

Status Report of

China's Green Government Procurement



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Abbreviations

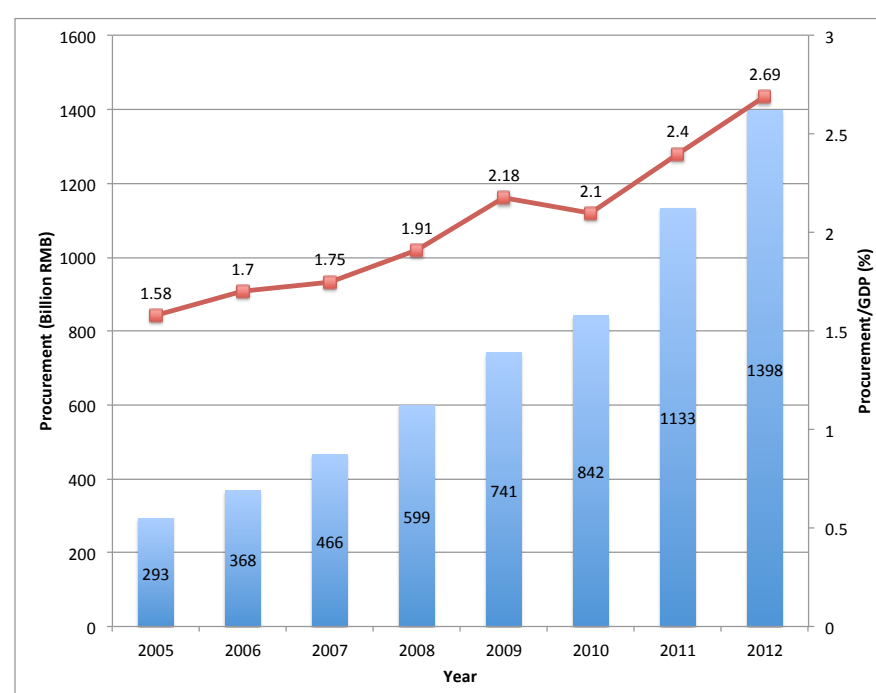
AQSIQ	General Administration of Quality Supervision, Inspection and Quarantine of China
CCC	China Compulsory Certification
CCIC	China Certification and Inspection Group
CEUCC	China Environmental United Certification Center
CNCA	Certification and Accreditation Administration of China
CNIS	China National Institute of Standardization
CPC	Communist Party of China
CQC	China Quality Certification Centre
CSC	China Standard Certification Centre
EDC	Environmental Development Centre of MEP
GDP	Gross Domestic Products
GPC	Government Procurement Center
MEP	Ministry of Environment Protection
MOF	Ministry of Finance
NDRC	National Development and Reform Commission
NPC	The National People's Congress of China
SAC	Standardization Administration of China
STAT	National Bureau of Statistics of China

1. Introduction of China's government procurement

1.1 Scope of China's government procurement

The Chinese government has huge impacts on the economy. The government public expenditure reached 1,552 billion EUR¹ in 2012, which accounted for 24.20% of GDP in the same year.

Government procurement is one important item of government finance expenditures. China's government procurement keeps growing with a high annual increase rate of 25% from 2005 until 2012. However, government procurement represents a very small proportion of GDP, statistically speaking. Although the ratio's trend has steadily grown since 2005, it still had not reached 3% in 2012. The ratio between government procurement and GDP is far below the average of OCED countries, which is 12%². Furthermore, government procurement only accounted for 11.1% of total government public expenditure in 2012. All the figures indicate that the scope of "government procurement" or "public procurement" in China is quite limited. It is, however, one of various ways for the Chinese government to have an impact on its economy, and its impact will grow.



*Source: MOF and STAT

Figure 1 China government procurement and its proportion with GDP

¹ New report of 2012 China public expenditure, http://www.gov.cn/jrzg/2013-01/23/content_2318041.htm, exchange rate EUR:EUR = 8.1.

² Size of public procurement market, http://www.oecd-ilibrary.org/sites/gov_glance-2011-en/09/01/index.html?contentType=/ns/StatisticalPublication,/ns/Chapter&itemId=/content/chapter/gov_glance-2011-46-en&containerItemId=/content/serial/22214399&accessItemIds=&mimeType=text/html

The limited scope of government procurement is framed by the “Government Procurement Law³” which has been implemented since 2003. It was the first time that government procurement was regulated by law instead of regulations and specifications from the State Council and ministries. The law defines the scope of government procurement in China: goods, projects and services for the publicly funded organizations. The projects are limited to the construction projects including building, re-building, decoration and renovation, etc. The government also invests in projects and state-owned enterprises’ projects that are not included in this procurement law, but are covered by another law named “Tendering and Bidding Law⁴”. This is why the ratio of government procurement over GDP appears to be so low. For tendering and bidding of government procurement activities, both laws have to be followed.

It is estimated that the amount of China’s government procurement will keep increasing in the next years, reaching 15% to 20% of GDP in the future⁵ due to economic development and extension of the scope of government procurement. It is also estimated that the procurement of projects and services will grow faster. The State Council started promoting the procurement of public services from 2012 onwards. A new item named “Energy Management Contract” was included in the centralized procurement catalogue for the central government agencies and institutions.

1.2 General statistics of China’s government procurement

Along side government agencies, there are various and numerous public institutes. They are normally affiliated with corresponding government agencies and provide social services. They are fully or partly funded by public funds such as universities, schools, hospitals, research institutes, etc. Government agencies and public institutes have almost equal share of total government procurement.

