



Updates on the Status of the Philippine Downstream Oil and Natural Gas Industry

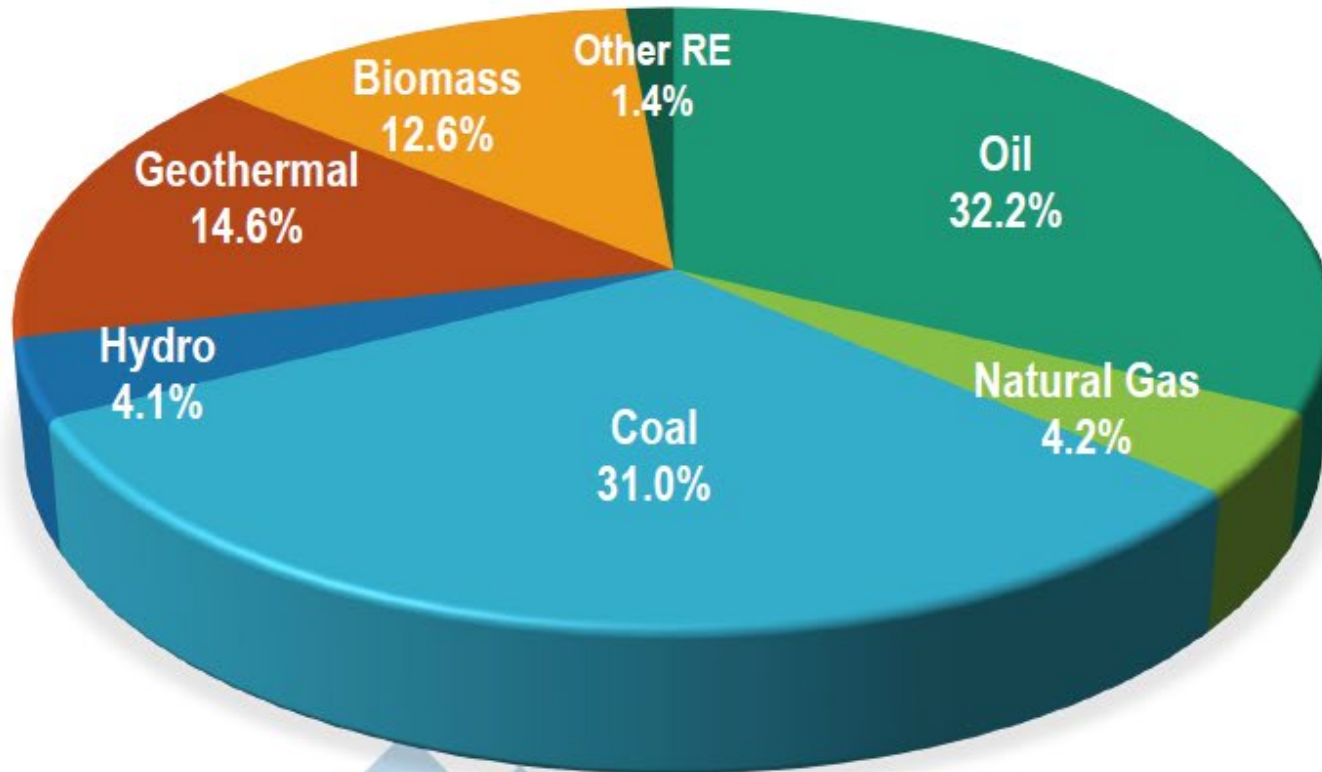
Department of Energy Philippines



PRIMARY ENERGY MIX 2022



Department of Energy



61.6 MTOE
2022 TPES

49.4%
(30.4 MTOE)
INDIGENOUS

50.6%
(31.1 MTOE)
NET IMPORTED

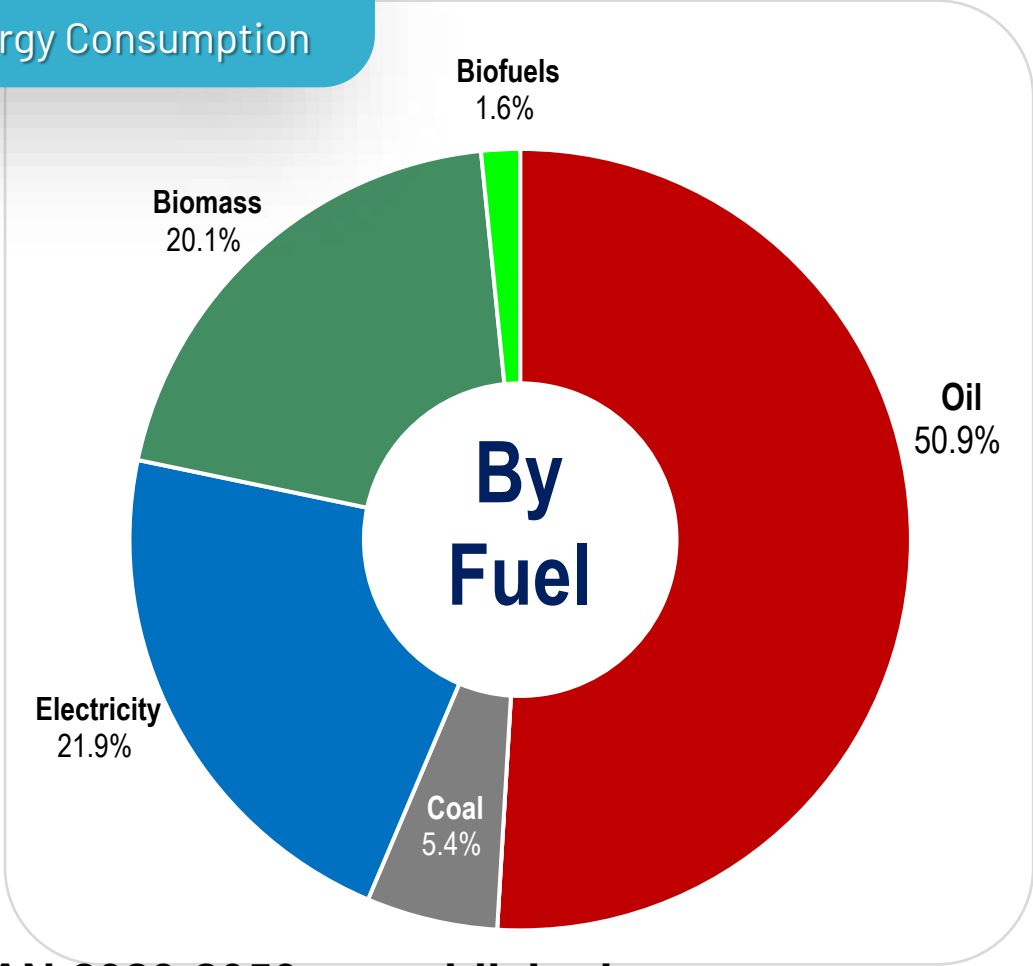
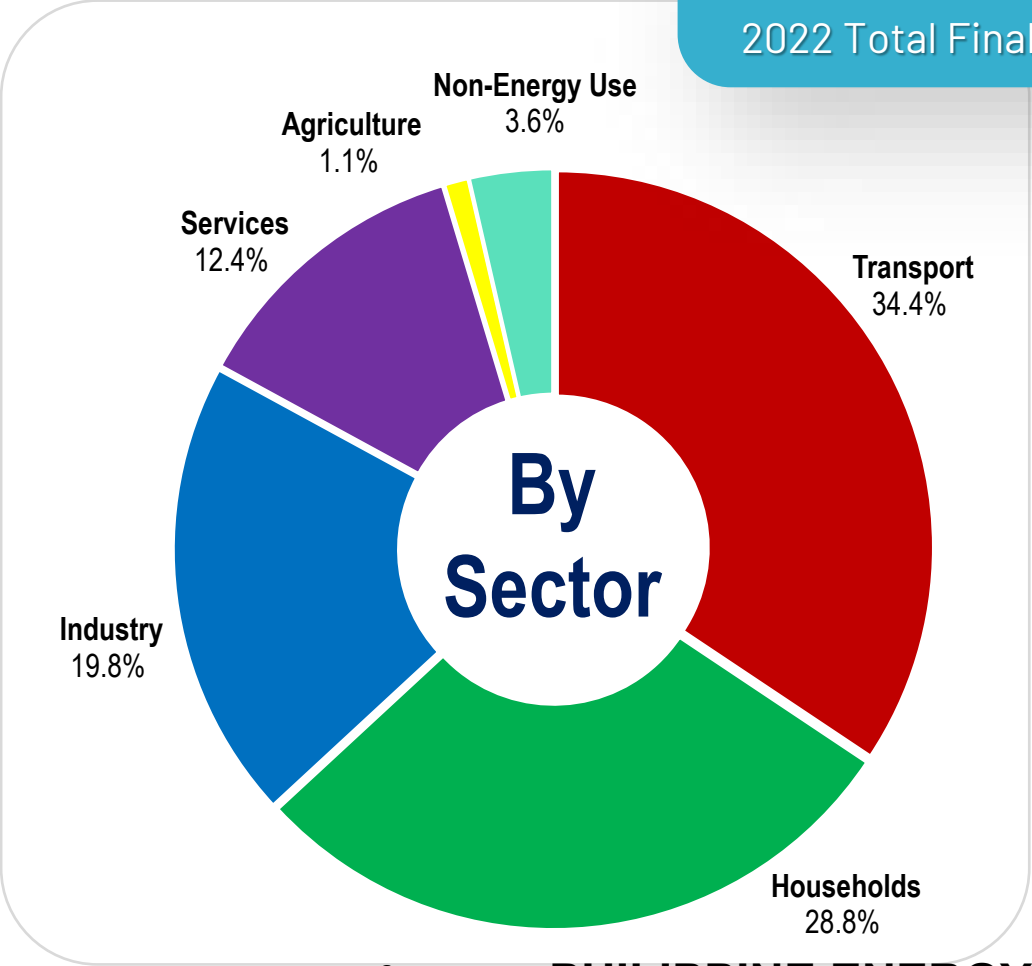


TOTAL FINAL ENERGY CONSUMPTION 2022



Department of Energy

35.9 MTOE
2022 Total Final Energy Consumption



Reference: **PHILIPPINE ENERGY PLAN 2023-2050, unpublished**



POWER CAPACITY AND GENERATION MIX 2022



COAL

44.0%

12,428 MW

Installed Capacity

48.8%

11,504 MW

Dependable Capacity

59.6%

66,430 GWh

Power Generation



RENEWABLE ENERGY

29.2%

8,264 MW

Installed Capacity

30.3%

7,151 MW

Dependable Capacity

22.1%

24,684 GWh

Power Generation



OIL-BASED

13.6%

3,834 MW

Installed Capacity

12.1%

2,860 MW

Dependable Capacity

2.3%

2,519 GWh

Power Generation



NATURAL GAS

13.2%

3,732 MW

Installed Capacity

8.8%

2,081 MW

Dependable Capacity

16.0%

17,884 GWh

Power Generation

16,596 MW

PHILIPPINES

Luzon 12,113 MW

Visayas 2,316 MW

Mindanao 2,167 MW

PEAK DEMAND

111,516 GWh

Indigenous (42.5%)

Imported (57.5%)

RE Share (22.1%)

Fossil Share (77.9%)

GENERATION

28,258 MW

(Installed)

23,598 MW

(Dependable)

