



Viet Nam Effort and Recommendation for GEC/GBC Development



Tokyo, 6 December 2019





To promote GBC development in Viet Nam



- Green building (GB) is voluntary in Viet Nam => The Government require all state/public buildings to implement GB. GB need to be compulsory.
- To prepare the Standards/Code and Guidelines of GB for each categories of buildings. **So we need to interpret Japanese guidelines of EE into Vietnamese version.**
- To find the way for Asean financial support for GB (for ASEAN).
- To carry out more reseaches for suit Asean context from Japanese experiences of EE/GB (solutions, cost,...).
- To exchange experiences in Asean coutries and Japan.





To promote BEC in Viet Nam



- To revise the Decree No. 21/2011/ND-CP detailing/guiding the Law on Energy Efficiency and Conservation.
- To implement the National Energy Efficiency Programme for the period of 2019 - 2030 (at PM Decision 280/QĐ-TTg dated March 11, 2019).





Project on Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings in Viet Nam (EECB)



- **Implementation Duration:** March 2016 – March 2020 (to be extended to March 2021)
- **Implementation Partner:** Viet Nam Ministry of Construction
- **Implementation Entity:** Department of Science, Technologies and Environment, MOC
- **Financing Partner:** United Nations Development Programme (UNDP)/ Global Environment Facilities (GEF)
- **Total Resources required:** US\$ 24,696,550.
 - GEF: US\$3,198,000;
 - Parallel: US\$ 16,728,550 (UNDP: US\$150,000 and Private Sector: US\$16,578,550);
 - In-kind Contributions: US\$ 4,770,000



- **Long-termed Objective:** To reduce intensity of GHG emissions from the building sector in Viet Nam.
- **Direct Objective:** To improve the energy utilization performance of commercial and high-rise residential buildings.





EECB Project

(continued)



Approach:

- *Remove the barriers to achieve competent compliance with the revised BEC (QCVN 09:2013/BXD);*
- *Apply systematic and practical technology measures to achieve EE at commercial and high-rise buildings in Viet Nam.*

Components:

- ▶ **Component 1:** Improvement and Enforcement of BEC;
- ▶ **Component 2:** Building Market Development Support Initiatives
- ▶ **Component 3:** Building EE technology applications and replications
 - ▶ **Demonstration Projects:** 16 EE commercial and high-rise buildings





COMPONENT 1



Improvement and Enforcement of Building Energy Code QCVN 09

Expected Results: capacities of related entities will be strengthened through improved policy support mechanisms, standards, and guidelines regarding enforcement of BEC in Viet Nam.

Main Activities

- Development of computerized compliance toolkits (software and web tools) and guidelines;
- Development of standards and database for construction materials and EE appliances and equipment;
- Preparation of technical studies to implement an enhanced version of the revised BEC;
- Development of Monitoring and Verification (M&V) scheme;
- Conduct of Specific Energy Consumption (SEC) studies and development of SEC database;
- Development of a comparative energy certification/labeling scheme.



Building Market Development Support Initiatives

- **Expected Result:** enhance the capacity of the building sector stakeholders to design, finance and implement EE measures;

Main Activities

- Development of a suitable financial support mechanism together with toolkits for economic evaluations;
- Establishment of Centers for Energy Efficiency in Buildings (CEEBs).
- Capacity building and training programs to be delivered to beneficiaries. For example: ESCOs, energy service providers, etc.
- An energy consumption survey at 100 commercial and high-rise residential buildings.



Building EE technology applications and replications

- **Expected Result:** enhancement of energy efficiency performance in both new construction and the retrofit/refurbishment in 16 buildings in Hanoi and Ho Chi Minh areas.



Main Activities

- Five-year energy conservation plans for 16 selected buildings;
- Demonstrated design, application and operation of EE equipment, building materials and building energy monitoring and management/control systems.



