



# Philippine Energy Plan 101

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# Philippine Energy Plan (PEP)

The PEP is a comprehensive roadmap of programs and projects of the energy sector to ensure sustainable, stable, secure, sufficient, accessible and reasonably-priced energy.



# Philippine Energy Plan (PEP)



5  
4th Q

### POLICY AND PLAN IMPLEMENTATION REVIEW

- PEP monitoring, evaluation & assessment
- Sectoral performance Appraisal
  - Review of Sectoral Roadmaps
  - Assessment of Sectoral Challenges

4  
3rd Q

### Policy and Plan Adoption

- Adoption of PEP with national and local development plans.
- Alignment of PEP to international frameworks such as UN Sustainable Development Goals, APEC and ASEAN energy cooperation plans of action.

1  
1st Q

### CONCEPTUALIZATION

- Pre-Consultation with DOE Bureaus and Services, Attached Agencies and oversight Government Agencies
- Integration of national development plans to the PEP
- New Directives /Agenda/ Goals setting
- Framing energy strategies
- Identification of assumptions and target indicators
- Updating of Sectoral Roadmaps / Catch-up Plans

3  
3rd Q

### FINALIZATION and Dissemination of Plan

- Revision of draft PEP
- Secretary's Approval
- Publication of the PEP
- PEP IEC (includes survey of stakeholders' satisfaction)
- Transmittal to OP and Congress
- Circulation to energy stakeholders

2  
2nd Q

### FORMULATION

- Preparation of energy demand projections
- Assessment of energy resources and technologies
- Supply-Demand balancing
- Drafting of sectoral write-ups to consider energy-related development Plans
- Consultation with Attached Agencies and Industry Stakeholders

# PHILIPPINE ENERGY PLANNING PROCESS



# 1 | PEP PROCESS

## Conceptualization

# Policy Framework



## VISION 2040:

*“A strongly-rooted, comfortable and secure life for all Filipinos”*

## DUTERTENOMICS: *“Build Build Build”*

## Philippine Energy Plan (and other relevant plans and policies)

### ENERGY SECTOR STRATEGIC DIRECTIONS

**1** ENSURE ENERGY SECURITY



**2** EXPAND ENERGY ACCESS



**3** PROMOTE A LOW CARBON FUTURE



**4** STRENGTHEN COLLABORATION AMONG ALL GOV'T. AGENCIES INVOLVED IN ENERGY



**5** IMPLEMENT, MONITOR AND INTEGRATE ROADMAPS AND ACTION PLANS



**6** ADVOCATE THE PASSAGE OF THE DEPARTMENT'S LEGISLATIVE AGENDA



**7** STRENGTHEN CONSUMER WELFARE AND PROTECTION



**8** FOSTER STRONGER INTERNATIONAL RELATIONS AND PARTNERSHIPS



# DOE's Priority Programs



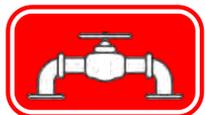
100% Electrification by 2022



Technology Neutral Approach



Power to Meet Demand Needs by 2030



LNG Needs for Anticipated Depletion of Malampaya



Completion of Transmission Projects by 2020



Affordability, Power of Choice and Transparency



Streamlining Domestic Policy to Cut Red Tape



Delivery of PSALM Privatization



More Efficient Use of Energy



# Sectoral Roadmaps: Overall Objectives by 2040



Increase RE installed capacity to at least 20,000 MW



Increase indigenous petroleum reserves to 57.12 MMB oil, 5.87 TCF gas and 56.81MMB condensate:  
Produce 115.37 MMB oil, 4.04 TCF gas and 45.93 MMB condensate



Increase indigenous coal reserves to 766 MMT and 282 MMT production



Improved policy governing the downstream oil industry to ensure continuous supply of high quality and right quantity of petroleum products in the market



Establish a world-class, investment driven and efficient natural gas industry that makes natural gas the preferred fuel by all end-use sectors