CAPACITY

Reference: PHILIPPINE ENERGY PLAN 2023-2050, unpublished



OIL AND GAS ROADMAP



Department of Energy

	SHORT TERM 2023-2024	MEDIUM TERM 2025 - 2028	LONG TERM 2029 - 2050
Reserves	Increase potential resources with an additional 4.5 MMB¹ - 15 MMB³ of oil and gas to 217 BCF³	Increase potential resources with additional 8.77 MMB² - 1,923 MMB⁴ of oil and 2.6 TCF² and 5 TCF⁴ of gas fields/prospects	Increase potential resources with an additional 1,436.5 MMB³ - 4,039 MMB⁴ of oil and 11.7 TCF³- 24.3 TCF⁴ of gas fields/prospects
Additional Discovery	Drill at least 2 oil and 1 gas fields/prospects	Drill at least 2 oil and 4 gas fields/prospects	Drill at least 6 oil and 6 gas fields/prospects
Production	Produce 1.2 MMB crude oil and 220 BCF of natural gas	Produce 15.9 MMB crude oil and 522.4 BCF of natural gas	Produce 42.14 MMB crude oil and 4.6 TCF of natural gas

¹ 1C – Low estimate of contingent resources in-place
² 2C – Best estimate of contingent resources in-place
³ 1U – Low estimate of prospective resources in-place
⁴ 2U – Best estimate of prospective resources in-place



On-going Reforms

B. National Oil and Gas Contingency Plan (NOGCP)

Rationale

- The Philippine Task Force on Energy Resiliency with the Downstream Oil and Gas sector has initiated in 2023 the conduct of consultation and workshops, with the intent of issuing the Philippine National Oil and Gas Contingency Plan (NOGCP)
- The Plan will cover both response protocol in the face of both domestic and international oil supply disruption.
- The Plan will also cover the possibilities for emergency supply stockpiling, conservation and allocation strategies in case of international or local supply disruption.



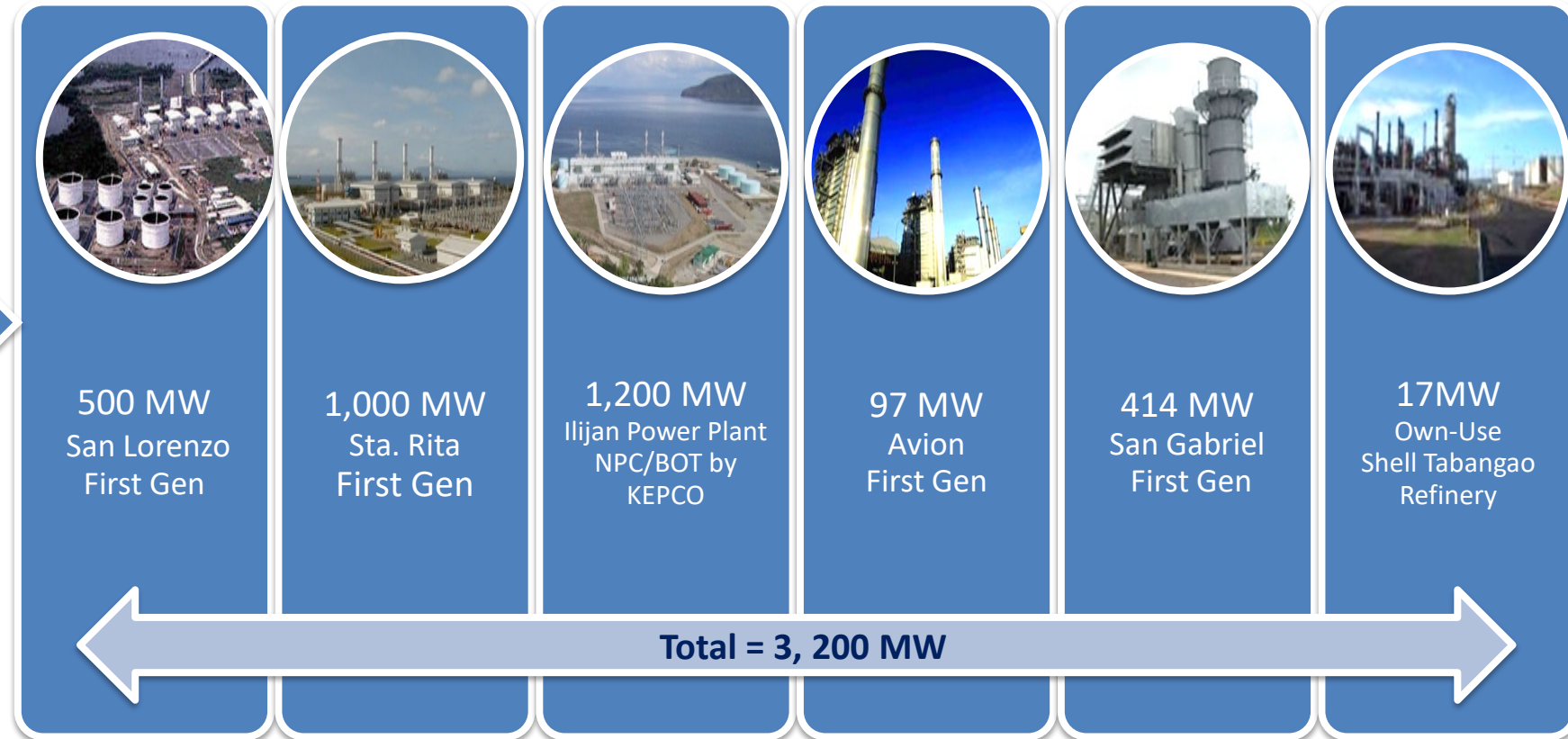
1 Overview of the Downstream Natural Gas Industry

