Building Energy Saving Strategy in Hong Kong
“Built-in” + “Plug-in”

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2015 United Nations Climate Change Conference, COP 21
HK Situation – the Past Decades

APEC energy intensity ranking, 2014

Hong Kong has the lowest Energy Intensity amongst all APEC economies

More than 20% energy intensity reduction

2005 present
HK Situation – the Past Decades

Reduction of energy intensity by 40% by 2025
Challenge in Hong Kong

7.3M
263 km²

Gov. & Private Buildings
8000+ 42000+
Energy Consumption in HK

Buildings Consume **90%** of the City’s Electricity.

- **Commercial**: 66%
- **Residential**: 26%
- **Industrial and others**: 9%

- **Oil and Coal Products**: 28%
- **Electricity**: 55%
- **Towngas and LPG**: 17%
Established Energy Efficiency Office under EMSD

Enactment EELPO

1994

Voluntary Scheme on Energy Labelling and Building Energy Efficiency

1995

Enactment BEEO

2008

➢ Extension of product coverage
➢ Tightening efficiency standards

2012
Buildings Energy Efficiency Ordinance (BEEO)

Air-conditioning installation

Lighting installation

Electrical installation

Lift & Escalator installation
Building Energy Code (BEC) and Energy Audit Code (EAC)

(1) Newly constructed buildings
(2) Retrofitting in existing buildings
(3) Energy Audit
(1) Newly Constructed Buildings

| Stage One Declaration  
*Construction Commence)* | Stage Two Declaration  
*(Building Completion)* |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Engage <em>Registered Energy Assessor (REA)</em> to submit declaration</td>
<td>Declaration on the compliance of Building Energy Code</td>
</tr>
</tbody>
</table>
(2) Major retrofitting works in existing buildings

<table>
<thead>
<tr>
<th>Works Area</th>
<th>Central BS installation (CBSI)</th>
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<tbody>
<tr>
<td>Total renovation area ( \geq 500 , \text{m}^2 )</td>
<td>Addition/upgrade of main component:</td>
</tr>
<tr>
<td></td>
<td>electrical circuit ( \geq 400A )</td>
</tr>
<tr>
<td></td>
<td>A/C installation ( \geq 350kW )</td>
</tr>
<tr>
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<td>Replacement of motor drive</td>
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</table>
(3) Energy Audit

✓ From Registered Energy Assessor (REA)

✓ Energy Audit Report with Energy Utilization Index (EUI)

✓ Identification of Energy Management Opportunities (EMO)

EMO
- Cat 1
- Cat 2
- Cat 3
Buildings Energy Efficiency Ordinance
Commercial Building

Built-in Equipment

- Lighting
- Electrical
- Air-conditioning
- Lift & Escalator

~80%
Energy Efficiency (Labelling of Products) Ordinance (EELPO)

Mandatory Energy Efficiency Labelling Scheme (MEELLS)

(1) Grading

(2) Annual Energy Consumption
Expansion of Product Coverage

1st Phase
- Room air conditioners
- Refrigerating Appliances
- Compact Fluorescent Lamps
- 2009

2nd Phase
- Washing Machines
- Dehumidifiers
- 2011

Proposed 3rd Phase
- Televisions
- Storage Type Electric Water Heaters
- Induction Cookers
Tightening of Energy Efficiency Grading Standards

Code of Practice on Energy Labelling of Products 2014

Gazette
31 October 2014

Full Implementation
November 2015

Further review upon implementation of phase 3
Energy Efficiency (Labelling of Products) Ordinance

Residential Building

Plug-in Appliances
(Domestic appliances)

- Room Air Conditioners
- Washing Machines
- Refrigerating Appliances
- Dehumidifiers
- Compact Fluorescent Lamps
- Induction Cookers
- Storage Type Electric Water Heaters
- Televisions

~70%
Overall Energy Consumption in Buildings

**Built-in Equipment**  
(Central Building Services Installation)

- Lighting
- Electrical
- Air-conditioning
- Lift & Escalator

**Plug-in Appliances**  
(Domestic appliances)

- Room Air Conditioners
- Washing Machines
- Refrigerating Appliances
- Dehumidifiers
- Compact Fluorescent Lamps
- Induction Cookers
- Storage Type Electric Water Heaters
- Televisions
Built-in Equipment
(Central Building Services Installation)

~80%

Plug-in Appliances
(Domestic appliances)

~70%

Over 70%
Building electricity

Commercial Building
66% Total Consumption

Residential Building
26% Total Consumption
Building Energy Code (BEC)
Mandatory Energy Efficiency Labelling Scheme (MEELS)

Buildings Energy Efficiency Ordinance (BEEO)

Energy Efficiency (Labelling of Products) Ordinance (EELPO)
Thank You