The Second U.S.-China Energy Efficiency Forum

Energy Efficiency Labeling System & Its Development in China

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I. Concept of Energy Efficiency Labels in China

- **Initiated in 2005**

The issue of *Measures for the Administration of Energy Efficiency Labels* ([2004] Decree No. 17) by NDRC and AQSIQ marked that energy efficiency labeling system was formally established in China.

Positive externalities of energy conservation management

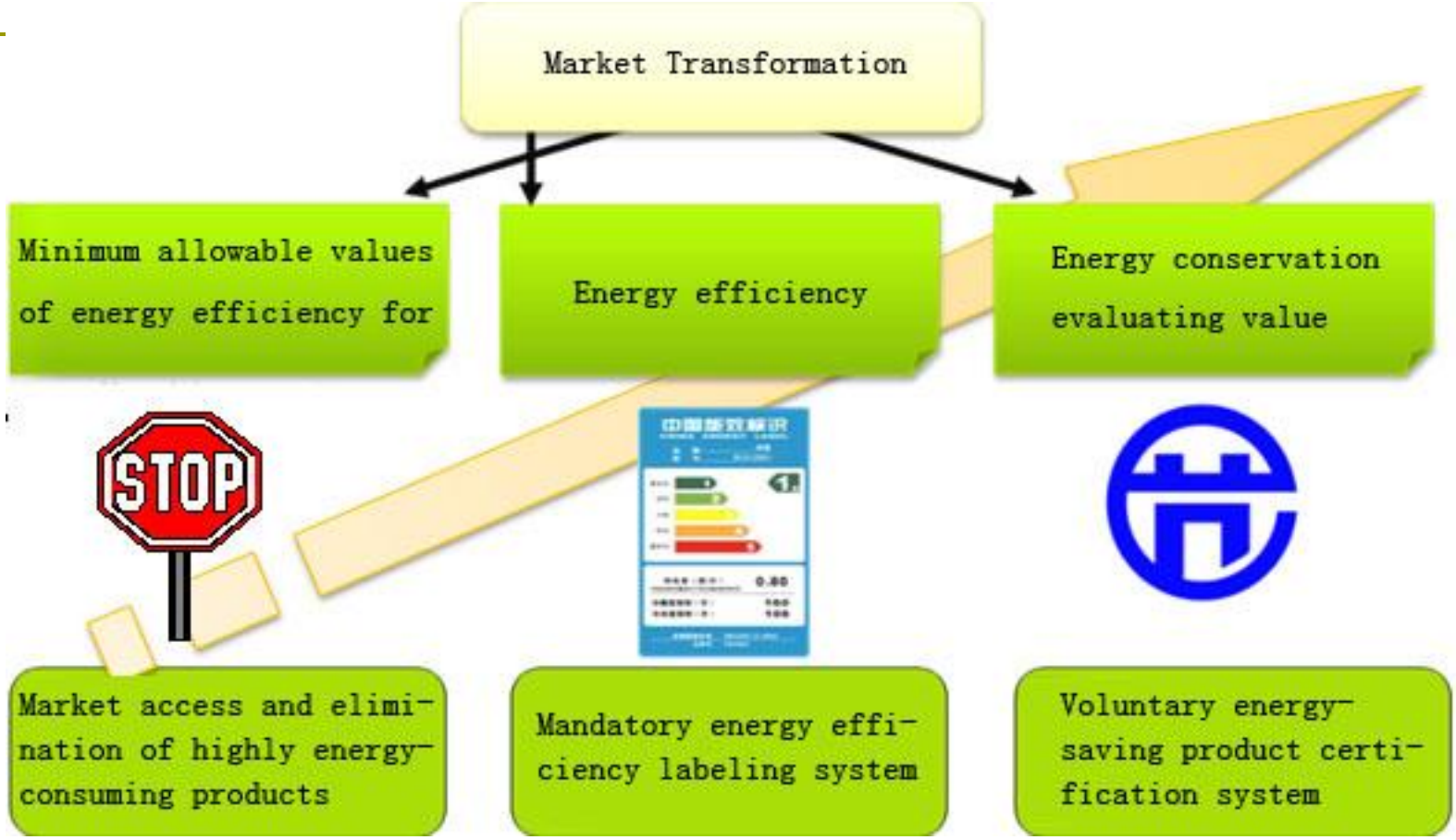
Dissymmetry of energy efficiency information

