Energy Efficiency Standards and Labeling in Vietnam

Lai Duc Tuan

Ministry of Industry and Trade of Vietnam

Contents

Current situation

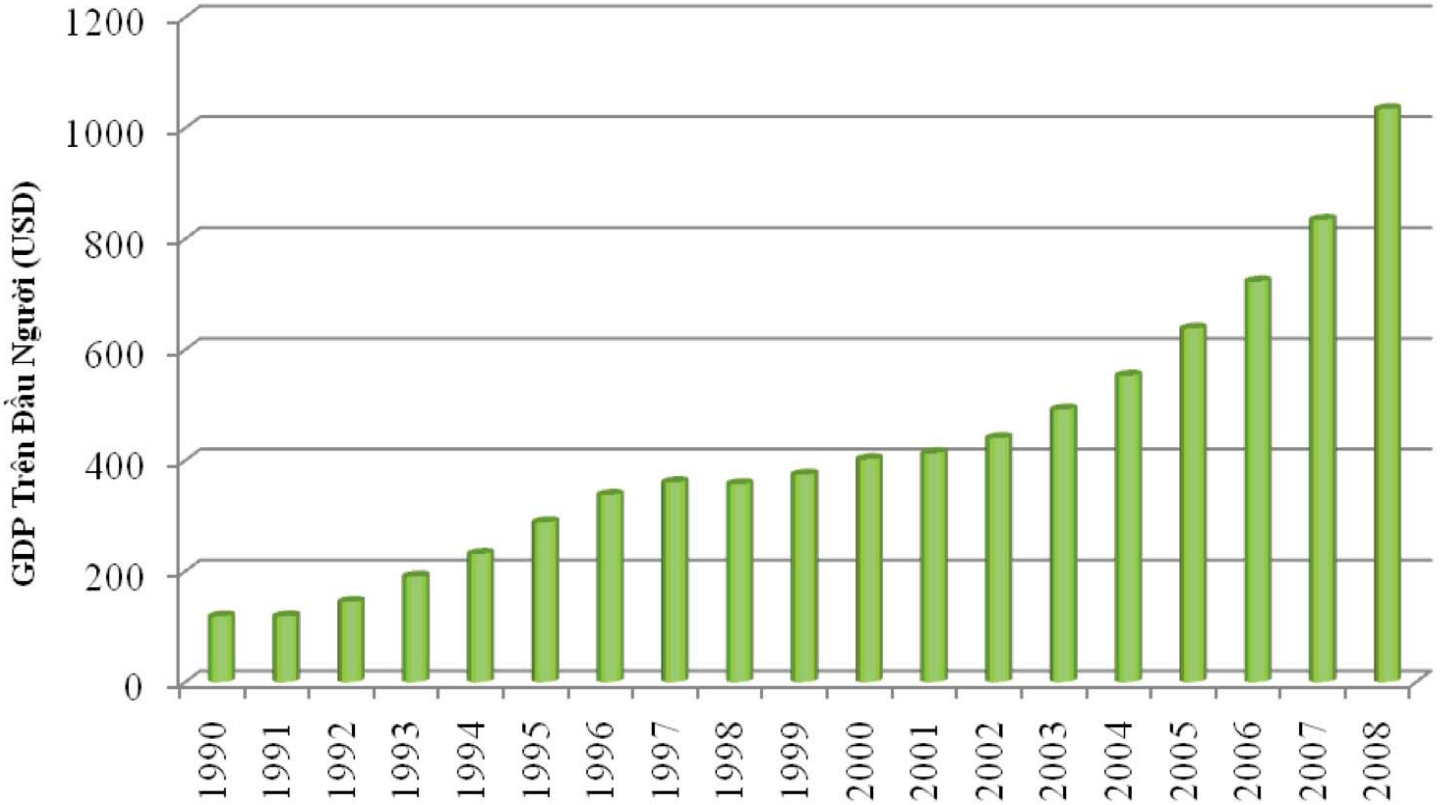
- General situation of Vietnam
- Electricity consumption and market of home appliances in Vietnam
- Government policies and strategies