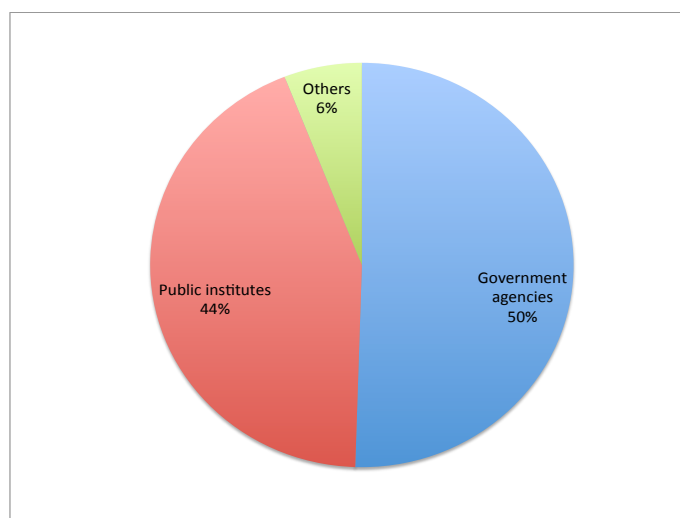


Figure 2 Procurement share among agencies and institutes in 2012

³ Government procurement law, http://www.gov.cn/gongbao/content/2002/content_61590.htm

⁴ Bidding and tendering law, http://www.npc.gov.cn/wxzl/gongbao/2000-12/05/content_5004749.htm

⁵ Law blue book 2012, p294-310, China Academy of Social Science, Social Science Academic Press, 2013.2.

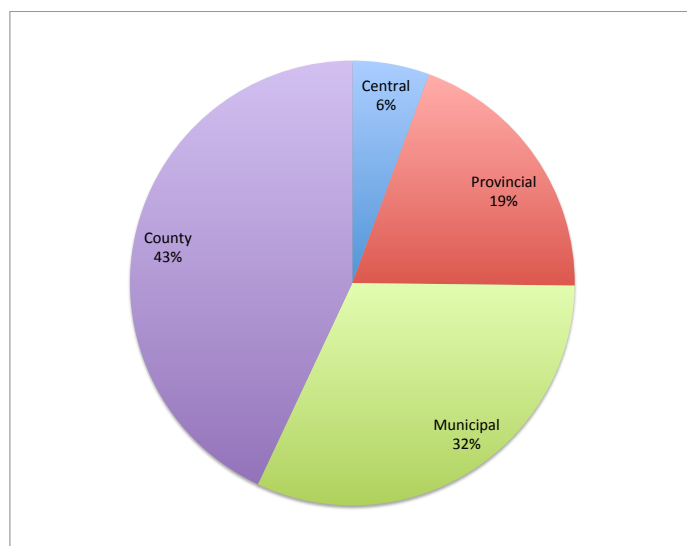


Figure 3 Procurement share of different government levels in 2012

There are four levels in government procurement budgeting and expense from central to local. Procurement share increases from top to bottom level government agencies, which are central, provincial, municipal and country.

There are three types of government procurement items mentioned: goods, construction projects and services. The share of different items is shown in Figure 4. The annual increase rate of construction projects and services is higher than the rate of goods. In the last 10 years until 2012, the proportion of goods kept decreasing by 5.9% annually, while the proportion of construction projects kept rapidly increasing by 4.8% annually and the proportion of services kept steadily increasing by 3.7% annually.

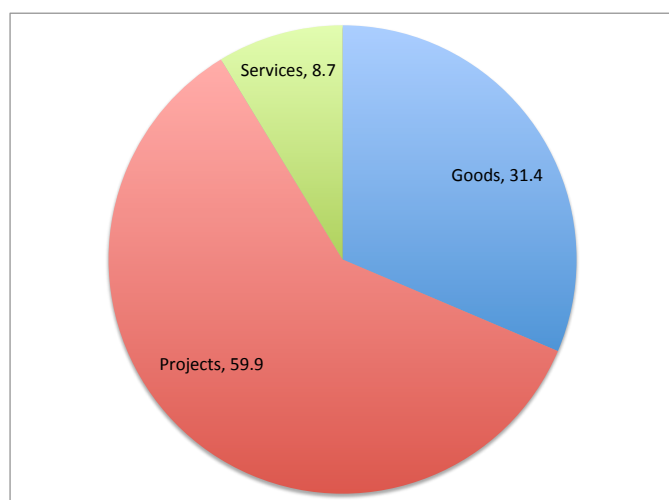


Figure 4 Procurement share of goods, services and projects

There are two organizational forms of government procurement: centralized procurement and decentralized procurement. Centralized procurement has to be delegated to procurement agents, which are procurement centers. Decentralized procurement can be done by the users themselves. Centralized procurement catalogues decide which organizational form will be adopted. The centralized procurement catalogue for central government agencies is developed by the State Council. The centralized procurement catalogues for provincial and lower

government agencies are developed by each province's finance department. Figure 5 shows that centralized procurement takes the main proportion.

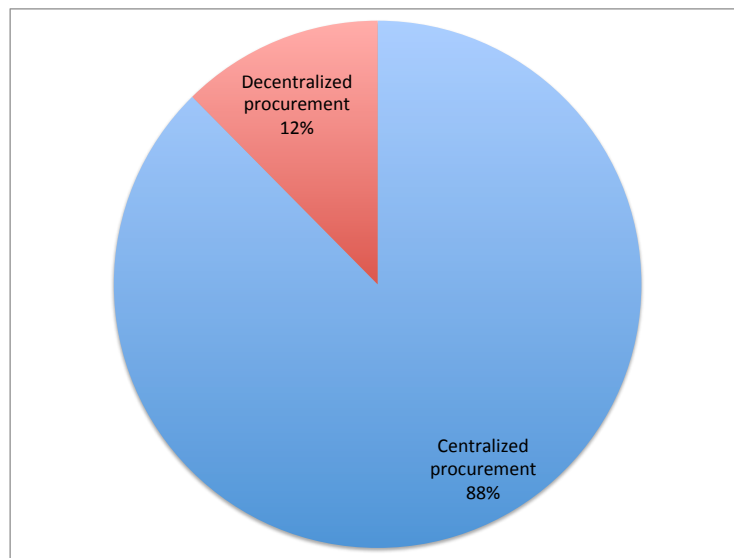


Figure 5 Procurement share of centralized and decentralized procurement

The following methods are adopted for government procurement:

- Open tendering: tendering information is published and opens tendering to all bidders
- Invited tendering: randomly selects three or more qualified bidders for the final tendering
- Competitive negotiation: invites 3 and more vendors to negotiate for procurement
- Single source procurement: purchase from one accredited vendor
- Inquiry price: inquiry on the price from 3 and more vendors
- Other methods are accepted by the department for supervision over government procurement under the State Council.