Essence of energy efficiency labeling system

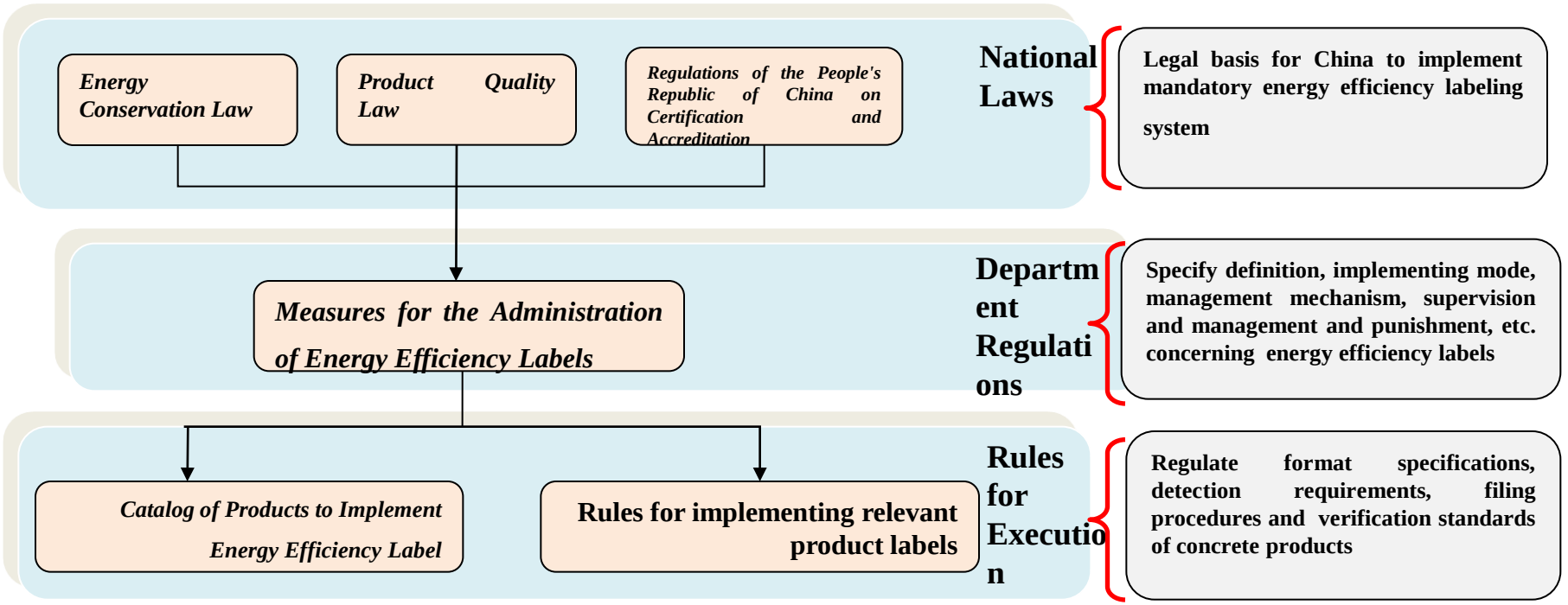
Disclosure of energy efficiency information

Supervision over information authenticity

One of the Tools for Market Transformation



II. Laws & Regulations



III. Format & Information Transmitted

Prepared according to national standards on product performance

High energy efficiency but low energy consumption

Low energy efficiency but high energy consumption

Valid energy efficiency standards (EES)

Ultimate responsible party or brand owner

Determine the most significant elements of labels according to EES

Define the different energy consumption indicators and main performance indicators of varied products in technical specifications for implementation of energy efficiency labels of related products

Grade 3 or 5

Grading basis: Energy efficiency distribution and technical potentials/cost efficiency of energy efficiency improvement

5-Grade energy efficiency labels: refrigerator, washing machine, self-contained air-conditioner, water chilling unit, variable frequency air-conditioner, multi-connected air-conditioner, electric water heater, household electromagnetism stove and microwave oven (10 categories)

Grade 1 refers to that products reach the advanced international level with the lowest energy consumption;

Grade 2 for better energy conservation;

Grade 3 refers to that energy efficiency of products reaches the average level of domestic market;

Grade 4 refers to that energy efficiency of products is maintained below average market level;

Grade 5 stands for high energy consumption and is an indicator for market access.

3-Grade energy efficiency labels: room air-conditioner (updated), high pressure sodium lamp, self-ballasted fluorescent lamp, small and medium-sized three-phase asynchronous motor, gas water heater and heating stove, photocopier, computer monitor and flat panel TV (**13 categories**)

Grade 1 refers to that products reach the advanced international level with the lowest energy consumption;

Grade 2 for better energy conservation;

Grade 3 stands for high energy consumption and is an indicator for market access.

IV. Objective for Implementation

State

Reduce overall energy demand
Reduce influence of peak power
Enhance government management over energy conservation
Eliminate green trade barrier

Market

Create energy-conservation demand
Boost positive market competition
Improve efficient market transformation