Ensure quality, reliable, affordable and secure supply;  
Expand access to electricity;  
Ensure a transparent and fair playing field in the power industry



Ensure secured and stable supply of energy through technology responsive energy sector



Measurable reduction in energy intensity and consumption per year versus business as usual

OVERALL SECTORAL OBJECTIVES BY 2040

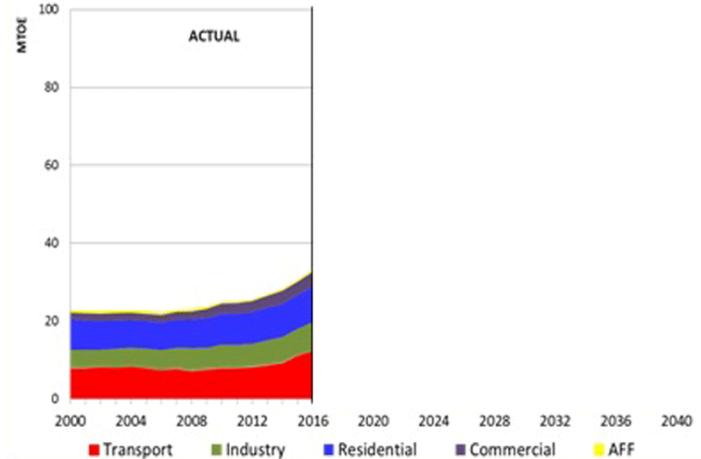
2  
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# 2 | PEP PROCESS **Formulation**

# Energy Demand Projection

The Energy Demand Projection takes into account new and existing policies, programs and measures of the Philippines government relating to the energy sector which are currently being implemented and will be pursued within the timeframe of the Plan.



# Energy Supply and Demand Targets: 2017-2040

Scenario	Assumptions	
	Supply	Demand
<b>Business as Usual (BAU)</b> <i>(Reference Scenario)</i>	<ul style="list-style-type: none"> <li>Continuation of present development trends and strategies</li> <li>Completion of all committed power projects</li> <li>Inclusion of planned interconnection of Vis-Min by 2020</li> <li>RE development as planned (based on NREP)</li> <li>Rehabilitation of existing RE capacity to extend economic life</li> <li>25.0 percent reserve margin</li> </ul>	<ul style="list-style-type: none"> <li>Energy savings on all sectors for electricity of at least 10.0 percent by 2040</li> <li>24.0 percent cumulative increase in number of vehicles using alternative fuels (CNG &amp; electricity) in the Transport sector</li> <li>2.0 percent biodiesel and 10.0 percent bioethanol blend by 2040</li> </ul>
<b>Clean Energy Scenario (CES)</b> <i>(Alternative Scenario)</i>	<ul style="list-style-type: none"> <li>Assumptions under the BAU with the addition of increased RE and LNG utilization, and entry of other technologies with aggregate capacity of 10,000 MW for power generation</li> </ul>	



# Assumptions on Macro-Indicators Used

Indicator	Assumptions	Source
GDP	2017-2020 = 7 - 8% 2021-2030 = 8% 2031-2040 = 7.5%	DBCC (for 2017-2020) NEDA (2021-2030) Internal estimate (2031-2040)
Population	2016-2030 = 1.5% p.a.	NEDA (up to 2030) Maintained growth from 2031-2040
Crude Oil Price	2020 - US\$ 80/barrel 2030 – US\$ 123/barrel 2040 – US\$160/barrel	World Oil Outlook 2016-2040 OPEC



# Energy Balance Table (EBT)

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Energy Policy and Planning Bureau (EPPB) of DOE prepares an annual EBT, at the national level, which is used as the starting point for the generation of the country's Energy Outlook.

EBT is an accounting table representing a coherent picture of flows of all types of energy from their origin, through transformation processes to final use.



