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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



It's more fun in the
Philippines



Selected Macro Economic Indicators

Land Area : 300,000 sq/km.
Number of Islands : 7,641 Islands
Population : 100.98 Million
(2015)

POPCEN)

Population Density : 337 persons/
square km (2015)

GDP Growth Rate : 6.8% (2016)

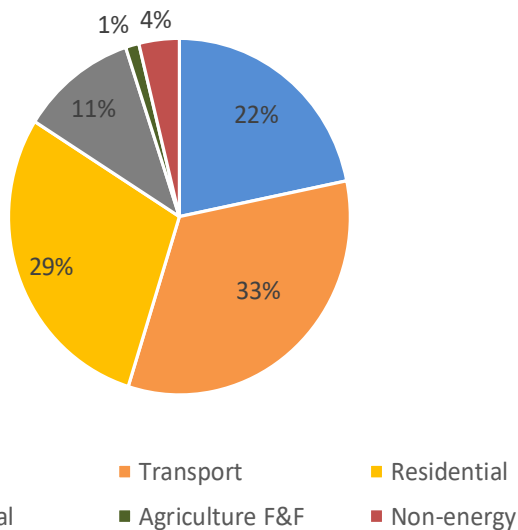
GDP Shares of Economic Sectors (2015)

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

GDP/Capita (2016) : PhP 78,712
(USD 1,500)