NATURAL GAS MARKET

Location: Batangas City, Philippines



**Malampaya
Deep Water-Gas-to-Power
Project
2.7 TCF (2001)**



NATURAL GAS PRODUCTION, IMPORTATION AND CONSUMPTION

as of 30 January 2024

YEAR	SUPPLY			CONSUMPTION						TOTAL
				Power		Industrial	Transport	BANKED GAS		
	Domestic	Imported	TOTAL	Domestic	Imported			Power	Industrial	
	(mmscf)	(mmscf)		(mmscf)	(mmscf)	(mmscf)	(mmscf)	(mmscf)	(mmscf)	(mmscf)
2001	4,951		4,951	4,951						4,951
2002	62,205		62,205	58,120						58,120
2003	94,807		94,807	87,423						87,423
2004	87,557		87,557	83,959						83,959
2005	115,966		115,966	110,217		525				110,742
2006	108,606		108,606	104,229		2,193				106,422
2007	130,211		130,211	124,103		3,316				127,419
2008	137,073		137,073	129,044		2,932	15			131,990
2009	138,030		138,030	131,433		3,019	18			134,470
2010	130,008		130,008	121,943		3,044	15			125,002
2011	140,368		140,368	133,732		3,288	47			137,066
2012	134,563		134,563	127,616		2,473	51			130,141
2013	123,944		123,944	116,549		2,665	35			119,250
2014	130,351		130,351	122,305		3,302	4			125,611
2015	122,541		122,541	115,788		2,138	0			117,926
2016	140,516		140,516	132,654		2,782	0			135,437
2017	139,209		139,209	132,256		2,255	0			134,511
2018	150,804		150,804	142,723		1,814	0		736	145,273
2019	155,495		155,495	146,365		1,274	0		1,368	149,007
2020	141,732		141,732	132,009		742	0		855	133,606
2021	121,089		121,089	115,703		7	0	153	8	115,871
2022	113,611		113,611	98,364		0	0	10,204	0	108,567
2023	89,215	28,157	117,372	74,105	21,312	0	0	10,492	0	105,909
TOTAL	2,712,853	28,157	2,741,010	2,545,592	21,312	37,766	184	20,849	2,967	2,628,670

Data sourced from gas users.

Data from 1994-2008 includes production from San Antonio gas field.

Commercial operation for Ilijan/Santa Rita/San Lorenzo using Malampaya natural gas as the primary fuel commenced in 2002. The power plants partly operated on liquid fuel (gasoil, naphtha, and condensate) for start-up operations until the end of 2001 while, San Gabriel and Avion natural gas power plants start commercial operations January 2016.

2023 Actual production, importation and consumption data covers 01 January to 31 December 2023. LNG imports is used for the commissioning and testing activities of the LNG Terminal and power plants.

2023 Banked Gas Consumption for power generation period covered 01 January to 31 December 2023.



POWER CAPACITY AND GENERATION MIX 2022



COAL

44.0%
12,428 MW
INSTALLED CAPACITY

48.8%
11,504 MW
DEPENDABLE CAPACITY

59.6%
66,430 GWh
POWER GENERATION



RENEWABLE ENERGY

29.2%
8,264 MW
INSTALLED CAPACITY

30.3%
7,151 MW
DEPENDABLE CAPACITY

22.1%
24,684 GWh
POWER GENERATION



OIL-BASED

13.6%
3,834 MW
INSTALLED CAPACITY

12.1%
2,860 MW
DEPENDABLE CAPACITY

2.3%
2,519 GWh
POWER GENERATION



NATURAL GAS

13.2%
3,732 MW
INSTALLED CAPACITY

8.8%
2,081 MW
DEPENDABLE CAPACITY

16.0%
17,884 GWh
POWER GENERATION

GRIDS	PEAK DEMAND (MW)	TOTAL INSTALLED CAPACITY (MW)
LUZON	12,113	19,744
VISAYAS	2,316	3,972
MINDANAO	2,167	4,542
TOTAL	16,596	28,258

TOTAL GENERATION:

111,516 GWh

Indigenous: 42.5%

Imported: 57.5%

RE Share: 22.1%

Fossil Share: 77.9%

TOTAL CAPACITY:

28,258 MW (installed)

23,598 MW (dependable)



MAJOR ACCOMPLISHMENTS

Linseed Field Corp.

- Floating Storage Unit and onshore regasification facility
- LNG terminal currently in final commissioning run
- Target full commercial operation by September 2023

First Gen

- BlueWater Floating Storage and Regasification Unit now anchored in Batangas Bay
- Awaiting mechanical completion of the onshore receiving facility
- Target facility commercial operation by October 2023



DOWNSTREAM NATURAL GAS ROADMAP



Department of Energy

	SHORT TERM 2023 - 2024	MEDIUM TERM 2025 - 2028	LONG TERM 2029 - 2050
LEGISLATIVE AGENDA AND POLICY ADVOCACY CAMPAIGN	<ul style="list-style-type: none">▪ Develop/implement policy, plans, rules and regulations on natural gas supply security, safety and access▪ Establish bilateral partnerships with the academe, international organizations, institutes and industries to map out regulatory, technical and commercial capabilities	<ul style="list-style-type: none">▪ Develop/implement policy, plans, rules and regulations on natural gas supply security, safety and access	<ul style="list-style-type: none">▪ Develop/implement policy, plans, rules and regulations on natural gas supply security, safety and access
DNGI STANDARDS DEVELOPMENT	<ul style="list-style-type: none">▪ Creation of the Technical Committee to develop standards on facility, product and code of practice▪ Develop and promulgate PNS on facility.▪ Develop PNS on code of practice	<ul style="list-style-type: none">▪ Develop and promulgate PNS on facility.▪ Develop PNS on code of practice	<ul style="list-style-type: none">▪ Update PNS on natural gas product▪ Develop PNS on code of practice▪ Develop and update necessary standards on product, facility and code of practice

