE released the Smart Grid policy for distribution utilities (DUs) including micro-grids that set a multi-level approach for transforming distribution into a more reliable, flexible, and resilient system that can integrate high levels of decentralized energy sources. A Smart Distribution Utility Roadmap has been drafted to guide the implementation of the policy. While the policy exists, it is difficult for DUs to comply. Only the larger DUs that serve the urban centers have the resources and expertise to transition to smarter grids. However, more than 120 electric cooperatives, which are providing distribution services in mostly rural areas, do not prioritize this shift.

58. ETP addresses impediments to integrating renewable energy into the transmission and distribution networks by supporting the implementation of the DOE's smart grid policy and roadmap. ETP also enables access to smart technologies, including battery energy storage into the electricity market. Interventions will both be at the policy level, providing necessary diagnostics and advice, as well as at the implementation level, supporting the transmission and distribution sector to shift to smart grids.

Table 3. Outcome Area 3: Extending Smart Grids

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
Ongoing: Upgrading Design and Implementation of Energy Battery Storage Market Mechanism of the Philippines Electricity Market Corporation PEMC	With the projected uptake of RE, storage will play an increasing role in the grid. Considerable levels of battery/ energy storage capacities are pipelined by major players of the power sector to complement the RE capacities in light of their variability.	The Project provides technical assistance and capacity building to PEMC, in the establishment of a framework for the coordinated operations and governance of BESS and other ESS in the power grid for these facilities to reinforce the reliability and security of the grid where RE generators also participate.	Intermediate result (2021-25): - market rules amended to include energy storage participation - Produced at least two investments in Battery Energy Storage System Long-term result (2026-30): - Increased variable renewable energy into the grids	This Project coordinates with the on-going work on upgrading energy regulations to ensure that recommendations are aligned.
Ongoing: Philippines Grid Diagnostic and Roadmap for Smart Grids Development (UK COP26 ETC Rapid Response Facility Request) DOE - EPIMB National Transmission Commission (TRANSCO)	The challenge in the current national grid system is to become a resilient infrastructure, flexible and responsive to facilitate the country's energy transition to a more sustainable, cleaner, and low carbon economy. However, there is an absence of regulatory capacity in governing the grids and the diagnostic of the country's grid system to	The project shall develop a regulatory framework that will support and expand smart grid technology utilization including at the distribution level as well as support for other working groups that may need assistance on smart grids in areas of Sustainable and Renewable Energy. The geographic scope will primarily focus on Luzon, Visayas, and Mindanao, but	Intermediate result (2021-25): - Enabled policies and regulatory framework supporting and expanding smart grid and energy storage systems Long-term result (2026-30) - Increased variable renewable energy into the grids	The DOE and USAID have implemented the Competitive Renewable Energy Zones (CREZ) project to prioritize upgrades of the transmission network. These are areas with known high RE resource potential. The project has been completed with a second phase being considered.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
	identify strategies and pathways to upgrade for smarter grids and energy storage systems that can mitigate RE intermittencies, reserves scheduling, forecasting load capacity requirements, and opening the space for distributed generation into the power mix.	looks at opportunities to upgrade grid conditions to enable greater renewable energy facilitation in the rest of the country.		
Implementation of the Distribution Smart Grid Roadmap DOE - EPIMB NEA	The Smart Grid Policy provides the framework for the distribution utilities to shift to smart grids. However, most electric cooperatives do not have the capacity and resources to implement these.	This study will create a more refined roadmap for adopting smart grid technologies, based on the distribution utilities' technical performance and resources. It will analyze cost and tariff implications and review, and provide practical guidelines to support DUs in adopting smart grid technologies.	Intermediate result (2021-25): - A practical roadmap that will guide DUs in adopting smart grid technologies - Enhanced technical capabilities among ECs Long-term result (2026-30) - Increased distributed variable renewable energy into the grids - Increased mini-grids	USAID and UNDP have been supporting electric cooperatives to enhance their technical performance and reduce system losses.
Ongoing: ASEAN Power Grid Program (APGP): Output 2 - ASEAN	The implementation of APG has been challenged by the limited coordination and stop-and-go-progress despite its significant	Development of a staged roadmap to implement APG multilateral power trading by identifying the pending diagnostic and analytics to	A roadmap with a financing framework to implement the APG initiative. The roadmap will include the diagnostic and pathways to implement the	Combining resources with CASE and ESCAP to collaborate with ACE under APGP.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
Power Grid (APG) Roadmap - Regional Beneficiary: ASEAN Center for Energy, MEMR	potential to generate demand for and supply of renewable energy through a multilateral power trading mechanism.	develop arrangements for APG, the current ASEAN interconnection status and existing interphases for expansion and integration into APG, and ASEAN decision making steps for an unobstructed progressing of APGP among other work to move the APG from the current study stage to implementation.	Brunei-Indonesia-Malaysia-Philippine Power Integration Project (BIMP-PIP) in the context of integration into a wider APG multilateral power trading.	ACE will provide the necessary coordination and linkages for APGP to political decision-making level in ASEAN, CASE will fund a program management unit that will enhance the coordination capacity of ACE, and ESCAP will support the APGP coordination with broader stakeholder groups beyond Southeast Asia.

