

Energy Investment Opportunities

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Undersecretary

Department of Energy

Energy Investment Forum

Hilton Manila Hotel

03 December 2019



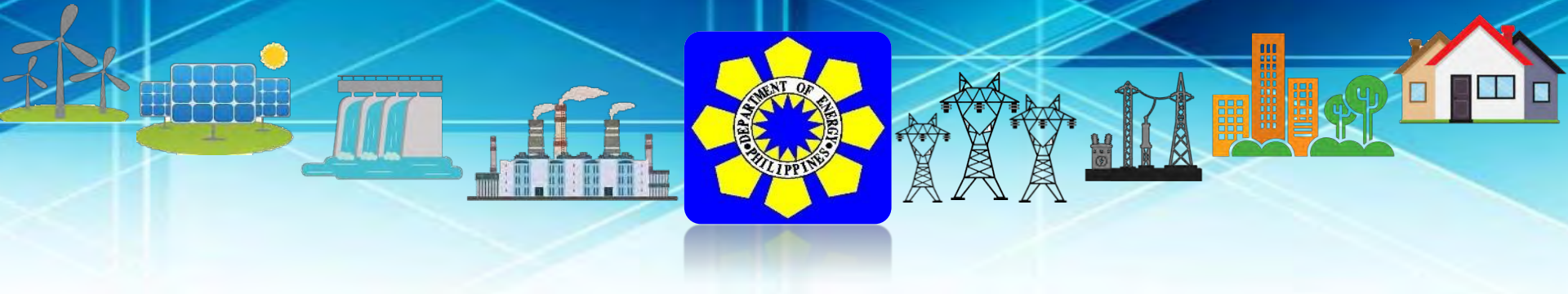
Presentation Outline

- ❑ Investment Opportunities
- ❑ Policy Initiatives
- ❑ Enabling Laws for Energy Investors





Investment Opportunities



Upstream Oil & Gas and Coal



Upstream Oil, Gas and Coal

PRODUCTION (2017-1H 2018)



OIL
1.67 MMB



GAS
233.83 BCF



COAL
20.52 MMT



CONDENSATE
6.22 MMB

NEW OIL AND GAS FIELD DISCOVERY



ALEGRIA, CEBU

ESTIMATED RESERVES

27.93 MMB

OIL

9.42 BCF

GAS

COVERAGE AREA (in hectares)

197,000

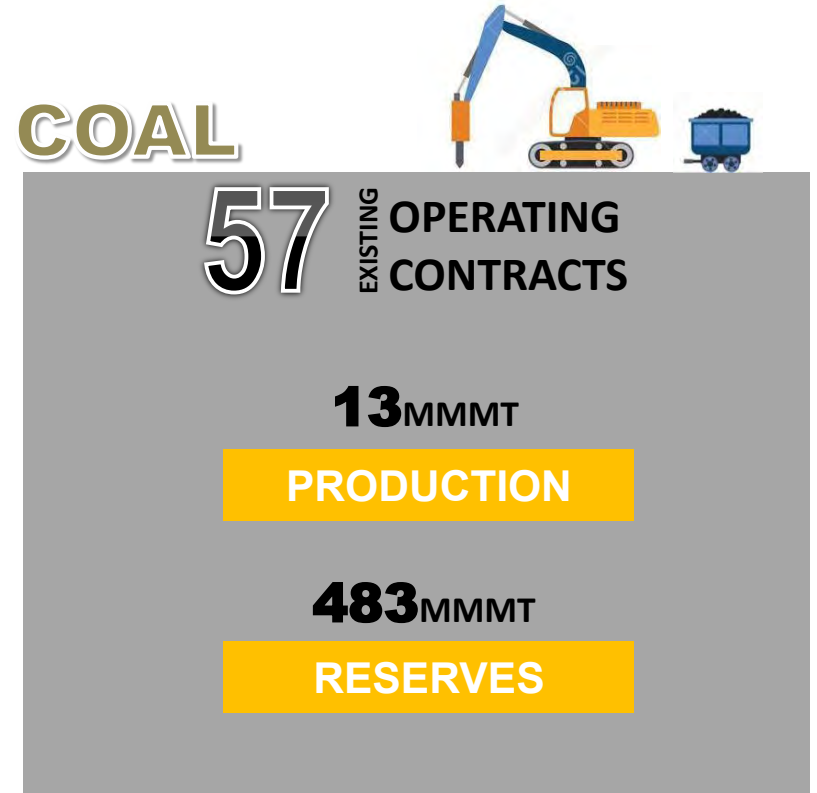
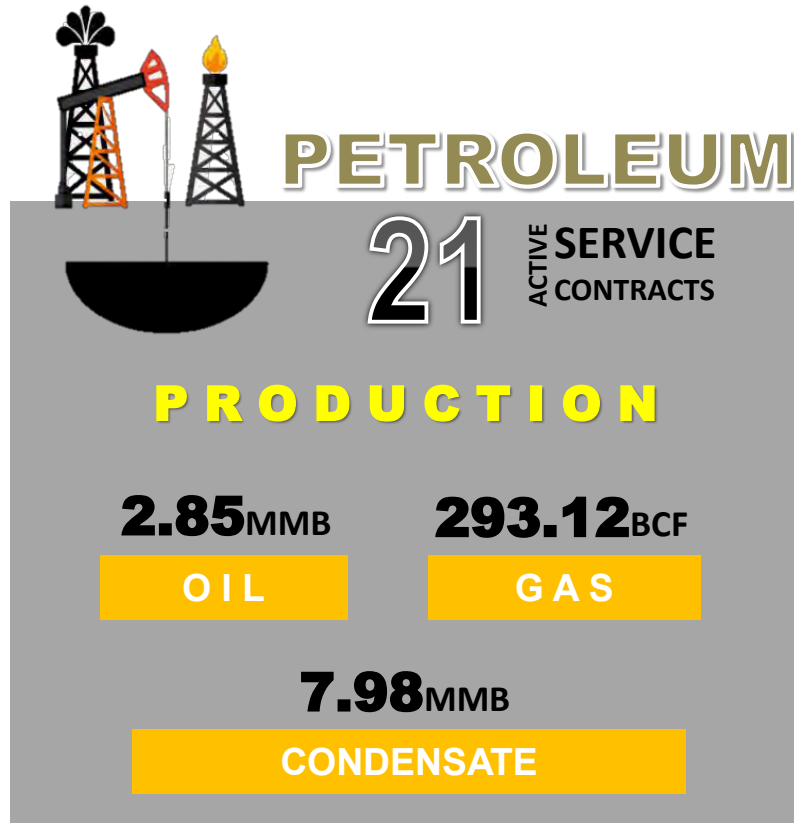
TOTAL COVERAGE AREA

42,749

PRODUCTION AREA



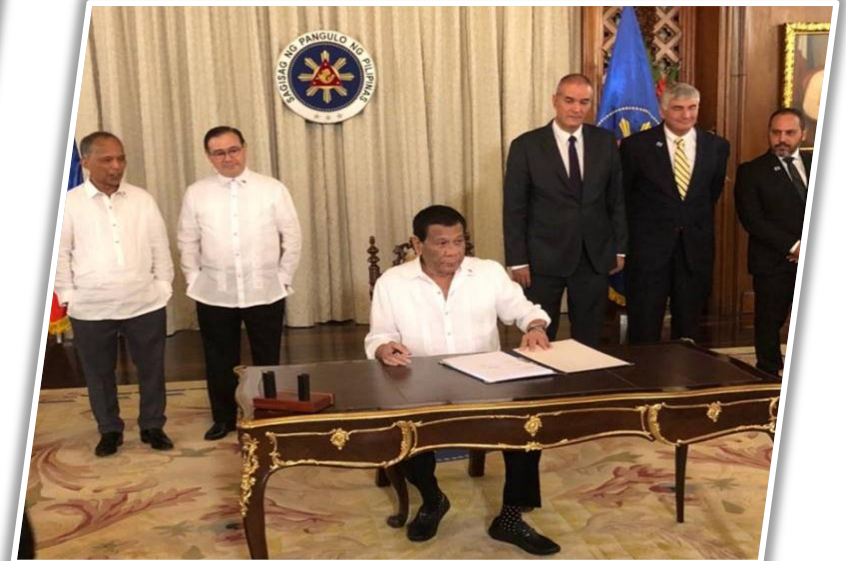
Upstream Oil, Gas and Coal





❖ New oil and gas field discovery in Cebu

- Petroleum Service Contract No. 49 inaugurated by the President on 19 May 2018
- Estimated to have 27.93 million barrels of oil and 9.42 billion cubic feet of natural gas reserves
- Covers a total area of 197,000 hectares



❖ Petroleum Service Contract No. 76

- The first petroleum service contract signed under the Duterte Administration
- Covers an area in Eastern Palawan



