

Recent Initiatives in Improving Energy Efficiency in China

He Bingguang

Deputy Director-general

Department of Environment and Resources
Conservation

National Development and Reform
Commission (NDRC), China

April, 2006

Energy Production & Consumption

China is the second largest energy producer & consumer in the world

Average energy use per capita still low

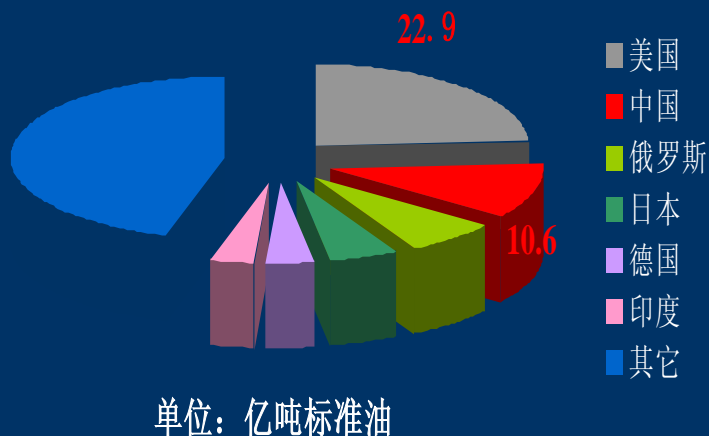
Energy efficiency has been improved

Energy efficiency has still not reached international advanced levels

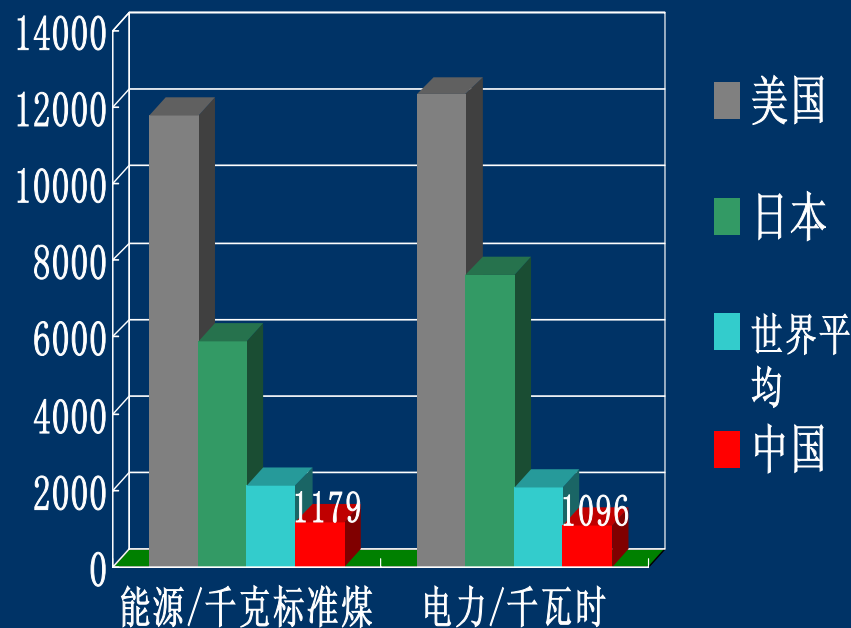
Current situation and characteristics of energy use

- Total energy consumption occupies the second position in the world, per capita energy use is lower than that of the world average

–In 2005: total energy: 2.2billion tce, Power: 2.5 trillion kWh



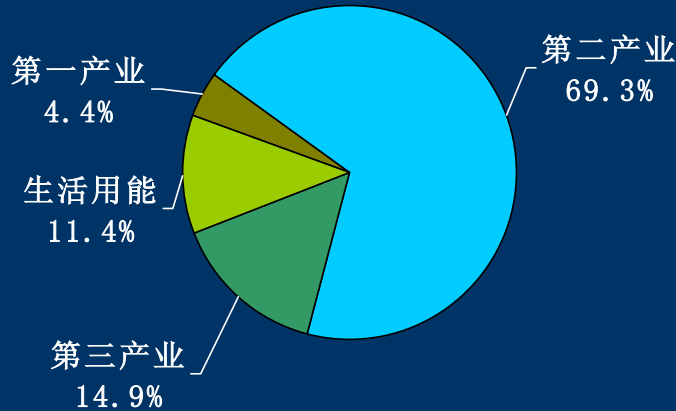
一次能源消费总量排序
(2002年)



