THE STATUS AND POTENTIAL ISSUES OF THE MANDATORY EE&C BUILDING CODE IN INDONESIA

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Ministry of Energy and Mineral Resources

SE4ALL Workshop on EE&C Building Code
Tokyo, 14 - 16 February 2017
Indonesia commits to reduce (its GHG emission) by 29% from BAU level by 2030 and 41% with international assistance

The commitment of President Joko Widodo in COP 21th December 2016 in Paris, Indonesia will reduce GHG emission by 29% on its own efforts dan 41% with international support.

- Government through the Ministry of Environment and Forestry have signed Paris Agreement on 22th April 2016.
- Indonesia has ratified Paris Agreement on 4 November 2016
Final Energy Consumption

- **Industry**: 39.50%
- **Transportation**: 12%
- **Household**: 34%
- **Commercial**: 10.80%
- **Other**: 3.70%

Potential by Sector:
- **Commercial Building**: 10% - 30%
- **Household**: 15% - 30%
- **Transportation**: 15% - 30%

983 MBOE (2014)
1) Act No. 30/2007 on Energy
2) Governmental Regulation No. 70/2009 on Energy Conservation
   “Industry and building consume energy more than 6.000 TOE/year should implement
   energy management (to appoint energy manager, to conduct energy audit, etc.)”
3) Presidential Instruction No. 13/2011 Energy and Water Saving
   “To instruct governmental office building to conduct energy and water saving”
4) Jakarta Governor Regulation No. 38/2011 on Green Building
5) Minister Public Work Regulation No. 02/PRT/M/2015 on Green Building

1) SNI 03-6390-2011 on Energy Conservation for Air Condition System in Building
2) SNI 03-6197-2011 on Energy Conservation for Lighting System in Building
3) SNI 03-6389-2011 on Energy Conservation for Building Envelope
4) SNI 03-6196-2011 on Procedure of Energy Audit in Building

1) National Competency Standard for Energy Manager 20015
2) National Competency Standard for Energy Auditor 20011
EE Guideline in Building

Developer & Building Owner

EE Technical Design Guidelines

Case Study
Green Building Program (Jakarta Province)

Criteria for New building:
- Energy efficiency;
- Water efficiency;
- Air quality;
- Land and waste management;
- Management of building during construction;

Criteria for Existing building:
- Energy efficiency and conservation
- Water efficiency and conservation
- Air quality
- Management operational of building

Enforcement regulation:
- Through building permit and/or certificates feasibility of building;
- New/existing building which are not comply with Jakarta green building criteria, are not be allowed to continue;
Mandatory EE&C Building Code (2)

**New Building**
- Building Design
- Building Construction Permit
- Actual Performance
- National Standard on EE in Building
- Recommendation
  - SLF1

**Existing Building**
- Preliminary Energy Audit
- Proposal of EE Improvement
- Actual Performance
- Energy Consumption Existing
- Recommendation
  - SLF2..3
GREENSHIP
Indonesia Rating System for Green Building

- GREENSHIP Rating System, an assessment tool developed by the Green Building Council of Indonesia (GBCI) to determine whether a building can be declared eligible certified "green building" or not;
- GREENSHIP certification program organized by the Commission GBCI Rating credible, accountable and integrity;
- The preparation of this GREENSHIP supported by the World Green Building Council, and implemented by the Commission rating of GBCI.

Recognition Achievement:
- Platinum
- Gold
- Silver
- Bronze
National Energy Efficiency Awards (PEEN)

A. Energy Efficient Building Category:
- New Building
- Retrofitted Building
- Tropical Building
- Special Submission
- Green Building:
  - Small and Medium
  - Large

B. Energy Management in Industry and Building Category:
- Building (Small and Medium)
- Building (Large)
- Industry (Small and Medium)
- Industry (Large)
- Special Innovation (Industry)
- Special Innovation (Building)

C. Energy and Water Saving in Governmental Institution Category:
- Central Government Institution (Ministry /Institution)
- Local Government Institution
Pilot Project Efficient Building

EEI (kWh/m².yr)

Before Retrofit

170

After Retrofit

98

Saving 40%

- AC-VRF multi split system
- Double glass panelling
- Sustainable materials
- On-line monitoring
- Space organization
- Eco friendly sanitary
- Airtightness & high ceiling
- T5 lighting
- Noise level reduction
- Day-light & occupancy control
- General lighting & task lighting

EE renovation of EECCHI office in MEMR
### Barriers & Countermeasures

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<th>No.</th>
<th>Barriers</th>
<th>Countermeasures</th>
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<td>1.</td>
<td>Limited of <strong>number of local government</strong> which mandate building code (until now, only Jakarta City and Bandung City)</td>
<td><strong>Gradually push all local governments</strong> to implement mandatory building code (through workshops, pilot projects, etc.)</td>
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<td>2.</td>
<td>Lack of <strong>financial incentive</strong> for building owner to implement EE&amp;C</td>
<td>To coordinate with Central Bank and Financing Ministry to <strong>make policies on financing mechanism</strong> such as soft loan, specialized credit lines, guarantee fund, and revolving fund</td>
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| 3.  | Limited of **number of qualified energy managers and energy auditors** in building | 1) To add certified energy manager and energy auditor as **one of requirements** in regulations on building code  
2) To conduct **capacity building and certification** of energy managers and energy auditors in building massively |
| 4.  | Lack of **information on EE technology** in building                     | To prepare **E-Catalog on EE technology for government procurement**                                                                 |
| 5.  | Lack of activities to **Monitoring and Verification (M&V)** on building code | To improve **capacity for local government staff** on M&V activities **|
Monitoring and Verification (M&V) for Implementation of Building Code (Workshop and Training)
Thank you
Arigatou Gozaimasu

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