

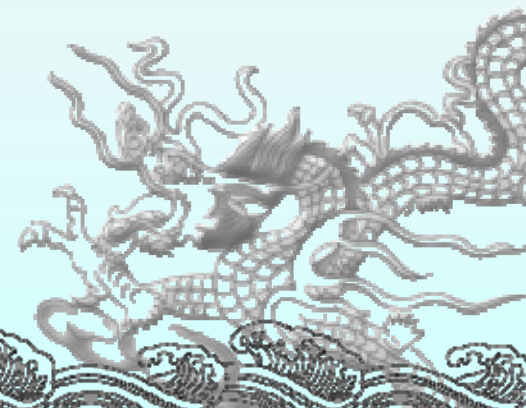
**Current situation and challenges
in energy efficiency S&L policy development
in China**

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2011. 1. 28 Tokyo

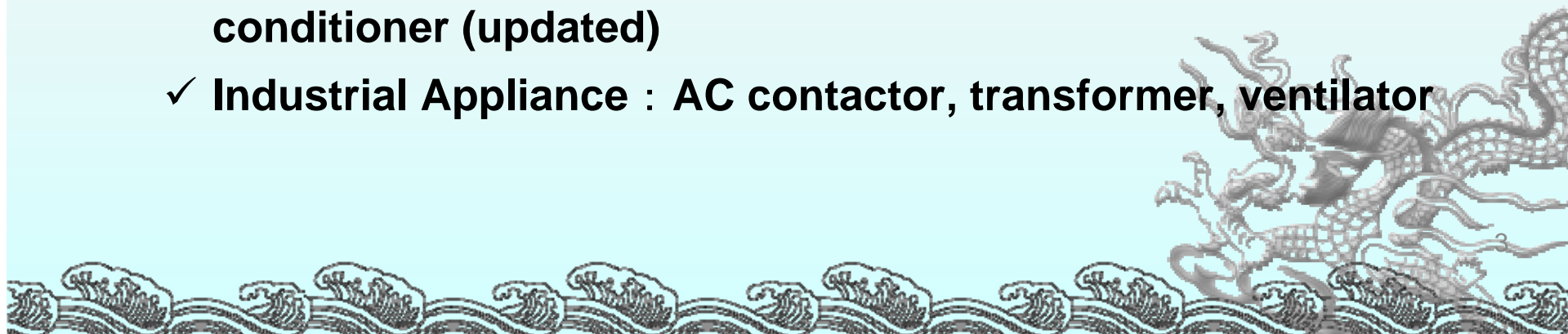
List of Topics

- 1 **Progress on the energy efficiency S&L.**
- 2 Objectives and challenges on the energy efficiency S&L
- 3 Main activities on energy efficiency
- 4 Main areas of cooperation and the related progress

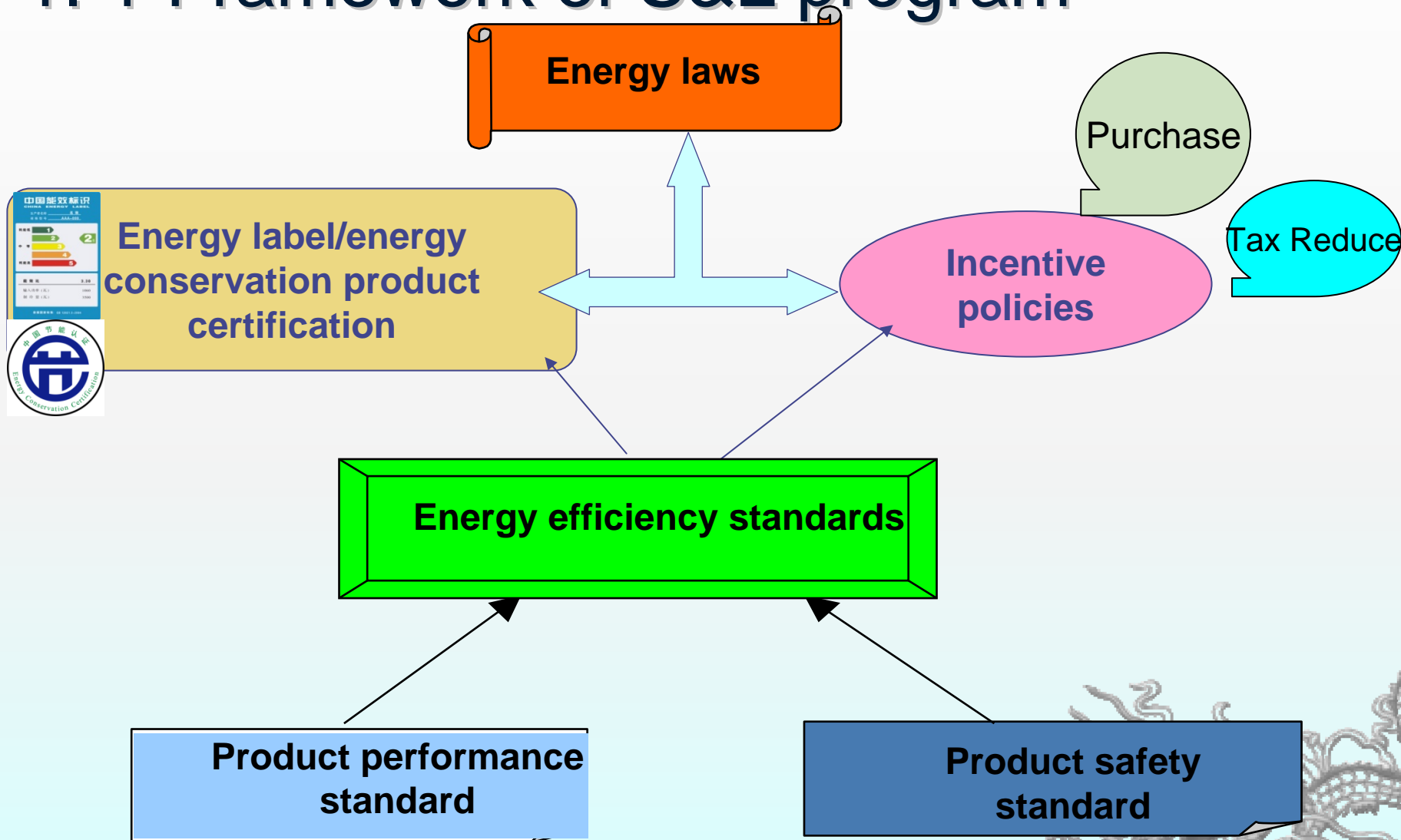


1.1 Progress on the Energy Efficiency S&L

- **3 national energy efficiency standards promulgated in 2010**
 - ✓ **Microwave Oven**
 - ✓ **Flat Panel Television**
 - ✓ **Transformer**
- **6 categories of products are included in the list of energy efficiency labeling.**
 - ✓ **Home Appliance : electric cooker, electric fan, room air conditioner (updated)**
 - ✓ **Industrial Appliance : AC contactor, transformer, ventilator**

