ASEANのエネルギー分野の現状・関連動向に係る調査 – 定点調査業務2025

報告書 – フィリピン

NEDO
新エネルギー・産業技術総合開発機構
New Energy and Industrial Technology Development Organization

ARTHUR D LITTLE

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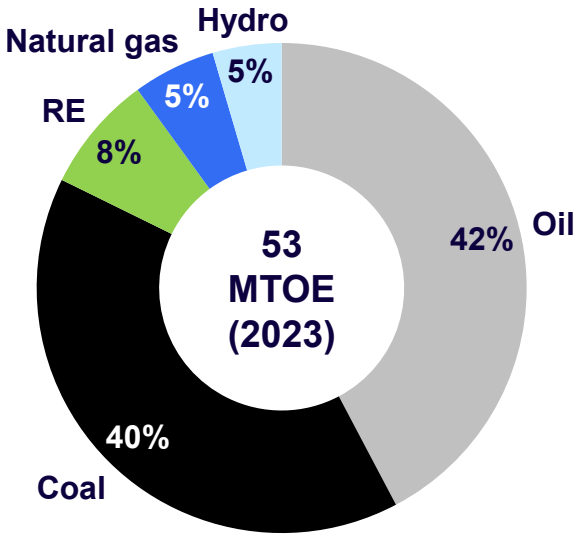
フィリピンの一次エネルギー消費は石油と石炭が全体の8割以上を占め、再生可能エネルギーや天然ガス、水力の比率は低下傾向にある

Primary energy consumption

2023, mtoe[1]

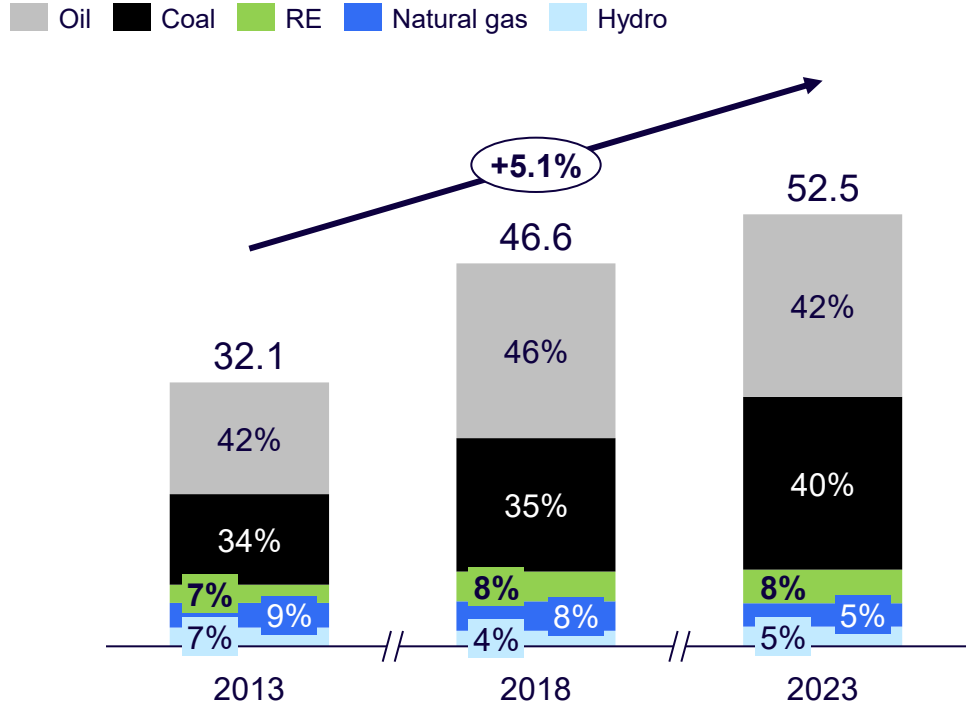
Philippine's primary energy demand in 2023 is 53 MTOE, with oil and coal accounting for over 80% with oil at 22.2 MTOE (42%) and coal at 21.0 MTOE (40%). RE consumption comes in third at 4.1 MTOE (8%), and 2.9 MTOE (5%) is comprised of natural gas followed by hydropower at 2.4 MTOE (5%).



Historical primary energy consumption

2013 – 2023, mtoe[1]

Oil currently has the largest weight, averaging ~44%. This is followed by coal, which has seen an increased dependency in recent years, as increase of 7% from 2013 mix of 34% to 40% in 2023. Surprisingly, RE comes in third, with natural gas dependency at all time low of just 5% in 2023.

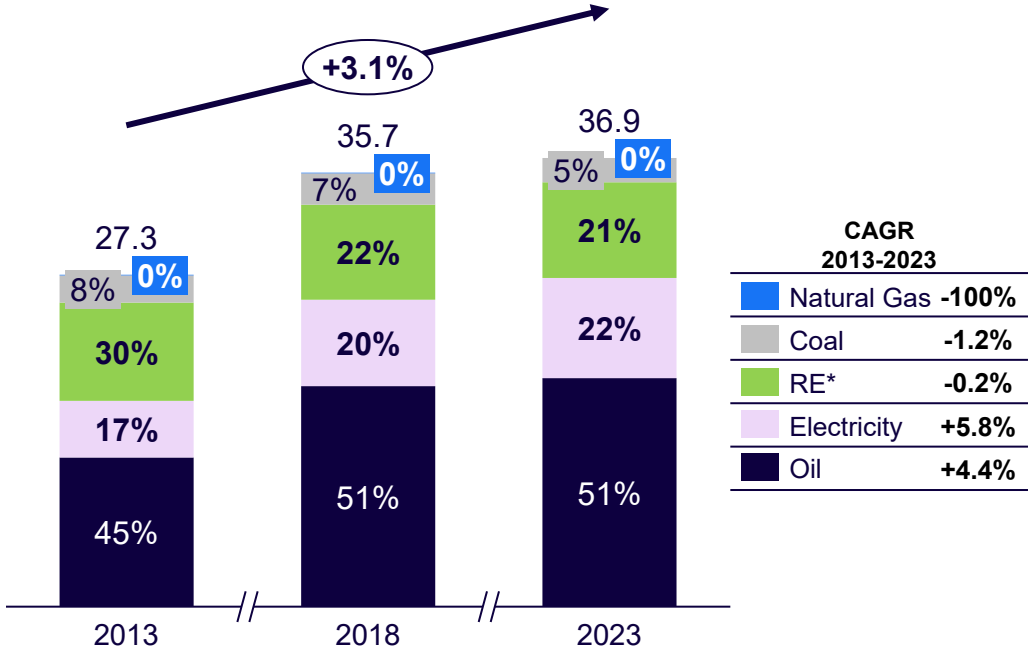


Note: 1) Million tons of oil equivalent
Source: EI Statistical Review of World Energy 2015, 2020 and 2024, Arthur D. Little analysis

フィリピンの最終エネルギー消費は石油が中心で、消費部門では輸送と家庭が全体の約6割以上を占めている

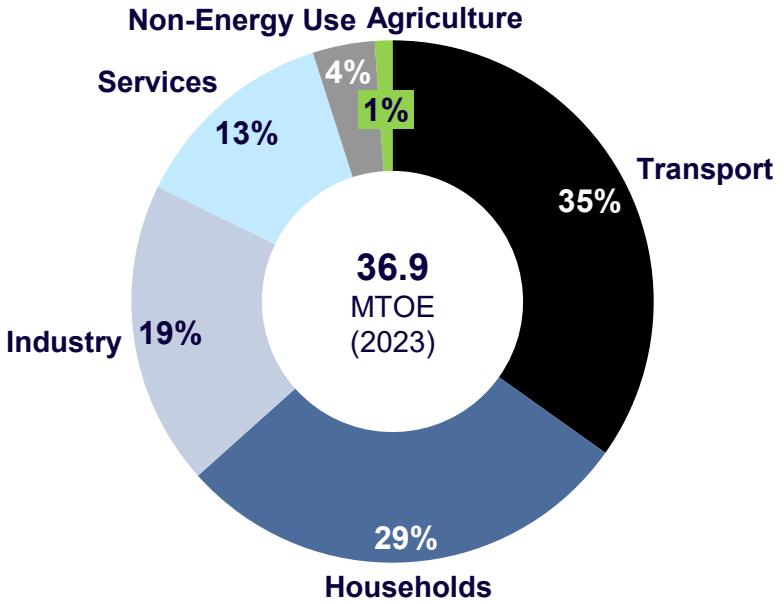
Final energy consumption
2013 - 2023, mtoe[1]

The final energy consumed in 2023 was 36.9 mtoe, experiencing 3.1% YOY growth from 27.3 mtoe in 2011. Oil has retained its dominance since 2013 (12.2 mtoe) and growing YOY at 4.4% to 18.8 mtoe in 2022. RE[2] and electricity come next at 7.8 and 8.2 mtoe respectively. Natural gas plummeted in 2021 to 0.35 mtoe.



Final energy consumption, by sector
2023, mtoe[1]

The transport and household sectors are the major final consumers of energy, accounting for ~64% in 2023.This is split between transport at 12.8 mtoe (35%) and household 10.5 mtoe (29%). Industrial, services and agriculture trail behind at 6.9 mtoe (19%), 4.7 mtoe (13%) and 0.4 mtoe (1%) respectively



Note: * Inclusive of biomass, biodiesel and bioethanol; 1) Million tons of oil equivalent; 2) The Philippines utilizes biomass (fuelwood, charcoal, and other biomass residues), classified as renewable energy (RE), for end-use applications. Biomass accounts for 19.7% of total final energy consumption. In 2023, households represented the largest share of biomass demand at 82.6%, primarily for cooking and other domestic activities. Source: Department of Energy Compendium, *Key Energy Statistics* 2019, 2023, Arthur D. Little analysis

フィリピンのエネルギー政策は、2022年以降の各種計画を通じ再エネ導入目標の設定や新技術採用、送電網近代化を進め、持続可能で信頼性のあるエネルギー供給を目指している

Summary of energy policies

NON-EXHAUSTIVE

2022	**Transmission Development Plan 2022-2040**	• Developed by the **National Grid Corporation of the Philippines** (NGCP) and guided by the overall objectives set in the power sector roadmap in the Philippine Energy Plan 2020-2040 • Enabling capacity-sharing through grid interconnection, transitioning to the smart grid, grid resilience through asset refresh, and full harmonization of renewable energy resources
2023	**Philippine Energy Plan 2020-2040**	• Formulate **comprehensive sectoral roadmaps and targets** to advance the energy agenda • Increase the production of clean and indigenous sources of energy and energy efficiency • Promote a balance between the provision of reliable and reasonably priced energy services, support for economic growth, and protection of the environment
2024	**Philippine Energy Plan 2023-2050**	• Emphasizes **adopting emerging energy sources and technologies**, including hydrogen, ammonia, and nuclear power • Promotes the transition to liquefied natural gas (LNG), and accelerates grid modernization
2025	**Power Development Plan 2023-2050**	• **Adopts national RE mix targets** (35% by 2030; 50% by 2040) • Sets roadmaps for generation, transmission, distribution, supply, market, off-grid, and total electrification with enablers such as smart-grid rollout and an integrated power-sector database.

Source: Department of Energy 2025, Arthur D. Little analysis

石油・ガス、石炭、電力、再エネなど各分野でロードマップを策定し、ガス生産維持、新規石炭火力建設禁止、LNG導入、送電網整備、再エネ拡大などを通じてエネルギー移行を推進

NON-EXHAUSTIVE

Overview of sectoral roadmaps (1/2)

Name	Summary of long-term targets (2023-2040)
Upstream Oil and Gas Roadmap 2017-2040	• The government has extended the **Malampaya Service Contract 38 (SC38)** until 2039, with appraisal **and new drilling activities ongoing to sustain gas production.** • Future exploration will be linked to the **Philippine Conventional Energy Contracting Program (PCECP),** including the 2024 bidding round and blocks in the BARMM region.
Coal Roadmap 2017-2040	• Since October 2020, **no new coal plants can be built**, and the government is now framing the **energy transition around renewables, natural gas** as a temporary bridge, and stronger grid infrastructure
Downstream Oil Industry Roadmap 2017-2040	• Introduce hydrolyzed fuel and higher bio-ethanol levels (E20) and ultra-low sulfur and develop a low-carbon fuel standard
Downstream Natural Gas Roadmap 2017-2040	• Continue monitoring the consumption of LNG in off-grid islands and commission additional natural gas power plants • Promote the use of CNG in provincial buses and in the commercial and residential sectors • New LNG terminals in Batangas (AG&P Ilijan and FGEN) have started importing LNG, allowing gas-fired power generation.
Electric Power Industry Roadmap 2017-2040	• Ensure a reliable and affordable supply of high-quality electric power and expand access to electricity and ensure a transparent and fair playing field in the power industry • By 2024, the Philippines fully connected the Visayas and Mindanao grids, launched competitive electricity trading in Mindanao, and activated the Reserve Market
Renewable Energy Roadmap 2017-2040	• Accelerate the implementation of renewable energy projects, with regular updates to the national database • Increase RE installed capacity to at least 20,000 MW • Set long-term renewable energy (RE) goals: 35% RE share by 2030 and 50% by 2040

Note: Targets are likely to have been revised post-COVID
Source: Department of Energy 2023, Arthur D. Little analysis

バイオ燃料、代替燃料・省エネ技術、エネルギー効率・省エネの各ロードマップを通じて、バイオディーゼルやエタノールの普及、EVや省エネ技術の導入促進、省エネの制度化と実行を推進

NON-EXHAUSTIVE

Overview of sectoral roadmaps (2/2)

Name	Summary of long-term targets (2024-2040)
Biofuels Roadmap 2017-2040	• **Biodiesel[1]:** The B3 mandate has been in effect nationwide since October 1, 2024, but Department of Energy (DOE) suspended the planned increases to B4 and B5 • **Ethanol[2]:** The E10 mandate remains in place, and DOE now permits voluntary E20 blends
Alternative Fuels and Energy Technologies Roadmap 2017-2040	• Deploy applicable AFET for transport and non-transport services • Collaborate with various private sector players to scale up the use of AFET and energy efficient technologies • Promote measures such as EV parking (at least 5% of spaces in new buildings), charging infrastructure rollout, and incentives
Energy Efficiency & Conservation Roadmap 2023-2050	• Provide a national framework to institutionalize the Energy Efficiency and Conservation Act 2019 • Support the certification and accreditation of individuals (energy managers, energy conservation officers, energy auditors) and entities (ESCOs) • Nudge energy-intensive organizations to develop energy efficiency plans and implement projects, and report their annual energy consumption to the DOE • Support the development of Minimum Energy Performance for Products (MEPP) for energy-consuming products, for household appliances, in the commercial, transport, and industrial sectors

Note: 1) B3 = 3% biodiesel + 97% petroleum diesel; B4 and B5 refer to biodiesel blend levels. 2) E10 = gasoline blended with 10% ethanol and 90% regular gasoline; E20 refers to gasoline blended with 20% ethanol
Source: Department of Energy 2025, Arthur D. Little analysis

フィリピンの「エネルギー計画2023-2050」では、既存方針を継続するリファレンスシナリオと、再エネ拡大・洋上風力やEV普及を加速させるクリーンエネルギーシナリオの2つを想定している

Overview of the two possible energy scenarios

Philippine Energy Plan 2023-2050

Reference scenario

- Continues existing policies and plans (e.g., Power Development Plan 2023-2050).
- **Renewable share grows** at a moderate pace via ongoing auctions and current technologies; **large-scale offshore wind and nuclear are not assumed early**.
- LNG plays a greater role to replace declining domestic gas, which acts as a transition and balancing fuel through the 2030s.
- Biofuels policy **tightens to B5 biodiesel by 2026**; ethanol blending policies continue.
- Energy efficiency progresses under the NEECP & EEC Roadmap 2023–2050.

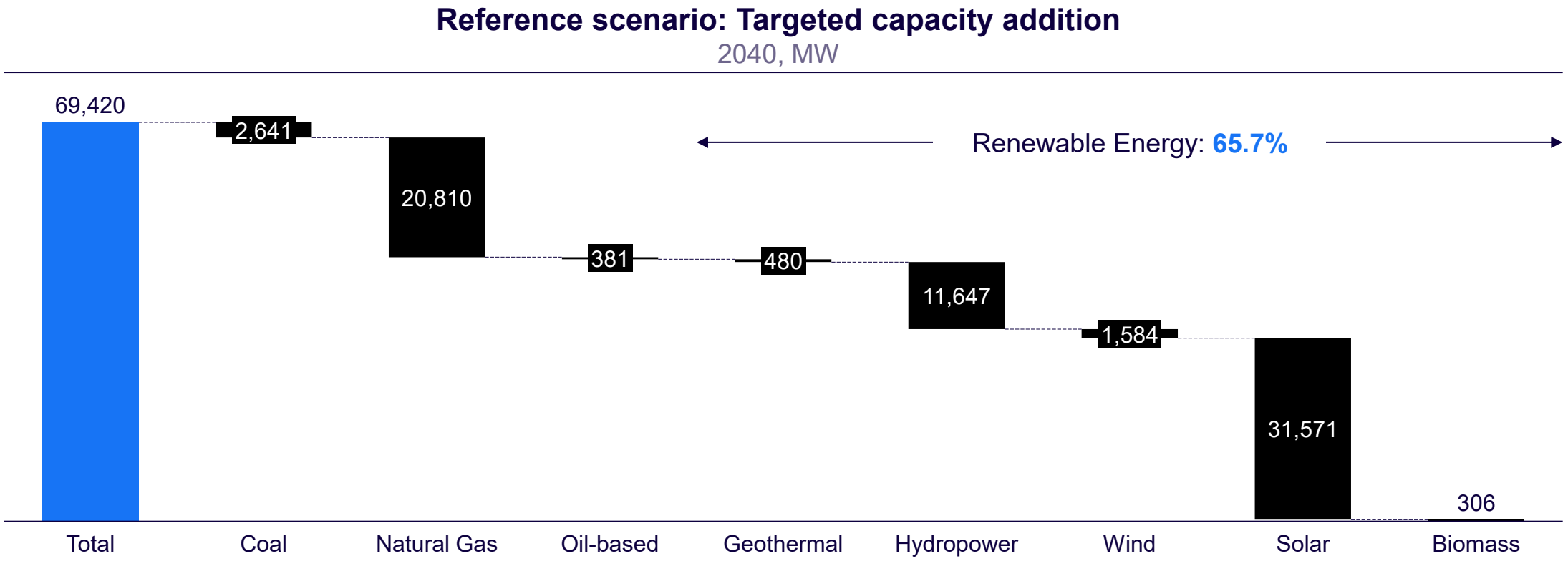
Clean energy scenario

- **35% and 50% renewable energy share in the power generation mix by 2030 and 2040, and above 50% by 2050**
- **Offshore wind becomes a major pillar**, and nuclear enters the mix to strengthen reliability and cut emissions.
- Biodiesel expands to B5 by 2026.
- **EV adoption will grow**, with a target of 50% of fleets electrified by 2040 and 2.45 million EVs by 2028.
- Investment enablers include successive Green Energy Auctions and a policy shift **allowing 100% foreign ownership in renewable energy.**

The share of renewable energy generation and allocation of required investment would differ by scenario

Source: Philippine Energy Plan 2023-2050, Arthur D. Little analysis

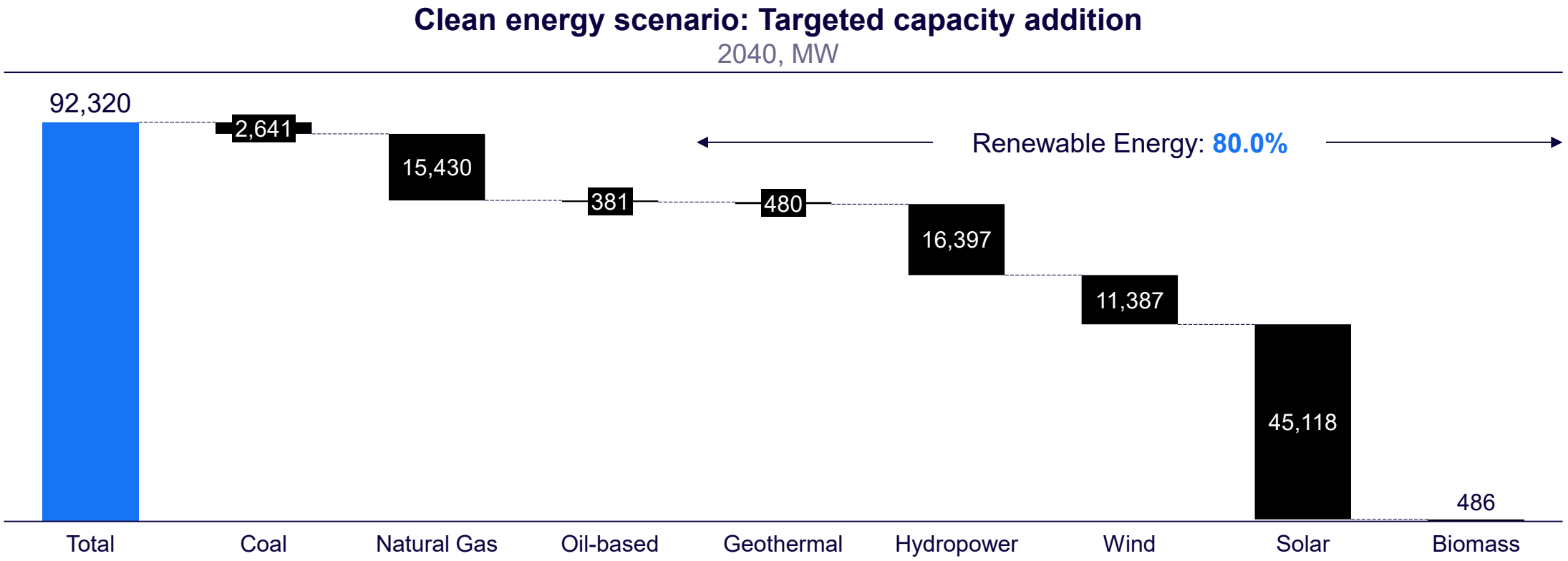
いずれのシナリオにおいても天然ガスと太陽光が主なエネルギーになる想定(1/2)



Solar energy and natural gas are the 2 major drivers in the reference scenario for the Philippines

Source: Philippine Energy Plan 2020-2040, Arthur D. Little analysis

いずれのシナリオにおいても天然ガスと太陽光が主なエネルギーになる想定(2/2)



Solar energy, hydropower, and natural gas will form the drivers in the clean energy scenario for the Philippines

Source: Philippine Energy Plan 2020-2040, Arthur D. Little analysis

フィリピンにおける再生可能エネルギー規制一覧 (1/2)

Renewable energy regulations
2010 – 2024

#	Policy	Year	Status	Jurisdiction
1	REM - Declaration of Full Commercial Operations	2024	In force	National
2	GEAP - Auction Policy for Non-FIT-Eligible RE Technologies	2023	In force	National
3	GEOP Operating Permits for RE Suppliers	2020	In force	National
4	Green Energy Auction (GEA) Policy	2020	In force	National
5	Omnibus Guidelines on the Award & Administration of Renewable Energy Contracts	2019	In force	National
6	Renewable Energy Market (REM) Rules	2019	In force	National
7	Competitive Renewable Energy Zones (CREZ) Policy	2018	In force	National
8	Green Energy Option Program (GEOP) Rules	2018	In force	National
9	Renewable Portfolio Standards (RPS)–On-Grid/ Off-Grid Areas	2017	In force	National
10	Maintaining the Share of Renewable Energy in Installed Generating Capacity	2015	In force	National
11	Must-Dispatch / Priority Dispatch for Renewable Energy in the WESM	2015	In force	National

Note: Excluding amendments
Source: Department of Energy (DOE) Department Circular (DC), International Energy Agency 2023

フィリピンにおける再生可能エネルギー規制一覧 (2/2)

Renewable energy regulations
2010 – 2024

#	Policy	Year	Status	Jurisdiction
12	Biodiesel Pump Labeling and Specifications	2014	In force	National
13	Accelerating Household Electrification through Regulated Solar Home Systems	2014	In force	National
14	Implementation of the Household Electrification Programme	2014	In force	National
15	Rules Enabling Net Metering Program for Renewable Energy	2013	In force	National
16	Feed-In Tariff for Electricity Generated from Biomass, Ocean, Run-of-River Hydropower, Solar and Wind Energy Resources	2012	In force	National
17	Ensuring the adequacy and readiness of the Transmission System to accommodate new generating capacities from Renewable Energy (RE) Technologies	2011	In force	National
18	Mandatory use of biofuel blend	2011	In force	National
19	Resolution for Electricity Generation Rates and Subsidies for Off-Grid Areas	2011	In force	National
20	Utilization of Locally Produced Bioethanol in the Production of E-Gasoline Consistent With the Biofuels Act Of 2006	2011	In force	National
21	Feed-in Tariff Rules	2010	Ended	National
22	Steering Committee on Establishment of a Renewable Energy Market	2010	In force	National

Note: Excluding amendments
Source: Department of Energy (DOE) Department Circular (DC), International Energy Agency 2023

フィリピンのエネルギー省と国営石油会社PNOCが、石油・石炭・天然ガスの探査から開発・流通までを統括し、国家エネルギー政策の策定と実施を担っている

NON-EXHAUSTIVE

Entity	Department	Responsibilities
Department of Energy	Energy Policy & Planning Bureau	• Formulates, updates, monitors and evaluates national and local energy plans, policies, programs and projects, and provides a comprehensive assessment of demand scenarios and supply options • Studies the impacts of international commitments on energy policies, economy and impacts of international commitments on energy policies, economy and environment
	Petroleum Resources Development Division	• Formulates and implements policies, plans, programs and regulations relating to the exploration and development of petroleum resources • Covers petroleum geology, petroleum geophysics, and petroleum engineering functions
	Coal & Nuclear Minerals Division	• Formulate and implement policies, plans, programs and regulations relating to exploration, development, production, utilization and resource management of coal and nuclear mineral resources • Covers exploration and geoscience research, as well as development and production functions
	Oil Industry Management Bureau	• Formulates and implements polices, plans, programs and regulations on the downstream oil industry, including the importation, exportation, stockpiling, storage, shipping, transportation, refining, processing, marketing and distribution of petroleum crude oils, products and by-products, and monitors developments in the downstream oil industry • Divisions include oil industry standards and monitoring, competition, natural gas management, and retail market monitoring
Philippine National Oil Company (PNOC)		• Subsidiary PNOC Exploration Corporation is mandated by the government through the Department of Energy (DOE) to take the lead in the exploration, development and production of the country's oil, gas and coal resources

Source: Department of Energy 2025, Philippine National Oil Company 2025, Arthur D. Little analysis

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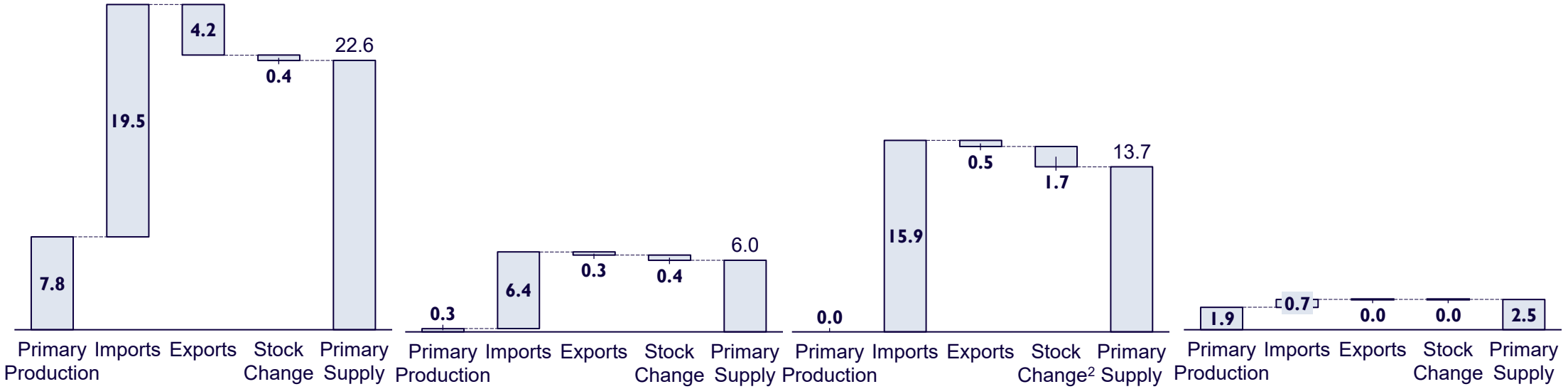
フィリピンは石炭・原油・石油製品の多くを輸入に依存しており、天然ガスのみ国内生産で需要の大半を賄っている

Philippine's Fossil Fuel Supply by Production, Imports, Exports, and Stock Change, 2023

Coal | Crude oil | Petroleum Products[1] | Natural Gas

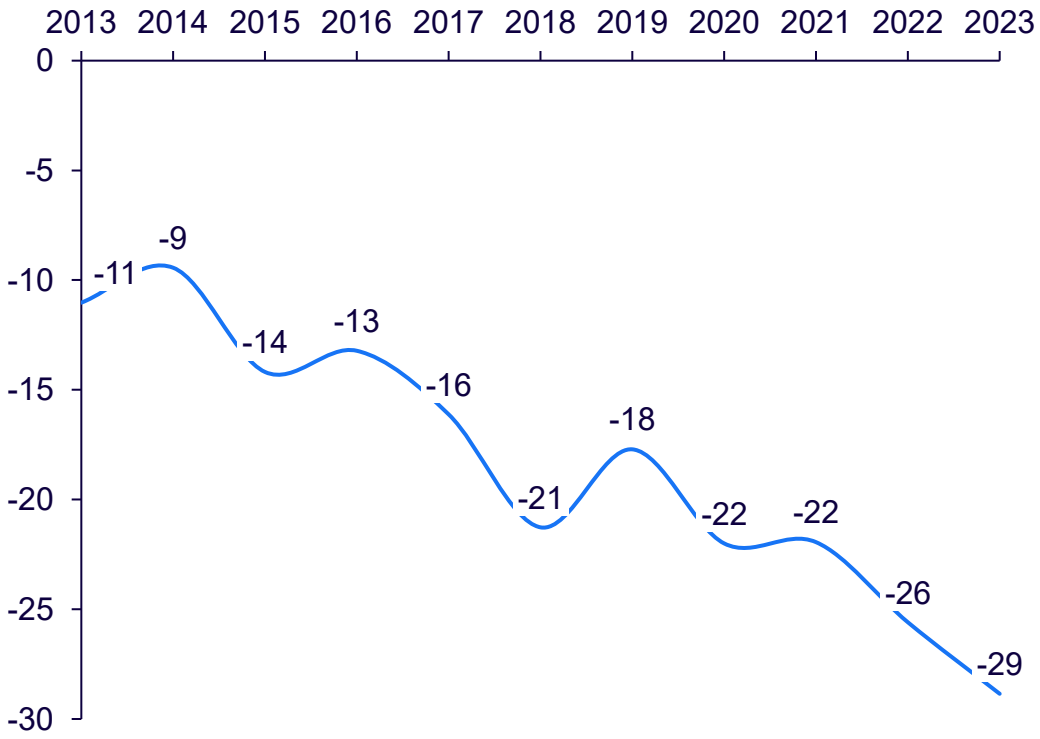
Unit: M TOE



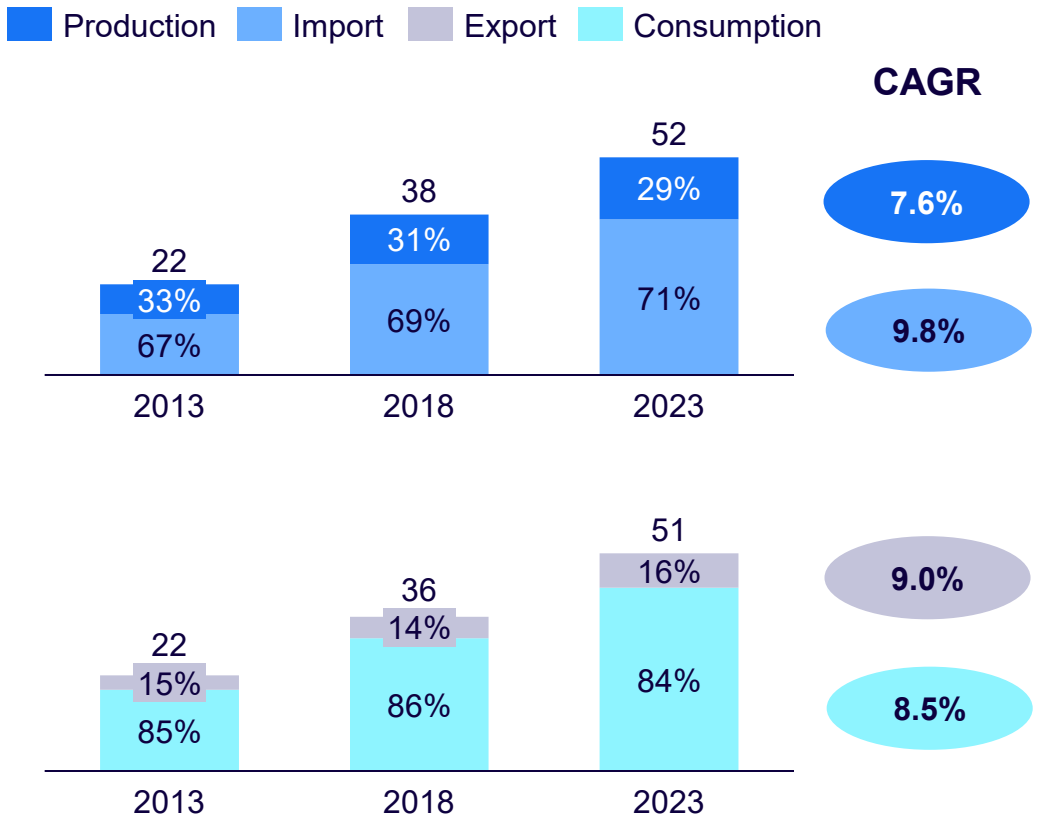
Note: 1) Oil products include gasoline, diesel, LPG, fuel oil, and other unspecified items; 2) Stock changes for oil products include international marine bunkers and international aviation bunkers
Source: Department of Energy "Philippine Energy Situationer and Key Energy Statistics 2023", Arthur D. Little analysis

2013～2023年にフィリピンの石炭消費は年平均8.5%で増加し、生産（7.6%）も伸びたが輸入（9.8%）の拡大が上回って輸入依存が一段と進展

Coal net export trend
2013 – 2023, Million Ton



Coal key trends[1]
2013 – 2023, Million Ton

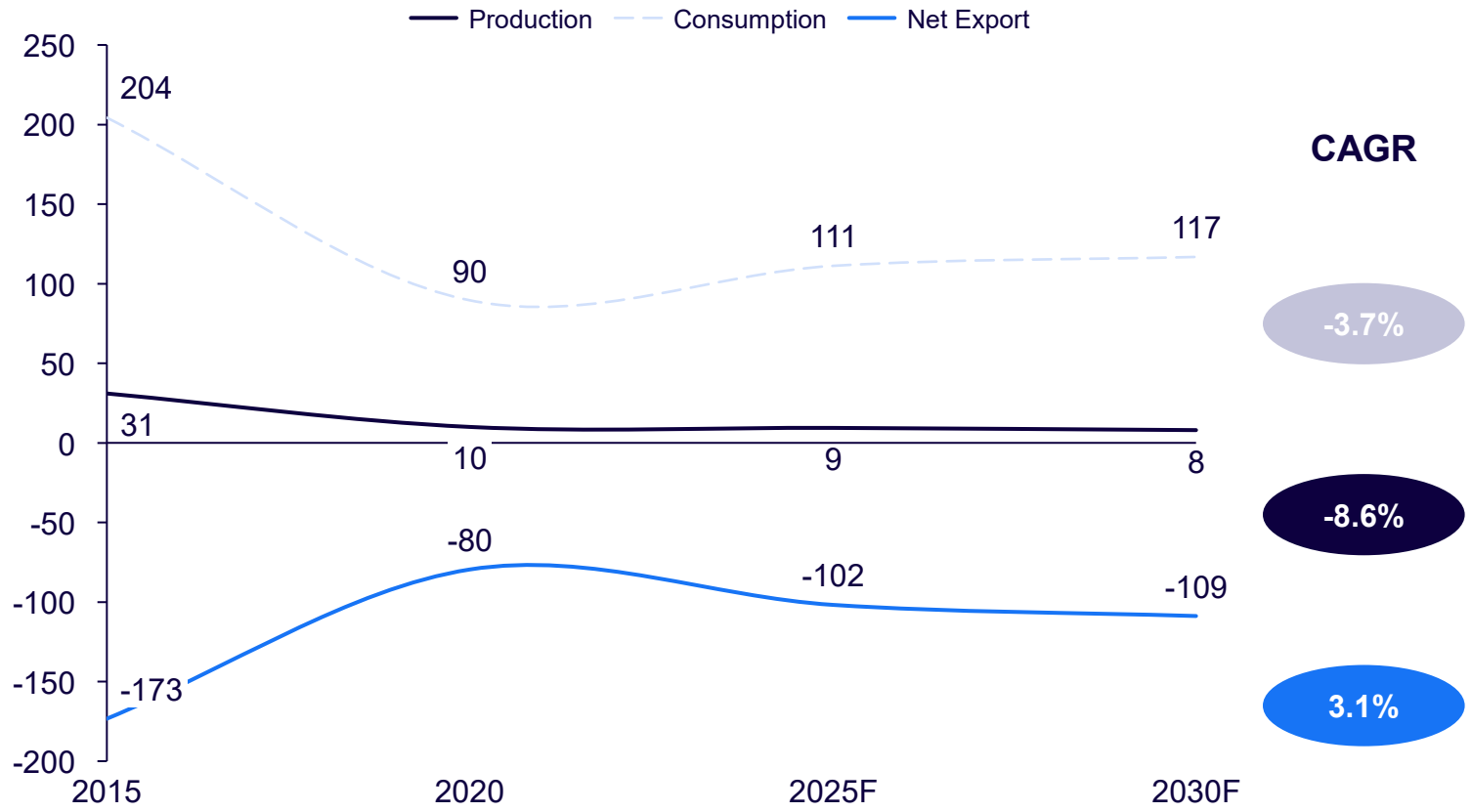


Note: 1) Stock changes have been included in the calculation of supply available for domestic consumption;
Source: Department of Energy “Philippine Energy Situationer and Key Energy Statistics” 2022-2023, Department of Energy “Compendium of Philippine Energy Statistics and Information” 2022, Arthur D. Little analysis

フィリピンの原油生産量はガロックやマランパヤ油田の枯渇と新規発見の停滞により減少し続け、2030年には2015年比で大幅減となる見込み

Crude oil, NGPL & other liquids key trends

2015 – 2030, 000's bpd[1]



