

# **The Philippine Green Building Code**

## SE4All Global Energy Efficiency Forum of Cities Tokyo October 2015

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**The PHILIPPINES - Southeast Asian country in the Western Pacific, comprising more than 7,100 islands**



# 102M

Philippine Population

23.7  
yrs

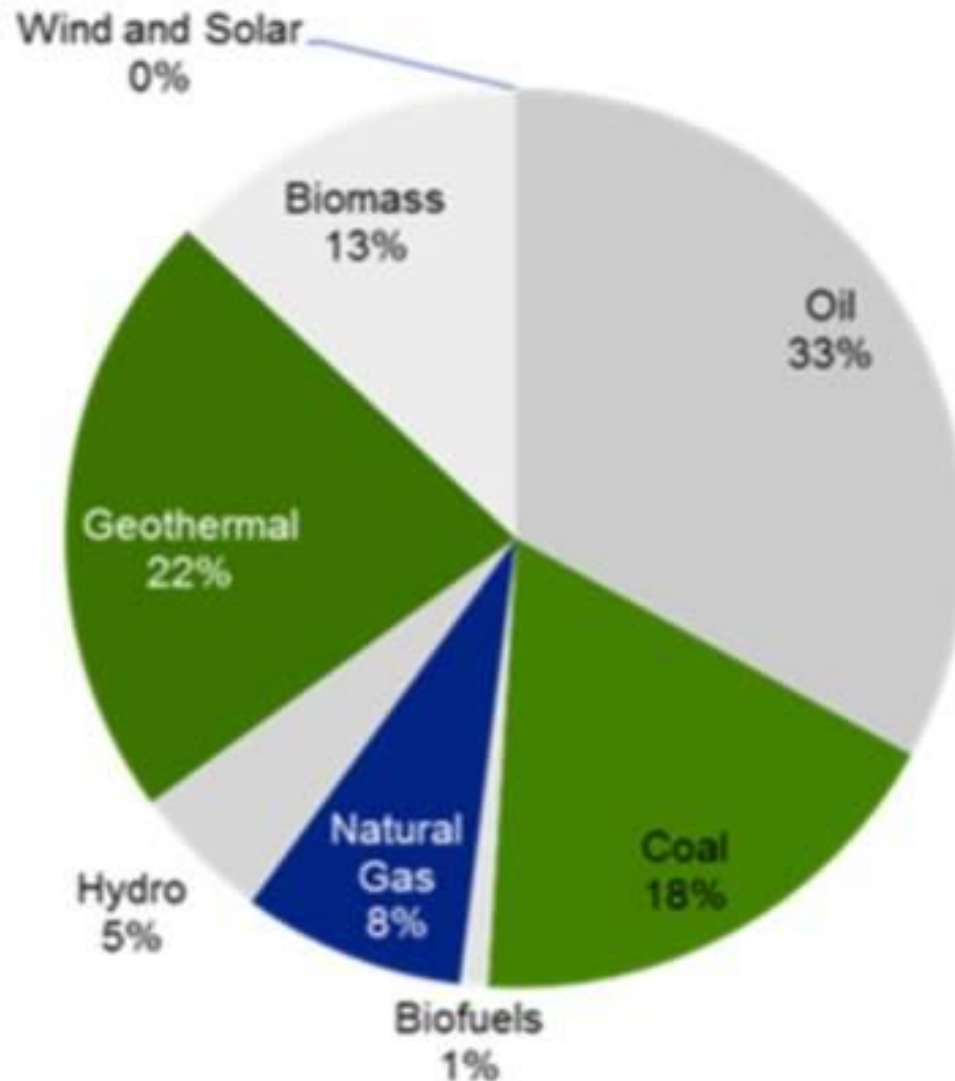
Median age

42%

School age  
(5-24 yrs)

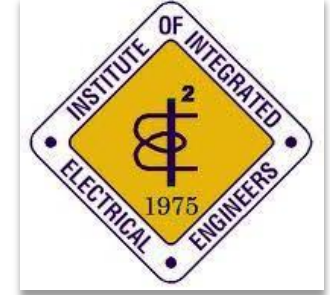
**Close to one half** of our population consists of the **youth**. We have plenty of consumers for our products.