Trends and projection in energy consumption

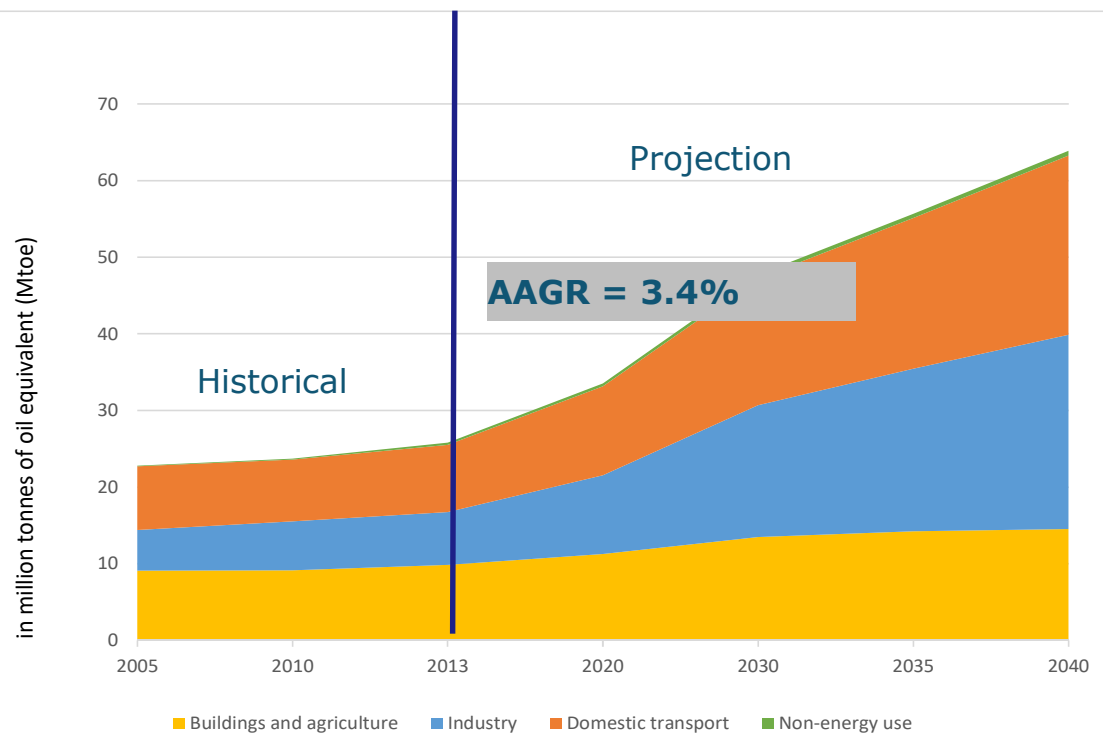
Final energy consumption 2015



TFC = 30.8 Mtoe
Excluding non-energy = 29.7 Mtoe

Source: APERC-ESTO

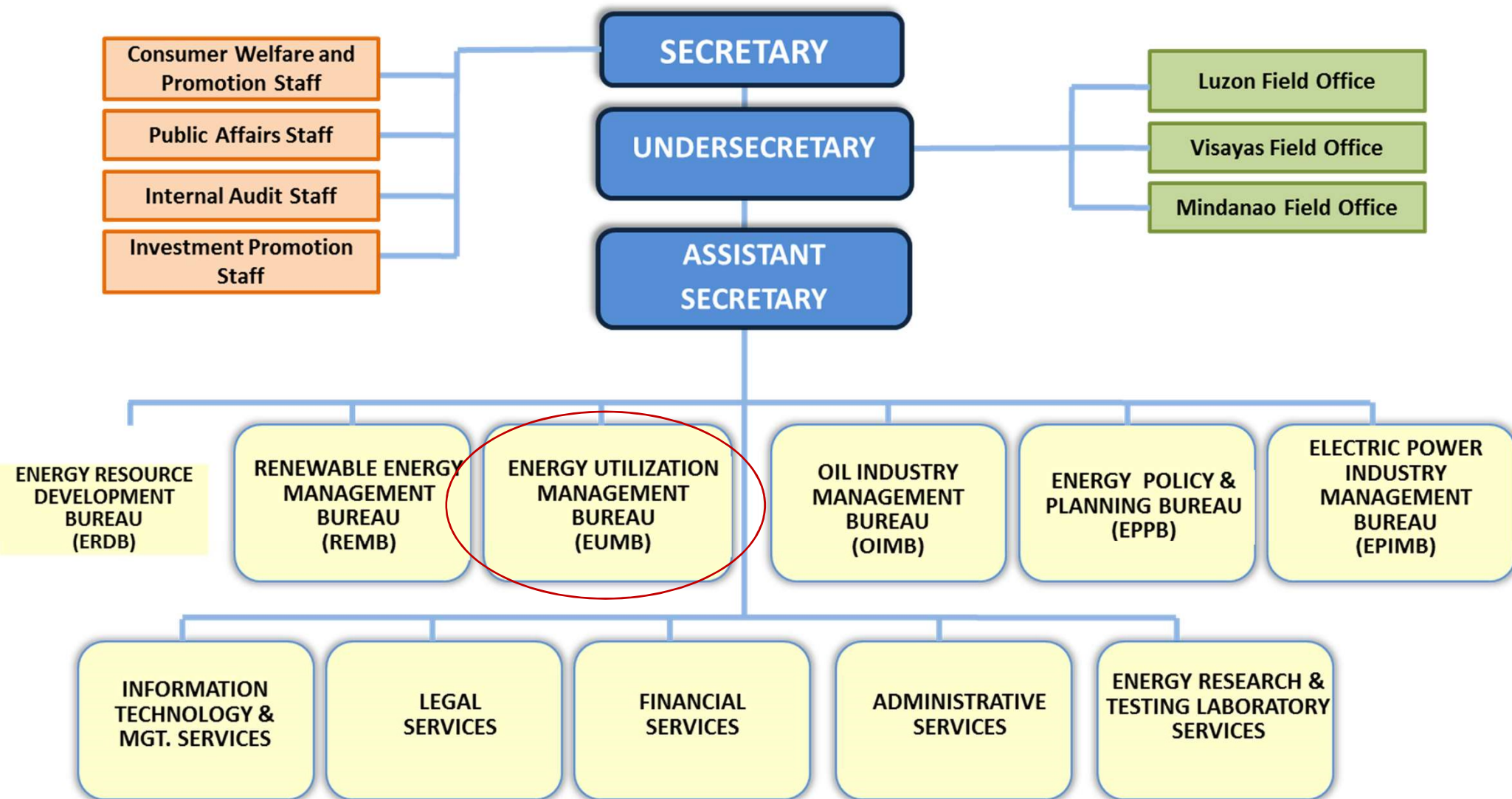
Total final energy demand 2013-40



Source: APEC Energy Demand and Supply Outlook 6th Edition

- 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



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

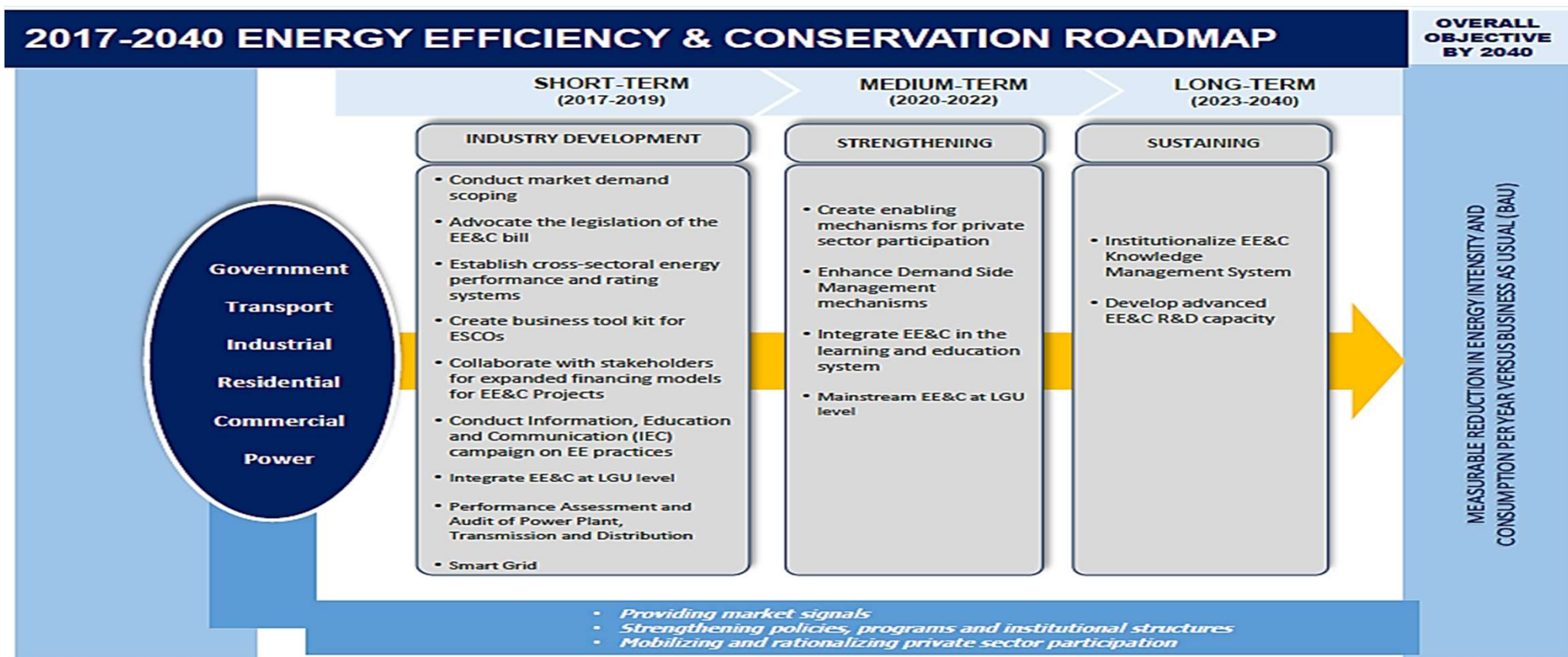
Energy Policy & Planning Bureau (EPPB)



Energy Balance Table

Energy efficiency framework

Philippines Energy Efficiency Roadmap, 2017-2040



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

Source: DOE Philippines website

Energy efficiency efforts (Industry)

Drafted the Energy Efficiency and Conservation Bill

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

Energy Efficiency and Conservation Bill (16th Congress)

SBN 1085 (Sen. Teglato "TG" Gulgona)
SBN 167 (Sen. Sergio A. Gonsara)
HBN 4393 (Cong. Reynaldo V. Umali)
HBN 5053 (Cong. Henedina Abad)

Short Title - This Act shall be known as the "Energy Efficiency and Conservation Act of 2014"

AN ACT INSTITUTIONALIZING ENERGY EFFICIENCY AND CONSERVATION, ENHANCING THE EFFICIENT USE OF ENERGY AND GRANTING INCENTIVES TO ENERGY EFFICIENCY AND CONSERVATION PROJECTS, AND FOR OTHER PURPOSES