2050 OBJECTIVE:
To establish a world-class, investment-driven, and efficient natural gas industry making natural gas the preferred fuel by all end-use sectors



DOWNSTREAM NATURAL GAS ROADMAP



Department of Energy

SHORT - MEDIUM TERM 2023 - 2028

LONG TERM 2029 - 2050

COMMUNICATION INITIATIVES

- Promote the development of the Natural Gas Market and Natural Gas Infrastructure Program to potential investors
- Conduct market study/desk research and database
- Conduct study and assessment of potential natural gas projects

- Promote small scale LNG terminal in small islands in Luzon, Visayas and Mindanao
- Promote LNG application in off grid islands
- Promote application of emerging technologies in industry, transport and household
- Promote the Philippines as LNG and Transshipment Hub in Asia Pacific Region

DNGI PROGRAM MANAGEMENT MONITORING AND IMPLEMENTATION

- Natural Gas Infrastructure Development
- Natural Gas Supply Security
- Monitor activities to ensure HSSE compliance by operators of gas facilities

- Conduct FS on small-scale LNG terminal in off-grid islands
- Transmission and distribution pipeline from LNG hub terminal in Luzon, Visayas and Mindanao including virtual pipeline
- Issuance of Permits to Expand/Rehabilitate/Modify
- Establish a sinking fund for the decommissioning of transmission and distribution pipeline and natural gas facilities
- Formulate a decommissioning plan for natural gas facilities

2050 OBJECTIVE:

To establish a world-class, investment-driven, and efficient natural gas industry making natural gas the preferred fuel by all end-use sectors



MAJOR ACCOMPLISHMENTS



17 ACTIVE PETROLEUM
SERVICE CONTRACTS
(11 Exploration Phase; 6 Production Phase*)

2022 PRODUCTION

558.27 _{MB}	Oil
112.17 _{BCF}	Gas
2.71 _{MMB}	Condensate

* 3 SCs are producing



MAJOR ACCOMPLISHMENTS



Department of Energy



Significant Revenues to the National Government

- PhP 26.1 billion (Malampaya); PhP 15.9 billion (COCs)



Renewal of Malampaya SC 38

- Utilization of the remaining gas reserves estimated at 147 BCF
- Exploration and development of the in-field and near-field prospects with estimated reserves of 210 BCF



Signing of IEB Circular on the Joint Award of Petroleum and Coal Contracts in BARMM



Nido Petroleum to commence drilling by 4Q 2023

- SC 6B (Cadlao) with potential volume of 6.2 MMB
- SC 54 (Nandino Prospect) with potential volume of 15 MMB



STATUS OF PROPOSED LNG PROJECTS

Item	Proponent	Partner Company	Project	Location	Capacity	Estimated Commercial Operation Date (COD)
1	FGEN LNG Corporation (Filipino)– 80% participating interest	Tokyo Gas Co. Ltd (Japan)– 20% participating interest	Interim Floating Storage and Regasification Unit (FSRU) Liquefied Natural Gas Terminal	Barangays Sta. Clara, Sta. Rita <u>Aplaya</u> , and <u>Bolbok</u> in Batangas City	5.26 MTPA	1 st Quarter 2024
2	Linseed Field Corporation (Filipino)– up to 100% participating interest Previously Atlantic Gulf & Pacific Company of Manila, Inc. (AG&P)	Atlantic Gulf & Pacific Company (AG&P)	Floating Storage Unit (FSU) and Onshore Regasification and 60,000 <u>cbm</u> buffer LNG storage tank	Barangay Ilijan and Dela Paz, Batangas City	3 MTPA	1 st Quarter 2024



2 Development Plans and Programs

Item	Proponent	Partner Company	Project	Location	Capacity	Estimated Commercial Operation Date (COD)
3	Energy World Gas Operations Philippines Inc. (Filipino)– 100% participating interest	None	LNG Storage and Regasification Terminal	Barangay <u>Ibabang Polo</u> , Pagbilao Grande Island, Quezon Province	3 MTPA	June 2025
4	Luzon LNG Terminal Inc. (LLTI) (Previously <u>Excelerate Energy L.P.</u>)	<u>Topline Energy & Power Development Corporation</u> (Filipino) -(i.e., currently planned for 30%)	Floating Storage Regasification Unit (FSRU) Liquefied Natural Gas Terminal	Bay of Batangas within the Municipal Waters of Mabini and San Pascual, and City Water of Batangas City, Batangas	4.4 MTPA	December 2025



2 Development Plans and Programs

Item	Proponent	Partner Company	Project	Location	Capacity	Estimated Commercial Operation Date (COD)
5	Vires Energy Corporation – (Filipino)– up to 100% participating interest	None A Brown Company, Inc. (ABCI) (Filipino) – 100% ownership of Vires Energy Corporation as its Parent Company	Floating Storage and Regasification Unit (FSRU) Terminal	Barangay <u>Simlong</u> , Batangas City	3 MTPA	1st Quarter 2028
6	Shell Energy Philippines, Inc. (Filipino)– up to 100% participating interest	None	Floating Storage and Regasification Unit (FSRU) Terminal	<u>Tabangao</u> , Batangas City	3 MTPA	September 2025



2 Development Plans and Programs

Item	Proponent	Partner Company	Project	Location	Capacity	Estimated Commercial Operation Date (COD)
7	Samat LNG Corporation – 100% foreign	None	Small-Scale LNG Terminal Project	Barangay Batangas II, <u>Mariveles</u> , Bataan	0.32 MTPA	Phase 1 - June 2025 Phase 2 - August 2025 Phase 3 - November 2025 Phase 4 - February 2026