## 2010 Primary Energy Mix of the Philippines

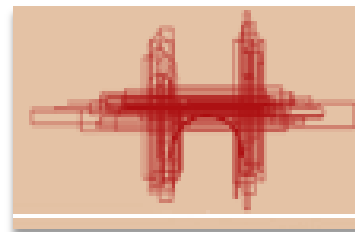


**Oil & coal  
-dominant  
power  
generation  
source**

Figure 1: 2010 Primary Energy Mix of the Philippines



Established in 2010 as a green building rating system



HERITAGE CONSERVATION SOCIETY



**ICOMOS Philippines**  
INTERNATIONAL COUNCIL  
ON MONUMENTS AND SITES



THE PHILIPPINE INSTITUTE OF INTERIOR DESIGNERS

# Collaboration between private sector and local government to develop a **Green Building Ordinance for the City of Mandaluyong** in Metro Manila (2013)



Department of Public Works  
and Highways



City of Mandaluyong,  
Metro Manila



PHILIPPINE  
**GREEN**  
BUILDING  
INITIATIVE



# BUILDING SURVEY - three key cities



Manila



Cebu



Davao

- Building envelope
- Air-conditioning & ventilation systems
- Lighting systems
- Water distribution systems

5 to 10 years old reflect the rise in energy demand and **potential to negatively impact natural resources**

# Collaboration between private sector and government unit (DPWH) to develop **The Philippine Green Building Code** (2014)



