Indonesia

Building Code Implementation - Country Summary


Section I: Code Development

History

Starting year

Indonesia has four energy standards for buildings (Standar Nasional Indonesia/SNI), which cover the building envelope, air conditioning, lighting and building energy auditing (See Annex 1). In 2005, Law No. 36/2005 on Buildings and Government Regulation No. 36/2005 has mandated that all buildings must consider energy conservation measures but has fallen short of urging/enforcing compliance with the existing standards. Subsequent revisions to these laws stated that complex buildings (e.g., offices, industrial facilities and buildings consuming more than 6,000 tonnes of oil equivalent per year) must conduct energy management programs and activities, such as hiring an energy manager, conducting an energy audit, preparing energy conservation plans and reports.

As sustainability issues are being mainstreamed in national policy, the Ministry of Public Works (MoPW) is currently finalizing the National Guidelines on Green Buildings, with energy efficiency as one of the important requirements. The guidelines act as an umbrella for local governments to regulate green building implementation in their respective authorities, and have flexibility to be gradually improved along the way. It is expected that all large cities will have their own green building codes with MoPW assistance by 2017.

Meanwhile, in 2012, DKI Jakarta has issued the first mandatory green building regulation, Governor Decree No. 38/2012 on Green Buildings. It applies to large buildings, and within that category, has specific building types and classifications.

Timeline/road map

MoPW has proposed that the national green building policy should focus on:

- Reducing CO₂ from the building sector in 2020;
- Certifying 50% of total state-owned buildings as green buildings;
- Improving energy efficiency by 20%, water efficiency by 20% and waste reduction in low-cost houses by 20%.

To achieve these ambitious targets, MoPW has proposed the following timeline for 2014-2019:
• 2014: finalization of national guidelines, preparation for cooperation among related stakeholders and public dissemination;
a. 2015: provision of assistance to 7 large cities to develop local green building regulations, development of computer systems for building energy audits and establishment of consultation forum for green building implementation;
• 2016: capacity building for local governments related to building permits and reliability certification procedures, including certification and green building databases;
• 2017-2018: provision of capacity building for local governments related to building permits and reliability certification procedure, including local green low-cost housing development plans;
• 2019: establishment of green building baseline data and integration of a green building management information system (MIS) in MoPW.

Existing codes

*Structural coverage*

National green building guidelines act as an umbrella for local governments to regulate green building implementation in their respective jurisdictions. Due to local capacity issues, the guidelines provide some flexibility for them to adjust green performance requirements within a certain period of time.

<table>
<thead>
<tr>
<th>Scale (National, regional, local, etc.)</th>
<th>Building size threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential buildings</td>
<td></td>
</tr>
<tr>
<td>New buildings</td>
<td>National (Law No. 36/2005; Government Regulation No. 36/2005)</td>
</tr>
<tr>
<td></td>
<td>Less than 500 m², and/or 2 stories maximum.</td>
</tr>
<tr>
<td>Existing buildings for retrofits*</td>
<td></td>
</tr>
<tr>
<td>Commercial buildings</td>
<td></td>
</tr>
<tr>
<td>New buildings</td>
<td>National (Law No. 36/2005; Government Regulation No. 36/2005)</td>
</tr>
<tr>
<td>Existing buildings for retrofits*</td>
<td></td>
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</tbody>
</table>

*for existing building/retrofits; the draft National Green Building Guidelines only requires building audits and implementation of green requirements when feasible.
Law No. 36/2005 and Government Regulation No. 36/2005 made it mandatory for eligible new buildings to consider energy conservation measures, but requirements for new buildings less than 500 m² are voluntary. Compliance is the performance-based. However compliance is limited. DKI Jakarta developed its own green building regulation, Governor Decree No. 38/2012, which is mandatory for new complex commercial buildings.

*Measures covered*
- Envelope
- HVAC
- Lighting
- Maintenance
- Option for performance-based approach

*Correction/new codes*

*Motivation/policies for improving existing building energy codes*

*Revision schedule*

No clear revision schedule exists.

*Involvement of stakeholders in the development of codes*

During the development of national guidelines, participation from national and local governments, practitioners (architects, building engineers), academicians from well-known universities, Green Building Council of Indonesia (GBCI) members, and representatives of international bodies participated in the process.

*Key methods used to engage stakeholders in the code development process*

In terms of national guidelines, there are pre-consensus and consensus procedures before finalizing and issuing the document.
Section II: Code Implementation

Administration

Administrative/enforcement structures

Government agency
Private sector/third party
Self-certification to owner/government

The roles of stakeholders

<table>
<thead>
<tr>
<th></th>
<th>Design</th>
<th>Construction</th>
<th>Pre-occupancy check</th>
</tr>
</thead>
<tbody>
<tr>
<td>The role of federal/central government</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>The role of state/provincial and local government</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Involvement of third parties and their role</td>
<td>Yes, if necessary</td>
<td>Yes, if necessary</td>
<td>Yes, if necessary</td>
</tr>
</tbody>
</table>

Requirements for commissioning before occupancy
Commissioning required in Jakarta Province only.