# Energy Balance Table (EBT)

<b>ENERGY FORMS</b> →	Coal	Natgas	Condensate	Oil & Oil Products	Hydro	Geothermal	Solar	Wind	Biomass	Biofuels	Electricity	Total
Indigenous	3,510.06	3,027.90	511.02	411.19	1,942.94	8,539.07	0.11	5.31	5,350.15	106.73		23,404.48
Imports (+)	5,787.76			9,015.98						77.93		21,685.75
Exports (-)	(2,163.38)		(511.02)	(351.44)								(3,916.27)
International Marine Bunkers (-)												(182.93)
International Aviation Bunkers (-)												
Stock Change (+/-)	(104.28)			(121.68)						29.67		(260.20)
<b>Total Primary Energy Supply</b>	<b>7,030.16</b>	<b>3,027.90</b>		<b>14,620.86</b>	<b>1,942.94</b>	<b>8,539.07</b>	<b>0.11</b>	<b>5.31</b>	<b>5,350.15</b>	<b>214.33</b>		<b>40,730.83</b>
Refinery/Crude Run				(268.27)								(268.27)
Power Generation												
Fuel Input (-)	(5,089.61)	(2,731.83)		(1,480.36)	(1,942.94)	(8,539.07)	(0.11)	(5.31)	(9.23)	(6.51)		(19,804.97)
Electricity Generation	2,003.90	1,678.54		610.69	671.09	853.91	0.11	5.31	2.35		5,825.88	5,825.88
Transmission/Dist. Loss (-)											(670.81)	(670.81)
Energy Sector Use & Loss (-)		(226.40)		(308.38)							(402.21)	(936.99)
<b>Net Domestic Supply</b>	<b>1,940.55</b>	<b>69.67</b>		<b>12,563.84</b>					<b>5,340.92</b>	<b>207.82</b>	<b>4,752.86</b>	<b>24,875.66</b>
Statistical Difference	7.24			27.56						0.00		130.70
% Statistical Difference	0.37			122.08						0.00		0.53
<b>Total Final Energy Consumption</b>	<b>1,933.31</b>	<b>69.67</b>		<b>12,440.38</b>					<b>5,340.92</b>	<b>207.82</b>	<b>4,752.86</b>	<b>24,744.96</b>
<b>INDUSTRY</b>	<b>1,830.80</b>	<b>69.31</b>		1,402.92					1,453.24	9.92	1,597.56	<b>6,363.75</b>
<b>TRANSPORT</b>		<b>0.36</b>		8,829.63						183.10	9.57	<b>9,022.67</b>
<b>RESIDENTIAL</b>				930.26					3,575.11		1,619.64	<b>6,125.01</b>
<b>COMMERCIAL</b>				941.99					312.57	10.85	1,398.41	<b>2,663.81</b>
<b>AGRICULTURE, FISHERY &amp; FORESTRY</b>				215.55						3.96	127.67	<b>347.18</b>
<b>OTHERS, NON-ENERGY USE</b>	<b>102.51</b>			120.04								<b>222.55</b>

FLOWS



## PRIMARY SOURCES

- Oil Industry Participants/Players
- End-Users Directly Importing Oil (e.g. Airline Companies, Mining & Fishing Companies)
- International Wire Services (e.g. Mean of Platts Singapore)

- Power Plants
- Gas Fields (e.g. Malampaya Gas Field)
- Cement Industry (e.g. Republic Cement, Taiheiy Cement)
- Power Industry (e.g. Toledo Power Corp, Sual Power Corp.)
- Local Coal Producers (e.g. Semirara Coal Corp.)