Department of Public Works  
and Highways

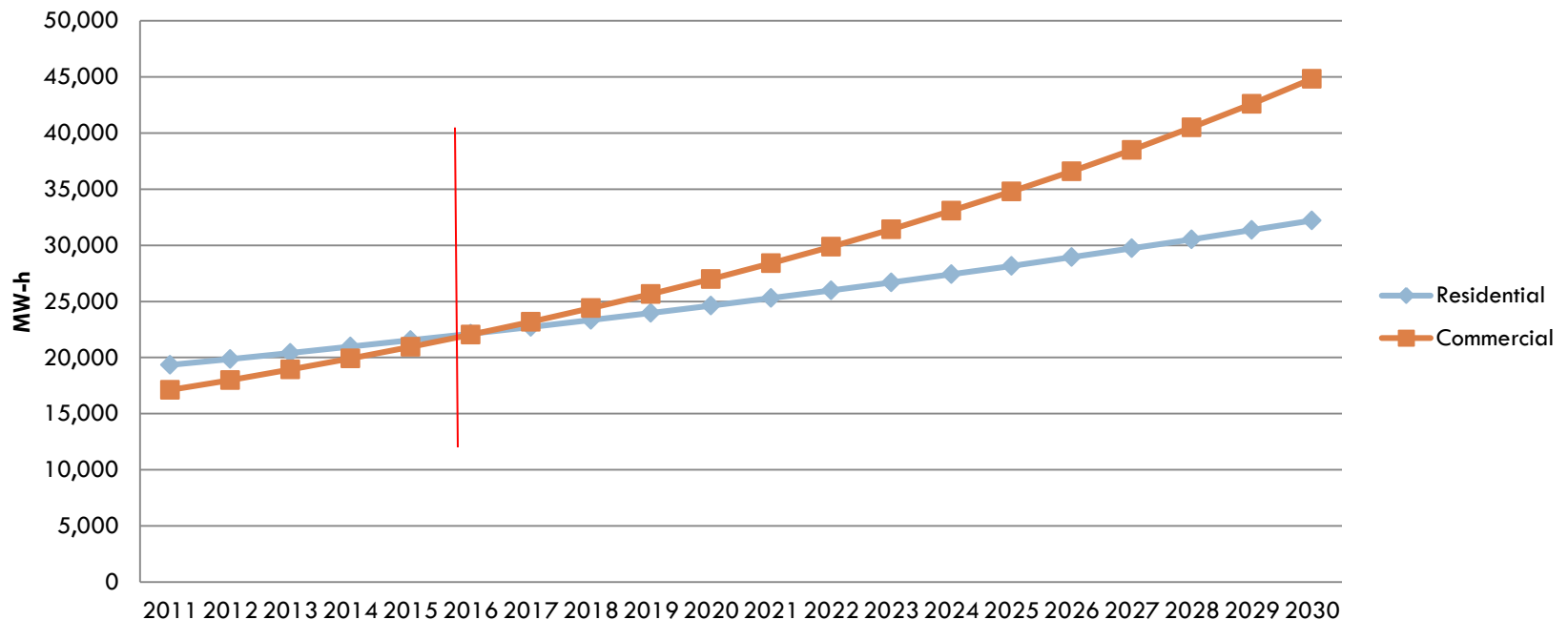


PHILIPPINE  
GREEN  
BUILDING  
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# Commercial Buildings Accelerated Demand

## Commercial and Residential Buildings Electricity Consumption Growth Projection for 2011 to 2030



Electricity consumption  
average annual growth rate :

commercial bldg: **5.2%**

residential bldg: **2.7%**

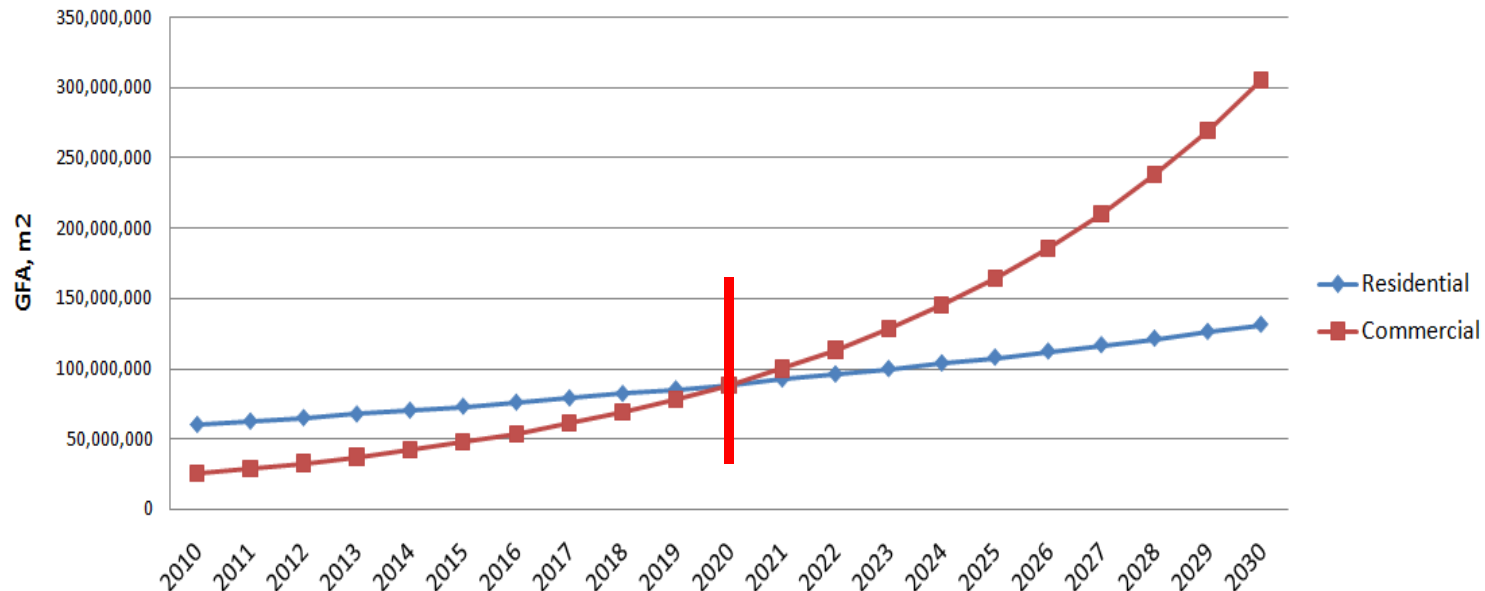
By 2030, electricity consumption of commercial buildings will be 12 GWh more than electricity consumption of residential buildings.