Figure 6 shows the share of different procurement methods used in 2012. The data show that the open tendering method dominates China's government procurement practices.

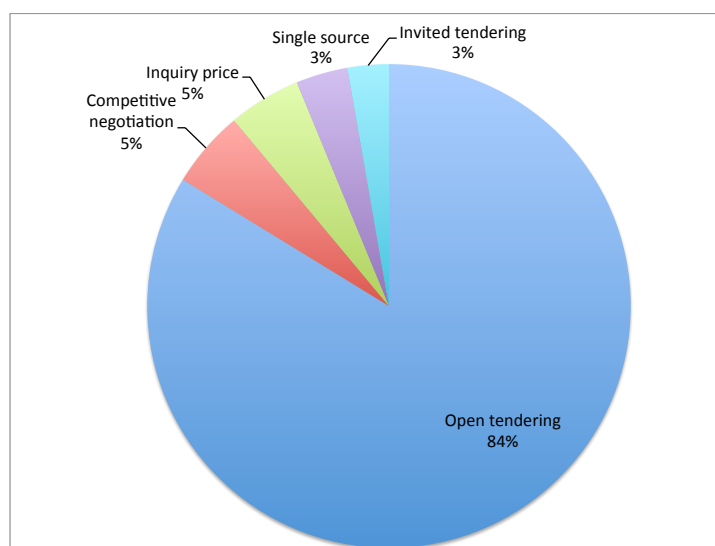


Figure 6 Procurement share of different methods

1.3 Procedure of China government procurement

Basically, four players are involved in one typical government procurement procedure, which are the user, the administrator, the procurement agent and the vendor. Figure 7 and Figure 8 illustrate the typical government procurement procedure, relevant activities and interactions between the players.

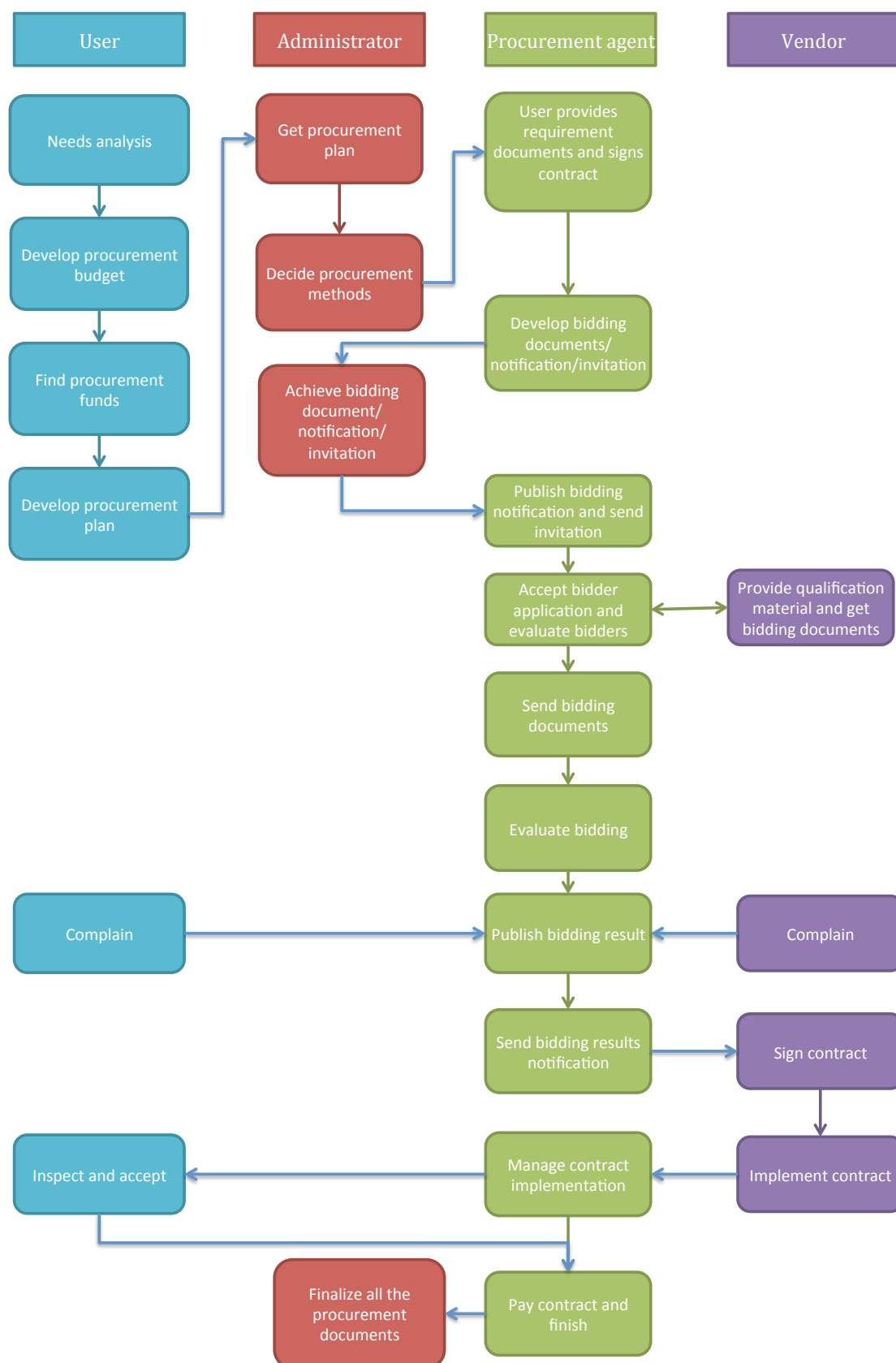


Figure 7 Typical tendering procurement procedures



Figure 8 Interaction among the players in procurement

Figure 9 indicates the involvement of vendors in government procurement.