- Power Generators
- Distribution Utilities
- National Grid Corporation of the Philippines (NGCP)

- RE Companies and Facilities (e.g. San Carlos Bioenergy Inc., Leyte Agri Corporation)
- Affiliated Renewable Energy Centers (ARECs former ANECs)
- Other Energy Companies (e.g. PNOC-EDC)
- Other Government Agencies (e.g. NIA, PAG-ASA)

## DOE BUREAUS

Oil Industry Management Bureau (OIMB)

Energy Resource Development Bureau (ERDB) and Natural Gas Office (NGO)

Electric Power Industry Management Bureau (EPIMB)

Renewable Energy Management Bureau (REMB)

## OTHER SOURCES

Department of Transportation and Communication

Philippine Statistics Authority (PSA)

Energy Policy & Planning Bureau (EPPB)

Energy Balance Table



# IECs/Public Consultations



# IEC Survey Form

## INFORMATION, EDUCATION AND COMMUNICATION Implementing Rules and Regulation (IRR) of Executive Order No. 30

LOCAL GOVERNMENT  ELECTRIC COOPERATIVE  ACADEME  Other sector:

### FEEDBACK FORM

VENUE: Taguig City Date: 19 April 2018 Survey Control #: \_\_\_\_\_

INTRO: *May we have a few minutes of your time to give us your honest evaluation of the Consultation? Put a check (✓) mark to indicate your preferred answer to the survey questions.*

1. Is this your first time to participate in **Information, Education and Communication (IEC)** for the Implementing Rules and Regulation (IRR) of Executive Order No. 30? YES  1  NO  2  If NO when was the last IEC activity that you attended?

2. What is the **Level Of Your Awareness** on the Implementing Rules and Regulation (IRR) of Executive Order No. 30 before the conduct of this **Information, Education and Communication (IEC)**?

Very Good	Good	Fair	Poor	Very Poor
5	4	3	2	1

3. After attending the **Information, Education and Communication (IEC)**, how well did your **Level Of Understanding** improve on the following energy topics?

EPNS Features	Very Good	Good	Fair	Poor	Very Poor
Salient Features of Executive Order No.30	5	4	3	2	1
3.1 Classification of Energy Projects of National Significance (EPNS)					
3.2 Attributes of the EPNS					
3.3 Composition of the Energy Investment Coordinating Council (EICC)					
3.4 Functions of the EICC					
3.5 Baselines in Processing EPNS					
Philippine Energy Plan 2017-2040					
3.6					

4. Please rate the **Information, Education and Communication for the Implementing Rules and Regulation (IRR) of Executive Order No. 30** in each of the following areas:

CRITERIA	Very Good	Good	Fair	Poor	Very Poor
4.1 How well did you find the overall relevance of the activity?	5	4	3	2	1
4.2 How relevant is the activity to your Local (Municipal/City/Provincial/Regional) Development Plans?					
4.3 How relevant is the activity to your institutional/organizational/agency-wide/corporate Development Plans?					

4.4 What rate will you give the **IEC on Implementing Rules and Regulation (IRR) of Executive Order No. 30**, with 75% as the passing mark and 100% as the highest grade?

Why did you rate the activity as such?

PL-000014/000001/ENERGY POLICY & PLANNING BUREAU | TAGUIG CITY | +63288411790

5. After attending the IEC, were your questions, issues or concerns on the **Implementing Rules and Regulation (IRR) of Executive Order No. 30** have been addressed?

Very much	Somewhat	Fair	Not really	Not at all
5	4	3	2	1

6. Please Rate the **EFFECTIVENESS** of the **IEC** on the Implementing Rules and Regulation (IRR) of Executive Order No. 30 according to the following criteria?

CRITERIA	Excellent	Very Good	Good	Fair	Poor
6.1 Were the goals of this IEC carried out?	5	4	3	2	1
6.2 Were the contents relevant to your practice?					
6.3 How interesting were the topics to you?					
6.4 Were the topics carefully explained?					
6.5 Were the presentation materials/handouts sufficient and substantial?					
6.6 Was the time allocated for each topic adequate?					
6.7 Were you given enough time to ask for questions?					
6.8 Was this activity presented free from bias?					
6.9 Are the contents fair and balanced?					

7. SPECIAL TOPIC: The Department of Energy, consistent to its mandate of ensuring a stable energy supply, is studying emerging technologies as long term options. With regard to this, DOE would like to obtain your thoughts on Nuclear Energy. Your insights will be used as additional information on DOE's policy research and studies for decision making purposes.