COMMENTS

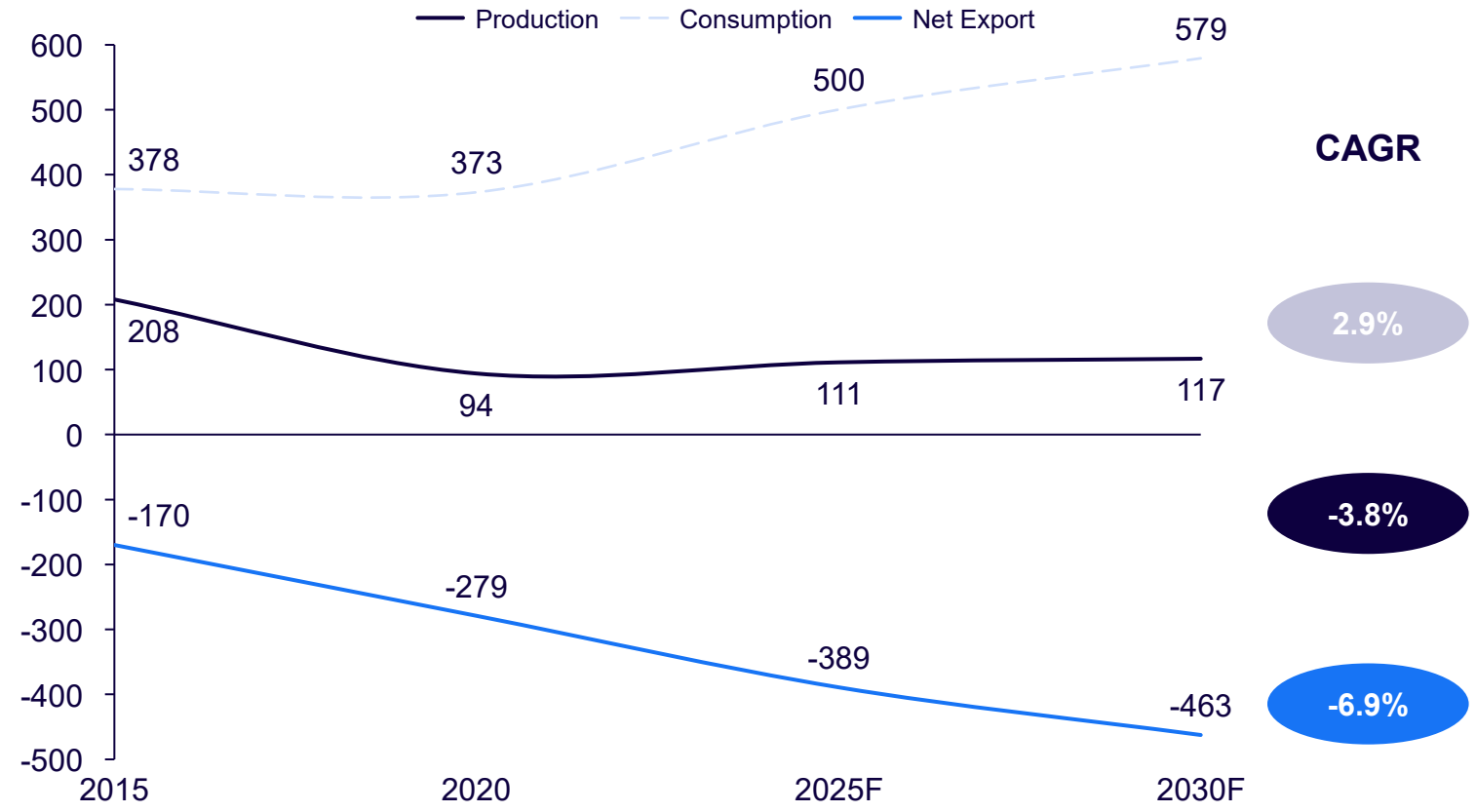
- Philippine's production is estimated to fall due to decreased drilling activities in the Galoc and Malampaya fields and limited success in new discoveries
  - This has cause production to crater at a rate of -8.6% CAGR from 31,000 bpd in 2015 to 8,000 bpd in 2030
- Condensate production from Malampaya field, comprised of 79% of the country's total crude oil production in 2023
- Falling demand of 3.7% CAGR from 2015 – 2030 has eased the burden on imports, cause net exports to increase by 3.1% CAGR

Note: The negative net export refers to import greater than export; 1) Barrels per day
Source: Fitch Solutions 2025, Department of Energy "Philippine Energy Situationer and Key Energy Statistics" 2023, Arthur D. Little analysis

フィリピンでは製油能力の停滞と需要増加により輸入依存度が一層高まり、精製石油製品の純輸入は今後大幅に拡大すると見込まれている

Refined petroleum products key trends

2015 – 2030, 000's bpd[1]



COMMENTS

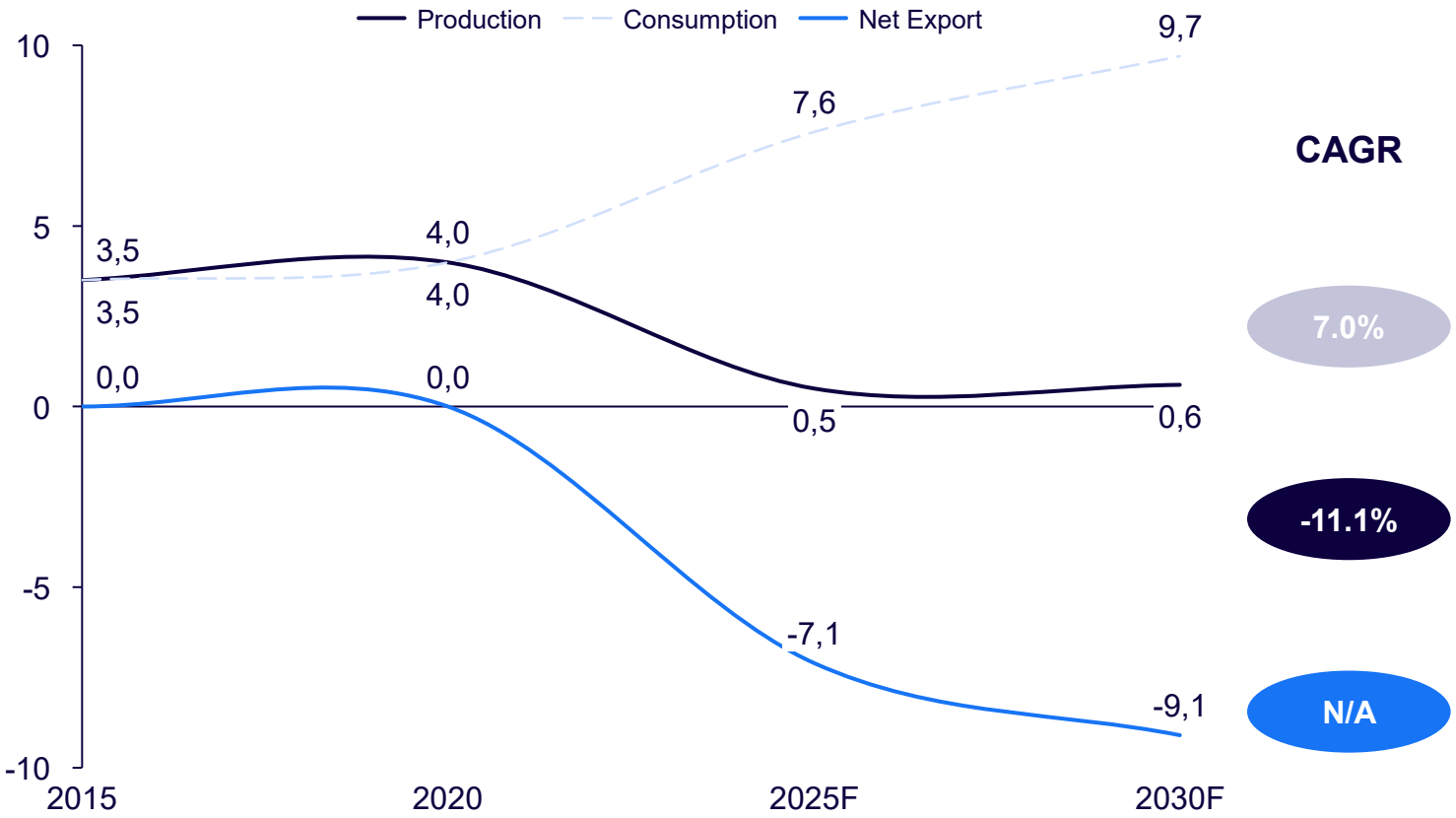
- Demand surged at a rate of 2.9% CAGR from 2015 – 2030, driven by demand from the transport sector
- Low refinery utilization rate, is exacerbated by shell closing its refinery in 2020 to convert it into an import facility in 2021, leaving Petron as the only refining company left
  - Petron has strong incentives to hike refinery utilisation rates in light of growing shortages in domestic supply, but utilisation rates are likely to remain below the nameplate capacity in light of growing supply of refined products from numerous industry players in wholesale and retail markets
- Net exports have decreased at a significant rate of 6.9% CAGR Import requirements for diesel, gasoline and LPG are expected to increase.

Note: The negative net export refers to import greater than export; 1) Barrels per day
Source: Fitch Solutions 2023, Multiple news sources, Arthur D. Little analysis

フィリピンでは生産減少と需要増加により天然ガスの輸入依存度が急速に高まり、今後のエネルギー安全保障上の課題となる見通し

Dry natural gas key trends

2015 – 2030, bcm[1]

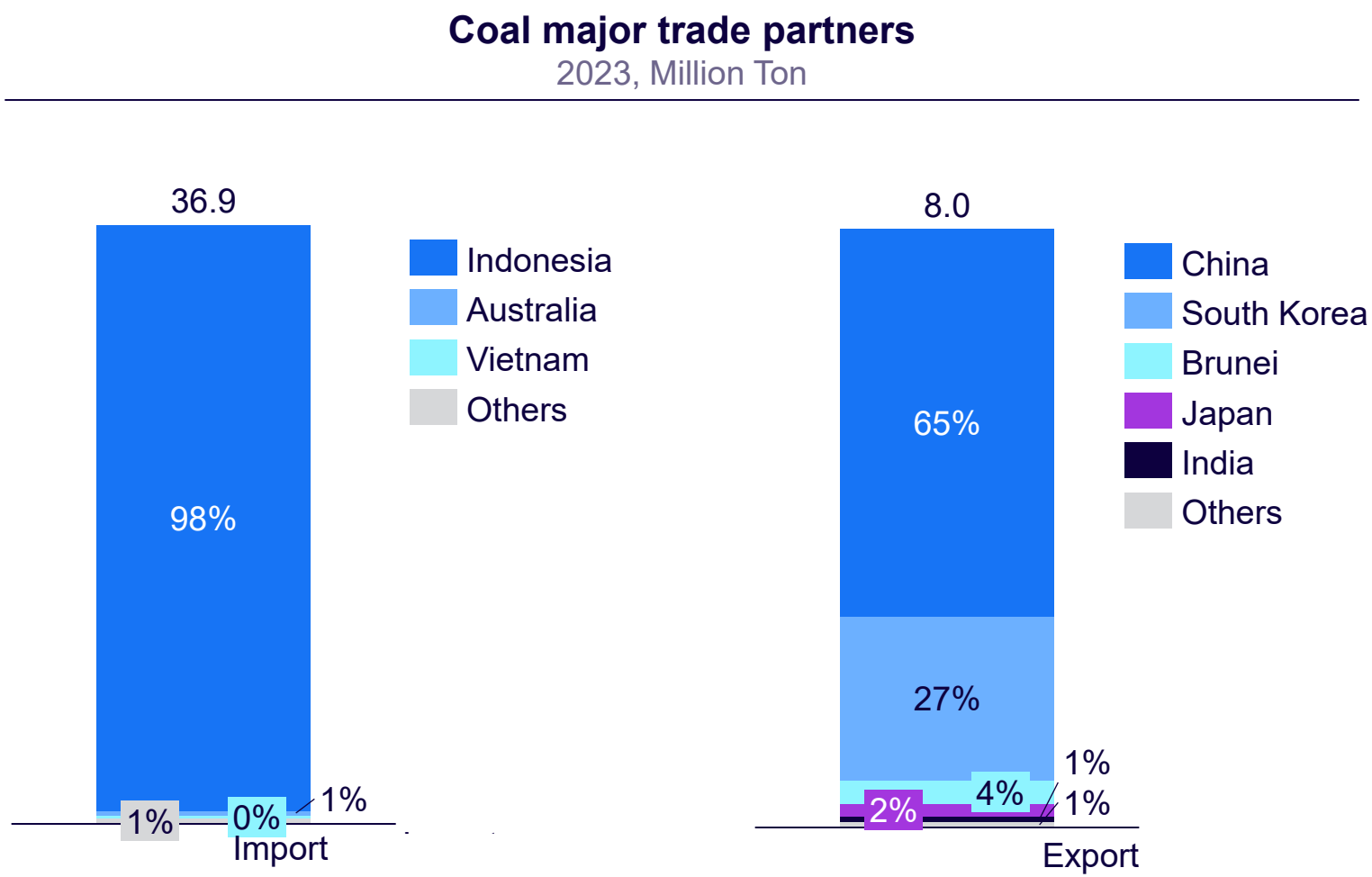


COMMENTS

- The government has signed a 15-year extension agreement for the Malampaya gas field, which is expected to boost production between 2025 and 2030
  - The renewed Malampaya natural gas field service contract will add at least USD600 Mn worth of investments for drilling two wells and subsea facilities
- The energy department plans to award seven service contracts for gas exploration between 2023 and 2040. The government intends to produce gas from fields including San Martin, Sampaguita, Polyard A8, Mangosteen, Progreso and Sta.Monica1, which are estimated to hold combined gas reserves of 1.14 trillion cubic metres

Note: The positive net export refers to export greater than import; 1) billion cubic metres;
Source: Fitch Solutions 2023, Arthur D. Little analysis

フィリピンの石炭輸入は98%をインドネシアに依存し、輸出は中国向けが65%を占める一方、韓国向けが急増して多様化が進んでいる



COMMENTS

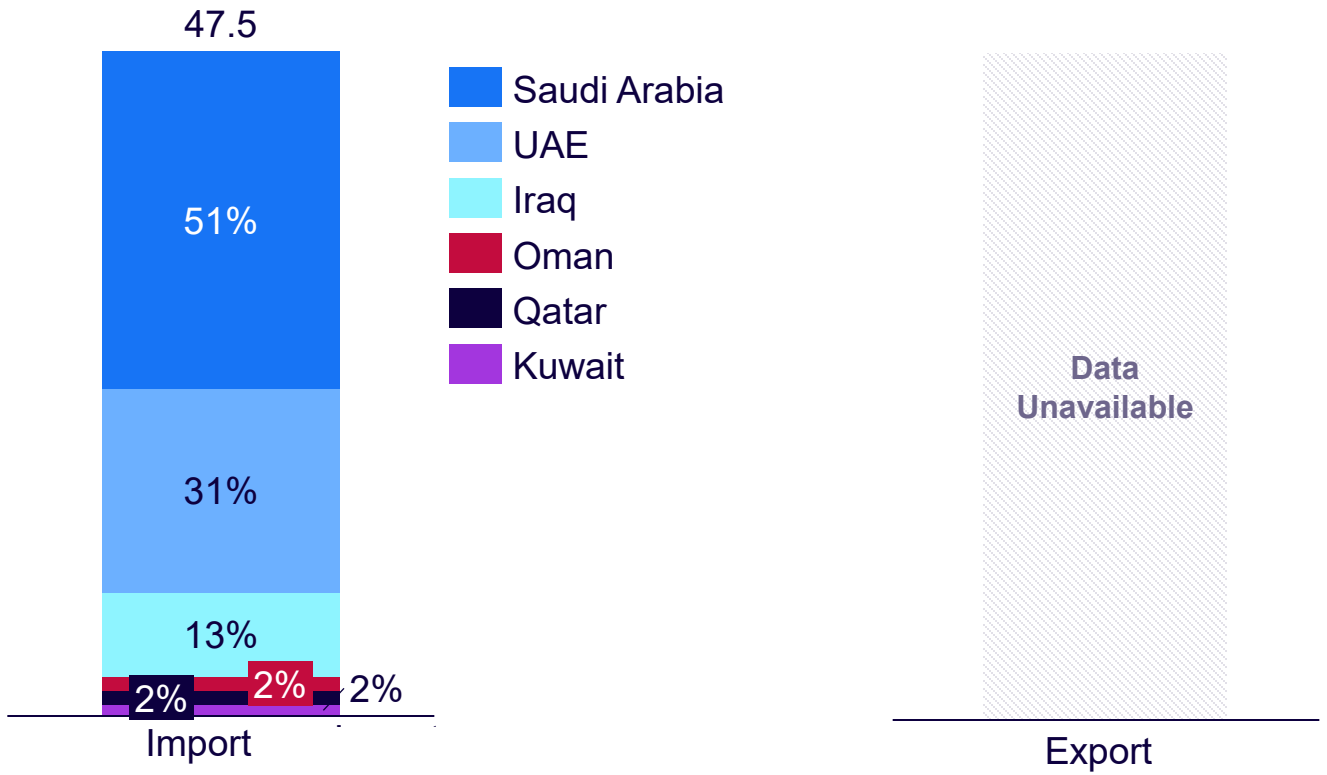
- The Philippines is greatly **dependent on Indonesia for its imports**, accounting for 98% of all imports
  - This over-reliance greatly impacted the Philippines coal needs when Indonesia imposed an export ban, resulting in the Philippines' energy secretary Alfonso Cusi to appeal to Indonesia to lift it
- Due to heavy reliance on coal for imports, the DOE is pursuing an Executive Order to suspend the current 7% import duty on coal
- Likewise for exports, China makes up 65% of all exports,
  - The share declined from 95% in 2021, driven by a drop in export volumes to China, while exports to South Korea surged by 481% between 2021 and 2023

Note: 1) Includes India, Malaysia, Peru, Russia, Taiwan, South Korea, South Africa, and USA; 2) Includes Cambodia, Papua New Guinea, and Vietnam
Source: Department of Energy 2023, Multiple news sources, Arthur D. Little analysis

フィリピンの原油輸入は全量が中東依存であり、特にサウジアラビアが51%以上を占め、残りもUAEやイラクなど中東諸国に集中している

Crude oil major trade partners

2023, mn barrels



COMMENTS

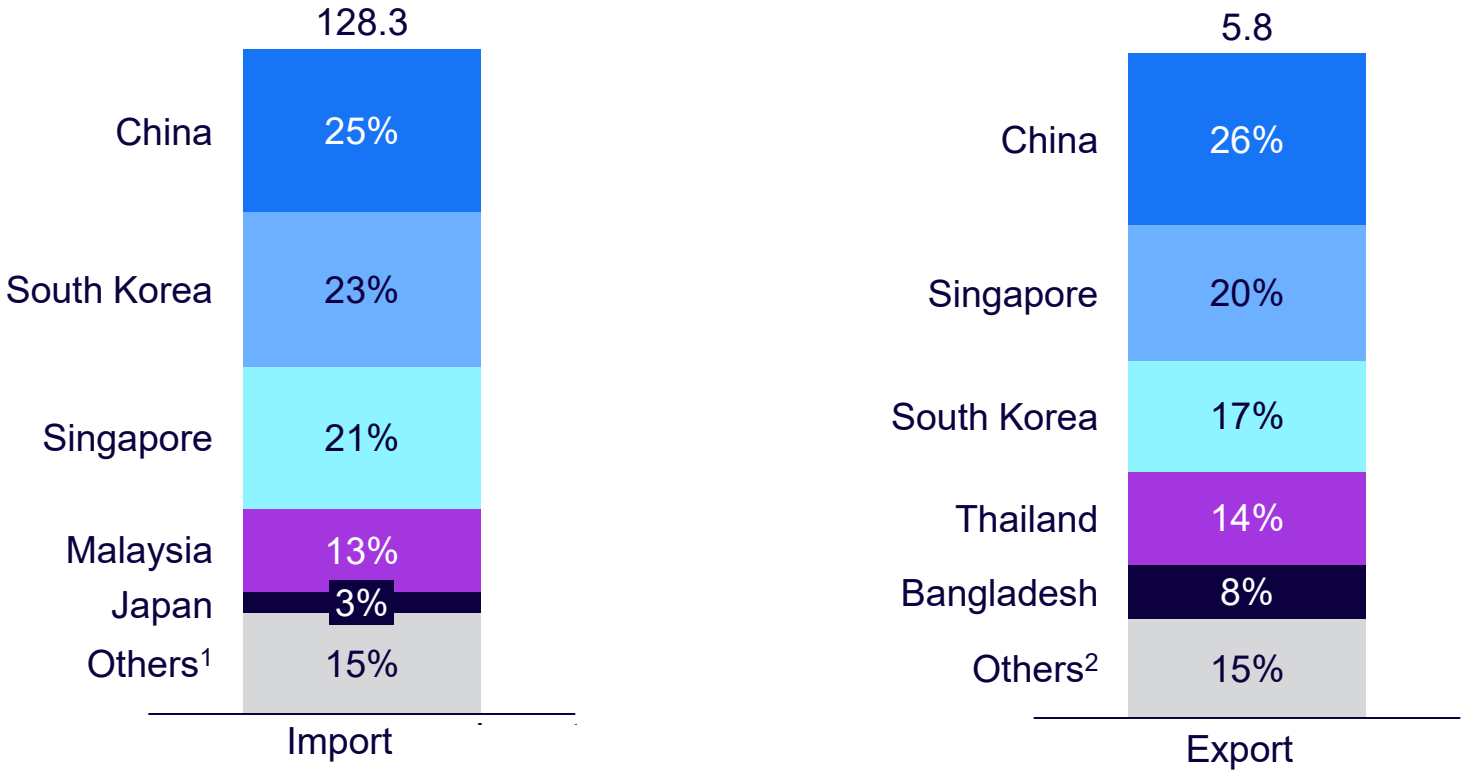
- Middle Eastern countries comprise 100% of all crude oil imports
  - Saudi Arabia is the dominating country with over 51% market share of crude oil imports
- Imports from non-Middle East countries were last recorded in 2021, accounting for 4% of total import volume
- In terms of condensates, the Philippines exclusively exports them to Asian markets, although the breakdown is not available

Source: Department of Energy Compendium 2023, Arthur D. Little analysis

石油精製品輸入は中国・韓国・シンガポール・マレーシアの4カ国で約82%を占め、輸出もアジア諸国が中心だが、国内精製能力が限られるため輸出余力は停滞が見込まれる

Petroleum products major trade partners

2023, mn barrels



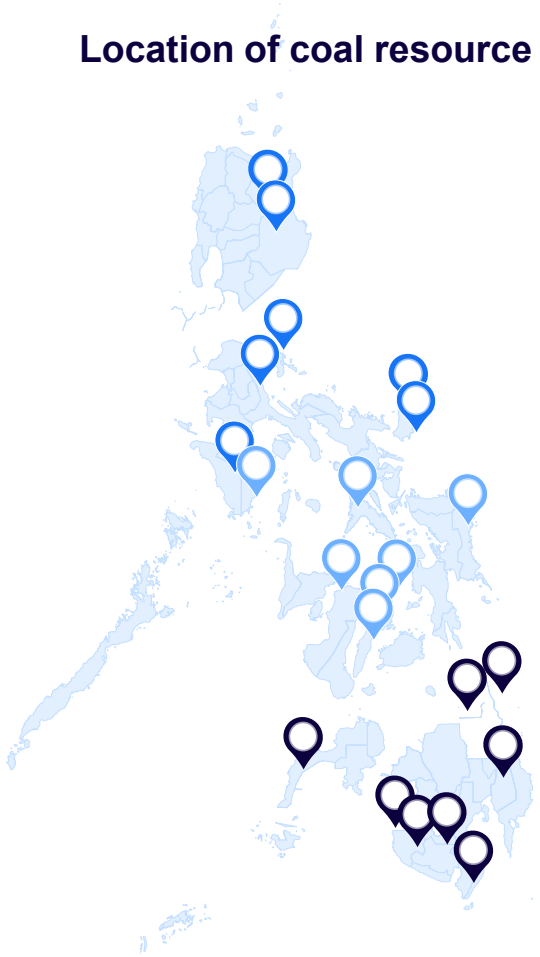
COMMENTS

- Petroleum products are largely imported from Asian countries with the top four countries China (25%), South Korea (23%), Singapore (21%), and Malaysia (13%) making up ~82% of all the imports
  - China's large share is on the back of aggressive exports to resolve a domestic glut
- Export partners are also largely Asian countries with China (26%) taking the lead, followed by Singapore (20%). and then South Korea, Thailand, and Bangladesh, which contribute around 8-17%
- With just one operational refinery (Petron Bataan), export capacity remains constrained, and volume expected to stagnate

Note: 1) Others include Taiwan, Brunei, Thailand, India, Qatar, Kuwait, Saudi Arabia, UAE, Vietnam, Iraq, Indonesia, Russia, Bahrain, and other unspecified countries; 2) Others include Brunei, India, Taiwan, Indonesia, Malaysia, Japan, and UAE
Source: Department of Energy Compendium 2022, Arthur D. Little analysis

フィリピンの石炭埋蔵は中部と北部を中心に分布しており、特にヴィサヤ地方のセミララ島やルソン地方のカガヤン渓谷、ミンダナオ地方のスルタン・クダラットや南コタバトに大規模な鉱区が存在

Location of coal resource



Luzon
- Quezon
- Mindoro
- Cagayan Valley
- Polillo, Batan & Catanduanes

Visayas
- Semirara
- Negros
- Masbate
- Samar
- Cebu

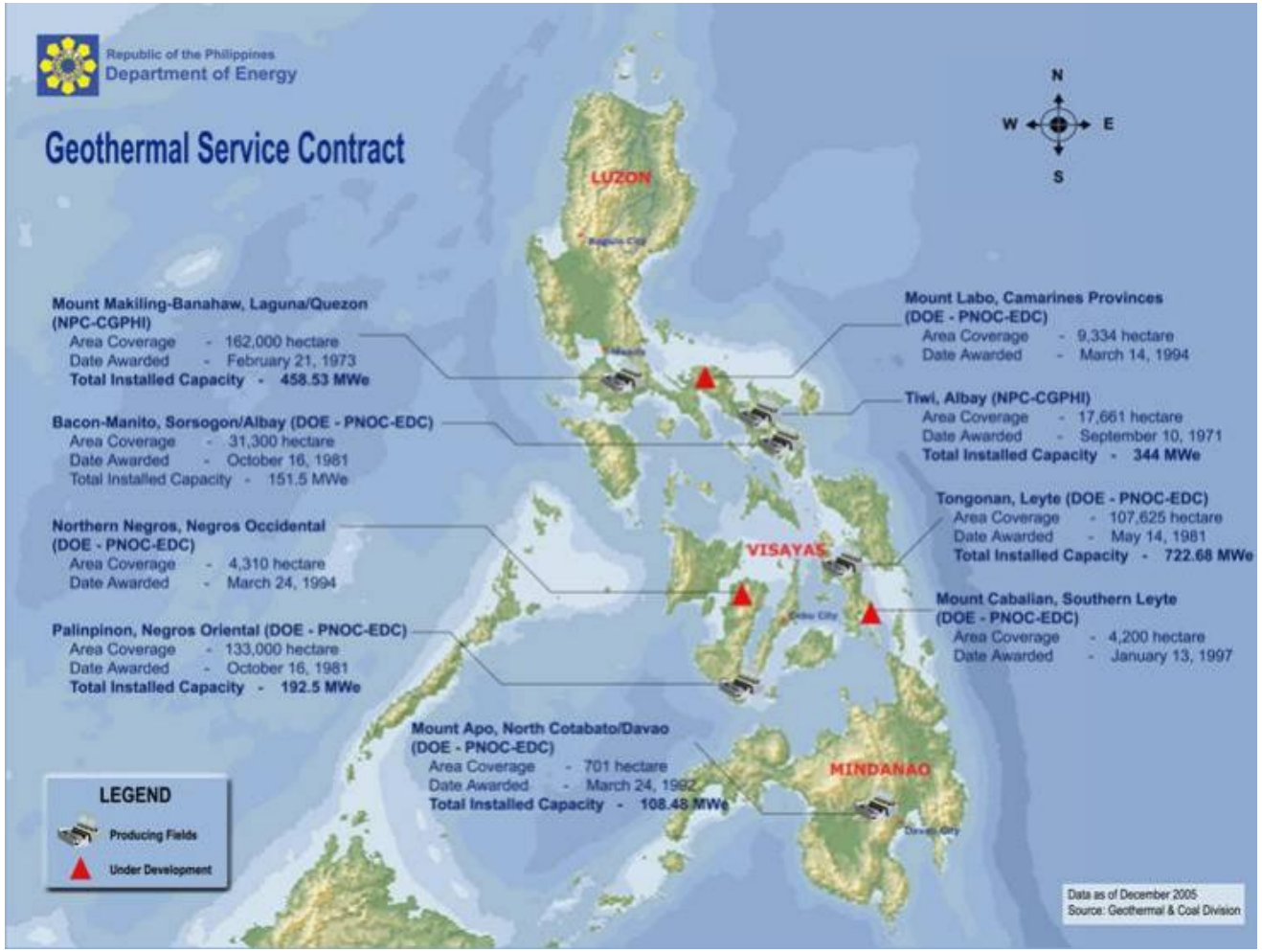
Mindanao
- Bukidnon
- Zamboanga
- Maguindanao
- Sultan Kudarat
- South Cotabato
- Surigao
- Davao
- Sarangani

(Thousand MT)

Region	Location	Resource potential	In-situ reserves	Mineable reserves
Luzon	Quezon	2,000	93	56
	Mindoro	100,000	1,443	866
	Cagayan Valley	336,000	82,568	70,183
	Polillo, Batan & Catanduanes	17,000	7,006	4,203
Visayas	Semirara	550,000	155,912	132,525
	Negros	4,500	2,362	1,417
	Masbate	2,500	75	45
	Samar	27,000	8,587	5,152
	Cebu	17,300	16,716	10,029
Mindanao	Bukidnon	50,000	-	-
	Zamboanga	45,000	38,688	23,213
	Maguindanao	108,000	-	-
	Sultan Kudarat	300,300	-	-
	South Cotabato	230,000	81,175	68,999
	Surigao	209,000	72,235	43,341
	Davao	100,000	3,380	2,028
	Sarangani	120,000	18	11
	Total	**2,218,600**	**470,256**	**362,067**

Note: Map is illustrative and not drawn to scale
Source: Philippines Department of Energy 2023, Arthur D. Little analysis

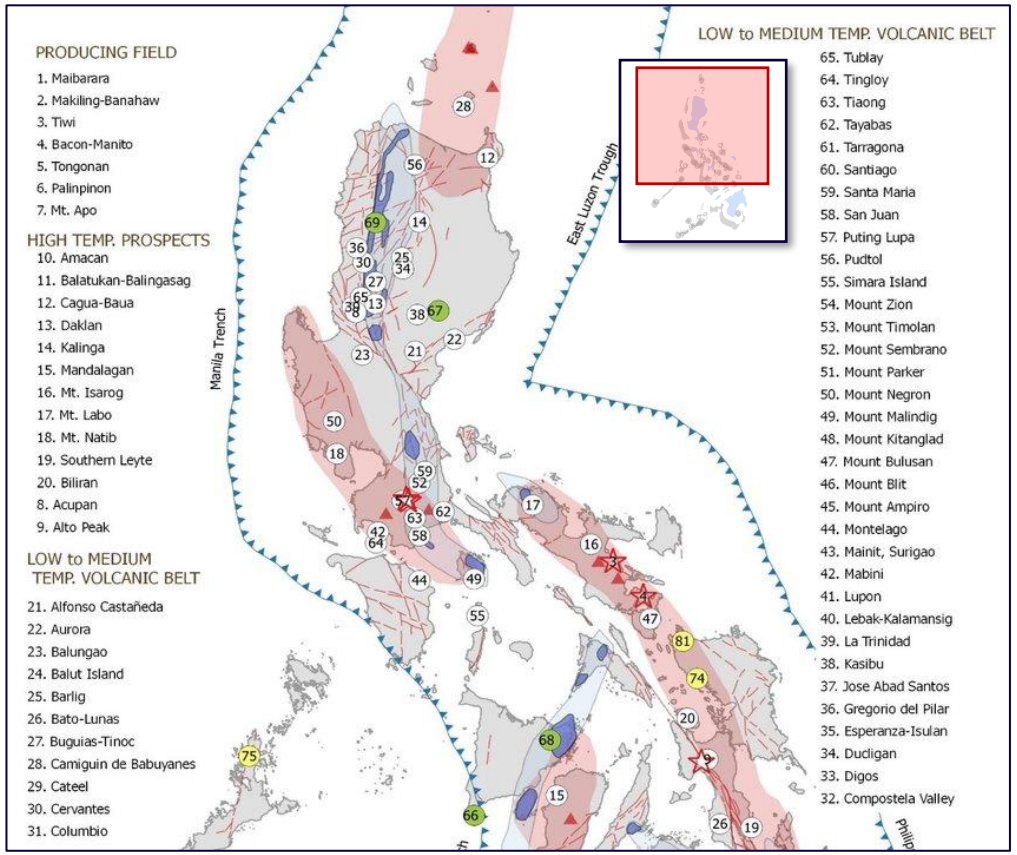
ルソン、ヴィサヤス、ミンダナオに主要な地熱資源地が分布している

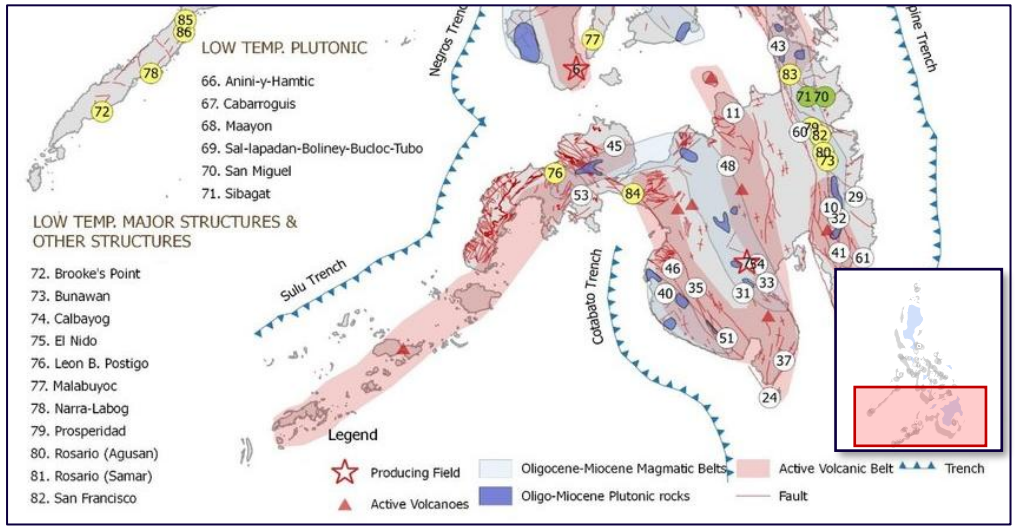


Note: Map is illustrative and not drawn to scale
Source: Department of Energy 2022, World Geothermal Congress 2021, Arthur D. Little analysis

フィリピンのルソン島・ビサヤ諸島・ミンダナオ島に地熱資源が広く分布し、火山帯や断層に沿って発電拡大の潜在力が高い

Philippines Geothermal Field Maps





Note: Map is illustrative and not drawn to scale
Source: Department of Energy 2022, World Geothermal Congress 2021, Arthur D. Little analysis

地熱地帯の一覧

Field	Field operator	Power plant operator	Installed capacity, MWe[1]
Tiwi	Chevron Geothermal Philippines Holding, Inc.	National Power Corporation	344
Mak-Ban	Chevron Geothermal Philippines Holding, Inc.	National Power Corporation	459
Tongonan	PNOC-Energy Development Corp.	National Power Corporation	113
Unified Leyte	PNOC-Energy Development Corp.	CALENERGY/ORMAT	610
Palinpinon I	PNOC-Energy Development Corp.	National Power Corporation	113
Palinpinon II	PNOC-Energy Development Corp.	National Power Corporation	80
Bacman I	PNOC-Energy Development Corp.	National Power Corporation	110
Bacman II	PNOC-Energy Development Corp.	National Power Corporation	40
Manito Lowlands	PNOC-Energy Development Corp.	PNOC-Energy Development Corp.	2
Mindanao I	PNOC-Energy Development Corp.	Marubeni	54
Mindanao II	PNOC-Energy Development Corp.	Marubeni	54
Total			**1979**

Note: 1) Rounded to nearest whole number
Source: Department of Energy 2022, World Geothermal Congress 2021, Arthur D. Little analysis

稼働中の地熱発電所一覧 (1/2)

Facility Name	Location	Commercial Operation	Operator	# of Units	Technology Type	Capacity (MW)	
						Installed	Dependable
Bacman	Albay and Sorsooon	1993	Bac-Man Geothermal Inc. (BGI)	3	Single Flash	140.0	133.0
Makban	Batangas	1979	AP Renewable Inc. (APRI)	10	Single Flash	442.8	319.6
Makban-Binary	Laguna	1979	AP Renewable Inc. (APRI)	5	Binary	15.7	5.8
Tiwi	Albay	1979	AP Renewable Inc. (APRI)	4	Single Flash	234.0	223.9
Maibara 1	Batangas	2014	Maibara Geothermal Inc. (MGI)	1	Single Flash	20.0	20.0
Maibara 2	Batangas	2018	Maibara Geothermal Inc. (MGI)	1	Single Flash	12.0	12.0
Palayan	Albay	2025	Bac-Man Geothermal Inc. (BGI)	1	Binary	35.7	28.0
Tongonan I GPP	Leyte	1983	Green Core Geothermal Inc. (GCGI)	3	Single Flash	123.0	115.4
Nasulo GPP	Negros Oriental	2014	Energy Development Corporation (EDC)	1	Single Flash	49.4	48.3
Palinpinon GPP	Negros Oriental	1983	Green Core Geothermal Inc. (GCGI)	6	Single Flash	192.5	172.5

Source: Department of Energy 2025, Arthur D. Little analysis

稼働中の地熱発電所一覧 (2/2)

Facility Name	Location	Commercial Operation	Operator	# of Units	Technology Type	Capacity (MW)	
						Installed	Dependable
Unified Leyte	Leyte	1997	Energy Development Corporation (EDC)	18	Single Flash/Binary/ Double Flash/Combined Cycle	610.2	551.4
MT – APO EDC GPP	North Cotabato	1996	Filinvest Development Corporation (FDC) Utilities, Inc.	2	Single Flash	108.5	103.3
Mindanao 3 Binary Geothermal Powerplant	North Cotabato	2022	Energy Development Corp. (EDC)	1	Binary	3.7	3.0

Source: Department of Energy 2025, Arthur D. Little analysis

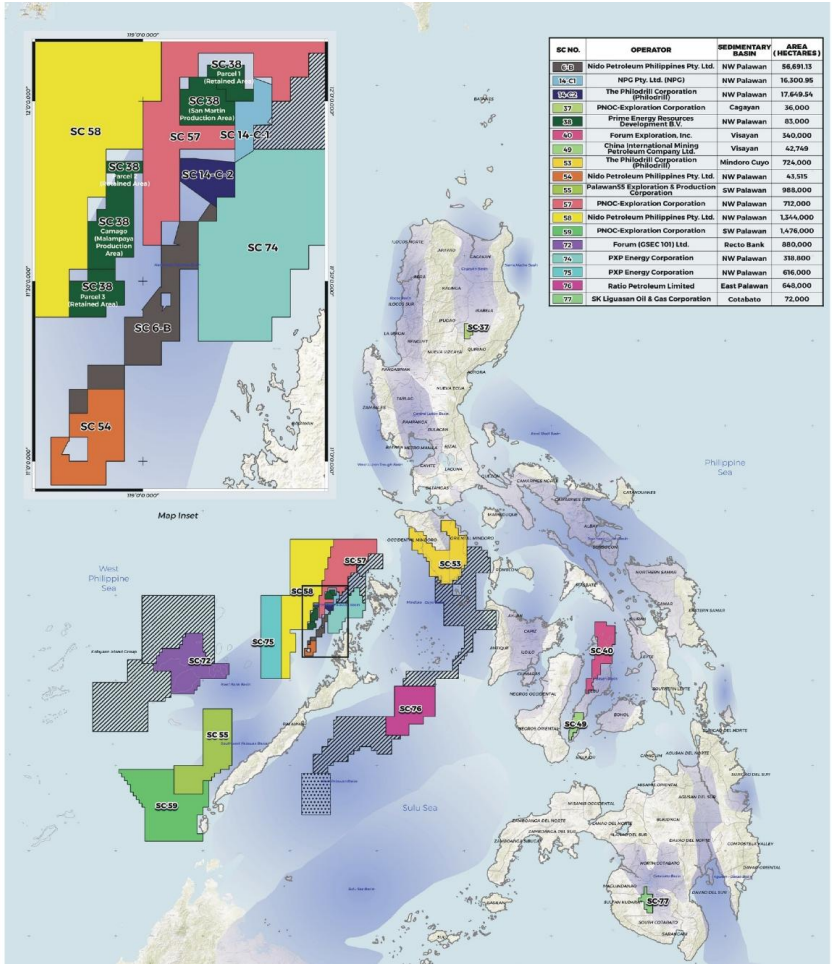
石油・天然ガスの埋蔵状況

Proven oil and gas reserves (2021 - 2026)						
Indicator	**2023e**	**2024f**	**2025f**	**2026f**	**2027f**	**2028f**
Proven oil reserves. bn bbl	0.1	0.1	0.1	0.1	0.1	0.1
Proven oil reserves. mn bbl	137.8	137.5	137.3	137.1	136.9	136.7
Proven oil reserves. % y-o-y	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1
Reserves to production ratio (RPR), years	39.4	40.9	42.7	44.0	0.1	0.1
Natural gas proven reserves, tcm	0.1	0.1	0.1	0.1	0.1	0.1
Natural gas proven reserves, bcm	94.6	93.8	93.3	92.8	92.3	91.9
Natural gas proven reserves, % y-o-y	-1.8	-0.9	-0.5	-0.5	-0.5	-0.5
Natural gas reserves-to-production ratio, years	56.1	111.1	184.2	192.9	195.8	187.3

