

节约优先，效率为本  
Save energy and Improve  
energy efficiency

中国物资节能中心  
Materials Energy Conservation Center, China

徐培新  
Xu Peixin  
2007-06-19

§ 1. 节约优先，效率为本是解决  
中国能源问题的根本途径

**The fundamental means to address the  
problem with energy in China is to save  
energy and to improve energy efficiency.**

1、调整结构节能：通过不断优化经济结构，建立节约型的国民经济体系。要努力提高低耗能的第三产业和高技术产业在国民经济中的比重；要推进工业结构优化升级，调整原材料工业结构和布局，提高产品质量和技术含量和产业集中度。

1. To save energy by adjusting the economic structure: China should continue to optimize her economic structure and to construct a national economic system of the energy-saving type. China should increase the ratio of the 3rd industry and hi-tech industry in her national economy, because these are all low energy-consuming industries; China should also update her industrial structure, adjust the structure and distribution of her raw material industry, as well as improve the product quality, technical contents and industrial concentration.

2、技术进步节能：大力支持节能重点项目，加快应用高新技术和先进适用技术改造提升传统产业；加快淘汰高耗能行业的落后生产能力、工艺装备和产品。

2. Energy-saving by technical progress: China should support key energy-saving projects, accelerate her step to innovate and upgrade her traditional industries with hi-tech and advanced application techniques; and should also accelerate her step to weed out backward production force, technical equipment and products.

3、加强节能管理：建立节能目标责任和评价考核制度，把降低能耗的指标分解落实；加强重点耗能行业和企业的节能管理，实施十大重点节能工程，抓好千家高耗能企业的节能工作；完善能效标识管理和节能产品认证制度

3. Intensify management over energy-saving: China should set up “the target responsibility” and “the appraisal and testing system” to execute the targets of lowering energy consumption by breaking them up; China should intensify her management over key energy-consuming industries and enterprises. Mainly, we will implement 10 key energy-saving projects to administer the energy-saving works of over 1000 energy-consuming enterprises. China should also complete her management over energy efficiency signs and the attestation system of energy-saving products.

4、深化改革节能：加快资源性产品价格的市场化改革，形成有利于节约、能够反映稀缺程度的价格形成机制；加大财税政策对节能的支持，加快制定《节能产品目录》，对生产和使用目录中的产品，给予一定的优惠；实施节能产品政府强制性采购政策。

4. Saving energy by deepening the reform: China should accelerate her reform in the pricing of resources and construct a mechanism that is beneficial for energy-saving and a mechanism reflecting the rarity of resources; China should intensify her financial and tax support for energy-saving, accelerate her step in compiling the “Energy-saving Product Catalogue”, and should grant favors for those who manufacture and use the products in the catalogue; and China should also implement compulsory policies for procurement of energy-saving products.

5、强化法治节能：将节能的重要措施和先进经验上升为法律，进一步完善节能法律法规体系和相关的标准体系，重点做好《节约能源法》的修订工作，制定和完善高耗能设备的能效标准以及主要耗能行业的节能设计规范。

5. Reinforcing energy-saving by law: China should change important energy-saving measures and experiences into laws to further complete the legal system and relevant standard systems. The focus should be on the compilation of the “Energy-saving Law”, and attention must also be paid to the establishment of the energy efficiency standard for energy-consuming equipment and the energy-saving design code for major energy-consuming industries.

6、全民参与节能：增强公众的能源忧患意识和节约意识，进一步加大宣传力度，使“节约光荣、浪费可耻”的社会氛围更加浓厚。

6. National participation in energy-saving: China should enhance the awareness of the general public on resources and energy-saving. China must intensify her preaching and cultivate a social atmosphere of “honoring those who save energy and condemning those who waste energy”.