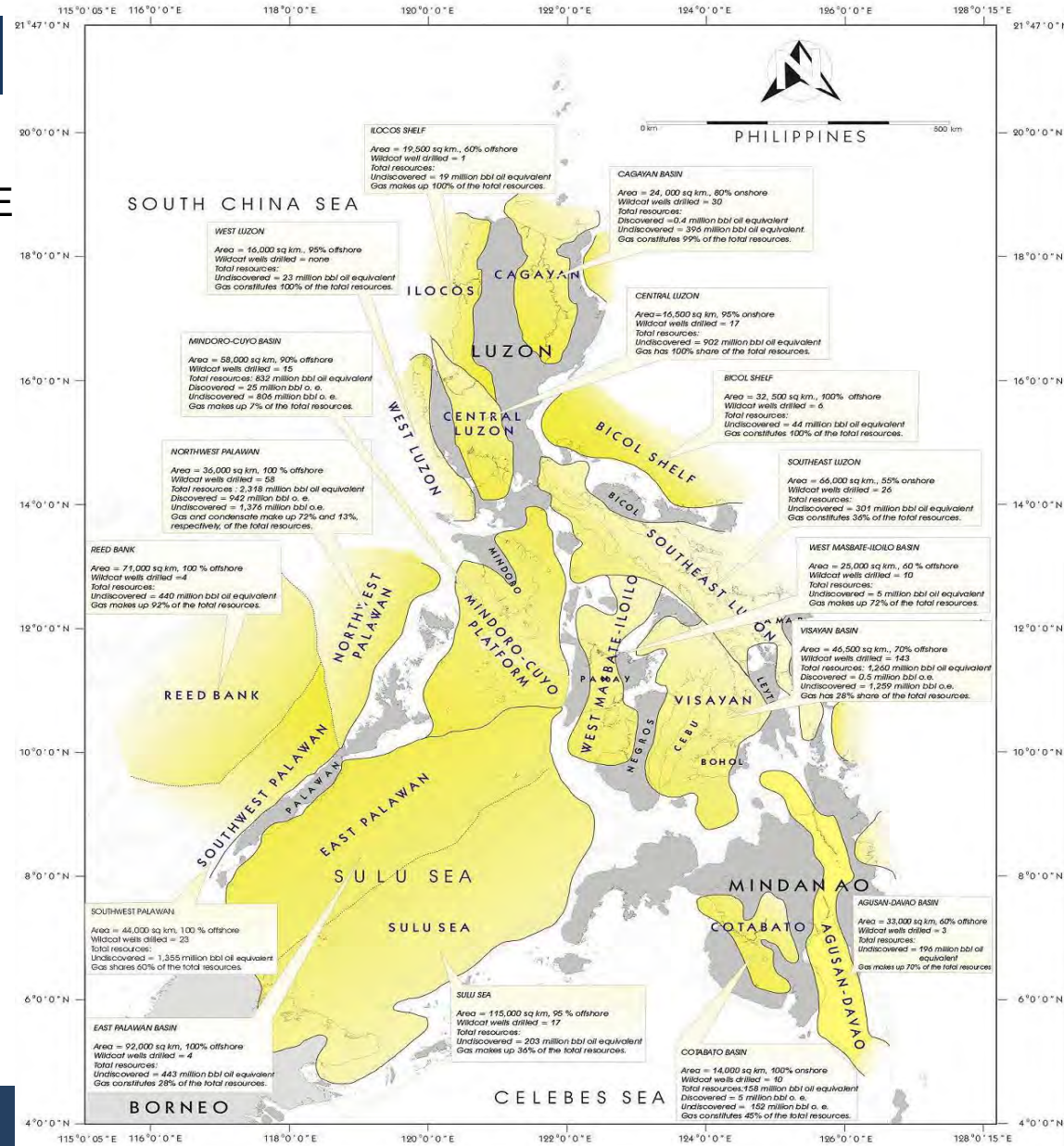
Upstream Oil & Gas

Philippine Sedimentary Basins

Total area: 709,000 sq km

Combined Potential: 4,777 MMBFOE

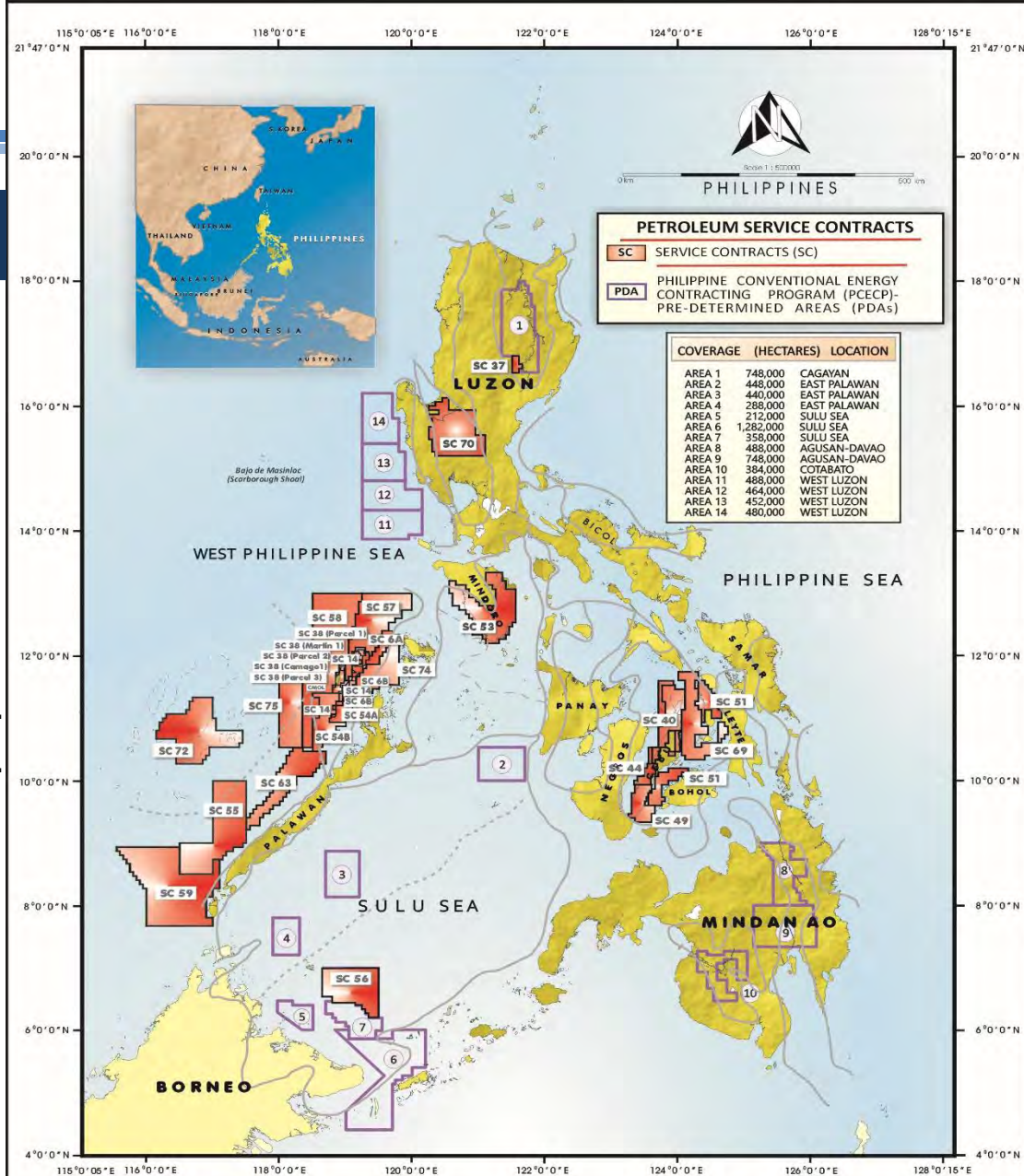
1. Ilocos Shelf
2. Cagayan Basin
3. Central Luzon Basin
4. Bicol Shelf
5. Southeast Luzon Basin
6. Mindoro-Cuyo Basin
7. West Masbate-Iloilo Basin
8. Visayan Basin
9. Agusan-Davao Basin
10. Cotabato Basin
11. Sulu Sea Basin
12. East Palawan Basin
13. Southwest Palawan Basin
14. Reed Bank Basin
15. Northwest Palawan Basin
16. West Luzon Trough



Upstream Oil & Gas

2018 PCECP Areas for Offer

1. Cagayan – 748,000 has.
2. East Palawan – 448,000 has.
3. East Palawan – 440,000 has.
4. East Palawan – 288,000 has.
5. Sulu Sea – 212,331 has.
6. Sulu Sea – 1,282,335 has.
7. Sulu Sea – 358,000 has.
8. Agusan – Davao – 488,000 has.
9. Agusan – Davao – 748,000 has.
10. Cotabato – 384,000 has.
11. West Luzon – 488,000 has.
12. West Luzon – 464,000 has.
13. West Luzon – 452,000 has.
14. West Luzon – 480,000 has.