Proven oil and gas reserves (2027 - 2032)						
Indicator	**2029f**	**2030f**	**2031f**	**2032f**	**2033f**	**2034f**
Proven oil reserves, bn bbl	0.1	0.1	0.1	0.1	0.1	0.1
Proven oil reserves, mn bbl	136.5	136.3	136.2	136.0	135.9	135.8
Proven Oil reserves, % y-o-y	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Natural gas proven reserves, tcm	0.1	0.1	0.1	0.1	0.1	0.1
Natural gas proven reserves, bcm	91.3	90.8	90.2	89.5	88.7	87.9
Natural gas proven reserves. % y-o-y	-0.6	-0.6	-0.7	-0.8	-0.8	-0.9

Note: e = estimated and f= forecasted
Source: Fitch Solutions Oil & Gas Report 2025

石油・天然ガスは、西部地域に所在



SC NO.	OPERATOR	SEDIMENTARY BASIN	AREA (HECTARES)
6-B	Nido Petroleum Philippines Pty. Ltd.	NW Palawan	58,691.13
14-C1	NPC Pty. Ltd. (NPC)	NW Palawan	16,300.95
14-C2	The Philodrill Corporation (Philodrill)	NW Palawan	17,649.54
37	PNOC-Exploration Corporation	Cagayan	36,000
38	Prime Energy Resources Development B.V.	NW Palawan	83,000
40	Forum Exploration, Inc.	Visayan	340,000
49	China International Mining Petroleum Company Ltd.	Visayan	42,749
53	The Philodrill Corporation (Philodrill)	Mindoro Cuyo	724,000
54	Nido Petroleum Philippines Pty. Ltd.	NW Palawan	43,515
55	Palawan55 Exploration & Production Corporation	SW Palawan	988,000
57	PNOC-Exploration Corporation	NW Palawan	712,000
58	Nido Petroleum Philippines Pty. Ltd.	NW Palawan	1,344,000
59	PNOC-Exploration Corporation	SW Palawan	1,476,000
72	Forum (GSEC 101) Ltd.	Recto Bank	880,000
74	PXP Energy Corporation	NW Palawan	318,800
75	PXP Energy Corporation	NW Palawan	616,000
76	Ratio Petroleum Limited	East Palawan	648,000
77	SK Ligusasn Oil & Gas Corporation	Cotabato	72,000

Source: Philippine Energy Plan 2023-2050

主な石油・ガスプロジェクトの一覧 (1/2)

Name	Field name	Location	Companies	Status	Est. peak oil/ liquid range, bpd[1]	Est. peak gas output, bcm[2]	Fuel source
SC 50	Calauit	Palawan	Phinma (10%)	Appraisal	-	-	Oil
SC 54, North West Palawan Basin	Block A, B	Palawan	Kairiki Energy (30.1%), Nido Petroleum (42.4%), TVI Pacific Inc (12.5%), Trafigura Beheer (15%)	Appraisal	-	-	Oil
SC 44	Malolos	Cebu	Gas2Grid (100%)	Discovery	-	-	Oil
SC 63, NW Palawan Basin	SC 63	Palawan	Philippines National Oil Company (40%), Nido Petroleum (20%), Dragon Oil (40%)	Exploration	-	-	Oil
SC 72	Sampaguita	Palawan	Apex Mining (30%), Forum Energy (70%)	Exploration	-	-	Gas
SC-55, Palawan Basin	SC-55	Palawan	Otto Energy (68.18%), Phinma (6.8%), Red Emperor (15%)	Expansion	-	-	Oil & Gas
Service Contract 5B, NW Palawan Basin	Service Contract 5B	Palawan	-	Exploration	-	-	Oil & Gas
Service Contract 6B, NW Palawan Basin	Service Contract 6B	Palawan	-	Exploration	-	-	Oil & Gas

Note: 1) Barrels per day; 2) Billion cubic metres
Source: Fitch Solutions Oil & Gas Report 2025, Arthur D. Little analysis

主な石油・ガスプロジェクトの一覧 (2/2)

Name	Field name	Location	Companies	Status	Est. peak oil/ liquid range, bpd[1]	Est. peak gas output, bcm[2]	Fuel source
SC 14, Block A, Palawan Basin	Nido-A Nido-B	Palawan	Forum Energy (8.5%), Nido Petroleum (22.48%), Philodrill Corporation (26.1%), Oriental Petroleum and Minerals(42.9%)	Production	42,000	-	Oil
SC 14, Block B, Palawan Basin	Matinloc	Palawan	Nido Petroleum (28.28%), Philodrill Corporation (41.6%), Forum Energy (12.4%), Oriental Petroleum and Minerals (17.7%)	Production	6,800	-	Oil
SC 14, Block C	Galoc	Palawan	Nido Petroleum (55.8%), Galoc Production (26.8%), Forum Energy (2.28%), Philodrill Corporation (7.2%), Oriental Petroleum and Minerals (7.78%)	Production	14,500	-	Oil
SC 40	Libertad	Antique	Forum Energy (100%)	Production	-	-	Gas
SC 48	Malampaya	Palawan	Philippines National Oil Company (10%), Udenna Corp (45%) Shell Philippines (45%)	Production	15,000	3.8	Gas & Condensate
SC 6	Cadlao	Palawan	Blade Petroleum (80%), VenturOil Philippines (20%)	Suspended	16,000		Oil

Note: 1) Barrels per day; 2) Billion cubic metres
Source: Fitch Solutions Oil & Gas Report 2025, Arthur D. Little analysis

石油精製所の一覧

Location	Project Name	Capacity, '000s bpd[1]	Owner	Status	Start-up year
Bataan	Limay	180	Petron	Active	1961
Bataan	Limay expansion	120	Petron	Postponed	*Unknown*
Batangas	Tabangao	110	Shell	Closed	1962

Note: 1) Barrels per day
Source: Fitch Solutions Oil & Gas Report 2025, Arthur D. Little analysis

進行中のLNGプロジェクトのリスト

Location	Name	Capacity, bcm[1]	Capacity, mtpa[2]	Power generation capacity, MW	Status	Owner (s)	Start-up year
Batangas	Philippines LNG	4.1	3	1,200	Approved	Atlantic Gulf & Pacific Company of Manila Inc. (AG&P)	2023
Batangas	FGEN LNG Phase I	7.2	5.3	1,200	Approved	First Gen Corporation, Tokyo Gas	2023
Quezon	Pagbilao LNG	4.1	3	650	Approved	Energy World Corporation	2023
Batangas	Filipinas LNG I	6	4.4	850	Approved	Excelerate Energy	-
Batangas	Shell FSRU	4.1	3	-	Approved	Shell	2026
Batangas	Vires Energy FSRU	-	3	506	Approved	Vires Energy	2026
Batangas	Filipinas LNG II	-	-	850	Approved	Excelerate Energy	2024
Batangas	Batangas Clean Energy LNG	4.1	3	1,100	NTP Expired	Batangas Clean Energy	2025
-	-	-	-	-	Proposed	New Fortress Energy	-
Bataan, Batangas	-	-	-	-	Proposed	PNOC, Llyod Energy	-
Batangas	FGEN LNG Phase II	2.7	2	-	Proposed	First Gen Corporation, Tokyo Gas	-
Mindanao	Brunel-PNOC FSRU	-	-	300	Proposed	Petroleum National Brunel, PNOC	-
Cebu	-	-	-	600	Proposed	SMC Global Power Holdings Corp.	2027 - 2028
Batangas	Tanglawan LNG	3	2.2	1,100	Suspended	Tanglawan Philippines LNG (CNOOC, Phoenix Petroleum)	2024-2025
Batangas	-	3	-	-	Suspended	LT group	-
	Total	**38.3**	**28.9**	**8,356**			

Note: 1) Billion cubic metres; 2) Million tonnes per annum
Source: Fitch Solutions Oil & Gas Report 2025, Arthur D. Little analysis

計画されているガスパイプラインのリスト

From	To	Name	Length, km	Start-up year
Batangas, Laguna, Cavite	Metro Manila	BatMan-1 Pipeline	121	2016
Sucat	Fort Bonifacio	Sucat-Fort Bonifacio Pipeline	15	2017
Sucat	*Unknown*	Sucat-Malaya (Su-Ma) Pipeline	35	2017
Sucat	Quirino	Sucat-Quirino Pipeline	38	2020
Metro Manila	Epifanio de los Santos Avenue	Metro Manila/Edsa-Taft Pipeline	40	2020
Bataan, Pampanga, Zambales	Manila	Bataan-Manila (BatMan 2) Pipeline	140	2020
BatMan 2	Subic	Subic Pipeline	40	2021
BatMan 2	Clark	Clark Pipeline	25	2022
BatMan 1	BatMan 2	Bataan-Cavite (BatCave) Gas Pipeline	40	2022

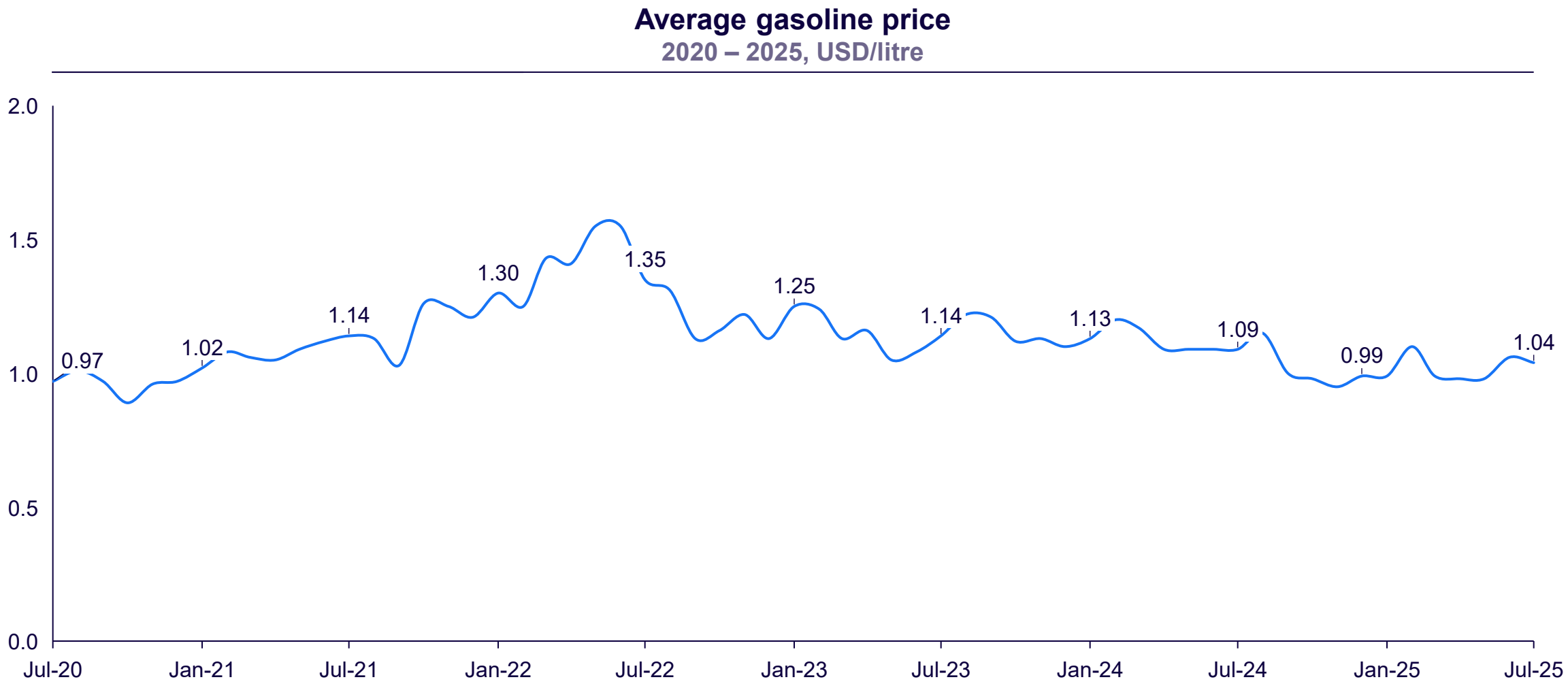
Source: Fitch Solutions Oil & Gas Report 2025, Arthur D. Little analysis

フィリピンでは超臨界石炭火力が稼働中の3基に加え、2027年稼働予定のH&WB（2×350MW）が許認可・事前FS段階

				
Capacity	500 MW, HELE[2] technology	2 × 668 MW	335 MW	2 × 350 MW
Commercial Operation Date	2019	Unit 1: 2021 Unit 2: 2022	2020	2027
Location	Mauban, Quezon	Dinginin, Mariveles, Bataan	Masinloc, Zambales	Jose Panganiban, Camarines Norte
Owner & Operator	San Buenaventura Power Ltd. Co. — a JV between Meralco PowerGen & EGCO	GNPower Dinginin Ltd. Co.	Masinloc Power Partners Co. Ltd	H&WB Asia Pacific (Pte Ltd)
Current Status	Operating	Operating	Operating	Project in permitting/ pre-feasibility stage

Source: Department of Energy Philippines, Various secondary sources, Arthur D. Little analysis

過去5年のガソリン平均価格は2020年の約0.97USD/Lから2022年にかけて上昇後に緩やかに低下・安定し、2025年半ばは約1.04USD/Lとなっている



Source: Trading Economics, Arthur D. Little analysis

2025年6月時点のマニラ首都圏における石油製品の価格 (1/2)

Retail prices of petroleum products in National Capital Region

As of June 24-30, 2025, in Philippine Peso

	PRODUCT	PETRON		SHELL		CALTEX		PHOENIX		TOTAL		FLYING V		UNIOIL		SEAOIL		PTT		INDEPENDENT		OVERALL RANGE	COMMON PRICE
Cities	NATIONAL CAPITAL REGION																						
Caloocan City	RON 100			70.25	74.98											55.45	62.30					55.45 - 74.98	NONE
	RON 97	57.41	62.75	64.84	67.25	66.35	66.35					53.93	55.80	59.59	59.59					51.00	58.70	51.00 - 67.25	66.35
	RON 95	56.31	61.25	59.44	61.24	61.24	61.24					53.45	54.80	58.60	58.60	54.45	60.90			50.00	57.20	50.00 - 61.25	61.24
	RON 91	56.05	59.20	59.49	61.44	61.44	61.44					53.76	55.50	57.45	57.45	53.45	58.95			50.00	57.45	50.00 - 61.44	61.44
	DIESEL	62.20	62.20	65.94	69.09																	62.20 - 69.09	NONE
	DIESEL PLUS	73.99	75.57																			73.99 - 75.57	NONE
	KEROSENE	65.33	69.06																			65.33 - 69.06	NONE
Quezon City	RON 100			69.55	73.96									69.45	69.45	55.65	58.19			55.55	55.55	55.55 - 73.96	NONE
	RON 97	55.72	59.20	64.29	69.29	65.19	69.65	56.55	70.95			54.29	56.60	58.44	59.45					51.15	53.80	51.15 - 70.95	65.89
	RON 91	54.64	57.70	59.29	60.49	61.91	64.55	58.05	67.15			53.00	55.40	57.30	57.35	54.65	56.69			49.75	52.80	49.75 - 67.15	55.40
	DIESEL	55.24	58.30	59.89	60.89	60.40	62.95	56.30	65.10			53.99	56.85	56.40	58.70	54.74	56.25			49.90	52.90	49.90 - 65.10	60.89
	DIESEL PLUS	58.24	61.30	66.07	69.34	62.40	62.40															58.24 - 69.34	67.45
	KEROSENE	74.39	77.51																			74.39 - 77.51	NONE
Manila	RON 100	67.99	71.45																			67.99 - 71.45	NONE
	RON 97			69.41	76.20											56.30	61.10					56.30 - 76.20	NONE
	RON 95	58.15	62.39	63.91	68.94	63.91	67.34			57.65	57.65	57.50	59.60	63.32	63.32					55.60	57.85	55.60 - 68.94	63.91
	RON 91	56.65	60.90	58.91	62.79	59.10	61.60			56.30	56.30	55.50	58.10	59.22	59.22	54.90	59.70			54.10	56.55	54.10 - 62.79	59.61
	DIESEL	56.74	58.90	58.34	61.99	59.51	60.34			54.90	54.90	55.70	56.55	60.45	60.45	55.00	58.35			52.13	53.70	52.13 - 61.99	58.35
	DIESEL PLUS	59.74	61.90	67.06	69.69					56.90	56.90									57.40	57.40	56.90 - 69.69	NONE
	KEROSENE	72.36	72.62																	71.90	71.90	71.90 - 72.62	72.62
Pasig City	RON 100	68.01	73.93																			68.01 - 73.93	NONE
	RON 97			69.38	72.59									68.77	73.60	57.30	59.50					57.30 - 73.60	NONE
	RON 95	57.65	64.99	65.04	69.44	65.67	68.94	56.65	61.65			56.65	58.55	59.70	60.40					54.55	56.70	54.55 - 69.44	57.65
	RON 91	56.15	63.50	59.80	63.59	61.88	63.54	56.15	60.15	58.20	58.20	55.75	57.55	57.90	58.20	56.00	56.55			54.30	56.25	54.30 - 63.59	56.15
	DIESEL	57.45	61.89	59.99	61.59	61.08	62.89	55.60	59.25	58.50	58.50	55.30	57.50	58.45	58.50	55.70	57.35			53.05	55.60	53.05 - 62.89	58.50
	DIESEL PLUS	60.45	62.89	67.34	69.68																	60.45 - 69.68	NONE
	KEROSENE	75.05	75.05																			75.05 - 75.05	NONE
Taguig City	RON 100	71.86	73.42																			71.86 - 73.42	NONE
	RON 97			69.58	74.12											61.10	61.10					61.10 - 74.12	NONE
	RON 95	59.55	64.20	66.58	69.65	57.45	70.65					59.05	61.00							58.99	61.00	57.45 - 70.65	61.00
	RON 91	59.30	62.70	60.39	64.54	56.10	65.85					57.70	59.85			59.85	59.85			57.78	59.85	56.10 - 65.85	59.85
	DIESEL	59.15	61.06	59.94	62.99	55.35	61.84					57.20	57.90			57.90	57.90			56.68	57.90	55.35 - 62.99	57.90
	DIESEL PLUS	62.15	63.45	67.43	70.98	70.50	70.50															62.15 - 70.98	NONE
	KEROSENE					81.70	89.04															81.70 - 89.04	NONE

Source: Department of Energy 2025, Arthur D. Little analysis

2025年6月時点のマニラ首都圏における石油製品の価格 (2/2)

Retail prices of petroleum products in National Capital Region

As of June 24-30, 2025, in Philippine Peso

	PRODUCT	PETRON		SHELL		CALTEX		PHOENIX		TOTAL		FLYING V		UNIOIL		SEAOIL		PTT		INDEPENDENT		OVERALL RANGE	COMMON PRICE
Cities		NATIONAL CAPITAL REGION																					
Makati City	RON 100	66.09	69.90																			66.09 - 69.90	69.90
	RON 97			70.33	75.09			74.43	74.43					69.22	69.22							69.22 - 75.09	NONE
	RON 95	56.25	60.05	67.18	69.33	59.36	69.78	60.50	60.50					60.15	60.75					56.90	56.90	56.25 - 69.78	60.05
	RON 91	54.75	58.55	60.89	63.14	57.86	63.14	59.00	59.00					58.25	58.25					55.50	55.50	54.75 - 63.14	58.55
	DIESEL	51.85	57.55	60.04	61.59	55.75	61.59	57.10	57.10					55.00	55.95					53.00	53.00	51.85 - 61.59	57.25
	DIESEL PLUS	54.85	60.55	68.03	69.58	62.82	68.22															54.85 - 69.58	60.25
	KEROSENE	71.96	71.96																			71.96 - 71.96	NONE
Paranaque City	RON 100	68.46	69.85																			68.46 - 69.85	NONE
	RON 97			66.96	73.84									70.25	70.25	57.65	59.75			58.90	59.65	57.65 - 73.84	70.25
	RON 95	58.60	60.25	63.96	67.90	64.25	64.25			68.39	69.85	57.35	57.60	61.10	61.25					57.50	57.85	57.35 - 69.85	64.25
	RON 91	57.10	58.79	57.60	62.89	60.95	60.95			66.89	68.35	56.10	56.55	59.60	59.75	56.75	58.75			57.55	57.90	56.10 - 68.35	60.95
	DIESEL	58.06	58.45	58.64	62.04	60.34	60.34			64.30	68.70	54.95	56.45	59.05	59.35	57.20	57.80					54.95 - 68.70	60.34
	DIESEL PLUS	61.06	61.45	66.60	70.35	62.34	62.34			71.30	71.30											61.06 - 71.30	NONE
	KEROSENE																			74.90	74.90	74.90 - 74.90	NONE
Muntinlupa City	RON 100	69.72	69.72																			69.72 - 69.72	NONE
	RON 97			71.30	77.05											61.90	66.12					61.90 - 77.05	71.30
	RON 95	60.20	62.00	66.55	70.44	66.71	69.75	57.35	60.20	66.55	66.55	58.80	58.80	62.45	63.20							57.35 - 70.44	60.20
	RON 91	59.10	60.50	61.09	65.05	62.30	62.81	56.45	58.85	65.05	65.05	57.20	57.20	61.45	61.45	60.80	65.30					56.45 - 65.30	65.05
	DIESEL	57.85	61.15	59.84	64.75	60.99	61.36	57.30	58.30	64.30	64.30	57.05	57.05	60.05	60.50	60.00	61.25					57.05 - 64.75	NONE
	DIESEL PLUS	59.85	64.15	67.44	74.00					69.30	69.30											59.85 - 74.00	NONE
	KEROSENE					74.89	74.89															74.89 - 74.89	NONE
Pasay City	RON 100	70.69	70.69																			70.69 - 70.69	NONE
	RON 97			70.20	71.93																	70.20 - 71.93	NONE
	RON 95	59.25	61.44	66.43	67.91	66.49	67.91			66.31	68.39							59.45	59.60	55.90	58.10	55.90 - 68.39	67.91
	RON 91	57.75	59.94	61.20	62.79	61.20	62.79			61.00	66.89							57.95	59.60	55.50	57.29	55.50 - 66.89	59.60
	DIESEL	56.55	59.05	60.34	61.49	60.76	61.49			60.75	64.30							57.95	59.05	53.85	55.80	53.85 - 64.30	59.05
	DIESEL PLUS	61.80	62.05	66.85	69.25	63.26	63.26			66.64	67.30							59.05	59.05			59.05 - 69.25	68.54
	KEROSENE						85.45	85.45														85.45 - 85.45	NONE

Source: Department of Energy 2025, Arthur D. Little analysis

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フィリピンDOEは化石燃料パイプラインの品質基準、小売配管でのB5取扱い、油槽所の設計・建設を定めているが、いずれも国家規格としては参考・任意適用

Quality standards regarding fossil fuel pipelines

Department of Energy

Name	Overview of coverage[1]	Year introduced
PNS/DOE FS 8:2013 Transportation of Petroleum Product by Pipeline	• This standard covers operation and maintenance, reporting requirements and other applicable provisions in the on-shore transportation via pipeline (as defined hereafter) of liquid petroleum products for white (such as but not limited to gasoline, diesel, kerosene and jet A-1) and (such as but not limited to) black (bunker fuel)	2013
PNS/DOE FS 7-3:2011 Storing & Handling of B5 in Retail Outlet	• Recommended guides/procedures for underground retail piping where diesel up to B5 is handled (design/installation/venting, etc.)	2011
PNS/DOE FS 4:2007 Liquid Petroleum Product Depot	• This standard covers the design and construction of depots and associated facilities involved in marketing/ redistribution of liquid petroleum product. • Liquid petroleum products refers to gasoline, diesel, kerosene and bunker fuel, with products received, blended, and/or distributed by pipeline	2007

Note: 1) The Philippine National Standards currently serves only as a reference or voluntary standard
Source: Department of Energy Philippines 2022

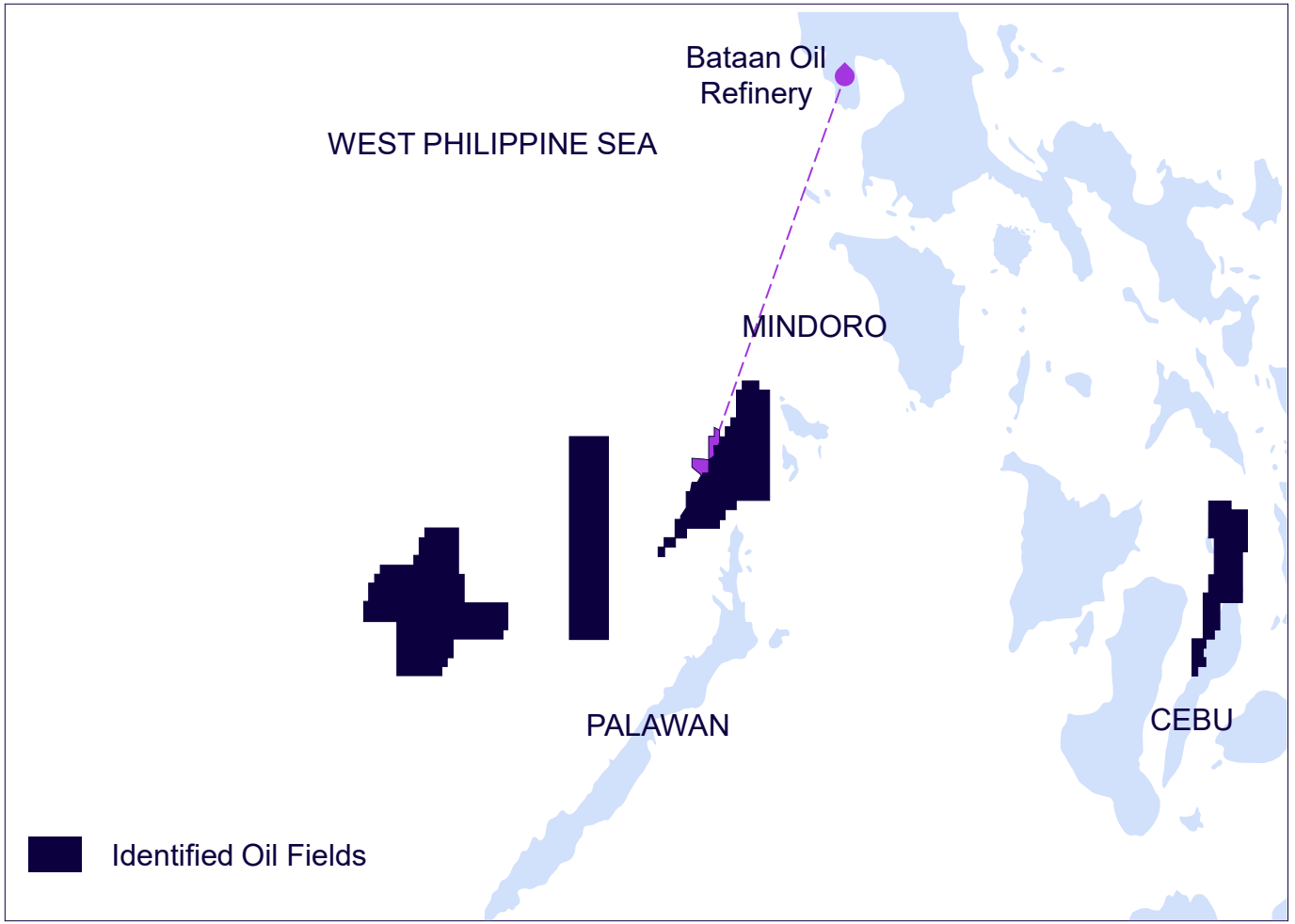
フィリピンの主力天然ガス幹線はパラワン沖・ルソン島を結ぶ全長約504kmの海底パイプラインで、2024年にAllseasが新規深海井接続工事を受注、2025年掘削・2026年初ガスを見込む

COMMENTS

- A **consortium** of Shell Philippines Exploration BV, Chevron-Texaco Philippines, Inc., and the Philippine National Oil Company Exploration Corporation initially developed the Malampaya gas field
- The venture included the construction and operation of a **504-kilometer deep-water pipeline** that transports the gas to an onshore gas processing plant in Tabangao, Batangas
- Udenna Corporation bought out Chevron and Shell's stakes in 2019 and 2021, respectively
- A USD 180 million contract has been awarded to Allseas Nederland (Brasil) B.V. in 2024 to install subsea pipelines and umbilicals linking two new deepwater wells (Camago and Malampaya East) to the existing shallow-water platform
  - Drilling is set for 2025, targeting first gas delivery by 2026

Note: Map is illustrative and not drawn to scale
Source: Department of Energy 2023, Financial Times 2022, S&P Global 2018, Multiple secondary sources, Arthur D. Little analysis

フィリピンの原油はパラワン島北部が中核で、群島地形によりパイプライン整備が難しく発電の主力でもないため網は限定的で、生産契約は同地域に集中し国内唯一の製油所はバターンのみ



COMMENTS

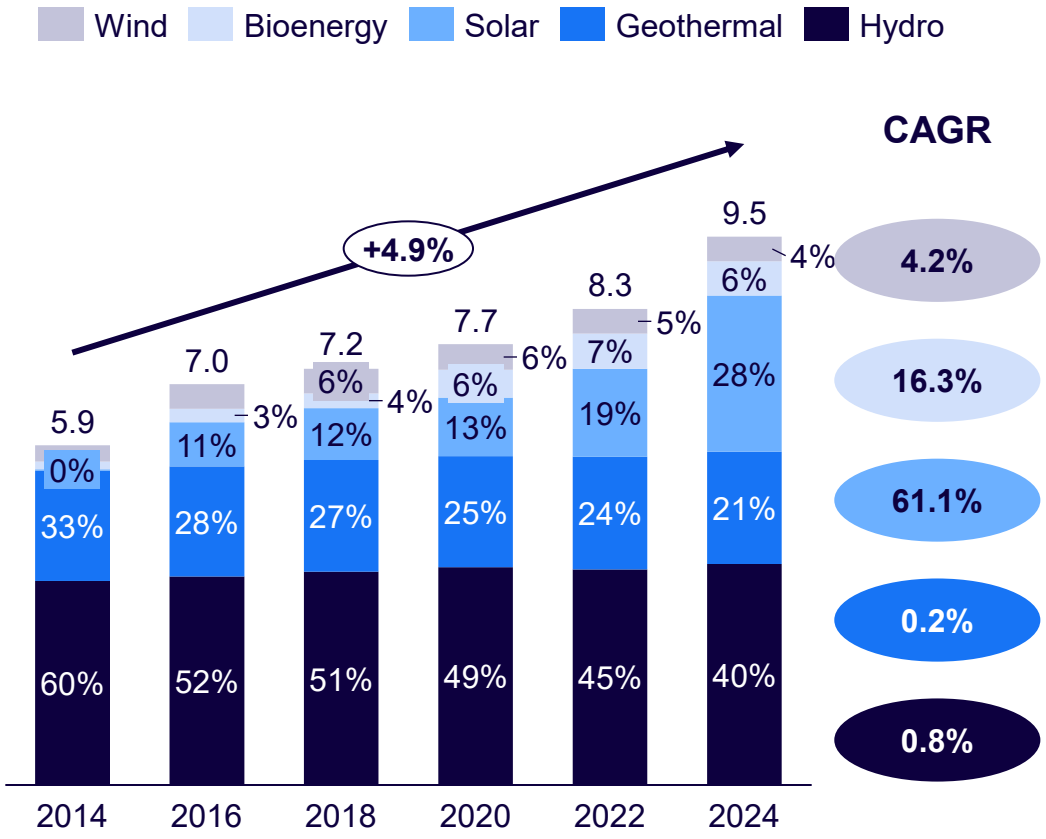
- A schematic of crude oil pipelines in the Philippines is not available, with **crude oil not considered to be a primary power source**. Instead, **coal** contributes to >50% of gross power generation
- The archipelagic nature of the country poses **challenges for overall pipeline construction**
- Most service contracts for **crude oil production are located north of Palawan**, with the country's **sole remaining oil refinery** observed in Bataan, operated by the Petron Corporation

Note: Map is illustrative and not drawn to scale
Source: Department of Energy 2023, Reuters 2022, Arthur D. Little analysis

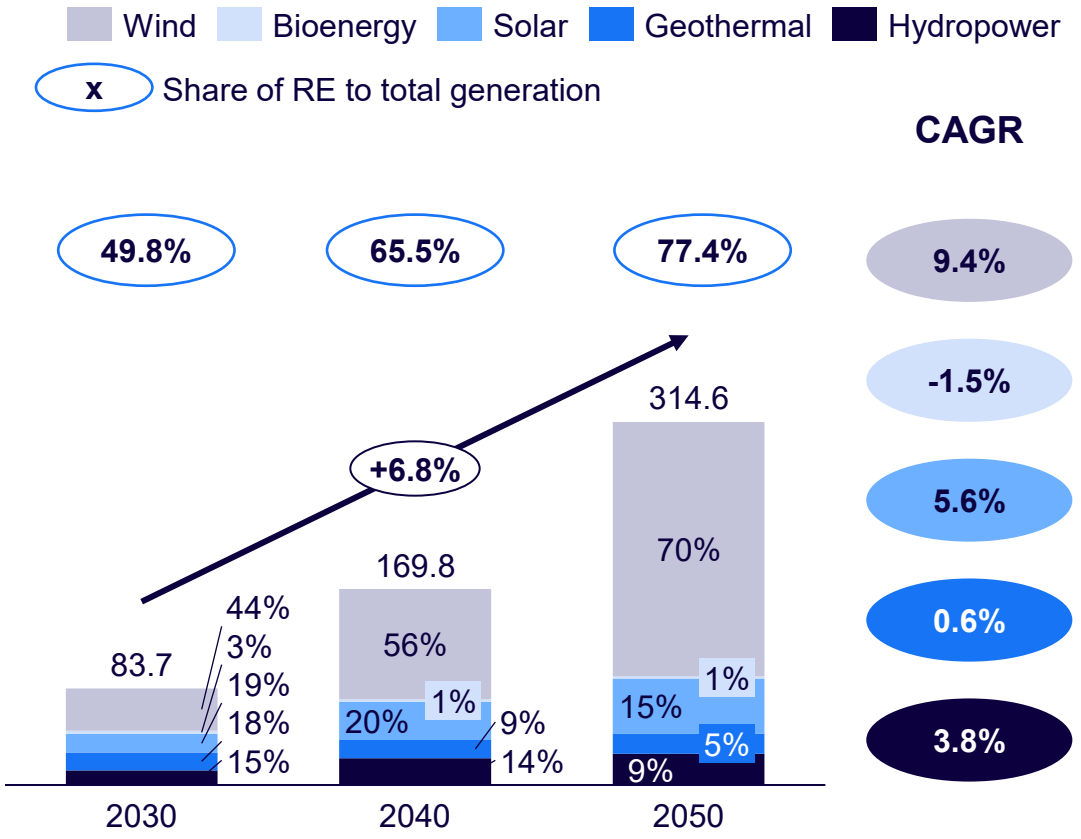
Contents

再エネ比率は2030年49.8%→2040年65.5%→2050年77.4%へ高まる見込み。特に風力が急伸して2030年に水力を上回り、2050年には再エネ発電の約7割を占める想定

Renewable energy installed capacity
2014 – 2024, GW



Renewable energy target power generation[1]
2030, 2040 & 2050, TWh[2]



Note: 1) Based on Clean Energy Scenario 2 on Philippine Energy Plan 2023 – 2050; 2) TWh = Terawatt hour;
Source: Department of Energy Power Statistics 2024, Philippine Energy Plan 2023 – 2050, Arthur D. Little analysis

フィリピンの水力発電プロジェクト一覧

NON-EXHAUSTIVE

Energy Service Contract (ESC) applications

As of Apr 2025

Island	Region	Province	Name	Owner	Potential capacity, MW[1]
Luzon	III	Bulacan	Angat	Angat Hydropower Corporation	254.6
	CAR	Benguet	Itogon	SN Aboitiz Power - Benguet, Inc.	98.0
	CAR	Benguet	Asin 1	Baguio Asin Hydropower Corp	4.0
	CAR	Benguet	Asin 2	Baguio Asin Hydropower Corp	4.0
	CAR	Benguet	Asin 2	Baguio Asin Hydropower Corp	4.0
	CAR	Benguet	Adaoay	Benguet Electric Cooperative	5.0
	CAR	Benguet	Tawangan 03	Tagel Corp.	4.2
	CAR	Benguet	Pasco 02	Tagel Corp.	2.3
	CAR	Benguet	Buguias	Tagel Corp.	7.4
	CAR	Kalinga	Tapao	T3 Renewables Corp	10.0
	CAR	Ifugao	Tawangan	Tagel Corp.	5.2
Luzon Total					**400.7**

Note: 1) Rounded to one decimal
Source: Department of Energy 2025, Arthur D. Little Analysis

フィリピンの水力発電プロジェクト一覧

NON-EXHAUSTIVE

Energy Service Contract (ESC) applications

As of Apr 2025

Island	Region	Province	Name	Owner	Potential capacity, MW[1]
Visayas	VIII	Eastern Samar	Lower Maslog	Samar Hydroenergy Corporation	10.0
	VIII	Leyte	Marabang	Energy and Building Applications Technology Corp.	5.0
Visayas Total					**15.0**
Mindanao	X	Lanao Del Norte	Linamon	Mindanao Energy Systems, Inc	1.4
	XI	Davao del Sur	Apo Ahom I	Polaris Power Development Corporation	12.0
Mindanao Total					**13.4**
Total (Luzon + Visayas + Mindanao)					**429.1**

Note: 1) Rounded to on decimal
Source: Department of Energy 2025, Arthur D. Little Analysis

稼働中の水力発電プロジェクトのリスト(1/5)

NON-EXHAUSTIVE

Hydropower projects grid-connected, by region

As of Apr 2025

Power plant		Capacity, MW[1]		# of units	Location	Region	Operator	Owner / IPPA	FiT approved (for RE)	Owner type	Type of contract	Commissioned year
Name	Subtype	Installed	Depen-able		Municipality / Province							
Luzon Grid												
Hydroelectric total		**2482.2**	**2,345.9**									
Large Hydroelectric Plants		**2,408.7**	**2,257.0**									
Ambuklao	Dam - type HEPP	105.0	105.0	3	Baragay Ambuclao, Bokud,Benguet	CAR	SN Aboitiz Power (SNAP) Benguet Inc.	SN Aboitiz Power (SNAP) Benguet Inc.	No	NON-NPC / IPP		Dec 1956
Angat Main	Dam - type HEPP	200.0	150.0	4	Baragay San Lorenzo, Nozagaray, Bulacan	3	Angat Hydro Power Corporation (AHPC)	Angat Hydro Power Corporation (AHPC)	No	NON-NPC / IPP		Oct 1967
Angat Alix	Dam - type HEPP	18.0	18.0	3	Baragay San Lorenzo, Nozagaray, Bulacan	3			No	NON-NPC / IPP		Jun 1966
Bakun Ac	Run - of - river type HEPP	74.8	59.4	2	Brgy, Amlongan ,Alem, Ilocos Sur	1	Luzon Hydro Corporation	Luzon Hydro Corporation	No	NON-NPC / IPP	BOT - PPA	Unit 1 – Nov 2000 Unit 2 – Feb 2001
Binga	Dam - type HEPP	140.0	138.0	4	Brgy, Tinongdan,Itogon, Benguet	CAR	SN Aboitiz Power (SNAP) Benguet Inc.	SN Aboitiz Power (SNAP) Benguet Inc.	No	NON-NPC / IPP	BOT - PPA	Jan 1960
Caliraya	Dam - type HEPP	39.1	35.0	2	Caliraya, Lumban, Laguna	4.A	Calraya – Botocan - Kalayaan Power Company Ltd.	Power Sector Assets and Liabilities Management Corporation (PSALM)	No	NON-NPC / IPP	BOT - PPA	Oct 2002
Casecnan (NIA)	Run - of - river type HEPP	168.0	150.0	2	Sitio Pauan, Brgy, Villarica, Pantabangan ,Nueva Edja	3	Fresh River Corporation	Fresh River Corporation	No	NON-NPC / IPP	BOT - PPA	Apr 2002
Kalayaan PSPP	Dam - type HEPP	736.0	720	4	San Juan, Kalayaan,Laguna	4.A	Calraya – Botocan - Kalayaan Power Company Ltd.	Power Sector Assets and Liabilities Management Corporation (PSALM)	No	NON-NPC / IPP	BOT - PPA	Units 1 & 2 – Aug 1982 Units 3 & 4 – May 2004