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



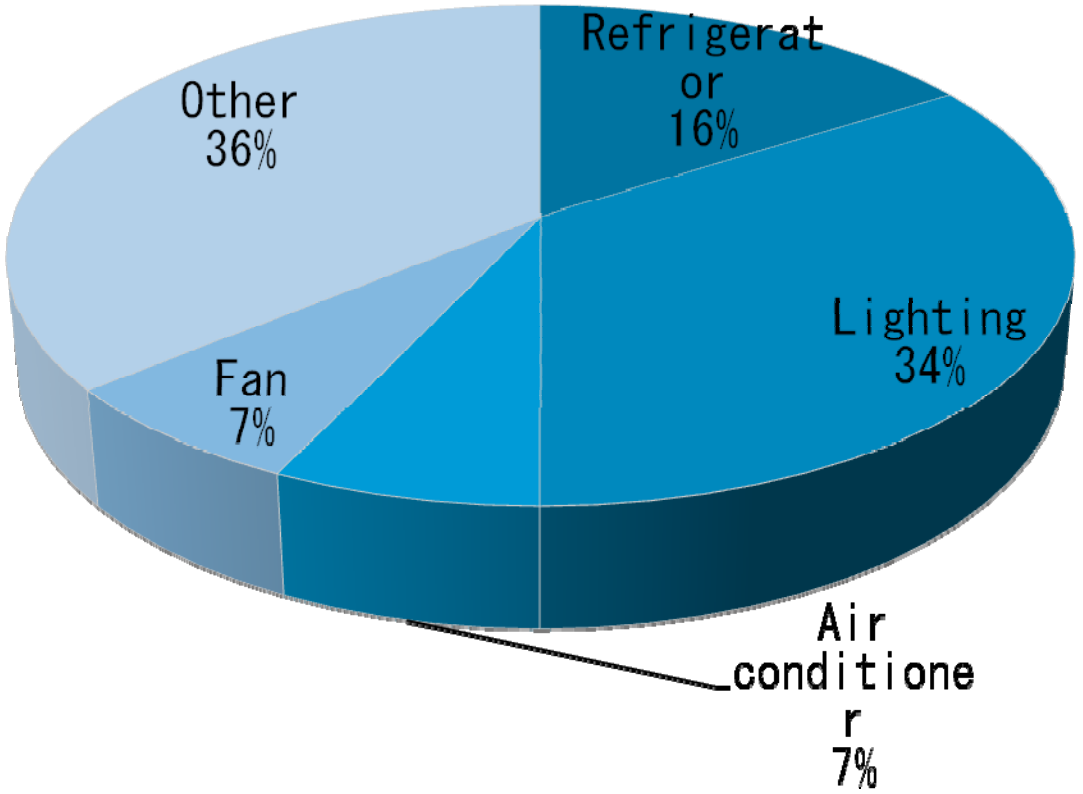
Energy consumption and market of home appliances in Vietnam

- **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[1]	Sold[2]
Vietnam				
Refrigerators (3)	180 liters	0.27	4,300,000	573,330
Air conditioners (3)	12000 BTU/hr	0.07	1,100,000	146,670
Electric motors (1)	5.25 kW		1,000,000	116,670
FTL Ballasts (2)	12 W_{loss}		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/QD-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 squirel 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 squirel 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