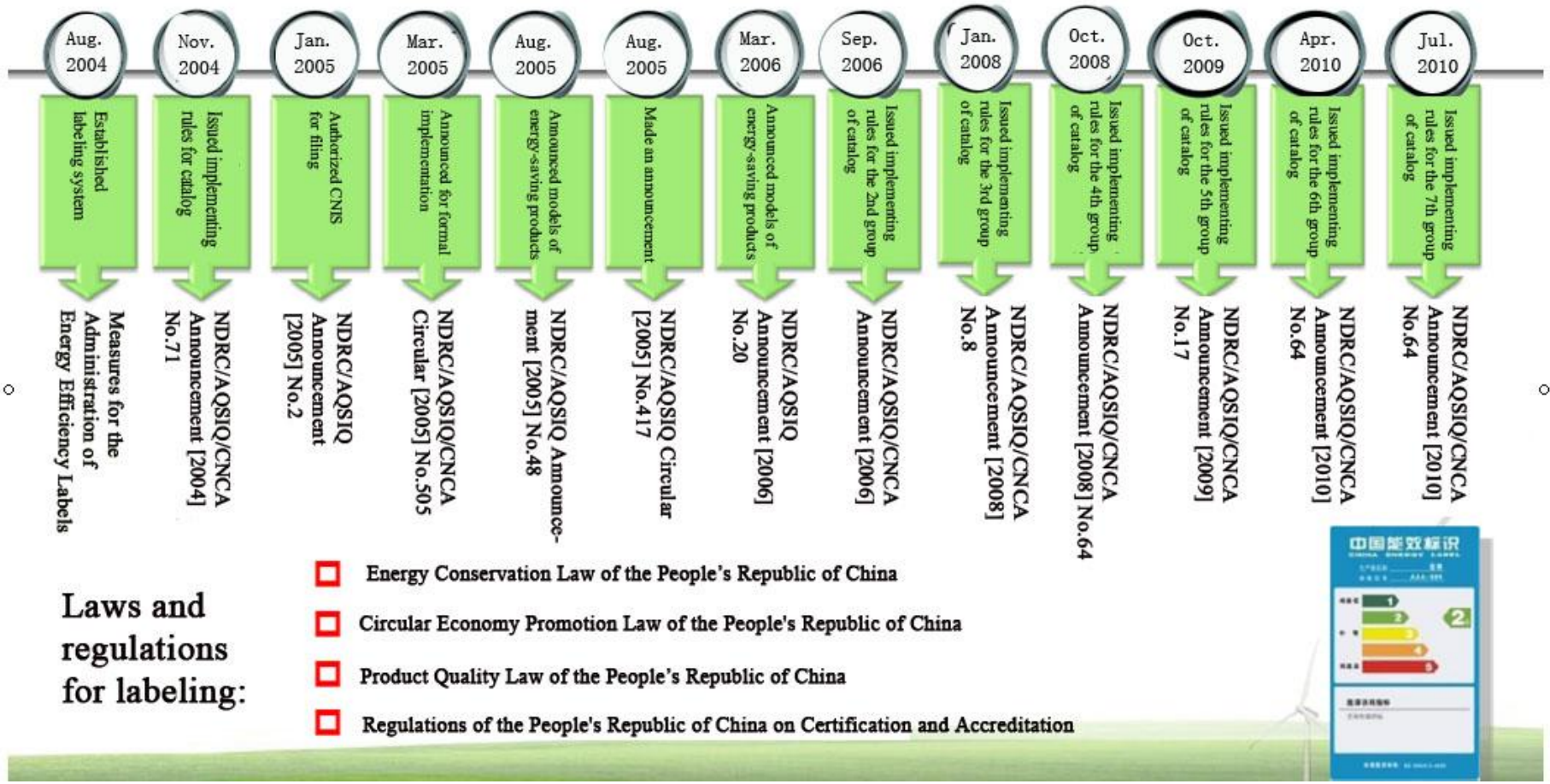
Enterprises

Promote technical innovation
Enhance brand effectiveness
Improve corporate competitiveness