Ensured Energy Security

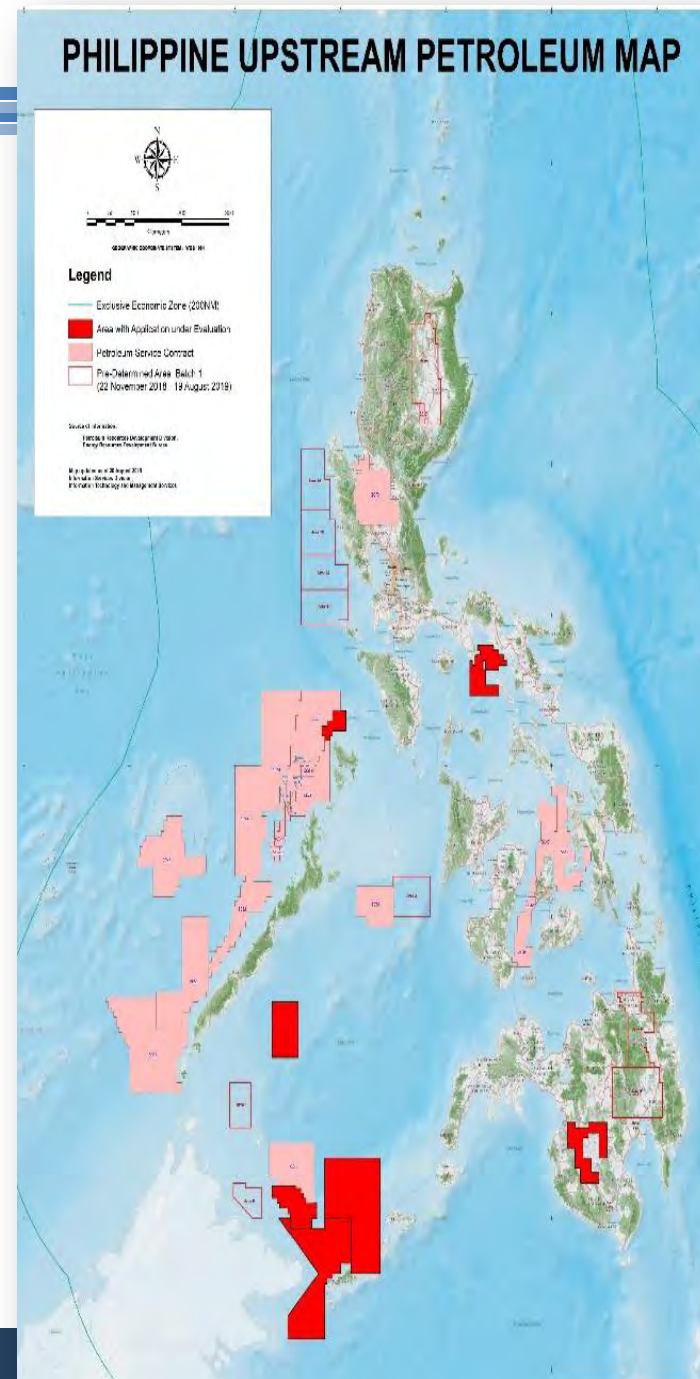
PHILIPPINE CONVENTIONAL ENERGY CONTRACTING PROGRAM (PCECP)

Opening of PCECP Applications

- Interest for the following nominated areas: a) Sulu Sea; b) Northwest Palawan; and c) Southeast Luzon

Results of PCECP

- DOE evaluating applications for Petroleum Service Contracts over 7 blocks/areas.
 - 6 companies participated: 5 Filipino and 1 Israeli companies
- Additional applications for other areas via the nomination mode specifically in the Sulu Sea, Southeast Luzon and Northwest Palawan areas
- Pre-Determined Areas (PDAs) without applications are open for applications via nomination until their inclusion in a new batch of offered PDAs



Upstream Coal

Summary of Regional Coal Reserves (in Million Metric Tons)

QUEZON
Resource Potential - 2.00
In-situ Reserves - 0.09

MINDORO
Resource Potential - 100.00
In-situ Reserves - 1.44

SEMIRARA
Resource Potential - 550.00
In-situ Reserves - 96.19

NEGROS
Resource Potential - 4.50
In-situ Reserves - 2.01

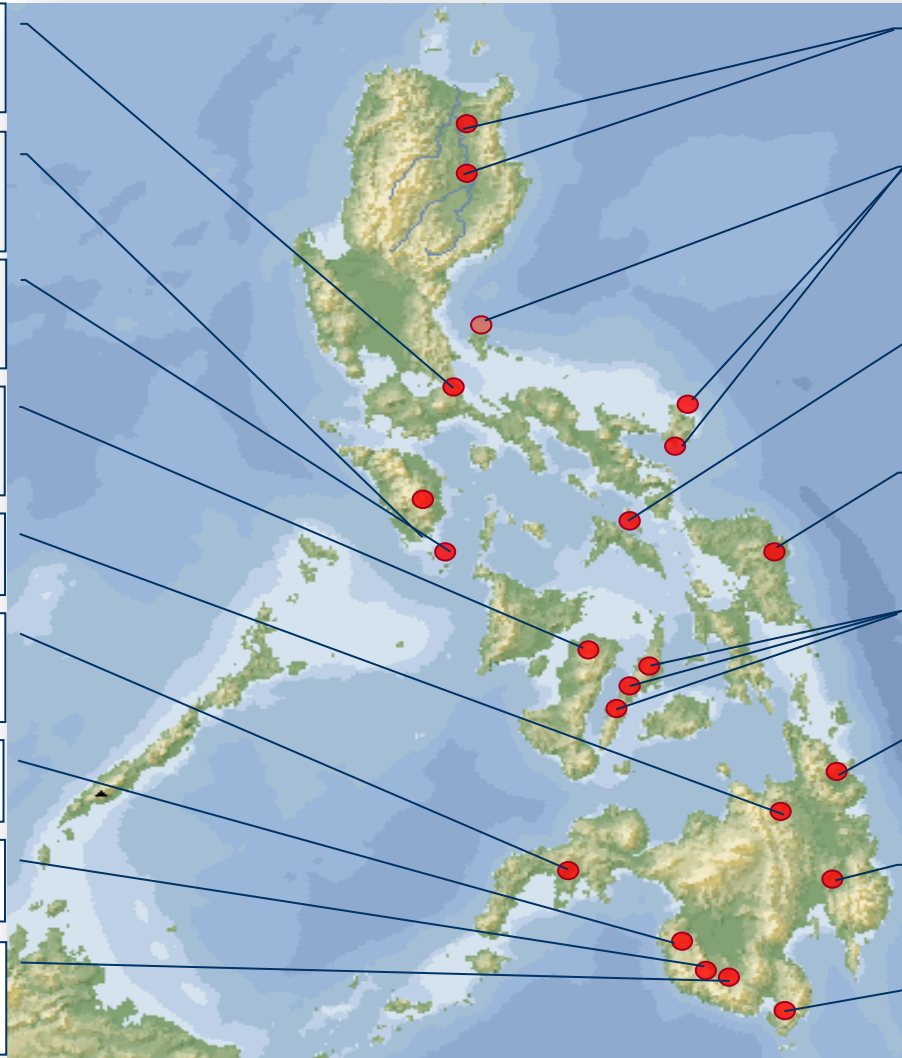
BUKIDNON
Resource Potential - 50.00

ZAMBOANGA
Resource Potential - 45.00
In-situ Reserves - 38.05

MAGUINDANAO
Resource Potential - 108.00

SULTAN KUDARAT
Resource Potential - 300.30

SOUTH COTABATO
Resource Potential - 230.40
In-situ Reserves - 81.07



CAGAYAN VALLEY
Resource Potential - 336.00
In-situ Reserves - 82.57

BATAN-POLILLO-CATANDUANES
Resource Potential - 17.00
In-situ Reserves - 6.77

MASBATE
Resource Potential - 2.50
In-situ Reserves - 0.07

SAMAR
Resource Potential - 27.00
In-situ Reserves - 8.59

CEBU
Resource Potential - 165.00
In-situ Reserves - 11.84

SURIGAO
Resource Potential - 209.00
In-situ Reserves - 69.73

DAVAO
Resource Potential - 100.00
In-situ Reserves - 2.37

SARANGANI
Resource Potential - 120.00





Renewable Energy



Renewable Energy

National Renewable Energy Program

Renewable Energy Targets, 2010 - 2030		
Sector	Target Additional Capacity	Target Year
Biomass	277 MW	2015
Wind	2,345 MW	2022
Hydropower	5,398 MW	2023
Ocean Power	75 MW	2025
Geothermal	1,495 MW	2030
Solar	284 MW	2030
Total	9,874 MW	



Renewable Energy

STATUS OF RE SERVICE CONTRACTS (JULY 2019)