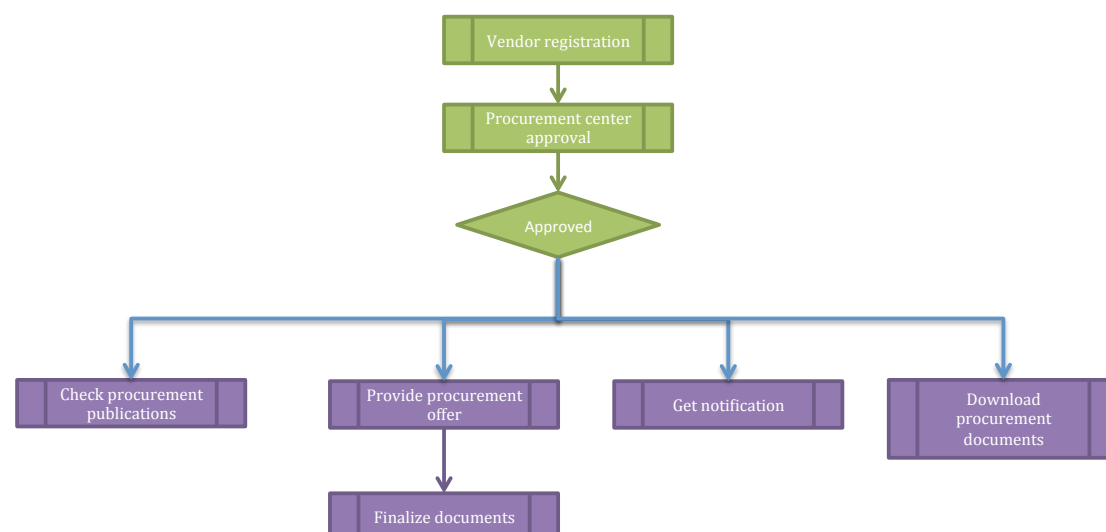


Figure 9 Involvement of vendors in procurement

1.4 Key institutes involved in government procurement

As mentioned above, a series of institutes and organizations are involved in government procurement. Each of them plays different roles in the procedure.

Ministry of Finance (MOF) and departments of finance at all levels: The financing departments play the essential role in government procurement, including budgeting, managing, paying and supervising. Article 13 of the “Government Procurement Law” states that all levels of finance departments are responsible for the supervision of government procurement. MOF has the duty to develop and implement government procurement policies. MOF is involved in all procurement related policies. And the funding of government procurement is part of government expenditure, which is also under the management of finance departments. The procurement budgeting, procurement method, procurement procedure and procurement funding appropriation are under the duties of finance management.

Central and local government procurement centers: Procurement centers are publicly funded institutions to coordinate and manage procurement for corresponding government agencies. Governments on municipal level and above can establish and operate procurement centers. Therefore, there are three levels of procurement centers: national, provincial and municipal. Procurement centers at higher levels have no ownership over lower centers. Procurement centers provide free of charge services for buyers and users, because they are also publicly funded. The duty of government procurement centers is: implementing government activities, providing free service for the users (or buyers), coordinating the de-centralized procurement. Procurement centers are affiliated to office administration departments and supervised by finance departments and all relevant supervisors. Procurement centers play important role in implementation of all kinds of government procurement policies, including green procurement. Almost all provincial and municipal governments have established procurement centers. Some of the procurement centers are listed below:

Central government procurement centers: Central Government Procurement Center, Procurement Center of the Communist Party of China Central Committee Departments, Procurement Center of National People’s Congress. Those procurement

centers are independent and serve for different central systems including government, party and congress.

Special national procurement centers: Central Procurement Center of the People's Bank of China, Procurement Center of General Administration of Customs of China, Procurement Center of State Administration of Taxation, Police Equipment Procurement Center of the Ministry of Public Security. They serve for particular ministries.

Except for Jiangxi province, all the other provincial governments have established **provincial** procurement centers and most of the **municipal** governments have established procurement centers. There are also non-governmental procurement agents or companies providing additional procurement services for all levels of governments.

