



**Country Report (Myanmar)  
“Energy Conservation Workshop  
under ASEAN-Japan Energy Efficiency Partnership  
(ECAP 17)”**



**Energy Efficiency and Conservation Division (EECD)  
Ministry of Industry (MOI)  
Myanmar**

# Content

- I. Current status of development and implementation of  
BEC/GBC
  
- II. Proposals to refine the ASEAN Energy Award

# Current status of development and implementation of BEC/GBC

## To develop Energy Efficiency and Conservation Guideline

- Scope of Regulatory Framework
- EE Policy Targets (baseline demand in 2012)
- Scope of EE&C Law
- Judgment Criteria of EE&C Law in Building Sector
- EC Guideline and EC Handbook
- Road Map for Law Formulation

## To develop Energy Efficiency and Conservation Building Code / Zero Energy Building

- Myanmar National Building Code (MNBC)
- Comparison/ difference between National Building Code and Energy Conservation Building Guideline, Energy Efficient Building Code
- Survey for standardizing by type of building to improve Zero Energy Building

# Scope of Regulatory Framework

Energy Efficiency & Conservation Policy, Strategy and Road Map (2016)



Energy Efficiency & Conservation Law (Draft)



- Regulation on Energy Management System for Factories and Building
- Regulation on Energy Manager and Energy Auditor System
- **Regulations for MEPS & Labeling**
- **Regulations for Transportations \***
- Other Supplementary Regulations (EC Guidelines, **Financial Mechanism**, etc.,)



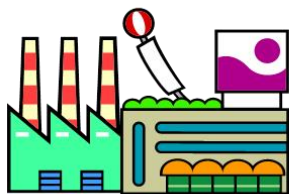
EC Handbook (Preparing)

# EE Policy Targets (baseline demand in 2012)

<i>Sector</i>	<i>Weighted Average Saving Potential (%)</i>	<i>Achievable Target by 2020 (%)</i>	<i>EE Policy Target – 2020 (%)</i>	<i>Achievable Target by 2025 (%)</i>	<i>EE Policy Target – 2025 (%)</i>	<i>Achievable Target by 2030 (%)</i>	<i>EE Policy Target – 2030 (%)</i>
<i>Industry</i>	8.84%	40	3.54	60	5.31	75	6.63
<i>Commercial / Public</i>	4.97%	40	1.99	60	2.98	80	3.98
<i>Residential</i>	9.70%	55	5.36	70	6.82	80	7.80
<i>Other</i>	1.7%	40	0.68	60	1.02	80	1.36
<i>Total</i>	<b>25.26%</b>		<b>11.7</b>		<b>16.1</b>		<b>19.77</b>
<i>EE Policy Targets</i>			<b>12</b>		<b>16</b>		<b>20</b>

# Scope of EE&C Law

Energy Intensive Industries



Industrial Guidelines



Energy Manager

Energy Intensive Buildings (Commercial, Public)



Building Guidelines

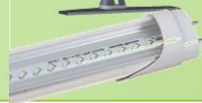


Energy Manager

Residential Sector



MEPS for Electrical Home Appliances



Fuel Economy for Transport Vehicles, Public transport system improvements



## Judgment Criteria of EE&C Law in Building Sector

Sector	Type	Objective Persons	Obligation	Restriction/ Thresholds level under Ministerial Decree
Building	Specified Building	Designated Business Operators	<ul style="list-style-type: none"> <li>▪ Appoint Energy Manager</li> <li>▪ Reporting System</li> <li>▪ Follow industrial Guidelines</li> </ul>	Total Energy Consumption <b>Eg. 3,000,000 kWh</b>

# EC Guideline and EC Handbook

- (1) Boiler
- (2) Furnace
- (3) Transformer
- (4) Lighting
- (5) Air Conditioner/ Chiller
- (6) Air Compressor
- (7) Fan, Pump, Motor

## EC Guideline

Section A - General Requirement

Section B -

1. Introduction
2. Measures for New Installation
  - 2-1. Selection of Equipment
  - 2-2. System Design
3. Energy Management
  - 3-1. Management and Control
  - 3-2. Measurement and Recording
  - 3-3. Inspection and Maintenance
4. Further Improvement