## Building Sector – Growth expected

Commercial buildings will grow faster than residential buildings.

10

National GFA Growth Projection 2010 to 2030



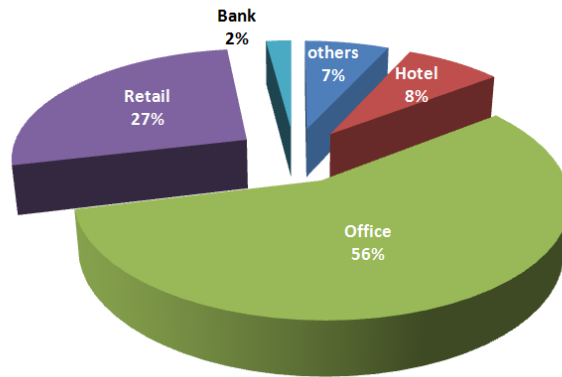
By 2030, GFA of commercial buildings will be higher than the GFA of residential buildings by 173.6 Million m². Commercial buildings growth rate is at 13.2% while Residential buildings growth rate is at 3.99%. Baseline data taken from new buildings between 2005-2010 is 59.8 Million m² for Residential and 25.5 Million m² for Commercial.

# Building Sector – Growth expected

## Office buildings are growing fastest

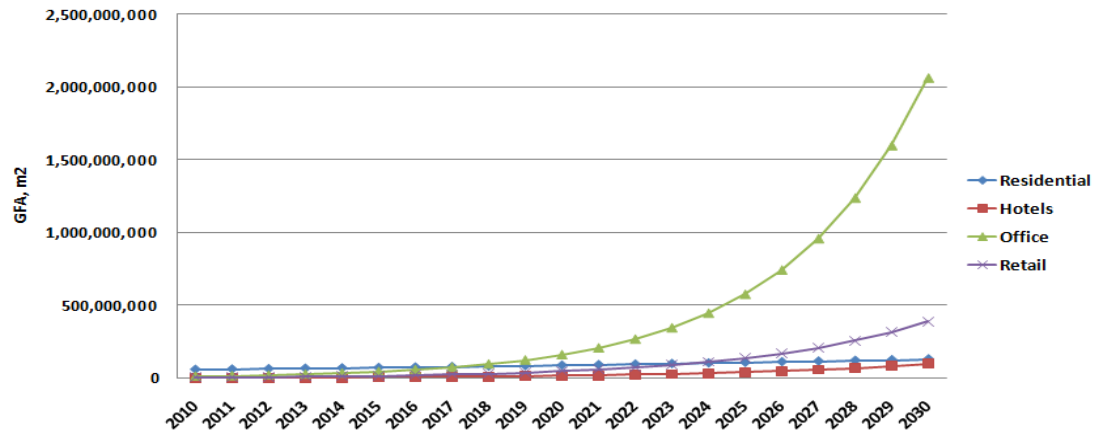
2010

Commercial Buildings GFA % Profile



In 2010, office buildings account for **56%** of commercial building permits and will grow at an annual average rate of **29.11%**.

Projected GFA Growth Nationwide by Sector 2011 to 2030



CATEGORY	CUMULATIVE new GFA(m²) fr 2005-2010	AVE. ANNUAL GFA GROWTH (in m²)	AVE. ANNUAL GROWTH RATE
Office	12,452,346	2,075,391	29.11%
Retail	6,191,729	1,031,955	23%
Hotel	2,934,878	489,146	19.28%
Banks	674,173	112,362	12.76%
Residential	53,329,301	8,888,217	11.50%
Others	3,257,306	524,884	-13.37%

# Objectives of Green Building Code:

- 1.Improve efficiency** of building performance through set of standards
  - 2.Counter harmful gases** responsible for effects of climate change
  - 3.Efficient use of resources**, site, design, construction, maintenance
- ...without significant increase in cost.***

