

## Save Energy Now Helps U.S. Industry Conserve Energy and Reduce Costs

The United States of America's Department of Energy (U.S. DOE) strives to meet national goals of reducing industrial energy intensity by conducting energy audits of the largest energy-consuming enterprises in the country through its Save Energy Now initiative.

By analyzing energy-intensive manufacturing systems such as process heating, steam, compressed air, pumps, and fans, the audits help identify projects that can improve efficiency, lower energy consumption, and reduce energy costs.

Since 2006, 350 large U.S. enterprises have reported results from Save Energy Now audits identifying total energy cost savings of more than \$686 million USD (5.1 billion RMB) and 82 trillion Btu (2.9 mtce). The average savings identified by an audit of a single energy-intensive system within an enterprise is \$2 million USD (14.7 million RMB), or 8%-10% of the total energy consumption by the enterprise.

### Save Energy Now Success Factors

These factors make Save Energy Now successful:

- Target energy-intensive systems in large enterprises
- Achieve quick energy and cost savings with a small investment
- Focus on improving energy efficiency with minimal effect on production
- Use proven software tools and resources based on U.S. DOE research in industrial energy use and management



## 工业能源效率合作伙伴

合作双方:

中华人民共和国  
国家发展与改革委员会  
资源节约和环境保护司  
en.ndrc.gov.cn

与

美国  
能源部  
能源效率与可再生能源局,  
工业技术项目  
www.eere.energy.gov/  
industry/saveenergynow

美国能源部能源效率与可再生能源局支持能源效率和可再生能源技术方面的研发,以促进美国经济发展,改善环境和增强美国的能源独立性。工业技术项目与美国工业界合作以提高工业能源效率和环境性能。

如需了解更多信息,请联系:

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U.S. Department of Energy  
**Energy Efficiency and Renewable Energy**

Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

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## Industrial Energy Efficiency Partnership

A partnership between

The People's Republic of China  
National Development and Reform  
Commission

Department of Resource Conservation  
and Environment Protection  
en.ndrc.gov.cn

and

The United States of America  
Department of Energy  
Office of Energy Efficiency and  
Renewable Energy, Industrial  
Technologies Program  
www.eere.energy.gov/industry/  
saveenergynow

The Office of Energy Efficiency and Renewable Energy supports research and development in energy efficiency and renewable energy technologies to improve the U.S. economy, provide for a cleaner environment, and increase U.S. energy independence. The Industrial Technologies Program works with U.S. industry to improve industrial energy efficiency and environmental performance.



Industrial Technologies Program



## 制造企业节能机遇

### Energy-Saving Opportunities for Manufacturing Enterprises



## 节能从现在开始

### Save ENERGY Now



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## “节能从现在开始”行动帮助美国工业节约能源降低成本

美国能源部正努力通过其“节能从现在开始”行动对美国国内的大型能耗企业进行能源审计以达到国家节能目标。

通过对工艺加热、蒸汽、压缩空气,泵和风机等高能耗制造系统的分析,能源审计有助于确认能够提高能源效率,减少能源消耗和降低能源成本的项目。

从2006年起,已有350家大型美国企业报告了“节能从现在开始”能源审计结果,确认的能源成本节约总量超过6亿8千6百万美元(51亿元人民币)和82万亿英国热量单位(290万吨标准煤)。通过审计确认的每企业中单个高能耗系统的平均节约为2百万美元(1470万元人民币)或企业能源消费总量的8%-10%。

### “节能从现在开始”行动成功的因素

“节能从现在开始”行动获得成功的主要因素:

- 面向大型企业中的高耗能系统
- 使用很少的投资迅速获得能源和成本节约
- 注重在尽可能少影响生产的前提下提高能源效率
- 使用行之有效的软件工具和资源,这些工具和

资源基于美国能源部在工业能源使用和管理方面的大量研究并经过了实际验证



# Save ENERGY Now

“节能从现在开始”

## 工业能源效率合作伙伴计划采用“节能从现在开始”方法

工业能源消费量占中国能源消费总量的60%以上。为了帮助中国达到2010年能耗降低20%的“十一五”节能目标，美国能源部与中国国家发展和改革委员会建立了工业能源效率合作伙伴关系。

通过合作伙伴计划，美国能源部将和中国制造企业分享“节能从现在开始”行动的有关资源和工具：

- 能源专家
- 软件工具
- 培训
- 能效技术

## Industrial Energy Efficiency Cooperative Partnership Incorporates Save Energy Now Approach

The industrial sector accounts for more than 60% of China's total energy demand. To help China meet its 11th Five Year Plan energy efficiency goals—a 20% reduction of energy consumption by 2010—the U.S. DOE and National Development and Reform Commission (NDRC) formed the Industrial Energy Efficiency Cooperative Partnership.