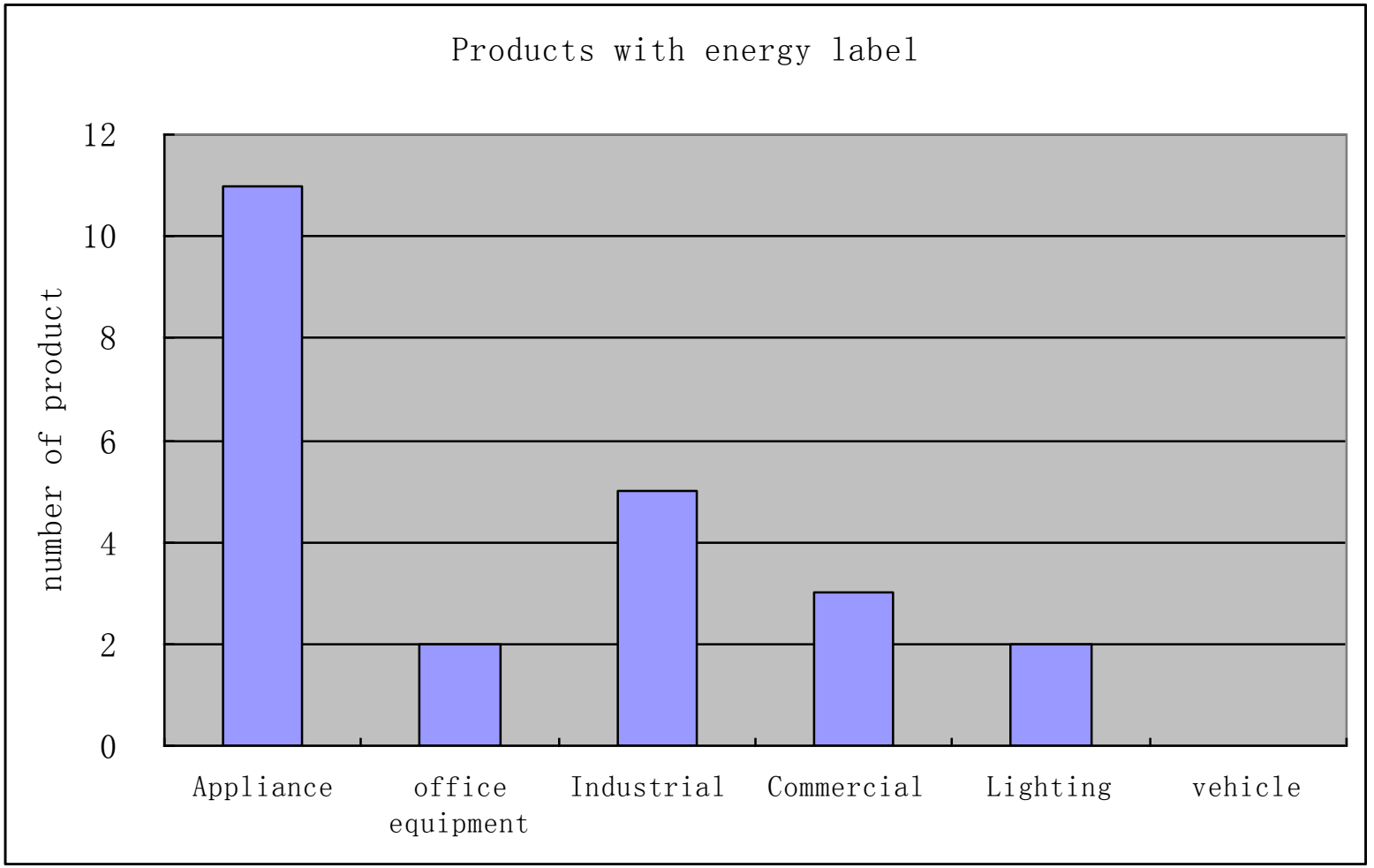
Consumers

Assist to buy efficient products
Lowest cost during life cycle

V. Development of Energy Efficiency Labels



VI. Issued Categories of Products to Implement Energy Efficiency Labeling: 7 Groups (April 2011)



	No.	Product Name	Basis	Date of Implementation
I	1	Household refrigerator	NDRC/AQSIQ/CNCA Announcement [2004] No.71	1 March, 2005
	2	room air-conditioner		
II	3	Electric washing machine	NDRC/AQSIQ/CNCA Announcement [2006] No.65	1 March, 2007
	4	Self-contained air-conditioner		

	No.	Product Name	Basis	Date of Implementation
III	5	Self-ballasted fluorescent lamp	NDRC/AQSIQ/CNCA Announcement [2008] No.8	1 June, 2008
	6	High pressure sodium lamp		
	7	Small and medium-sized three-phase asynchronous motor		
	8	Water chilling unit		
	9	Household gas instantaneous water heater and gas heating and water heater		

	No.	Product Name	Basis	Date of Implementation
IV	10	Variable-speed room air-conditioner	NDRC/AQSIQ/CNCA Announcement [2008] No.64	1 March, 2009
	11	Multi-connected air-conditioner (heat pump) unit		
	12	Electric storing water heater		
	13	Household electromagnetism stove		
	14	Computer monitor		
	15	Photocopier		

	No.	Product Name	Basis	Date of Implementation
V	16	automatic electric rice cooker	NDRC/AQSIQ/CNCA Announcement [2009] No.17	1 March, 2010
	17	AC electric fan		
	18	AC contactor		
	19	Positive displacement compressor		

	No.	Product Name	Basis	Date of Implementation
VI	20	Power transformer	NDRC/AQSIQ/CNCA Announcement [2010] No.3	1 November, 2011
	21	Ventilator		
VII	22	Flat panel TV	NDRC/AQSIQ/CNCA Announcement [2010] No. 28	1 March, 2011
	23	Microwave oven		

VII. Implementing Mode

Self-declaration of enterprises (key feature)

- Independent detection of product energy efficiency;
- Determine labeling information according to detection results and relevant standards;
- Print labels independently as required;
- Paste labels independently;
- Responsible for accuracy of labeling information and subject to supervision and inspection

Filing of energy efficiency information (means of management)

