

CHINA

ENERGY EFFICIENCY GOALS

1. GOVERNMENT POLICY ON ENERGY EFFICIENCY

Energy is a key strategic issue concerning China's economic development, social stability and national security. As the economy moves toward its goals of modernisation and common prosperity for its people, energy becomes more important than ever. Since China adopted the policy of reform in the late 1970s, its energy industry has made significant advances. At the same time, China has also experienced high economic growth accompanied by high-energy consumption. However, recognising that the rapid growth in energy demand is unsustainable, China has been taking steps to rebalance the economy.

In June 2015, China submitted its Intended Nationally Determined Contribution (INDC) under the Paris Agreement, with a target of achieving peak emissions around 2030 reducing emission intensity by 60%-65% below the level of 2005. In line with such commitments, China's State Council issued the 13th Five-Year Plan (FYP) in March 2016, laying the blueprints for a "moderately prosperous society". China's 13th FYP outlines the central government's policy objectives and strategies from 2016 to 2020, with a strong focus on energy and carbon dioxide emissions intensity reduction targets as well as improvements in energy efficiency.

2. ENERGY EFFICIENCY STRATEGY

In the outline of the 13th FYP, the State Council stipulated that by year 2020, non-fossil energy will increase to 15% of total primary energy consumption, carbon dioxide intensity and energy intensity will decrease by 18% and 15% respectively compared to 2015 levels. An economy-wide energy cap will be imposed for all energy sources to be less than five billion tons of coal over 2016 -2020. The FYP also supports increase in renewable energy capacity and connection through national government support for wind, solar, and biomass energy production.

China released the *Comprehensive Work Plan on Energy Conservation and Emission Reduction during the 13th Five-Year Plan Period* in December, 2016. In this work plan, State Council of China emphasises to improve energy efficiency in eight different areas, including strengthening energy conservation in industry, promoting building energy conservation, pushing forward energy conservation in transportation, promoting energy conservation in the field of trade and commerce, pushing forward energy conservation in agriculture and rural areas, improving energy efficiency in public institutions, strengthening the management of energy conservation in key energy user, strengthening the management of energy conservation of key energy-consuming equipment.

The most important feature of China's strategy to improve energy efficiency is the creation of a chain of responsibility that reaches from the economy-wide target down to the target that must be achieved by the local energy authorities. In this way, efforts to improve energy efficiency are incorporated into the economic and development plans of each locality, and placed on the priority agendas of local governments.

In terms of energy law, China enacted the Energy Conservation Law of the People's Republic of China in 1997 to promote overall social energy conservation, and improve energy efficiency and environmental protection. The Law provided a policy framework for all provincial level governments to implement energy conservation. In

particular, the Law required all levels of government to arrange funds to implement energy conservation measures; set limits on energy-intensive products; and establish a system for discontinuing backward, energy-consuming products and equipment. The Law also identified key energy-using entities (with an annual consumption more than 10,000 tonnes of standard coal equivalent) to appoint an energy manager and submit periodic reports related to energy consumption and conservation. In 2007 and 2016, the Law was amended to implement energy conservation targets and evaluation system. The amended part states that "conservation of resources is the China's basic national policy, China will implement energy development and conservation simultaneously, and put energy conservation in the first place of China's energy development strategy".

FUNDING

The central government budget continued to be arranged to support energy-saving projects. A total of 1.3 billion Yuan of budget was appropriated in 2014 to support 617 energy-saving technology transformation and industrialisation projects and capacity-building projects for energy monitoring institutions, equivalent to an energy saving potential of 2.68 Mtce annually.

LINKS

China's policies to mitigate climate change:

http://www.china.org.cn/environment/news/2015-11/23/content_37136145.htm

Energy efficiency evaluation, measurement and verification:

<http://www.raponline.org/wp-content/uploads/2016/05/rap-crossleyslotesherman-globalemv-2014-mar-19.pdf>

3. ENERGY EFFICIENCY ACTION PLAN

In 2014, China released the Interim Measures for the Promotion of Energy-Saving, Low-Carbon Technologies and Catalogue of National Key Low-Carbon Energy Technologies for Promotion, to promote adoption of energy-saving, low carbon technologies.

The Interim Measures for the Assessment and Examination of Energy Efficiency of Fixed-Assets Investment Projects, published by the NDRC in order to enhance energy efficiency management on fixed-asset investment projects, promote the scientific and rational use of energies, curb energy waste at the source, and improve energy use efficiency. This regulation applies to any fixed-asset investment projects that are constructed within China, and mainly focuses on energy efficiency assessments and energy efficiency document examinations.

FUNDING

No information available.

