Energy Efficiency Indicators in the Industry Sector - The Philippines case

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Outline of Presentation

Background
- The Philippines in brief
- Energy trends
- Organizational structure

Approaches to efficiency
- Energy efficiency framework
- Energy efficiency efforts

Measuring energy efficiency

Data dissemination
The Philippines in Brief

Selected Macro Economic Indicators

- Land Area: 300,000 sq/km.
- Number of Islands: 7,641 Islands
- Population: 100.98 Million (2015 POPCEN)
- GDP Growth Rate: 6.8% (2016)

GDP Shares of Economic Sectors (2015)

- Agriculture: 10.3%
- Industry: 30.9%
- Services: 58.8%

GDP/Capita (2016): PhP 78,712 (USD 1,500)
Industry was the 3rd largest consuming sector (22%) in 2015; from APEC Outlook 6th Ed becomes the largest energy-consuming sector, accounting for about 40% of total final energy demand in 2040.
DOE organizational structure

Consumer Welfare and Promotion Staff
Public Affairs Staff
Internal Audit Staff
Investment Promotion Staff

SECRETARY

UNDERSECRETARY

ASSISTANT SECRETARY

ENERGY RESOURCE DEVELOPMENT BUREAU (ERDB)

RENEWABLE ENERGY MANAGEMENT BUREAU (REMB)

ENERGY UTILIZATION MANAGEMENT BUREAU (EUMB)

OIL INDUSTRY MANAGEMENT BUREAU (OIMB)

ENERGY POLICY & PLANNING BUREAU (EPPB)

ELECTRIC POWER INDUSTRY MANAGEMENT BUREAU (EPIMB)

INFORMATION TECHNOLOGY & MGT. SERVICES

LEGAL SERVICES

FINANCIAL SERVICES

ADMINISTRATIVE SERVICES

ENERGY RESEARCH & TESTING LABORATORY SERVICES

Luzon Field Office
Visayas Field Office
Mindanao Field Office
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, Taiheiyo 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)

Data flow

Energy Policy & Planning Bureau (EPPB)

Energy Balance Table
Philippines Energy Efficiency Roadmap, 2017-2040

**2017-2040 ENERGY EFFICIENCY & CONSERVATION ROADMAP**

**SHORT-TERM (2017-2019)**
- Industry Development
  - Conduct market demand scoping
  - Advocate the legislation of the EE&C bill
  - Establish cross-sectoral energy performance and rating systems
  - Create business tool kit for ESCOs
  - Collaborate with stakeholders for expanded financing models for EE&C Projects
  - Conduct Information, Education and Communication (IEC) campaign on EE practices
  - Integrate EE&C at LGU level
  - Performance Assessment and Audit of Power Plant, Transmission and Distribution
  - Smart Grid

**MEDIUM-TERM (2020-2022)**
- Strengthening
  - Create enabling mechanisms for private sector participation
  - Enhance Demand Side Management mechanisms
  - Integrate EE&C in the learning and education system
  - Mainstream EE&C at LGU level

**LONG-TERM (2023-2040)**
- Sustaining
  - Institutionalize EE&C Knowledge Management System
  - Develop advanced EE&C R&D Capacity

**Overall Objective by 2040**

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**Economy-wide energy efficiency reduction target:** 3% by 2040 from 2017 levels

Source: DOE Philippines website
Energy efficiency efforts (Industry)

- The bill became one of the important Agenda in the legislation (Enercon Bill)

Drafted the Energy Efficiency and Conservation Bill

- annual award given to companies that achieved significant energy savings through implementing energy efficiency and conservation technologies and measures
- Awarded 456 companies from 2010 to 2016 for reported generated savings of 1,280,089,210.73 kWh

Don Emilio Abello Energy Efficiency Award

- Conducted on regular basis to government buildings and by request for industry
- 45 government agencies and 2 commercial/industrial establishments
Energy intensity (1990-2015)

- the government embarks on energy efficiency and conservation programs as key components of its energy plan; energy intensity continuously declines

Sources: APERC-ESTO (energy data), WB (GDP data)
Measuring energy efficiency (2)

Intensity by decomposition analysis

- **Growth in manufacturing GVA (2.5%) surpassed growth in total manufacturing energy consumption (1.2%) since 1998**
- **Decline in the Philippines’ consumption in manufacturing sector was mostly due to Structural effect and Activity effect**
  - energy intensive industries (food and non-metallic) have a smaller share of GDP compared with the base year
- **The Pure intensity effect was obvious only in 2015**

Source: EGEDA (Energy data), Economy submission (GVA)
Data dissemination

- Philippine Energy Plan
- Energy Sector Accomplishment Report (ESAR)
- Household Energy Consumption Survey (HECS)
- Philippine Key Energy Statistics
- Survey on Energy Consumption of Establishments (SECE)
- Philippine Statistical Yearbook

https://www.doe.gov.ph
Thank you for your kind attention

http://www.egeda.ewg.apec.org