The Philippine Green Building Code
SE4All Global Energy Efficiency Forum of Cities
Tokyo October 2015

Amado P. de Jesus, Jr. FUAP, HM PIEP
President
Philippine Green Building Initiative

Founding Chairman
Green Architecture Movement

Member & Former Chair
Board of Judges, ASEAN Energy Awards
The PHILIPPINES - Southeast Asian country in the Western Pacific, comprising more than 7,100 islands
Close to one half of our population consists of the youth. We have plenty of consumers for our products.

Source: SWS Report 2011
2010 Primary Energy Mix of the Philippines

- Wind and Solar: 0%
- Biomass: 13%
- Geothermal: 22%
- Hydro: 5%
- Natural Gas: 8%
- Coal: 18%
- Oil: 33%
- Biofuels: 1%

Oil & coal -dominant power generation source

Figure 1: 2010 Primary Energy Mix of the Philippines
Established in 2010 as a green building rating system
Collaboration between private sector and local government to develop a Green Building Ordinance for the City of Mandaluyong in Metro Manila (2013)
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)
Commercial Buildings Accelerated Demand

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

Electricity consumption average annual growth rate:
- Commercial building: 5.2%
- Residential building: 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.

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

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

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

www.nyc.gov
PHILIPPINE GREEN BUILDING CODE
Launched June 25, 2015
The Philippine National Green Building Code
SE4All Global Energy Efficiency Forum of Cities
Tokyo October 2015

Amado P. de Jesus, Jr. FUAP, HMPIEP
President
Philippine Green Building Initiative

Founding Chairman
Green Architecture Movement

Member & Former Chair
Board of Judges, ASEAN Energy Awards