Strategic Outcome Area 4: Building Knowledge and Awareness

59. Increased development and accessibility of RE/EE knowledge and awareness building: Support capacity and knowledge development among the finance sector to enable upstream unlocking of financing for bankable energy transition investments in renewable energy sources and energy efficiency projects; and diagnostic and capacity development to resolve technical and economic viability bottlenecks to enable investment flow to the energy transition projects.

60. ETP supports local capacity building across various stakeholders. As the energy transition progresses, new skills and knowledge are required for policy-making, project development and operation, and even financing. ETP draws on international experience and best practices to build local capability and ensure that sustainable resources and training programs are available. Building capacity indirectly supports socioeconomic development by raising human capital and contributing to an inclusive clean energy transition.

61. ETP intends to institutionalize capacity building, ensuring the sustainable delivery of learning programs. In particular, there is a need to increase energy efficiency practitioners across the country. The Energy Efficiency and Conservation Act requires all public and private sector facilities to have at least a certified energy efficiency officer to ensure the judicious use of energy. For Local Government Units, the officer will have the additional responsibility to promote energy conservation in their localities. Promoting energy efficiency in the Philippines is critical, not only because tariffs are high, but also because supply reserves are thin. Mainstreaming energy efficiency careers will facilitate the implementation of energy efficiency projects and support the growth of the ESCO industry.

62. ETP through the Energy Transition Roundtable, a regional program (facilitated by the Australian National University) has provided capacity building on various energy transition topics. In September, three deep dive sessions will focus on the Philippines, particularly on increasing the uptake of distributed RE. The agenda is designed for local government units and will identify opportunities for RE integration and highlight how LGUs can facilitate utility-scale RE. The output will include practical local government strategies for distributed RE.

63. Capacity building is embedded in all of ETP's projects. While there are specific training projects, all of ETPs TA include capacity-building components and provisions for dialogues with international experts and practitioners. ETP works with other development partners to enrich the delivery of training programs.

