

# Energy Efficiency Standards and Labeling in Vietnam

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# Contents

## Current situation



- General situation of Vietnam
- Electricity consumption and market of home appliances in Vietnam
- Government policies and strategies

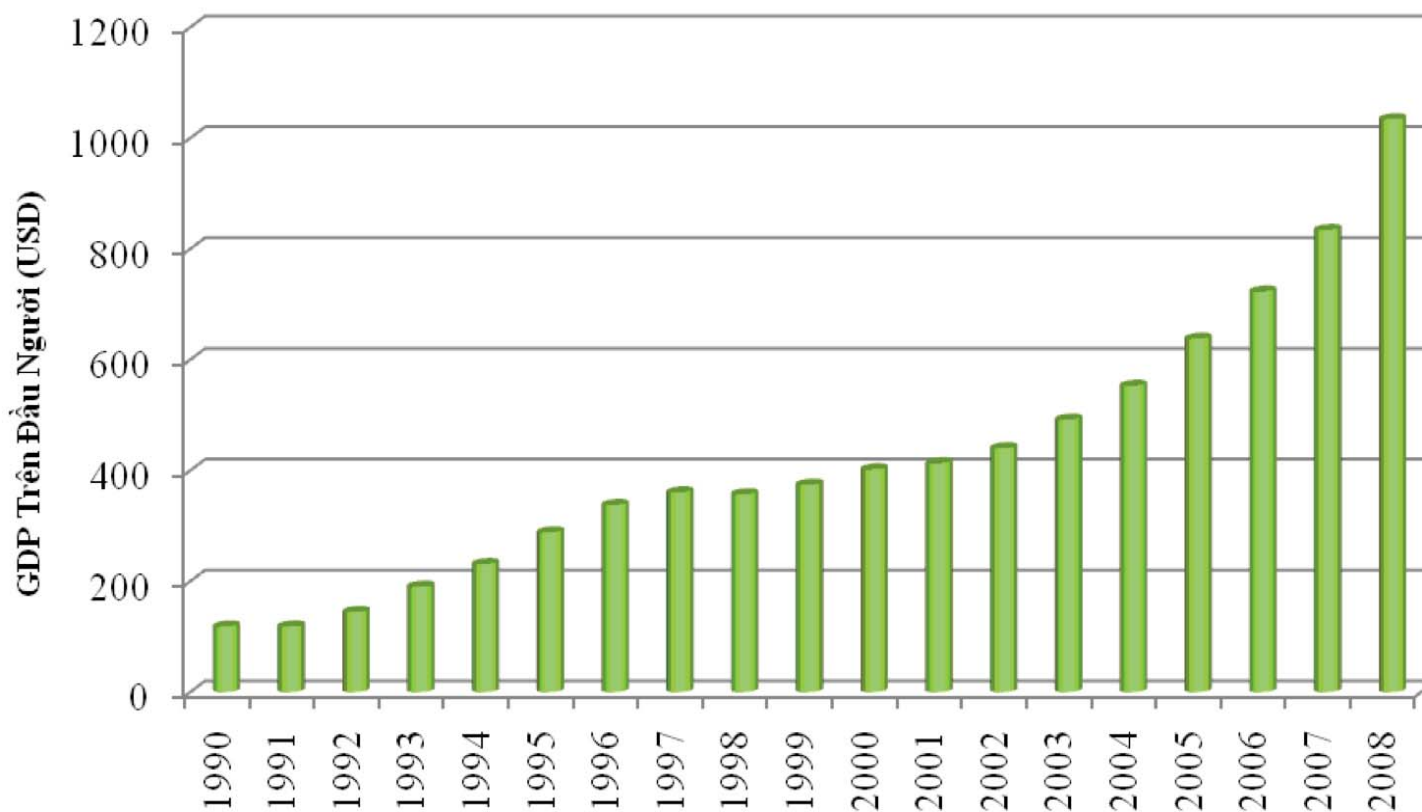
## Challenges in energy efficiency S&L policy development in Vietnam