Don Emilio Abello Energy Efficiency Award

- 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



Conducts energy audit

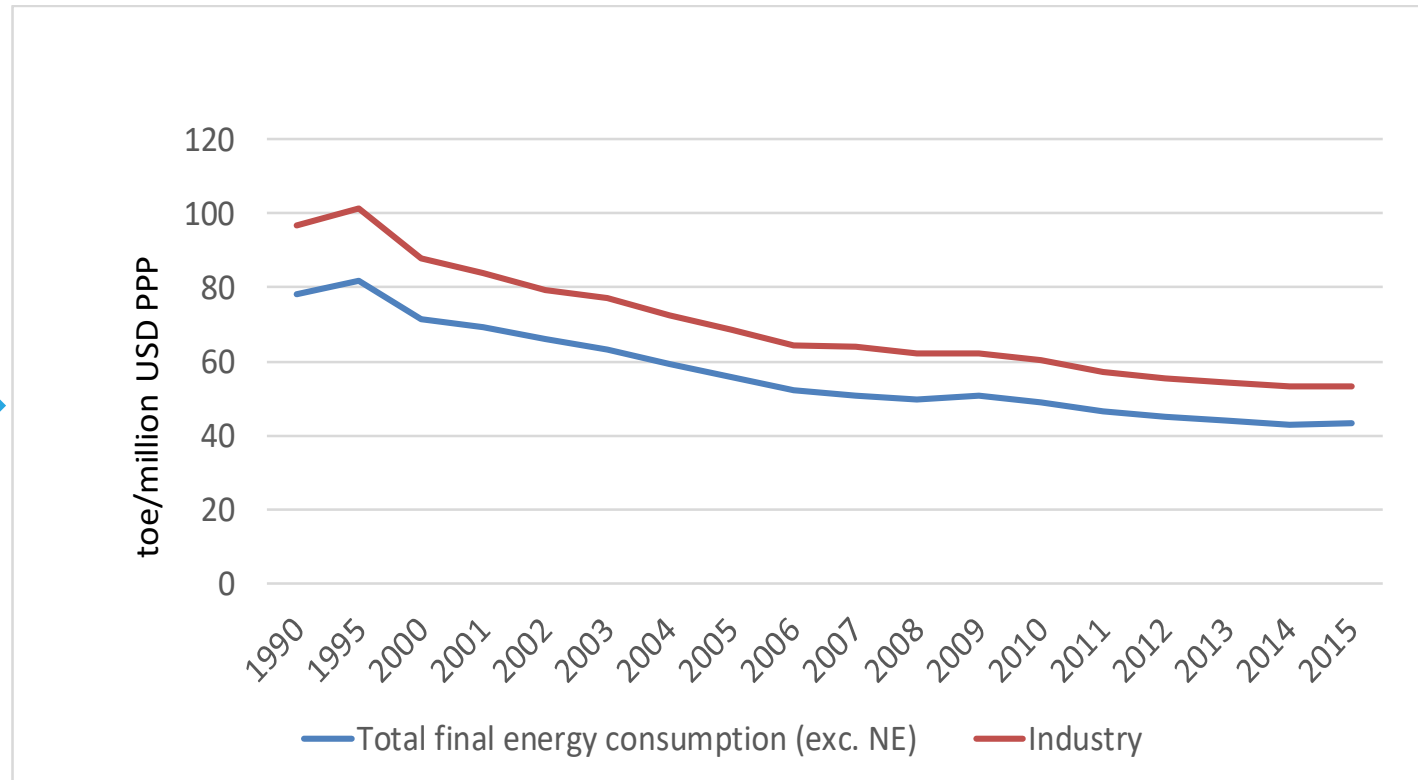
- Conducted on regular basis to government buildings and by request for industry
- 45 government agencies and 2 commercial/industrial establishments



Measuring energy efficiency (1)

Energy intensity (1990-2015)