Table 4. Outcome Area 4: Building Knowledge and Awareness

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
Leadership Development: Bankers' Training Bankers Association of the Philippines (BAP)	Financing in RE/EE investments have failed to pan out due to capitalization requirements, perceived high-risk, and uncertain returns. The domestic banking sector is not enthusiastic to finance such RE/EE investments, causing a reluctance among the private sector due to low incentives. A consultation among banks on EE financing was conducted to understand their needs and will serve as the basis for developing this program.	This Project shall equip Trainers, who shall provide capacity building for bankers in RE/EE financing and investments. The intention is to institutionalize the program in a reputable training organization at the university to provide this program for banks.	Intermediate result (2021-25): - Consultation on the challenges in EE financing - 30% of the domestic banks covered for the Training of Trainers Long-term result (2026-30): - Increased the domestic banks covered by 60% - Increased financing for RE and EE projects	OECD's CEFIM will develop a roadmap on clean energy financing that will include identification of the necessary elements to support the financing of clean energy projects. These may include capacity-building needs for banks and other financing institutions.
Fostering Energy Efficiency Practitioners and Enhancing the EE&C Online System DOE - EUMB	All establishments - categorized as designated establishments based on energy consumption levels - are required to track energy consumption, and develop energy efficiency plans to reduce	The Project will enhance the energy practitioners' certification process and ensure that it is available in all parts of the country by 1) improving the management system for EE practitioners registration	- Streamlined process for the certification program of EE practitioners - Have at least one EE training institute/ accreditation center per region	ETP will coordinate with UK, EU, and USAID who have been implementing EE activities with DOE.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
	energy use and/ or consumption. Establishments must raise and meet their energy savings targets each year to comply, with the government offices required to reduce to at least 10%. Enforcing this requires a new set of qualified energy practitioners. The DOE initiated a training and accreditation program for energy practitioners. They need a platform to track the progress of accreditation and maintain the database of eligible practitioners.	and 2) expanding the network of institutions providing certification courses.	- An enhanced online platform for EE practitioners i.e. may include tools and templates	
Coordination Support to DOE and an Inter-Agency Steering Committee for Energy Transition DOE and other Energy Agencies	The misalignment in direction and policies by different government agencies stems from the lack of meaningful interaction to discuss critical issues and find	The objective of this Project is first to provide DOE with donor coordination support to ensure that actions are cohesive and unique. The second objective is to	- An effective framework for coordination and donor mapping - Capacity building for DOE on donor mapping database - Facilitated inter-agency steering committee meetings	Collaboration may be explored with the UK's National Dialogue that brings together different government agencies annually to present DOE's clean energy program with the donor partners.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
	pathways to accelerate the energy transition.	strengthen inter-agency relations through an Energy Transition Steering Committee composed of heads of various agencies (DOE, ERC, NEDA, DOF, PEMC, Transco, NEA, etc) who can discuss critical issues to find solutions and facilitate enforcing them.	- Development of prioritized results-focused policy, regulation and incentives	
Ongoing: Just Coal Transition Forum - Regional	A forum mechanism is needed to generate coordination among the many just transition programs that will support the communities standing to be affected by energy transition, particularly those that are negatively affected by coal phase down and early retirement of coal-fired power plants.	A convening Forum bringing together community and donor representatives together to create learning and enhance capacities, provide coordination service for transition programs and access to finance, and build institutional governance and implementation capacities through facilitation of dialogue among stakeholders in Southeast Asia. ETP will host the first three years of the Forum and a sustainability plan will be	An independent coordinating and convening Forum that will support just transition programs to participate in the activities of the Forum and fund the ensuing activities.	The Forum is implemented jointly between ETP and the World Bank. International development partners such as the Powering Past Coal Alliance and Climate Investment Funds among others will lead the Forum's thematic committee on different subject matters in the economic and social angles of just transition.

Title of Program	Current Situation	Objective	Results	Collaboration Opportunities
		formulated that will identify its long term future and its hosting arrangements among other criterias.		