Through the partnership, the U.S. DOE will share the following Save Energy Now resources and tools with Chinese manufacturing enterprises:

- Energy Experts
- Software Tools
- Training
- Energy-Efficient Technologies



### 能源专家

能源专家均经过美国能源部评估与分析软件工具的培训，他们将与中国企业团队紧密合作以指导能源审计并确定节能项目。

### Energy Experts

Trained in U.S. DOE assessment and analysis software tools, Energy Experts will work closely with designated Chinese enterprise teams to conduct audits and identify energy-saving improvement projects.

### 软件工具

中国企业团队将学习如何使用包括“快速企业能源分析工具 (Quick PEP)”在内的美国能源部推荐作为初步确认潜在的节能领域的辅助决策软件工具对工业能源系统进行分析。

其他可用工具包括工业空气压缩系统分析工具AIRMaster+，电机系统分析工具MotorMaster+，工艺加热评估与评价工具 (PHAST)，蒸汽系统评估工具 (SSAT)。

### Software Tools

Chinese enterprise teams will learn how to analyze industrial energy systems using U.S. DOE software decision tools such as the Quick Plant Energy Profiler (Quick PEP), which is recommended as a first step in identifying areas for potential savings.

Other available tools include: AIRMaster+, MotorMaster+ International, Process Heating Assessment and Survey Tool (PHAST), and Steam System Assessment Tool (SSAT).



## “节能从现在开始”行动的成果

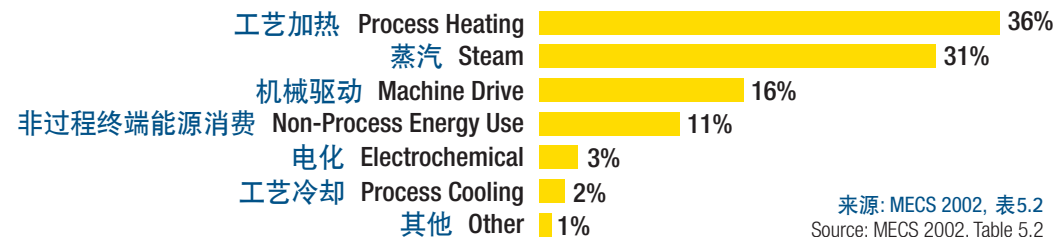
下表列出了在前200次“节能从现在开始”工艺加热和蒸汽系统能源审计中确认的年节能潜力。

### Save Energy Now Results

The table below shows the overall potential annual savings identified in the first 200 Save Energy Now process heating and steam system energy audits.

节约类型 Savings Type	总节约量 Total Amount Saved	每审计节约量 Amount Saved Per Audit
成本 Cost	5亿美元 (36.9亿元人民币) \$500 million USD (3.69 billion RMB)	250万美元 (10%) (1840万元人民币) \$2.5 million USD (10%) (18.4 million RMB)
能源 Energy	50万亿英国热量单位 (179万吨标准煤) 50 TBtu (1.79 mtce)	2474亿英国热量单位 (9%) (8万9千吨标准煤) 247,400 MMBtu (9%) (89,000 tce)
天然气 Natural Gas	53万亿英国热量单位 (191万吨标准煤) 53 TBtu (1.91 mtce)	2644亿英国热量单位 (17%) (9万5千吨标准煤) 264,400 MMBtu (17%) (95,000 tce)
二氧化碳 Carbon Dioxide (CO <sub>2</sub> )	400万吨当量 4 million metric tons	2万2百吨当量 20,200 metric tons

## 美国制造业终端能源消费 U.S. Manufacturing Energy End Use



针对两个最耗能的系统，前200个“节能从现在开始”审计确认每家企业的工艺加热和蒸汽系统分别有10.1%和7.8%的节能潜力。

Targeting the top two energy-consuming systems, the first 200 Save Energy Now audits identified process heating energy savings of 10.1% and steam energy savings of 7.8% per enterprise.

### 培训

中国企业和工业界相关人员将就如何使用能源专家使用的系统能源审计方法接受培训。从2002年开始，来自1800家美国企业的相关人员参加了培训以确定他们所属单位的节能潜力。

### Training

Chinese enterprise and industry personnel will receive training on the systems-based approach to energy audits used by Energy Experts. Since 2002, personnel from more than 1,800 U.S. enterprises have participated in this training to identify opportunities for saving energy within their organizations.

### 能效技术

在中国建立高效锅炉、加热炉、热电联产发电机组等高效美国制造技术应用示范。美国能源部将针对美国主要工业部门中的大型制造企业和选定的中国千家高能耗企业进行最佳实践对比研究。

### Energy-Efficient Technologies

Demonstrations of energy-efficient U.S. manufacturing technologies will take place in China, including highly-efficient boilers, fired heaters, and combined heat and power units. The U.S. DOE will also conduct a best practices comparison study between select Top 1000 Chinese enterprises and large U.S. manufacturing plants in key industries.