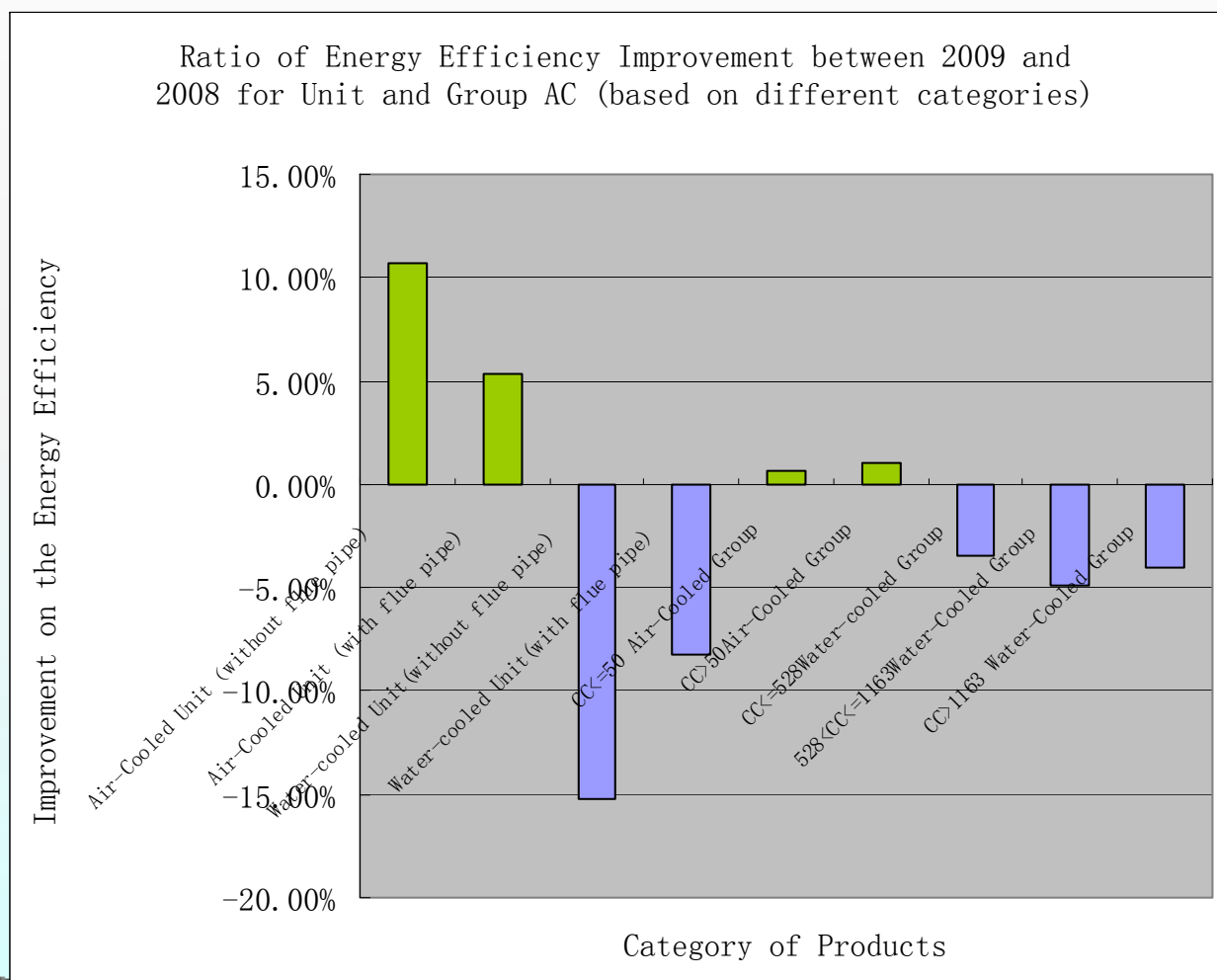


1. 1 Framework of S&L program



1.2 Progress on S&L Program –

— 《whitepaper on the energy efficiency for energy consumption products in China (2010) 》