- Policy and regulation framework barriers
- Institutional barriers
- Information and awareness
- Market barriers

# General situation of Vietnam

- Member of: ASEAN, APEC, WTO
- GDP per capita increases

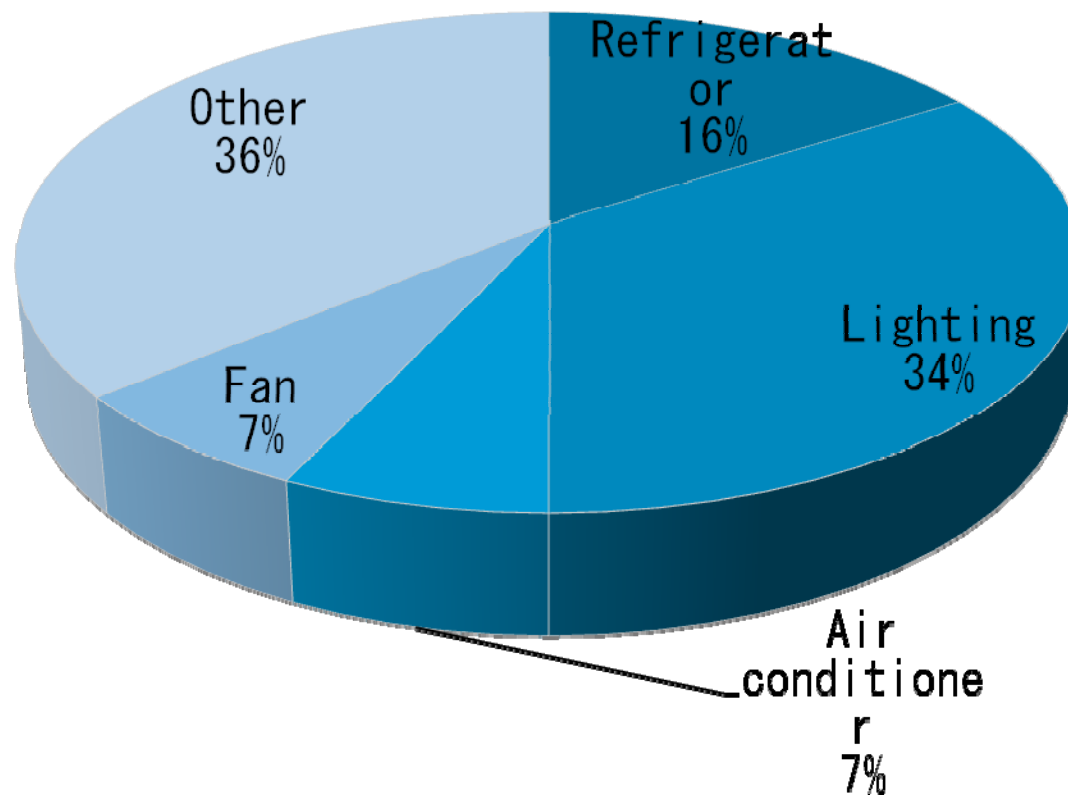


# Energy consumption and market of home appliances in Vietnam

- **Energy consumption**
    - Annual growth rate: ~15%
    - Industry: 45%
    - Residential: 44%
    - Commercial: 4.5%
    - Other: 6.5%
- ➔ Demand > Supply

# Energy consumption and market of home appliances in Vietnam

- **Structure of electricity consumption in residential area**



# Market for selected appliances in Vietnam

Appliance	Average Size	Saturation (unit/HH)	No. of Units (2004)	
			Stock <sup>1</sup>	Sold <sup>2</sup>
<b>Vietnam</b>				
Refrigerators (3)	180 liters	0.27	4,300,000	573,330
Air conditioners (3)	12000 B TU/hr	0.07	1,100,000	146,670
Electric motors (1)	5.25 kW		1,000,000	116,670
FTL Ballasts (2)	12 W <sub>loss</sub>		33,600,000	4,264,620
Electric fans (3)	70 W	1.77	28,300,000	5,457,860
CFLs (4)	15 W		20,000,000	7,666,670
Rice cookers (3)	650 W	0.66	9,200,000	1,380,000