Note: 1) Rounded to one decimal. Total might vary due to rounding
Source: Department of Energy 2025, Arthur D. Little Analysis

稼働中の水力発電プロジェクトのリスト(2/5)

NON-EXHAUSTIVE

Hydropower projects grid-connected, by region

As of Apr 2025

Power plant		Capacity, MW[1]		# of units	Location	Region	Operator	Owner / IPPA	FiT approved (for RE)	Owner type	Type of contract	Commissioned year
Name	Subtype	Installed	Depen-able		Municipality / Province							
Visayas Grid												
Hydroelectric total		**53.6**	**43.1**									
Small Hydroelectric Plants		**47.9**	**41.1**									
Janopol HEPP	Run - of - river type HEPP	5	0.0	2	Sto. Niño, Balilihan, Bohol	7	Bohal Electric Corporation Inc (BCHECO I)	Bohal Electric Corporation Inc (BCHECO I)	No	NON-NPC / IPP	*Unknown*	May 1992
Villisiga HEPP	Run - of - river type HEPP	8	6	3	Barangay Igsoro, Bugasong, Antique	6	Sunwest Water and Electric Company Inc. (SUWECO)	Sunwest Water and Electric Company Inc. (SUWECO)	Yes	NON-NPC / IPP	*Unknown*	Apr 2018
Tubig HEPP	Run - of - river type HEPP	16	15	3	Taft, Eastern Samar & Hinabangan, Samar	8	Taft Hydroenergy Corporation	Taft Hydroenergy Corporation	Yes	NON-NPC / IPP	*Unknown*	Oct 2022
TIMBABAN HEPP	Run-of-River type HEPP	18.9	18.9	3	Barangay Ma. Cristina, Madalag, Aklan	6		Oriental Energy and Power Generation Inc.	No	NON-NPC/IPP	*Unknown*	Nov-2023
Mini Hydroelectric Plants		**4.9**	**1.2**									
Loboc HEPP	Run - of - river type HEPP	1.2	1.2	3	Barangay Gotozon, Loboc, Bohol	7	Sta. Clara Power Corporation	Sta. Clara Power Corporation	No	NON-NPC / IPP	*Unknown*	Apr 1968
Loboc HEPP 2	Run - of - river type HEPP	1.2	0.0	1	Barangay Gotozon, Loboc, Bohol	7	Sta. Clara Power Corporation	Sta. Clara Power Corporation	Yes	NON-NPC / IPP	*Unknown*	Dec 2019
Sevilla HEPP	Run - of - river type HEPP	2.5	0.0	2	Barangay Ewon, Sevilla, Bohol	7	Bohal Electric Corporation Inc (BCHECO I)	Bohal Electric Corporation Inc (BCHECO I)	No	NON-NPC / IPP	*Unknown*	Nov 1961

Note: 1) Rounded to one decimal. Total might vary due to rounding
Source: Department of Energy 2025, Arthur D. Little Analysis

稼働中の水力発電プロジェクトのリスト(3/5)

NON-EXHAUSTIVE

Hydropower projects grid-connected, by region

As of Apr 2025

Power plant		Capacity, MW[1]		# of units	Location	Region	Operator	Owner / IPPA	FiT approved (for RE)	Owner type	Type of contract	Commissioned year
Name	Subtype	Installed	Depen-able		Municipality / Province							
Mindanao Grid												
Hydroelectric total		**1083**	**920.8**									
Large Hydroelectric Plants		**1074.9**	**912.8**									
AGUS 1	Dam-type HEPP	80.5	70.0	2	Barangay Saber, Marawi City, Lanao del Sur	ARMM	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1992
AGUS 2	Dam-type HEPP	180.0	120.0	3	Barangay Pawak, Saguiaran, Lanao del Sur	ARMM	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1979
AGUS 4	Dam-type HEPP	158.1	150.0	3	Barangay Nangka, Balo-I, Lanao del Norte	10	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1985
AGUS 5	Dam-type HEPP	55.0	52.0	2	Barangay Ditucalan, Buru-un, Iligan City, Lanao del Norte	10	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1985
AGUS 6	Dam-type HEPP	219.0	175.0	5	Barangay Fuentes, Buru-un, Iligan City, Lanao del Norte	10	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1953
AGUS 7	Dam-type HEPP	54.0	52.0	2	Barangay Maria Cristina, Buru-un, Iligan City, Lanao del Norte	10	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1983
PULANGI 4	Run-of-River type HEPP	255.0	225.0	3	Kiuntod, Camp I, Maramag, Bukidnon	10	NPC-MinGen	NPC-MinGen	-	NPC	*Unknown*	1985

Note: 1) Rounded to one decimal. Total might vary due to rounding
Source: Department of Energy 2025, Arthur D. Little Analysis

稼働中の水力発電プロジェクトのリスト(4/5)

NON-EXHAUSTIVE

Hydropower projects grid embedded, by region

As of Apr 2025

Power plant		Capacity, MW[1]		# of units	Location	Region	Operator	Owner / IPPA	FiT approved (for RE)	Owner type	Type of contract	Commissioned year
Name	Subtype	Installed	Depen-able		Municipality / Province							
Luzon Grid												
Hydroelectric total		**44.4**	**40.9**									
Small Hydroelectric Plants		**22.8**	**22.0**									
BOTOCAN	Run-of-River type HEPP	22.8	22.0	3	Botocan, Majayjay, Laguna	4-A	Caliraya-Botocan-Kalayaan Power Company Ltd.	Power Sector Assets and liabilities Management Corporation (PSALM)	NO	NPC-IPP	BROT-PPA	Unit 1 – 1900 Units 2 & 3 - 1947
Mini Hydroelectric Plants		**17.3**	**16.2**									
Agua-Grande	Run-of-River type HEPP	2	2	2	Brgy Pandan, Pagudpod, Ilocos Norte	1	Llocos Norte Electric Cooperative, Inc. (INEC)	Llosos Norte Electric Cooperative, Inc. (INEC)	NO	NON-NPC/IPP		1983
BALUGBOG	Run-of-River type HEPP	1	1	3	Brgy, Palna, Nagcarian, Laguna	4A	Philippine Power and Development Company (PHLPODECO)	Philippine Power and Development Company (PHLPODECO)	YES	NON-NPC/IPP		Jul 2018
Barit 1	Run-of-River type HEPP	2	2	1	Sta, Justina, Buhi, Camarines Sur	5	People's Energy Services, Inc. (PESI)	People's Energy Services, Inc. (PESI)	NO	NON-NPC/IPP		Sep 1957
Visayas Grid												
Hydroelectric total		**1.7**	**1.0**									
Micro Hydroelectric Plants		**1.7**	**1.0**									
BASAK	Run-of-River type HEPP	0.5	0.5	2	Bitoon, Dumanjug, Cebu	7	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	NO	NON-NPC/IPP		Sep 1966
MANTAYAYUPAN	Run-of-River type HEPP	0.5	0.5	2	Barili, Cebu	7	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	NO	NON-NPC/IPP		Aug 1985
MATUTINAO	Run-of-River type HEPP	0.7	0.0	3	Alegria, Cebu	7	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	Cebu 1 Electric Cooperative, Ins. (CEBECO 1)	NO	NON-NPC/IPP		1983

Note: 1) Rounded to one decimal. Total might vary due to rounding
Source: Department of Energy 2025, Arthur D. Little Analysis

稼働中の水力発電プロジェクトのリスト(5/5)

NON-EXHAUSTIVE

Hydropower projects grid embedded, by region

As of Apr 2025

Power plant		Capacity, MW[1]		# of units	Location	Region	Operator	Owner / IPPA	FiT approved (for RE)	Owner type	Type of contract	Commissioned year
Name	Subtype	Installed	Depen-able		Municipality / Province							
Mindanao Grid												
HYDROELECTRIC		**139.7**	**138.4**									
Large Hydroelectric Plants		**42.6**	**42.6**									
SIBILLAN A	Run-of-River type HEPP	16.3	16.3		Santa Cruz, Davao del Sur	11	Hydro Electric Development Corporation (HEDCOR) Solution Inc.	Hydro Electric Develop-ment Corporation (HEDCOR) Solution Inc.	NO	NON-NPC/IPP		Mar-2010
SIBILLAN A	Run-of-River type HEPP	26.3	26.3		Santa Cruz, Davao del Sur	11	Hydro Electric Development Corporation (HEDCOR) Solution Inc.	Hydro Electric Develop-ment Corporation (HEDCOR) Solution Inc.	NO	NON-NPC/IPP		Mar-2010
Small Hydroelectric Plants		84.8	83.7									
BUBUNAWAN	Run-of-River type HEPP	6.6	6.5	1	Baungon, Bukidnon	10	Bubunawan Power Company, Inc. (BPC)	Bubunawan Power Company, Inc. (BPC)	NO	NON-NPC/IPP		Sep 2001
TUDAYA 1	Run-of-River type HEPP	9.2	8.3	1	Santa Cruz, Davao del Sur	11	Hydro Electric Development Corporation(HEDCOR) Tudaya Inc.	Hydro Electric Development Corporation(HEDCOR) Tudaya Inc.	NO	NON-NPC/IPP		May 2014
ASIGA	Run-of-River type HEPP	8.0	7.9	1	Agusan Del Norte, Santiago	13	Asiga Green Energy Corporation (ACEC)	Asiga Green Energy Corporation (ACEC)	NO	NON-NPC/IPP		May 2013
LAKE MAINTI	Run-of-River type HEPP	24.9	24.9		Kitcharao, Agusan Del Norte	11	Electric Power Development Co., Ltd. (J-POWER)	Electric Power Development Co., Ltd. (J-POWER)	NO	NON-NPC/IPP		Mar 2023

Note: 1) Rounded to one decimal. Total might vary due to rounding
Source: Department of Energy 2025, Arthur D. Little Analysis

エネルギー省はPNOC-Renewables・NEA・NPCと連携し、官公庁屋根上太陽光の展開、遠隔地向けSHS普及、離島のディーゼル発電の太陽光・蓄電池ハイブリッド化など多様な取組を推進

PNOC-Renewables

- Building on DOE's "Installation of Solar Photovoltaic (PV) Facilities for Own-Use by Private Academic Institutions" project in 2014, PNOC-RE started its own Rooftop Solar PV installations for government agencies in 2015
- Target: Deploy up to 20 MW of rooftop solar across government agencies in coming years
- As of late 2024, PNOC-RC had signed contracts with five government agencies totaling 5.5 MW of rooftop solar capacity

National Electrification Administration

- Solar PV Mainstreaming Program:
  - Implementation completed in 2020
  - SHS to provide electricity to houses in remote and off-grid regions
  - 2 windows available
    - Window 1: 10,000 households
    - Window 2: 30,500 households
  - EC's[3] to operate and maintain under a fixed approved monthly tariff
- Rural Network Solar
  - Development of small-grid connected solar PP near EC's distribution substations
    - EC's[3] to bear 30% as Equity and secure the Certificate of Registration for their own use

National Power Corporation

- NPC's[2] role is to ensure electrification is carried out in the most rural of places in Philippines as mandated by the Electric Power Industry Reform Act of 2001
- Solar hybridization of SPUG diesel PP[4] program, combines a diesel generator to a solar PV and battery system
- Pilot hybridization project: 2019 in Limasawa, synced to the Limasawa diesel PP in Feb 2020
  - Cost savings of PHP 1.75 mn/year (estimated)
- Projects underway (total capacity of 595 kWp[1]):
  - Cuaming, Bohol – 55 kWp[1]
  - Palumbanes, Catanduanes – 40 kWp[1]
  - Sabtang, Batanes – 250 kWp[1]
  - Itbayat, Batanes – 250 kWp[1]

Note: 1) kilowatt peak; 2) National Power Corporation; 3) Electric cooperatives who are private, not-for-profit company whose purpose is to safely deliver electricity to its consumers or members at the most affordable price possible; 4) Power plant
Source: World Bank 2023, International Energy Agency 2023, Multiple secondary sources, Arthur D. Little analysis

フィリピンで稼働中の太陽光発電プロジェクト一覧

NON-EXHAUSTIVE

Solar power projects, by region

As of 30 April 2025

#	Name	Location	Capacity (MW)[1]	Company Name	Status	Start-up year
1	Cepalco	Misamis Oriental	1.0	Cagayan Electric Power and Light Company (CEPALCO)	Operating	2004
2	Kirahon	Misamis Oriental	12.5	Kirahon Solar Energy Corporation	Operating	2015
3	Clark Solar	Pampanga	22.3	Citicore Renewable Energy Corporation	Operating	2016
4	Concepcion 1 Solar - Phase 1	Tarlac	23.1	Solar Philippines Tarlac Corporation	Operating	2016
5	Concepcion 1 Solar - Phase 2	Tarlac	76.9	Solar Philippines Tarlac Corporation	Operating	2016
6	Currimao Solar	Ilocos Norte	20.0	Mirae Asia Energy Corporation	Operating	2016
7	Cosmo Solar	Iloilo	5.7	Cosmo Solar Energy, Inc.	Operating	2016
8	Helios	Negros Occidental	132.5	Helios Solar Energy Corporation (HSEC)	Operating	2016
9	Islasol Ii	Negros Occidental	32.0	Negros Island Solar Power Inc.	Operating	2016
10	Islasol Iii	Negros Occidental	48.1	Negros Island Solar Power Inc.	Operating	2016
11	Digos	Davao del Sur	28.6	Alterpower Digos Solar, Inc.	Operating	2016
12	Kibawe	Bukidnon	10.5	Asian Greenergy Corporation	Operating	2016
13	Centralla	South Cotabato	6.2	Citicore Solar South Cotabato, Inc.	Operating	2015
14	Calatagan Solar	Batangas	63.3	Solar Philippines Calatagan Corporation	Operating	2016
15	First Toledo Solar	Cebu	60.0	Citicore Solar Cebu, Inc.	Operating	2017

Note: 1) Installed capacity
Source: Department of Energy Philippines 2025

フィリピンで今後予定されている太陽光発電プロジェクトのリスト

NON-EXHAUSTIVE

Solar power projects, by region

As of 30 April 2025

#	Name	Location	Capacity (MW)[1]	Company Name	Status	Start-up year
1	Butuan City 1 Solar Power Project	Agusan Del Norte	8	Enfinity Philippine Renewable Resources Third Inc.	Construction	2025
2	Butuan Rollforming Plant Solar PV System	Agusan Del Norte	0.07	Phinma Solar Energy Corporation	Approved	2025
3	Cagayan De Oro Rollforming Plant Solar PV System	Misamis Oriental	0.11	Phinma Solar Energy Corporation	Approved	2025
4	General Santor Solar Power Project	South Cotabato	120	Solar Philippines Commercial Rooftop Projects, Inc.	Approved	2025
5	Misamis Solar Power Project	Misamis Oriental	17.18	FDC Green Energy Corp.	Approved	2025
6	Calatrava Solar Power Project	Negros Occidental	137.48	Aboitiz Solar Power, Inc.	Construction	2025
7	Dagohoy Solar Power Project	Bohol	20.16	Dagohoy Green Energy Corporation	Construction	2025
8	Cadiz City Solar Power Project	Negros Occidental	96.00	Puente Al Sol Inc.	Approved	2025
9	Vista Alegre Solar Power Project	Negros Occidental	50.10	Amatera Renewable Energy Corporation	Approved	2025
10	1MW SAMELCO II - Paranas SPP	Samar	1.05	Samar II Electric Cooperative, Inc.	Construction	2025
11	Naic Rooftop Solar Power Project	Cavite	4.950	Joy-Nostalg Solaris Incorporated	Construction	2025
12	Palauig Solar Power Project	Zambales	49.50	Shizen Inc.	Construction	2025
13	RASLAG IV Solar Power Project	Pampanga	26.40	Raslag Corp.	Construction	2025
14	Samal Solar Power Project	Bataan	35.84	Samal Solar Renewable Energy Corp.	Construction	2025
15	Ilocos Norte Solar Power Project	Ilocos Norte	87.59	Energy Logics Philippines, Inc.	Construction	2025

Note: 1) Rated capacity
Source: Department of Energy Philippines 2025

フィリピンで稼働中の風力発電プロジェクト一覧

Wind power projects, by region

As of 30 April 2025

#	Name	Location	Capacity (MW)[1]	Company Name	Status	Start-up year
1	Bangui Wind Power Ph1 And Ph2	Ilocos Norte	33.0	North Wind Power Development Corporation (NWPDC)	Operating	2005
2	Bangui Wind Power Ph3	Ilocos Norte	18.9	North Wind Power Development Corporation (NWPDC)	Operating	2014
3	Burgos Wind	Ilocos Norte	150.0	EDC Burgos Wind Power Corporation (EBWPC)	Operating	2014
4	Caparispisan Wind	Ilocos Norte	81.0	North Luzon Renewable Energy Corporation (NLREC)	Operating	2014
5	Pililla Wind	Rizal	54.0	Alternergy Wind One Corporation	Operating	2015
6	Kabankalan Bess	Negros Occidental	22.5	SMCGP Philippines Energy Storage Co. Ltd.	Operating	2022
7	Kabankalan Ph2 Bess	Negros Occidental	12.2	SMCGP Philippines Energy Storage Co. Ltd.	Operating	2022
8	Toledo Bess	Cebu	23.7	SMGP BESS Power Inc.	Operating	2023
9	Ubay Bess	Bohol	23.3	SMGP BESS Power Inc.	Operating	2023
10	Ormoc Ph 1&2 Bess	Leyte	47.5	SMGP BESS Power Inc.	Operating	2024

Note: 1) Installed capacity
Source: Department of Energy Philippines 2025

フィリピンで今後予定されている風力発電プロジェクトの一覧

NON-EXHAUSTIVE

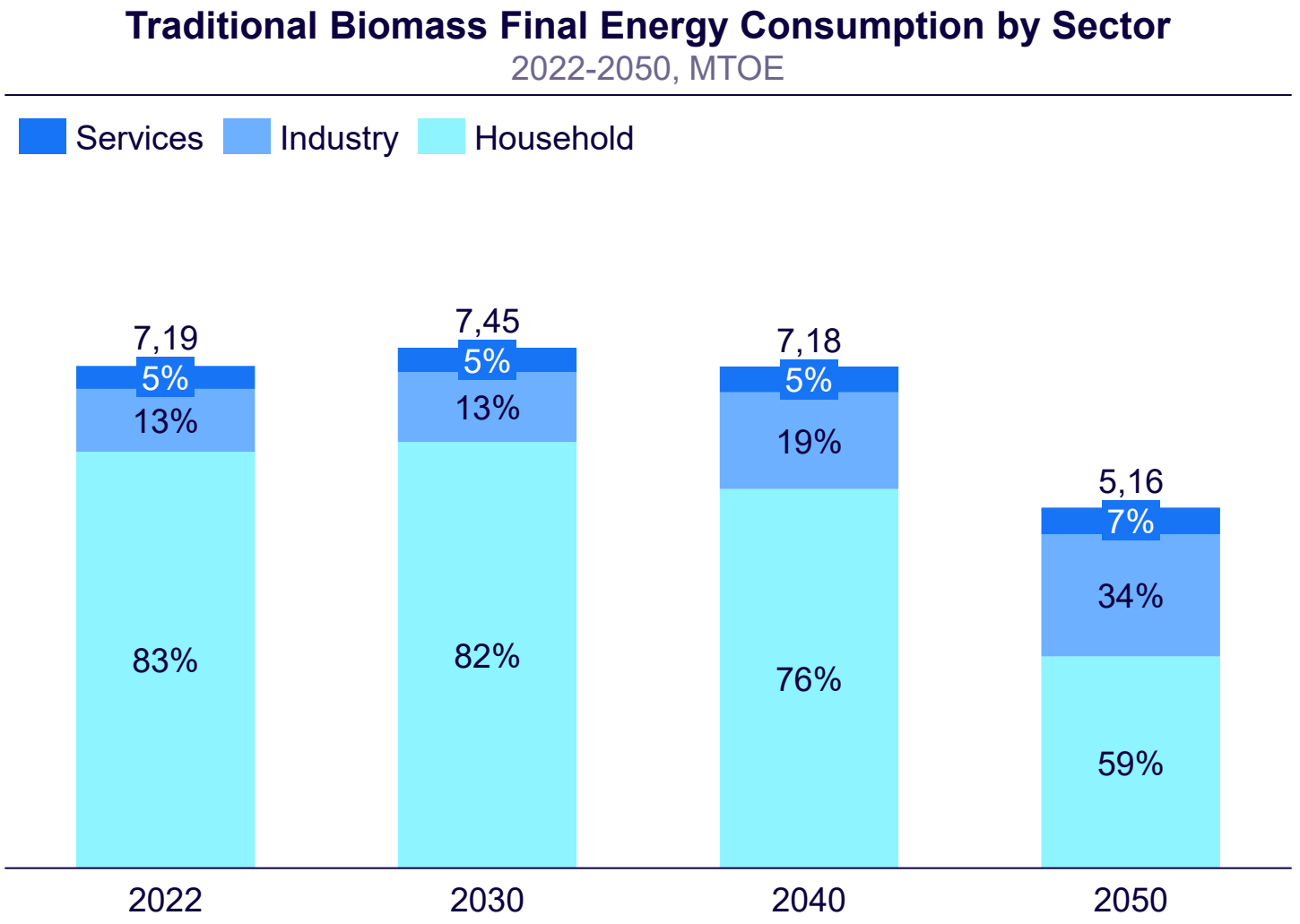
Wind power projects, by region

As of 30 April 2025

#	Name	Location	Capacity (MW)[1]	Company Name	Status	Start-up year
1	Nabas Wind Power Project	Aklan	13.560	PetroWind Energy Inc.	Construction	2025
2	Tanay Wind Power Project	Rizal	128.000	Alternergy Tanay Wind Corporation	Construction	2025
3	Alabat Wind Power Project	Quezon	62.400	Alabat Wind Power Corporation	Construction	2025
4	Sembrano Wind Power Project	Laguna	93.750	Sembrano Wind Power Corp.	Construction	2025
5	Balaoi and Caunayan Wind Power Project	Ilocos Norte	160.000	Bayog Wind Power Corp.	Construction	2025
6	Calatagan Wind Power Project	Batangas	30.000	Solar Philippines Calatagan Corporation	Concept	2025
7	Caparispisan II Wind Power Project	Ilocos Norte	70.000	Amihan Renewable Energy Corp.	Approved	2025
8	Gemini Wind Power Project	Northern Samar and Samar	304.000	Gemini Wind Energy Corp.	Financial Close	2026
9	Bago Wind Power Project	Negros Occidental	150.000	FirstMaxpower International Corporation	Approved	2026
10	Iloilo CW 1 Wind Power Project	Iloilo	152.000	Citicore Wind Energy Corporation	Concept	2026

Note: 1) Installed capacity
Source: Department of Energy Philippines 2025

伝統的バイオマス燃料の消費は2030年にピークに達した後、家庭部門が電気やLPGへ移行することで減少する一方、産業部門での利用は食料加工や製糖向けに倍増する見込み



COMMENTS

- Traditional biomass remains significant in household use, accounting for 14.6% of demand in 2050 due to the practice of using multiple stove-and-fuel combinations called “fuel stacking”.
  - However, its consumption declines by 2.4% between 2022–2050, dropping from 6.0 MTOE to 3.0 MTOE as households shift to cleaner fuels like electricity and LPG
- In the industry sector, the requirement for biomass as fuel primarily for food processing and sugar manufacturing is expected to doubles to 1.8 MTOE by 2050 from its 2022 level of 0.9 MTOE

Source: Philippines Energy Plan 2023-2050, Arthur D. Little analysis

輸送部門向けバイオ燃料混合率を引き上げており、バイオエタノールはE5、E10に続きE20が24年から任意提供開始、バイオディーゼルはB1、B2に加えB3が計画中もB4・B5の導入は延期

Biofuel provisions for transportation sector

Blend mandate	Date mandated and policy	Date implemented
Bioethanol		
E5	Feb 2009, DC 2009-02-0002	Feb 2009
E10	Feb 2011, DC 2007-02-001	Feb 2012
E20	May 2024, DC 2024-05-0014	Jun 2024
Biodiesel		
B1	May 2007, DC 2007-05-006	Sep 2007
B2	Feb 2009, DC 2009-02-0002	Feb 2009
B3	May 2024, DC 2024-05-0013	Oct 2024
B4	May 2024, DC 2024-05-0014	Oct 2025 (Target Date)
B5	May 2024, DC 2024-05-0014	Oct 2025 (Target Date)

COMMENTS

- The National Biofuels Board (NBB) is the multi-government body oversight board that determines the biofuel blend mandate
- On May 7, 2024, the DOE issued Department Circular (DC) 2024-05-0014, which sets the implementing guidelines and specifications for the roll-out of voluntary E20 gasoline.
  - Oil companies may voluntarily offer E20 to consumers, provided it complies with the approved standard
- On May 29, 2025, the NBB resolved to suspend the implementation of B4 in 2025 and B5 in 2026, citing the high international price of coconut oil

Source: USDA GAIN Philippines Biofuel Annual Report 2025, Arthur D. Little analysis

バイオ燃料ロードマップでは混合比率や原料供給の見直し、代替原料や次世代技術のR&D・商業統合を推進し、中長期的なバイオエタノール、バイオディーゼルの供給力拡大を目指している

Biofuels roadmap

Scope	**Short - Long Term (2023-2050) for Biodiesel and Bioethanol**
Milestone	• Review the bioethanol and biodiesel mandates • Revisit blending requirement and available feedstock • Continuous conduct of monitoring and technical validation of existing and new biofuel production plants/projects • Continuous conduct of research and development (R&D), deployment and demonstration on alternative biofuel feedstock sources and technologies, in collaboration with other government agencies, academic institutions, industry, stakeholders and international counterparts/organizations • Integrate 2nd generation bioethanol technology into existing commercial plants
Objective	**2050 Objective: Pursue the development of biofuels in compliance with the Biofuels Act of 2006 (RA 9367)**

COMMENTS

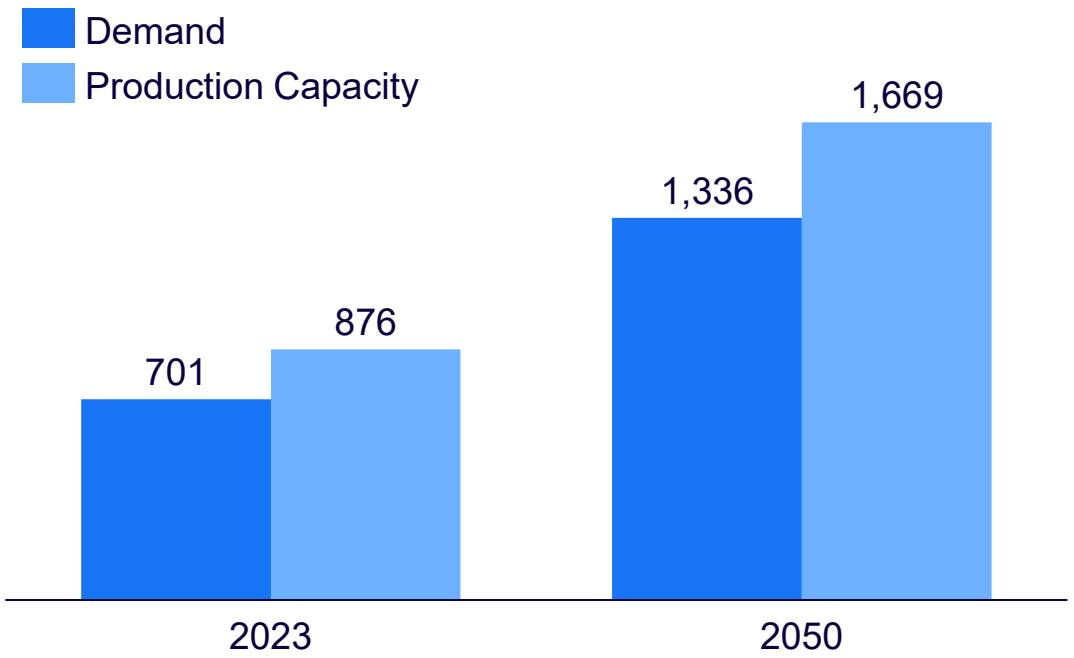
- The overall objective is to **pursue the development of biofuels** in compliance with the Biofuels Act of 2006
- In the medium term, two bioethanol production facilities with a combined potential capacity of 83.0 million liters per year (MLPY), along with 548 biodiesel facilities totaling 288.88 MLPY are expected to become operational
- Additional four (4) accredited bioethanol producers are expected to increase the rated production capacity by 30 MLPY
  - Far East Alcohol Corp.
  - Absolut Distillers, Inc.
  - Progreen Agricorp Inc.
  - Kooll Company, Inc

Source: Philippine Energy Plan 2023-2050, Arthur D. Little analysis

フィリピンでは燃料需要の増加を背景に、バイオエタノール・バイオディーゼルの需要は2050年までにほぼ倍増する見込みだが、生産能力は常に需要を上回る計画

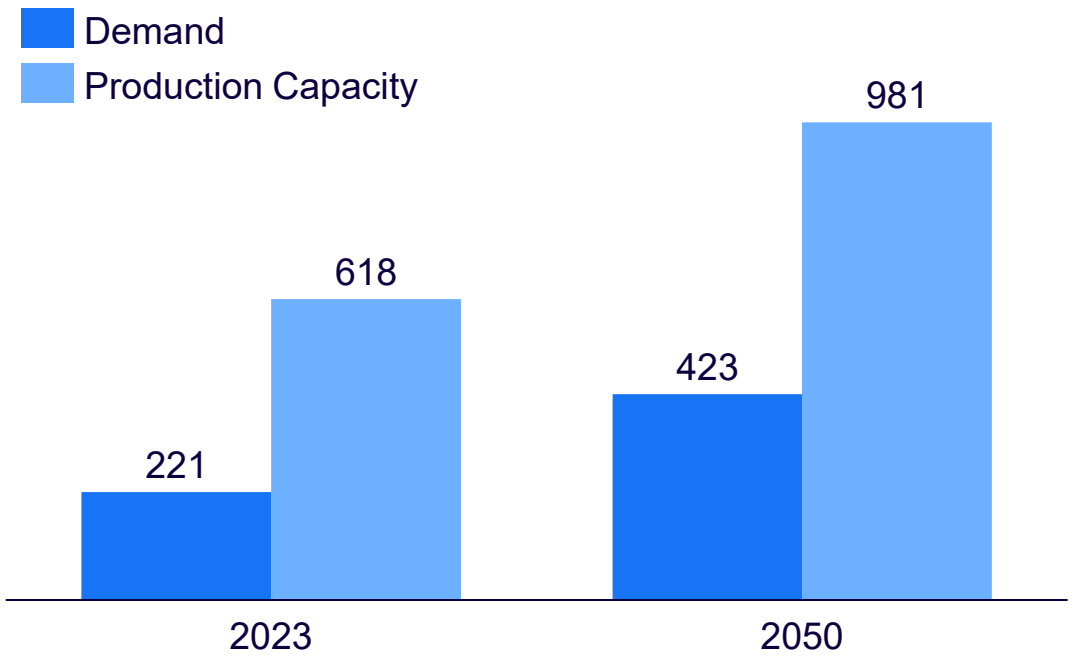
Bioethanol outlook[1]

2023 – 2050, mn litres



Biodiesel outlook[1]

2023 – 2050, mn litres



To align with the Biofuels Act of 2006, the Department of Energy plans to expand the role of biofuels in the national energy portfolio. This initiative supports the government's objective of reducing dependence on fossil fuels, improving public health, and enhancing air quality. Under the Reference scenario, biodiesel demand is projected to rise by 91.0% and bioethanol demand by 90.5% between 2023 and 2050

Note: 1) Based on reference scenario on Philippine Energy Plan 2023-2050
Source: Philippine Energy Plan 2023-2050, Arthur D. Little analysis

一方、実態上はフィリピンのバイオエタノール需要は急増しており、国内生産が追いつかないため輸入が大幅に拡大し、2025年には消費の過半を輸入で賄う見込みとなっている

Bioethanol[1] key metrics

2013 – 2025f, million litres

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025f
Beginning stocks	N.A	N.A	N.A	N.A	N.A	N.A	25	14	14	10	18	22	16
Production	N.A	N.A	N.A	N.A	N.A	N.A	375	344	400	402	417	417	425
Imports	N.A	N.A	N.A	339	322	347	341	322	355	375	461	589	650
Exports	0	0	0	0	0	0	0	2	4	0	0	0	0
Consumption	N.A	N.A	N.A	N.A	N.A	N.A	727	644	785	792	874	1,012	1,075
Ending stocks	N.A	N.A	N.A	N.A	N.A	25	14	14	10	18	22	16	16

Note: f = forecast; 1) Including ethanol used as fuel and other industrial chemicals but excluding beverage ethanol
Source: USDA GAIN Philippines Biofuel Annual Report 2022 and 2023, Arthur D. Little analysis

フィリピンのバイオディーゼルは全量が国内生産・国内消費される「地産地消型」で、2025年には生産・消費とも400百万リットルに達する見込みだが、在庫は減少傾向にある

Biodiesel key metrics

2013 – 2025f, million litres

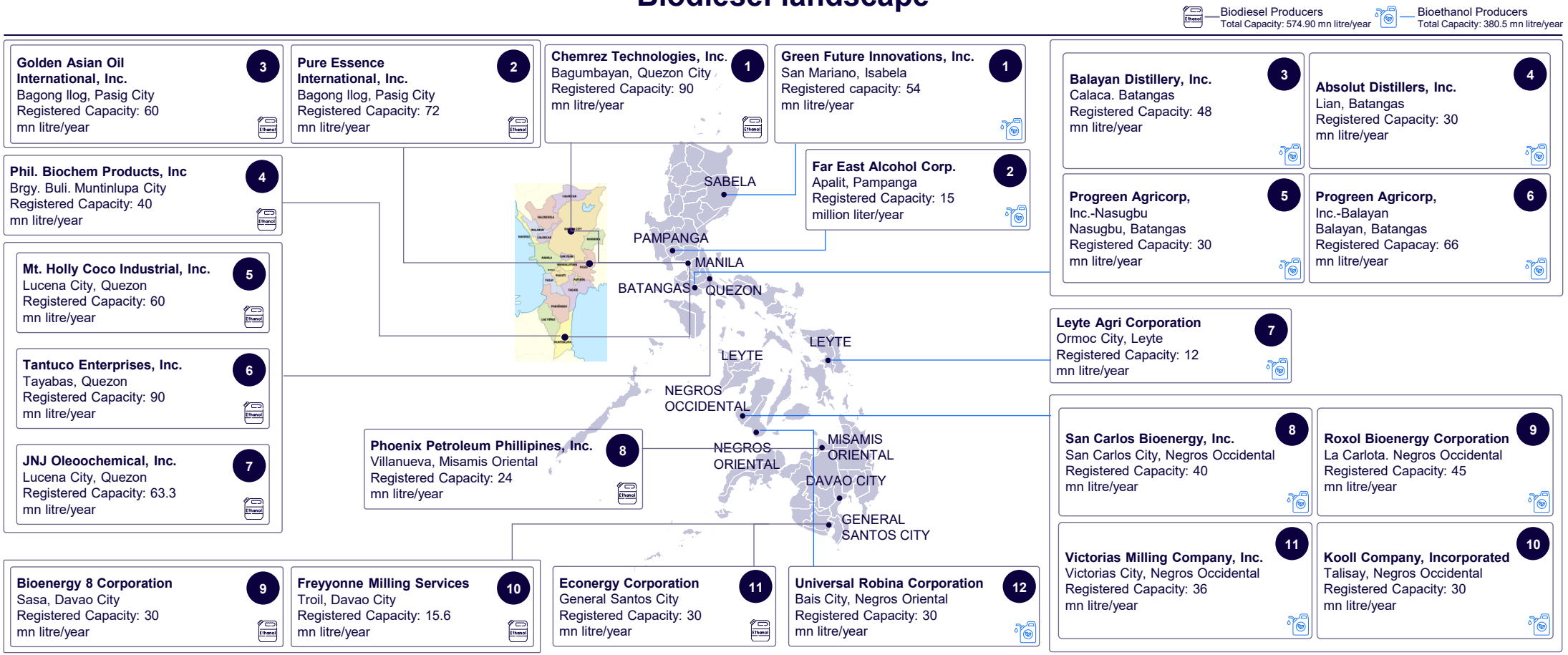
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025f
Beginning stocks	18	20	29	32	41	57	53	64	56	47	48	11	9
Production	155	172	204	227	220	220	242	188	198	203	225	266	400
Imports	0	0	0	0	0	0	0	0	0	0	0	0	0
Exports	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumption	153	163	201	218	204	224	231	196	207	202	262	268	400
Ending stocks	29	29	32	41	57	53	64	56	47	48	11	9	9

Note: f = forecast
Source: USDA GAIN Philippines Biofuel Annual Report 2022 and 2023, Arthur D. Little analysis

フィリピンのバイオ燃料生産者は全国に分布しているものの、ルソン島北部やバタンガス周辺に特に集中しており、ケソン州・バタンガス州・ネグロス島などが主要拠点となっている