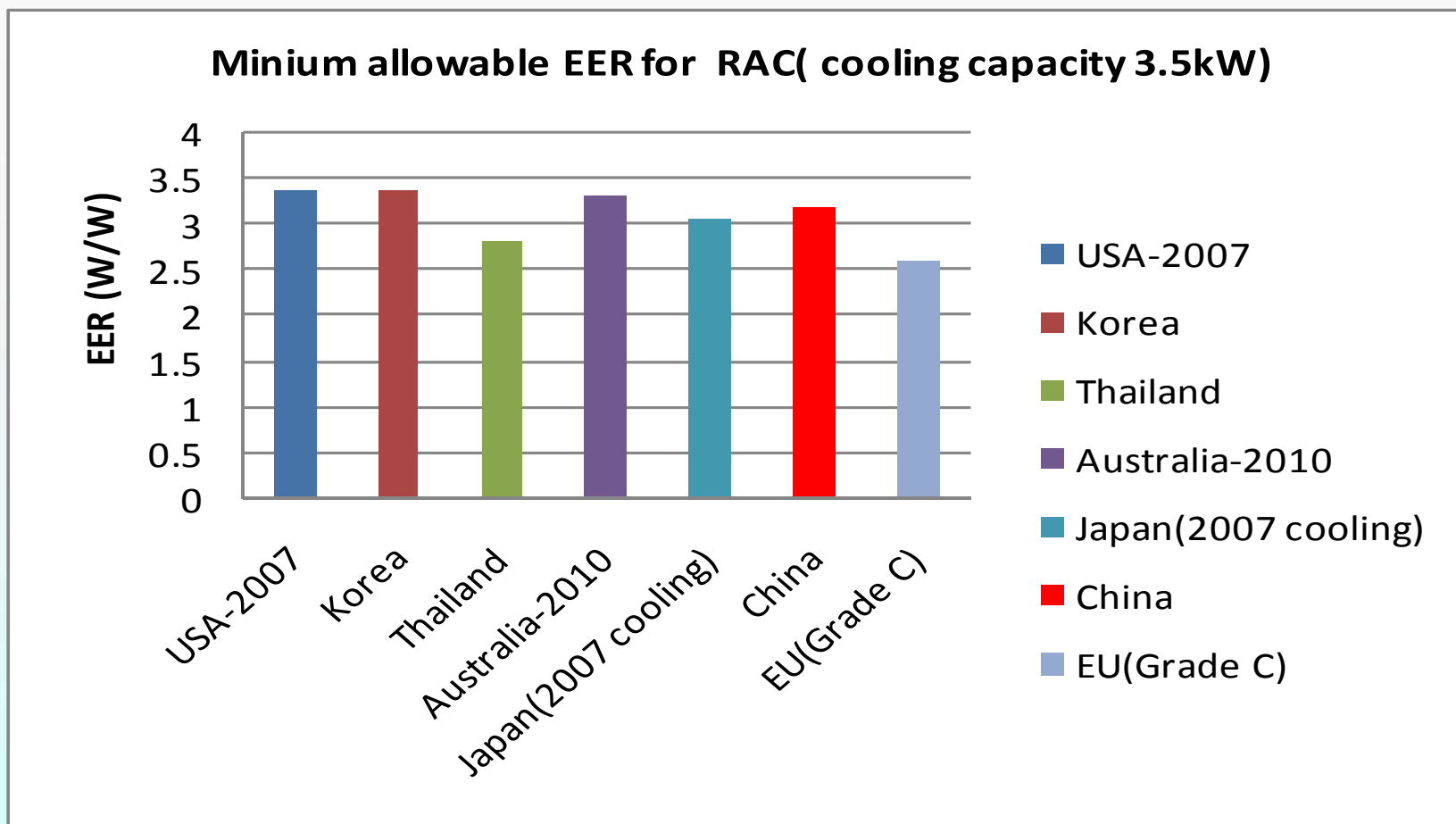


- ◆ The total energy saved for 15 energy consumption products accounts for 5.7 billion kW•h annually.
- ◆ Yet the situation of commercial use appliance was not satisfactory.



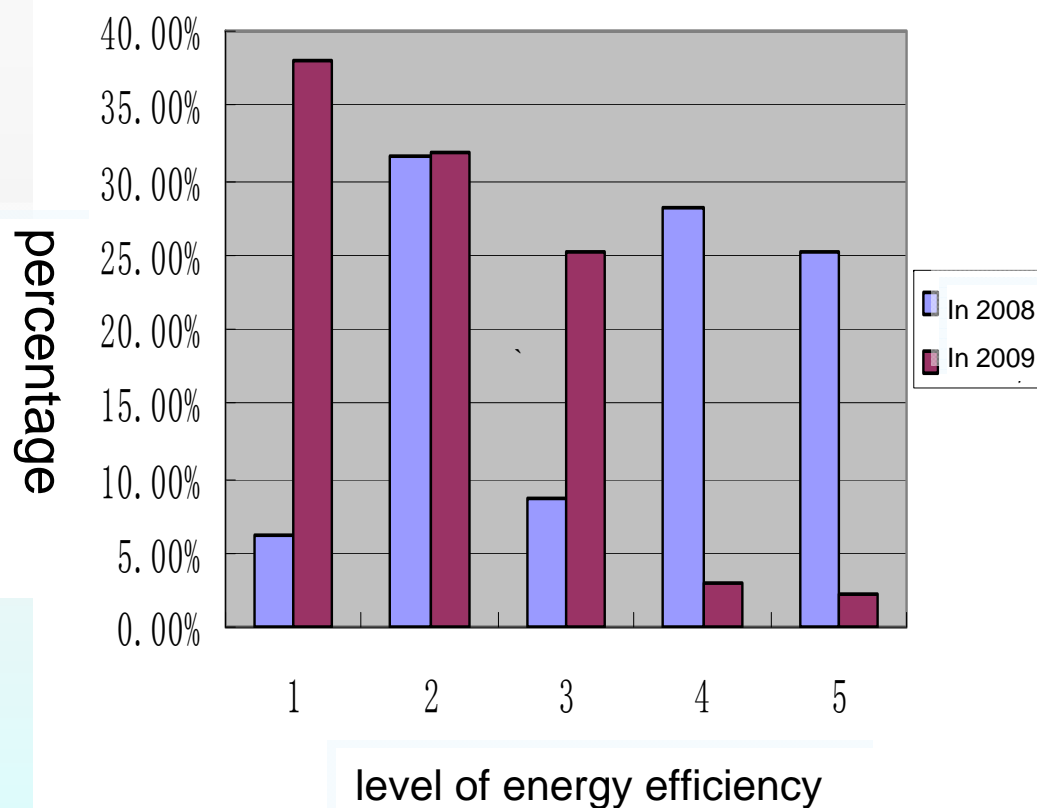
1.4 International Comparative Study on the Energy Efficiency of Main Product

◆ Room Air Conditioner



Progress on the S&L Market

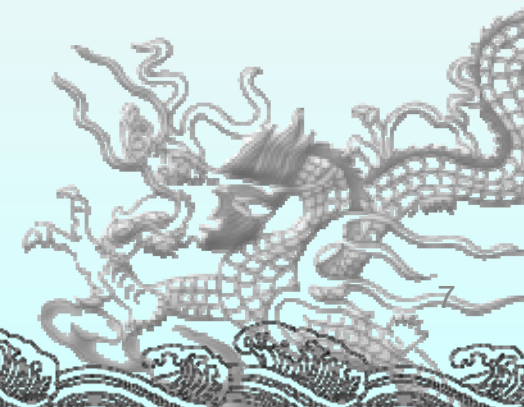
Conversion of Room Air Conditioner



For example, the RAC

➤ The new standard in 2010 has increased the limit by almost 23%.

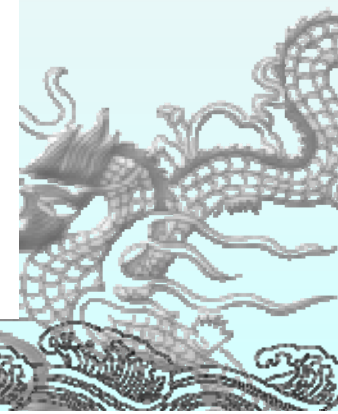
➤ Compared with that of the 2008, the average energy efficiency of RAC in 2009 had increased by 8%-11%.