LINKS

China's Policies and Actions for Addressing Climate Change (2016):

[http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20\(2016\).pdf](http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf)

4. ENERGY EFFICIENCY, INTENSITY OR EMISSIONS REDUCTION TARGETS

In the 13th FYP, China targets to reduce energy intensity by 15%, and carbon intensity by 18% by 2020 (from 2015 levels). China has also implemented a mandatory target to decrease the share of coal in total energy consumption to 58%, with an overall energy consumption cap of five billion tons of coal equivalent. See Tables 1 and 2 below for more details.

LINKS

Table 1: <http://www.ndrc.gov.cn/zcfb/zcfbtz/201701/W020170117335278192779.pdf> (Energy Development Planning of 13th FYP)

Table 2: <http://www.ndrc.gov.cn/zcfb/zcfbqt/201701/W020170105634585914832.pdf> (Comprehensive Work Plan for Conserving Energy and Reducing Emission During 13th FYP)

Table 1: 13th FYP Energy Development Main Index

Category	Index	Unit	2015	2020	Average Annual Growth	Binding/ Anticipatory
Energy Amount	Primary Energy Production	Billion tons of SC	3.62	4	2.00%	Anticipatory
	Installed Power Capacity	Billion kWh	1.53	2	5.50%	Anticipatory
	Total Energy Consumption	Billion tons of SC	4.3	<5	<3%	Anticipatory
	Total Coal Consumption	Billion tons of Raw Coal	3.96	41	0.70%	Anticipatory
	Total Electricity Consumption	Trillion kWh	5.69	6.8-7.2	3.6%-4.8%	Anticipatory
Energy Security	Rate of Energy Sufficiency	%	84	>80	-	Anticipatory
Energy resource structure	Proportion of Installed non-fossil fuel Capacity	%	35	39	[4]	Anticipatory
	Proportion of Electricity from non-fossil Fuel Energy Generation	%	27	31	[4]	Anticipatory
	Proportion of non-fossil fuel consumption	%	12	15	[3]	Binding
	Proportion of Natural Gas Consumption	%	5.9	10	[4.1]	Anticipatory
	Proportion of Coal consumption	%	64	58	[-6]	Binding
	Power Station Coal Consumption Proportion in Total Coal Consumption	%	49	55	[6]	Anticipatory
Energy Efficiency	Decreasing of Energy Consumption per unit of GDP	%	-	-	[15]	Binding
	Coal Consumption from Thermal Power Generators	Grams of SC per kWh	318	<310	-	Binding
	Line Loss Rate of Power Grid	%	6.64	<6.5	-	Anticipatory
Energy Environment Protection	Decreasing of CO2 Emission per unit of GDP	%	-	-	[18]	Binding

[] means the value cumulated in 5 years

Table 2: 13th FYP Provincial-Level Energy Consumption and Energy Intensity Goals

Province	13th FYP Goal of Decreasing Energy Intensity (%)	Total Energy Consumption in 2015(million tons of SC)	Control Targets of Total Energy Consumption increase in 2020(Million tons of SC)
Beijing	17	68.35	8
Tianjing	17	82.6	10.4
Hebei	17	293.95	33.9
Shanxi	15	193.84	30.1
Inner Mongolia	14	189.27	35.7
Liaoning	15	216.67	35.5
Jilin	15	81.42	13.6
Heilongjiang	15	121.26	18.8
Shanghai	17	113.87	9.7
Jiangsu	17	302.35	34.8
Zhejiang	17	196.1	23.8
Anhui	16	123.32	18.7
Fujian	16	121.8	23.2
Jiangxi	16	84.4	15.1
Shandong	17	379.45	40.7
Henan	16	231.61	35.4
Hubei	16	164.04	25
Hunan	16	154.69	23.8
Guangdong	17	30.145	36.5
Guangxi	14	97.61	18.4
Hainan	10	19.38	6.6
Chongqing	16	89.34	16.6
Sichuan	16	198.88	30.2
Guizhou	14	99.48	18.5
Yunnan	14	103.57	19.4
Xizang	10	—	—
Shaanxi	15	117.16	21.7
Gansu	14	75.23	14.3
Qinghai	10	41.34	11.2
Ningxia	14	54.05	15
Xinjiang	10	156.51	35.4

5. SECTORAL ENERGY EFFICIENCY TARGETS

See Table 3 for a list of sectoral targets.