Enterprises, products and filing of energy efficiency lab

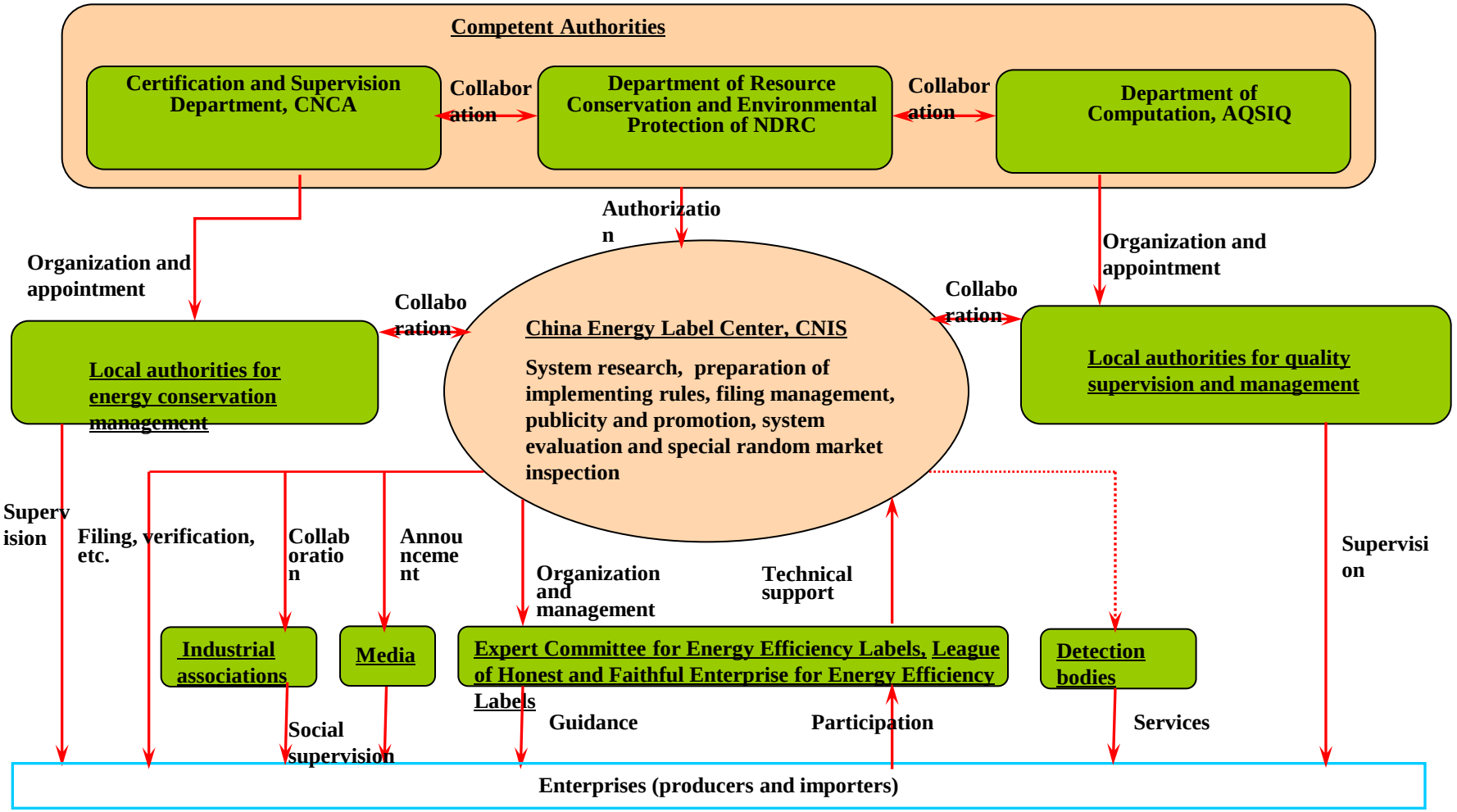
- Verification: Information about product energy efficiency and laboratory performance;
- Announcement: Provide timely information announcement on the "website for energy efficiency labels in China" and other media concerned

Market supervision and management (basic guarantee)

- AQSIQ develops annual random inspection of products focusing on energy efficiency indicators;
- Local enforcement bodies supervise over the execution of energy efficiency labeling system by enterprises;
- NDRC and other competent authorities organize and develop special market inspection on energy efficiency labels;
- Inspection on implementation of energy efficiency labeling system;

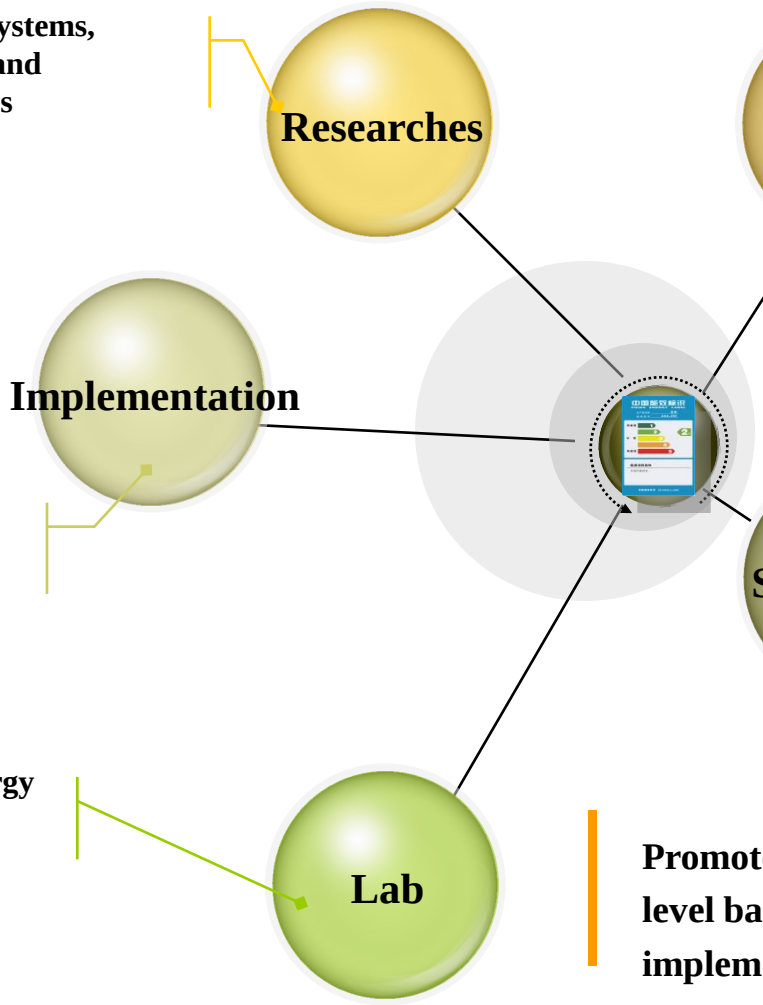
Develop social supervision among the public and industrial agencies