Annex 1. Philippines Energy Sector Overview

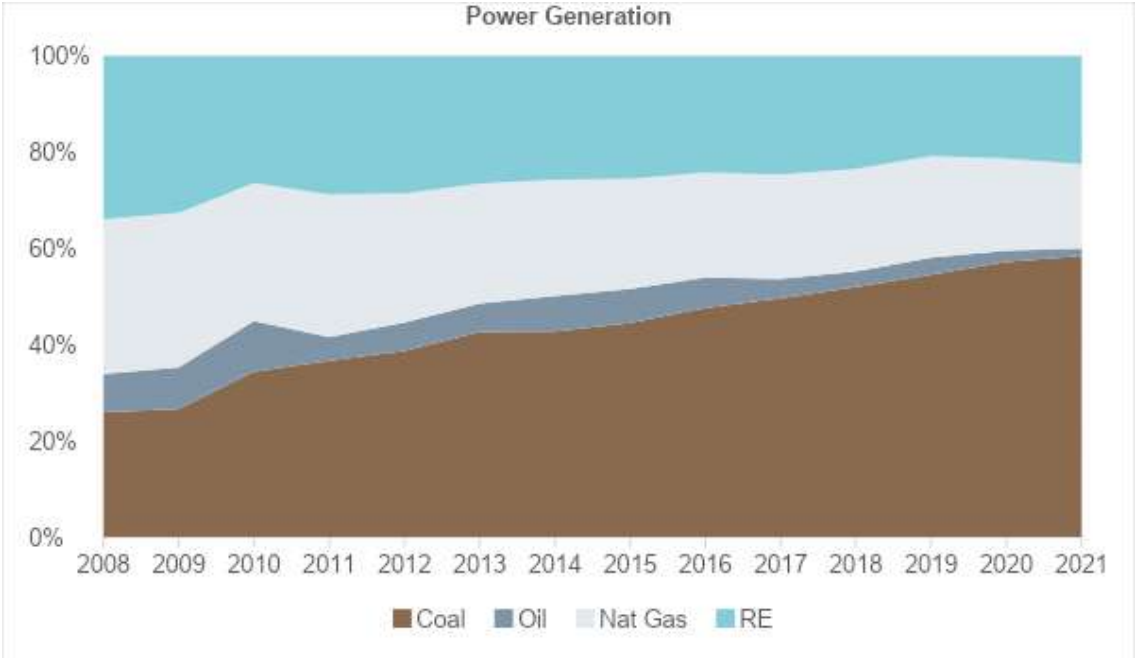
64. The Philippines' demand for energy is expected to increase as its economy rebounds from the global pandemic. The Philippines gross domestic product (GDP) plunged by 9.6 percent due to restricted economic activities during the COVID-19 pandemic. Prior to this, the Philippine economy consistently performed well with its GDP at an annual average growth rate of 6.5% (2014-2019). Travel restrictions and domestic lockdowns led to a 9.6% economic contraction in 2020. Since the country reopened, the GDP is forecasted to increase to 6.5% in 2022 which is driven by domestic demand, pickup of employment, private investment expansion, and continuation of large public infrastructure projects. Manufacturing, industrial production, and imports are expanding, as well as the services sector with the tourism industry gaining activity.

65. The coronavirus pandemic caused significant changes in energy consumption patterns that set a new benchmark for future energy demands. The country's Total Final Energy Consumption (TFEC) dropped to 32.4 million tons of oil equivalent (MTOE) in 2020, an almost 11% drop from the previous year. The transport sector bore the effects of the lockdowns with an unprecedented 22.5% decline in consumption. In total, electricity consumption fell by 4.4%, and saw a noticeable shift to the residential sector. The gradual resumption of economic activity increased the TFEC by 5.6% in 2021. However, the TFEC is forecasted to exceed pre-pandemic levels by 2023 to support the rebounding economy and urbanization.

66. Fossil fuels remain dominant in the total primary energy supply (TPES) and the power generation mix. In 2020, coal, oil, and natural gas supplied 66% of the 56.4MTOE total primary energy supply. More than half of these were sourced domestically. Natural gas is sourced domestically from the Malampaya gas field. About 40% of the coal supply is sourced from Semirara Island, the country's largest coal mine in Antique province. Semirara Mining and Power Corporation can operate the mine field until the end of its license in 2027. The heavy use of coal and other fossil fuels for power generation, transport and other energy services translated to 109 $MTCO_2e$ emissions. This is more than double the 2010 baseline level of 53 $MTCO_2e$[11].