## EC Handbook

Section A - General Information

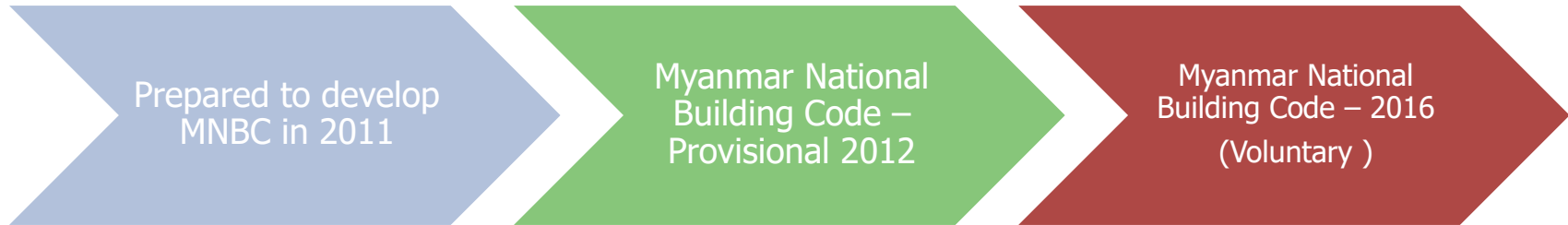
Section B -

1. Introduction
2. Measures for New Installation
  - 2-1. Selection of Equipment
  - 2-2. System Design
3. Energy Management
  - 3-1. Management and Control
  - 3-2. Measurement and Recording
  - 3-3. Inspection and Maintenance
4. Further Improvement
5. Key Note
  - 5-1. Technical Description
  - 5-2. Energy Loss/ Efficiency
  - 5-3. Management and Control
6. Case Study
7. Appendix

# Road Map for Law Formulation

Sr.	Description	2018				2019				2020			
1.	Preparing EE&C Law Final Draft			Yellow									
2.	Submission Final Draft to Authorized Person				Brown								
3.	Assessing the Law by the Commission					Blue	Blue	Light Blue					
4.	Discussion on the Law within Parliament							Yellow					
5.	Public Consultation								Purple	Light Blue			
6.	Decree on Energy Management System			Light Red	Light Red								
7.	Regulations on Energy Manager & Auditor System			Red	Red								
8.	EC Guidelines	Green	Green	Green	Green	Light Blue							
9.	EC Handbook		Dark Green	Dark Green	Dark Green	Dark Green							
10.	Standardization and Labelling					Pink	Pink	Pink	Pink	Pink	Light Blue	Light Blue	
11.	Public Consultation										Yellow	Yellow	Yellow

# Myanmar National Building Code (MNBC)



## • **Technical Working Group**

- Ministry of Constriction (Leader)
- Myanmar Engineering Society (MES) ,
- Association of Myanmar Architects (AMA),
- International experts and concerned ministries and organizations
- is established with **7 Sectors**:
  - 1. Planning, Environment, Administration and Legislation**
  - 2. Architecture and Urban Design**
  - 3. Structural Design**
  - 4. Soil and Foundation**
  - 5. Building Services**
  - 6. Building Materials**
  - 7. Construction Practices and Safety**



National Consultation Workshop on Myanmar National Building Code (MNBC) on 5<sup>th</sup> Oct 2016

# Comparison/ difference between National Building Code and Energy Conservation Building Guideline, Energy Efficient Building Code

	National Building Code		Energy Conservation Building Guideline, Energy Efficient Building Code
1	More Focuses on Architectures and Building Design	-	Building Design for Energy Saving and Natural Condition Usage (EEBC)
2	No regulation for Energy Consumption, energy management (Operational Control)	-	Regulation for Energy Consumption, energy management and Operational Control (EC Guideline)
3	Apply only Safety standards	-	Apply Energy Performance standard plus safety (EEBG)
4	No technical details for energy performance level and calculation for the appliances	-	Technical guideline and calculation detail for the appliances (EC Guideline)
5	Renewable Energy Usage is Optional.	-	Renewable or alternative energy or new energy instead of fossil fuel usage must be necessary for green building code (EEBC)

# Survey for standardizing by type of building to improve Zero Energy Building

- Building Model : A standard building in Myanmar
- Building Type : Office
- Building Size : 8-stories, 2400sqm
- Location : Yangon

The energy consumption of a standard specification building in Myanmar is  $954 \text{ MJ/sqm} \cdot \text{a}$  ( $98 \text{ kWh} / \text{sqm} \cdot \text{a}$ )



We have many Challenges to develop Zero Energy Building

- ❖ Investment Cost
- ❖ Material
- ❖ Capacity

# Proposals to refine the ASEAN Energy Award

- To discuss detailed criteria and scores and scoring system (ranking system)
- Focal Points should make pre-screen the entries before submission to ACE.

## Example

No.	Criteria			%Weight
I	Overall On-Site Natural Environment Considerations	1 Use of vegetation, landscape and hardscape	1 Effective application of ground covering plant and large plant	2
			2 The modification of landscape and topography	3
			3 The use of hardscape materials	2
		2 The use of hardscape materials	4 Effective application of water body: location, quantity,	3
		3 The use of wind	5 Effective application of wind: natural ventilation, stack ventilation, etc.	3
		4 Other use of on-site natural environment	6 The use of night sky radiation	1
		5	7 Others (specify)	1
				15

Your kind suggestions, comments and cooperation  
are welcome.

Thank you!