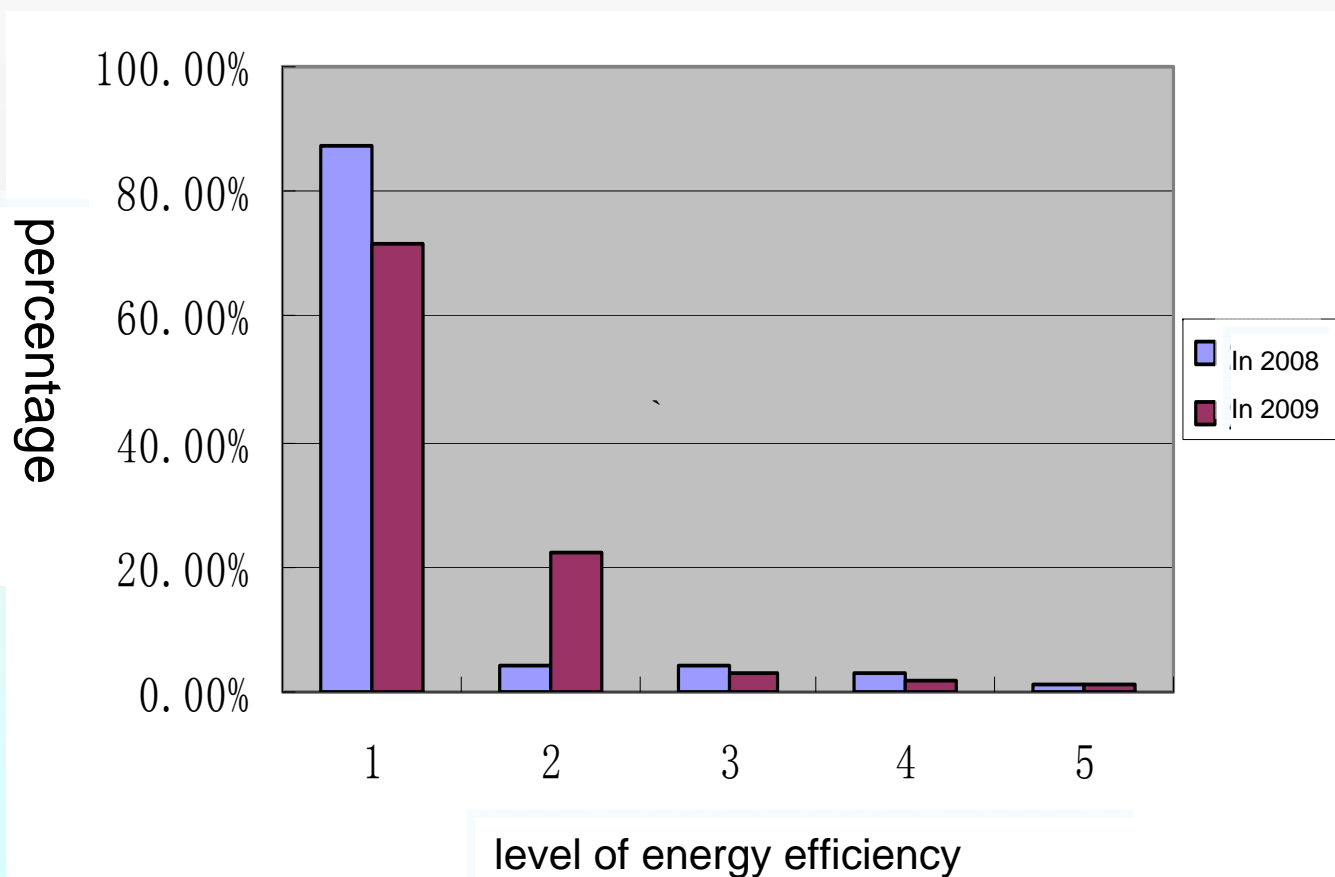
International Comparative Study on Main Products

◆ Refrigerator

the new level of energy efficiency	the new index of energy efficiency	EN153-2007	the EN energy efficiency level
1	$\eta \leq 40\%$	$\eta \leq 30\%$	A++
2	$40\% \leq \eta \leq 50\%$	$30\% \leq \eta \leq 42\%$	A+
3	$50\% \leq \eta \leq 60\%$	$42\% \leq \eta \leq 55\%$	A
4	$60\% \leq \eta \leq 70\%$	$55\% \leq \eta \leq 75\%$	B
5	$70\% \leq \eta \leq 80\%$	$75\% \leq \eta \leq 90\%$	C
--	--	$90\% \leq \eta \leq 100\%$	D
--	--	$100\% \leq \eta \leq 110\%$	E
--	--	$110\% \leq \eta \leq 125\%$	F
--	--	$125\% \leq \eta$	G



The Progress on the S&L Market Conversion of Deepfreeze and Refrigerator



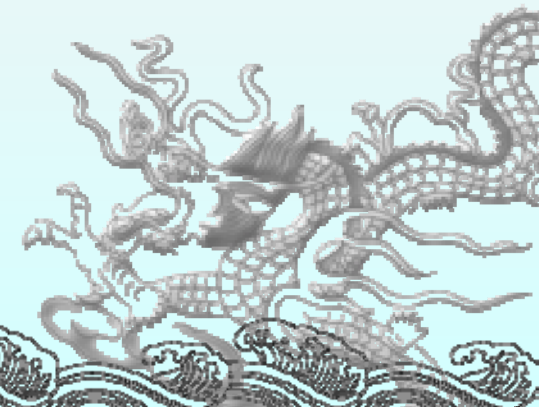
1.3 the Accomplishment of the Goals of the Eleventh Five-year Plan

■ The S&L Goals

- The energy consumption ratio per GDP shall be reduced by 20% compared with that of the end of the eleventh five-year plan. The annual reduction ratio of energy intensity shall reach 4.4%.
- In 2010, the energy efficiency for energy consumption equipments shall achieve **the international leading level**.

■ The Accomplishment

- Accomplished
- Technical gap still remained



List of Topics

1

Progress on the energy efficiency S&L.

2

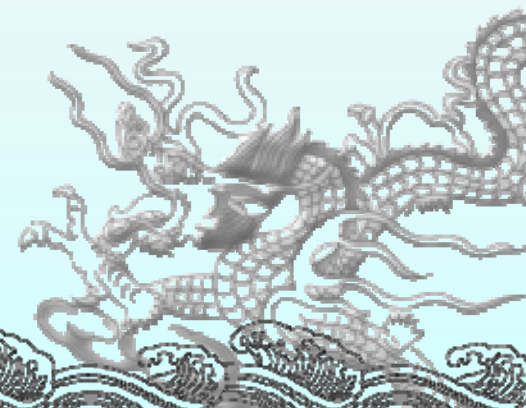
Objectives and challenges on the energy efficiency S&L