*Source: BRESL GEF project document 2007*

# Government policies and strategies

- **Related government strategies and policies:**
  1. The National Target Energy Efficiency Program for the period 2006 to 2015 (VNEEP) (PM Decision 79/2007/QĐ-TTg, 14/4/2006)
  2. Circular No. 08/2006/TT-BCN (16 Nov 2006): process and procedures of EC&EE labeling
  3. Law on Energy Efficiency and Conservation (Effect from 01 Jan 2011)
  4. Decision 51/2011/QĐ-TTg List of Mandatory labeling equipment, MEPS and Roadmap
  5. Decision 68/2011/QĐ-TTg List of energy efficiency equipment that are purchases by state-owned enterprises.

# Government policies and strategies

- **National target program (key points)**
  - Implementation period: 2006 – 2010 – 2015
  - Targets: Saving 3% - 5% (2006 – 2010), 5% - 8% (2010 – 2015)
  - 11 sub-program:
    1. Upgrade existing legislative documents (Law, Ordinance, Regulations)
    2. Public communication
    3. Education
    4. Development of sample model
    - 5. *Development of EE Standard and Labeling***



# Government policies and strategies

- **Establishment of facilities for EE labeling programs:**
  - Set up EE standards
  - Set up and qualify EE testing facilities (QUATEST1, QUATEST3, STAMEQ branches, labs in research organizations)
  - Set up procedures for EE labeling (Cir 08/2006) and design EE labels
  - Set up marketing programs with focus on consumers

# Government policies and strategies

- **Development of EE Standards for priority energy using products**  
Available energy standards for:
  - *Electric Motors: issued 2005*
  - *Lighting Equipments: T- lamps, CFL, magnetic ballast, electronic ballast, issued 2006-2009*
  - *Refrigerators: issued 2007*
  - *Air-conditioners: Issued 2007*
  - *Rice Cookers: Issued 2009*
  - *Electric Fans: Issued 2007*
  - *Others (Washing machine, Water storage heater etc), including some industrial equipment*

# Government policies and strategies

## List of TCVN standards for means and equipment of the Energy efficiency labeling program

TT	Số hiệu TCVN	Tên tiêu chuẩn	Title
1	TCVN 7450-1:2005	Động cơ điện không đồng bộ ba pha roto lồng sóc hiệu suất cao – Phần 1: Mức hiệu suất năng lượng tối thiểu	High efficiency three-phase asynchronous squirrel cage electrical motors – Part 1: Minimum energy performance
2	TCVN 7450-2:2005	Động cơ điện không đồng bộ ba pha roto lồng sóc hiệu suất cao – Phần 2: Phương pháp xác định hiệu suất năng lượng	High efficiency three-phase asynchronous squirrel cage electrical motors – Part 2: Methods for determination of performance
3	TCVN 7541-1:2005	Thiết bị chiếu sáng hiệu suất cao – Phần 1: Mức hiệu suất năng lượng tối thiểu	High efficiency lighting products – Part 1: Minimum energy performance
4	TCVN 7541-2:2005	Thiết bị chiếu sáng hiệu suất cao – Phần 2: Phương pháp xác định hiệu suất năng lượng	High efficiency lighting products – Part 2: Methods for determination of energy performance
5	TCVN 7826:2007	Quạt điện – Hiệu suất năng lượng	Electric fans – Energy efficiency ratio
6	TCVN 7827:2007	Quạt điện – Phương pháp xác định hiệu suất năng lượng	Electric fans – Methods for determination of energy efficiency
7	TCVN 7828:2007	Tủ lạnh, tủ kết đông lạnh – Hiệu suất năng lượng	Refrigerator, refrigerator-freezer – Energy efficiency ratio
8	TCVN 7829:2007	Tủ lạnh, tủ kết đông lạnh – Phương pháp xác định hiệu suất năng lượng	Refrigerator, refrigerator-freezer – Methods for determination of energy efficiency
9	TCVN 7830:2007	Điều hòa không khí – Hiệu suất năng lượng	Air conditioners – Energy efficiency ratio
10	TCVN 7831:2007	Điều hòa không khí – Phương pháp xác định hiệu suất năng lượng	Air conditioners – Methods for determination of energy efficiency
11	TCVN 7896:2008	Bóng đèn huỳnh quang compact – Hiệu suất năng lượng	Compact fluorescent lamps – Energy efficiency
12	TCVN 7897:2008	Balat điện tử dùng cho bóng đèn huỳnh quang – Hiệu suất năng lượng	Electronic ballasts for fluorescent lamps – Energy efficiency