2 Development Plans and Programs

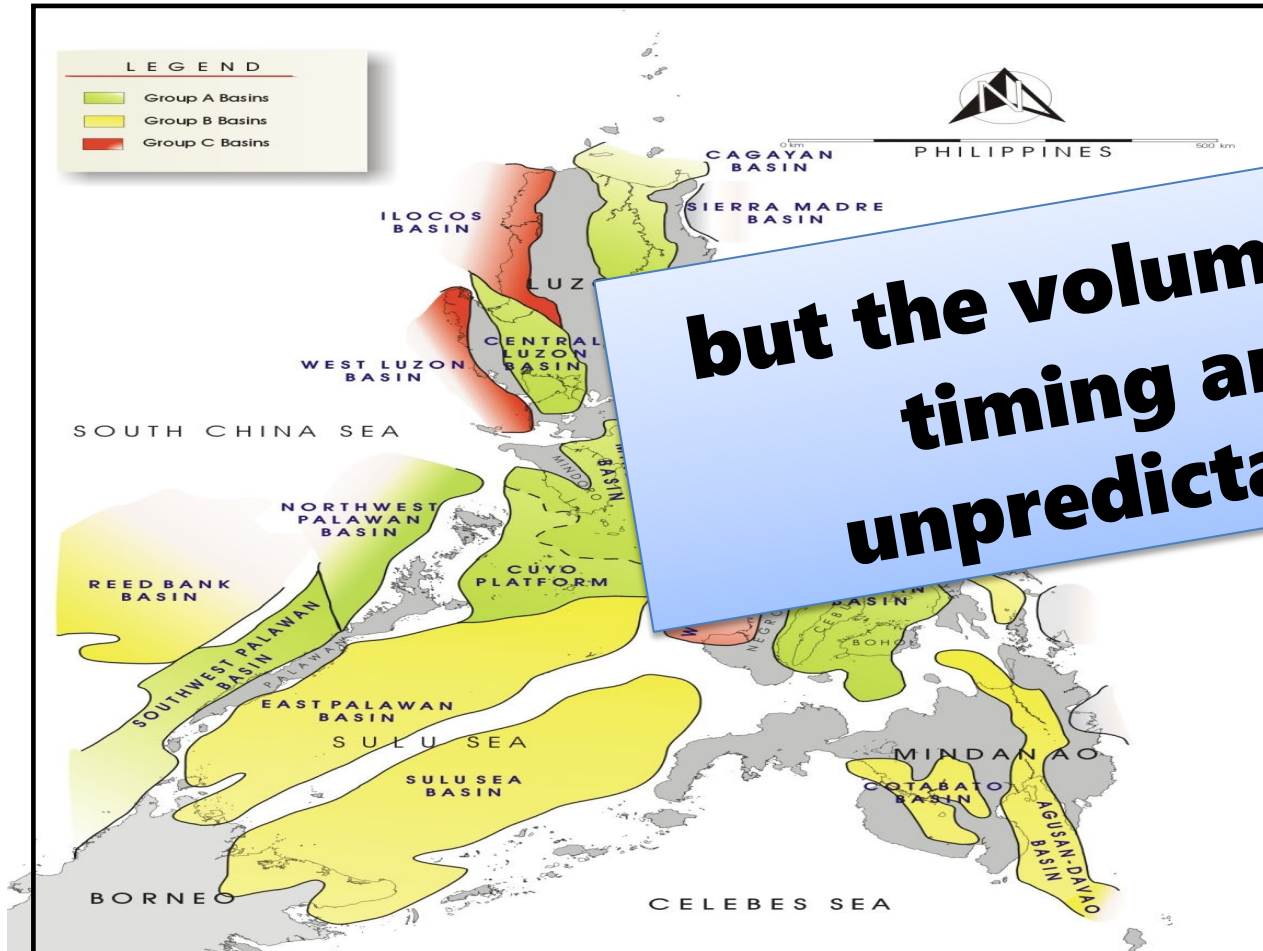
□ To increase the utilization of natural gas . . .

- **Expand Supply Source** intensifying exploration for indigenous gas deposits and consider the options for economically using imported LNG
- **Market Development** vigorously promoting its use in the power generation, industrial, transportation, commercial and residential sectors
- **Develop Critical Infrastructures** that will efficiently deliver gas to the demand centers
- **Establish Public-Private Partnership** continue to encourage the private sector to assist government in developing the natural gas industry.
- **Capacity Building** develop skills and competencies to manage the industry



2 Development Plans and Programs

➤ Expand Supply Source: Potential Domestic Natural Gas Supply



but the volumes and timing are unpredictable

Petroleum Basin Prospectivity Map

Most Prospective Basins

1. NW Palawan Basin
2. SW Palawan Basin
3. Sulu Sea Basin
4. Cagayan Basin
5. Visayan Basin
6. Central Luzon Basin
7. Mindoro-Cuyo Platform