Table 3: Sectorial Energy Intensity (Efficiency) Targets in the 13th FYP

Index	Unit	2010 (Actual Value)	2020	
			Target Value	Variation/Rate of Change
Industrial				
Industrial Energy Consumption per Unit area	%			[-18%]
Power-Supply Coal Consumption	grams of SC per kWh	315	306	-12%
Total Energy Consumption per One ton of Steel	Kilograms of SC	572	560	-12%
Cement Clinker Energy Consumption	Kilograms of SC per ton	112	105	-7
Aluminium-intergrated AC power consumption	kWh per ton	13350	13200	-150
Crude Oil Processing Energy Consumption	Kilograms of SO per ton	65	63	-2
Ethylene Production Energy Consumption	Kilograms of SC per ton	816	790	-26
Synthetic Ammonia Production Energy Consumption	Kilograms of SC per ton	1331	1300	-31
Paper and Paperboard Production Energy Consumption	Kilograms of SC per ton	530	480	-50
Building				
Accumulated Area of Energy-saving Reconstruction in existing urban residential buildings	Billion square meters	1.25	1.75	+0.5
Accumulated Area of Energy-saving Reconstruction in existing urban public buildings	Billion square meters	0.1	0.2	+0.1
Implementation Rate of Green Building Standard of New Constructions in Urban Area	%	20	50	+30

Table 3: Sectorial Energy Intensity (Efficiency) Targets in the 13th FYP

Traffic and Transport					
Raidway Transport Comprehensive Energy Consumption per Workload		Ton of SC per million ton/km	4.71	4.47	[-5%]
Decreasing rate of Energy consumption of Commercial Vehicles unit of Transport Turnover					[-6.5%]
Decreasing rate of Energy consumption of Commercial Ships Unit of Transport Turnover					[-6%]
Energy Consumption of aviation Transport Turnover		Kilograms of SC per ton*kilometers	0.433	<0.415	>[-4%]
Average Oil Consumption of New Production Passenger Vehicles		Liters per 100 kilometers	6.9	5	-1.9
Public Institutions					
Energy Consumption of Public Institutions per unit area		Kilograms of SC per square meters	20.6	18.5	[-10%]
Energy Consumption of Public Institutions per Person		Kilograms of SC per person	370.7	330	[-11%]
Energy-use Terminal equipment					
System Efficiency of Electromotor		%	70	75	+5
Market Share of Level 1 Energy Efficiency Volume Air-compressor	<55kW	%	15	30	+15
	55kW-220kW	%	8	13	+5
	>220kW	%	5	8	+3
Market Share of Level 1 Energy Efficiency Power Transformer		%	0.1	10	9.9
Market Share of Level 2 and Above Energy Efficiency Room Air-conditioner		%	22.6	50	+27.4
Market Share of Level 2 and Above Energy Efficiency Refrigerator		%	98.3	99	+0.7
Market Share of Level 2 and Above Energy Efficiency household Gas Water Heater		%	93.7	98	+4.3

[] Indicates the changing rate

LINKS

Table 3: <http://www.ndrc.gov.cn/zcfb/zcfbqt/201701/W020170105634585914832.pdf> (Comprehensive Work Plan for Conserving Energy and Reducing Emission During 13th FYP)

6. LEAD ENERGY EFFICIENCY INSTITUTIONS

National Leading Group for Climate Change and Energy Conservation and Emission Reduction (NLGCCECER).

INSTITUTIONAL SETTINGS AND RESPONSIBILITIES

The Chinese National People's Congress (NPC), the highest organisation of state power in China, produces a Five-Year Plan to guide economic policies in five-year increments. The drafting and implementation of the plan is tasked to the State Council, the administrative organisation of the government. In terms of energy efficiency, China's government established the National Leading Group for Climate Change and Energy Conservation and Emission Reduction (NLGCCECER) to coordinate all of the energy conservation activities in China, with premier of the State Council as its head and 20 ministers as members.

The National Development and Reform Commission (NDRC) undertakes specific work by the NLGCCECER and plays a crucial role in the design and execution of policies on energy efficiency and conservation. The Resource Conservation and Environmental Protection Department of the NDRC is responsible for day-to-day efforts in energy efficiency. In addition, energy saving and emission reduction are still crucial tasks of other departments in the Chinese Government. All provinces, autonomous regions and municipalities directly under the central government have established their own leading groups and working organs to address climate change and energy conservation issues.

STAFF AND BUDGET

Currently, there are approximately 15 staff members in the key agency of the department above who are directly in charge of energy conservation and emission reduction projects. There are significantly more staff members once all of the departments and the regional governments are included.

BUDGET USE

No information available.

LINKS

China's Policies for Addressing Climate Change 2011:

http://www.scio.gov.cn/zfbps/ndhf/2011/Document/1052718/1052718_3.htm

7. OTHER ENERGY EFFICIENCY AGENCIES

See Table 4 below.