NON-EXHAUSTIVE

Biodiesel landscape



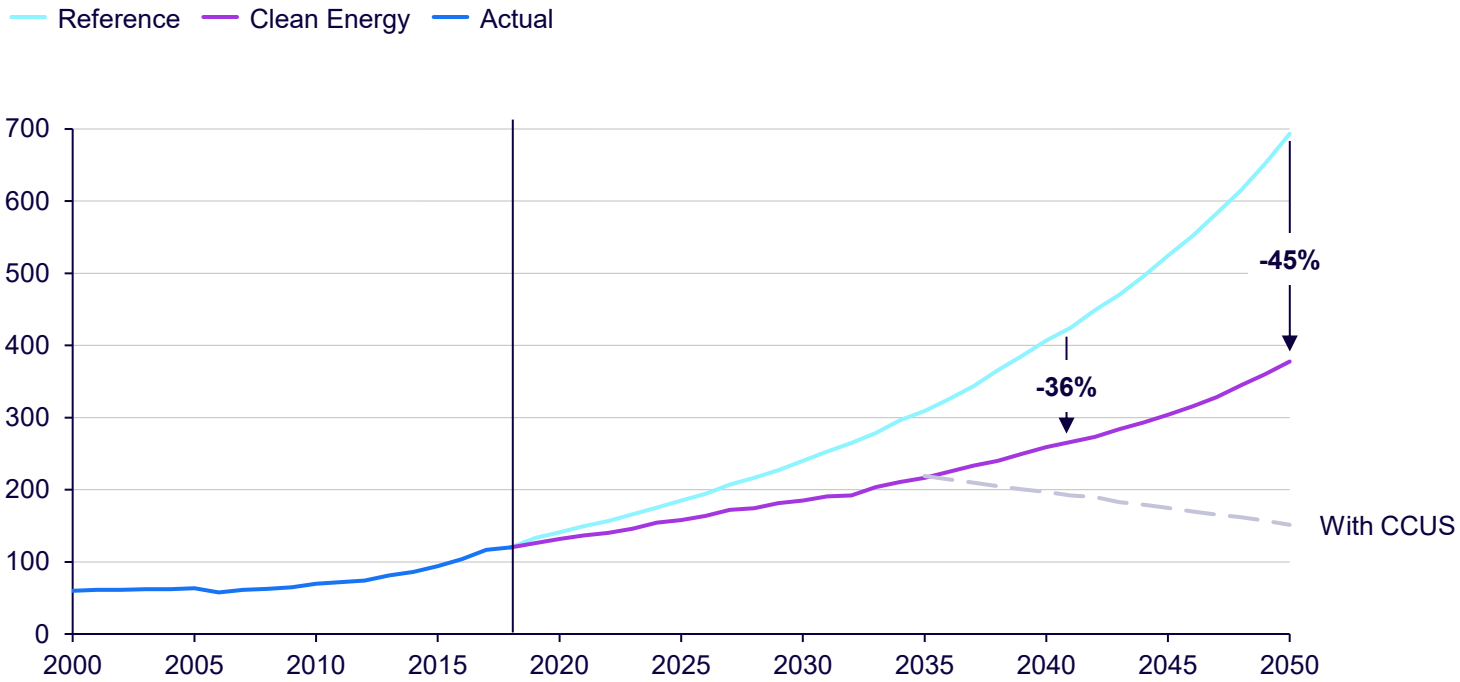
Note: Map not drawn to scale and is non-exhaustive
Source: USDA GAIN Philippines Biofuel Annual Report 2025, Arthur D. Little analysis

フィリピンでは2025年時点でCCUSプロジェクトは存在しないが、政府はNDC目標達成に向けて政策支援や投資インセンティブで導入を促す方針

Potential of CCUS for emissions reduction[1]

2000 – 2050, MTCO2e[2]

CCUS can potentially play a significant role in ensuring **energy sector GHG emissions reduction** under the **Nationally Determined Contribution**



COMMENTS

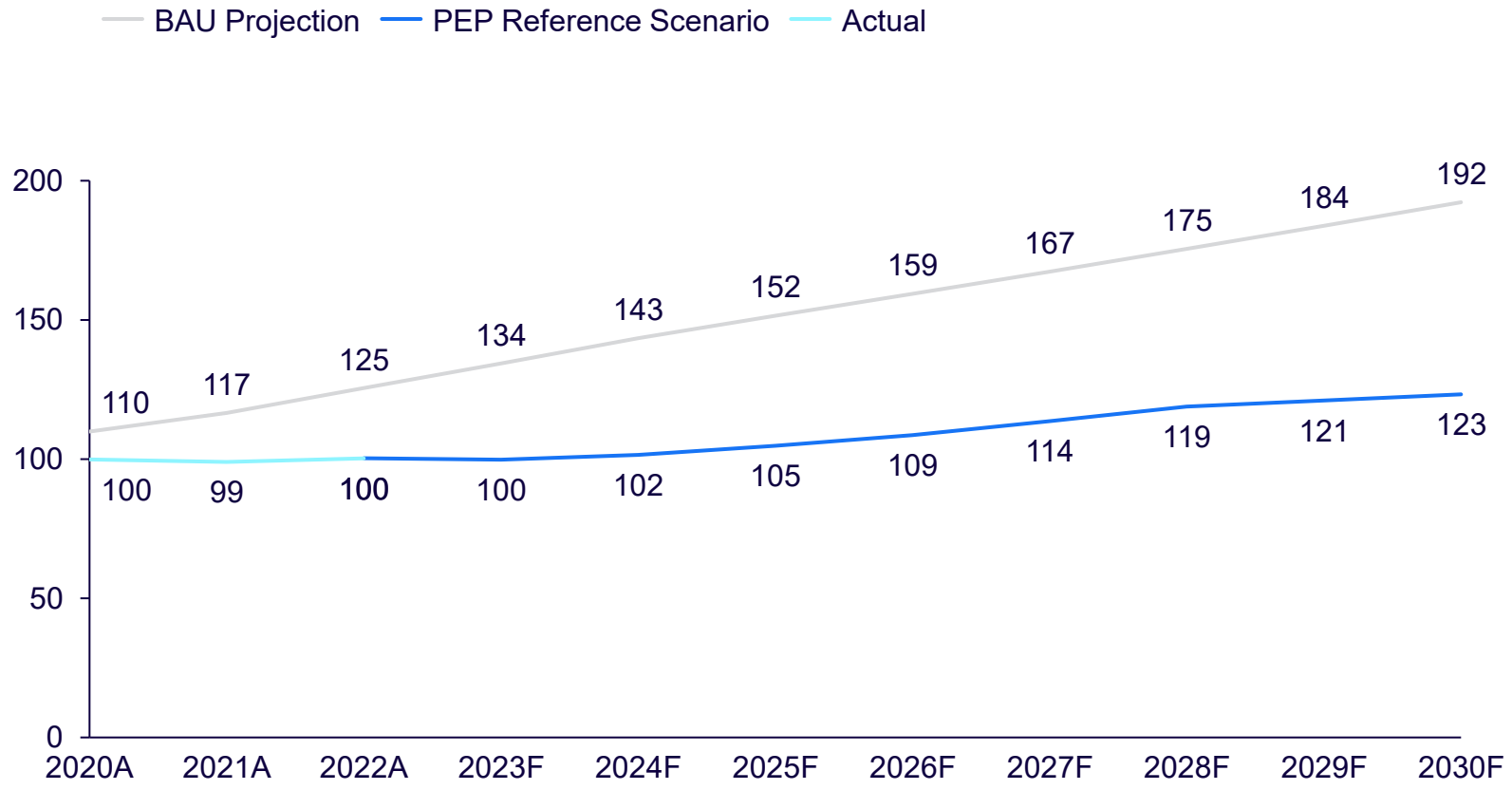
- There are **no observed CCUS projects** in The Philippines as of H1 2025
- As The Philippines' power sector is highly liberalized, the government's main task will be to **encourage CCUS development through policy support**, such as fiscal incentives for likely investors
- CO2 emission source (candidate for CCS):
  - Ilijan Gas-Fired Power Plant (3.1 MtCO2/year)
  - Sta. Rita Gas-Fired Power Plant (2.8 MtCO2/year)
  - San Lorenza Gas-Fired Power Plant (1.4 MtCO2/year)
  - Quezon Coal-fired Power Plant (3.1 MtCO2/year)
  - 550 MW San Gabriel Natural Gas Power Plant (1.5 MtCO2/year)

Note: 1) References emissions from energy consumption, with future estimates initially projected in 2018, and have since been revised post-COVID; 2) million tons of carbon dioxide equivalent
Source: Manila Bulletin 2023, 2nd Asia CCUS Network Forum 2022, ASEAN Centre for Energy 2021 & 2024, Arthur D. Little analysis

フィリピンエネルギー計画2023–2050のリファレンスシナリオに基づき、エネルギー部門は国の温室効果ガス排出削減目標を支援する重点分野と位置付けられている

NDC targets for selected highlighted years (energy sector)[1]

2020 - 2030 , $MtCO2e^2$



COMMENTS

- The **largest driver** of overall GHG emissions in the Philippines are **CO2 emissions from fuel combustion**
- Energy-related CO2 emissions by sector:
  - **Energy: 58%**
  - Agriculture: 28%
  - Waste: 9%
  - Industrial processes and product: 5%
  - Fugitive emissions: 4.9%

Note: 1) Include emissions from energy consumption in the transformation, industry, and other sectors based on Philippine Energy Plan 2023-2050. Total national GHG reduction targets would be higher, after the inclusion of contributions from other sectors, such as transportation and agriculture; 2) million tons of carbon dioxide equivalent
Source: Philippine Energy Plan 2023-2050, Philippines' First Biennial Transparency Report (BTR) 2025, Climate Analytics 2025, Arthur D. Little analysis

フィリピンは助成金や税制優遇で再エネ投資を誘導しつつ、ETSや炭素税導入の検討を進め、規制緩和によって外資参入を全面解禁するなど、排出削減と再エネ拡大を両面から推進している

	GHG Target Action		Detail (The Philippines)
アメの政策	助成金	• Subsidy is provided to alternative energy sector to boost adoption and usage	• Renewable energy developers can receive a cash incentive equal to 50% of the universal charge for missionary electrification • Green Energy Auction Program launched for RE projects, to encourage investment, as a replacement for the FiT programme
	税制優遇措置	• Tax related incentives such as reduced overall tax or tax holiday boosting overall financial viability	• A seven-year **corporate income tax holiday** for RE projects • A **reduced 10% corporate income tax rate** upon expiration of the tax holiday for RE projects in The Philippines
ムチの政策	排出権取引制度 (ETS)	• Carbon credit trading system to meet carbon credit/emission related criteria	• **No ETS observed as of Aug 2025**, but the topic has been discussed • In 2024, the Philippines commenced the commercial operation of its Renewable Energy Market, providing a platform that enables trading of renewable energy certificates as an alternative to ETS
	罰則	• Penalty imposed via higher taxes or other measures to disincentivize usage	• **None observed as of Aug 2025** • In 2023, the Department of Finance (DoF) indicated that it was **studying the feasibility** of implementing a carbon tax for The Philippines
	規制	• Mandates to increase alternative energy source • Encouraging the development of RE projects	• **Foreign investors can now hold 100% equity** in the exploration, development, and utilization of solar, wind, hydro, and ocean or tidal energy resources • Amended in 2022, from up to 40% foreign ownership previously

Source: Multiple Government and news sources, Arthur D. Little Analysis

林業と農業の分野でいくつかの脱炭素イニシアティブが導入されているが、明確な目標はなし

産業別		CN目標	政策方針の概要

非エネルギー起源	森林・土地利用	• No explicitly declared target observed, but recent initiatives have been introduced	• The forestry sector has not been included as an emitting sector because the Philippines has claimed to be a “net sink”
			• On May 29, 2023, the House of Representatives approved House Bill No. 8204 on its third and final reading
			  ○ Seeks to enhance the **conservation and restoration of peatlands**
			  ○ Tasks the Department of Environment and Natural Resources (DENR), through the Biodiversity Management Bureau, to develop a National Peatland Conservation and Restoration Program
			  ○ The bill also prohibits the drainage, deforestation, clearing, dumping of waste and introduction of invasive alien species in peatlands

	農業	• No explicit target set, given concerns over the impact to livehihoods[1]. However, initiatives have recently been introduced to promote decarbonization	• In 2023, the funding proposal on “Adapting Philippine Agriculture to Climate Change” was approved by the Green Climate Fund, with support from the Food and Agriculture Organization (FAO) of the United Nations, Philippines Department of Agriculture (DA), and the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
			  • Under **USD 39.2 Mn, seven-year initiative**, the parties will work together to enhance the resiliency of climate-vulnerable rural farmers by raising their awareness of climate risks and risk-reduction measures
			  • The project is currently under implementation, with the first disbursements already executed (e.g., in February 2024 and June 2025)
			  • The initiative also expects a **reduction of 1.86 MtCO2e over 20 years.**

Note: 1) In the country’s Nationally Determined Contributions (NDCs) submitted to the United Nations Framework Convention on Climate Change (UNFCCC), the Philippines’ target covers emissions from energy, transport, waste, forestry and the industry sectors – while excluding agriculture on the grounds that this would have adverse effects on livelihoods.
Source: UNDP 2023, Philippine News Agency 2023, United States Department of Agriculture 2023, Green Climate Fund 2025, International Center for Tropical Agriculture 2021, Arthur D. Little analysis

フィリピンのエネルギー部門は、2050年までに総設備容量の50%以上を再生可能エネルギーとし、2023年から2030年の間にGHG排出量を約32%削減することを目標としている

産業別	CN目標	政策方針の概要
エネルギー起源	• Based on computed GHG, **the energy sector targets a ~32% reduction** from 2023-2030, equivalent to **GHG emissions reduction of about 419.96 MtCO2e**[1] • Achieve the following **shares of renewables by total installed capacity** by 2050 (reference scenario): – Geothermal: 2.19% (3,307 MW) – Hydropower: 9.28% (14,011 MW) – Wind: 21.37% (32,269 MW) – Solar: 37.41% (56,478 MW) – Biomass: 0.47% (703 MW)	• Enhance energy efficiency and resiliency of power line distribution systems and facilities and establish cross-sectoral energy performance and consumption monitoring systems – to achieve a **measurable reduction in energy intensity and consumption per year** versus a business-as-usual (BAU) scenario • Energy Efficiency and Conservation Target: 10% energy savings on oil products and electricity by 2040 up to 2050 • The **National Renewable Energy Program** (NREP) 2020-2040 sets an aspiration to achieve at least 35% RE percent share of the total generation mix by 2030, 50% percent share by 2040, and more than 50% by 2050 • The introduction of RA 11285 (or the **Energy Efficiency Act of 2019**) has attracted “green investments” into the Philippines – As of February 2023, ~USD 11 Mn of investments was made possible through the projects of energy service companies (ESCOs) – Energy Efficiency projects through ESCOs includes energy audit for chiller system, solar PV systems installation, and operation and maintenance of diesel power plant

Note: From Projected NDC BAU scenario.
Source: Philippine Energy Plan 2020-2040, Arthur D. Little analysis

フィリピンは洋上風力やEV導入で低炭素技術を進めつつ、再エネ市場（REM）の商業化とREC取引により再生可能エネルギー比率拡大を制度的に後押ししている

Low Carbon Technologies

- Under the Philippine Energy Transition Program (PETP), the Philippines is prioritizing offshore wind (OSW) to accelerate renewable energy deployment.
  - This requires investment in maritime infrastructure, particularly port facilities capable of supporting OSW construction, maintenance, and repair.
  - The government, through the Department of Transport and the Philippine Ports Authority, is working with private investors to identify and upgrade potential port sites
- The Philippines enacted the EVIDA[1] and adopted the CREVI[2] to accelerate EV adoption. Under CREVI, EVs are targeted to comprise at least 10% of the vehicle fleet by 2040 under a BAU scenario

Renewable Energy Market (REM)

- The REM is grounded in the Renewable Energy Act of 2008 (RA 9513). Full commercial operations began on 26 December 2024, following interim operations from 2022.
- Renewable Energy Certificates—each representing one megawatt-hour (MWh) from eligible RE sources—are issued by IEMOP[3] (as REC registrar) via the PREMS platform.
  - Mandated participants (e.g., utilities) trade RECs to fulfils RPS obligations under DOE and ERC oversight
- As of end-2024, around 295 out of 328 on-grid participants have registered in the REM, marking strong uptake.
- The REM fosters investment in renewable energy—thus accelerating clean energy growth.

Note: 1) Electric Vehicle Industry Development Act; 2) Comprehensive Roadmap for the Electric Vehicle Industry; 3) Independent Electricity Market Operator of the Philippines
Source: Philippine Energy Plan 2023-2050, IEMOP, WESM, Arthur D. Little analysis

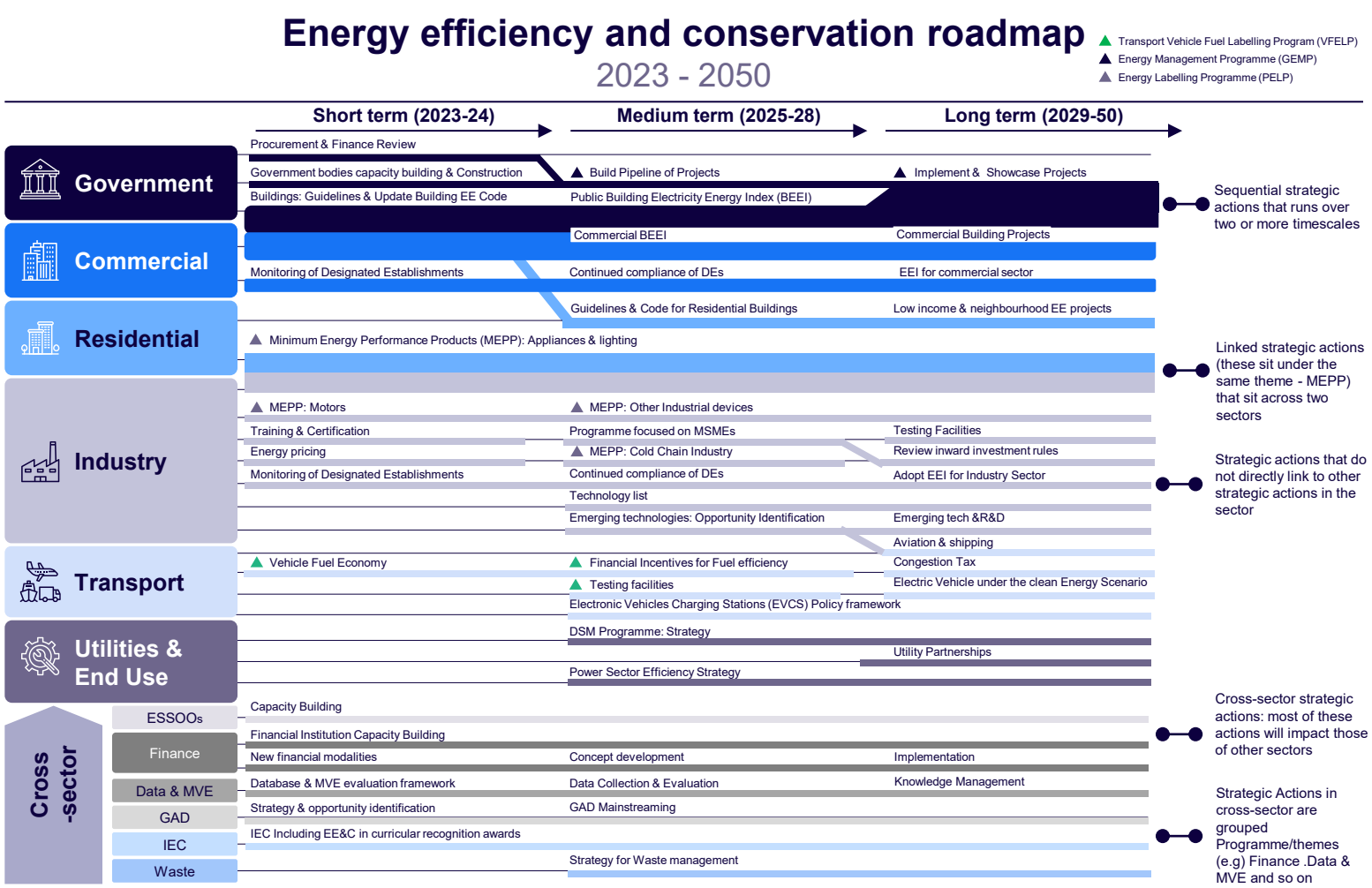
フィリピンは「エネルギー開発計画2023–2050」で原子力を位置づけ、政策枠組みと委員会を設置し、2050年までに最大4,800MW導入を目指しており、SMR/MMRの実証導入も進めている

Key nuclear power development

National Policy & Strategic Framework	• Executive Order (EO) No. 164 (2022): — Mandates a study for adopting a National Position on the Nuclear Energy Program (NEP) in accordance with pertinent International Atomic Energy Agency (IAEA) guidelines, relevant laws, rules, and regulations — Establishes the Nuclear Energy Program Inter Agency Committee (NEPIAC) which is tasked to formulate the national position on NEP
Nuclear Roadmap & Capacity Targets	• As outlined in the Philippine Energy Plan (PEP) 2023–2050, the Philippines aims for: — 1,200 MW of nuclear capacity by 2032 — 2,400 MW by 2035 — 4,800 MW by 2050
Latest Updates	• The DOE and utility firms are exploring micro-modular and small modular reactor (SMR) deployment: — Partnerships with Ultra Safe Nuclear Corp. (USNC) and NuScale are underway for potential pilot applications.

Source: Philippine Energy Plan 2023-2050, Multiple secondary sources, Arthur D. Little analysis

フィリピンはEE&C法に基づき、省エネロードマップを政府・商業・住宅・産業・輸送・電力分野に展開し、短期は制度と基準整備、中期は普及・市場化、長期は社会全体への浸透を目指している



COMMENTS

- The objective is to enact Energy Efficiency and Conservation (EE&C) act of 2019 via existing EE&C programs and other initiatives
- The roadmap is split into short, medium and long-term time horizons in sectors spanning:
  - Government: Policy and frameworks, energy efficient (EE) buildings
  - Commercial: EE buildings
  - Residential: EE buildings, housing projects and appliances
  - Industry: Certifications, R&D on equipment, testing facilities
  - Transport: Fuel efficiency ratings, EV infrastructure, testing facilities
  - Utilities & End-use: load management, reduction of system losses, impacting end-user behaviour via data

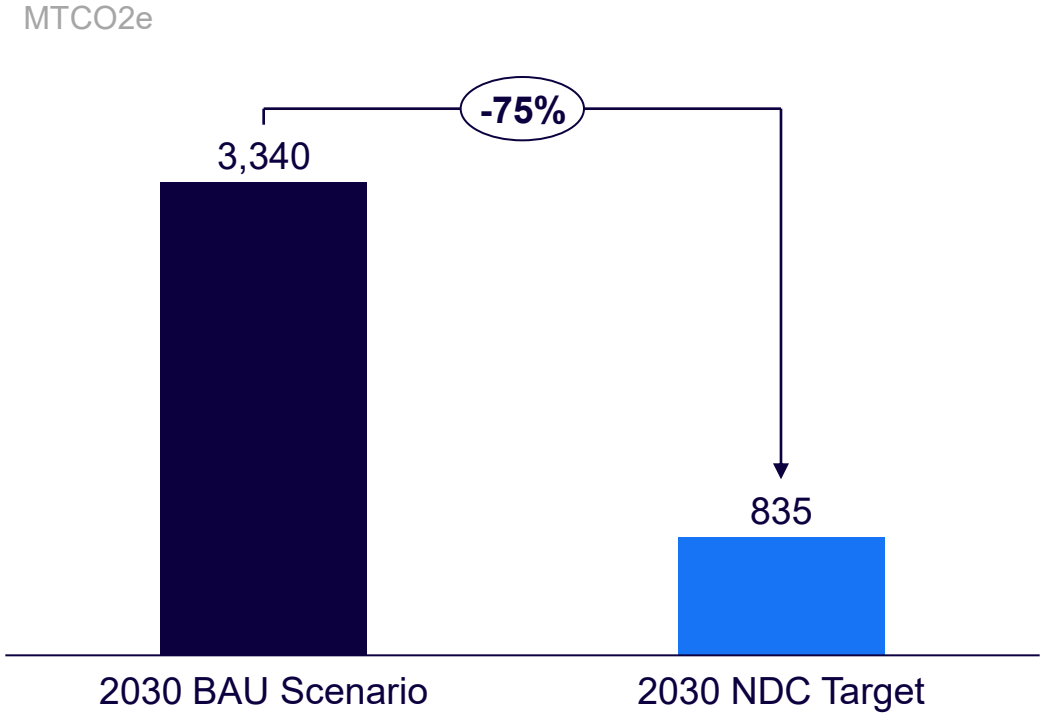
Source: Department of Energy Philippines, Arthur D. Little analysis

フィリピンは2030年までに排出量を75%削減する条件付き目標を掲げ、法律（RA 11285）や規制、建築基準の強化を通じ、省エネ推進を国家政策として制度的に展開している

NON-EXHAUSTIVE

Energy efficiency (EE) target

Target
Reduce emission by 75%[1] (2,505 Mt CO2e) by 2030



Government policies and initiatives

Policy & Initiatives	Details
Republic Act No. 11285 (Energy Efficiency and Conservation Act)	• Institutionalizes energy efficiency and conservation as a national policy • Mandates the development and implementation of energy efficiency and conservation plans and programs • Establishes responsibilities for various government agencies and private entities
Implementing Rules and Regulations (IRR) of RA 11285 (DC2019-11-0014)	• Provides detailed guidelines for the implementation of RA 11285 • Specifies the roles and responsibilities of stakeholders • Outlines procedures for the endorsement of energy efficiency projects
Guidelines for Energy Conserving Design of Buildings (DC2022-12-0026)	• Sets standards for energy-efficient building designs • Covers aspects such as insulation, lighting, and HVAC systems • Aims to reduce energy consumption in the building sector.

Note: 1) Cumulative, relative to Business As Usual scenario (conditional target)
Source: National Energy Efficiency and Conservation Roadmap 2023-2050, Lawphil, Department of Energy Philippines, Arthur D. Little analysis

Contents

フィリピンでは2001年のRA9136により、発電市場は自由化され民間参入が認められる一方、配電は規制独占として維持されており、大口需要家には電力供給者を選ぶ権利が与えられている

Electricity Market Regulation

NON-EXHAUSTIVE

	Republic Act (RA) No. 9136
Overview	• Issued by the Congress in 2001 • Sec. 6 regulates that Generation is not a public utility, which means private companies may freely own and operate power plants without a congressional franchise, making the market open and competitive. • It also regulates that Generation entities must obtain a Certificate of Compliance (COC) from ERC, ensuring only compliant private entities operate. • Sec. 23 regulates that Distribution remains a public utility, which means a congressional franchise is required and service obligations must be fulfilled by Distribution Utilities (DUs). • Section 29 allows contestable customers (large users with >1MW capacity) to choose their electricity supplier. Suppliers must be licensed by the ERC. • Section 59 regulates that Unviable or remote areas may be served by Qualified Third Parties (QTPs), which allows private entities to both generate and distribute electricity where DUs cannot.
Implication	**Private players can participate in generation and retail supply for contestable customers, while small, non-contestable customers must continue to purchase electricity from their local Distribution Utility (DU). Distribution remains a regulated monopoly, responsible for delivering power and maintaining service obligations within its assigned area**

Source: Philippines Department of Energy, Lawphil, Arthur D. Little analysis

フィリピンのエネルギー省は、政策立案・資源開発・利用管理・石油/電力/再エネの各分野を担当する6つの局と、全国3地域の地方事務所を持ち、全国のエネルギー計画・プロジェクトを統括

NON-EXHAUSTIVE

Organizational structure of the Department of Energy

Source: Philippines Department of Energy 2025, Arthur D. Little analysis

ERCは電力産業の規制機関として、消費者保護、発電・配電の認可基準策定、送配電料金や契約の監督を担い、電力市場の公正性と安定性を確保

NON-EXHAUSTIVE

Mandate of the Energy Regulatory Commission

Energy Regulatory Commission

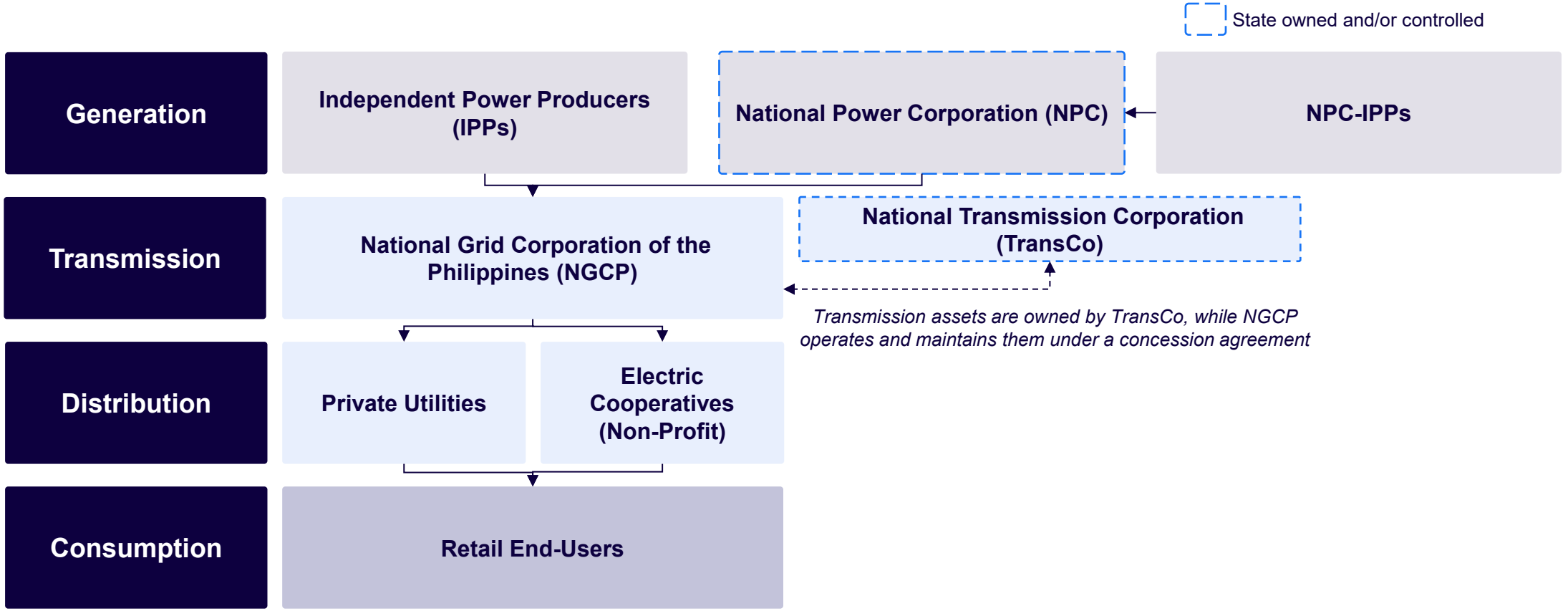
Electric Power Industry Reform Act (EPIRA) of 2001

Category	Details
Consumer protection	• Handle consumer complaints and ensure promotion of consumer interests • Set a **Lifeline Rate** for the Marginalized End-Users • Determine the electricity end-users comprising the Contestable and Captive Markets
Setting of licensing requirements for generation	• Approve applications for, issue, grant, revoke, review and modify Certificate of Public Convenience and Necessity (CPCN), Certificate of Compliance (COC), as well as **licenses and/or permits of electric industry participants** • Promulgate and enforce a **national Grid Code and a Distribution Code** that shall include **performance standards and the minimum financial capability standards** and other terms and conditions for access to and use of the transmission and distribution facilities
Electricity transmission and distribution rates	• **Determine, fix and approve**, after due notice and hearing, Transmission and Distribution Wheeling Charges, and Retail Rates through an ERC established and enforced rate-setting methodology that will promote efficiency and non-discrimination • Review **power purchase contracts** between the Independent Power Producers (IPPs) and NPC, including the distribution utilities

Source: Lawphil, Arthur D. Little analysis

フィリピンの発電事業者はIPP（独立系）とNPC（国営）に分かれ、送電は国有資産をTransCoが保有しつつNGCPが運営、配電は民間事業者と協同組合が担う仕組みになっている

Domestic electricity supply chain



Source: Economic Research Institute for ASEAN and East Asia 2018, National Power Corporation 2025, Arthur D. Little analysis

国営電力公社（NPC）は、離島電化や国有水力資産の運営に加え、流域・ダム管理を通じて発電を支える国家的役割を担い、DOEの監督下で全国的に重要な電源供給とインフラ保全を実施

NON-EXHAUSTIVE

National Power Corporation (NPC) Core business operations

1 Missionary electrification

- **Energize far-flung, off-grid areas and islands** through its power generation facilities, called Small Power Utilities Group (SPUG) plants. At present, the corporation operates 272 SPUG power plants across 35 provinces

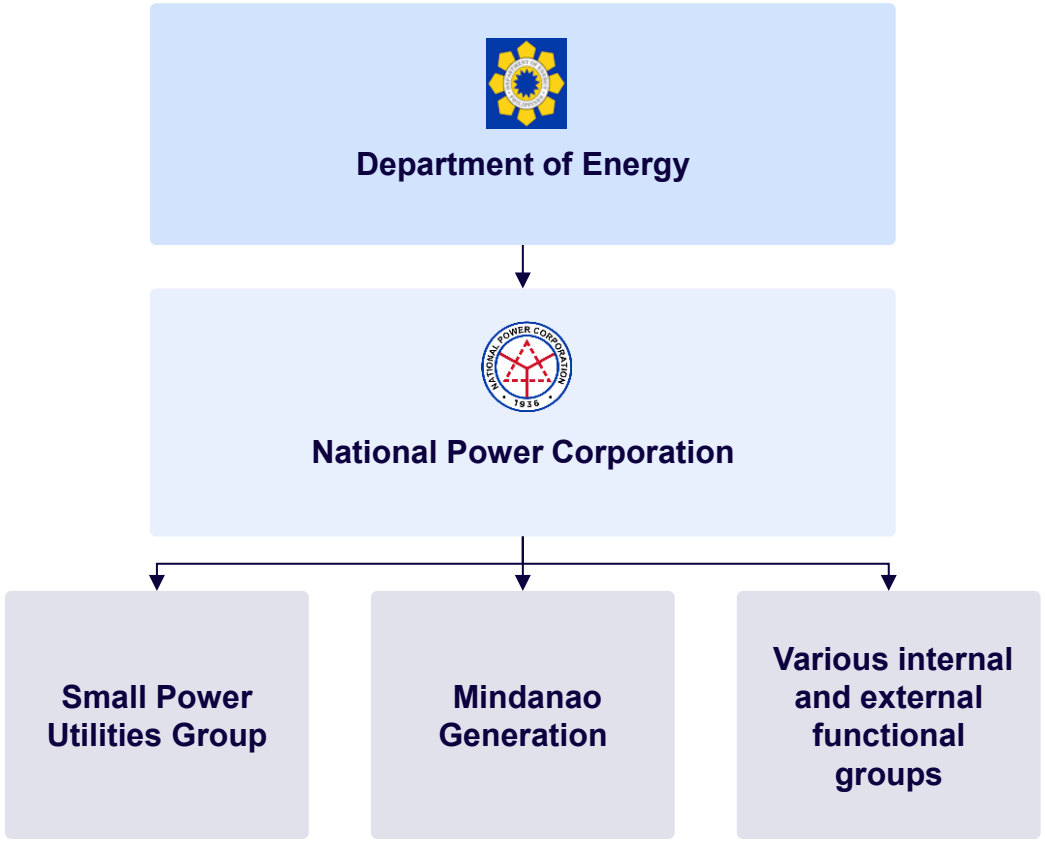
2 Management of remaining state-owned power assets

- Such as the 1,001.10 MW Agus and Pulangi Hydroelectric Power Plants in **Mindanao**

3 Management of watershed areas and dams

- Management of **11 watershed areas and 22 dams** in the country that support power generation
- Perform watershed rehabilitation and protection programs for a total area of ~485,199 hectares

Overview of corporate structure



Source: National Power Corporation 2025, Arthur D. Little analysis

フィリピンでは発電事業にERCの適合証明書が必須であり、再エネ分野に限っては外資100%所有が認められるなど規制緩和が進みつつ、技術基準と環境法令の遵守が求められている

General qualifying criteria for power generation companies

Department of Energy and Energy Regulatory Commission

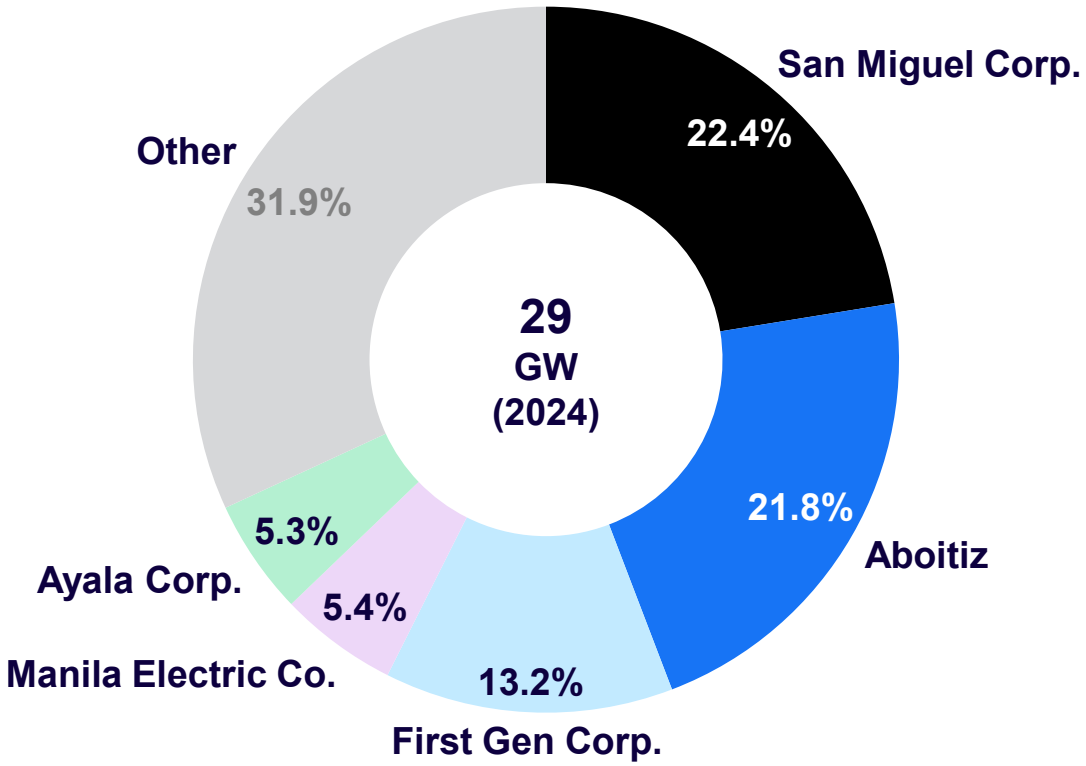
Category	Regulation	Details
Certificate of Compliance	**EPIRA (RA 9136)**	• The generation of electric power, a business affected with public interest, shall be **competitive and open to all qualified Generation Companies**. Generation shall not be considered a public utility operation • No Person may engage in the generation of electricity as a new Generation Company unless such Person has received a **Certificate of Compliance from the Energy Regulatory Commission (ERC)** to operate facilities used in the generation of electricity
Foreign ownership criteria	**Department Circular No. 2022-11-0034**	• **Foreign investors can now hold 100% equity** in the exploration, development, and utilization of solar, wind, hydro, and ocean or tidal energy resources • Amended in 2022, from up to 40% foreign ownership previously
Compliance	**EPIRA (RA 9136)**	A Generation Company shall ensure that all its facilities: • Meet the **technical design criteria** of the Grid Code and Distribution Code promulgated by the ERC • Comply with all applicable **environmental laws**, rules and regulations

Source: Philippines Department of Energy 2025, Lawphil, Arthur D. Little analysis

フィリピンの発電市場はSan Miguel、Aboitiz、First Genの大手IPPが過半を占め、NPCは離島電化を担いつつ、法律により一社が市場支配するのを防ぐ規制が設けられている