# Government policies and strategies

## List of TCVN standards for means and equipment of the Energy efficiency labeling program

-	TCVN 7898:2009	Bình đun nước nóng có dự trữ – Hiệu suất năng lượng	Storage water heaters – Energy efficiency
-	TCVN 8248:2009 *)	Balat điện từ dùng cho bóng đèn huỳnh quang – Hiệu suất năng lượng	Electromagnetic ballasts for fluorescent lamps – Energy efficiency
-	TCVN 8249:2009 *)	Bóng đèn huỳnh quang dạng ống – Hiệu suất năng lượng	Tubular fluorescent lamps – Energy efficiency
-	TCVN 8250:2009	Bóng đèn sodium cao áp – Hiệu suất năng lượng	High pressure sodium lamps – Energy efficiency
-	TCVN 8251:2009	Thiết bị đun nước nóng bằng năng lượng mặt trời – Yêu cầu kỹ thuật và phương pháp thử	Solar water heater – Technical requirements and testing method
-	TCVN 8252:2009	Nồi cơm điện – Hiệu suất năng lượng	Rice cookers – Energy efficiency
-	TCVN 8525:2010	Máy biến áp phân phối – Mức HSNL tối thiểu và phương pháp xác định	Distribution transformers – Minimum energy performance and method for determination of energy efficiency
-	TCVN 8526:2010	Máy giặt – Mức HSNL tối thiểu và phương pháp xác định	Electric washing machine – Minimum energy performance and method for determination of energy efficiency
-	TCVN 8630:2010	Nồi hơi – Hiệu suất năng lượng và phương pháp thử	Boilers - Energy efficiency and test method

# Government policies and strategies

- **Objects of the labeling program**

1. Group appliances including straight fluorescent tubes, compact fluorescent lamps, electronic ballasts and electronic fluorescent lamp, air conditioning machines, refrigerators, washing machines, electric cooker , electric fans, televisions.



# Government policies and strategies

- **Objects of the labeling program**

2. Group of office equipment and commercial including photocopying copy, computer monitors, printers, commercial refrige



# Government policies and strategies

- **Objects of the labeling program**

3. Group industrial equipment including machine  
threephase distribution transformers, electric motors



# Government policies and strategies

- **Objects of the labeling program**

4. Group means of transport including cars (of 7 seats or less).

5. The specialized equipment such as public lighting, machine air conditioners with a capacity greater than 28 kW water-cooled equipment and other required labeling route and apply the maximum energy efficiency minimum prescribed by the Mi