Resources	PRE-DEVELOPMENT		DEVELOPMENT		OPERATIONAL	
	No.	Capacity (MW)	No.	Capacity (MW)	No.	Capacity (MW)
Hydropower	176	7,747.63	167	3130.87	52	1,016.42
Ocean Energy	7	26.00	-	-	-	-
Geothermal	12	265.00	-	-	7	864.53
Wind	55	1,839.10	7	537.15	7	426.90
Solar	199	14,178.05	17	511.52	41	925.34
Biomass	-	-	35	295.32	24	294.81
Total	449	24,055.78	226	4,478.86	131	3,528.00





Natural Gas Industry



Downstream Natural Gas

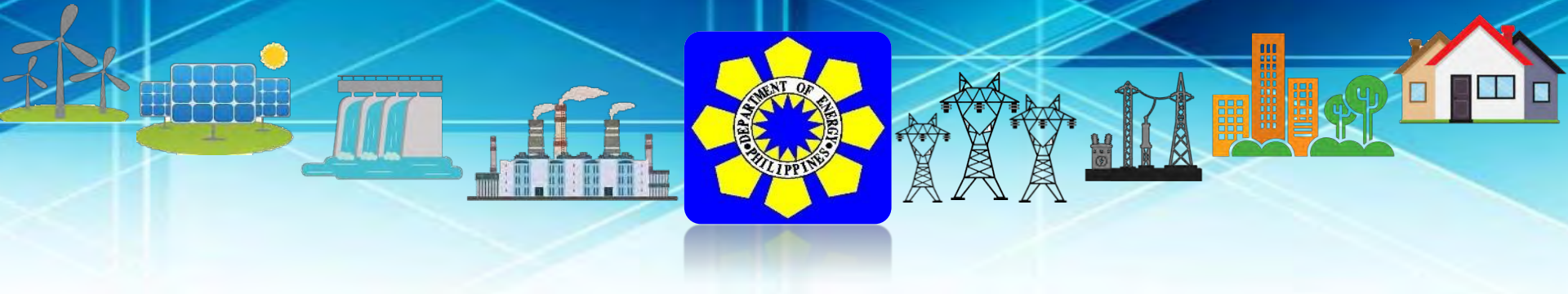
Integrated LNG Terminal



- Safeguard against the anticipated depletion of the Malampaya gas facility in 2024.
- Initial 200-MW power plant, storage facilities, liquefaction and regasification units.
- Output will serve PEZA areas.

Project Cost: **PHP 100 billion**
Targeted Completion: **2020**





Power Sector

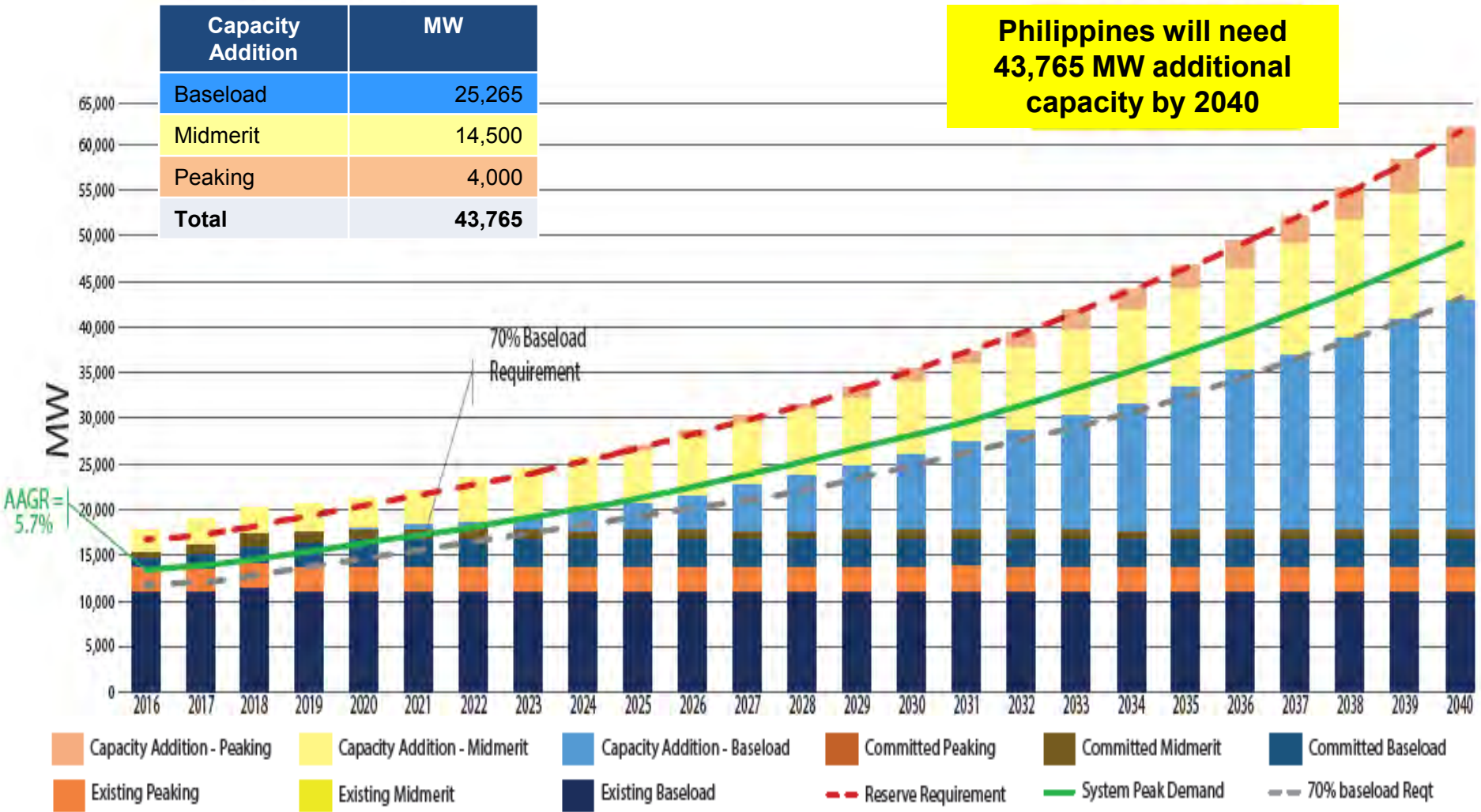


Philippines Demand and Supply Outlook 2016-2040

Philippines Demand and Supply Outlook, 2016-2040

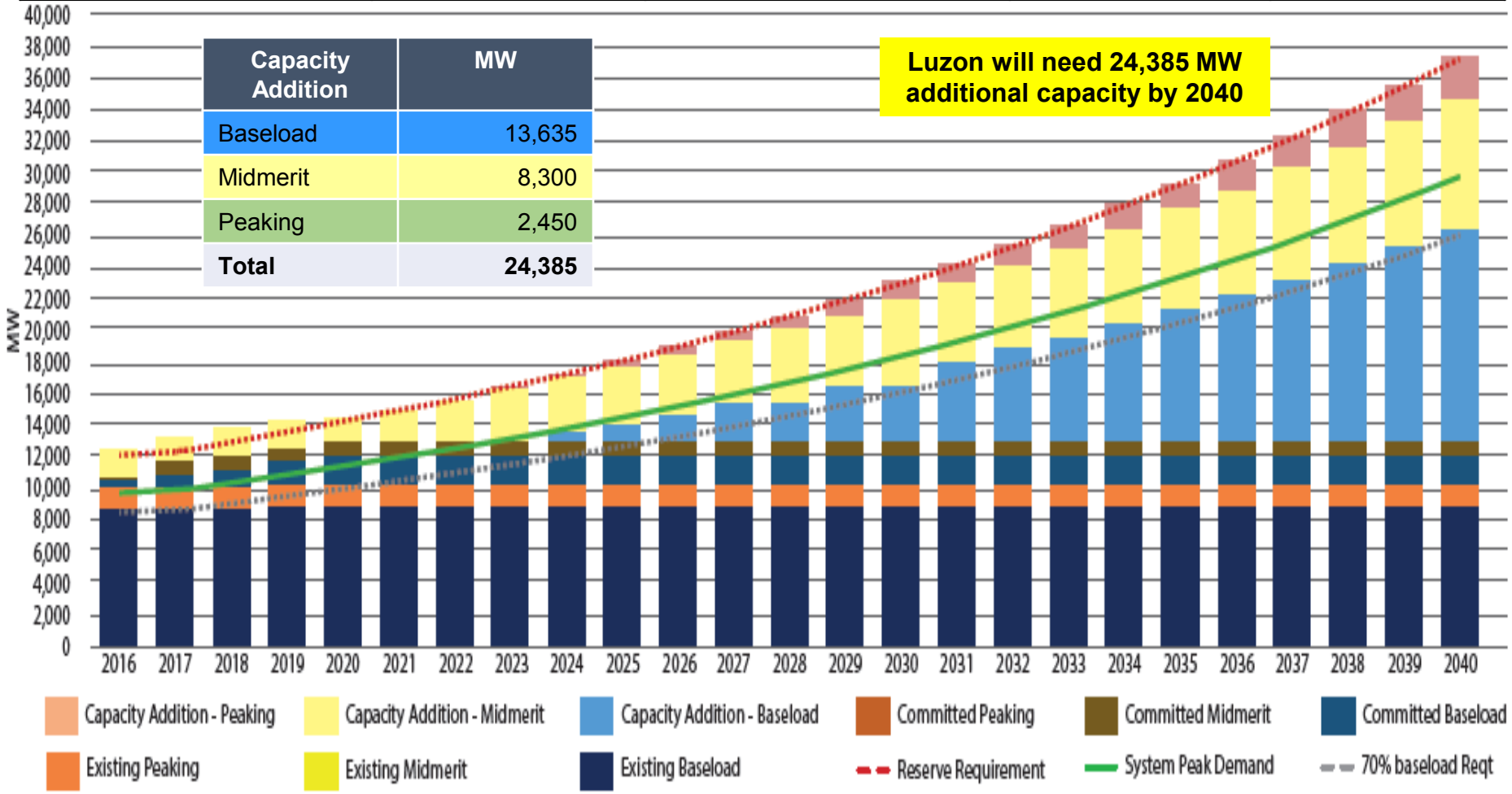
Capacity Addition	MW
Baseload	25,265
Midmerit	14,500
Peaking	4,000
Total	43,765