3

Main activities on energy efficiency

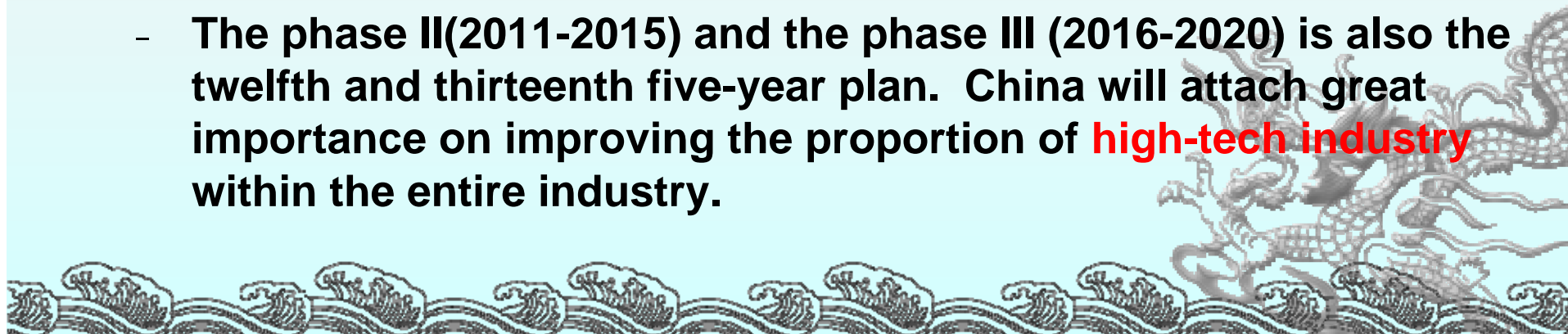
4

Main areas of cooperation and the related progress



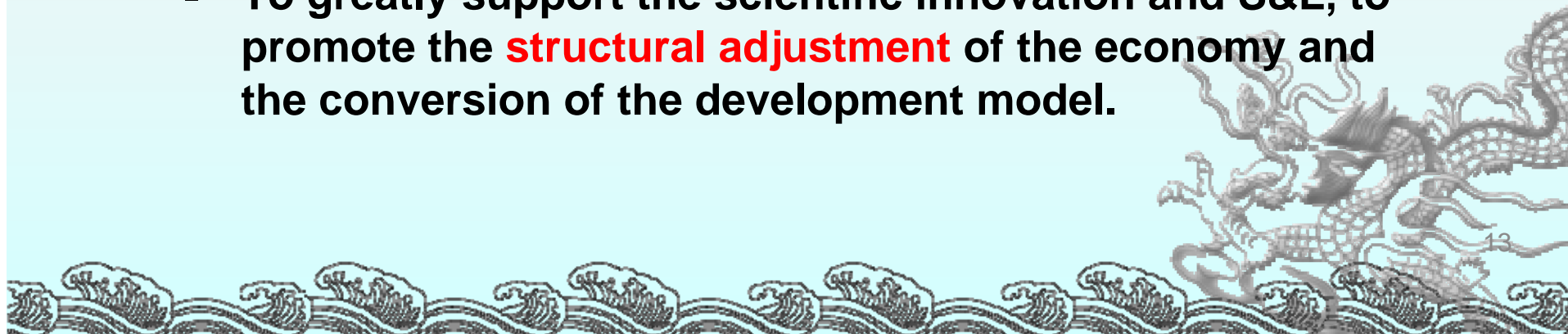
2.1 The Future Goals on the Comprehensive S&L.

- **Goals of the 2020**
 - The Release of Carbon Dioxide per GDP shall be reduced by **40%-45%**
 - The non-fossil energy accounts for 25% of the entire disposable energy
 - The coverage of forest shall be enhanced to 1.3 billion steres
- **In the Tianjin Climate Conference, the plan on S&L shall be implemented through three phases.**
 - Phase I (2006 -2010), the energy consumption ratio per GDP shall be reduced by 20%.
 - The phase II(2011-2015) and the phase III (2016-2020) is also the twelfth and thirteenth five-year plan. China will attach great importance on improving the proportion of **high-tech industry** within the entire industry.



2.2 Priorities on the S&L during the Twelfth Five-year Plan

- **The Goal of S&L:**
 - Reduced by 15% to 20%
- **The priorities of S&L in China will be**
 - focused on the **government and enterprises**
 - promoted to the **consumption** by advocating on the idea of low-carbon living style.
- **The policy on encouragement**, such as pricing, taxation, finance, etc.
- To speed up the **promotion** of high energy efficiency products.
- To greatly support the scientific innovation and S&L, to promote the **structural adjustment** of the economy and the conversion of the development model.



2.3 Target on the S&L

Product manufacturing and distribution

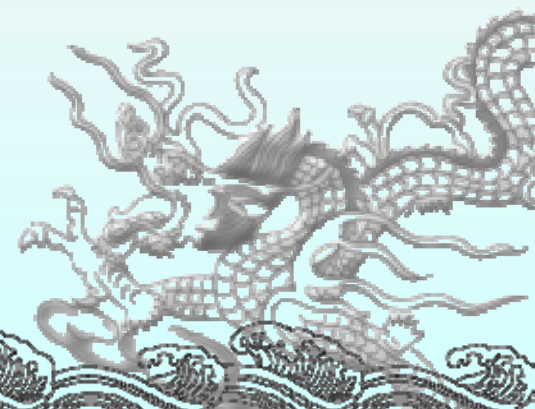
Operation management and reconstruction

Evaluation and monitoring

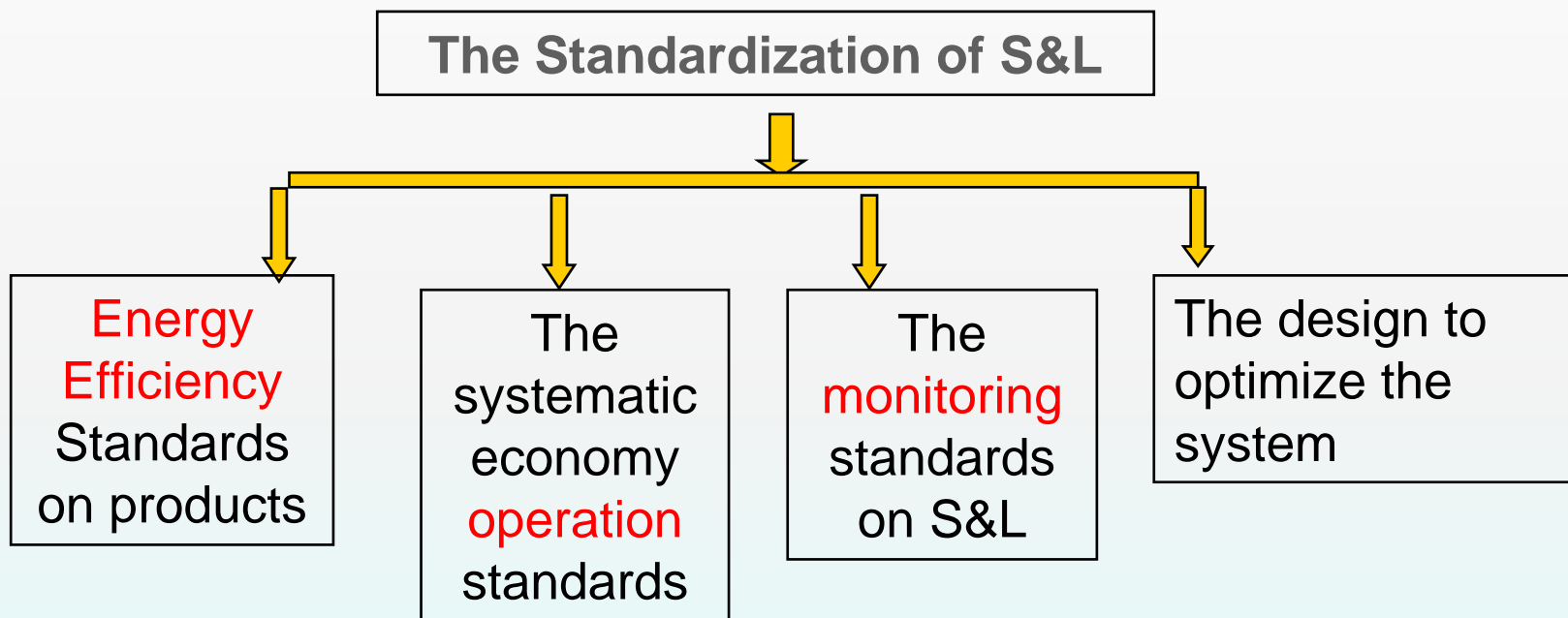
To increase the product energy efficiency-compulsory management