Market share of leading power companies

As of End-2024, % of total installed capacity



COMMENTS

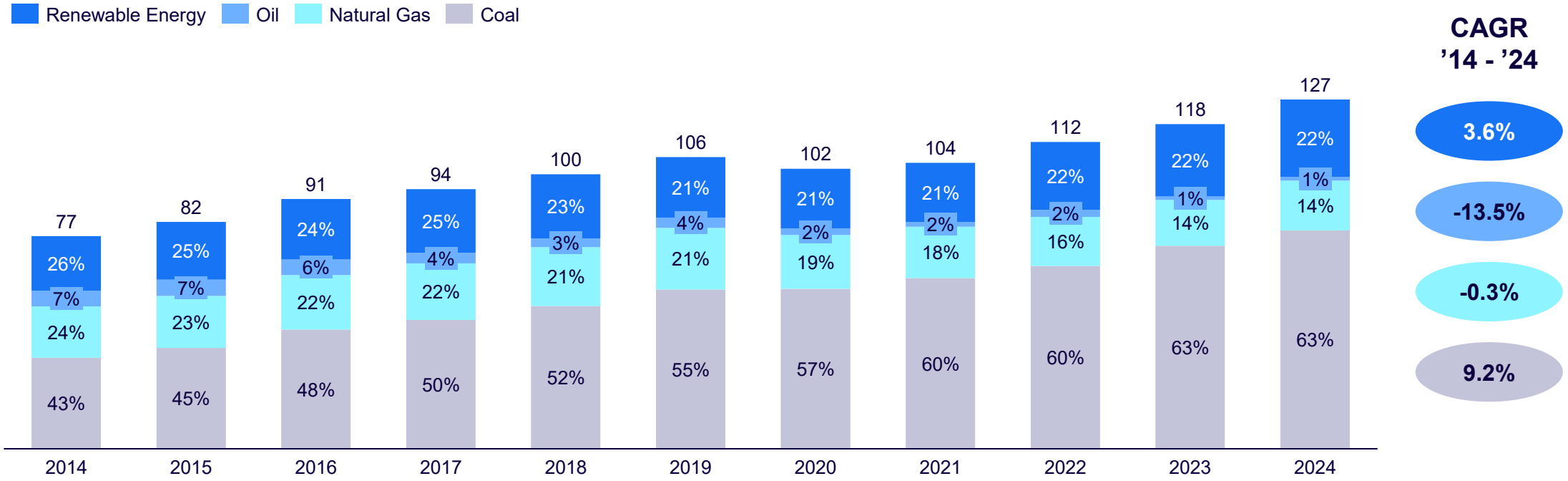
- The **3 largest IPPs (San Miguel, Aboitiz, and First Gen) account for >50% of the market share**, and operate as the power generation units of major conglomerates in the Philippines
- The **state-owned National Power Corporation (NPC) focuses its efforts on "missionary electrification",** under its mandate to provide energy to far-flung, off-grid areas and islands
- To ensure that there will be no monopoly in power generation, under Republic Act No. 9136 or the Electric Power Industry Reform Act of 2001, no company or related group can own, operate or control more than 30% of the installed generating capacity per grid and 25% in the national scale

Source: Business World 2025, Arthur D. Little analysis

フィリピンの総発電量は2014年77TWhから2024年127TWhへ増加し、石炭の比率が拡大して63%を占める一方、天然ガスは縮小し再エネは緩やかに増加している

Gross power generation by source

2014 to 2024, TWh



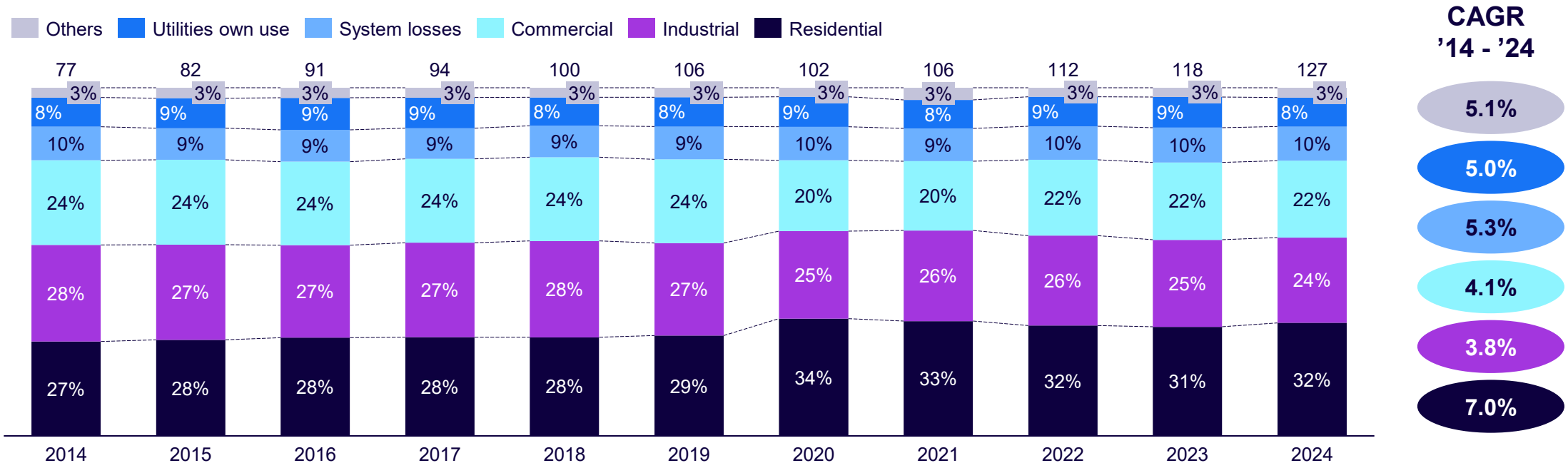
Coal remains the primary driver of power generation in the Philippines, growing at 9.2% CAGR from 2013 to 2023. Over the past 5 years, the share of **natural gas has declined**, while total **renewable generation has increased**

Source: Philippine Power Statistics 2024, Arthur D. Little analysis

フィリピンの電力消費は年々増加し、家庭部門が最大の需要先であり、産業部門と並んで主要消費者となる一方、送電・配電ロスは依然10%前後と高止まりしている

Electricity consumption by sector

2014 to 2024, TWh



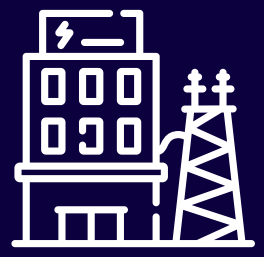
Electricity consumption in the Philippines has **generally increased year-on-year**, with **residential and industrial sectors** as the largest consumers. **System losses remain notable**, reaching 10% in 2024

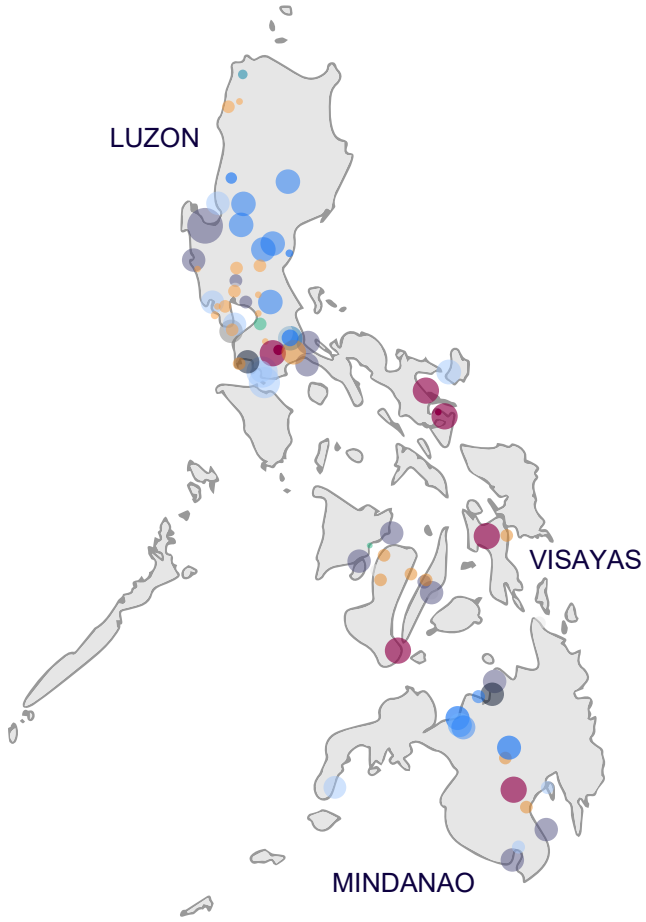
Source: Philippine Power Statistics 2024, Arthur D. Little analysis

Contents

発電所はルソン島に集中する一方、地熱・太陽光・水力は全国的に分散し、遠隔地はオフグリッド型ディーゼル発電に依存しており、NPC等が太陽光・蓄電池と組み合わせたハイブリッド化を推進

Power plants





COMMENTS

- The majority of power plants in the Philippines appear clustered in **Luzon**
- Geothermal, solar, and hydropower projects are observed to be relatively more distributed across the country
- **Remote regions** are likely to be served by **off-grid power plants**, rather than being connected to the grid
- The National Power Corporation (NPC) and Philippine National Oil Company (PNOC) are **accelerating hybridization of off-grid diesel plants** by adding solar, PV, and battery systems

Note: Map is illustrative and not drawn to scale. Power plants depicted are likely to be grid connected, with remote regions instead served by off-grid power plants
Source: Philippine National Oil Company 2025, Arthur D. Little analysis

フィリピンの承認済み独立発電事業者（IPP）の一覧(1/3)

NON-EXHAUSTIVE

#	Name	Address	Capacity, MW
1	Agusan HEPP	3F Benpres Bldg. Exchange Road Pasig	2
2	Angeles Electric Corporation Petersville Power Plant	Don Juan-Doña Teresa Avenue, Nepo Mart Complex, An	9
3	Angeles Electric Corporation Petersville Power Plant	Don Juan-Doña Teresa Avenue, Nepo Mart Complex, An	7
4	Angeles Power Inc.	Rm. 1905 Robinsons Equitable Tower, ADB Avenue	30
5	Angeles Power Inc.	Rm. 1905 Robinsons Equitable Tower, ADB Avenue	31
6	Bantayan Island Power Corporation	A.S. Fortuna Street Bakilid Mandaue City, Cebu	100
7	Basak Mini-hydroelectric power plant	Bitoon, Dumanjug, Cebu	500
8	BOHECO I - Bilangbilangan Diesel Power Plant	Macas-as, Tubigon, Bohol	25
9	BOHECO I - Cuaming Diesel Power Plant	Macas-as, Tubigon, Bohol	86
10	BOHECO I - Hambongan Diesel Power Plant	Macas-as, Tubigon, Bohol	25
11	Bohol I Electric Cooperative, Inc.-Janopol Mini-Hy	Maca-as, Tubigon, Bohol	5
12	Bubunawan Power Company	8th Flr. Strata 100 Bldg., Emerald Avenue Ortigas	7
13	Cagayan Electric Power and Light Company	Brgy. Indahag, Cagayan de Oro City	1
14	Capiz Sugar Central, Inc.	21 P. Arroyo St., Iloilo City	6
15	CBK Power Co. Ltd. - Kalayaan	CBK Complex Barangay San Juan Kalayaan Laguna	367
16	Cotabato Light and Power Company, Inc.	Sinsuat Avenue, Cotabato City	10
17	Diesel Power Barge 101	Quezon Avenue, cor. BIR Road,Diliman, Quezon City	400
18	EEI Power Corporation	12 Manggahan St., Bagumabayan Quezon City	1
19	FGP Corporation - San Lorenzo	Brgy. Sta. Rita Aplaya and Sta. Rita Karsada, Bata	508
20	First Cabanatuan Ventures Corporation	Sitio Mampulog, Bgy. Bitas Cabanatuan City, Nueva E	26
21	First Farmers Holding Corporation	Bo. Dos Hermanas, Talisay City, Negros Occidental	6

Note: List consists of IPPs that have been issued with a Certificate of Compliance for operations
Source: Philippines Energy Regulatory Commission 2023, Arthur D. Little analysis

フィリピンの承認済み独立発電事業者（IPP）の一覧(2/3)

NON-EXHAUSTIVE

#	Name	Address	Capacity, MW
22	First Gen Hydro Power Corporation (Masiway)	Unknown	12
23	First Gen Hydro Power Corporation (Pantabangan)	Pantabangan, Nueva Ecija	320
24	Green Core Geothermal, Inc.	Energy Merritt Road, Fort Bonifacio, Taguig	193
25	Hacienda Bio-Energy Corp. (Celevy Farm)	Brgy. Anupol, Bamban, Tarlac	75
26	Hacienda Bio-Energy Corp. (Ever Fortune)	Brgy. Baculong, Victoria, Tarlac	75
27	Hacienda Bio-Energy Corp. (Golden Harvest)	Brgy. Baras Baras, Tarlac City	100
28	Hacienda Bio-Energy Corp. (Liberty Agro)	Kalayaan, Gerona, Tarlac	100
29	Hacienda Bio-Energy Corp. (Sta. Luisita Farm)	Brgy. Ungot, Tarlac City	100
30	Ilocos Norte Electric Cooperative, Inc.	Suyo Dingras, Ilocos Norte	2
31	Junmar Electric Power Service	Guindacpan, Talibon, Bohol	16
32	KEPCO Ilijan Corporation	Arenas Point, Ilijan, Batangas City	1278
33	Kepco Phils. Corporation	Bo. Malaya, Pililia, Rizal	650
34	Lazard Power Corporation	#8499 Ilugin Street, Sandoval Avenue,Brgy. Pinagbu	8
35	Lazard Power Corporation	#8499 Ilugin Street, Sandoval Avenue,Brgy. Pinagbu	12
36	Limay Combined Cycle Power Plant	Corner Quezon Avenue and Agham Road, Diliman, Quez	600
37	Linberg Philippines, Inc. - Philips Semiconductors	20/F Rufino Pacific Tower 6784 Ayala Ave. Makati C	18
38	Magellan Cogeneration Inc.	Phase II, Cavite Economic Zone, Rosario Cavite	63
39	Matutinao Mini-hydroelectric power plant	Bito-On, Dumanjug, Cebu Mini-Hydro Plant Barili/ B	720
40	Monde Energy Co-Generation, Incorporated	Monde Nissin Corporation Compound, Felix Reyes St.	8
41	NorthWind Power Development Corporation	3rd Avenue cor. 26th St., Bangui Bay, Ilocos Norte	25
42	NPC - Iligan DPP II	Solid House, 2285 Pasong Tamo Extension	98

Note: List consists of IPPs that have been issued with a Certificate of Compliance for operations
Source: Philippines Energy Regulatory Commission 2023, Arthur D. Little analysis

フィリピンの承認済み独立発電事業者（IPP）の一覧(3/3)

NON-EXHAUSTIVE

#	Name	Address	Capacity, MW
43	Panay Power Corp. (Nabas Diesel PP)	Brgy. Mabilo, New Washingotn, Aklan	5
44	Philippine Power and Development Company	Balugbog HEPP - Nagcarlan, Laguna; Palakpakin HEPP	1
45	PowerSource Philippines, Inc.	121 Paseo de Roxas, Makati City	420
46	PSALM - Agus 1 Hydroelectric Power Plant	Diliman, Quezon City	80
47	PSALM - Agus 2 Hydroelectric Power Plant	Diliman, Quezon City	180
48	PSALM - Agus 6 Hydroelectric Power Plant	Diliman, Quezon City	200

Note: List consists of IPPs that have been issued with a Certificate of Compliance for operations
Source: Philippines Energy Regulatory Commission 2023, Arthur D. Little analysis

ルソン島で稼働中の系統接続発電所一覧 – 石炭 (1/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	ANDA	TECO Industrial Park, Bo. Bundagul, Mabalacat, Pampanga	Anda Power Corporation	84
2	APEC	Teco- Special Economic Zone, Brgy. Mabalacat, Pampanga Pampanga	Asia Pacific Power Corporation	52
3	CALACA U1	Barangay San Rafael, Calaca, Batangas	SEM-Calaca Power Corporation (SCPC)	300
4	CALACA U2	Barangay San Rafael, Calaca, Batangas	SEM-Calaca Power Corporation (SCPC)	300
5	DINGININ U1	Sitio Dinginin, Barangay Alasasin, Mariveles, Bataan	GNPower Dinginin Ltd. Co.	725
6	DINGININ U2	Sitio Dinginin, Barangay Alasasin, Mariveles, Bataan	GNPower Dinginin Ltd. Co.	725
7	MARIVELES U1	Barangay Alasasin, Mariveles, Bataan	GNPower Mariveles Energy Center Ltd.Co	326
8	MARIVELES U2	Barangay Alasasin, Mariveles, Bataan	GNPower Mariveles Energy Center Ltd.Co	326
9	MASINLOC U1	Barangay Bani, Masinloc, Zambales	Masinloc Power Partners Co. Ltd. (MPPCL)	330
10	MASINLOC U2	Barangay Bani, Masinloc, Zambales	Masinloc Power Partners Co. Ltd. (MPPCL)	344
11	MASINLOC U3	Barangay Bani, Masinloc, Zambales	Masinloc Power Partners Co. Ltd. (MPPCL)	352
12	PAGBILAO U1	Barangay Ibabang Polo, Pagbilao, Quezon	Therma Luzon Inc. (TLI)	382
13	PAGBILAO U2	Barangay Ibabang Polo, Pagbilao, Quezon	Therma Luzon Inc. (TLI)	382
14	PAGBILAO U3	Barangay Ibabang Polo, Pagbilao, Quezon	Therma Luzon Inc. (TLI) TeaM Energy (Philippines) Corporation	420
15	QUEZON POWER PLANT	Barangay Cagsiay I, Mauban, Quezon	Quezon Power (Philippines) Limited Co.	538
16	SBPL	Barangay Cagsiay I, Mauban, Quezon	San Buenaventura Power Ltd. Co	528
17	LPI U1 (SMC LIMAY U1)	Roman Highway, Barangay Lamao, Limay, Bataan	Limay Power Inc.	150
18	LPI U2 (SMC LIMAY U2)	Roman Highway, Barangay Lamao, Limay, Bataan	Limay Power Inc.	150
19	LPI U3 (SMC LIMAY U3)	Roman Highway, Barangay Lamao, Limay, Bataan	Limay Power Inc.	150
20	LPI U4 (SMC LIMAY U4)	Roman Highway, Barangay Lamao, Limay, Bataan	Limay Power Inc.	150
21	SLPGC U1	Barangay San Rafael, Calaca, Batangas	Southwest Luzon Power Generation Corporation (SLPGC)	150

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ルソン島で稼働中の系統接続発電所一覧 – 石炭 (2/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
22	SLPGC U2	Barangay San Rafael, Calaca, Batangas	Southwest Luzon Power Generation Corporation (SLPGC)	150
23	SLTEC PUTING BATO U1	Barangay Puting Bato West, Calaca, Batangas	South Luzon Thermal Energy Corporation (SLTEC)	135
24	SLTEC PUTING BATO U2	Barangay Puting Bato West, Calaca, Batangas	South Luzon Thermal Energy Corporation (SLTEC)	135
25	SPI U1	Barangay Pangascasan, Sual, Pangasinan	Sual Power Inc.	647
26	SPI U2	Barangay Pangascasan, Sual, Pangasinan	Sual Power Inc.	647
27	UPPC	Barangay Iba-Este, Calumpit, Bulacan	United Pulp & Paper Co., Inc. (UPPC)	30
28	PETRON RSFFB	Barangay Alangan, Limay, Bataan	Petron Corporation	140
29	PETRON RSFFB PH 3	Barangay Alangan, Limay, Bataan	Petron Corporation	44
30	MPGC U1	Barangay Biaan, Mariveles, Bataan	Mariveles Power Generation Corporation	150
31	MPGC U2	Barangay Biaan, Mariveles, Bataan	Mariveles Power Generation Corporation	150
32	MPGC U3	Barangay Biaan, Mariveles, Bataan	Mariveles Power Generation Corporation	150
33	MPGC U4	Barangay Biaan, Mariveles, Bataan	Mariveles Power Generation Corporation	150

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ルソン島で稼働中の系統接続発電所一覧 – ディーゼル

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	BAUANG DPP	Barangay Payocpoc Sur, Bauang, La Union	Provincial Government of La Union (PGLU)	235
2	CIP II	Brgy. Quirino, Bacnotan, La Union	CIP II Power Corporation	21
3	RCBMI	Barangay Mapulo,Taysan, Batangas	Republic Cement and Building Materials Inc. (RCBMI)	12
4	SUBIC DPP	Subic Bay Freeport Zone, Olongapo, Zambales	One Subic Power Generation Corporation	120
5	BPGC	Brgy. Matictic, Norzagaray, Bulacan	Bulacan Power Generation Corporation	55
6	INGRID	Pililla National Highway, Brgy., Malaya, Pililla, Rizal	Ingrid Power Holdings, Inc. (IPHI)	180
7	CALIBU DPP	Angeles Industrial Park, Bo. Calibutbut, Bacolor, Pampanga	Angeles Power Inc. (API)	31
8	FCVC DPP	FCVC Compound, Brgy. Lourdes, Cabanatuan City, Nueva Ecija	First Cabanatuan Venture Corporation (FCVC)	26
9	TARLAC POWER	Brgy. Sto. Niño, Capas, Tarlac	Tarlac Power Corporation	19
10	TMO	Navotas Fish Port Complex, Navotas, Metro Manila	Therma Mobile Inc. (TMO)	239

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ルソン島で稼働中の系統接続発電所一覧 – 天然ガス

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	AVION	Brgy. Bolbok, Batangas City, Batangas	Prime Meridian Powergen Corporation (PMPC)	131
2	ILIJAN	Brgy. Ilijan, Batangas City, Batangas	South Premiere Power Corporation	1437
3	SAN GABRIEL	Brgy. Sta. Rita, Batangas City, Batangas	First NatGas Power Corp (FNPC)	443
4	SAN LORENZO	Brgy. Sta. Rita, Batangas City, Batangas	FGP Corporation	587
5	SANTA RITA	Brgy. Sta. Rita, Batangas City, Batangas	First Gas Power Corporation (FGPC)	1134
6	EERI (Unit 1)	Barangay Dela Paz Proper, Batangas City, Batangas	Excellent Energy Resources Inc. (EERI)	440
7	EERI (Unit 2)	Barangay Dela Paz Proper, Batangas City, Batangas	Excellent Energy Resources Inc. (EERI)	440

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ビサヤ諸島の稼働中の系統接続発電所一覧 – 石炭

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	CEDC U1	Barangay Daanglusod, Toledo City, Cebu	Global Business Power Corporation - Cebu Energy Development Corporation (GBPC-CEDC)	84
2	CEDC U2	Barangay Daanglusod, Toledo City, Cebu	Global Business Power Corporation - Cebu Energy Development Corporation	84
3	CEDC U3	Barangay Daanglusod, Toledo City, Cebu	Global Business Power Corporation - Cebu Energy Development Corporation	84
4	KSPC U1	Barangay Colon, Naga City, Cebu	KEPCO - Salcon Power Corporation (KSPC)	111
5	KSPC U2	Barangay Colon, Naga City, Cebu	KEPCO - Salcon Power Corporation (KSPC)	111
6	PEDC U1	Barangay Ingore, La Paz, Iloilo City, Iloilo	Global Business Power Corporation - Panay Energy Development Corporation (GBPC-PEDC)	84
7	PEDC U2	Barangay Ingore, La Paz, Iloilo City, Iloilo	Global Business Power Corporation - Panay Energy Development Corporation	84
8	PEDC U3	Barangay Ingore, La Paz, Iloilo City, Iloilo	Global Business Power Corporation - Panay Energy Development Corporation	150
9	PCPC U1	Sitio Puntales, Barangay Nipa, Concepcion, Iloilo	Palm Concepcion Power Corporation (PCPC)	135
10	TPC 1A Expansion	Barangay Daang-lusod, Toledo City, Cebu	Global Business Power Corporation - Toledo Power Corporation	84
11	TVI U1	Sitio Looc, Barangay Bato, Toledo City, Cebu	Therma Visayas, Inc. (TVI)	169
12	TVI U2	Sitio Looc, Barangay Bato, Toledo City, Cebu	Therma Visayas, Inc. (TVI)	169

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ビサヤ諸島の稼働中の系統接続発電所一覧 – ディーゼル

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	AVON-NABAS	Barangay Unidos, Nabas, Aklan	Global Business Power Corporation - Panay Power Corporation (GBPC-PPC)	8
2	AVON-NEW WASHINGTON	Barangay Mabilo, New Washington, Aklan	Global Business Power Corporation - Panay Power Corporation (GBPC-PPC)	5
3	BOHOL DPP	Dampas District, Tagbilaran City, Bohol	SPC Island Power Corporation (SIPC)	22
4	CALUMANGAN DPP	Barangay Calumangan, Bago City, Negros Occidental	Central Negros Power Reliability, Inc. (CENPRI)	31
5	PANAY DPP I	Barangay Tabugon, Dingle, Iloilo	SPC Island Power Corporation (SIPC)	22
6	PANAY DPP III	Barangay Tabugon, Dingle, Iloilo	SPC Island Power Corporation (SIPC)	58
7	PB 101	Obrero, Iloilo (Iloilo City, Iloilo)	More Power Barge, Inc.	32
8	PB 103	Estancia, Iloilo (Lapu-Lapu City, Cebu)	SPC Power Corporation (SPC)	32
9	PB 104	Tapal Wharf, Ubay, Bohol	SPC Power Corporation (SPC)	32
10	TPC (Carmen Station)	Daang-Lungsod, Toledo City, Cebu	Global Business Power Corporation - Toledo Power Corporation (GBPC-TPC)	46
11	Isabel Modular Diesel Ancillary Service Power Plan	Barangay Libertad, Isabel, Leyte	Isabel Ancillary Services Co. Ltd. (IASCO)	86
12	EAST ASIA UTILITIES (MEPZA)	Barrio Ibo, MEPZ, Lapu-Lapu City, (Cebu City), Cebu	East Asia Utilities Corporation (EAUC)	50
13	ENERVANTAGE DPP	Barangay Timpas, Panit-an, Capiz	Enervantage Suppliers Co. Inc.	11
14	CEBU PRIVATE POWER	Old VECO Compound, Barangay Ermita, Carbon, Cebu City	Meridian Power Inc. (MPI)	71

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ミンダナオ島で稼働中の系統接続発電所一覧 – 石炭 (1/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	FDC MISAMIS U1	Barangay Balacanas, Tambobong, PHIVIDEC, Villanueva, Misamis Oriental	Filinvest Development Corporation (FDC) Utilities, Inc.	135
2	FDC MISAMIS U2	Barangay Balacanas, Tambobong, PHIVIDEC, Villanueva, Misamis Oriental	Filinvest Development Corporation (FDC) Utilities, Inc.	135
3	FDC MISAMIS U3	Barangay Balacanas, Tambobong, PHIVIDEC, Villanueva, Misamis Oriental	Filinvest Development Corporation (FDC) Utilities, Inc.	135
4	MINDANAO COAL U1	Barangay Balacanas, Tambobong, PHIVIDEC, Villanueva, Misamis Oriental	Power Sector Assets and Liabilities Management Corporation (PSALM)	116
5	MINDANAO COAL U2	Barangay Balacanas, Tambobong, PHIVIDEC, Villanueva, Misamis Oriental	Power Sector Assets and Liabilities Management Corporation (PSALM)	116
6	SEC U1	Barangay Kamanga, Maasim, Sarangani	Sarangani Energy Corporation (SEC)	119
7	SEC U2	Sitio Tampuan, Barangay Kamanga, Maasim, Sarangani	Sarangani Energy Corporation (SEC)	119
8	MPI U1	Sitio Inaburan, Barangay Culaman, Malita, Davao Occidental	Malita Power Inc.	150
9	MPI U2	Sitio Inaburan, Barangay Culaman, Malita, Davao Occidental	Malita Power Inc.	150
10	THERMA SOUTH U1	Barangay Binugao, Davao City/ Sta. Cruz, Davao Del Sur	Therma South Inc. (TSI)	150
11	THERMA SOUTH U2	Barangay Binugao, Davao City/ Sta. Cruz, Davao Del Sur	Therma South Inc. (TSI)	150

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ミンダナオ島で稼働中の系統接続発電所一覧 – 石炭 (2/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
12	GNPOWER KAUSAWAGAN U1	Barangay Libertad, Kauswagan, Lanao Del Norte	GNPower Kauswagan Ltd. Co.	151
13	GNPOWER KAUSAWAGAN U2	Barangay Libertad, Kauswagan, Lanao Del Norte	GNPower Kauswagan Ltd. Co.	151
14	GNPOWER KAUSAWAGAN U3	Barangay Libertad, Kauswagan, Lanao Del Norte	GNPower Kauswagan Ltd. Co.	151
15	GNPOWER KAUSAWAGAN U4	Barangay Libertad, Kauswagan, Lanao Del Norte	GNPower Kauswagan Ltd. Co.	151
16	MPC Balingasag Power Station U1	Barangay Mandagoa, Balingasag, Misamis Oriental	Minergy Power Corporation	55
17	MPC Balingasag Power Station U2	Barangay Mandagoa, Balingasag, Misamis Oriental	Minergy Power Corporation	55
18	MPC Balingasag Power Station U3	Barangay Mandagoa, Balingasag, Misamis Oriental	Minergy Power Corporation	55
19	PSPE	Barangay Kiwalan, Iligan City, Lanao Del Norte	Powersource Philippines Energy Inc. (PSPE)	25

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ミンダナオ島で稼働中の系統接続発電所一覧 – ディーゼル (1/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
1	SEDI DIESEL	Barangay Magdum, Tagum City, Davao del Norte	Strategic Energy Development Inc. (SEDI)	15
2	KEGI - JIMENEZ	Barangay San Isidro, Brgy. San Isidro, Jimenez	King Energy Generation Inc. (KEGI)	16
3	KEGI - PANAON	Barangay Map-an, Panaon, Ozamis City, Misamis Occ.	King Energy Generation Inc. (KEGI)	16
4	KEGI - TANDAG	Barangay Telaje, Tandag, Surigao del Norte	King Energy Generation Inc. (KEGI)	8
5	MPC - Iligan DPP	Sitio Mapalad, Barangay Dalipuga, Dalipuga, Iligan City, Lanao del Norte	Mapalad Power Corporation (MPC)	114
6	SPPC	Barangay Baluntay, Alabel, Sarangani	Southern Philippines Power Corp. (SPPC)	62
7	TMI 1	Barangay San Roque, Maco, Davao del Norte	Therma Marine Inc. (TMI)	100
8	TMI 2	Barangay Sta. Ana, Nasipit, Agusan del Norte	Therma Marine Inc. (TMI)	100
9	WMPC	Malasugat, Barangay Sangali, Sangali, Zamboanga City, Zamboanga, del Sur	Western Mindanao Power Corporation (WMPC)	112
10	MATI BUNKER-C	Libudon Road, Lower Dawan, Mati City, Davao Oriental	Supreme Power Corporation (SPC)	11
11	BPC DPP	National Highway, Barangay Barandias, Municipality of Pangantucan, Province of Bukidnon	Bukidnon Power Corporation (BPC)	7
12	COTABATO LIGHT	Sinsuat Avenue, Cotabato City, Maguindanao	Cotabato Light and Power Company (CLPC)	10
13	KEGI - BUKIDNON	Barangay Puntian,Valencia City, Bukidnon	King Energy Generation Inc. (KEGI)	3
14	KEGI - CAMIGUIN	Barangay Maubog, Balbagon, Mambajao, Camiguin	King Energy Generation Inc. (KEGI)	4
15	KEGI - MARAMAG	Barangay Dologon, Maramag , Bukidnon	King Energy Generation Inc. (KEGI)	8
16	KEGI - MISAMIS OR.	Barangay San Luis, Gingoong, Misamis Oriental	King Energy Generation Inc. (KEGI)	11

Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

ミンダナオ島で稼働中の系統接続発電所一覧 – ディーゼル (2/2)

NON-EXHAUSTIVE

#	Name	Location	Owner	Capacity, MW
17	MEGC	Sitio Mapalad, Barangay Dalipuga, Iligan City, Lanao del Norte	Mapalad Energy Generation Corp. (MEGC)	15
18	MINERGY DPP 1	Barangay Tablon, Cagayan de Oro City, Misamis Oriental	Mindanao Energy Systems, Inc. (MINERGY)	19
19	MINERGY DPP 2	Barangay Tablon, Cagayan de Oro City, Misamis Oriental	Mindanao Energy Systems, Inc. (MINERGY)	27
20	MPI-DIGOS	Barangay Cogon, Digos, Davao del sur	Mapalad Partners Inc. (MPI)	17
21	NAC DPP	Km. 10, Barangay Quezon, Surigao City, Surigao del Norte	Nickel Asia Corporation (NAC)	11
22	NBPC DPP	Barangay Bugcaon, Lantapan, Bukidnon	North Bukidnon Power Corporation (NBPC)	6
23	PACERM-1	Barangay Quibonbon, El Salvador City, Misamis Oriental	PACERM-1 Energy Corporation	11
24	PBI	Purok 3, Barangay Alae, Manolo Fortich, Bukidnon	Peak Power Bukidnon. Inc. (PBI)	10
25	PSC	Barangay Balacanas, Tambobong, PHIVIDEC,Villanueva,Misamis Orriental	Philippine Sinter Corporation (PSC)	35
26	PSFI	ASELCO Compound, Barangay San Isidro, San Francisco, Agusan del Sur	Peak Power San Francisco (PSFI)	5
27	PSFI 2	ASELCO Compound, Barangay San Isidro, San Francisco, Agusan del Sur	Peak Power San Francisco (PSFI)	5
28	PSI	SOCOTECO II Compound, Barangay Apopong, General Santos City, South Cotabato	Peak Power Soccsargen, Inc. (PSI)	21
29	PSI 2	SOCOTECO II Compound, Barangay Apopong, General Santos City, South Cotabato	Peak Power Soccsargen, Inc. (PSI)	14
30	SPC - KORONADAL	Purok Garfin, Barangay Paraiso, Koronadal, South Cotabato	Supreme Power Corporation (SPC)	12
31	TPI DPP	Sagadan, Barangay Poblacion, Tubod, Lanao del Norte	Total Power, Inc.	4
32	ZAMCELCO DPP	ZAMCELCO Complex, MCLL Highway, Zamboanga City	Zamboanga City Electric Cooperative, Inc.	16
33	IGACOS MODULAR DPPs	Mambago-A, Island Garden City of Samal, Davao del Norte	Mindoro Grid Corporation (MGC)	8

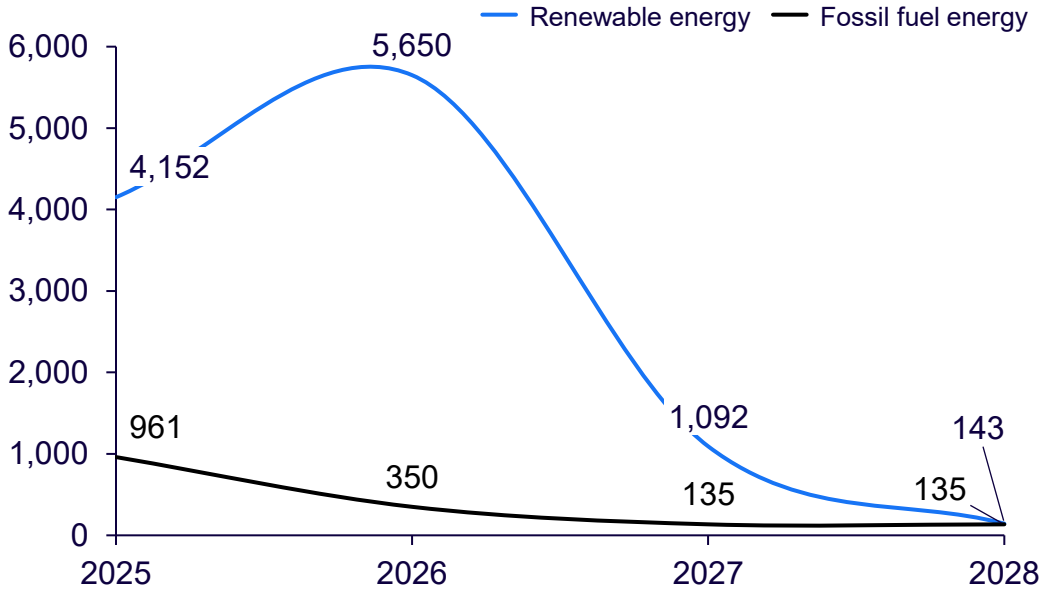
Note: Data as of April 2025
Source: Department of Energy 2025, Arthur D. Little analysis

再生可能エネルギーの新規導入は2026年に5,650MWとピークを迎える一方、化石燃料の追加案件はルソンでの石炭・天然ガスに限られ、2027年以降はほぼゼロに縮小する見込み

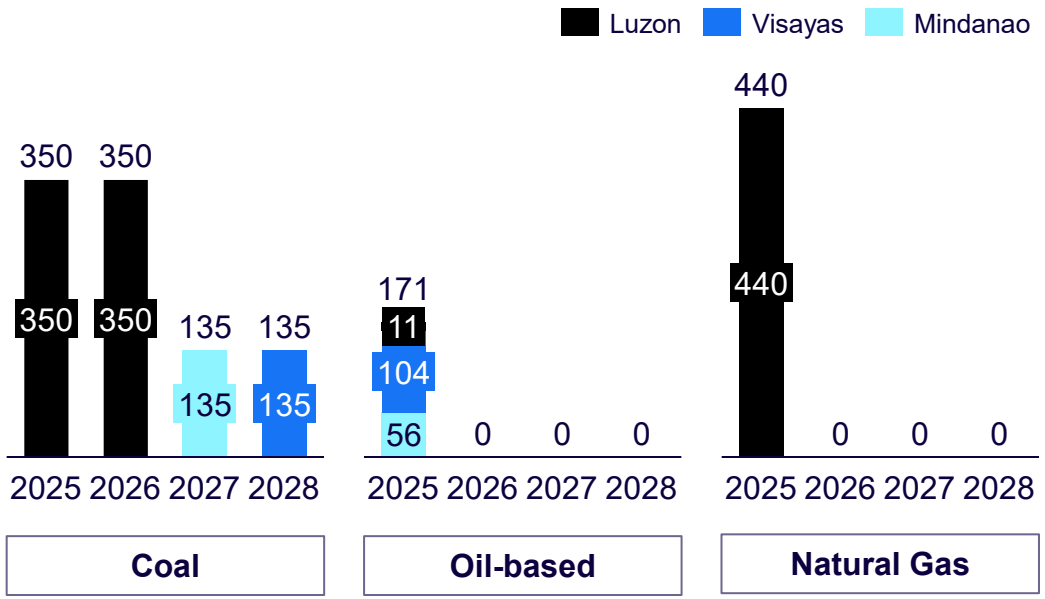
Overview of Committed Power Projects

2025 - 2028, MW

Trend of committed renewable and fossil fuel projects



Breakdown of committed fossil fuel power projects



Currently, committed **natural gas and coal projects** are concentrated in **Luzon**, with committed **oil-based** projects led by **Visayas.**

Note: Data reported in April 2025 by the Philippines Department of Energy, for power projects initiated by the private sector
Source: Department of Energy 2025, Arthur D. Little analysis

開発中の燃料発電所プロジェクト一覧

NON-EXHAUSTIVE

#	Region	Fuel type	Name of the project	Capacity, MW	Start-up year
1	Luzon	Coal	H & WB PCB Supercritical Coal-Fired Power Plant - Unit 1	350	2029
2	Luzon	Coal	H & WB PCB Supercritical Coal-Fired Power Plant - Unit 2	350	2029
3	Luzon	Coal	SRPGC Coal-Fired Power Plant Project	350	TBD
4	Luzon	Coal	SRPGC Coal-Fired Power Plant Project	350	TBD
5	Luzon	Oil	Malaya 2 x 30 Diesel Power Plant	60	2025
6	Luzon	Natural gas	Combined Cycle Gas-fired Turbine San Francisco Power Plant	1200	2028
7	Luzon	Natural gas	VIRES Natural Gas Floating Power Plant	450	2029
8	Luzon	Natural gas	GNPower Sisiman LNG Combined Cycle Power Plant	1200	2029
9	Luzon	Natural gas	GLEDC Luna LNG-Fired Combined Cycle Power Plant	1128	2030
10	Luzon	Natural gas	Santa Maria Natural Gas-Fired Combined Cycle Power Plant	1260	TBD
11	Visayas	Coal	Therma Visayas, Inc. Coal - Fired Power Plant Expansion Project	169	2028
12	Visayas	Coal	TPC-1B Circulating Fluidized Bed Coal-Fired Power Plant	82	2029
13	Mindanao	Coal	San Ramon Power, Inc. Coal-Fired Power Station	120	2028

Note: Data reported in April 2025 by the Philippines Department of Energy, for power projects initiated by the private sector
Source: Department of Energy 2025, Arthur D. Little analysis

Contents

DOEはエネルギーレジリエンシーポリシーを通じ、災害時や需給逼迫時の停電に備え、設備強化、復旧基準、需給調整・予備力拡充などを制度化し、送電網の強靭性と電力供給維持を図っている

Overview of grid alerts and disruptive events

Department of Energy

2018 ERP (DC2018-01-0001):
Integrated resiliency into energy planning, required adaptation measures and created the Task Force on Energy Resiliency.