# Government policies and strategies

## List of energy efficiency means and equipment that are purchases by state-owned enterprises

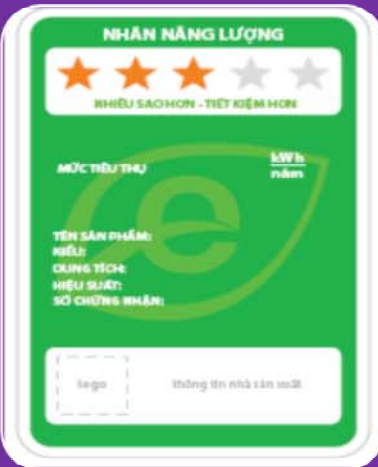
STT	Name of means and equipment	Label
1	Compact fluorescent lamps	Endorsement label
2	Tubular fluorescent lamps	Endorsement label
3	Ballast for fluorescent lamps	
a	Electromagnetic ballasts for fluorescent lamps	Endorsement label
b	Electronic ballast for fluorescent lamps	Endorsement label
4	Electric fans	Comparative label
5	Air conditioners	Comparative label
6	Refrigerator	Comparative label
7	Distribution transformers	Endorsement label
8	Public lighting products	Endorsement label
9	Solar water heaters	Endorsement label
10	Television	Comparative label
11	Monitor	Endorsement label
12	Printer	Endorsement label
13	Photocopy machine	Endorsement label

# Government policies and strategies

- **Development of Energy label**



- Endorsement label - “Viet Energy Star”
- Used for lighting products - high efficiency



- Comparative label
- Used for household appliances

# Government policies and strategies

- Procedures of EE labeling:
  - Preparation (*getting model; testing; building up technical file*)
  - Registration with MOIT
  - Evaluation (within 20 days)
  - Firms get permission for EE labeling (for 3 years)
  - The firms print and label energy (endorsement/comparative) sticker

# Government policies and strategies

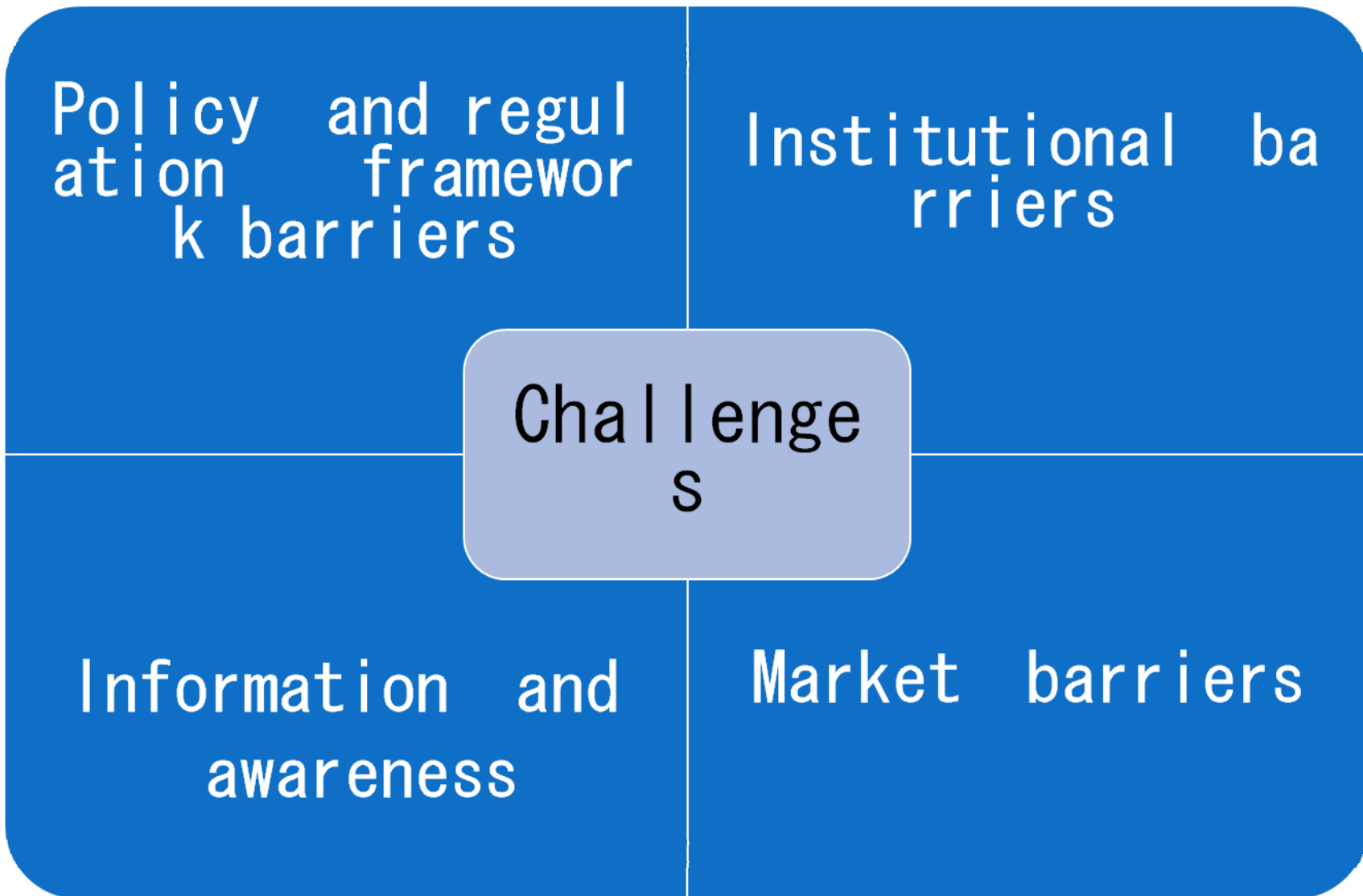
- **Progress of Voluntary EE Labeling program 2006 – 2011**
  - Now: EE labeling
    - Tub fluorescent lamps :T8, T5 (3 Suppliers)
    - Magnetic ballasts (5 Suppliers )
    - Electric motor (1 Supplier )
    - CFLs : 27 types (3 Suppliers )
    - Electric fans: 99 types (3 Suppliers)
  - Soon:
    - AC
    - Refrigerator
    - Rice cooker
  - Near future: PM to issue a roadmap to compulsory labeling