Philippines will need 43,765 MW additional capacity by 2040



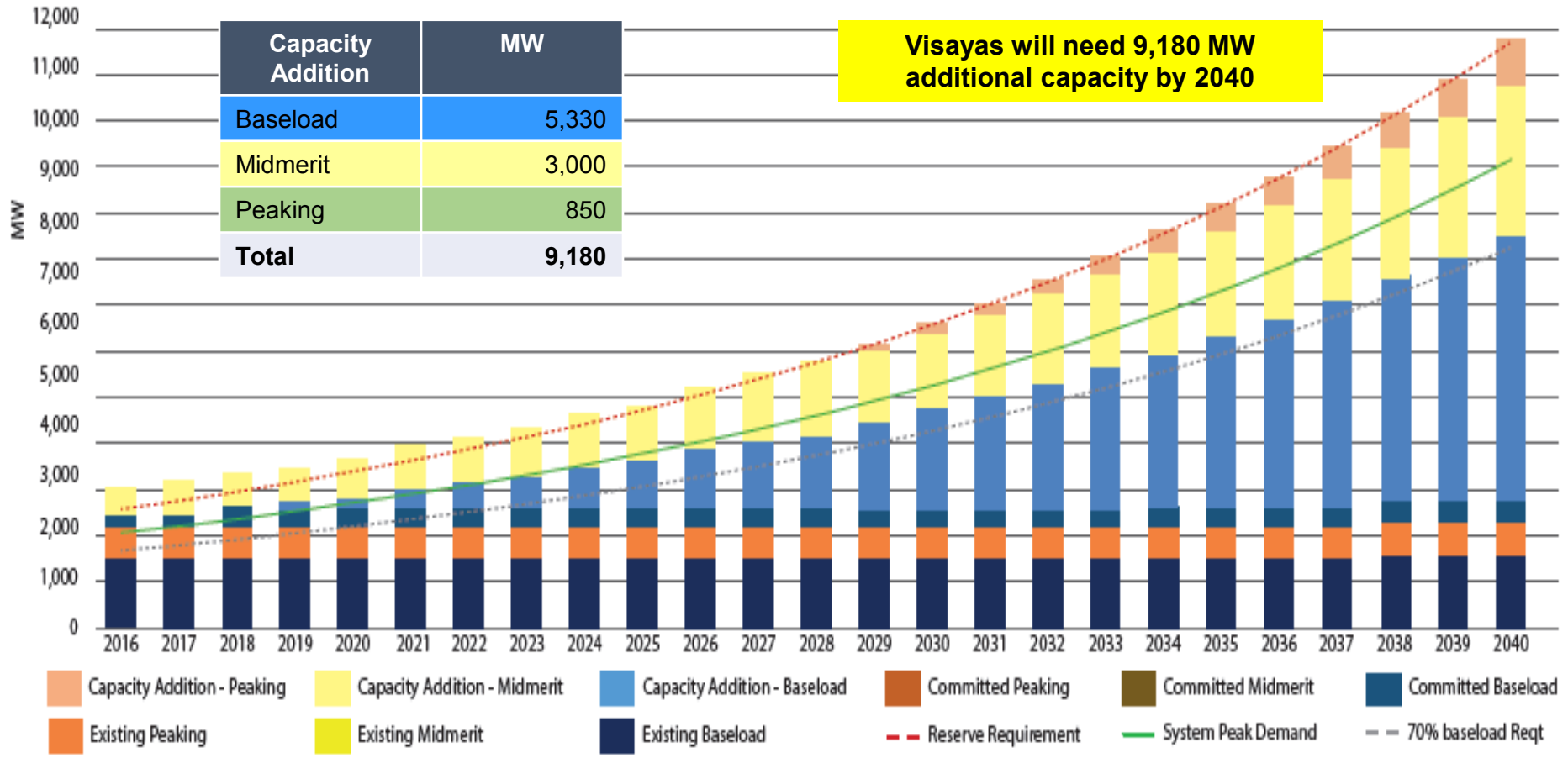
Luzon Demand and Supply Outlook, 2016-2040

Milestone Years	2020	2022 (End of PRRD's term)	2030	2040
Capacity Addition (MW)	1,500	2,750	10,070	24,385



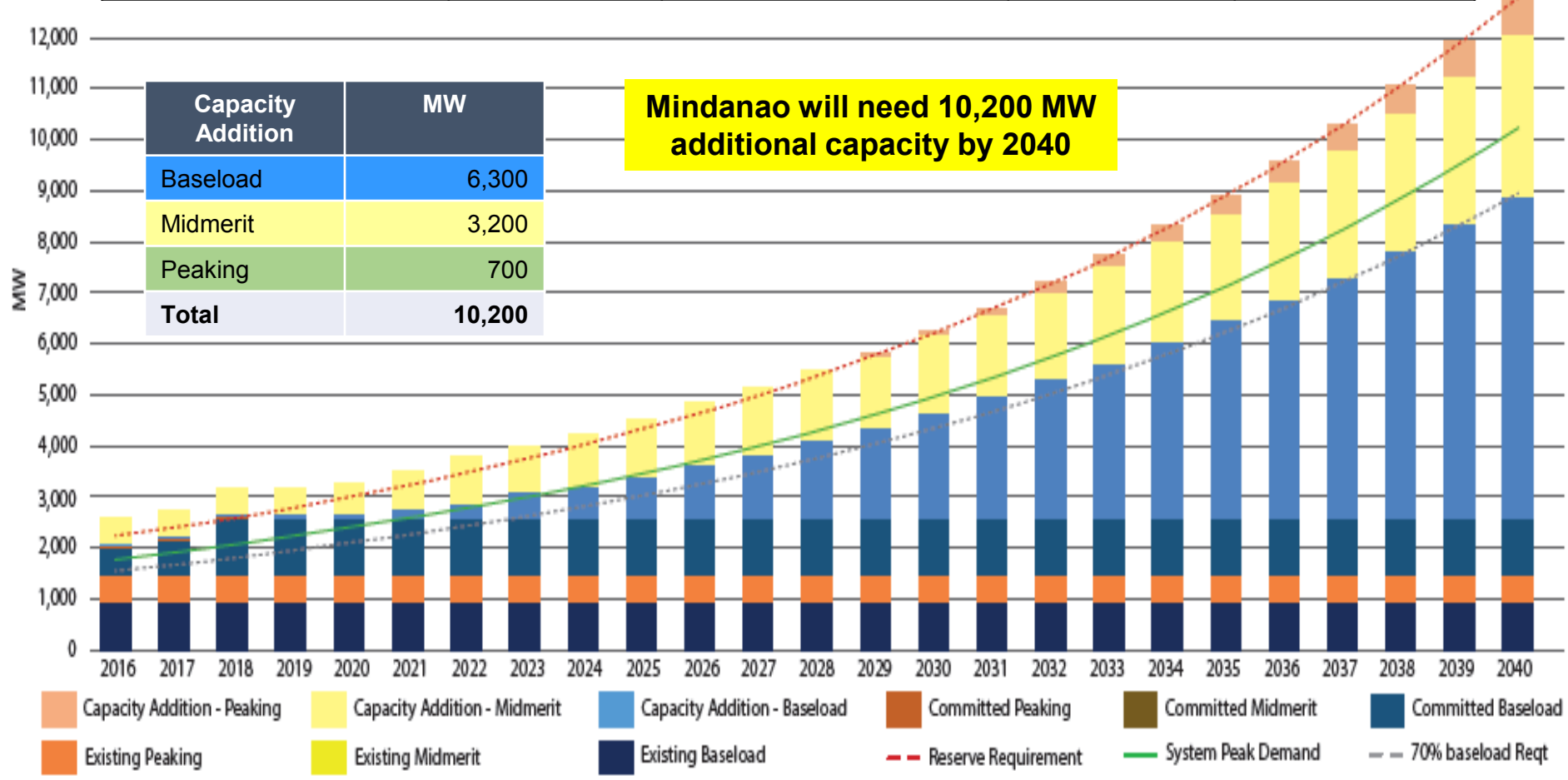
Visayas Demand and Supply Outlook, 2016-2040