Comparison of per capita energy consumption

Industrial energy consumption remains high and structural readjustment has a long way to go

- Agriculture :4.4%
- Industry:69.3%
- Service:14.9%
- Residential:11.4%



Energy Conservation Focuses

- Industry
- Residential and commercial
- Buildings and building materials
- Transportation
- Governmental and utilities
- New and renewable energy

Energy conservation has generated significant economic and social benefits

- From 1991 to 2002, accumulated 700 million tce of energy were saved, 1.77 times as much as the total newly increased energy production of 394 million tce during the same period, 1.33 times as much as the total newly increased energy consumption of 527 Mtce
- An annual growth rate of 3.6% in energy consumption supported the 9.7% national economic growth
- Reduction of 10.50 million tons of sulfur dioxide emission

E.E policy framework

- **Priority of energy conservation**
- **unified and harmonized energy and environment policies**
- **industrial development policies to facilitate structure adjustment**
- **Carrots and sticks: incentives**
- **Legislature: regulation system AND standardas**
- **Tech. innovation, demo. R & D**
- **HIGH ENERGY CONSUMPTION INDUSTRIES**
- **Promote new market-based energy conservation mechanism.I.E ESCO, VA; LABELING(CASE STUDY)**
- **Intensify promotion, education and training AND intl. cooperation**
- **organization and leadership**

LATEAST STRATEGY AND ACTION ON S.D

● Demand Side:

- RESOURCES CONSERVATION :National Basic policy: 1 of 3
- Building RESOURCES-SAVING SOCIETY: ON-GOING NATION-WIDE
- Implementing the ENERGY CONSERVATION PLANNING
- INCENTIVIVES AND INITIATIVES

● Supply side:

- Renewable energy promotion law comes into force 2006.
- Encouraging policy framework on Renewable energy

In recent years, in response to the rapid growth of energy consumption and environmental problems, China has initiated a number of special programs and action-plans to improve the energy efficiency in the country.

Ten INITIATIVES AS FOLLOWING:

Initiative 1. Amendment of the Energy Conservation Law

This law was enacted in 1998. It has played important role in improving energy efficiency in China. However, it was widely recognized that, incentives and compulsiveness in this law is too weak, and thus cannot play stronger roles.

In this year, the amendment of the Energy Conservation Law has been included in the legislation plan of the National People's Congress. It is estimated that more incentives shall be provided and much restrictive management system should be adopted in the amended law.

The draft amended law HAS BEEN ASKED to submit to the Congress (top national legislature body) by the end of this year.

The progress related to this issues is ongoing very well.

Initiative 2. Implementing the Medium and Long-term Plan of Energy Conservation

In the year of 2004, NDRC launched the Medium and Long-term Plan of Energy Conservation. This plan covers two phases: 2005-2010 and 2010-2020.

In this plan, detailed energy conservation targets were set up. Key actions and comprehensive policy measures were put forward.