Organization & Management System



Work Links

1. Researches on systems, product category and implementing rules



2. Filing and management of energy efficiency labels

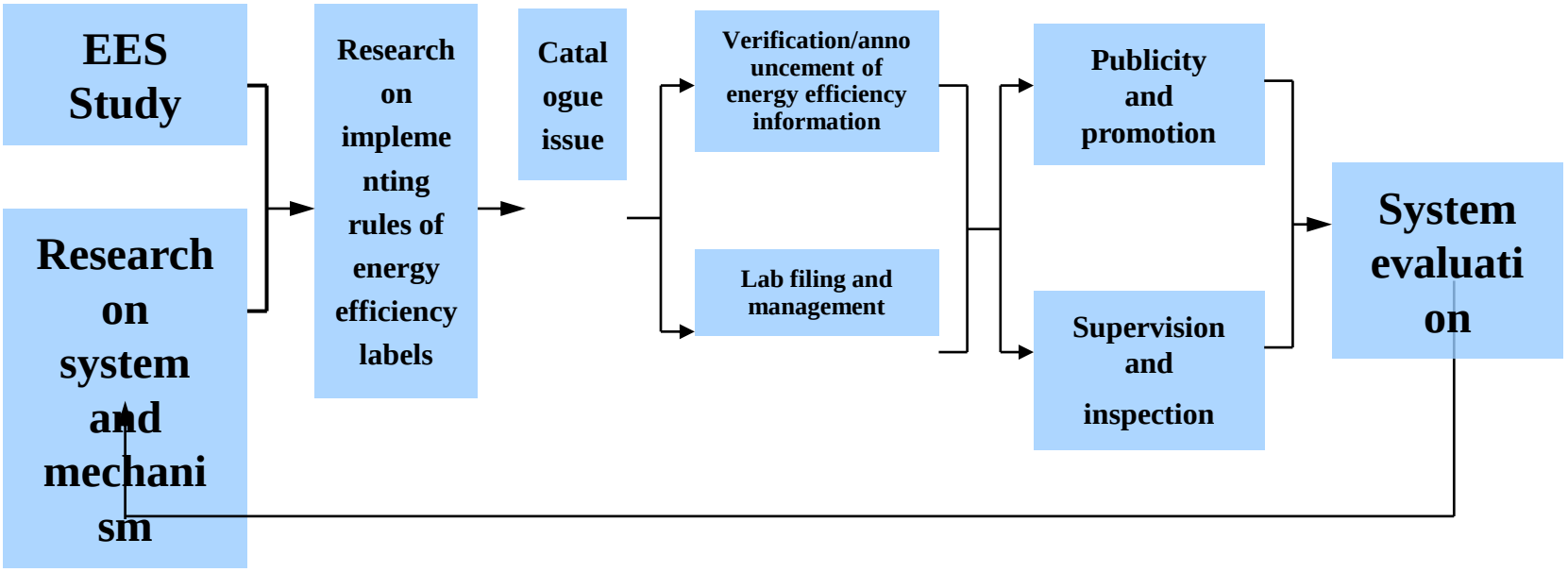
3. System publicity and promotion

4. Supervision and inspection of energy efficiency labels

5. Construction of energy efficiency lab for key energy-using products

Promote tasks of energy efficiency labels to a new level based on previous researches, medium-term implementation and later evaluation

Operating Procedures



The above nine links are linked closely with one another for mutual support.