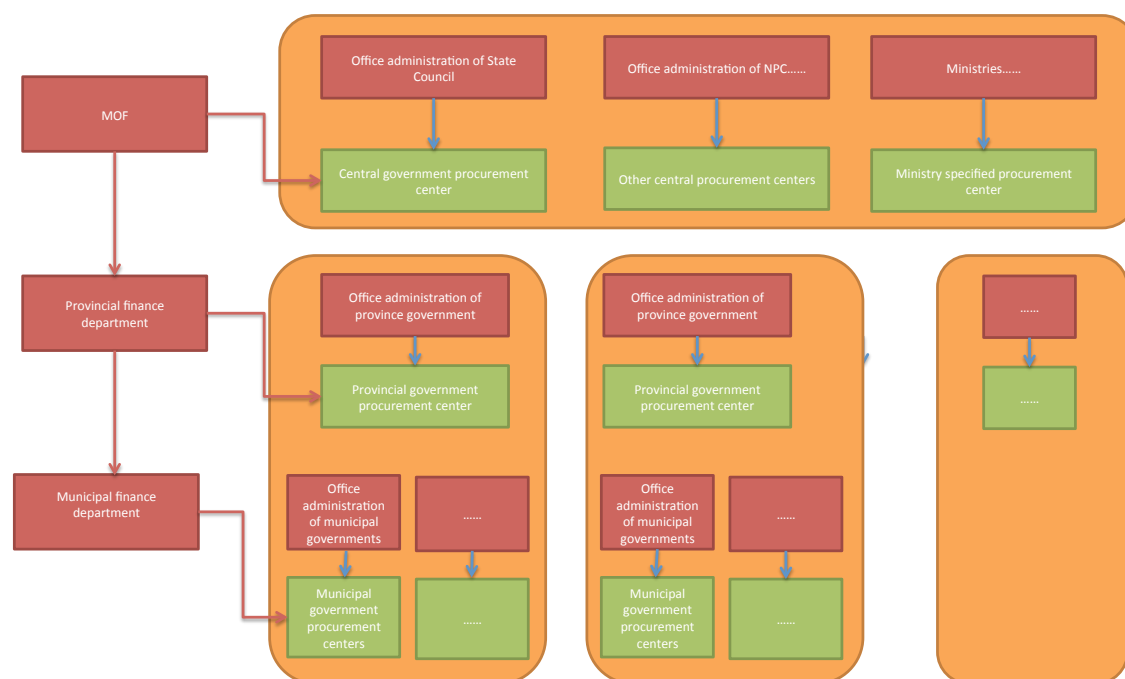


Figure 10 Procurement centers' affiliation and supervision structure

2. Introduction of China's green government procurement

2.1 History and basis of China's green government procurement

Government procurement is recognized as one of the most important policy instruments in protecting environment, promoting sustainable development, supporting advanced technologies and supporting the development of small and medium enterprises in government procurement legislation. Green procurement is considered as one important policy to achieve the national goal of “energy saving and emission reduction”.

Although the definition of what is green procurement is still an open question for policy makers, China has made efforts in greening procurement.

Initiated in 2003, a series of “green” procurement policies were put into force since the implementation of the Government Procurement Law. Table 1 lists the important China green procurement policies from 2003 at all levels, including laws and regulations. There are 3 levels of policies: law, regulations from the State Council and regulations from ministries.

Table 1 China policies relevant to green procurement

Time	Policy	Policy level	Key words	Remarks
2003	Government Procurement Law	Law	Article 9: promote the environment protection, low developed region and SMEs	
2004	Notification of implementation of government procurement for energy conservation products	Ministerial regulation from MOF and NDRC	Energy conservation products should have higher preference in government procurement.	Energy conservation products are certified by an authorized certification body (CSC).
2006	Implementation note of government procurement for environment label products ⁶	Ministerial regulation from MOF and MEP	The environment labeled products should have higher preference in	The environment label products are certified by an authorized certification body

⁶ Implementation note of government procurement for environment label products ,
http://www.mof.gov.cn/zhengwuxinxi/caizhengwengao/caizhengbuwengao2007/caizhengbuwengao20071/200805/t20080519_26026.html

			government procurement.	(CEUCC).
2007	Notification of establishment of compulsory government procurement for energy conservation products ⁷	Regulation from the State Council	Purchase of some energy conservation products is compulsorily. The rest are preferential products.	Compulsory products: air conditioners, double-capped fluorescent lamps and self-ballasted fluorescent lamps, TVs, electric heaters, computers, printers, monitors, urinals and water faucets with a given energy efficiency level
2008	Energy Conservation Law	Law	Public institutes should give preference to energy conservation products	
2008	Public institutions energy conservation regulation	Regulation from the State Council	Public institutions should follow the relevant laws and regulations to purchase the products from the energy conservation list and environment labeling list	

⁷ Notification of establishment of compulsory government procurement for energy conservation products, http://www.gov.cn/zwgk/2007-08/06/content_707549.htm

Whilst the “Government Procurement Law” indicates the policy function of government procurement in environmental protection, the “Energy Conservation Law” states clearly that public institutes should consider purchasing energy conservation products. The year after the implementation of the Government Procurement Law, the State Council announced the regulation of government procurement for energy conservation products in 2004. In 2006, MEP and MOF jointly implemented government procurement for environment label products. In 2007, the regulation from the State Council made the government procurement for energy conservation products compulsory for some products, while the government procurement for environment label products has so far remained preferential.

All those regulations set green procurement regulations for goods, but not for projects and services.

Basically, there are two “green” procurement schemes: environment label product procurement and energy conservation product procurement. All policies highlight the importance of “green” procurement, but policies from different ministries have different priorities. They are all based on the same technical solution, which is product certification, but they are promoted and supported by different technical institutes.

Table 2 Key features of the two “green” procurement schemes

Official name	Energy conservation product procurement	Environment label product procurement
Certification scheme	Energy conservation and water conservation	Environment label
Certification body	China Quality Certification Center (CQC)	China Environmental United Certification Center (CEUCC)
Supporting ministries	MOF, NDRC, AQSIQ	MOF, MEP
Compulsory or preferential	Some products are compulsory	All products are voluntary
Started from	2004	2006
List updating frequency	Twice a year	Twice a year
List latest version	16th	14 th