PRIOTITY areas of energy conservation in the plan

Key areas (1)

- **Industries (energy consumption - intensive sectors)**
 - Power Electricity
 - Iron & Steel
 - Nonferrous Metals
 - Oil & Petrochemical
 - Chemical
 - Building material
 - Coal
 - Machinery

Key areas (2) in the plan

- **Transportation**
 - Road transport
 - Newly added vehicles
 - Urban transport system
 - Rail way
 - Agricultural and Fishery Machinery

Key areas (3)

- **Commercial & residential**

- Building

- New buildings, existing residential and public buildings
 - Employ the centralized air conditioning, cold storage and heat storage technology
 - Application of renewable energy such as solar and geothermal energies in buildings

- Household electric appliance

- Lighting appliance

Initiative 3. Implementing Ten Key Projects for Energy Conservation

In the Medium and Long-term Plan of Energy Conservation, ten key projects for energy conservation were put forward. They are:

- Coal -fired Boiler Renovation
- Regional Co-generation
- Residual Heat and Pressure Utilization
- Petroleum Conservation and Substitution, i.e E-10, Bio-diesel.
- Motor System Energy Conservation
- Energy System Optimization
- Building Energy Conservation
- Green Lighting
- Energy Conservation in Governmental Agencies
- Creation of Energy Conservation Monitoring and Technical Service System

NDRC is now preparing a detailed action plan for this program. The target is saving 240 million tce through the plan implementation.

Initiative 4. Top-1000 Enterprise Energy Conservation Action Plan

This Action Plan was formally launched early this month. 1008 top energy consumption enterprises in China were involved. The requirements for 1008 enterprises (including energy audit and Energy Conservation plan) have been identified, and Incentives will be applied to these enterprises in order to improving the energy efficiency. Based on the plan, the Energy Conservation target is saving 100 million tce by 2010. The goal is ambitious.

Prof. Wang will introduce it in detail.

Initiative 5. Creation of GDP/Energy Consumption Level Reporting and Releasing System

China has launched an ambitious goal of 20% reduction of the energy consumption per unit GDP in 2010 than 2005. The goal is one of top two quantity goals in China in the 11th five-year plan.

In order to improving the energy efficiency, NDRC and other governmental agencies created a GDP/Energy Consumption Level Reporting and Releasing System. This system was enacted since 2006.

According to the announcement issued by NDRC, since 2006, NDRC and related governmental agencies will release the energy consumption levels per unit GDP outputs and other major energy indicators for all provinces annually.

Initiative 6. Energy Efficiency Labeling Management Directive

NDRC and General Administration of Quality Supervision, Inspection and Quarantine jointly announced the Energy Efficiency Labeling Management Directive. This Directive was enacted in March 2005.

According to this Directive, a list of products used for energy efficiency labeling management will be created. Energy efficiency labels of the products in the list were asked to provide. These labels could help users of these products to identify the energy efficiency grades of these products.

Energy Efficiency Standards: one of top priorities

- Energy Efficiency Standards: developing and enforcement
- Energy Efficiency Labeling Mechanism

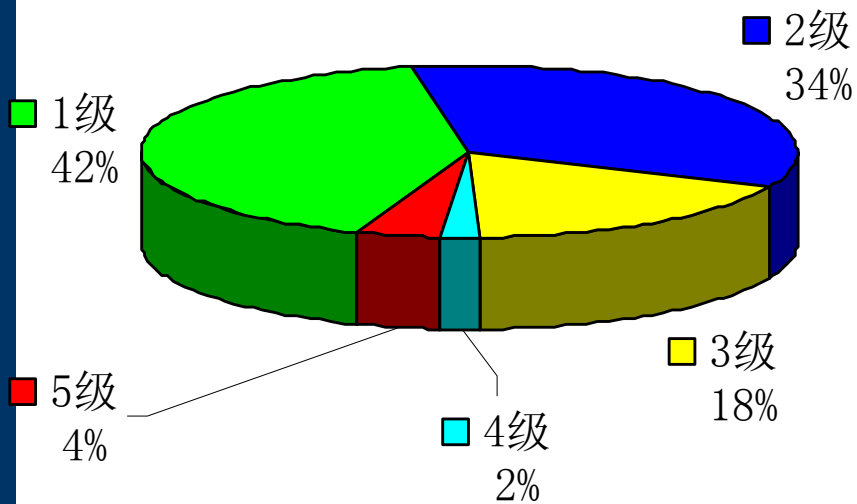
The Mandatory Comparative Labeling Program