Requirements for energy audits after occupancy
Based on Ministerial Regulation 14/2012 concerning Energy Management, all large energy consumers (less than 6,000 tonnes of oil equivalent) are obliged to conduct energy audits periodically.

Tools used for compliance checking

Software used for compliance checking

Other tools used to check compliance

Assessment and monitoring of the fulfillment of the requirements will be done by Supervisors who have a license (Jakarta Province).

Capacity building and education

Education and capacity building programs that support code implementation
Information is not available on capacity building to support code implementation. Indonesia does have other, less targeted training that relates to energy efficiency. The Indonesian government has promoted energy use in commercial buildings through education and training, green building movement and other efforts. A capacity building program for energy management and energy auditors has been developed and aims to train energy managers and auditors in the commercial sector as well as industrial sector.

Government Regulation No. 70 issued in 2009 requires that energy users with energy consumption of 6,000 tonnes of oil equivalent per year in buildings as well as industries conduct energy management programs and activities: appointing an energy manager, preparing an energy conservation program, conducting an energy audit and implementing its recommendations, and reporting the result of implementing energy measures to the government.

Even though current professional capacity is in nascent stages, efforts are underway to train local professionals:

- The Green Building Council of Indonesia (GBCI) recently had its certification program officially recognized by the government.
- The American Society of Heating Refrigeration and Air-conditioning Engineers (ASHRAE) has an active local chapter in Indonesia. ASHRAE administers educational seminars, training courses and exchange of best practices from the entire South East Asia region.
- DANIDA, the International Development Agency of Denmark, helped design the voluntary Jakarta municipal building standards and mandatory building codes. DANIDA also has a number of programs that support the Indonesian government in designing the incentive program for retrofits, creating an energy efficiency clearing house in the Ministry of Energy and Mineral Resources, designing the certification program for energy auditors and developing EE retrofit projects. Success was achieved through subsidizing initial energy audits, working with the private sector to educate and obtain commitment.
- The Ministry of Energy and Mineral Resources is starting an energy audit company certification program. Currently MEMR works with a state-owned technical assistance company and private company to deliver basic energy audits. The certification program will help bring necessary qualified alternatives to the state-owned ESCO.

**Target groups for programs**
Capacity building programs target professionals and government agencies.

**Best-practice example of capacity building**

Section III: Compliance & Enforcement

Penalties, incentives and other mechanisms for improving compliance

Penalties for non-compliance with energy provisions in codes

- Refusal of permission to occupy (for new buildings in Jakarta)
- Other: Refusal of Functional Feasibility Certificate (Sertifikat Laik Fungsi-SLF) for existing buildings in Jakarta.

Other mechanisms to encourage compliance

Indonesia has a voluntary environmental rating tool that contains components on energy efficiency. The rating system was developed by the Indonesian Green Building Council but is recognised by the national government. The rating system is known as Greenship.

Compliance assessment

Assessments on rate and effectiveness of compliance

Indonesia has not assessed rate and effectiveness of compliance nationally.

Number of code compliant permits issued per year

Every year, 12,000 building permits are issued, but for green buildings the number is about 3-5 buildings per year, because green buildings requirements are only for targeted buildings.

Assessment methodologies, protocols & statistics

Indonesia does not have methodologies to assess its compliance programs yet, given how new the mandatory requirements are.
Section IV: Building Materials & Energy Performance Certificates

Building materials (e.g., windows, insulation, HVAC, lighting)

*Building materials rating and labeling*

Indonesia rates and labels only lighting products and appliances.

*Tested by certified test labs*

Lack of labs for testing has been an issue for Indonesia

*Providing samples for the tests*

*Labels showing the ratings for building materials*

Energy Performance Certificates

*Building codes and energy performance certificate*

*Number of certified buildings and the percentage*

Annex 1. Additional Information

Table 1. Energy standards for Buildings (SNI) in Indonesia

<table>
<thead>
<tr>
<th></th>
<th>SNI 03-6389-2000</th>
<th>Energy conservation for building envelope of building (Konservasi energy selubung bangunan pada bangunan gedung)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SNI 03-6390-2000</td>
<td>Energy conservation for air conditioning systems in building (Konservasi energy system tata udara pada bangunan gedung)</td>
</tr>
<tr>
<td>3</td>
<td>SNI 03-6197-2000</td>
<td>Energy conservation for lighting systems in building structures (Konservasi energy system pencahayaan pada bangunan sedung)</td>
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<tr>
<td>4</td>
<td>SNI 03-6196-2000</td>
<td>Energy auditing procedure for building (Prosedur audit energy pada bangunan gedung)</td>
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</tbody>
</table>