Table 4: Government agencies involved with energy efficiency

Name of organisation	Roles of organization
National Development and Reform Commission	Overall work and coordination
Ministry of Industry and Information Technology	Energy conservation and efficiency in the industrial and information sectors
Ministry of Transport	Energy conservation and efficiency in the transport system
Ministry of Housing and Urban Rural Construction	Energy conservation and efficiency in building
National Government Offices Administration	Energy conservation and efficiency in public institutes
The Ministry of Agriculture	Energy conservation and efficiency in the agriculture sector
The National Energy Bureau	Energy conservation and efficiency in energy supply systems
Ministry of Finance	Finance and tax measures related to energy conservation and efficiency
Ministry of Science and Technology	R&D of energy conservation and efficiency technology
Administration of Quality Supervision, Inspection and Quarantine (Standardization Administration of China, Certification and Accreditation Administration)	Energy efficiency standards, labels, certifications, accreditation, and monitoring, verification, and enforcement
National Bureau of Statistics of the People's Republic of China	Energy statistics

LINKS

Not applicable.

8. ENERGY EFFICIENCY INFORMATION DISSEMINATION

China has organised economy-wide actions for energy conservation and emission reduction through 17 government departments covering nine special actions. China's government also runs its "National Energy Efficiency Promotion Week" and "National low-carbon Day" once a year, promotes its "Energy Conservation and Emission Reduction: Actions by All People" campaign through CCTV, and conducts other awareness activities to enhance public consciousness about energy conservation and environmental issues. The "National Energy Efficiency Promotion Week" and "National low-carbon Day" have different themes every year, for instance, the theme of "National Low-Carbon Day" is "Low-Carbon Industrial Development". Presently, energy conservation and emission reduction are common topics discussed in the public domain.

LINKS

China's Policies and Actions for Addressing Climate Change (2016):

[http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20\(2016\).pdf](http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf)

9. ENERGY EFFICIENCY AWARENESS RAISING

During the National Energy Efficiency Promotion Week and the National Low-Carbon Day, various publicity activities were held by local governments according to their own conditions to improve public awareness of energy conservation, environmental protection, greenhouse gas emission and low carbon development among the public. Chinese enterprises also proactively implemented national policies related to energy conservation.

LINKS

China's Policies and Actions for Addressing Climate Change (2016):

[http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20\(2016\).pdf](http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf)

10. GOVERNMENT SUPPORTED ENERGY EFFICIENCY TRAINING

The government of China organises energy management training for government staffs, researchers from universities and enterprise managers every year. These training include content such as energy efficiency, energy auditing, energy planning, energy measurement and statistics, etc. The local government operates most of these training, and information on the training is usually sent to enterprises or university by fax or email.

LINKS

Not available.

11. PRIVATELY OPERATED TRAINING

The government of China offers plenty of energy efficiency training opportunities to the government staffs, managers from state-owned enterprises, professors in universities and researchers from government institutions, most of these trainings are short courses, such as two weeks camps or 3-5 days conference. The trainings about sectoral specific programmes are offered by different ministries in China. These trainings are focusing on the specific regions of energy efficiency, like reducing energy loss in power transmission line, improving energy efficiency in PV system and energy conservation in public buildings, etc.

LINKS

Beijing Jiaotong University: <http://news.bjtu.edu.cn/info/1027/26391.htm>

12. GOVERNMENT SUPPORTED RESEARCH & DEVELOPMENT

The Ministry of Science and Technology (MOST) is in charge of promoting energy efficiency research and development and demonstrations (RD&D). Programmes that encourage RD&D in energy efficiency have been established, including the State Key Basic Research Programme, the National Science and Technology Support Programme, and the High-Tech Development Projects. The MOST also supports fundamental scientific researches in climate change area.

Beijing Energy Efficiency Centre (BECon) is proposed by the Energy Research Centre of the National Development and Reform Commission (NDRC) and founded in December 1993. It has another name called "Energy Efficiency Centre of the Energy Research Institute". BECon is an authoritative organisation to

comprehensively study on issues of energy saving and energy efficiency in China, is one of technical support and mainly policy consulting organisations relied by the state departments related to energy conservation, and is a core agency to connect the China and oversea government organisations, non-government organisations and enterprises to promote and implement energy saving activities. BECon also undertakes the tasks and consulting services entrusted from the local governments, enterprises and related organisations.