- Launched the mandatory comparative labeling program in March 2005
- The label first used for household refrigerators and room air conditioners

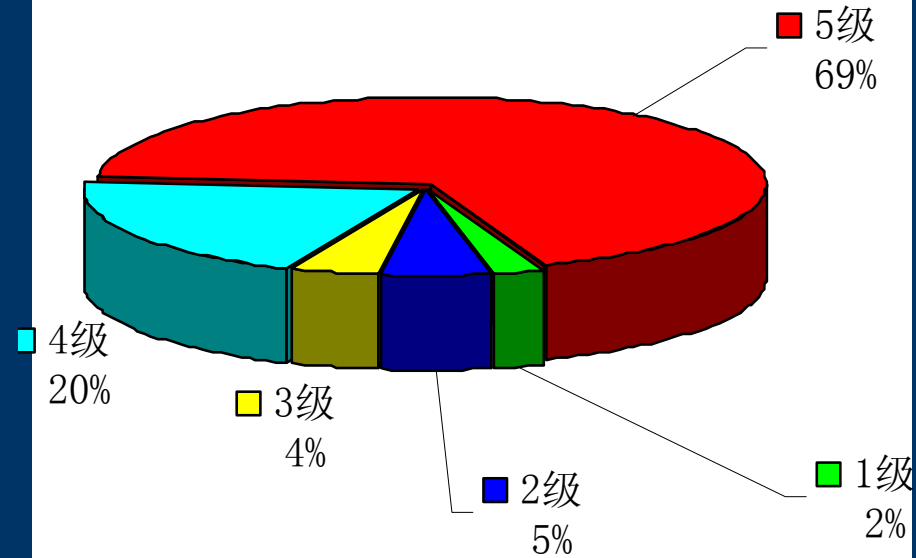


The distribution of Chinese labeling of household refrigerator and air condition

全部电冰箱备案中各等级所占比例



全部空调备案中各等级所占比例



Initiative 7. Encouraging the Development of Energy Saving and Environmental Friendly Small Engine Vehicles

In late 2005, China Central Government, based on the recommendations from NDRC and other five ministries, announced the Notice. In this Notice, China Central Government asked governments at different levels to formulate industrial policies and consumption policies encouraging the development and use of small engine vehicles.

Initiative 8. Amendment of the “Program on Energy Saving Technology Policies in China”

In 1996, the Program on Energy Saving Technology Policies in China was issued. It was designed to encourage the reasonable utilization of energy, and improving energy efficiency through the applying of energy conservation technologies and equipment. This Program has played important role in the last ten years.

However, in recent years, the energy situation in China changed significantly. Therefore, the amendment of the Program has been involved in the 2006 work plan of NDRC. In the new Program, new targets will be set. More new measures will be raised.

Initiative 9. Program on the Strengthening of Resource Conservation in Governmental Agencies

In March of 2006, NDRC and other governmental agencies jointly issued this Notice.

According to this notice, a target of 20% reduction of energy consumption (from 2005 to 2010) in governmental agencies was raised. Detailed measures were put forward, such as energy saving procurement, daily management on electricity use, etc.

Initiative 10. Formulating Energy Efficiency Standard for the Products in Major Energy Consuming Sectors

Energy efficiency standard could play key role in encouraging enterprises to improve their energy efficiency.

Efforts on energy efficiency standard creation have been and are being made in some energy consuming sectors such as petrochemical industry, metallurgical industry, chemical industry, power industry, construction materials industry, etc.

Energy Efficiency Standards

- Household appliances
- Lighting products
- Industrial equipment
- Energy management

INDICATOR: Indicating the direction of E.E ???

- BASIC FACTORS FOR ASSESMENTING E.E
- NEED MORE international communications
- INDICATORs: should be scientific and operational system.
- More communication, more effectiveness.

ONE WORLD ONE DREAM



One World

One Dream

Welcome to visit NDRC website:

www.ndrc.gov.cn

Thanks!

谢谢！