Milestone Years	2020	2022 (End of PRRD's term)	2030	2040
Capacity Addition (MW)	964	1,392	3,618	9,180



Mindanao Demand and Supply Outlook, 2016-2040

Milestone Years	2020	2022 (End of PRRD's term)	2030	2040
Capacity Addition (MW)	705	1,215	3,650	10,200



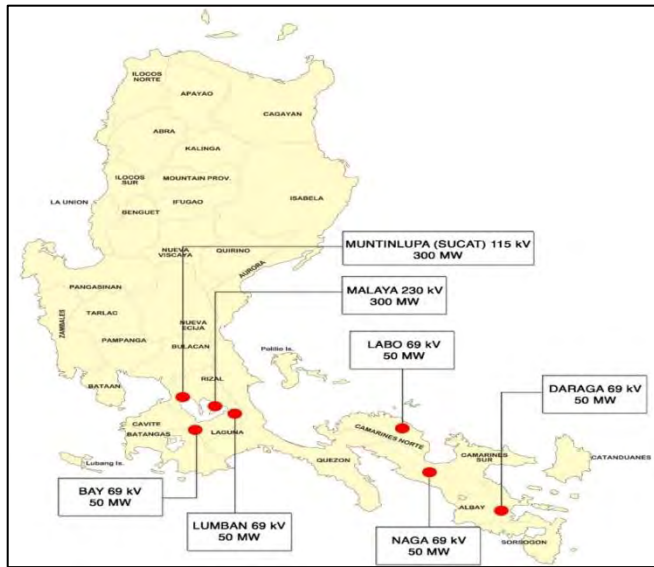
Summary of Private Sector Initiated Projects

Type of Power Plant	Luzon		Visayas		Mindanao		Total	
	Committed	Indicative	Committed	Indicative	Committed	Indicative	Committed	Indicative
Coal	3,936.00	8,935.00	135.00	600.00	400.00	1,333.00	4,471.00	10,868.00
Oil-Based	300.00	1,866.00	114.60	132.90	0.00	5.90	414.60	2,004.80
Natural Gas	650.00	8,620.00	0.00	138.00	0.00	0.00	650.00	8,758.00
Renewable Energy	332.60	15,806.10	299.70	3,257.6	71.30	1,812.60	633.00	20,876.30
Geothermal	31.0	310.0	50.0	76.0	0.0	30.0	81.00	416.00
Hydro	20.4	3,499.9	23.1	728.2	25.0	853.2	68.50	5,081.30
Biomass	66.2	128.4	226.6	32.0	21.4	119.4	314.20	279.80
Solar	215.0	9,829.5	0.0	703.4	25.0	810.0	240.00	11,342.90
Wind	0.0	2,038.40	0.0	1,718.0	0.0	0.0	-	3,756.40
TOTAL	5,218.60	35,227.20	549.3	4,128.50	471.30	3,151.40	6,239.20	42,507.10
BESS**	0.0	1,085.00	0.0	443.5	0	410	-	2,658.50

As of 31 August 2019

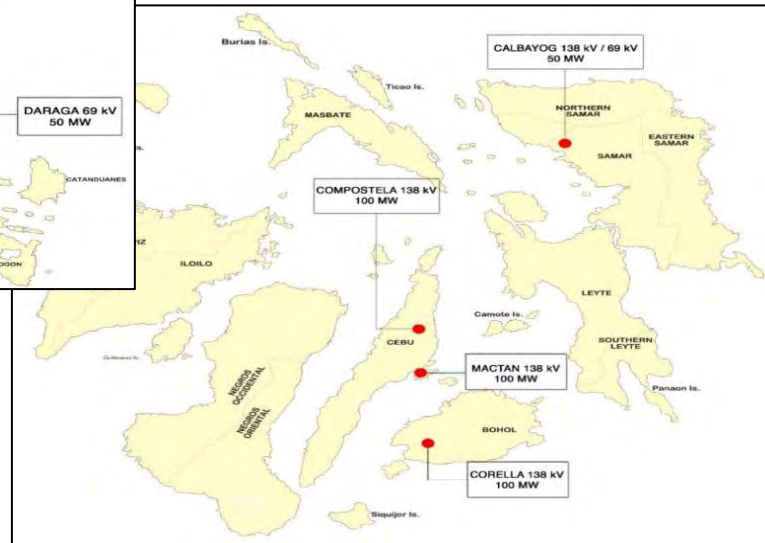


Ideal Location of New Power Plants

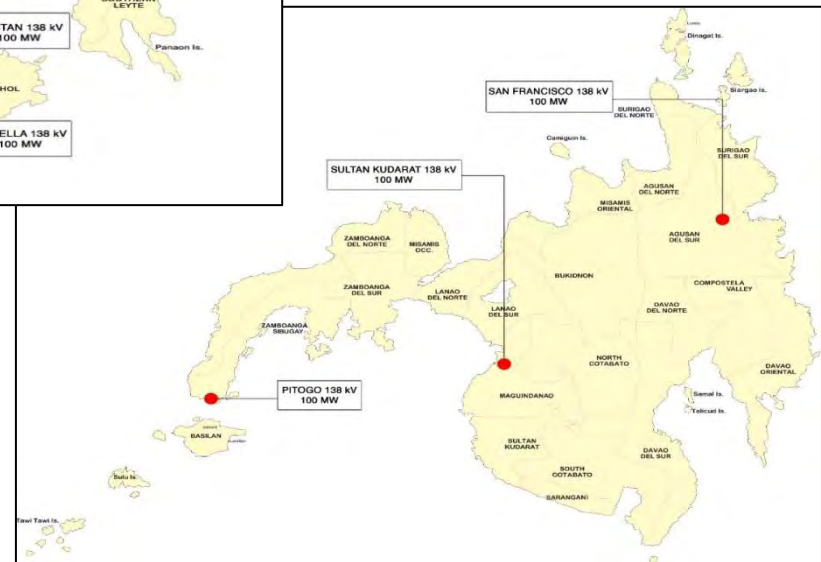


Luzon

Visayas



Mindanao



Energy Mix Policy

No “**one-size-fits-all**” approach for an ideal energy mix so both conventional and non-conventional sources must be considered.

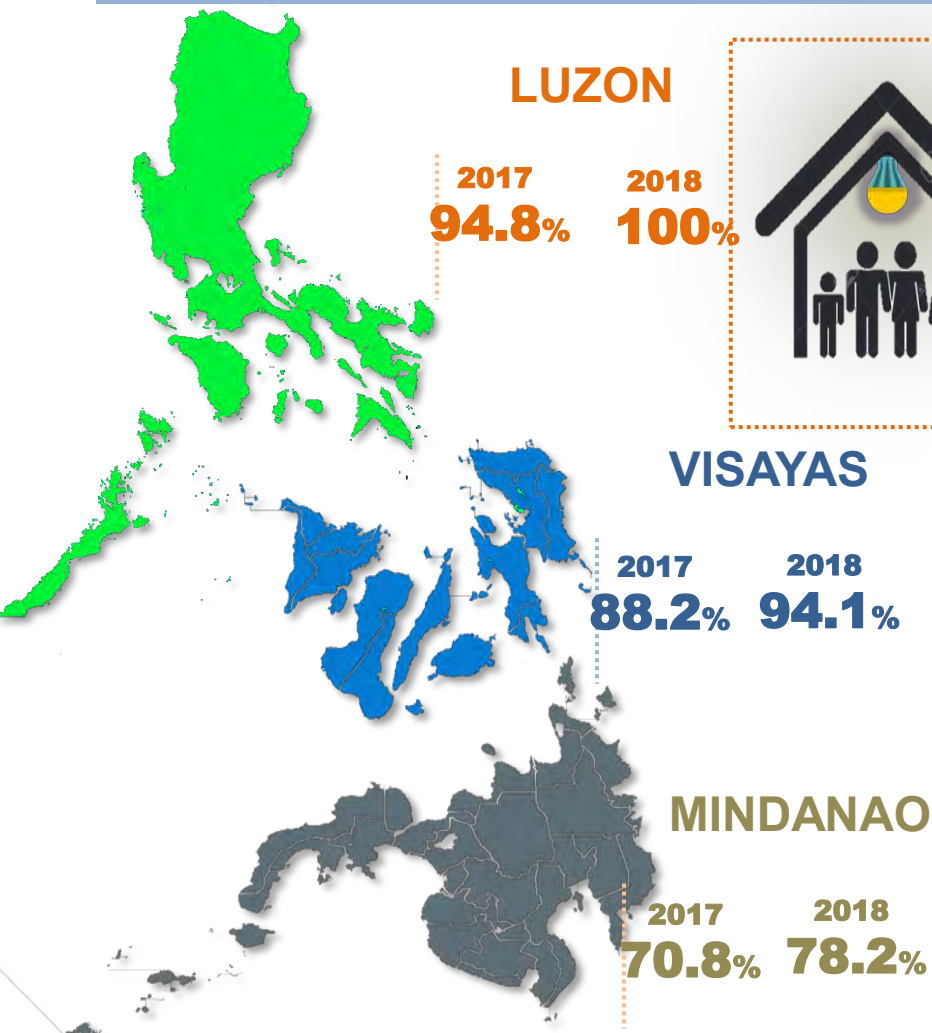
Developing countries, like the Philippines, will need **cost-efficient** and **reliable energy** to meet its economic potential.