LINKS

Energy Research Institute National Development and Reform Commission:

<http://eng.eri.org.cn/jgsz.php?aid=231&cid=61>

ENERGY EFFICIENCY MEASURES

13. COLLECTION AND MONITORING OF ENERGY EFFICIENCY OUTCOMES

National level targets are set by the central government, subdivided and assigned to provincial-level governments and administrators of key national programmes. Provincial level targets are set by the State Council. Representing the State Council, the NDRC is responsible for reviewing the progress of energy efficiency plan and organises formal review and evaluation team (composed by officials and experts from ministries) to each of the provinces annually.

LEGAL POWER

National Bureau of Statistics of the People's Republic of China (NBS), NBS collects energy data including energy production, consumption, energy policies, energy conservation data, and etc., from provincial-level statistics bureau, and release the monthly data, annual data through official website (<http://www.stats.gov.cn/>), press conferences, statistical communiques, and annual publication: China energy statistical yearbook. This book contains energy data such as energy production, consumption, construction of energy industry, pollution related to energy industry, and etc.

National Energy Bureau and National Development and Reform Commission. These two government sectors only collect energy data when they run some specific projects or intend to enact energy-related policies. With authorisation from state council, they can collect energy data from enterprises, local governments and provincial-level statistics bureaus directly.

LINKS

Energy Efficiency Plan of China and its monitoring and evaluation:

<https://www.esmap.org/sites/esmap.org/files/China.pdf>

Energy Efficiency Evaluation, Measurement, and Verification:

<http://www.raponline.org/wp-content/uploads/2016/05/rap-crossleyslotesherman-globalemv-2014-mar-19.pdf>

14. EVALUATION OF ENERGY EFFICIENCY PROGRESS OR POTENTIAL

Since amendment of the Law in 2007, China has established an energy conservation and emission reduction leadership group and assigned energy conservation goals to local governments and major enterprises. For local government, their performance assessments are based on the Energy Conservation and Emission Reduction Statistics and Monitor Evaluation System and Method. Local governments are commended and rewarded if they meet their requirements. However, if the requirements are not met, then a wide range of sanctions may occur, including the following:

- Barred from participation in the annual awards or receiving an honorary title.
- New high energy-consuming projects in these regions cannot be approved.
- Provincial leaders must submit a written report to the State Council and indicate a deadline for correction measures.

Statistics departments at all government levels are required to develop a strong energy statistics system in order to report on local government performance. For the industry, high energy-consuming projects must contract energy managers and provide annual reports on energy efficiency and conservation activities.

A comprehensive evaluation of target realisation for provincial governments is carried out every year by the central government, which is helpful for understanding the local energy conservation situation, identifying problems, and promoting energy conservation efforts.

For major enterprises who are considered key energy-using entities, they must submit annual reports to the government, containing information on whether their energy intensity targets had been achieved. Penalties will be imposed for failure to achieve targets or implement energy efficiency measures.

LINKS

China's Policies and Actions for Addressing Climate Change:

http://www.gov.cn/english/official/2011-11/22/content_2000272_4.htm

15.SELF-EVALUATION OF ENERGY EFFICIENCY PROGRAMMES

No information available.

16.CROSS-SECTOR ENERGY EFFICIENCY INITIATIVES

Energy-Efficient or Water-Saving Equipment Directory of Corporate Income Tax Concessions

OBJECTIVE

To reduce corporate income tax for enterprises that Promote the use of energy-efficient devices and equipment, and stimulate technological innovation and energy efficiency improvement.

OUTLINE

Reduced corporate income tax rate is granted to qualified advanced and new technology enterprises. Applicable fields include solar energy, wind energy, biomaterial energy, and geothermal energy.

LINKS

Water-Saving Equipment Directory of Corporate Income Tax Concessions:

<http://news.bjx.com.cn/html/20130730/448909.shtml>

Financial Rewards for Energy-Saving Technical Retrofits

OBJECTIVE

To encourage and motivate enterprises to invest in energy conservation technological transformation and promote the implementation of key energy-conservation projects.

OUTLINE

The Financial Rewards for Energy-Saving Technical Retrofits programme, under the Ministry of Finance (MOF) and the National Development and Reform Commission (NDRC), rewards enterprises for energy savings achieved through technical renovation projects.

LINKS

Financial Rewards for Energy-Saving Technical Retrofits:

<http://iepd.iipnetwork.org/policy/financial-rewards-energy-saving-technical-retrofits>

China Leading Energy Efficiency Programme (LEP)

OBJECTIVE

Promote adoption of energy efficient products.

OUTLINE

LEP is an economy-wide programme focusing on promoting energy efficient products, and facilitate market transformation towards high efficiency products through promoting them with a package of toolkit, e.g. public campaign, prioritisation in government procurement programme, engagement of industry, and digital measures (QR code label and smartphone APP), etc.