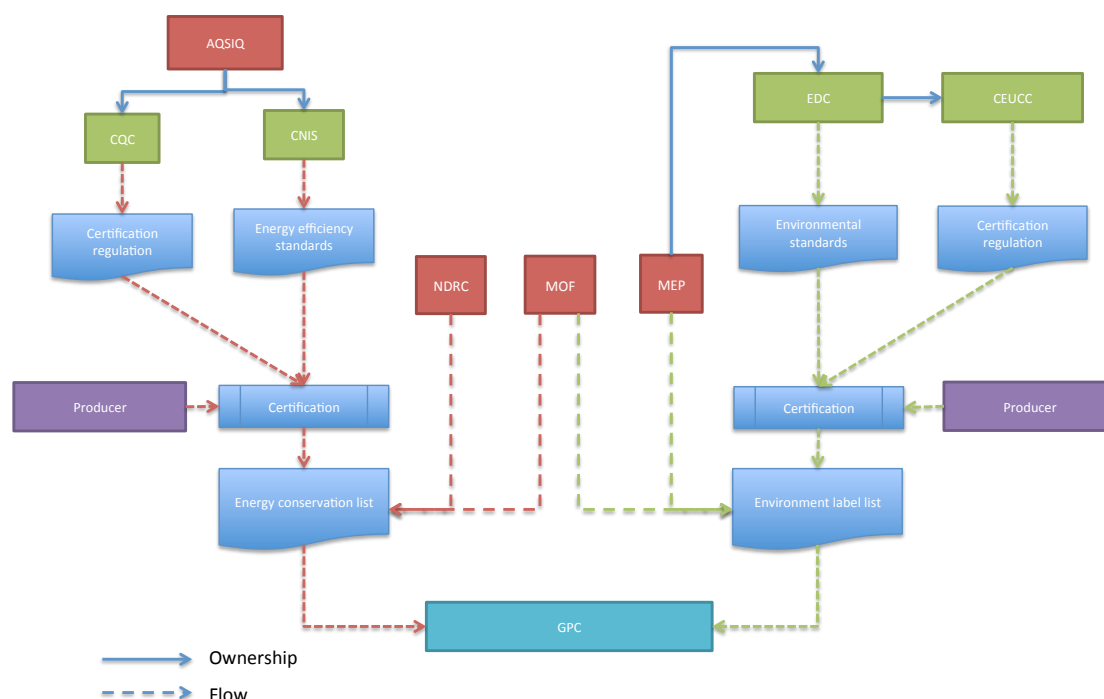


Figure 11 'Green' procurement schemes and procedure

Except for the certification schemes, both procurement schemes have similar policy statements, managing procedures, methodology and frequency for list updates, on-line managing systems, etc. Energy conservation procurement has bigger impact as some products are compulsorily purchased from the list.

The green procurement policy basis was set before 2008. Since then, product lists (energy conservation list plus environment label list) were published twice a year. At the time of writing, the energy conservation list has published its 16th edition⁸ and the environment label list has its 14th edition⁹.

2.2 Technical basis of China green procurement

The current green procurement framework is based on certification schemes: energy conservation product certification and environment labeling certification. There is no clear evidence to explain why certification schemes were adopted as technical basis of China's green procurement practices. It might indicate that China's green procurement took references from U.S., where the federal government agencies are requested to purchase products certified by Energy Star. The Energy Star scheme helped to launch and expand the certification of energy conservation products from 1998 onwards, when China's energy conservation product certification scheme was launched officially. The certification managing institute (China Standard Certification Centre: CSC) had signed a memorandum of understanding with US EPA regarding the harmonization of both energy conservation certification schemes in 2007. The first government procurement for energy conservation products was implemented in

⁸ History versions of Energy conservation product list, <http://www.ccgp.gov.cn/qyycp/jnhb/jnhbqd/jnqd/>

⁹ History versions of Environment product list, <http://www.ccgp.gov.cn/qyycp/jnhb/jnhbqd/hbqd/>

2004 and then adopted by MEP/CEUCC to promote the procurement of environment label products.

2.2.1 Energy conservation certification

Energy conservation certification was launched by CSC in 1998. Starting from several general products, this scheme now covers around 120 products¹⁰, including household appliances, office and IT equipment, industry equipment, commercial products and other energy related products such as water-using products and windows, etc. CSC launched the scheme and CQC took charge of the program management in 2008. CSC is fully owned by the China National Institute of Standardization (CNIS). Those three institutes are all connected to the general Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ). That is the reason why the energy certification scheme adopted two parallel criteria system shown on Figure 13.



Figure 12 China energy conservation certification logo

The certification criteria of energy conservation products are separated into two groups: products with national energy efficiency standards and products without national standards. The national standards covered products are widely deployed energy using products such as air conditioners, refrigerators, TVs, etc. The national energy efficiency standards set minimum energy efficiency standards for product market access and energy efficiency classification for energy. Tier 2 is the minimum energy efficiency requirement for energy conservation certification. If there exists a national energy efficiency standard for one product, the national standard will be adopted directly as certification criteria. If there is no national standard for one product, CQC develops voluntary technical specifications for the products. At the time of writing, there are more than 50 products with national energy efficiency standards¹¹, which cover most of the common energy using products. And there are around 70 products with CQC voluntary technical specifications¹². The energy

¹⁰ Energy conservation product category list,
http://www.cqc.com.cn/chinese/cprz/zyxcprz/A010302index_1.htm

¹¹ National energy efficiency standard list:
<http://www.energylabel.gov.cn/NewsDetail.aspx?Title=&CID=52&ID=1000>

¹² Product list of energy conservation certification scheme:
http://www.cqc.com.cn/chinese/cprz/zyxcprz/A010302index_1.htm

conservation certification program is voluntary. Manufacturers are free to choose whether to participate in the program or not. The ratio of certified product models is not public available now.