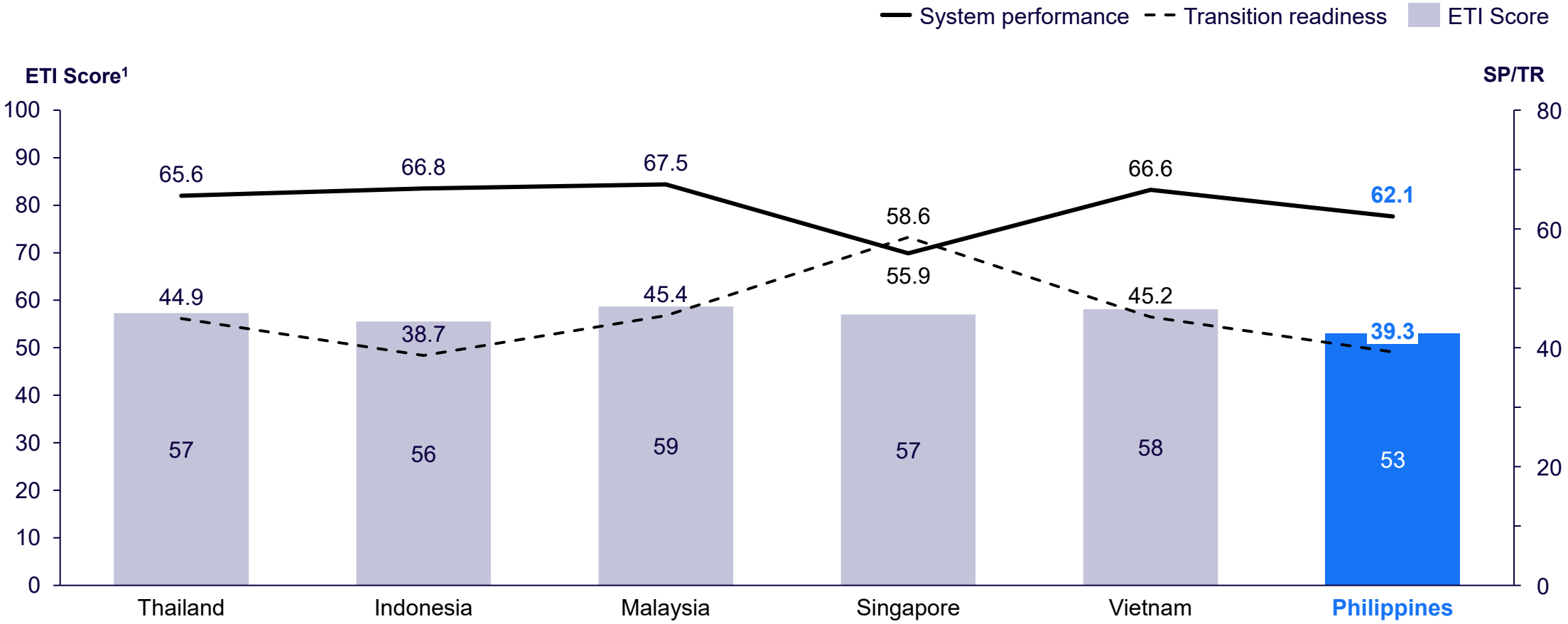
2022 ERP Update (DC2022-06-0028):
Expanded the Task Force's functions and structure and strengthened inter-agency coordination.

Disaster type	Details
Typhoon	• Typhoons can damage power plants, transmission lines, and distribution assets and limit site access. Utilities must **harden assets** (higher design standards), **pre-position spares and crews**, and **commit to rapid restoration timelines**.
Earthquakes and Volcanic eruptions	• Companies must maintain **Resiliency Compliance Plans** that include geohazard mapping, seismic-rated designs, redundancy of lines and substations, and regular drills. • **"Build-back-better" rehabilitation standards** apply after events to restore capacity faster and reduce future risk.
El Niño	• El Niño raises temperatures and reduces hydro output, tightening reserves and pushing peak demand. The PDP 2023-2050 plan calls for staggered maintenance, demand-side actions (efficiency, interruptible load), contracting additional reserves, and deploying quick-start or peaking plants for dry-season reliability. • **Transmission upgrades** are prioritized to move surplus power across islands when local supply is constrained.
Red and Yellow alerts[1]	• To reduce alerts, the PDP 2023–2050 adds **firm capacity, expands ancillary services and reserve contracting, improves outage reporting and maintenance planning**, and accelerates grid reinforcement.

Note: 1) A Yellow Alert means operating reserves fall below requirement, but demand is still met; a Red Alert means supply is insufficient and rotating outages may occur.
Source: Philippines Power Development Plan 2023-2050, Arthur D. Little analysis

フィリピンのETIスコアは53でシステムパフォーマンスは堅調だが、トランジション準備度が低くクリーンエネルギー移行には制度・投資強化が必要とされている

World Economic Forum's Energy Transition Index (ETI)



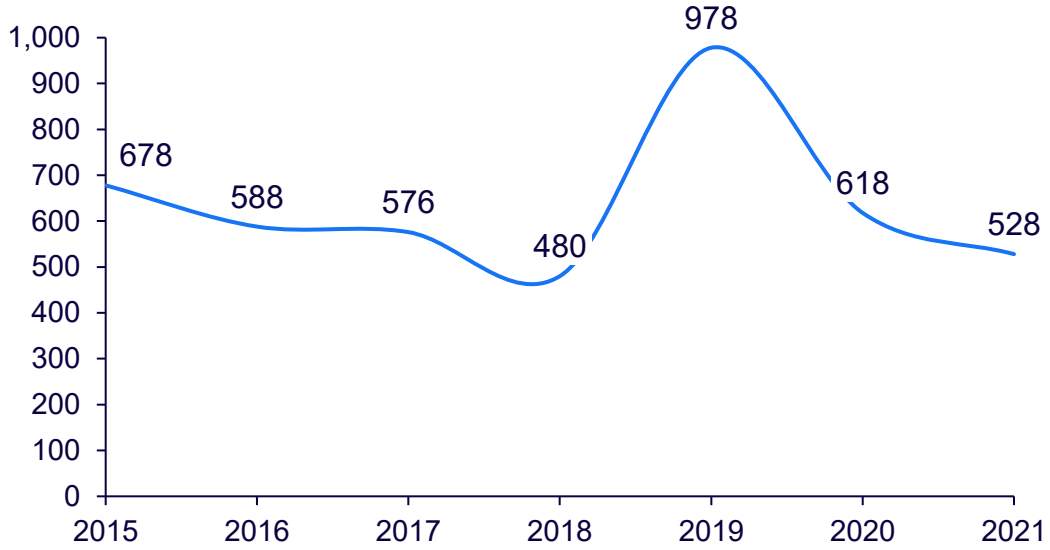
Note: 1) Energy Transition Index score consists of System Performance (60%) and Transition Readiness (40%).
Source : World Economic Forum Report, *Fostering Effective Energy Transition 2025*

フィリピンのSAIDI（平均停電時間）は2019年をピークに減少傾向へ転じ、2021年には528分まで改善した一方、SAIFI（平均停電回数）は年間約5.7回と比較的安定しつつ緩やかに低下している

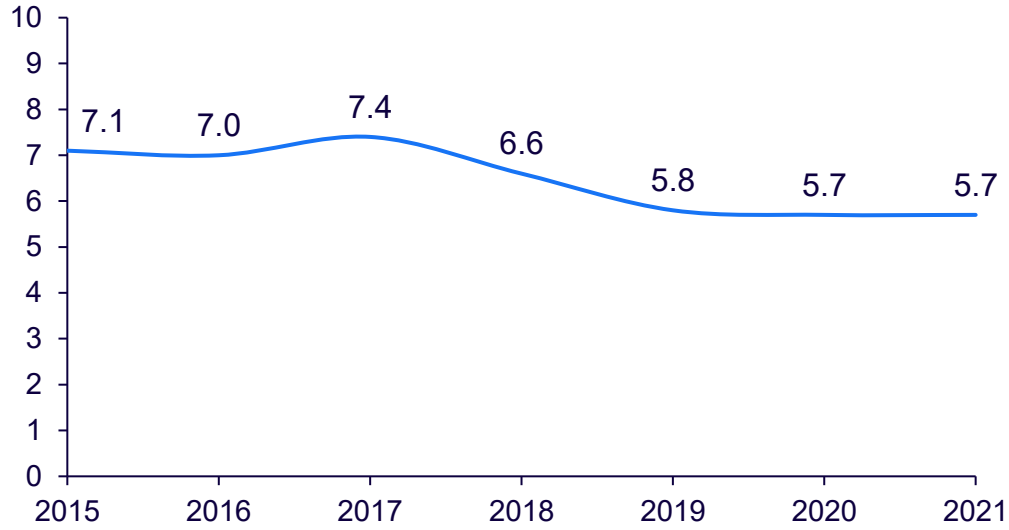
Electricity Quality Index

2015 - 2021

SAIDI[1] (Minutes/Customer/Year)



SAIFI[2] (Number of Interruptions/Customer/Year)

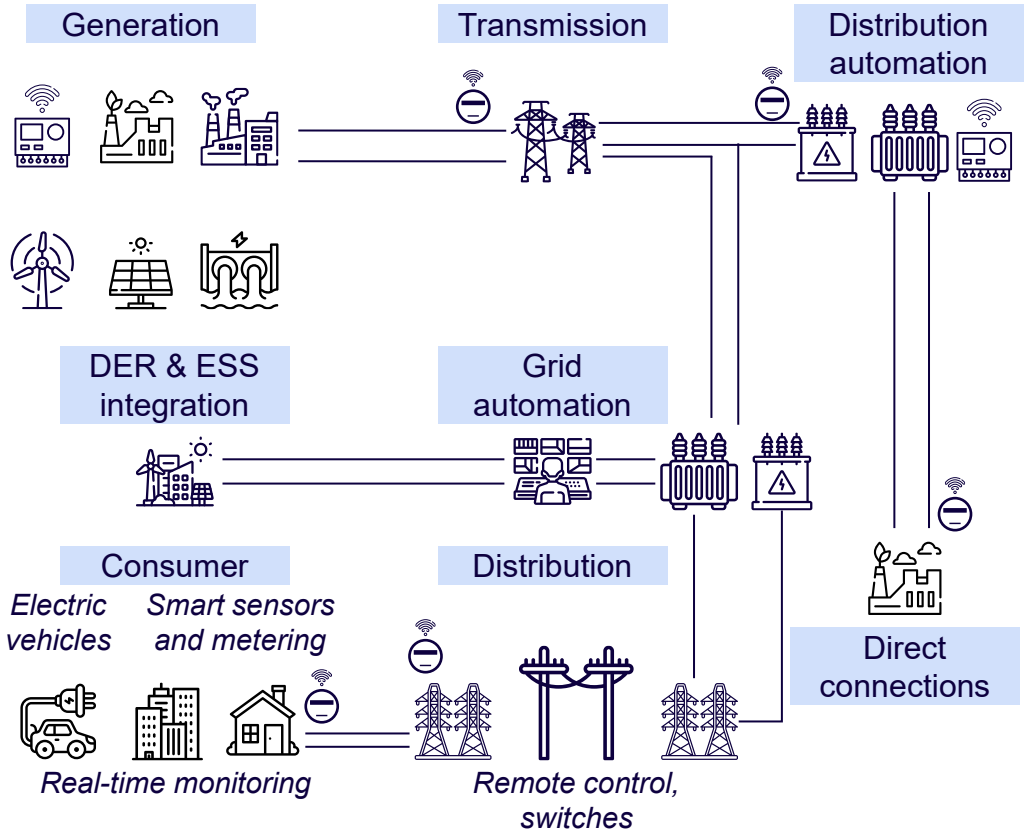


The Philippines' SAIDI is structurally higher because severe weather, archipelagic logistics, and episodic supply shortfalls produce fewer but longer outages compared with many ASEAN peers.

Note: 1) System Average Interruption Duration Index; 2) System Average Interruption Frequency Index
Source: Philippine Institute for Development Studies 2022, Arthur D. Little analysis

フィリピンのスマートグリッド政策は「電力セクター・ロードマップ2023–2050」の一環として、分散化・脱炭素化・デジタル化・民主化を柱に電力安全保障とアクセス拡大を推進している

Overview of the multi-pronged approach in the smart grid strategy



- A focus on smart grids is a part of the Power Sector Roadmap 2023–2050, together with a power sector database enhancement
- The main objectives are:
  - Energy security, resiliency, affordability, and sustainability;
  - Transparent and fair playing field in the power industry; and
  - Electricity access for all.

Dere-gulation	• Smart regulation • Approval for power facilities, infrastructure	**Digiti-zation**	• Internet of things • Smart monitoring • ICT innovation • Cybersecurity • Automated reportorial submissions
Decarbo-nisation	• Renewable energy sources • Electric vehicles • Clean technology		
Decen-tralization	• Distributed energy resources • Isolated power supply • Energy storage systems • Prosumers	**Democra-tization**	• Full customer choice • Energy democracy • Microgrids and power trading

Source: Department of Energy 2023, Arthur D. Little analysis

フィリピンのスマートグリッド構想は、2040年までにフル自動化・再エネ統合を目指し、スマートユーティリティ、分散型発電、EV・スマートホーム導入、送電の近代化を段階的に進める方針

NON-EXHAUSTIVE

Smart distribution utility roadmap and goals

SMART DISTRIBUTION UTILITY ROADMAP (SDUR)					SMART GRID VISION BY 2040
	Level 0	Level 1	Level 2	Level 3	Level 4	
Networks	• Manually-operated Distribution Network System	Physical Network Transformation • SCADA-Ready Reclosers • Sectionalizers • Load Break Switches • Fault Circuit Indicators • Distribution Transformer Monitoring Equipment • SCADA System – Remote Feeder Lines – Remote Substation • Implementation of Geographic Information System (GIS)	• Remote voltage regulators, and capacitor banks • Implementation of Distribution Management System (DMS) – Distribution and Substation Automation • Outage Management System (OMS) – Mobile Workforce Management System (MWMS)	• Smart Distribution and Substation Automation • Advanced Distribution Management System (ADMS) – Fault Location, Isolation, and Service Restoration (FLISR) – Integrated Volt- Var Optimization (IVVO)	• Full Smart Distribution and Substation Automation	• Self-healing Grid • Full RCOA, RPS, GEOP and Net Metering Implementation • Full Customer Choice • Demand Response • Peak Load Management • Virtual Power Plants • Islanding • Optimized ESS, EMS and DER Management System • Smart Homes and Cities
Customer Service	• Conventional Metering	• Implementation of Automated Meter Reading (AMR)	• Initial Implementation of AMI – Smart Meters – Data Management – System – Data Center and Server	• Scaling-up AMI deployments	• Full Smart Distribution and Substation Automation	
Continuous/ Parallel Programs	• Integration of Energy Storage System (ESS) and Electric Vehicle (EV) Charging Station • Distributed Energy Resources Integration and Energy Management Systems • Consumer Education • Updating of GIS • Interoperability and Cybersecurity • Telecommunications infrastructure					

Smart grid vision

Smart utility

- Digitalized DDP and DDPIS[1]
  - Roadmap for distribution utilities
  - Smart metering
  - Real time monitoring

Smart power generation

- Power development plan
  - Distributed energy resources
  - Energy storage systems
  - Hybrid systems
  - Intermittent and flexible generation
  - Coal repurposing

Smart homes and cities

- Solar power battery storage system
- Advanced metering infrastructure
- Electric vehicles and infrastructure
- Demand response
- Peak load management

Transmission modernisation

- Transmission development plan
  - Automation and network optimization
  - Smart & Green Grid Plan (SGGP)
  - Grid looping and off-grid interconnections

Note: 1) Refers to Digitalized Distribution Development Plan (DDP) and DOE DDP Information System (DDPIS)
Source: Department of Energy 2023, Arthur D. Little analysis

フィリピンではGISやスマートメーター等のデジタル技術を活用しつつ、ハイブリッド型ミニグリッドやマイクログリッド実証が進められ、スマートグリッド環境の整備が着実に進行

NON-EXHAUSTIVE

Technologies involved

Geographics Information System (GIS)
- Integration with systems to assist in outage detection, restoration speed and asset optimisation via precise location identification

Mobile workforce management system (MWMS)
- Manpower optimisation tool for utilities provider
- Easier fault detection and faster troubleshooting

Outage Management system (OMS)
- Efficiently identify and resolve outages with historical database
- GIS integration for fault location identification and resolving

Fault location, isolation and service restoration (FLISR)
- System that involves and links monitoring, communication systems, SCADA systems, GIS, etc, and has data processing tools to locate faults, isolate the affected area/s, automate power restoration and reduce both the impact and duration of power interruptions

Advanced metering infrastructure (AMI)
- An integrated system of smart meters, communication networks and data management systems that allow for smart tracking

Advanced distribution management system
- Integration platform for multiple utility systems, provides automated outage restoration and optimization of distribution grid performance

Current projects

Elevated meter clusters

Higatangan micro-grid project

Solar hybrid mini-grid in Malaison Island

Solar-EES hybrid in New Ibajay, Palawan

Source: Department of Energy 2023, Arthur D. Little analysis

ANA（高度ネットワーク自動化）とAMI（高度計測インフラ）はPDP 2023–2050のスマートグリッド中核であり、リアルタイム監視・再エネ統合・利用者選択拡大を目指している

Advanced Network Automation (ANA) overview

Advanced Network Automation (ANA) Overview

Backend System

- Advanced Distribution Management System
- Mobile Work and Outage Management Systems
- Supervisory Control and Data Acquisition
- PowerTech
- Advanced Asset Management
- Distributed Energy Resources Management System (DERMS)
- Control Center Modernization
- EV Management System (EVMS)

Communications Infrastructure
(e.g., Fiber optic, Microwave, Narrowband Radio, WiMax, RF Mesh, Cellular)

Field Devices


Smart substations


Smart sensors


Remote-Controlled Line Devices


Mobile Devices


Renewable Energy Generators


Customer Devices

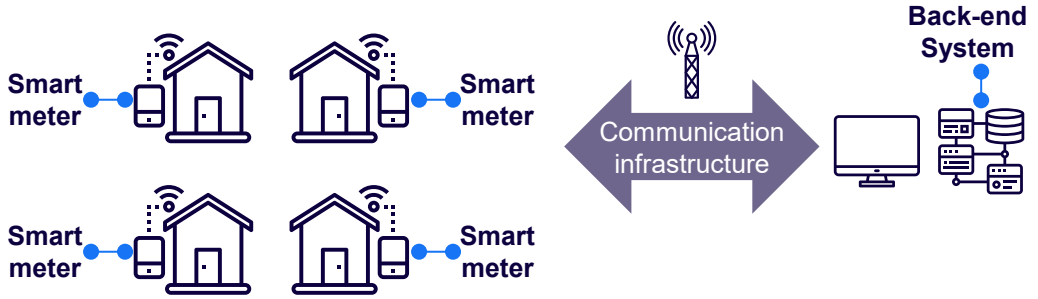
Utility benefits

- Enhanced network reliability, efficiency, and power quality
- Improved crew and process efficiency
- Allow accommodation of renewables and other distributed energy resources (DERS)

Customer benefits

- Improved customers' productivity and quality of life through reduced service interruptions and improved power quality
- Allow potential savings due to energy conservation

AMI overview



Components

Integrated system comprising:

- **Back-end System** (e.g., Meter Data Management System)
- **Communications Infrastructure** (eg, routers, collectors, base stations, etc.)
- **Smart meters** (e.g., single/three-phase, remote connect, tamper/theft alarms)

Features

Enables the **transport of metering data** from the customer to the utility and vice versa, allowing:

- Remote reading
- Outage and meter irregularity detection
- Consumption monitoring and reporting mechanism

Deployment Strategy (2025–2029):

- Offer paid early-adoption options for customers
- Prioritize new buildings and end-of-life replacements

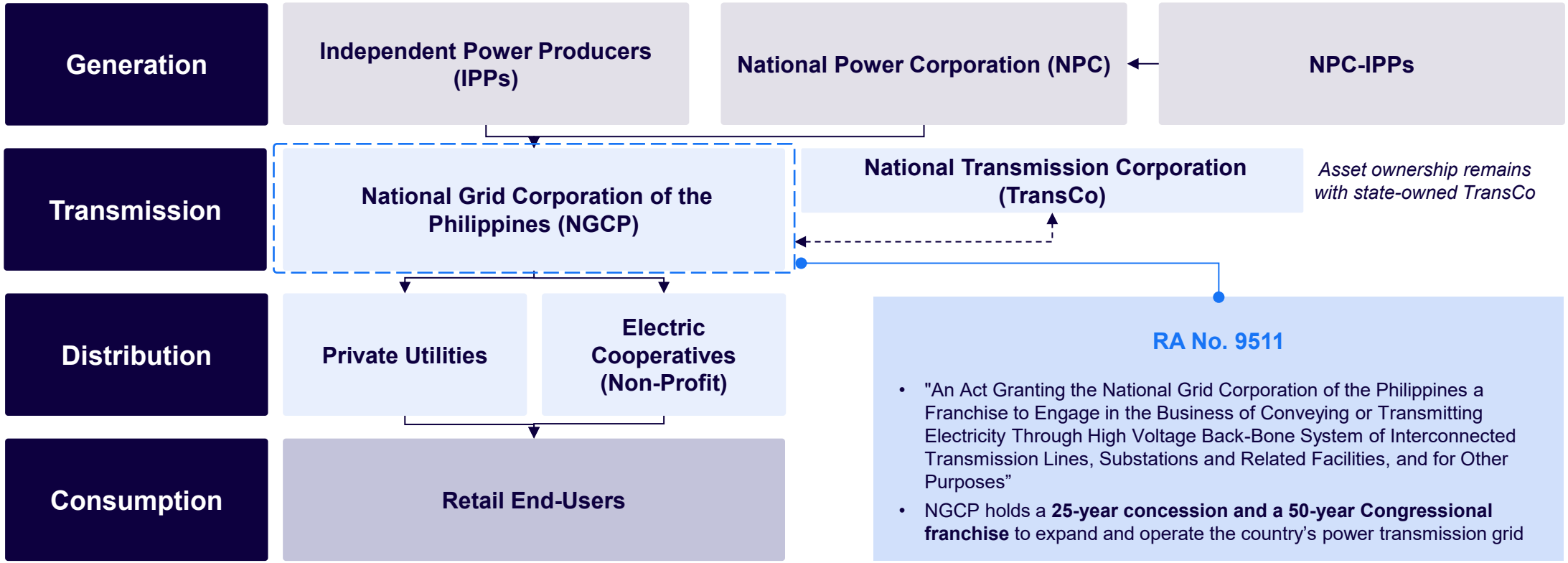
Existing | Ongoing Implementation | Future

Source: Department of Energy 2023 , Arthur D. Little analysis

Contents

フィリピンの送電は国家送電公社（NGCP）が独占的に運営し、資産自体は国有のTransCoが保有しつつ、NGCPがコンセッション契約と議会フランチャイズの下で全国送電網を拡張・運用

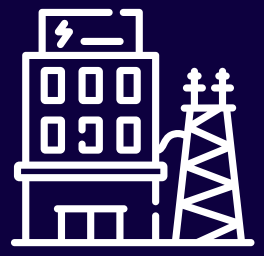
Domestic electricity supply chain in the Philippines

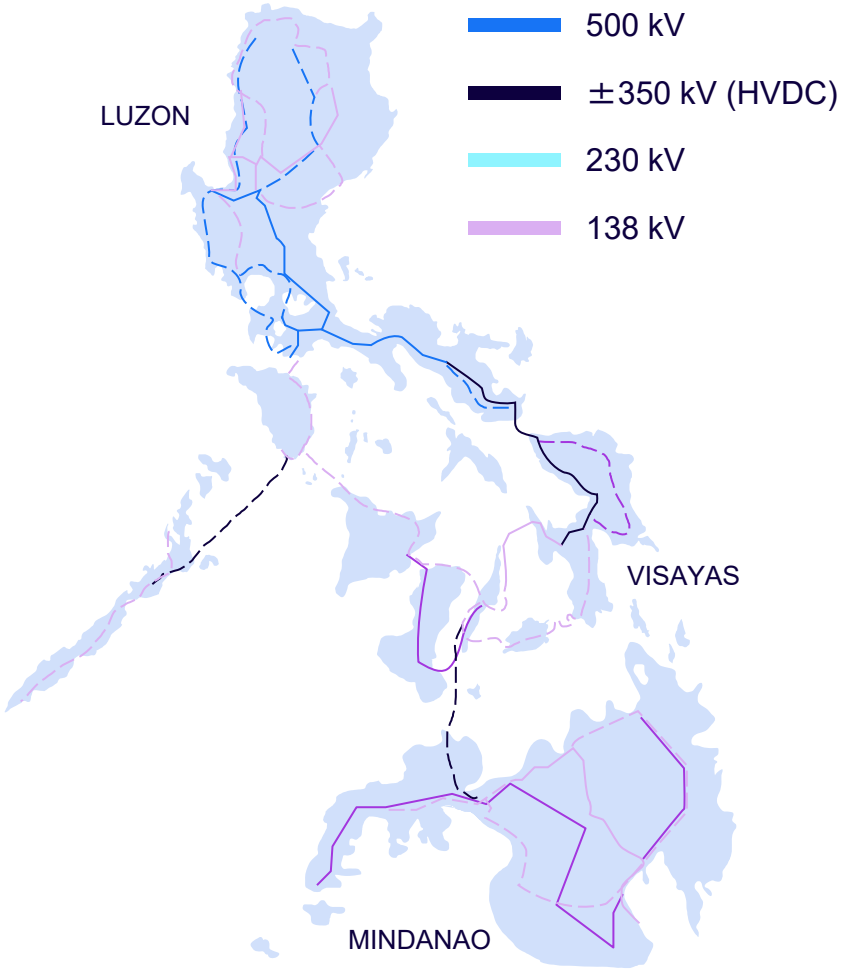


Source: Manila Standard 2023, Philippines Department of Energy 2021, Arthur D. Little analysis

フィリピンにはルソン・ビサヤ・ミンダナオをカバーする3大送電網があり、2022年時点で総延長は21,027回路キロメートルに達しているが、群島地理ゆえに安定した送電インフラの構築が課題

Transmission grid



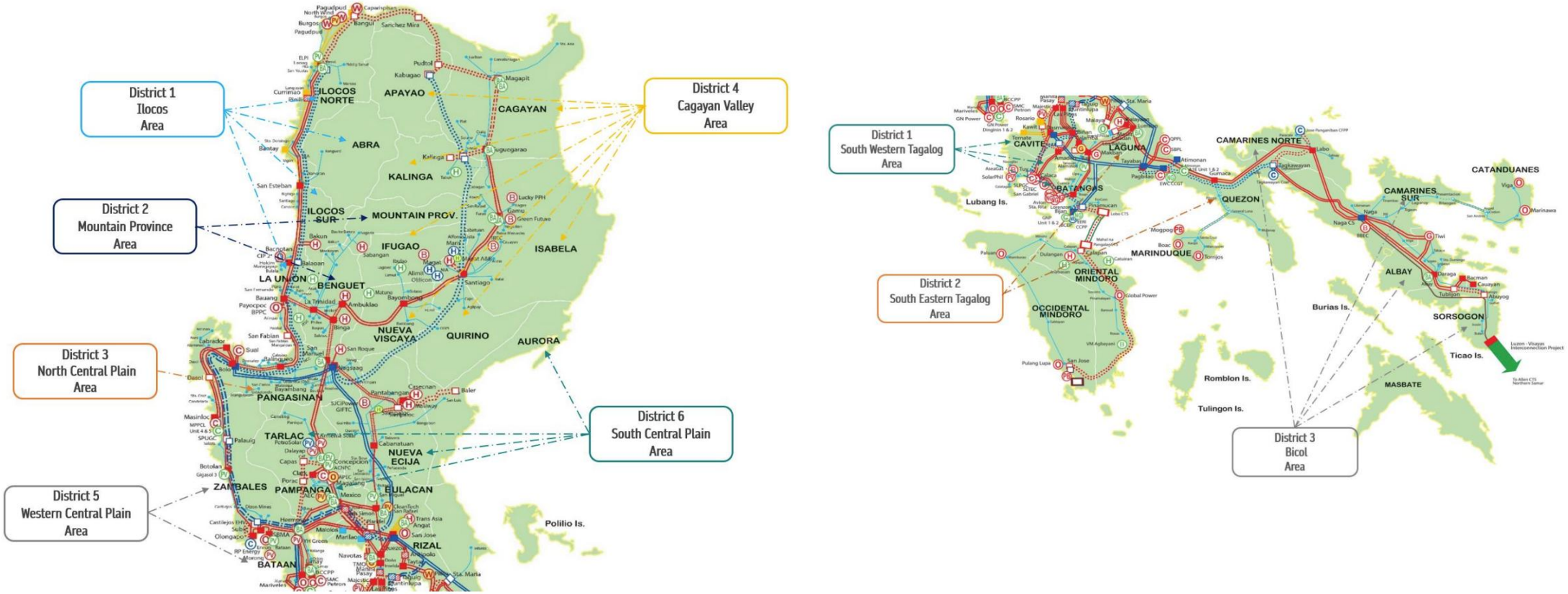


COMMENTS

- A total of 21,027 circuit-km are accounted for in the transmission assets being managed by e National Grid Corporation of the Philippines (NGCP) as of December 2022:
  - Luzon: 9,631.90 ckm[1]
  - Visayas: 5,393.49 ckm[1]
  - Mindanao: 6,001.60 ckm[1]
- Key challenges include developing stable transmission infrastructure in an **archipelagic geography**

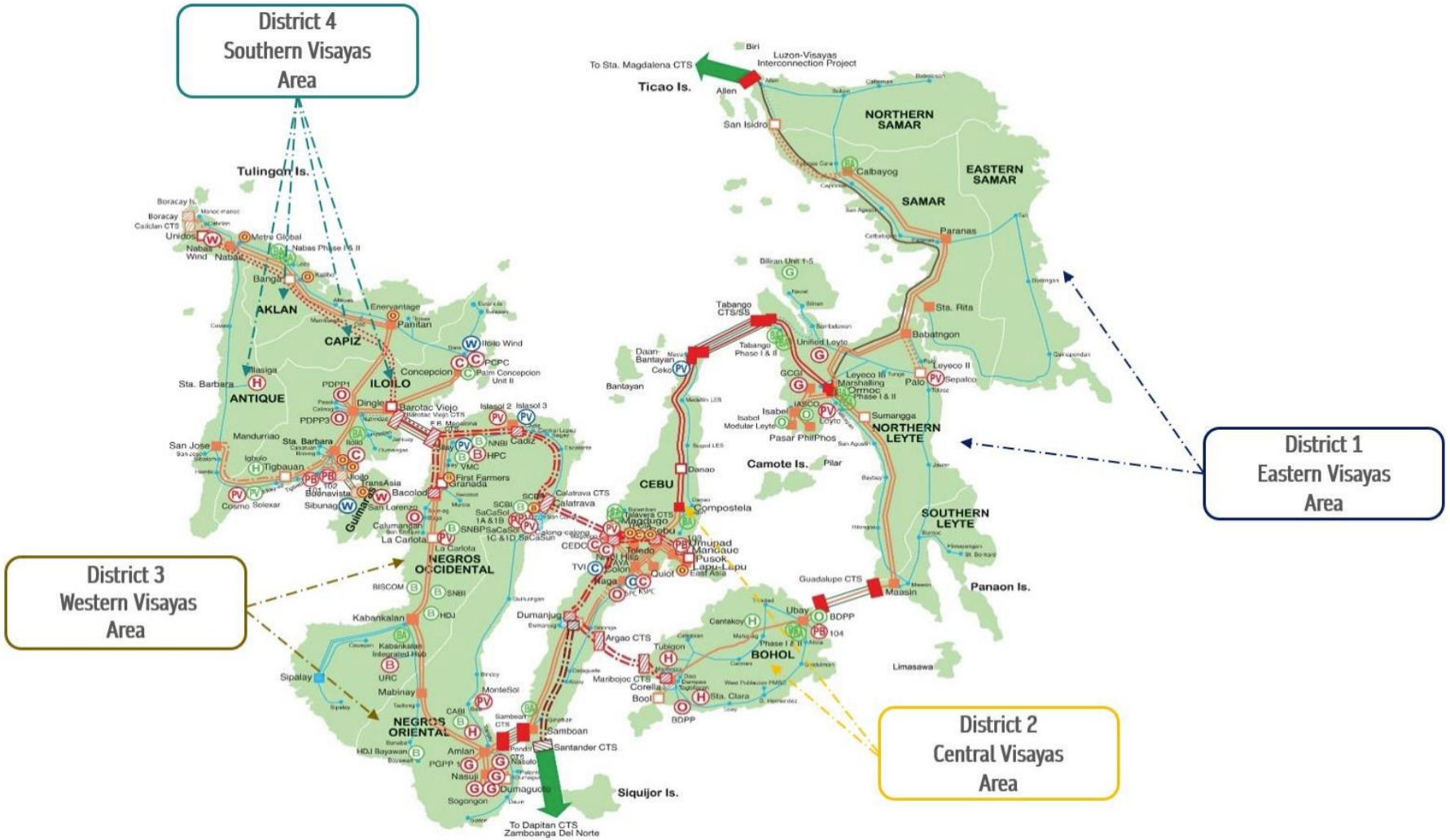
Note: Map is illustrative and not drawn to scale; 1) Circuit kilometre
Source: Philippines Power Development Plan 2023-2050, Philippines Transmission Development Plan 2023-2040 (Consultation Draft)

送電網詳細図 – ルソン島



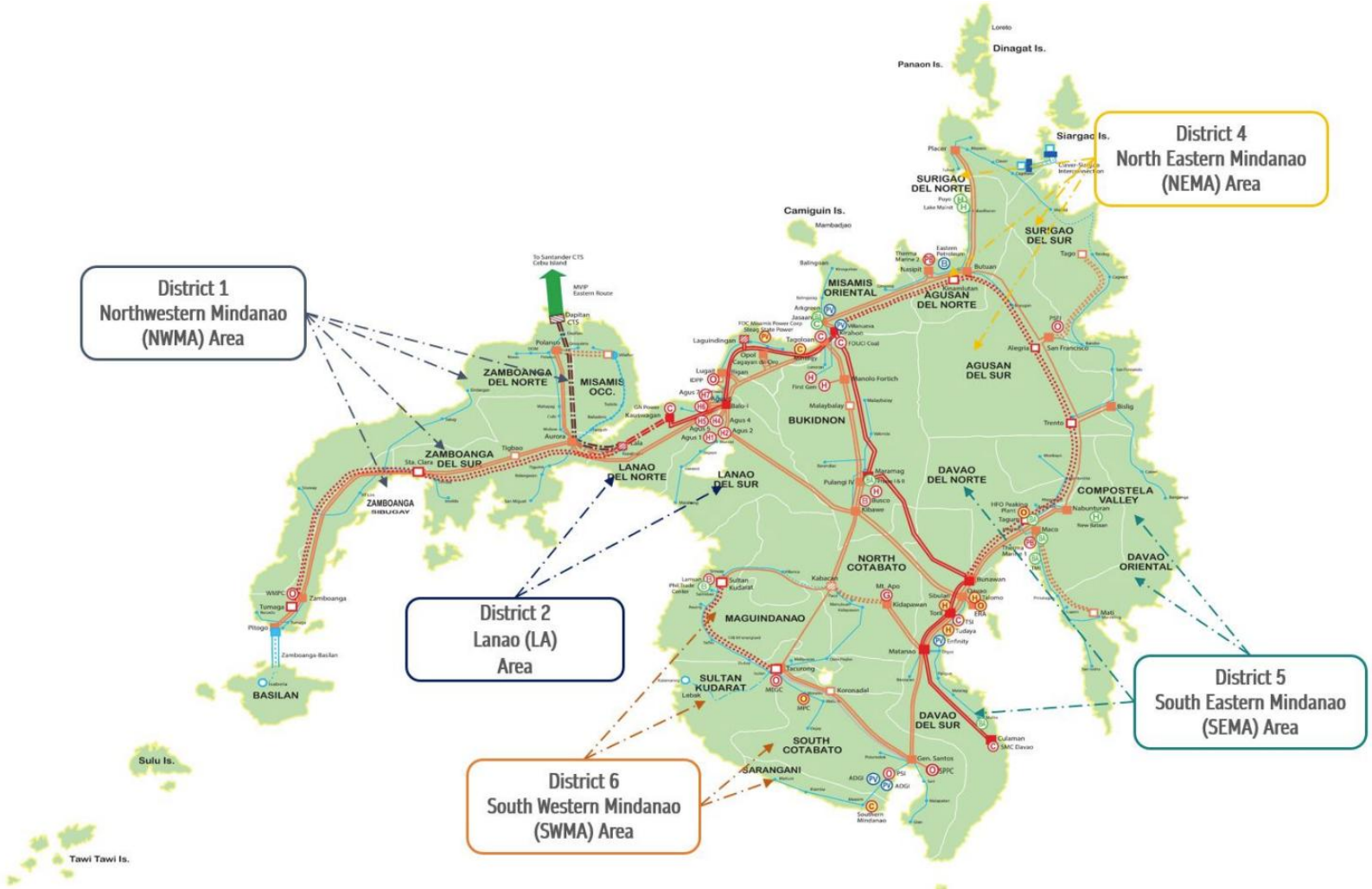
Source: Philippines Transmission Development Plan 2023-2040

送電網詳細図 – ビサヤ諸島



Source: Philippines Transmission Development Plan 2023-2040

送電網詳細図 – ミンダナオ島



Source: Philippines Transmission Development Plan 2023-2040

送電線：計画中のプロジェクト一覧 – ルソン島

NON-EXHAUSTIVE

#	Name	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	Pagbilao–Tayabas 500 kV Transmission Line	Quezon Province	135	2028
2	La Trinidad–Calot 69 kV Transmission Line	Benguet	30	2028
3	Taguig–Taytay 230 kV Transmission Line	Rizal	59	2030
2031-2040				
1	Taguig–Silang 500 kV Transmssion Line	Cavite, Metro Manila	239	2031
2	Nagsaag–Santiago 500 kV Transmssion Line	Isabela, Pangasinan	540	2031
3	Bolo–Balaoan 500 kV Transmssion Line	La Union, Pangsinan	592	2032

Complete list of transmission line project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

送電線：計画中のプロジェクト一覧 – ビサヤ諸島

NON-EXHAUSTIVE

#	Name	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	Visayas 69 kV Transmission Line Upgrading Project	Leyte, Bohol and Panay	49	2025
2	Amlan–Dumaguete 138 kV Transmission Line Project	Negros Occidental	41	2025
3	Panay–Guimaras 138 kV Interconnection Line 2 Project	Panay and Guimaras	67	2028
2031-2040				
1	Cebu–Leyte 230 kV Interconnection Lines 3 and 4 Project	Leyte, Cebu	775	2031
2	Barotac Viejo–Unidos 230 kV Transmission Line Project	Panay	284	2033
3	Tabango–Biliran 69 kV Transmission Line Project	Northern Leyte	30	2034

Complete list of transmission line project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

送電線：計画中のプロジェクト一覧 – ミンダナオ

NON-EXHAUSTIVE

#	Name	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	San Francisco– Tago 138 kV Transmission Line	Agusan del Sur, Surigao del Sur	98	2025
2	Polanco–Oroquieta 138 kV Transmission Line	Misamis Occidental	153	2028
3	Maco–Mati 138 kV Transmission Line	Davao Del Norte	134	2028
2031-2040				
1	Bunawan–Tagum 230 kV Transmission Line	Agusan del Sur, Davao del Norte, Davao de Oro	186	2031
2	Eastern Mindanao 230 kV Transmission Line	Agusan del Sur, Agusan del Norte, Davao del Sur, Davao de Oro	731	2032
3	Villanueva– Kinamlutan 230 kV Transmission Line	Misamis Oriental, Agusan del Norte	411	2033

Complete list of transmission line project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

変電所：計画プロジェクト一覧 – ルソン島

NON-EXHAUSTIVE

#	Name	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	Pinamucan 500 kV Substation	Batangas	98	2025 (Phase 1)
2	Tuy 500/230 kV Substation (Stage 2)	Batangas	130	2030
3	Silang 500 kV Substation	Cavite	170	2028
2031-2040				
1	Tagkawayan 500 kV Substation	Tagkawayan, Quezon Province	171	2033
2	Palauig 500 kV Substation	Zambales	188	2033
3	San Fabian 230 kV Substation	La Union	154	2032