VIII. Supervision & Inspection of Energy Efficiency Labels

- **Develop with AQSIQ and NDRC to conduct special inspections at national level and develop supervision and inspection based on China's Home Appliance Subsidy Program for Rural Areas and other policies**

- **Local authorities for quality inspection develop special inspections (under building and improvement)**

- **Social supervision and supervision among enterprises**

Verification by the Lab

Lab for Energy Efficiency of Energy-using Products

- Construction and operation of the lab
- Verification, data comparison and data exchange and other technical services of energy efficiency lab
- Research on confirmation of energy efficiency indicators for energy-using products
- Research on standardization of energy efficiency experimental methods for energy-using products
- Energy efficiency data statistics, analysis, commoditization and promotion of energy-using products
- Technical research and analysis on energy-efficient products
- International mutual recognition of energy efficiency testing methods and results
- Development and services of “National Tracking & Analysis Database of Energy Efficiency Lab”
- Water conservation and exploration of other testing ranges

IX. Implementing Results - Filing

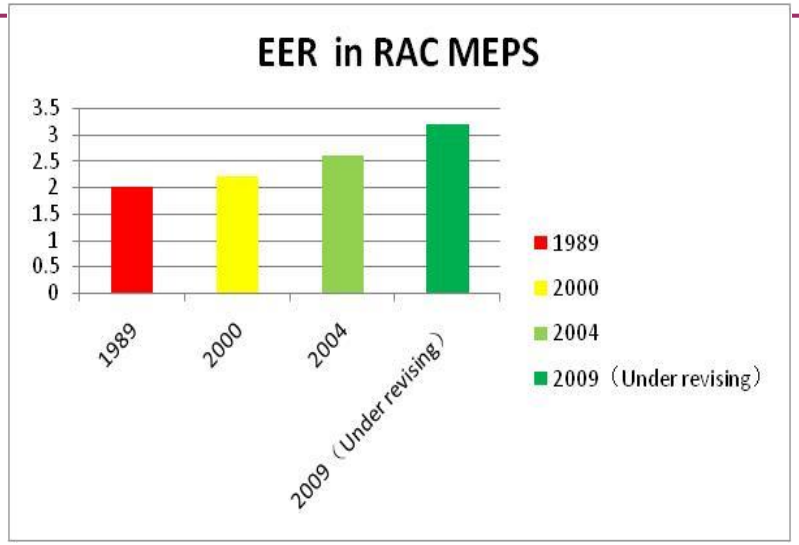
- **Product filing (as of February 2011)**
- **Lab filing**
  - **Number of labs passing the filing: 597**
    - **190 the third parties**
    - **407 the first parties**

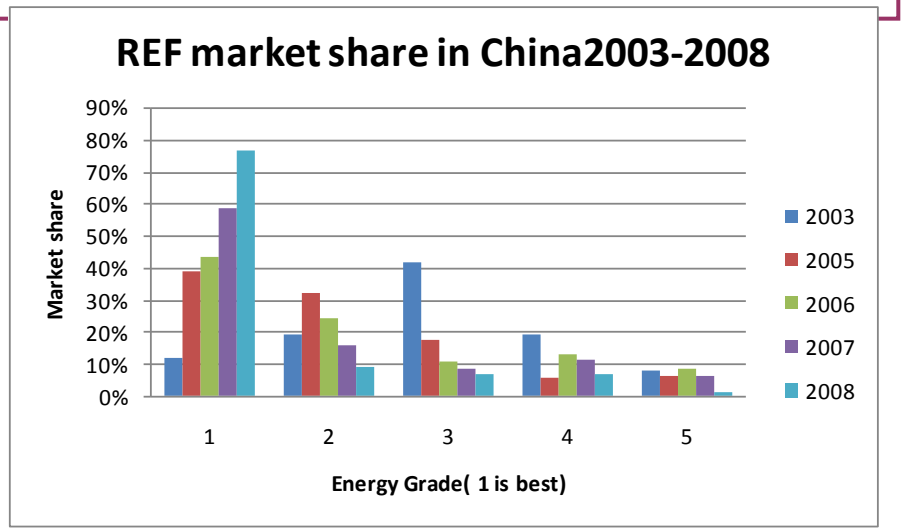
(Note: the unit here is based on product category. E.g. as CVC involves air-conditioners and refrigerators, it can be considered two units)

No.	Product Category	Number of Enterprise	Qty. of Model
1	Household refrigerator	267	17,816
2	Room air-conditioner	95	20,824
3	Electric washing machine	392	12,943
4	Self-contained air-conditioner	53	2,820
5	Self-ballasted fluorescent lamps	500	12,134
6	High pressure sodium lamp	25	241
7	Small and medium-sized three-phase asynchronous motor	771	48,876
8	Water chilling unit	63	6,174
9	Gas water heater	255	4,834
10	Variable-speed room air-conditioner	32	3,167
11	Household electromagnetism stove	292	5,192
12	Multi-connected air-conditioner (heat pump) unit	28	1,260
13	Electric storing water heater	163	4,982
14	Photocopier	22	420
15	Computer monitor	234	4,089
16	AC contactor	49	7,955
17	Positive displacement compressor	69	2,375
18	Automatic electric rice cooker	278	5,954
19	AC electric fan	207	3,995
20	Household refrigerator (Revised)	137	4,975
21	Room air-conditioner (Revised)	58	12,671
22	Power transformer	0	0
23	Ventilator	1	2
24	Flat panel TV	15	292
25	Microwave oven for household or for the similar purpose	3	235
26	Subtotal	4,009	184,226

Benefits of Energy Conservation & Environmental Protection

During the "11th Five-Year Plan" period, power of around 150 billion kW/h was saved accumulatively, equal to 60 million tons of standard coal, with a CO_2 reduction of 140 million tons.