## § 2. 工业节能

# Industrial Energy Conservation

## 工业节能

1、更新改造低效工业锅炉（窑炉）：制订、修订锅炉（窑炉）节能设计标准，提高燃煤质量，加强设备运行管理，采用节能锅炉（窑炉）及技术替代和改造低效锅炉（窑炉）；

1. Renew and innovate low efficient industrial boilers (furnaces):  
China should compile and revise her boiler (furnace) energy-saving design standard, enhance the quality of fuel coals, intensify management over equipment operations, adopt energy-saving boilers (furnaces) and technique to replace and innovate low efficient boilers (furnaces);

2、余热余压利用：在冶金、建材、化工等高耗能行业，改造和建设余热发电、压差发电、副产可燃气体和低热值气体回收利用等余热余压余能利用装置和设备；

2. Exploit of afterheat and after-pressure: in energy-consuming industries such as 冶金, construction materials and chemical industries, China should innovate and reconstruct after-heat and after-pressure reusing facilities and devices such as generation by after-heat, generation by pressure difference, by-product flammable gas and low-value gas recycling etc.

3、电机系统节能：更新改造低效电动机及高耗能设备，对大中型变工况电机系统进行调速改造，对电机系统被拖动设备进行节能改造；

3. Energy-saving in motors: China should innovate low efficient motors and energy-consuming equipment, and conduct speed-adjusting modification to large and mid-sized exchange work electric-machine system, and conduct energy-saving innovation for the dragged equipment of the motor system;

4、能量系统优化：如钢铁行业建立连铸连轧系统等节能工程，推广干法熄焦等节能技术；

4. Optimization of the energy system: for example, in the steel industry, China should construct energy-saving projects such as continuous casting and rolling system and should also popularize techniques such as dry process quenching;

5、完善能源计量仪器仪表：用能单位应当按照规定配备和使用经计量技术机构检定合格的能源计量器具，对各类能源的消耗实行分类计量。

5. Consummate measurement meters and instrumentations: Energy using units should equip and use measuring devices that have been calibrated as quality by relevant measurement authorities and should conduct measurement for all types of energy consumption based on their classification.

## § 3. 国际合作

# International Cooperation

任何一个国家的经济发展和人民生活的改善，都离不开能源，大量使用能源造成的气候变化，已经对人类生存的空间造成了威胁。节约能源、提高能源效率、开发利用太阳能、风能等新能源是缓解气候变化的重要措施。

Neither economic development of any country nor improvement of people's life can do without energy sources. Climate change arisen from great use of energy sources has threatened living space of human beings. Important measures to relieve climate change include energy conservation, energy efficiency improvement, development and utilization of solar energy and wind energy, etc..



中国将节能作为保障能源安全、发展经济和保护环境的基本政策，正在全面实施能源节约规划。中国在节能领域积极开展国际交流与合作，与许多国家的政府部门，国际机构和非政府组织进行广泛的节能项目合作以及人员和信息交流。

In China, energy conservation is taken as the fundamental policy of safeguarding energy sources, developing economy and protecting environment, and planning of energy conservation is being in full operation. China is actively carrying on international exchange and cooperation in the field of energy conservation, and conducting broad cooperation on energy conservation project and exchange of personnel and information with governmental departments of many countries, international bodies and non-governmental organizations.

日本节能技术先进、管理经验丰富，能源利用效率处于国际领先水平。加强中日两国在能源领域的互惠合作，不仅能够为两国，也将为东亚乃至世界的能源安全作出贡献。

With advanced technology of energy conservation and abundant experiences in management, Japan ranks the international leading level in energy utilization efficiency. It will make a contribution to energy safety in China, Japan, East Asian and even the world to enhance mutual benefit and cooperation between China and Japan in the field of energy sources.

日本经济产业省为中国相关政府部门和机构举办的节能政策培训，介绍了日本在节能和提高能源效率方面的成功经验和有效方法，对中国修订和完善节能法律法规提供了有益的借鉴。今后3年，日本经济产业省还将为中国提供300人次的节能培训，我们期待着学习更多更新的经验和技術。

The Ministry of Economy, Trade and Industry (METI) holds energy conservation policy trainings for relevant governmental departments and organs of China, in which successful experiences and effective methods of Japan in energy conservation and energy efficiency improvement are introduced and helpful references are provided for China to amend and perfect laws and regulations of energy conservation. In the next 3 years, the Ministry of Economy, Trade and Industry (METI) will provide China with 300 man-times of energy conservation trainings, from which we are expecting to learn more and newer experiences and technologies.