Complete list of substation project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

変電所：計画中のプロジェクト一覧 – ビサヤ諸島

NON-EXHAUSTIVE

#	Name[1]	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	Visayas Substation Upgrading Project 2	Cebu, Negros, Panay, Leyte	252	2025
2	Visayas Substation Upgrading Project 3	Samar, Cebu, Negros, Panay	79	2027
3	Babatngon–Palo 230 kV Tranmission Line Project (Initially energized at 138 kV)	Leyte	87	2030
2031-2040				
1	Nivel Hills 230 kV Substation Project	Cebu	102	2033
2	Danao 230 kV Substation Project	Cebu	66	2032
3	Sumangga 138 kV Substation Project	Leyte	69	2033

Complete list of substation project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

変電所：計画プロジェクト一覧 – ミンダナオ

NON-EXHAUSTIVE

#	Name	Location	Estimated cost, USD mn[1]	Completion Target
2023-2030				
1	Mindanao Substation Upgrading Project 2 (MSUP 2)	Lanao Del Norte, Bukidnon, Agusan Del Norte, Misamis, Oriental, Davao, Sultan Kudarat, Zamboanga, Surigao Del Sur	127	2026
2	Mindanao Substation Rehabilitation Project (MSRP)	Zamboanga del Sur, Surigao del Norte, Angusan del Sur, South Cotabato, Sultan Kudarat, Lanao del Norte, Bukidnon, Zamboanga Sibugay, Misamis	53	2026
3	Opol Substation Bus-in	Misamis Oriental	22	2027
2031-2040				
1	Tumaga 230 kV Substation	Zamboanga del Sur	64	2032
2	Tigbao 138 kV Substation	Zamboanga del Sur	38	2032
3	Maco-Tagum 69 kV Substation	Davao Del Norte	36	2032

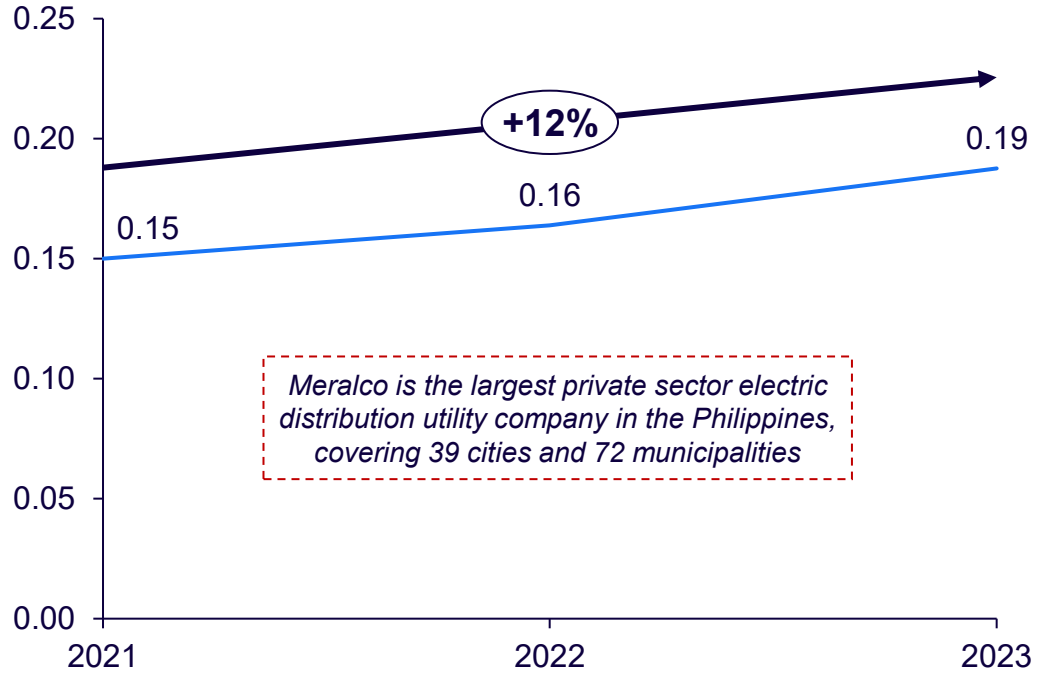
Complete list of substation project in the Philippines (Link)

Note: 1) Rate converted from local currencies using the exchange rate 1 PHP to 0.01746 USD
Source: Philippines Transmission Development Plan 2023-2040, Arthur D. Little analysis

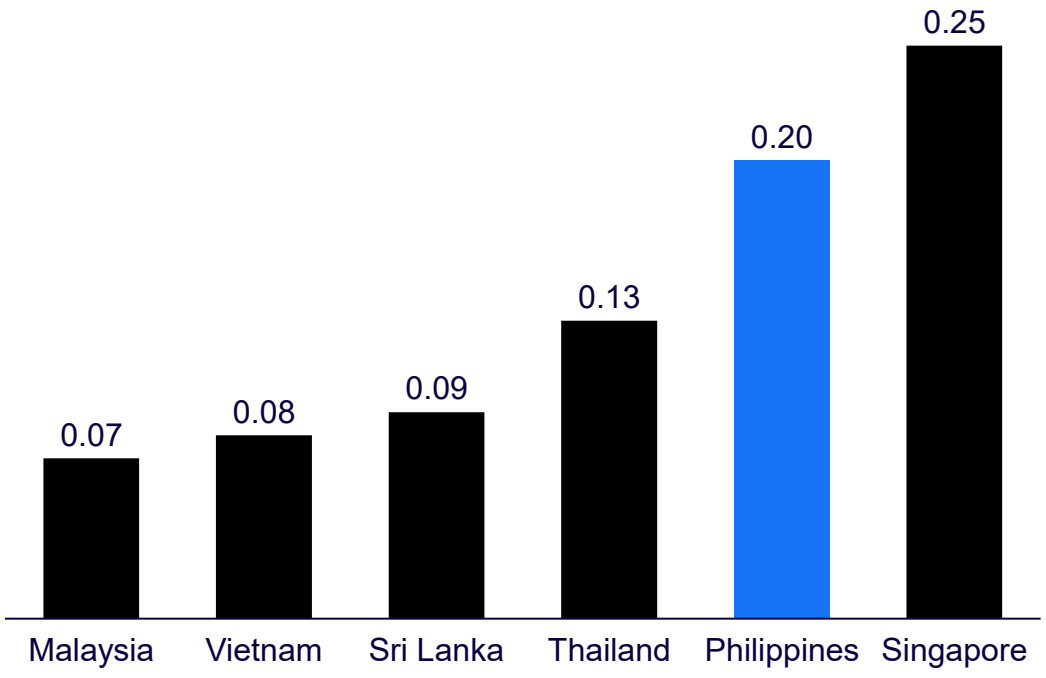
Contents

フィリピンの電力料金はASEAN諸国の中でも高水準にあり、21年の0.15 USD/kWhから23年には0.19 USD/kWhへと約12%上昇し、24年時点では0.20 USD/kWhでシンガポールに次ぐ高さ

Average retail rate of electricity
2021 - 2023, USD/kWh



Household electricity retail prices in ASEAN[1]
Dec 2024, USD/kWh



The relatively high electricity prices in the Philippines are attributed to a commercial privatized system which seeks to recover the actual costs of (generation) supply, and high distribution costs due to its archipelagic geography

Note: Rate converted from local currencies using the exchange rate 1 PHP to 0.018 USD (2 dp.)
1) Prices for households referenced, for selected ASEAN countries. For households, the displayed number is calculated at the average annual level of household electricity consumption.
Source: DOE EPIRA Status Report, BloombergNEF Climatescope 2024 (Philippines country profile), Statista, Arthur D. Little analysis

フィリピンの電力小売市場は、Meralcoを中心とする民間事業者が都市部を、119の協同組合が遠隔地を担う二層構造となっている

Overview of electricity rate schedules

Energy Regulatory Commission

Determine, fix, and approve, transmission & distribution wheeling Charges, and retail rates through an ERC established and enforced rate-setting methodology

01

Private utilities

- **~20 private utility firms** involved in electricity retail to residential and non-residential customer groups
- Manila Electric Company **(Meralco) holds ~80% of the total distribution market**, with the remaining firms largely being regional players

ELABORATED IN NEXT SLIDE

02

Electric Cooperatives

- Operate as **membership-based, non-profit electricity providers** that offer renewable energy solutions at scale in **remote areas** across The Philippines
- **~119 electric cooperatives** in the deregulated electricity market across Luzon, Mindanao, and Visayas

Source: Energy Regulatory Commission Philippines 2023, International Trade Administration (United States) 2020, Arthur D. Little analysis

Meralcoの家庭向け電気料金（2025年8月時点）

NON-EXHAUSTIVE

Residential electrical tariffs

As of August 2025

Consumption volumes	Generation charge, USD / kWh	Transmission charge, USD / kWh	System loss charge, USD / kWh	Distribution charge, USD / kWh	Supply charge, USD / kWh	Metering charge, USD / kWh
0 to 20 kWh	0.13	0.02	0.01	0.02	0.01	0.01
21 to 50 kWh	0.13	0.02	0.01	0.02	0.01	0.01
51 to 70 kWh	0.13	0.02	0.01	0.02	0.01	0.01
71 to 100 kWh	0.13	0.02	0.01	0.02	0.01	0.01
101 to 200 kWh	0.13	0.02	0.01	0.02	0.01	0.01
201 to 300 kWh	0.13	0.02	0.01	0.02	0.01	0.01
301 to 400 kWh	0.13	0.02	0.01	0.03	0.01	0.01
Over 400 kWh	0.13	0.02	0.01	0.04	0.01	0.01

Note: Price components vary on a month-by-month basis. Rate converted from local currencies using the exchange rate 1 PHP to 0.018 USD (2 dp.)
Source: Meralco 2025, Arthur D. Little analysis

Meralcoの事業者向け電気料金（2025年8月時点）

NON-EXHAUSTIVE

Business electrical tariffs

As of August 2025

General Service A (GS-A): Any business premise whose contracted capacity does not exceed 5 kW						
Consumption volumes	Generation charge, USD / kWh	Transmission charge, USD / kWh	System loss charge, USD / kWh	Distribution charge, USD / kWh	Supply charge, USD / kWh	Metering charge, USD / kWh
0 to 200 kWh	0.13	0.02	0.01	0.02	0.01	0.01
201 to 300 kWh	0.13	0.02	0.01	0.02	0.01	0.01
301 to 400 kWh	0.13	0.02	0.01	0.03	0.01	0.01
Over 400 kWh	0.13	0.02	0.01	0.04	0.01	0.01

General Service B (GS-B): Any business premise whose contracted capacity is between 5 kW – 39 kW						
Consumption volumes	Generation charge, USD / kWh	Transmission charge, USD / kW	System loss charge, USD / kWh	Distribution charge, USD/cust/mon	Supply charge, USD/cust/mon	Metering charge, USD / kW
NA	0.13	5.06	0.01	4.12	6.55	6.39

Note: Price components vary on a month-by-month basis. Rate converted from local currencies using the exchange rate 1 PHP to 0.018 USD (2 dp.)
Source: Meralco 2025, Arthur D. Little analysis

Meralcoの事業者向け電気料金（2025年8月時点）

NON-EXHAUSTIVE

Business electrical tariffs

As of August 2025

General Power (GP): Commercial and industrial customers with a connected load above 40 kW						
Consumption volumes	**Generation charge, USD / kWh**	**Transmission charge, USD / kW**	**System loss charge, USD / kWh**	**Distribution charge, USD/cust/mon**	**Supply charge, USD/cust/mon**	**Metering charge, USD / kW**
Medium secondary	0.13	5.85	0.01	4.12	14.90	14.97
Large secondary	0.13	5.85	0.01	4.12	61.78	62.13
Very Large secondary	0.13	5.85	0.01	4.12	224.29	212.82

Note: Price components vary on a month-by-month basis. Rate converted from local currencies using the exchange rate 1 PHP to 0.018 USD (2 dp.)
Source: Meralco 2025, Arthur D. Little analysis

フィリピンでは、農業・漁業従事者には燃料割引を、公共交通労働者には燃料補助金を提供し、2025年も数十億ペソ規模の予算で継続する方針

NON-EXHAUSTIVE

Overview of selected end-user energy subsidy schemes (1/2)

As of 2025

Name	Details	Administering government departments
Fuel Discount for Farmers and Fisherfolk Program	• **The program is to extend fuel discounts to registered farmers and fisherfolk (RSBSA/DA-listed) for use in farm machinery and motorized boats.** • **2022: Provide** PHP 3,000 fuel assistance per eligible farmer or fisherfolk at accredited stations. • **2023: Continue** PHP 3,000 one-off assistance through card-based distribution. • **2024: Allocate** PHP 3,000 per beneficiary with a combined budget of ~PHP 1.0 billion (Department of Agriculture and Bureau of Fisheries and Aquatic Resources). • **2025: Guide** budget at ~PHP 0.6 billion, subject to inter-agency and timing variance.	• Department of Agriculture (DA) • Bureau of Fisheries and Aquatic Resources (BFAR) • Development Bank of the Philippines (DBP).
Fuel Subsidy Program for Public Transport	• **The program is to provide one-off fuel support to public transport workers,** incl. drivers and operators of PUVs, buses, taxis, tricycles, and registered delivery riders. • **2023: Provide** one-off fuel assistance by vehicle class, allocate ~PHP 2.5 billion, disburse via Land Bank from September, and target ~1.36 million beneficiaries. • **2024: Issue** operating guidelines (including tricycles with Local Government Unit execution), set a ~PHP 2.5 billion budget, and maintain benefits. • **2025: Allocate** PHP 2.5 billion under the General Appropriations Act, with release triggered if Dubai crude oil averages ≥ USD 80 per barrel for one month and certified by the Department of Energy.	• Department of Transportation (DOTr) • Department of Budget and Management (DBM) • Department of the Interior and Local Government • Department of Energy • Land Bank of the Philippines

Source: Department of Agriculture 2025, Department of Transportation 2025, GMA News Online 2023, CNN Philippines 2023, Department of Agriculture Philippines 2022, Arthur D. Little analysis

ライフライン料金制度は、貧困世帯（に対して電気料金の割引を提供するもので、2022年に対象年齢を20歳から50歳へ拡大し、2024年から全国実施となり、2025年も継続予定

NON-EXHAUSTIVE

Overview of selected end-user energy subsidy schemes (2/2)

As of 2025

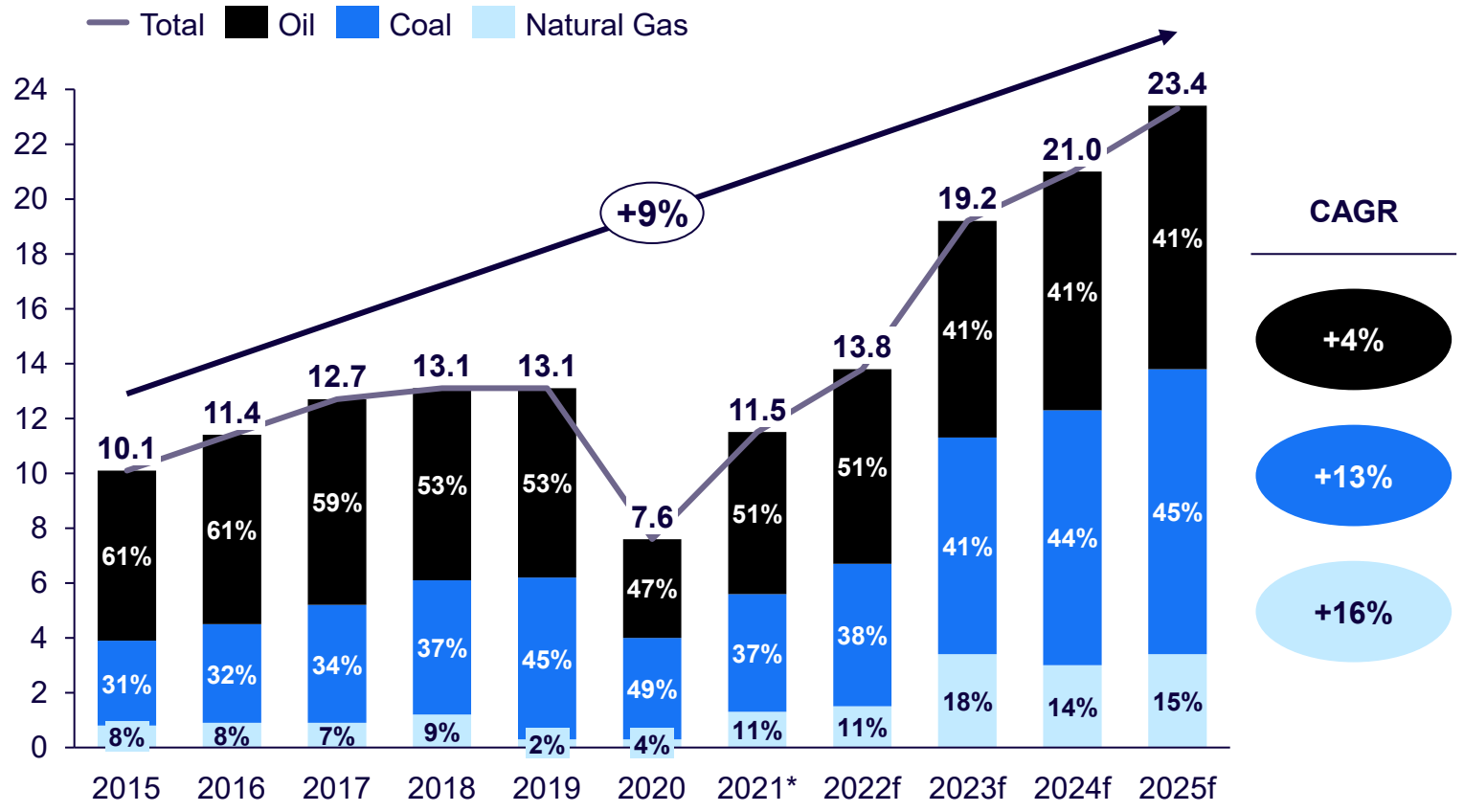
Name	Details	Administering government departments
Lifeline Rate (Electricity Discount for Marginalized Customers)	• **The rate grants electricity bill discounts to marginalized residential customers,** including 4Ps households and qualified non-4Ps households below the poverty threshold within the DU's lifeline consumption bracket. • **2022: Extend** lifeline coverage from 20 to 50 years under the Implementing Rules and Regulations of Republic Act 11552; provide ~PHP 541 million per month in average subsidies across beneficiaries. • **2023: Move** nationwide go-live to 1 January 2024, focusing the year on registration and screening. • **2024: Implement** full nationwide coverage effective 1 January 2024 for qualified households (including Pantawid Pamilyang Pilipino Program beneficiaries), with discounts tiered by 0–100 kWh monthly consumption and eligibility. • **2025: Continue** the program with no structural changes announced.	• Department of Agriculture (DA) • Bureau of Fisheries and Aquatic Resources (BFAR) • Development Bank of the Philippines (DBP).

Source: Department of Agriculture 2025, Department of Transportation 2025, GMA News Online 2023, CNN Philippines 2023, Department of Agriculture Philippines 2022, Arthur D. Little analysis

フィリピンの化石燃料補助金は2015～2025年にかけて年平均約9%増加し、2020年の76億USDから2025年には234億USDに達する見込みで、石炭と石油が主因ながら天然ガスの伸びも顕著

Fossil fuel subsidies, by energy source

The Philippines, 2015 – 2025f, USD bn



Comments

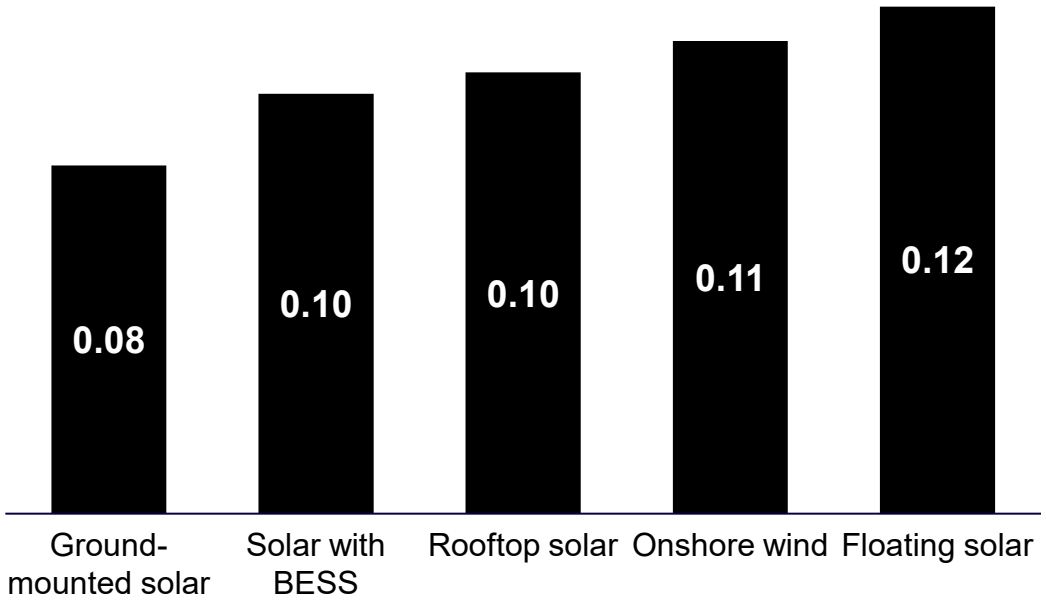
- As set out in the **PEP 2023–2050**[1], energy subsidies are **targeted at vulnerable groups** such as public transport and farmers & fisherfolk
- Total subsidies more than tripled from USD 7.6 bn in 2020 to USD 23.4 bn in 2025, driven by import dependence, post–Russia-Ukraine price shocks, and **rising support for natural gas as LNG imports expand**.
- Coal and oil drove subsidy growth from 2015–2025, while Natural gas had the fastest growth (16%), but remains small in absolute terms.
- Despite the rise, subsidies averaged only ~4% of GDP (2015–2025), below peers like Singapore, Malaysia, Vietnam, Thailand, and Indonesia (5–10% of GDP).

Note: 1) PEP 2023–2050 refers to Philippine Energy Plan 2023-2050
Source: International Monetary Fund 2021, Bloomberg, Philippine Energy Plan 2023-2050, Arthur D. Little analysis

GEA-4では太陽光が主力技術とされ、2026年までに最大容量目標（地上設置6.7GW、風力3.7GWなど）が設定され、バイオマスや廃棄物発電は2025年以降に別途入札予定

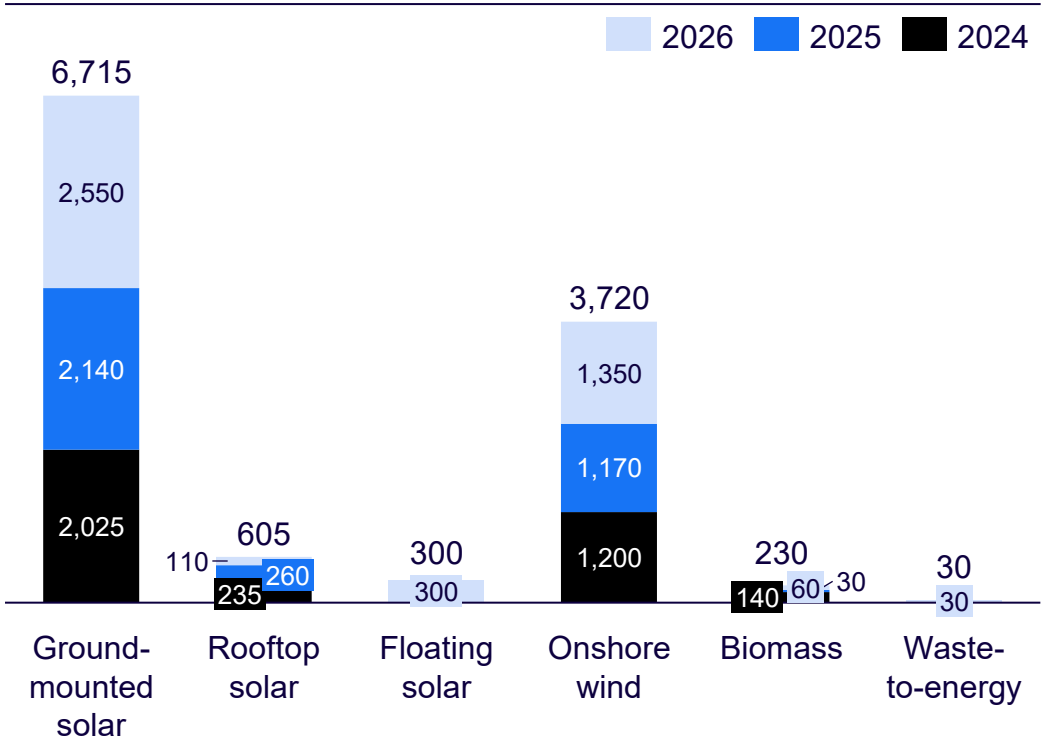
Green Energy Auction Reserve prices (GEAR)[1]

Final GEAR prices for GEA-4 in 2025, USD/kWh



Targets for renewables addition through GEAP

2024 to 2026, MW



GEA-4 auctions focused on solar, wind, and storage due to stronger demand and viability. The Department of Energy (DOE) will hold separate auctions for biomass and waste-to-energy in 2025 Q4, given their higher levelized costs.

Note: 1) The GEAR Prices are the maximum price offers in PHP/kWh that shall be used as the ceiling price in the Green Energy Auction Program (GEAP). Rate converted from local currencies using the exchange rate 1 PHP to 0.018 USD (2 dp.)
Source: Energy Regulatory Commission Philippines 2025, Arthur D. Little analysis

フィリピンは再エネ促進のため、税制優遇と外資100%参入を認めつつ、GEAPによる20年売電保証や離島補助などの非財政的支援も組み合わせた包括的なインセンティブを導入

NON-EXHAUSTIVE

Incentives for renewable energy projects

As of 2025

Category	Details of incentive
Tax exemptions and preferential rates	• A seven-year corporate income tax holiday • A reduced 10% corporate income tax rate upon expiration of the tax holiday • Tax exemptions for carbon credits generated from renewable energy sources • A 1.5% realty tax cap on the original cost of equipment and facilities used to produce renewable energy • Value-added tax exemptions for the purchase, grid connection, and transmission of electricity generated from renewable sources
Permission of full foreign ownership	• Foreign investors can now hold 100% equity in the exploration, development, and utilization of solar, wind, hydro, and ocean or tidal energy resources • Amended in 2022, from up to 40% foreign ownership previously • Those currently operating in a joint venture with a Filipino partner may also now take a controlling stake in such ventures
Non-Fiscal incentives	• 20-year offtake guarantee under GEAP auctions • Exemption from universal charges and option to pay wheeling charges per kWh • Cash incentives for missionary/off-grid projects (50% of universal charge per kWh supplied)

A **similar range of incentives are broadly offered** to power producers, **regardless of the technology deployed** for renewable energy generation

Source: Dezan Shira & Associates 2023, PUNOLAW 2025, PwC Philippines 2025, Arthur D. Little analysis

GEAPは入札制度により新規再エネを競争的に導入する仕組みで、既存FIT案件はFIT-All賦課金で継続支援され、フィリピンのエネルギー安全保障と低炭素化を推進

Overview of the GEAP in the Philippines

Green Energy Auction Program

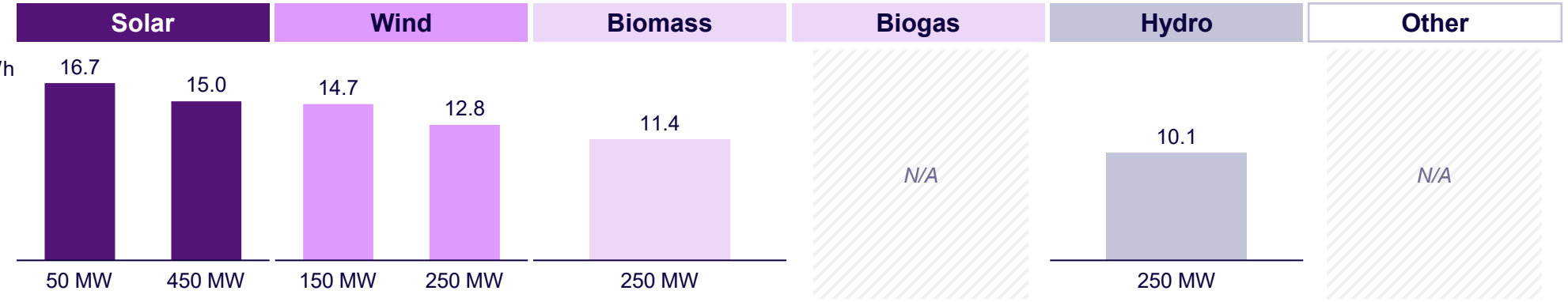
From the Department of Energy Circular No. DC2025-03-0004, March 2025

#	Details
1	Promote the growth of RE as one of the country's primary sources of energy to achieve energy security and self-reliance
2	Implement the RE Act mandate to prioritize the connection and building of RE capacity
3	Ensure transparent and competitive selection of RE facilities to achieve reasonable rates and encourage, as far as practicable, the best RE entrants in the system
4	Support energy security by adding new capacities to the grid thereby ensuring an adequate and sustainable supply of electricity, especially in the short-to medium-term
5	Address price volatility related to the procurement and pricing of RE Certificates by increasing the availability of RECs in the RE market
6	Enhance the RE programs, in general, by promoting a competitive setting of rates for RE supply in the country
7	Assist the Mandated Participants of the RPS Program by increasing the allocation of RECs generated from the GEAP
8	Ensure the utilization of efficient RE technologies for low carbon shift in the energy sectors

New renewables are awarded through GEAP auctions, while legacy FiT plants keep receiving their FiT payments funded by a nationwide FIT-All charge of ₱0.1189/kWh (effective March 2025).

Source: Department of Energy 2025, Arthur D. Little analysis

フィリピンのレガシーFiT案件は提示された買取価格で収益を得られるうえ、再エネ法とCREATE法による税制優遇、加速償却、損失繰越控除など複数のインセンティブが併用可能となっている



Corporate tax incentives

- **Income Tax Holiday** (ITH): up to 7 years of 0% Corporate Income Tax under the Renewable Energy Act of 2008 (Republic Act No. 9513).
- **After the Income Tax Holiday** — choose one (not combinable):
  - **Republic Act No. 9513 path**: pay 10% Corporate Income Tax.
  - **Corporate Recovery and Tax Incentives for Enterprises (CREATE) Act path**
    - 5% Special Corporate Income Tax on gross income for 10 years *(export enterprises)*, or
    - Enhanced Deductions for up to 20 years.

Import duties

- **0% duty for 10 years** on RE machinery, equipment, and materials

Additional incentives

- Accelerated depreciation and amortization: allowed after the Income Tax Holiday (ITH) ends, or immediately if the ITH is not used.
- Net Operating Loss Carry-Over: losses incurred during the first 3 years of operation can be carried forward and deducted over the next 7 consecutive years.

Source: Department of Energy 2025, Arthur D. Little analysis

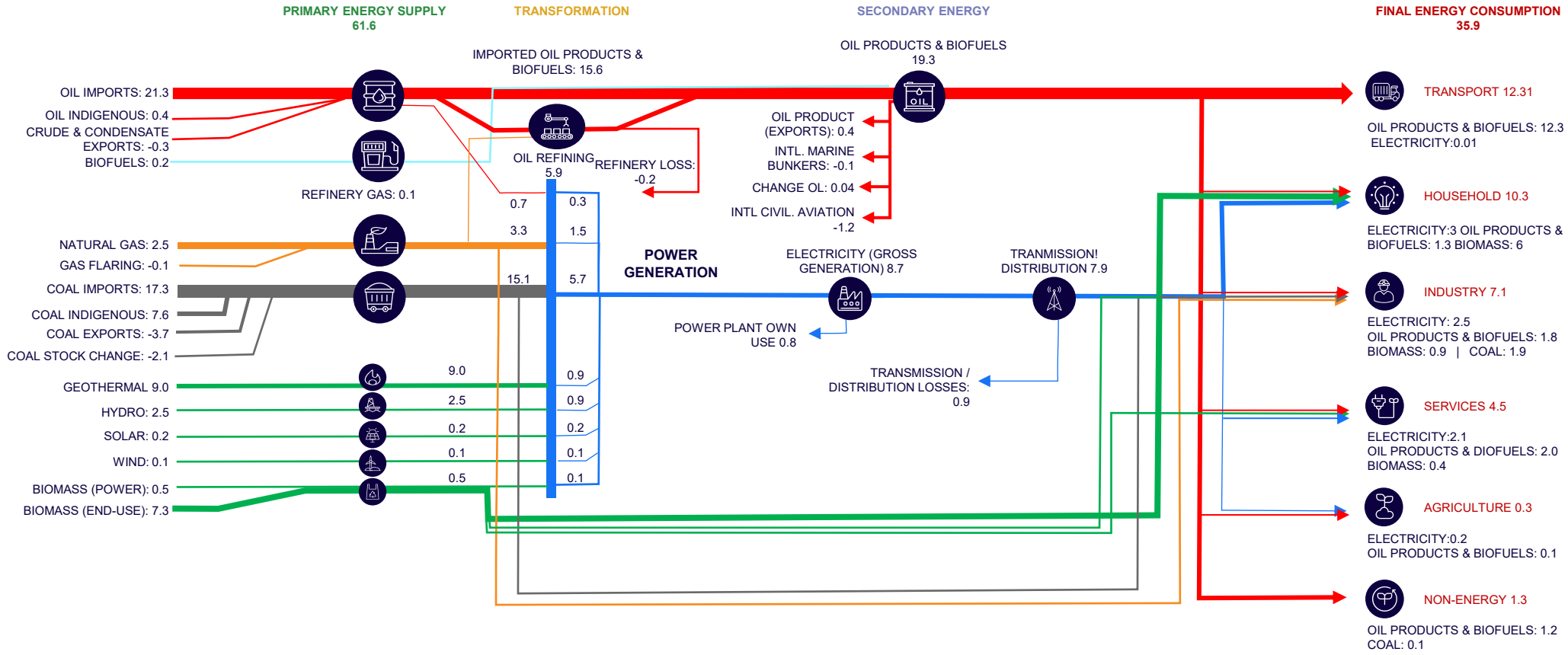
Contents

フィリピンでは最終エネルギー消費が増加する一方、自国生産は約30Mtoe前後で停滞しており、結果としてエネルギー自給率は約50%に低下し、輸入依存度が高まっている

NON-EXHAUSTIVE

Energy flow

2022, mtoe[1]

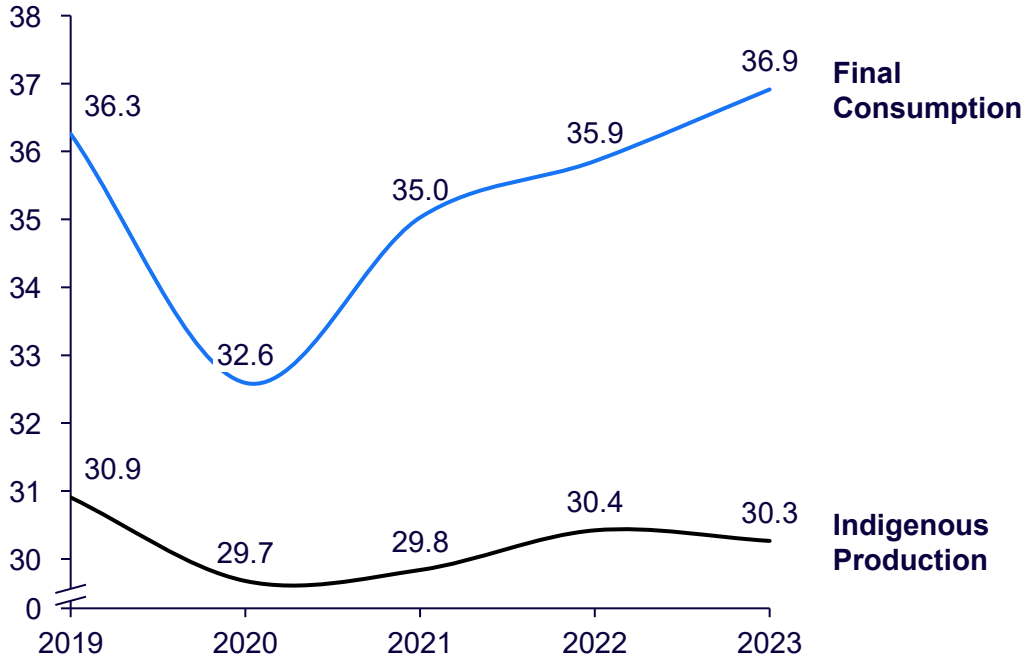


Note: 1) Million tons of oil equivalent
Source: Philippine Energy Plan 2023-2050

フィリピンの一次エネルギー供給は石炭・石油輸入に大きく依存して消費需要をようやく満たしており、最終エネルギー消費の中心は輸送（約34%）、家庭（約29%）、産業（約20%）が占めている

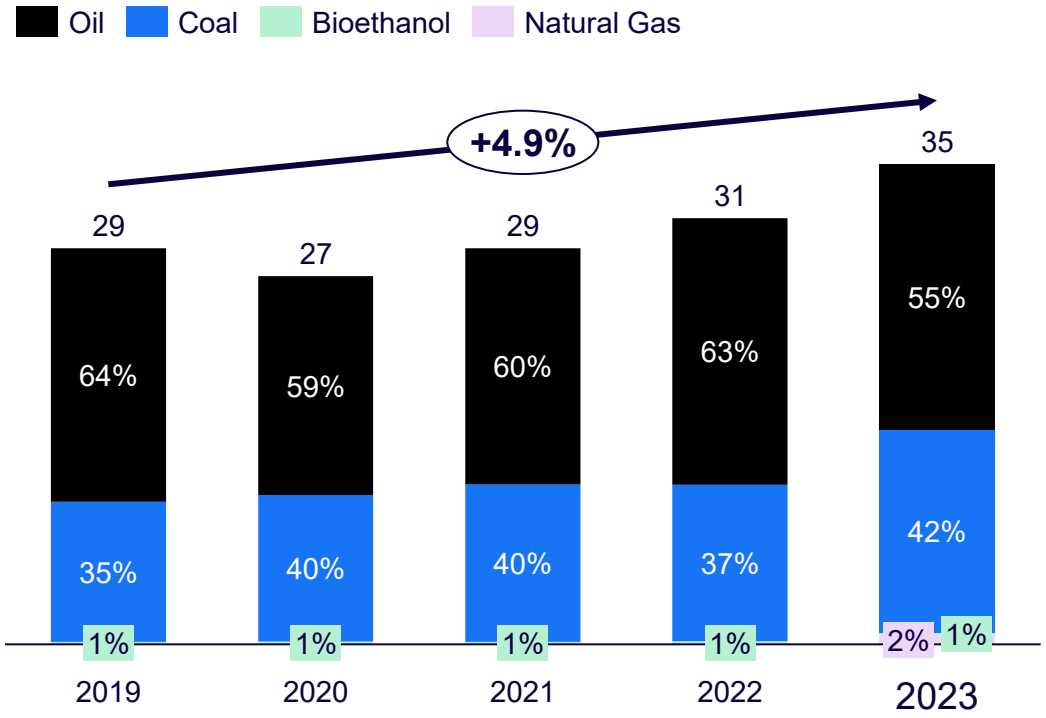
Energy consumption and indigenous production

2019 - 2023, mtoe[1]



Energy imports

2019 - 2023, mtoe[1]



The Philippines currently has an **energy self sufficiency ratio of ~50%** (46% in 2023), and will be reliant on energy imports in the near to medium term to meet consumption demands.

Notes: Million tons of oil equivalent
Source: Department of Energy, *Philippine Energy Situationer 2023*; Arthur D. Little analysis

ARTHUR D LITTLE

THE DIFFERENCE