Level of Awareness	Extremely aware	Moderately aware	Somewhat aware	Slightly aware	Not at all aware
7.1 Nuclear energy is <b>currently</b> being utilized in the Philippines	5	4	3	2	1
7.2 Nuclear technology <b>can</b> be used for power generation					
7.3 Nuclear technology <b>can</b> be used for non-power applications:					
a. Medical					
b. Industrial					
c. Agricultural					
d. Environment					

Level of Support	Strongly support	Somewhat support	Neutral	Somewhat oppose	Strongly oppose
7.4 Nuclear Energy for power generation as a long-term option to ensure stable energy supply for the country.	5	4	3	2	1
7.5 Constructing Nuclear Power Plants for electricity generation in Luzon.					

8. What did you find most helpful about this IEC activity?

9. What one thing did you learn today that everyone in your organization needs to know?

10. What did you like best about the IEC activity?

11. What did you like least about this IEC activity?

12. Suggest one change to improve future IEC activities.

13. Other Comments/Suggestions/Recommendations:

### 14. Participant's Information

Name : \_\_\_\_\_ Signature : \_\_\_\_\_  
Address : \_\_\_\_\_ Sex :  M  F

City/Municipality: \_\_\_\_\_

Please specify: \_\_\_\_\_

	Organization/Institution Represented :	
	NAME of INSTITUTION	POSITION/OCCUPATION
1	Government – LGU	
2	Government – Line Agencies	
3	Government – GOCC	01 02
4	Energy Sector – Power (Generation/Distribution)	
5	Energy Sector – Upstream (Exploration and production)	
6	Energy Sector – Downstream (Petroleum product distribution, retail outlets and natural gas distribution companies)	
7	Private Sector – Transport	
8	Private Sector – Industrial /Manufacturing	
9	Private Sector – Industry Association	
10	Financial Institutions	
11	Academe	
12	International Development Partners	
13	Media	
14	NGO's / Civil Society / People's Org.	
	Others, please specify:	

**THANK YOU VERY MUCH FOR YOUR TIME!**





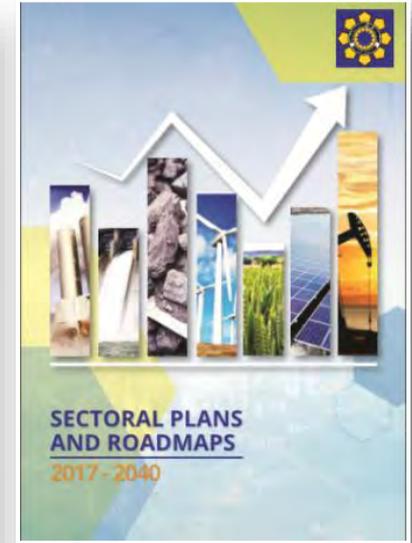
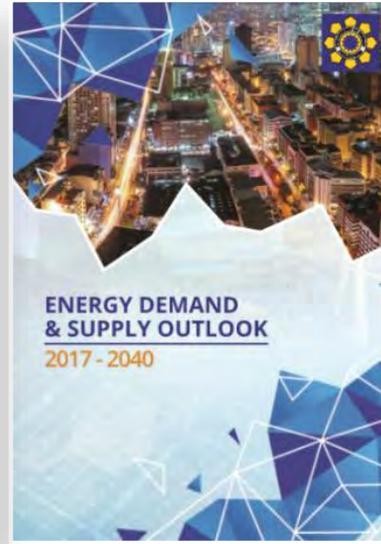
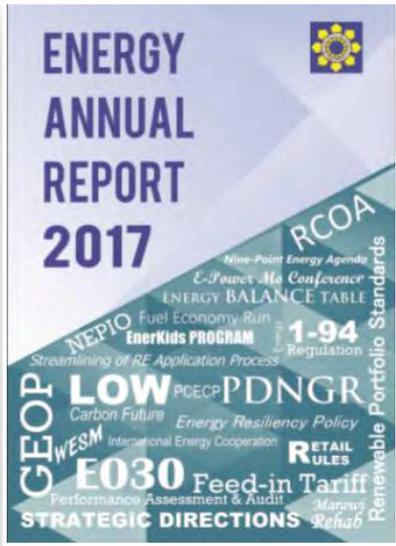
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## PEP PROCESS