To save and optimize the energy consumption-voluntary management

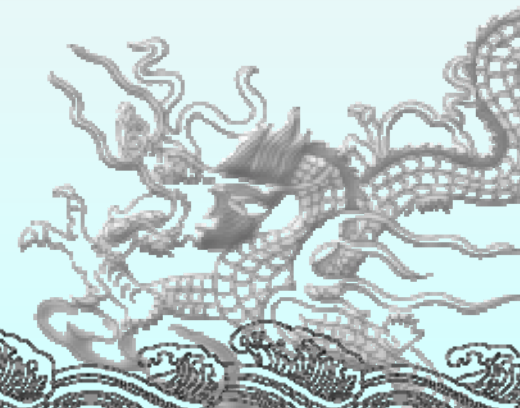
Energy audit and evaluation system-accountability system of S&L



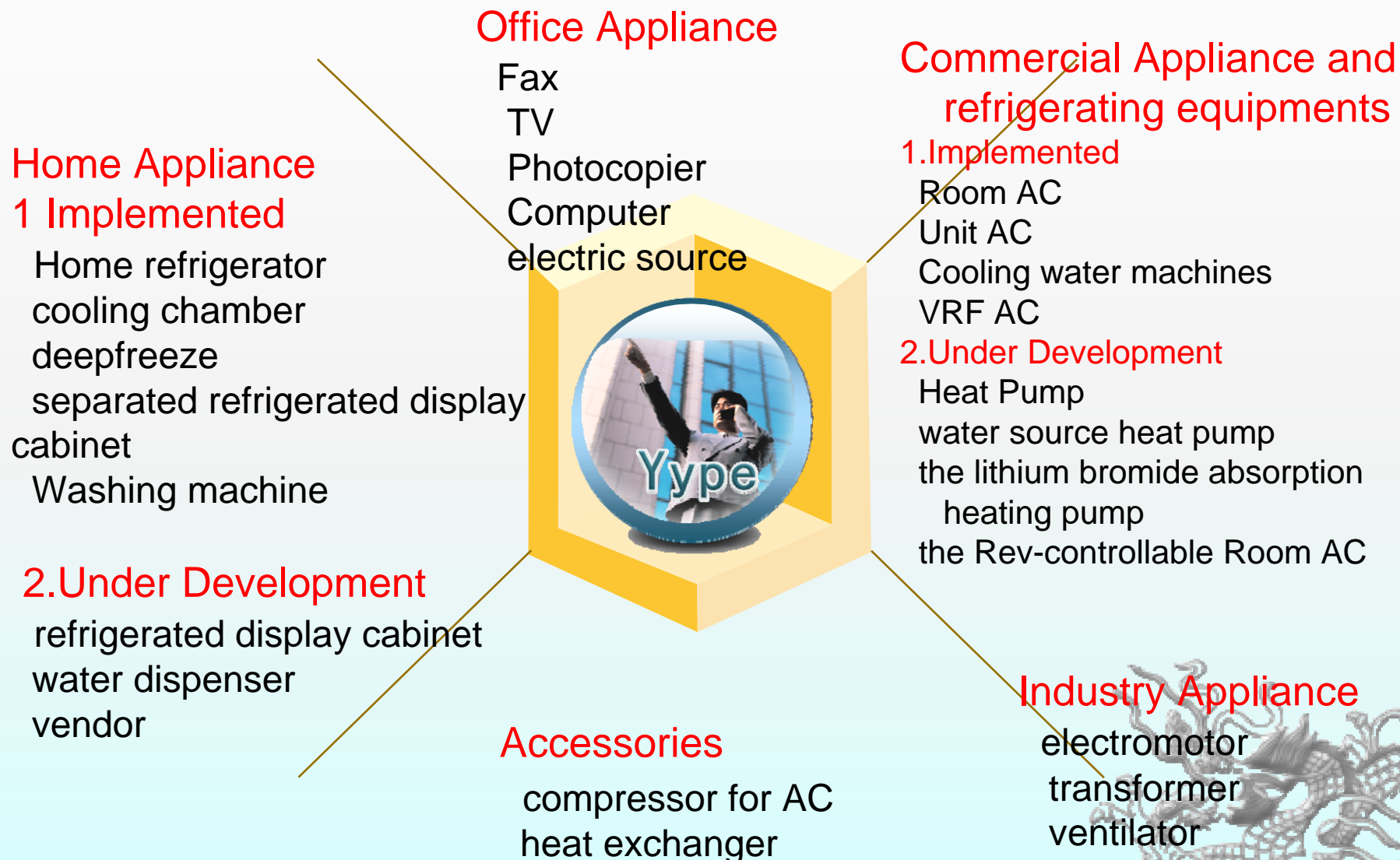
2.4 the Vision on the S&L Standard System



GNIS



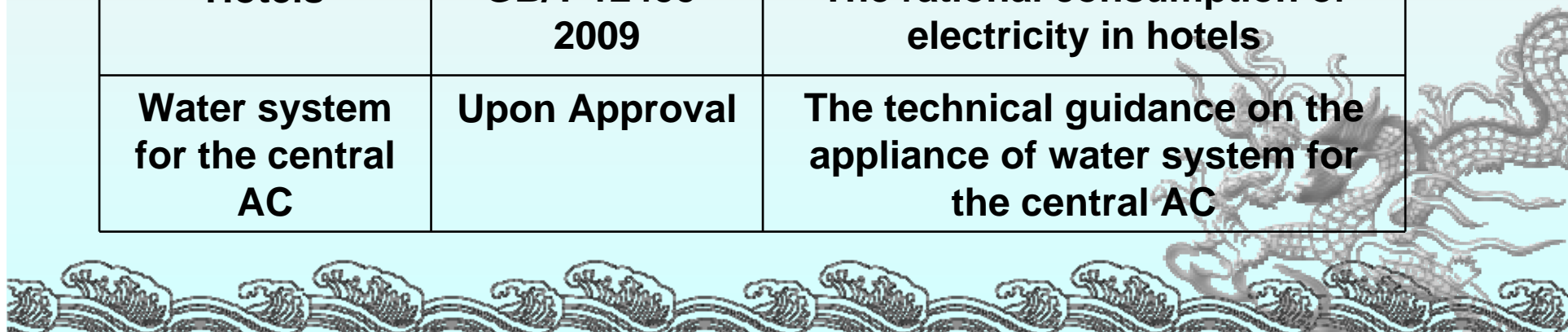
(1) to enlarge the scope of product energy efficiency standards: **43** standards promulgated.