Prospective Basins

1. East Palawan Basin
2. Reed Bank Basin
3. SE Luzon Basin
4. Agusan-Davao Basin
5. Cotabato Basin

Frontier Basins

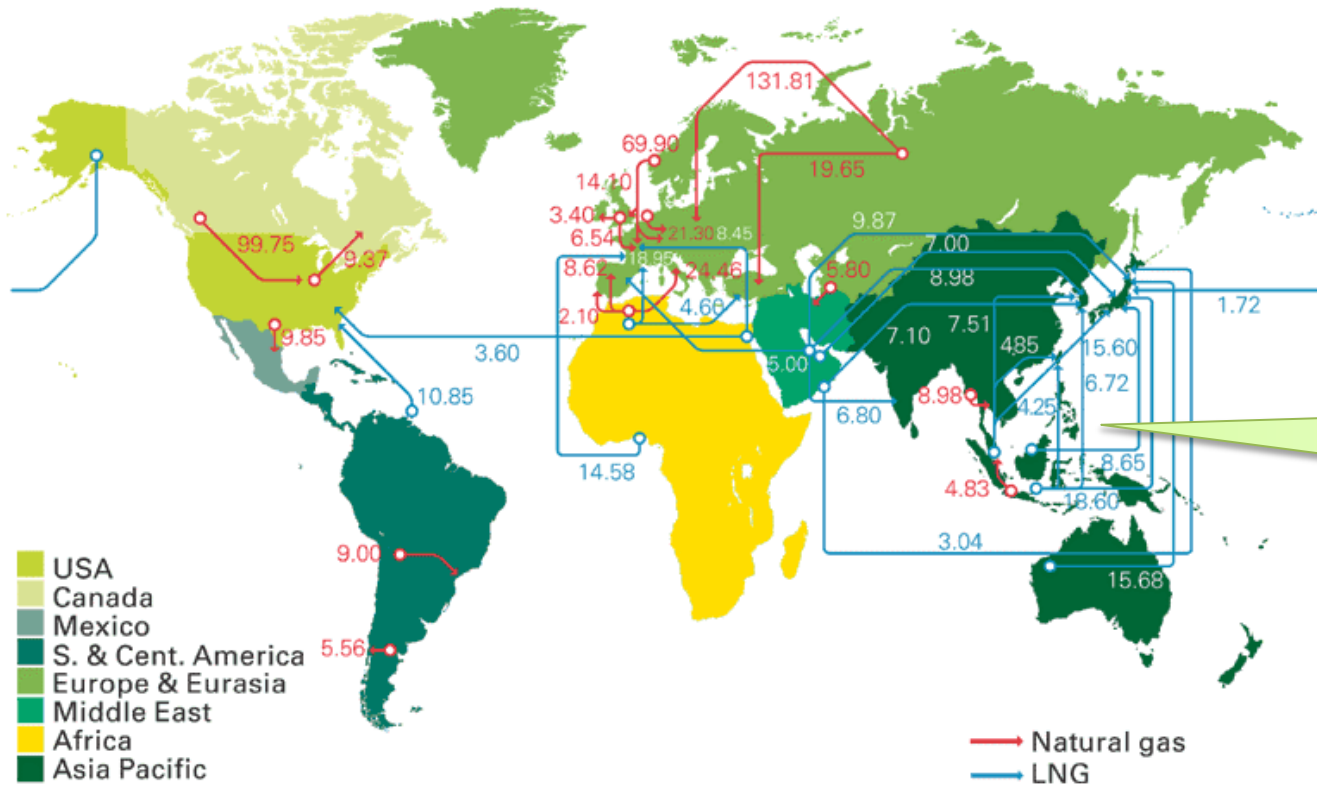
1. West Luzon Basin
2. West Masbate-Iloilo Basin
3. Ilocos Basin
4. Bicol Shelf Basin



2 Development Plans and Programs

➤ Expand Supply Source: LNG Importation

Major trade movements
Trade flows worldwide (billion cubic metres)



The Philippines sits in the middle of Asian LNG Trade.

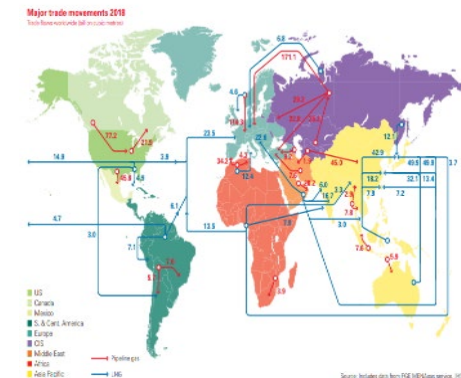
Source: BP Statistical Review 2007



2 Development Plans and Programs

❑ Necessity of LNG Importation

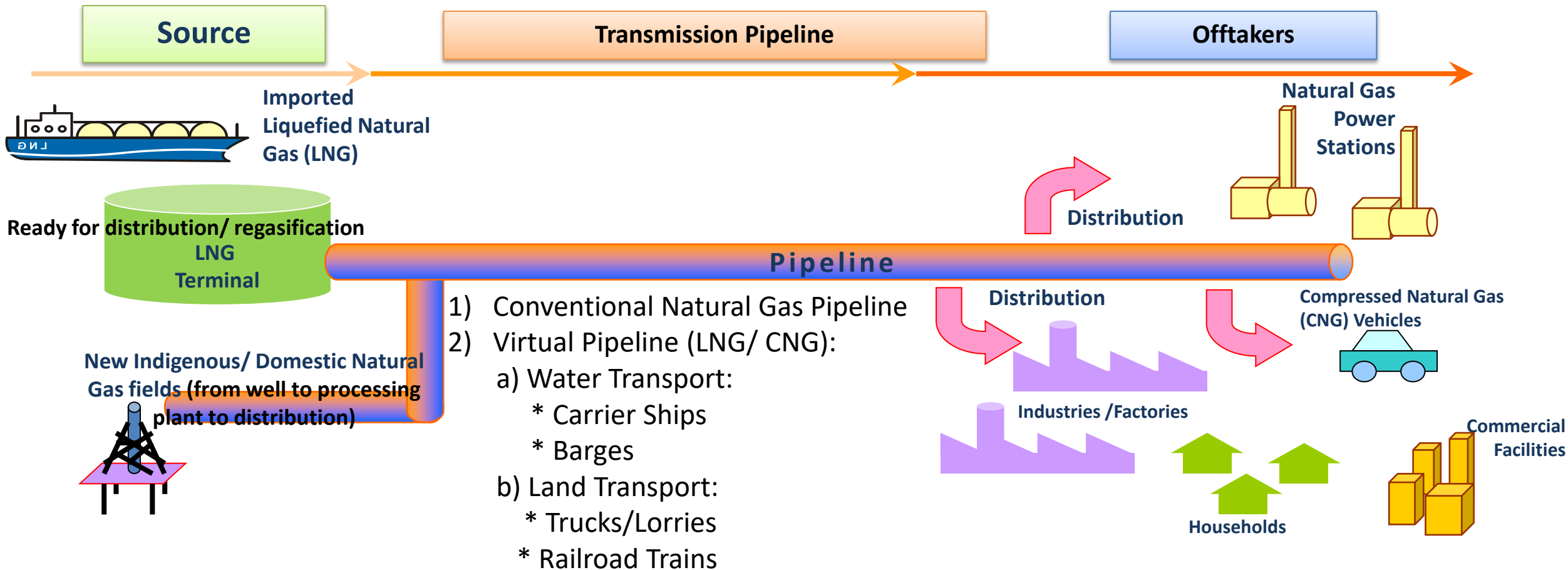
- In the short term, Philippines has no sufficient supply from Malampaya or other potential developments to justify new infrastructure development.
- The logical source of new gas would be the imported liquefied natural gas (LNG) to ensure supply security and sustainability of natural gas in the country.
- Global supply is adequate. Luzon might initially require 5 MTPA of LNG for the existing 3,200 MW gas-fired power plants, industrial, conversion of off-grid power plants and transport sector.
- Much cheaper than oil, competitive with coal in the mid-cycle, and once import facilities are built, industrial, commercial, transportation and residential users can also gain access to gas.
- The Philippine can easily have access to LNG supply as it is strategically located in the LNG trade route.
- The Philippines today can have access to the LNG market when the LNG Storage and Regasification Terminals (import facilities) complete their construction and start commercial operation by 2024.