There are also products specific requirements and considerations for each product. For example, manufacturers need to meet the following requirements in order to apply for LEP for their products:

- Manufactured and used within mainland China.
- Have registered with the China Energy Label scheme and obtained Energy Conservation Certification.
- No non-complying products under its brand reported in the past year in any provincial, or above, level product quality checks and China Energy Label checks.

LINKS

LEP: http://www.sdpc.gov.cn/zcfb/zcfbtz/201501/t20150108_659703.html

Minimum Energy Performance Standards (MEPS) for High-Energy-Consuming Products

OBJECTIVE

The energy efficiency standards form the policy basis for controlling energy consumption regarding high-energy-using products.

OUTLINE

In 1989, China introduced the first national mandatory minimum energy performance standards to target improving minimum efficiencies for eight of the highest energy-consuming and most popular household appliances. Since then, China has rapidly expanded its MEPS programme to become one of the world's largest programmes, covering not only common household appliances, but also lighting products, office and commercial equipment, transport and industrial equipment. MEPS and mandatory China Energy Labels are also introduced for new products every year, but there is no pre-determined schedule for new or revised standards.

LINKS

MEPS: https://china.lbl.gov/sites/all/files/china_sl_info.pdf

Administration Regulation on Energy-Efficiency Labelling

OBJECTIVE

Promote the adoption of energy efficient appliances.

OUTLINE

China requires appliances to meet a national standard and requires manufactures to put an energy use label on all appliances sold on the market. Launched by the NDRC and the General Administration of Quality Supervision, Inspection and Quarantine, the mandatory appliance labelling system now covers 30 types of household appliances. It requires manufacturers to register each product at China National Institute of Standardisation (CNIS) website before introducing it to the market and to attach a China Energy Label to each model revealing its energy efficiency grade as compared to the appliance standard. Appliance standards, on the other hand, set minimum allowable energy efficiency levels.

LINKS

Energy-Efficiency Labelling: <http://www.belfercenter.org/sites/default/files/legacy/files/policy-instruments-residential-building-energy-china-3.pdf>

17.INDUSTRY ENERGY EFFICIENCY INITIATIVES

"100, 1000, 10000" energy conservation initiative

OBJECTIVE

To reduce energy intensity.

OUTLINE

This programme aims to put the top 100 energy consuming enterprises in China under regulation of the central government, the top 1,000 energy consuming enterprises under the regulation of their respective provincial-level governments, and other high energy consuming enterprises under the regulation of lower-level governments. It encourages enterprises to take voluntary measures to reduce energy consumption; facilitates the development of energy management, measurement and consumption monitoring systems; and carry out energy reviews and efficiency evaluations.

Under the programme, agreements on energy efficiency measures and energy intensity targets are established in energy savings responsibility contracts. Central government agencies set the objectives, targets, scope, and implementation guidelines in the contracts. Provincial level governments are in charge of most of the details of implementation. Progress in each individual enterprise is evaluated annually.

LINKS

Report on China's economic, social development plan: http://www.china.org.cn/china/NPC_CPPCC_2017/2017-03/18/content_40472171.htm

13th FYP: <http://en.ndrc.gov.cn/newsrelease/201612/P020161207645765233498.pdf>

One Hundred Energy Efficiency Standard Promotion Programme

OBJECTIVE

To provide a technical basis for energy-saving assessments of new projects in order to phase-out backward production capacity and high-energy-consuming enterprises.

OUTLINE

This programme was initiated in 2012. As of September 2015, a total of 105 compulsory energy consumption standards and 70 mandatory energy efficiency standards have been published. These norms specify the energy efficiency values for new and existing enterprises.

LINKS

One Hundred Energy Efficiency Standard Promotion Programme:

[http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20\(2016\).pdf](http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf)

Implementation Scheme of Energy-Efficiency Leader System

OBJECTIVE

introduced in Dec 2014, the government wants to increase the level of energy-efficiency amongst high energy-consuming products and equipment, high energy-consuming industries and public institutions. It also hopes to establish a long-term mechanism to promote energy-saving and emission-reduction based on this scheme. This scheme will raise current standards of energy-efficiency through incentive programmes and industry benchmarks.

OUTLINE

The key component of the programme is the designation of so-called energy-efficient “leaders”—i.e., manufacturers and brands that meet or exceed specific energy-efficiency benchmarks. To qualify, leaders must abide by energy-efficiency standards higher than those currently set by the China Energy Label, a tag that informs Chinese consumers of the degree of energy efficiency of a designated product. This scheme further recommends energy-saving renovation projects that were supported by central finance, to use the ‘leader’ products. The government also encourages qualified enterprises to use ‘leader’ label and China Energy Label for branding, promotional and commercial purposes.