(2) the systematic economy operation system

- ◆ Focused on the operating AC system, to optimize the working status of the system by scientific management and necessary technical improvement, so as to lower **the energy consumption and total cost.**

System	Progress	Promulgated
Air Conditioning System	GB/T 17981-2007	The systematic economy operation system of AC system
Hotels	GB/T 12455-2009	The rational consumption of electricity in hotels
Water system for the central AC	Upon Approval	The technical guidance on the appliance of water system for the central AC



(3) the Monitoring System on the AC S&L

- ◆ The technical basis on the monitoring of S&L: **measurement and monitoring**
- ◆ Consolidated method to carry out S&L monitoring by the regulatory authority and the energy consumption units.
- ◆ The technical principles, testing methods and evaluation methods on the monitoring of energy consumption on unit, equipments and systematic utilization of energy.

Product s	Progress	Promulgated
Unit Cooler	GB/T 15912—1995	《Monitoring the S&L of Unit Cooler and its Cooling system》
refrigeratory	Under development	《monitoring the S&L of Unit Cooler and its Cooling system》 (Part I, Refrigeratory)
VRF	Under preparation	《monitoring the S&L of Unit Cooler and its Cooling System》 (Part II, VRF)

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1

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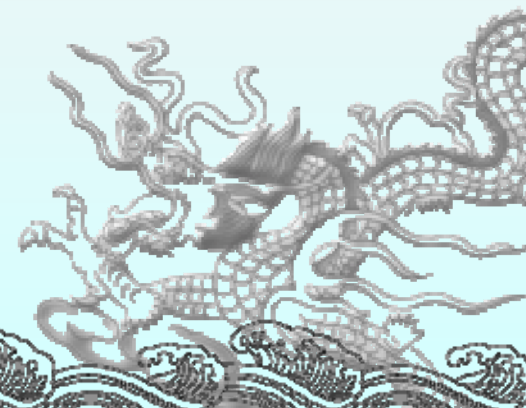
Objectives and challenges on the energy efficiency S&L

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Main activities on energy efficiency

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Main areas of cooperation and the related progress



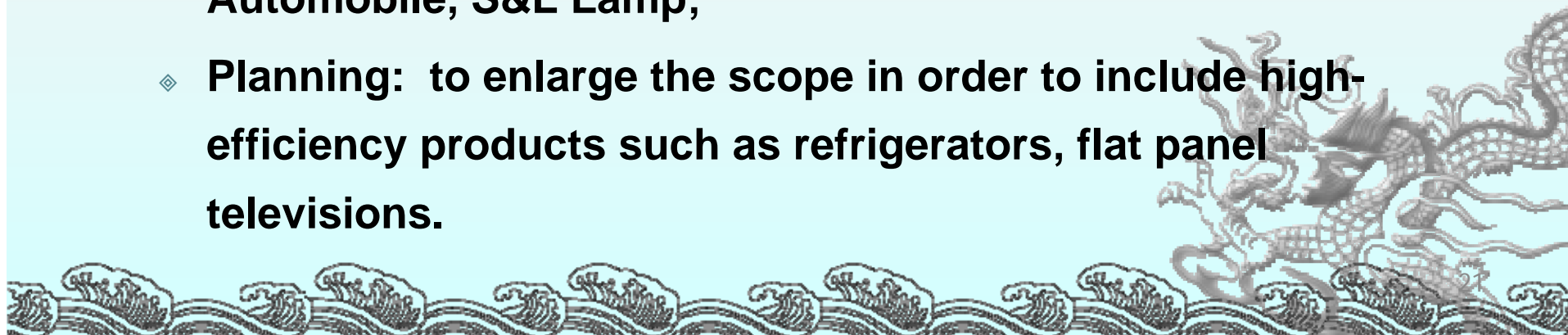
3.1 National Approaches to Promote S&L

- ◆ **Compulsory Labeling System**
- ◆ **Voluntary Certification System on S&L Products**
- ◆ **Compulsory Government Procurement System on S&L Product**
- ◆ **List of the S&L Products for Tax Reduction**
- ◆ **Public Welfare Project on S&L Products**
- ◆ **Sending the Household Appliance to the Countryside**



3.2 Public Welfare Project on S&L Products

- ◆ **Responsible Department: MoF, NDRC**
- ◆ **Goals: to promote S&L products, to promote the technical upgrade of the industry and to enlarge the domestic need.**
- ◆ **Scope:**
 - ◆ **Implemented: S&L AC, three phase asynchronous motor, Automobile, S&L Lamp;**
 - ◆ **Planning: to enlarge the scope in order to include high-efficiency products such as refrigerators, flat panel televisions.**



3.3 to implement the policy to subsidy the household appliance to the countryside.

- ◆ **To increase the consumption in rural area.**
- ◆ **The scope of products in 2010:**
AC, water heater (electric or gas), colour television, mobile phone, refrigerator, washing machine, computer, induction cooker, microwave oven, electric cooker, kitchen ventilator, gas stove, DVD player, electric bike.



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1

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2

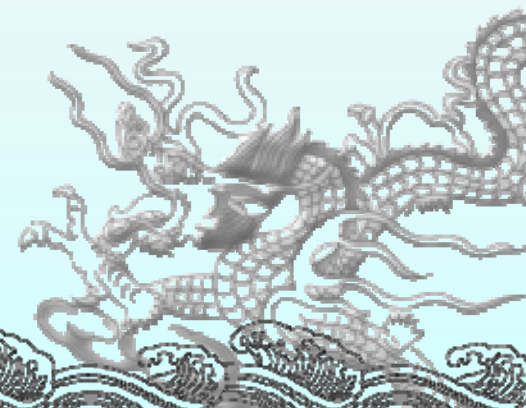
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4.1 Area: Market Conversion Mechanism

◆ Research Program

- ◆ The Research on the Implementation Plan for the Brand Shops of S&L Products. (Japan, China)**
- ◆ The Research on the Market Conversion Mechanism and their Experiences. (Japan, China, USA, Korea, etc.)**