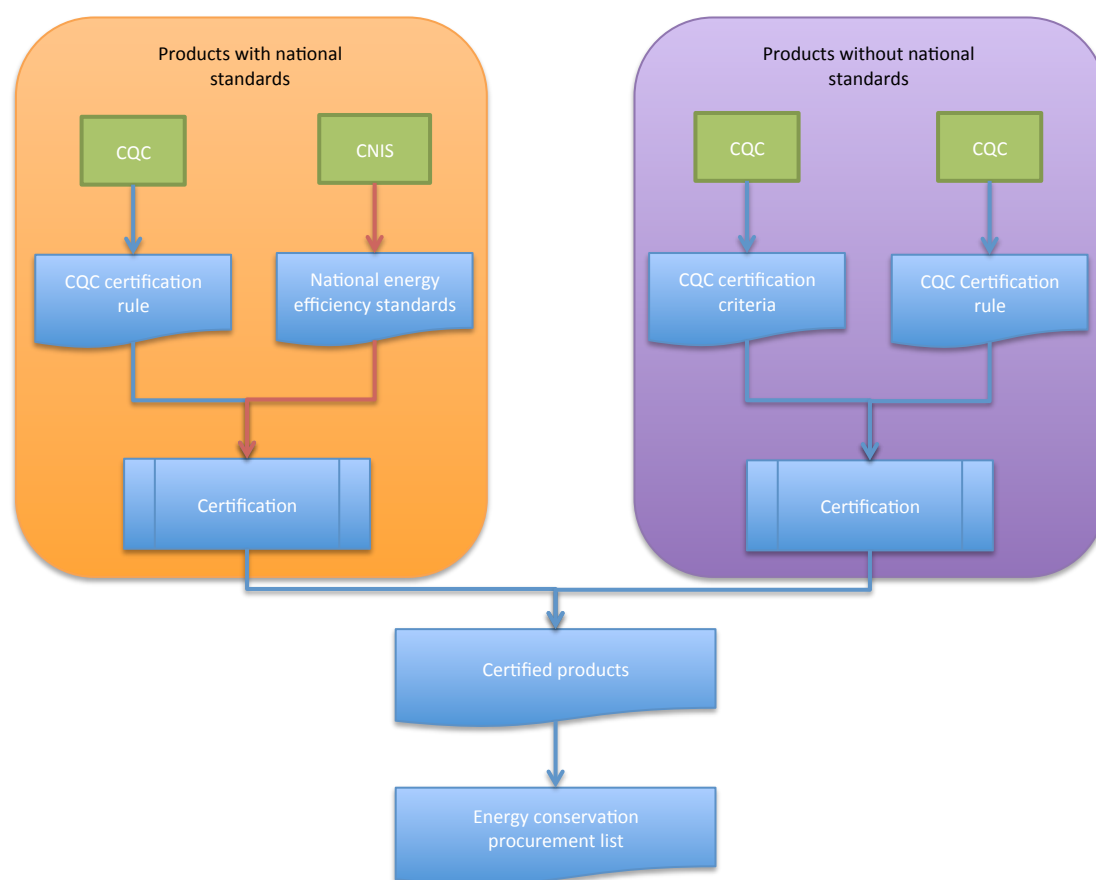
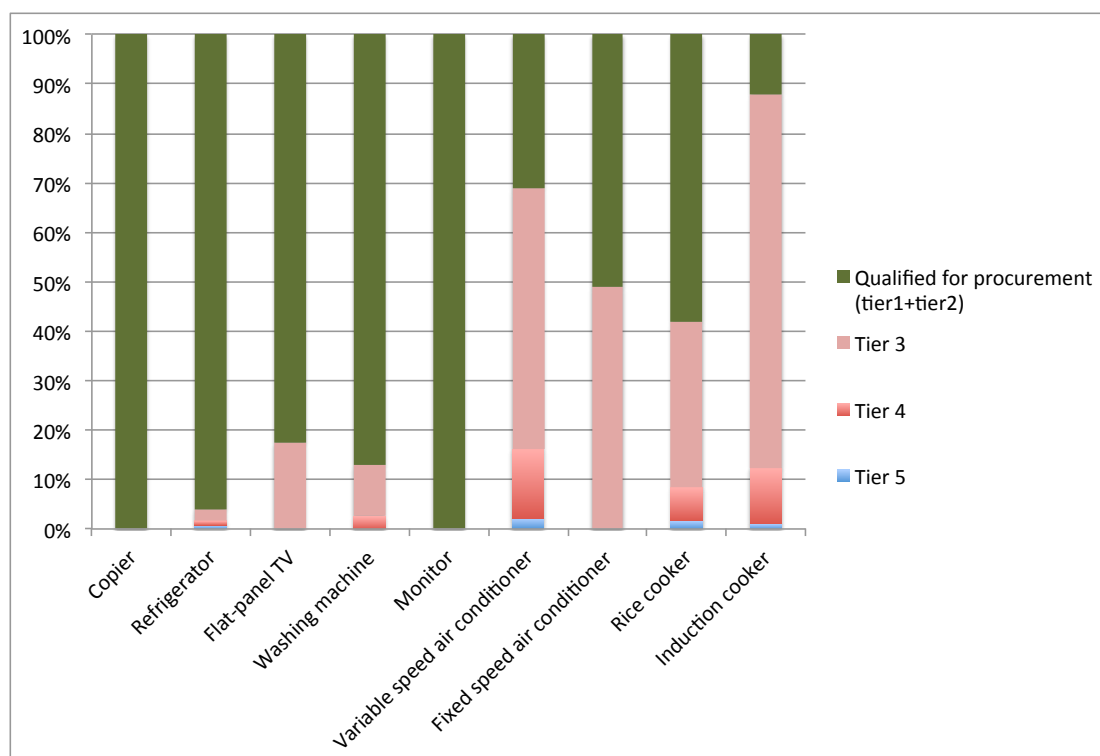


Figure 13 Energy conservation certification criteria structure

National standards provide credibility and convenience for the certification scheme, but they also set a series of barriers. Because the development and revision period of national standards are very long, which is normally 2~3 years, they have the risks of falling behind the market development when they are put into force. CQC has to follow the energy conservation certification criteria set by national standards, which might be far below the average of the market. According to a study conducted by Top10 and CLASP¹³, for copiers, refrigerators, panel TVs, washing machines and computer monitors, the total market share of energy conservation products (tier 2 and tier 1) is higher than 80%. That means almost all the products can get certificates and then be put into the procurement list.

¹³ Market Analysis for China Energy Efficient Products, Top10&CLASP, 2013, <http://www.top10.cn/uploads/Reports/MACEEP.pdf>



*Source: MACEEP report, Top10 & CLASP (2013)

Figure 14 Certification qualification rate of major appliances

CQC technical specifications cover the products that are not regulated by national standards. To promote energy saving and market development, CQC develops the technical specification for certification, which might be adopted by the national standards. As soon as the national energy efficiency standards are put into force, the technical specifications will be replaced by the national standards. CQC has to report the changes of certification criteria to Certification and Accreditation Administration of China (CNCA) for approval, which takes normally more than half a year. This means they cannot follow rapid market development.

CQC develops and manages the certification procedures. Key steps of the certification procedure include:

- Application of certification from producer and importer
- Product testing and inspection by third party testing labs
- Initial factory check by CQC
- Certification assessment and approval by CQC
- Post certification supervision by CQC
- Re-check of certificate expiry by CQC

The certificate applicants have to pay certification for products with national energy efficiency standards and for CQC voluntary technical specification. The certificate is valid for three years.