# Government policies and strategies

- Roadmap of EE labeling program:

List	2011	2012	2013	2014	2015
Home appliances			Bóng đèn sợi đốt >60w	MEPS	MEPS
Office and commercial appliances					MEPS
Industry equipment					MEPS
Means of transport					
Others	KK	KK	KK	KK	KK

# Challenges in energy efficiency S&L policy development in Vietnam



# Challenges in energy efficiency S&L policy development in Vietnam

- **Policy and regulation framework barriers**
  - No mandatory regulations for minimum energy performance standards (MEPS).
  - Lack of policy framework on ES&L and a comprehensive roadmap for ES&L.
  - Difficulties in negotiations between manufacturers and stakeholders: Policymakers do not have experience with negotiating with equipment manufacturers to increase their efficiency levels.

# Challenges in energy efficiency S&L policy development in Vietnam

- **Institutional barriers**

- Lack of integrated institutional approach to ES&L implementation: To date, implementation of ES&L in Vietnam just began and is *ad hoc*.
- Lack of regular testing programs for energy performance of end-use equipment – Due to the lack of clear regulatory framework and mandate.
- Lack of training programs on ES&L framework and implementation: There are not sufficient training courses or modules covering the step-by-step process of building up an ES&L regime.
- Lack of accredited testing laboratories- The accredited labs can test EE for only some (not all) products.



# Challenges in energy efficiency S&L policy development in Vietnam

- **Information and awareness**

Insufficient public awareness about energy-saving equipment

# Challenges in energy efficiency S&L policy development in Vietnam

- **Market barriers**

- Market not driven to EE equipment because without labeling, energy efficiency is an invisible attribute.
- Limited or no market monitoring and sampling suffer due to lack of manpower and funds
- Lack of knowledge about the benefits of ES&L among sellers and buyers

# Lessons learned

- ES&L should receive strong support from policy makers. Policy, regulations and EE standards should be developed in advance
- Government should support testing labs, particularly in establishing expensive testing facilities
- Government/implementing agencies should have comprehensive public awareness programs focusing on consumers to recognize EE labels
- Energy Efficiency Standard setting should balance the benefit

**Thank you  
for your attention**