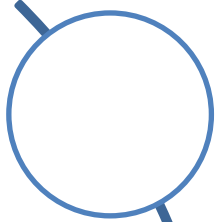
2 Development Plans and Programs

➤ Infrastructure Development

❑ Develop Critical Infrastructure in Luzon, Visayas, Mindanao

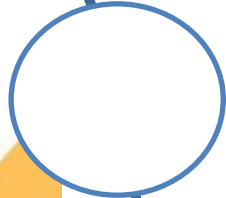


3 Regulatory Framework



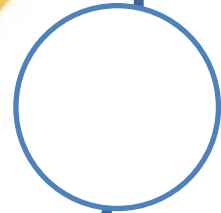
DOE Department Circular No. DC2024-01- 0007 or the Amended Philippine Downstream Natural Gas Regulation (APDNGR). DC2017-11-0012 or PDNGR and all other rules and regulations or parts thereof, which are inconsistent with the provisions of this Circular (DC2024-01-0007) are hereby repealed or modified accordingly.

Issued on January 12, 2024



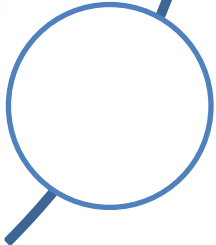
Philippine National Standards/DOE QS 011: 2016

Promulgated on June 20, 2016



Executive Order No. 30 - "Creating the Energy Investment Coordinating Council to Streamline the Regulatory Procedures Affecting Energy Projects"

Issued on June 28, 2017



Republic Act 11032 Ease of Doing Business and Efficient Service Delivery Act -

Issued on 28 May 2018



4 Way Forward

Memorandum of Agreement (MOA) between the Department of Trade & Industry-Bureau of Philippine Standards (DTI-BPS) , and the Department of Energy-Oil Industry Management Bureau (DOE-OIMB)

The MOA is made to have a closer coordination and collaboration in the development and promulgation of Philippine National Standards between the DTI-BPS and the DOE-OIMB on natural gas products and facilities of the downstream natural gas industry sector



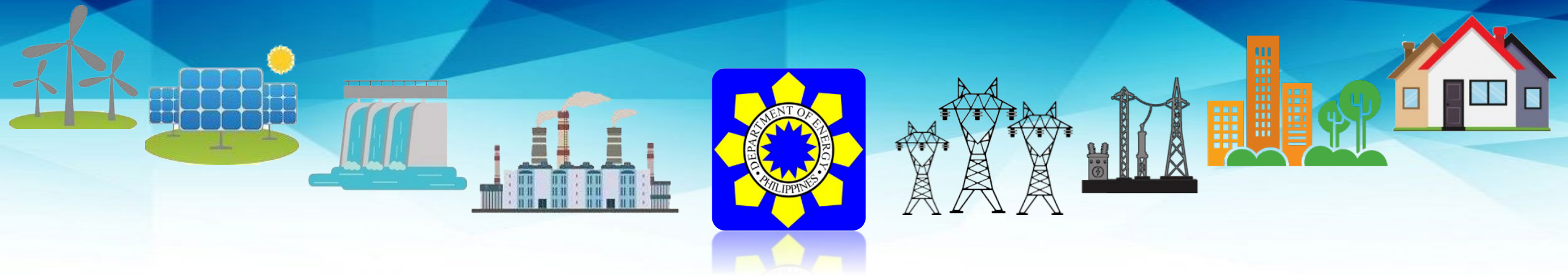
Strengthen the capabilities and foster the growth of natural gas companies , dealer, distributors, industries and other stakeholders of natural gas products and facilities.

Improve the productivity, quality, and competitiveness of these products and services for both domestic and foreign markets.

Facilitate the exchange of natural gas products and facilities through the elimination of technical barriers to trade.

The DTI-BPS and the DOE-OIMB shall promote the use of standards, technical regulations, codes of practice , and other standardization aspects affecting natural gas products and facilities





Thank You!



Rizal Drive Corner 34th Street
BGC, Taguig City



+63 2 479-2900



<https://www.doe.gov.ph>



//doe.gov.ph



@doe_ph

You may also email the Natural Gas Management Division at doe.oimb.ngmd@gmail.com