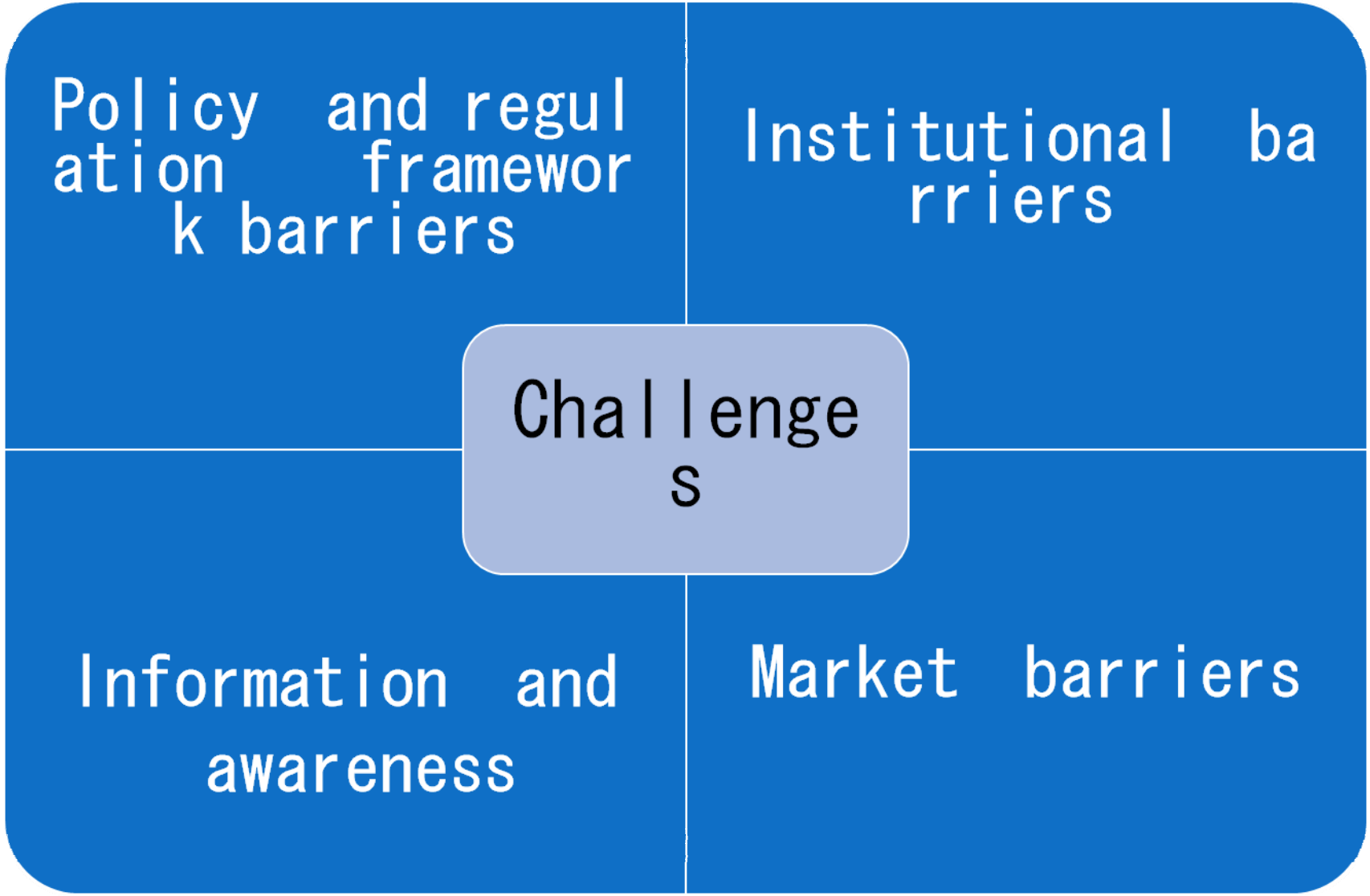
- **Progress of Voluntary EE Labeling program 2006 – 2011**
  - Now: EE labeling
    - Tub fluorescent lamps :T8, T5 (3 Suppliers)
    - Magnetic ballasts (5 Suppliers)
    - Electric motor (1 Supplier)
    - CFLs : 27 types (3 Suppliers)
    - Electric fans: 99 types (3 Suppliers)
  - Soon:
    - AC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

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

お問合せ：report@tky.ieej.or.jp