4.2 Area: S&L in Consumption

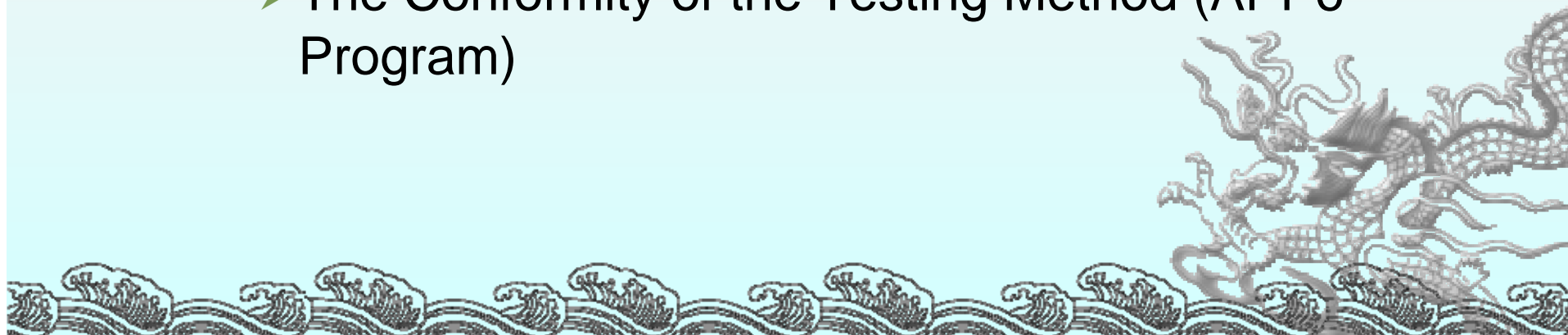
- ◆ **Research Programs**
 - ◆ **APF Project (Sino-Japan Cooperation Program)**
 - ◆ **Power Consumption in the Family (Sino-Japan-US Cooperation Program)**
 - ◆ **Metering project (Sino-Japan Cooperation Program)**
 - ◆ **small-scale metering (Sino-Japan Cooperation Program)**



4.3 Area: Market Surveillance and Evaluation

➤ Main Research Programs

- Research and Comparative Study on the SOP of Air Conditioner Test in the National Laboratories. (Sino-Japan Cooperation Programs)
- Round Robin Test project. (Sino-Japan Cooperation Program)
- The Conformity of the Testing Method (APP6 Program)



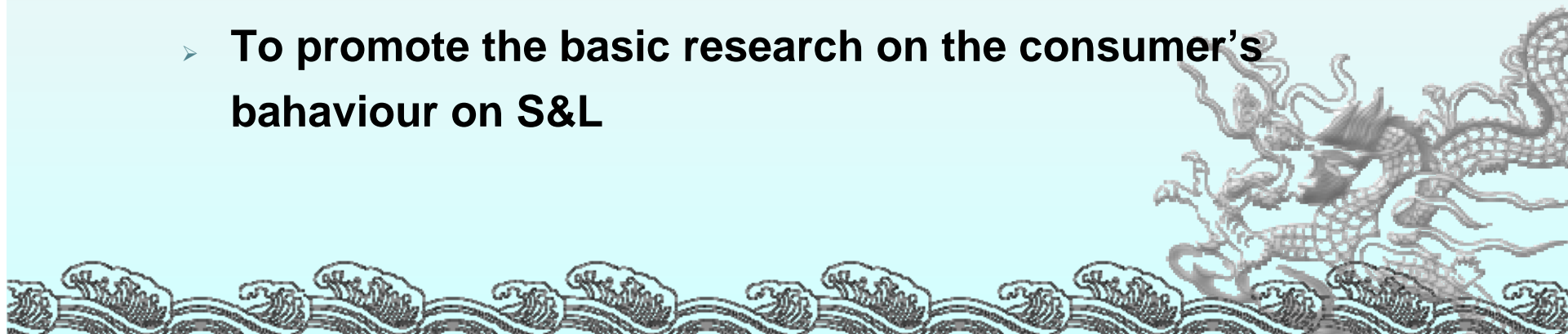
4.4 International Cooperation

- ◆ International Seminar on the S&L Technology and Efficiency Standards (the week of S&L in 2010)
- ◆ Seminar on the Evaluation of Energy Efficiency of Air Conditioner (Guilin, October, 2010)



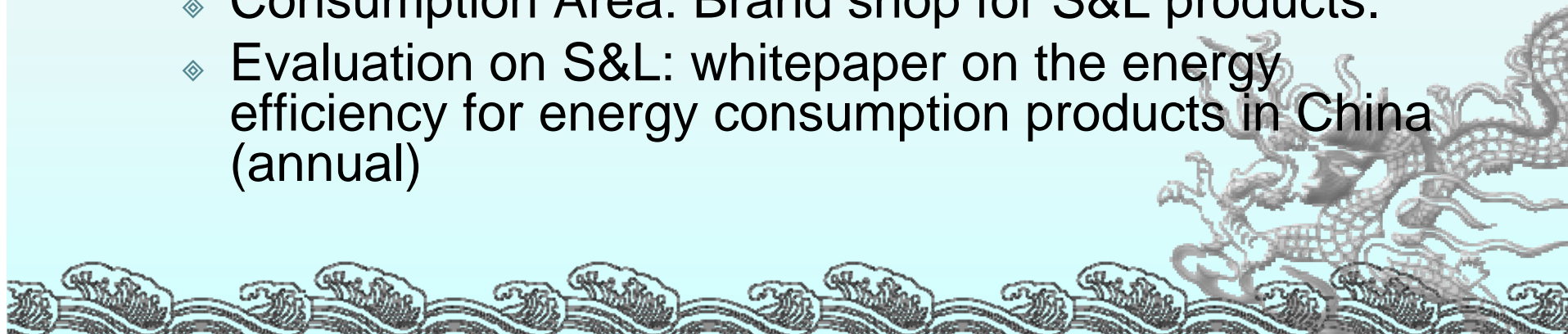
4.5 Functions and Progress

- **To speed up the process of S&L**
- **To promote the information exchange and to reduce the trade barrier.**
- **To strengthen and perfect the basic capability on the research of S&L**
 - **As the basis for policy research, standard/labeling development and revision.**
 - **To improve the technical capability on market supervision.**
 - **To promote the basic research on the consumer's behaviour on S&L**



4.6 Tasks for 2011

- ◆ Air Conditioner
 - ◆ Standard development and revision: Home AC and Commercial use AC.
 - ◆ S&L by Consumption: Survey and testing
- ◆ Heat Pump
 - ◆ Standard development and revision: Heat Pump hydrothermal vents and Water Source Heat Pump
 - ◆ Policy encouraging the S&L
- ◆ Market Conversion Mechanism
 - ◆ Consumption Area: Brand shop for S&L products.
 - ◆ Evaluation on S&L: whitepaper on the energy efficiency for energy consumption products in China (annual)





Thanks!

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