RA7638 (DOE Act of 1992)

*SEC. 2. Declaration of Policy. – It is hereby declared the policy of the State: (a) to ensure a continuous, adequate, and economic supply of energy with the end in view of ultimately achieving self-reliance in the country’s energy requirements through the integrated and intensive exploration, production, management, and **development of the country’s indigenous energy resources**, and through the judicious conservation, renewal and efficient utilization of energy to keep pace with the country’s growth and economic development and taking into consideration the active participation of the private sector in the various areas of energy resource development; and*



Expanded Energy Access



22.09 Million out of 22.98 Million households have electricity in the country

96.12% household electrification level

Total Electrification Program (TEP)

Electricity access for the unserved and underserved communities and households



2017 based on the actual potential households identified by DUs
2018 based on the 2015 Census

Micro-Grid and Distributed Generation

The Philippines' unique situation of being archipelagic and prone to natural disasters must delve into electrification options that will provide continued electricity service.

In the case of off-grid areas, solutions may be the implementation of micro-grid and distributed generation system.



Limasawa Island



Off-Grid

Investment Opportunities for Off-Grid Areas

Abundance of off-grid sites

- 7,641 islands, 1,702 potential off-grid sites.
- 2,399,108 households in the Philippines remain unserved.

Opportunities for hybridisation of diesel mini-grids and power plants

- 400 MW of diesel generating capacity installed in over 320 off-grid missionary areas.
- Recent study by ASEP revealed that savings of up to 4-5 PHP/kWh diesel power plants are possible.

Policy frameworks for mini-grids being re-worked by government

- DOE aims to attain 100% electrification for all islands of the Philippines by 2022.
- Streamlining of the process for Qualified Third Parties (QTP) and New Power Producer (NPP) investments in hybrid and clean energy mini-grids in the Philippines under way.





Alternative Fuels & Energy Efficiency



Alternative Fuels and Energy Efficiency

Areas for Investment :

- Energy efficient appliances & equipment
- High efficiency motors
- Fuel efficient & low-carbon vehicles
 - Hybrid, electric, etc.
 - Charging stations for Alternative Energy Vehicles
- Energy efficient building technologies
 - Green building
 - Building Energy Management Systems Design and Architecture
- Energy Service Companies (ESCOs)
- Performance Assessment and Audit
- Smart Technology (Smart Grid, Smart Meters)
- Power Sector Infrastructure Development / Upgrading





Policy Initiatives



Policy Initiatives

- The Philippines aims to transform into a high middle-income economy by 2022 [*Philippine Development Plan 2017-2022*] and high income in 2040 [*Ambisyon Natin 2040*].
- The acceleration of infrastructure development thru the **Build, Build, Build Program** will require an upsurge in the power demand.

INFRASTRUCTURE DEVELOPMENT



Philippine Development Plan (PDP) 2017-2022



Renewable Energy

Policies to Promote Renewable Energy

- **Net-Metering for RE**

A Renewable Energy Policy Mechanism which shall provide consumers to produce its own electricity requirement with maximum capacity of 100 kW.

- **RE Portfolio Standards (On-Grid and Off-Grid)**

Market based policy that requires the mandated electricity industry participants to source an agreed portion of their supply from eligible RE Resources

- **Must and Priority Dispatch for Variable REs**

DOE Circular No. DC2015-03-0001 dated 20 March 2015 promulgated the implementation framework

- **Renewable Energy Market (REM)**

Venue for trading of Renewable Energy Certificates (RE Certificates)

- **Green Energy Option**

Mechanism to provide end-users the option to choose RE as their sources of energy



Government Plans, Policies, and Programs

Demand-Side

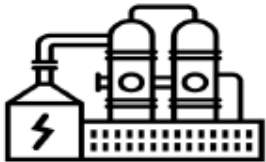
Energy Efficiency and Conservation Programs



Government Energy Management Program (GEMP)



Philippine Energy Standard and Labelling



Energy Service Company(ESCO) Accreditation Program

Distribution-Side



Contestable Customers



Government Plans, Policies, and Programs

Supply-Side



Competitive Selection Process (CSP)



Wholesale Electricity Spot Market (WESM)



Retail Competition and Open Access (RCOA)



Bilateral Contracts (PSA)



Ancillary Service (ASPA)

Renewable Energy Opportunities



Renewable Portfolio Standards

FIT for Biomass & Hydro

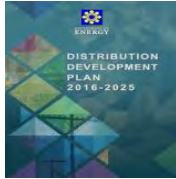
Green Energy Option

Net Metering



Government Plans, Policies, and Programs

Comprehensive and Integrated Power Development Plans



Distribution Development Plan (DDP)



Transmission Development Plan (TDP)



Generation Expansion Plan (GEP)



Missionary Electrification Development Plan (MEDP)



Total Electrification Master Plan (TEMP)