LINKS

New Leader Programme Aims to Promote Energy Efficiency in China’s Home Appliances:
<http://news.ihsmarkit.com/press-release/technology/new-leader-program-aims-promote-energy-efficiency-chinas-home-appliances>

Energy Conservation and Environmental Protection (ECEP)

OBJECTIVE

Promote energy saving and emission reduction, develop new areas for economic growth

OUTLINE

The ECEP is an industry supported by the government to provide technical support for energy resources conservation, circular economy development, and eco-environment protection. The energy conservation industry is one of the three key industries within the ECEP industry (together with resources utilisation and environmental protection industries). Energy-saving technologies and equipment (such as boilers, furnaces, motors, waste heat and waste pressure equipment, and instruments), energy-efficient products (including appliances, lighting, vehicles, and building materials), and energy-efficiency services are identified as key areas for the energy conservation industry.

LINKS

ECEP: <http://iepd.iipnetwork.org/policy/promotion-energy-conservation-and-environmental-protection-industry>

Energy efficiency financing

OBJECTIVE

To facilitate development of energy efficient industries

OUTLINE

Energy efficiency financing has been emphasised since the 11th FYP and a series of governmental policies and regulations have been issued on enhancing financial services related to energy efficiency, emission reduction and environmental protection, such as the Green Loan/Credit and Green Security. In the 13th FYP, government committed to establish a green finance system, develop green credit and bonds, and launch green development funds to increase support for credit and loans to energy-efficiency projects.

LINKS

Financing Regulations and Instruments: <http://iepd.iipnetwork.org/policy/ee-financing-regulations-and-instruments>

13th FYP: <http://en.ndrc.gov.cn/policyrelease/201612/P020161207645766966662.pdf>

Strengthening Energy Conservation in Industrial Field (One Chapter in Comprehensive Work Plan on Energy Conservation and Emission Reduction During the 13th Five-Year Plan Period)

OBJECTIVE

Implement industrial energy efficiency catch-up activity; strengthen energy consumption management in high-energy consumption industries; Implement energy efficiency benchmarking system in key energy consumption industries; promote the constructions of energy control and regulation centres in industrial enterprises; popularise industrial intelligent energy monitoring and diagnosis technology.

OUTLINE

By 2020, China targets to increase industrial energy utilization efficiency and usage level of clean energy significantly. It also seeks to reduce the unit added value energy consumption of industrial enterprises above designated size by 18%, compared to 2015 levels. The energy efficiency of key energy consuming industries (such as power, steel, nonferrous metals, building materials, petroleum, petrochemical and chemical industries) has reached the world's advanced level.

LINKS

<http://www.ndrc.gov.cn/zcfb/zcfbqt/201701/W020170105634585914832.pdf> (Comprehensive Work Plan for Conserving Energy and Reducing Emission During 13th FYP)

18. TRANSPORT ENERGY EFFICIENCY INITIATIVES

Energy conservation in transportation sector

OBJECTIVE

Promote energy conservation in transportation sector.

OUTLINE

In 2014, the Ministry of Transport (MOT) released "Key Outlines of Energy Conservation and Emission Reduction of Transport" and "Accounting Rules for Transportation Energy-Saving and Emission Reductions and Energy Conservation Investment", which designed green transport system and implemented evaluation systems for green traffic. It also promoted energy monitoring pilots.

LINKS

Mitigating climate change: http://www.china.org.cn/environment/news/2015-11/23/content_37136145.htm

New Energy Vehicles (NEV)

OBJECTIVE

Encourage uptake of alternative energy vehicles.

OUTLINE

Since 2012, the Ministry of Finance provided subsidies ranging from RMB 30,000 to 60,000 (\$4,600-9,200) for passenger NEVs and RMB 500-600,000 (\$77,000-92,000) for commercial NEVs, most of which are also matched by provincial governments. Sales tax and licence taxes have since also been waived for electric vehicles (EVs). While China's major metropolitan areas control the growth of their vehicle population by employing a licence lottery or auction system, EVs are generally excluded from these controls. The government has introduced multiple R&D programmes to promote battery technology development, and has been encouraging charging infrastructure development. In December 2015, the government issued a plan to add 1,200 charging stations and 4.8 million distributed charging piles by 2020.

LINKS

China's 13th FYP – Implications for Oil Markets:

<https://www.oxfordenergy.org/wpcms/wp-content/uploads/2016/06/Chinas-13th-Five-Year-Plan-Implications-for-Oil-Markets.pdf>

Vehicle Fuel Economy Standards

OBJECTIVE

To require passenger vehicles and light-duty cargo vehicles to meet efficiency standards, which vary according to the vehicle's weight.