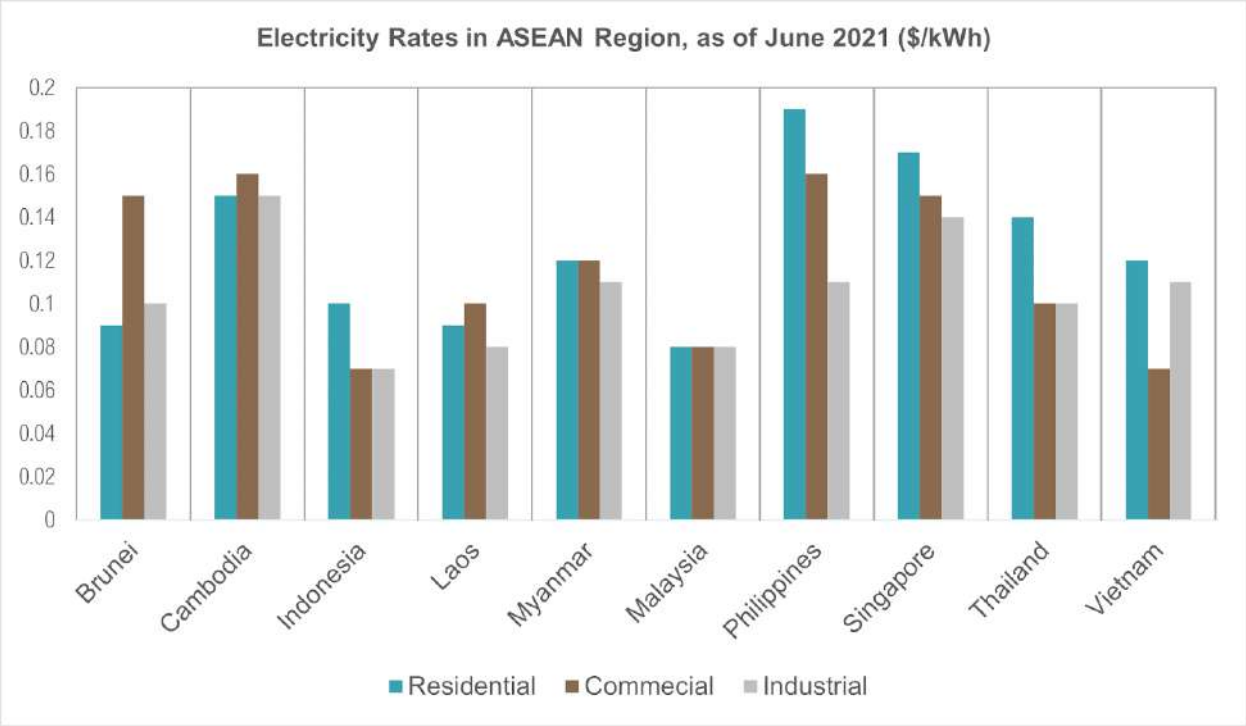
67. The share of renewable energy in the power generation mix has been dwindling over the past decade. Now, its contribution is less than a quarter of the mix, which is significantly less than its 35% share prior to the enactment of the Renewable Energy Act (RA9513) in 2008. Coal is the dominant fuel supplying almost 60% of power, with renewable energy lagging at 22.4% (10% geothermal, 8.7% Hydro, 1.1% biomass, 1.4% solar, 1.2% wind[12]). Oil is still the fuel of choice to produce electricity in many isolated off-grid islands, which is predominantly imported. However, almost 1 million households still do not enjoy electricity services, 80% of whom live in Mindanao.

[11] DOE. 2022. Philippine Energy Plan 2022 - 2040
[12] DOE. 2022. Power statistics as of Dec 2021.