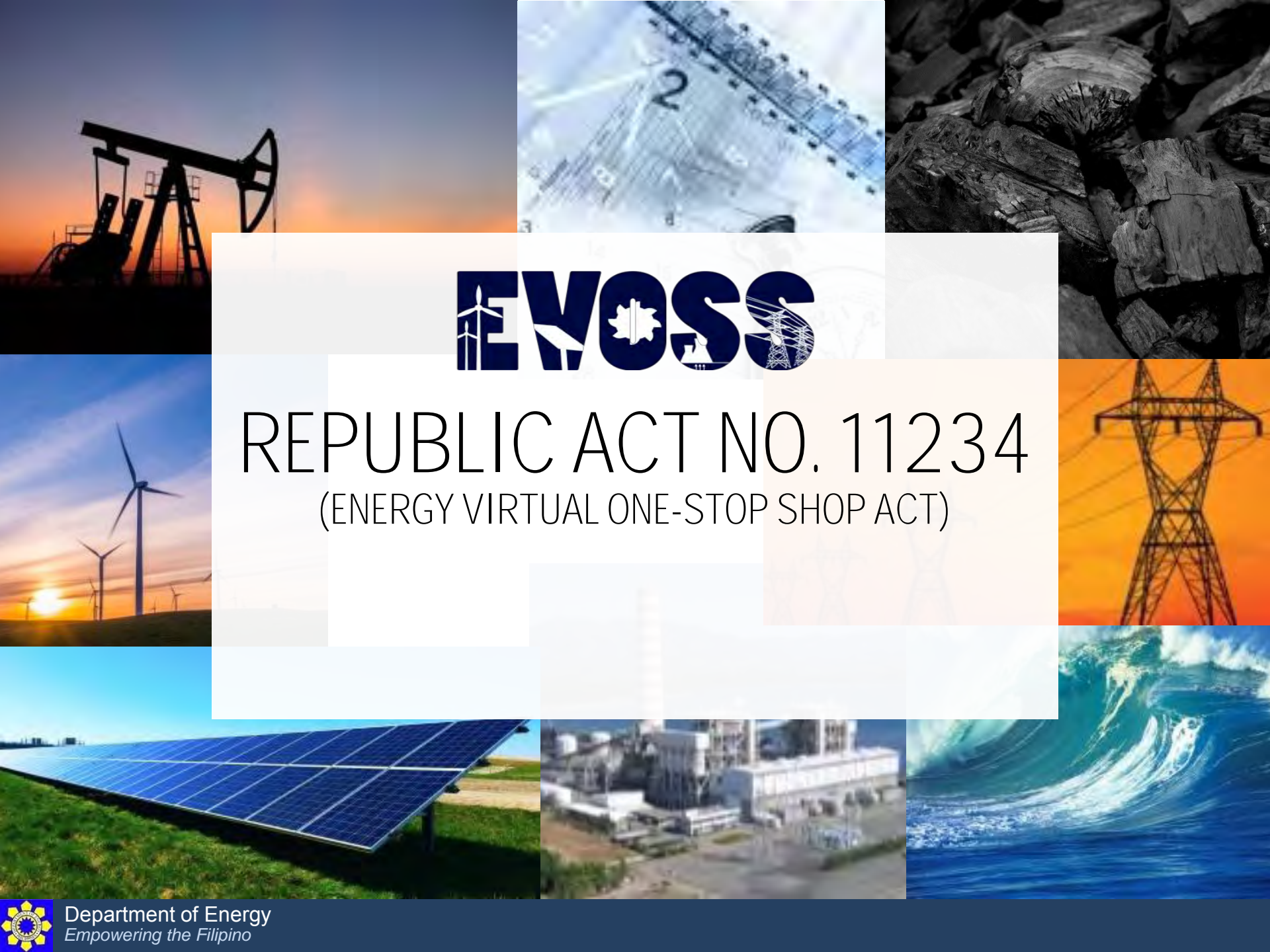
Enabling Laws for Energy Investors



Enabling Energy Laws for Investors

- ❑ Presidential Decree No. 87 – Oil Exploration and Development Act of 1972
- ❑ Republic Act (RA) No. 7638 - The DOE Act of 1992
- ❑ RA No. 9136 - EPIRA Act of 2001
- ❑ RA No. 9367 - Biofuels Act of 2006
- ❑ RA No. 9513 - Renewable Energy Act of 2008
- ❑ RA No. 11234 - Energy Virtual One-Stop Shop (EVOSS) Act
- ❑ RA No. 11285 - Energy Efficiency and Conservation Act



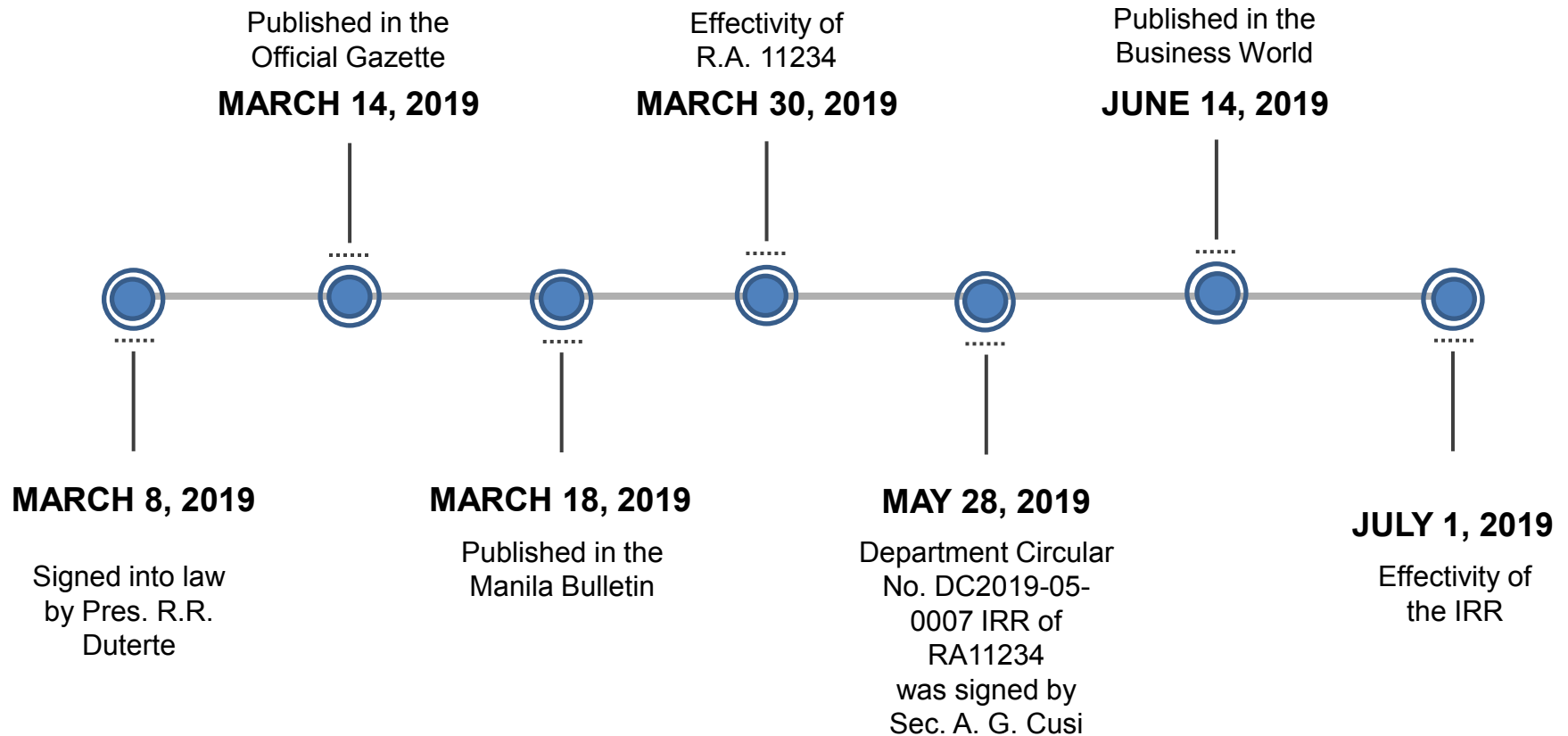


EV OSS

REPUBLIC ACT NO. 11234 (ENERGY VIRTUAL ONE-STOP SHOP ACT)



Energy Virtual One-Stop (EVOSS) Act



EVOSS Functions



Recognize the legal effect, validity, and enforceability of **electronic documents** submitted



Establish a system of **high availability, business continuity and cyber security**



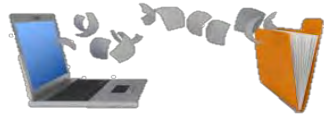
Utilize a **technology platform and an operations management software platform** to build defined processes and forms within a strict timeframe using published standards.



EVOSS Characteristics



Operate as a **one hundred percent (100%) virtual storage** and rules driven system built as an **integrated shared service**



Provides a secure and accessible **paperless system** which proponents may:

1. Obtain list of all electronic documentary requirements
2. Prepare, submit, process, and receive actions on all submitted electronic documentary requirements
3. Monitor and inquire on the status of ongoing applications
4. Calculate, pay, and settle all appropriate fees electronically
5. Submit complaints concerning Inaction on submitted electronic documents



Utilizes **online payment system** for all fees imposed for applications



Provide a **secure and accessible system** for all Government agencies and entities involved in the permitting process to **interoperate** with respect to:

- a. Unified and streamlined process
- b. Unified templates
- c. Compliance to mandated processing time
- d. Updating and monitoring of all electronic documentary requirements for action
- e. Determining which government bureau, office, agency, GOCC, LGU, or entity an ongoing application is in and its status in there



EVOSS Steering Committee



Office of the President
as **Chairperson**



DOE Secretary
as **Vice Chairperson**

Members:



DAR



DA



DENR



DILG



DICT



ERC



NCIP



NWRB



IEMOP



NGCP

One representative each from the power generation, transmission, and distribution sectors



Time Frame



Agency	Total No. of Calendar Days	Agency	Total No. of Calendar Days
DOE	60	PNP	15
DAR	75	DPWH	30
DA	60	PNRI	15
DENR	120	Others Agencies	15
ERC: all applications quasi-judicial cases	60 270	LGUs: cities municipalities provinces	15 15 15
System Operator & Transmission Network Provider	150	NCIP: CNO FPIC	10 105
NWRB	60		
IEMOP	15		
DOTr	30		



Prohibited Acts and Penalties

Administrative Offenses	Penalties	
	Government Official/Employee	Private Entity
a) Willful refusal to participate in the EVOSS.	1st offense - 30 days suspension without pay 2nd offense - 3 months suspension without pay 3rd offense - Dismissal and perpetual disqualification from public service.	In cases of violation by the system operator and market operator of (a), (b), and (c), the ERC shall impose a fine of One hundred thousand pesos (P100,000.00) for every day of delay.
b) Willful acts which delay the operationalization of the EVOSS.		
c) Failure to comply with the mandated timeframes as provided in this Act, or as imposed by the EVOSS Steering Committee.	1st offense - 30 days suspension without pay and mandatory attendance in Values Orientation Program; 2nd offense - 3 months suspension without pay; 3rd offense - Dismissal and perpetual disqualification from public service, and forfeiture of retirement benefits.	
d) Tampering with EVOSS or any part or component thereof.	Dismissal and perpetual disqualification from public service.	
e) Divulging information or releasing any aspect of a document submitted by a project proponent to anyone other than an authorized person or agency.		



THANK YOU

For inquiries, please contact:

***Investment Promotion Office
Department of Energy***



(+632) 8840-2255/ 8479-2900 local 371



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