**Finalization and**

**Dissemination of Plan**

# PEP 2017-2040



Submitted to the Office of the President and Congress every 15<sup>th</sup> of September



4  
3rd Q



# 4 | PEP PROCESS

## **Policy and Plan Adoption**

# Integration of PEP with National and Local Development Plans



The **Philippine Development Plan (PDP) 2017-2022** is the first medium-term plan to be anchored on the 0-10 point Socioeconomic Agenda and is geared towards the Ambisyon Natin 2040 which articulates the Filipino people's collective vision of a MATATAG, MAGINHAWA, AT PANATAG NA BUHAY PARA SA LAHAT. It also takes into account the country's international commitments.

The **Regional Development Plans (RDPs)**, as accompanying document to the PDP, will be an important tool in guiding both the public and private investments that will catalyze growth in the regions. It is a shared output of the Regional Line Agencies (RLAs), Local Government Units (LGUs), Higher Education Institutions (HEIs), private sector, civil society organization and other regional stakeholders that spell out the priority interventions & strategies of regions.



# International Frameworks

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Alignment of PEP to international frameworks such as UN Sustainable Development Goals, APEC and ASEAN energy cooperation plans of action



**ASIA PACIFIC ECONOMIC  
COOPERATION**



**UNITED NATIONS**



**ASSOCIATION OF  
SOUTH EAST ASIAN NATIONS**





# ASIA PACIFIC ECONOMIC COOPERATION TARGETS

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- For energy efficiency, APEC is pursuing an aggregate reduction of energy intensity of at least 45 percent by 2035.
- For renewable energy, the target is to double the RE contribution to the region's energy mix by 2030 from 2010 level.





**Sustainable Development Goal 7:** Ensure access to affordable, reliable, sustainable and modern energy for all

**SE4ALL Initiative:** Sustainable Energy for All (SEforALL) is a nonprofit organization working with leaders in government, the private sector and civil society to drive further, faster action toward achievement of Sustainable Development Goal 7, which calls for universal access to sustainable energy by 2030, and the Paris Climate Agreement, which calls for reducing greenhouse gas emissions to limit climate warming to below 2 degrees Celsius.





# Association of South East Asian Nation

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- Energy intensity reduction of 20% by 2020 and 30% by 2025.
- 23% renewable energy on energy mix by 2025.



5  
4<sup>th</sup> Q



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# PEP PROCESS

**Policy and Plan  
Implementation Review**

# Energy Annual Report (EAR)



EAR outlines the major accomplishments of the DOE and its attached agencies in its mission to steer the country closer towards sustained prosperity and security.

Submitted to oversight committees such as:

- DBM
- CABSEC
- NEDA



# Performance Assessment of Roadmaps



Increase RE installed capacity to at least 20,000 MW



Increase indigenous petroleum reserves to 57.12 MMB oil, 5.87 TCF gas and 56.81MMB condensate:

Produce 115.37 MMB oil, 4.04 TCF gas and 45.93 MMB condensate



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Establish a world-class, investment driven and efficient natural gas industry that makes natural gas the preferred fuel by all end-use sectors



Ensure quality, reliable, affordable and secure supply;

Expand access to electricity;

Ensure a transparent and fair playing field in the power industry



Ensure secured and stable supply of energy through technology responsive energy sector



Measurable reduction in energy intensity and consumption per year versus business as usual

OVERALL SECTORAL OBJECTIVES BY 2040

# Performance Assessment of Roadmaps

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Information, Education  
and Communication



Focus Group Discussions



Client Surveys



# Thank You!



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