Data Source: Department of Energy. Philippine Energy Plan 2020-2040

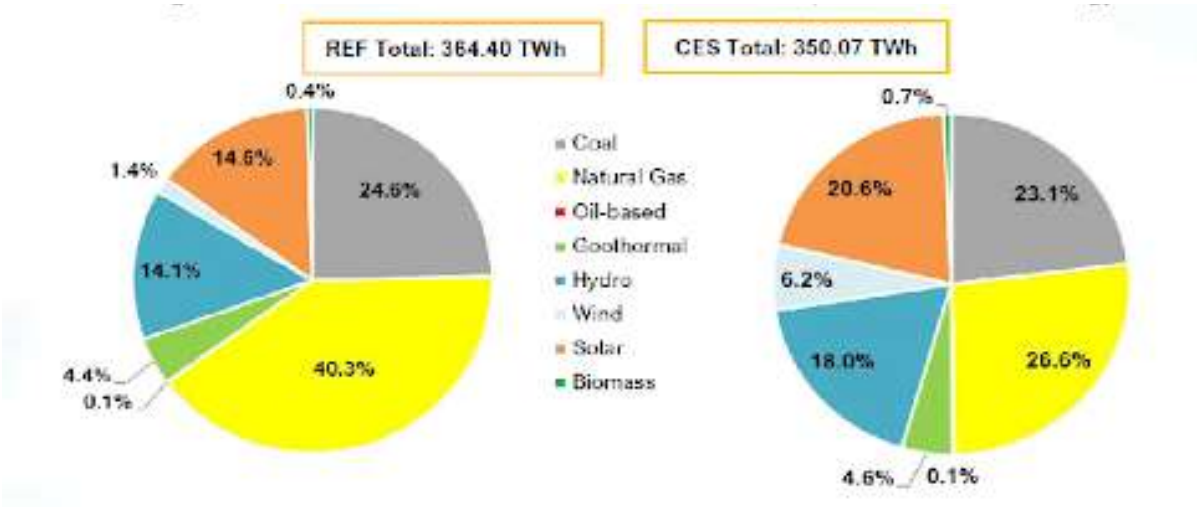
68. Electricity rates in the Philippines remain among the highest in Asia and the highest in ASEAN. The average electricity rate for the residential sector is $0.19/kWh, $0.16/kWh for the commercial sector, and $0.11/kWh for the industrial sector. The industrial sector are provided with lower rates as a result of the "time-of-use" program, which translate to lower rates during off-peak periods, and from the lower contract rates with retail electricity suppliers under the Retail Competition and Open Access (RCOA) program implemented under the Electricity Power Industry Reform Act (EPIRA).



Data Source: Department of Energy. Philippine Energy Plan 2020-2040

69. The government is shifting towards a clean energy scenario, defined in the Philippine Energy Plan 2020-2040[13], to address future energy supply and demand scenarios resulting from increasing population, rising incomes, and rapid urban migration. In meeting the growing energy needs of the country, the Philippine government aims to ensure energy security and resilience while reconciling the energy justice, environmental and health impacts. It sets a long-term clean energy scenario (CES) to manage electricity consumption, decarbonised power generation, and reduce electricity rates. In this scenario, energy consumption is reduced through energy efficiency strategies and power generation is diversified with more renewable energy sources. The goal is to increase RE share to more than 50% by 2040. However, comparing the 2040 CES with the reference scenario depicts RE significantly displacing the lower carbon fuel natural gas than coal.

[13] DOE. 2022. Philippine Energy Plan 2020-2040.



70. Structural, technological, financial, cultural, and political barriers hinder the acceleration of energy transition in the country. The Philippines is endowed with abundant natural resources as an energy source. It also has proven natural gas reserves of 98.5 billion cubic meters, economically recoverable coal of 315 million tons, and oil reserves of 100 million barrels. The RE energy potential for hydro energy is estimated at 13,000 MW and wind energy at 76,000 MW[14]. Thus, domestic RE sources provide important choices to phase out dependence on largely imported oil, coal, and natural gas. Hence, there is a wide space of opportunities for renewable energy sources, such as solar, wind, geothermal, hydro, or ocean, that can displace carbon-based energy.

[14] DOE. 2022. National Renewable Energy Program 2020 -2040