# PERFORMANCE STANDARDS

## **1. Energy Efficiency**

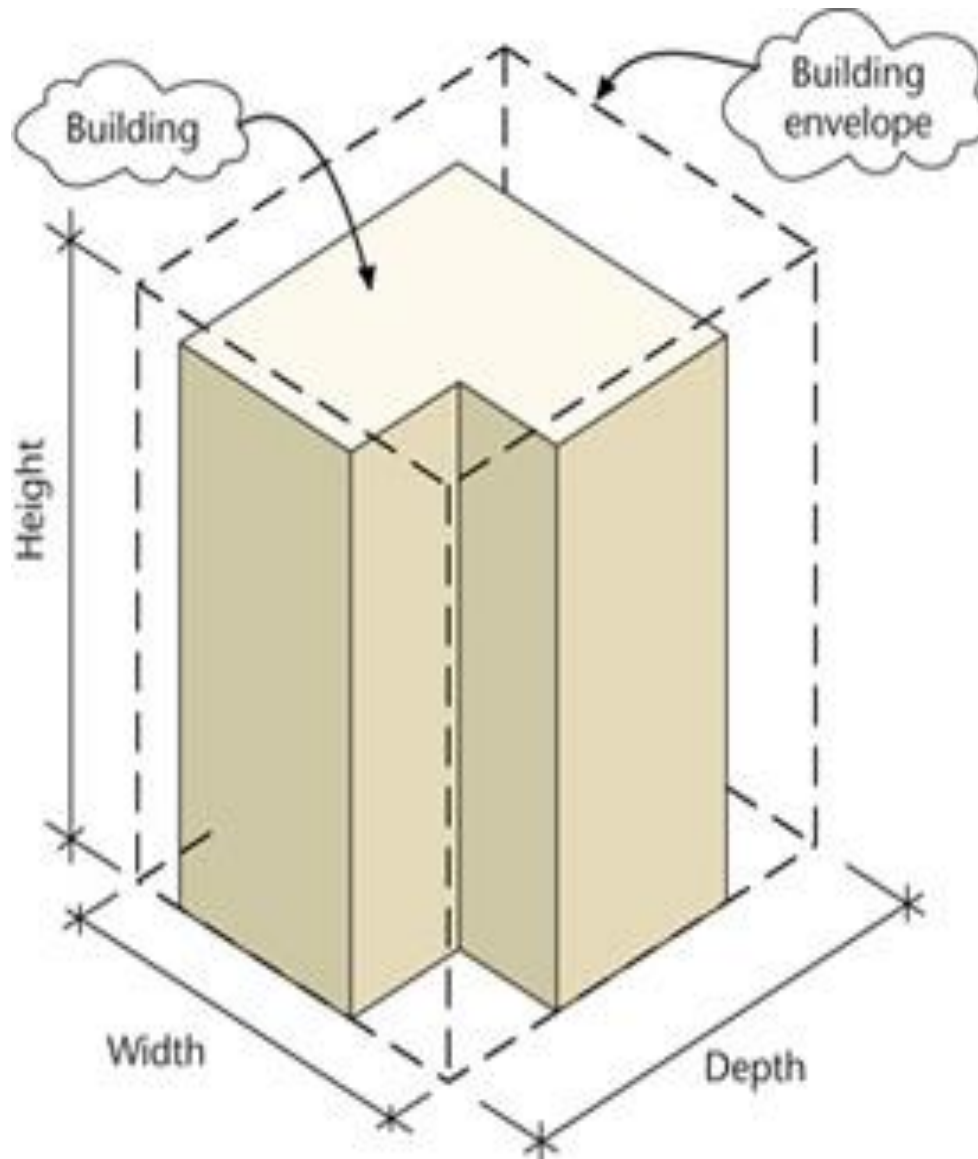
2. Water Efficiency

3. Material Sustainability

4. Solid Waste Management

5. Site Sustainability

6. Indoor Environmental Quality



# ENERGY EFFICIENCY

- Building envelope
- Natural ventilation
  - Envelope color
  - Roof insulation

Mechanical systems

- Electrical systems

# PHILIPPINE GREEN BUILDING CODE

Launched June 25, 2015

# What's next?

# The Philippine National Green Building Code

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