**National
Energy
Efficiency
Conservation
Program**

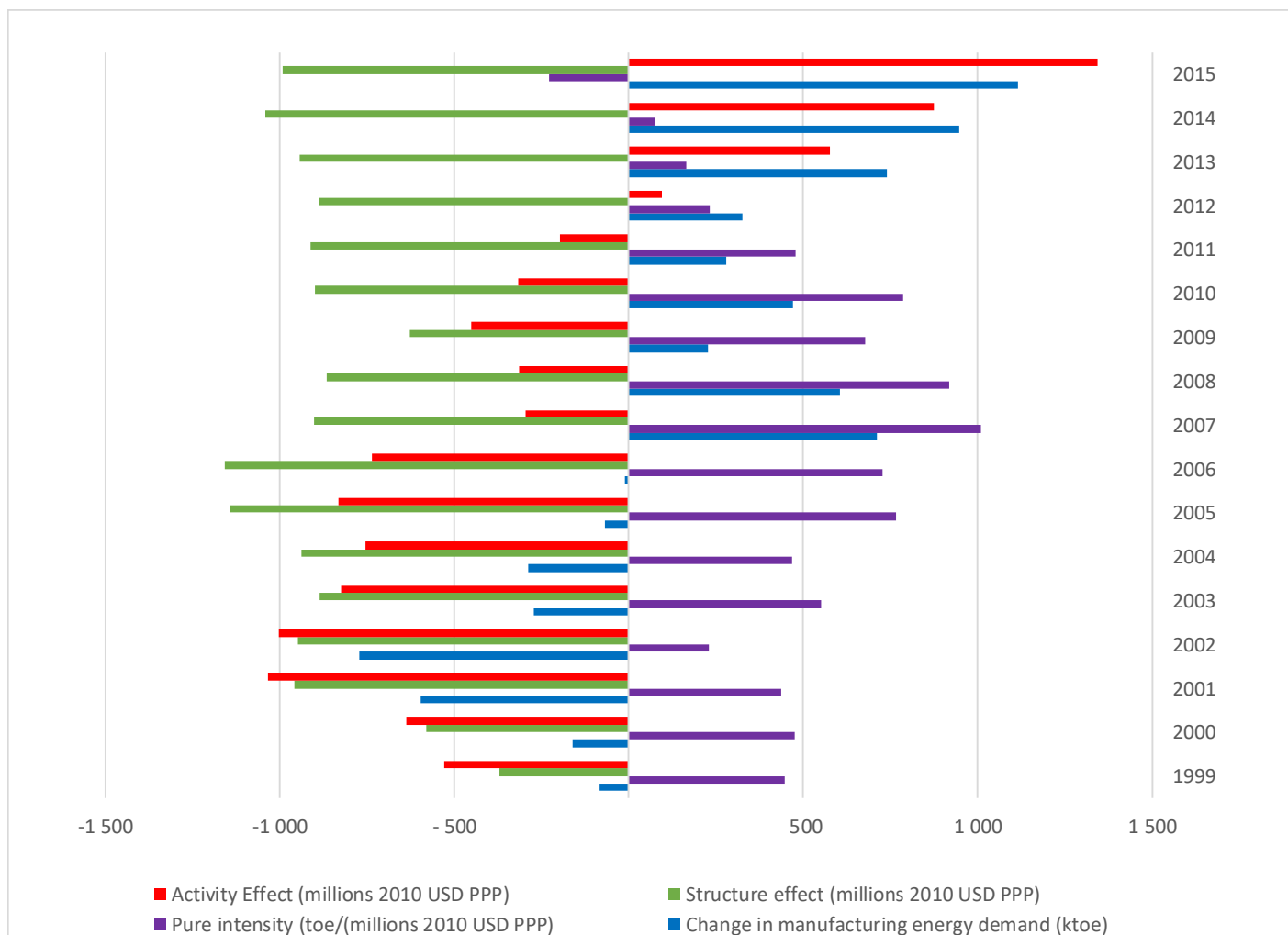


Sources: APERC-ESTO (energy data), WB (GDP data)

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

Measuring energy efficiency (2)

Intensity by decomposition analysis



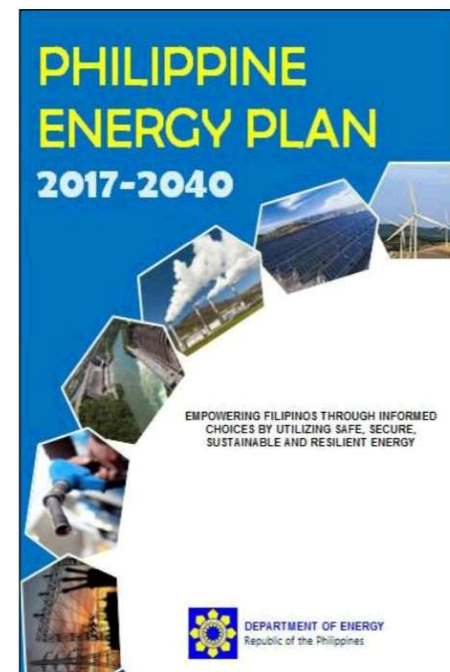
Source: EGEDA (Energy data), Economy submission (GVA)

- ❖ **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**

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

- Energy Supply and Demand Outlook
- Renewable Energy for a Clean Future
- Harnessing Conventional Fuels
- Promoting Emerging Energy Technologies
- Advocating Infrastructure Development in the Downstream Sector
- Powering the Nation
- Making Energy Efficiency a Way of Life
- Creating a Competitive Business Environment



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



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