❖ **Key Activity:**
Demonstration Buildings

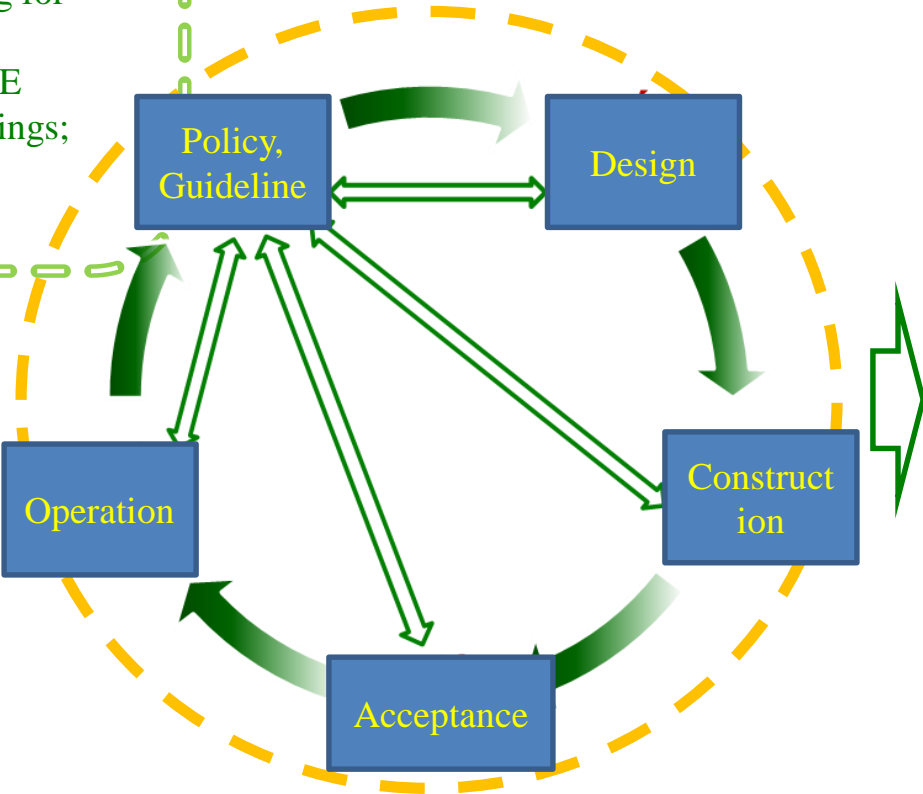


- Publish database of EE building materials and end-use equipment on website;
- 05 national standards on EE building materials under development;
- An energy consumption survey at 165 commercial and high-rise residential buildings to help define Specific Energy Consumption Profiles (SEC) and energy benchmarks for 05 categories of buildings;
- Drafted Monitoring and Verification (M&V) scheme, Specific Energy Consumption Profiles (SEC) and energy benchmarks, energy certification/labeling scheme.
- Capacity building and training programs delivered to construction practitioners at 63 provinces;
- Technical support on EE in buildings for 08 new and 12 existing buildings;
Etc.



Viet Nam Effort for EE

- Database on EE building materials and equipment;
- 05 national standards on EE building materials; 04 national standards on energy benchmark, EE evaluation and labelling for buildings
- SEC, Energy benchmark, EE labelling for high rise buildings;
- Incentive mechanism.
- Cost estimation for EE.



Capacity building training on design, construction, acceptance of EE buildings

Demonstration buildings
8 new buildings and 12 retrofit buildings



BEC Challenges need to solve



1. The **community concern/awareness** (Governments, practitioners, citizens) of EE is low. The Energy Efficiency in buildings are less prioritized than other fields such as: Poverty reduction, Natural disasters, Development (High level); Technology, safety, cost, income, etc. (Sectoral level). => To change their thinking of EE.
2. Lack of EE knowledge from state management (From central to local authorities) to consultants and building owners => To improve the **capacity building**.
3. Constraints in finding national experts with special experience in energy efficient buildings, especially in ESCO services.
4. Lack of budget/subsidy for EE; and low cost of energy => To find the finance support/loan with low interest rate.





BEC Challenges need to solve



5. **To re-organise the national energy award in Viet Nam based AEA (including ZEB concept).**
6. Many new fields that the EECB project attempts to introduce (for examples, studies of specific energy consumption profiles and energy benchmarks, ESCO, labeling, incentive,...) are lack of reference information.
7. International inputs (ASEAN, JAPAN,...) are very valuable for Viet Nam,
8. Better cooperation among regional/international organizations for a consistent and long-termed support to Viet Nam so that achievements can be maintained sustainably.





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Thank You!