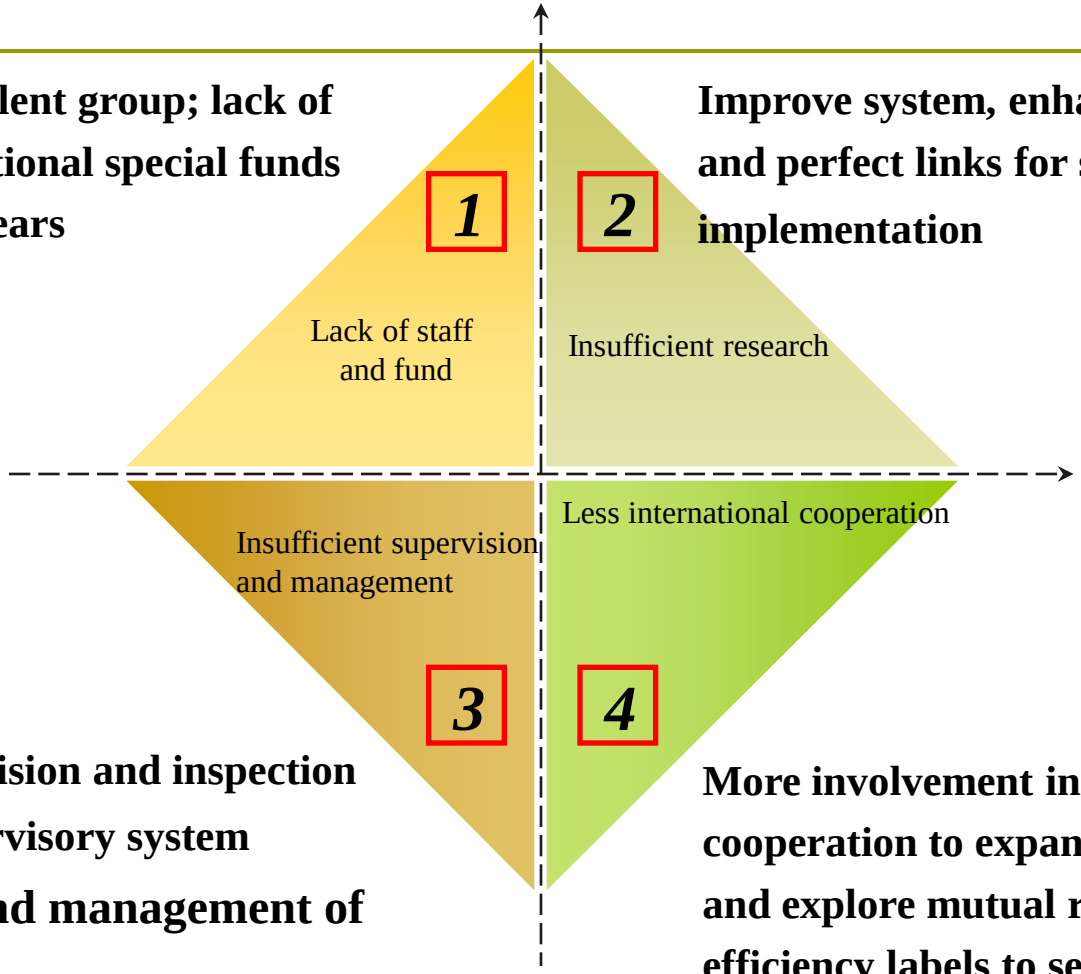
Compared with the situation before the implementation of energy efficiency labeling system in 2005, the average energy efficiency level of room air-conditioner has increased by over 20%, and the market share of energy-saving air-conditioner raised to over 50% from 5%; the average energy efficiency level of household refrigerator has increased by over 10%, and the market share of energy-saving refrigerator has reached more than 80%.

X. Future Plan

-Challenges

Further build talent group; lack of support from national special funds over the past 6 years

Improve system, enhance applicability and perfect links for system implementation



Strengthen supervision and inspection and improve supervisory system

- **Supervision and management of market products;**
- **Supervision and management of lab detection of energy efficiency**

More involvement in international cooperation to expand research channels and explore mutual recognition of energy efficiency labels to serve the enterprises

Key Researches

1. System study

Researches on mode of system implementation, supervision system, post-evaluation mode of implementing results, etc.

2. Study on related projects

- **Special scientific research project for public good in national quality inspection industry and other longitudinal scientific research projects supported by national ministries and commissions;**
- **International cooperative projects supported by U.S. Energy Foundation, United Nations Development Programme (UNDP) and other international institutions**

3. Study on product catalogue

- **Develop study on implementing rules for energy efficiency labeling products and issue the 8th and the 9th group of catalogues**

4. Experimental studies

- **Studies on energy efficiency detection technology, experimental methods and compliance testing methods for energy-using products;**
- **Experimental study on energy-saving technology**

Digital TV receiver, printer and fax machine, small-power motor, refrigerated display case, water source heat pump unit, solar domestic water heating system, double-end fluorescent lamp and fluorescent lamp ballasts

Thank You

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