OUTLINE

China started implementing fuel economy standards in July 2005. In January 2016, China launched Stage 4 of the standards, requiring passenger vehicles fuel consumption per 100 kilometres to fall from 6.9 litres to 5 litres between 2016 and 2020.

LINKS

Fuel Economy Standards: <https://www.chinadialogue.net/article/show/single/en/9414-China-s-EV-push-hurting-fuel-economy-standards>

19. BUILDING ENERGY EFFICIENCY INITIATIVES

Building codes and regulation

OBJECTIVE

Since 2008, the Energy Conservation Regulations for Civil Buildings was enacted to strengthen the energy conservation management of civil buildings, improve energy efficiency, and reduce energy consumption in civil buildings.

OUTLINE

China imposes mandatory building codes for residential and commercial buildings in urban areas, while compliance with rural residential building codes is voluntary and promoted through incentives. The State Council also issued guidelines on urbanisation, highlighting resource and energy conservation as well as environmental protection in building design and construction. In the 13th FYP, the government continued to promote energy efficiency standards, renewable energy and green building in construction.

LINKS

Building energy efficiency in China:

http://www.chinafaqs.org/files/chinainfo/Building%20Energy%20Efficiency%20Fact%20Sheet_0.pdf

Green Building Action Plan

OBJECTIVE

Promote adoption of green buildings.

OUTLINE

In 2014, the Green Building Action Plan mandated public buildings and any single building area over 20,000 square meters to meet the green building standards of China's 3-Star Rating System GBEL (The Green Building Evaluation Label). In 2015, the green building evaluation standards were updated and all newly-built urban buildings had to adopt the more stringent energy efficiency standards.

LINKS

Green Building Action Plan: <https://www.export.gov/apex/article2?id=China-Construction-and-Green-Building>

20. ENERGY EFFICIENCY COOPERATION

COOPERATION AGREEMENTS WITH OTHER ECONOMIES OR ORGANISATIONS

The Chinese Government cooperates with non-government organisations to stimulate energy efficiency improvements, as appropriate.

For example, the World Wide Fund is the first international conservation organisation invited to work in China, and the collaboration includes four energy efficiency improvement programmes:

- Low-Carbon City Initiative in China (LCCI), which explores low-carbon development models in different cities and works to improve energy efficiency in the industrial, building, and transport sectors.
- Business engagements.

- Climate change: post-Kyoto negotiations.
- "20 Ways to 20%" initiative.

BILATERAL, REGIONAL OR MULTILATERAL COOPERATION AGREEMENTS

The Chinese Government cooperates with other economies through bilateral, regional, and multilateral schemes for energy efficiency improvements, such as the United States, Japan, Korea, the European Union, etc. Currently, China has established bilateral cooperation mechanisms with 36 economies and regions, and it is involved in multilateral energy cooperation mechanisms in 22 international organisations and international conferences.

China has other cooperative arrangements with international organisations for energy efficiency improvement, in addition to APEC, such as the Asian Development Bank, the World Bank, etc.

For example since 1997, NDRC, the World Bank, and the Global Environment Facility (GEF) have jointly organised the China Energy Conservation Project. This project seeks to build a model of ESCOs and an energy management contract mechanism, based on the market economy system in China. It also establishes support for technical institutions, both technically and financially.

The Barrier Removal to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labelling (BRESL) project, another international cooperation venture, is sponsored by the UNDP and the GEF. China is the lead economy on the BRESL project with the Executing Agency being the NDRC. The BRESL project is aimed at accelerating the adoption and implementation of the energy standards and labels (ES&L) programme in Asia, which will also facilitate harmonisation of test procedures, standards, and labels among developing economies in Asia.

China actively participated in international climate change discussions such as the Major Economies Forum on Energy and Climate, the Petersburg Conference, the UN High Level Conference on Climate Change, the Montreal Protocol, the International Civil Aviation Organisation and the International Maritime Organisation. It also participated in relevant climate change negotiations under international systems such as the Universal Postal Union and the International Organisation for Standardisation. China continues to pay attention to relevant discussions in the G20, the APEC, the East Asian Leaders Meeting and the United Nations General Assembly.

LINKS

China's Policies and Actions for Addressing Climate Change (2016):

[http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20\(2016\).pdf](http://cdm.ccchina.gov.cn/archiver/cdmcn/UpFile/Files/ccer/China's%20Policies%20and%20Actions%20on%20Climate%20Change%20(2016).pdf)

21. OTHER ENERGY EFFICIENCY EFFORTS

No information.