The certification bodies played an important role in the development of government procurement for energy conservation products. After the energy conservation certification scheme had been launched for 6 years, it was adopted as the technical basis of energy conservation procurement in 2004. The certificating business boomed when manufacturers and importers realized the importance of the government's

purchasing power. Then this policy was copied MEP which implemented the government procurement for environment label products in 2006.

2.2.2 Environment label certification

China Environmental United Certification Center (CEUCC) manages the certification scheme for environmental labeling of products.. It is supported by MEP and was started in 1994. It now covers 91 product categories. The environment label has different product categories compared with the energy conservation certification. Some cross-cutting appliances and office equipment such as air conditioner, fax, compact fluorescent lamps are covered by both certification schemes. The environment label certificate focuses on building materials and furniture, which might contain toxins and are harmful to people's health.



Figure 15 Environment label certification logo

The certification criteria system of China's environmental label is not as complicated as the system for the energy conservation label. All environmental certification standards are ministry standards developed and published by MEP and its affiliated institutions such as the Environmental Development Center (EDC). The environment label standards include energy efficiency requirements for energy using products; these requirements are the same than those of the energy conservation certification from national standards. EDC and CEUCC are both within MEP.

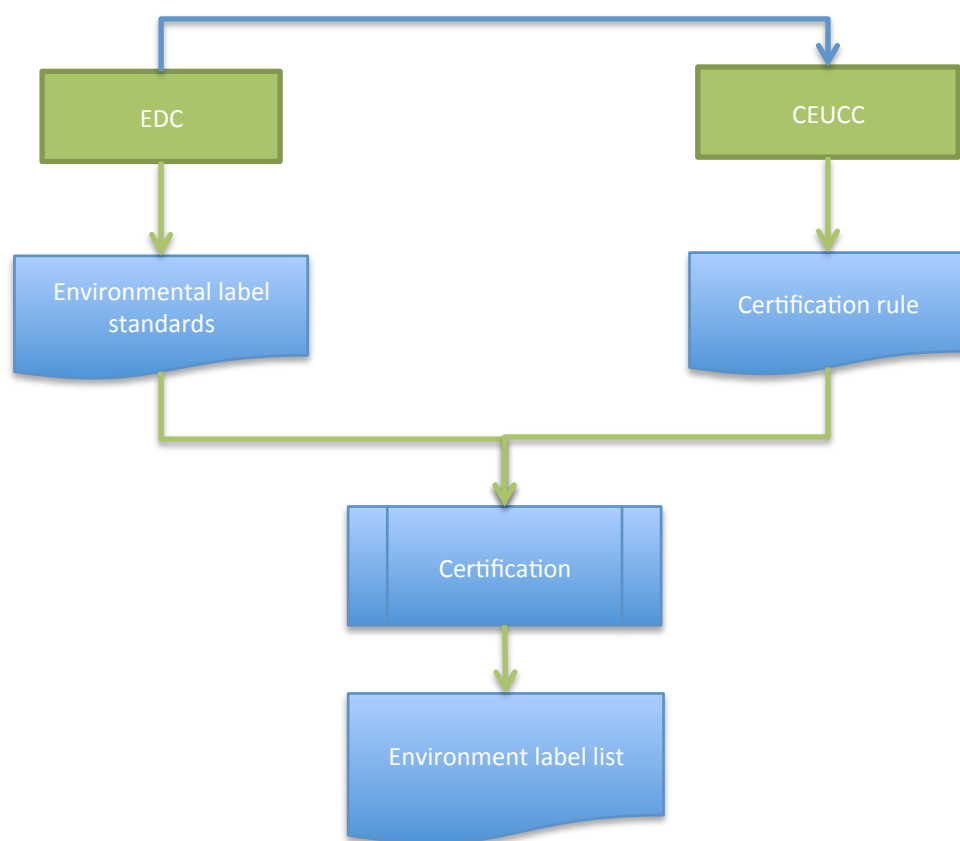


Figure 16 Environment label certification criteria structure

CEUCC develops and manages the certification program. The environment label has a similar certification procedure as the energy conservation certification. The key elements of the certification include:

- Application of certification from producers
- On-site check and product sampling by CEUCC
- Product testing by testing lab
- Certification assessment and approval by CEUCC
- Post certification supervision by CEUCC
- Re-check of certificate expiry by CEUCC

The certificate applicants have to pay certification fees. The environment labels is valid for 3 years.

2.3 Institutions involved in China's green procurement

Ministry of Finance (MOF) plays similar roles in green procurement as in normal government procurement. MOF cooperates with NDRC and MEP on both green procurement schemes. It is in charge of green procurement policy development, management and supervision.

In addition to MOF, two more ministries, which are NDRC and MEP, are deeply involved in green procurement issues.

National Development and Reform Commission (NDRC) is a powerful institution, likely even more powerful than other ministries, when it comes to government procurement. It examines and approves all kinds of large investment projects. It develops and implements all kinds of national policies. NDRC has taken the lead in

implementing the national policy of “energy conservation and emission reduction”, which is one of the most important policy bases for green procurement. NDRC initiated and implemented government procurement for energy conservation products from 2004 onwards. Together with MOF, it publishes the energy conservation procurement list twice a year. It pushed some products as compulsory items in energy conservation procurement in 2007. It instructs and guides the energy conservation scheme managed by CQC. It also initiates national mandatory energy efficiency standards for energy using products, which are developed by CNIS. Energy efficiency standards play a very important role in market transformation as it sets MEPS, efficiency classification, energy conservation criteria and energy conservation subsidy criteria. NDRC supervises the bidding activities of all government and state-owned enterprises investment projects.

Ministry of Environmental Protection (MEP) initiated and supports government procurement for environment label products. It helps to publish and implement the environment label certification standards, which are mostly voluntary.

Government Procurement Centers (GPCs) coordinate and implement the green procurement for energy conservation and products with environment label. Procurement centers adopt the latest product list in their daily operation as a reference. They will check whether the offered product models are listed in the compulsory categories. They will ask bidding evaluation experts to check product models and manage the transfer of general policy guidelines into practical operation, which states that listed product models should be given higher preference under the same price and performance.

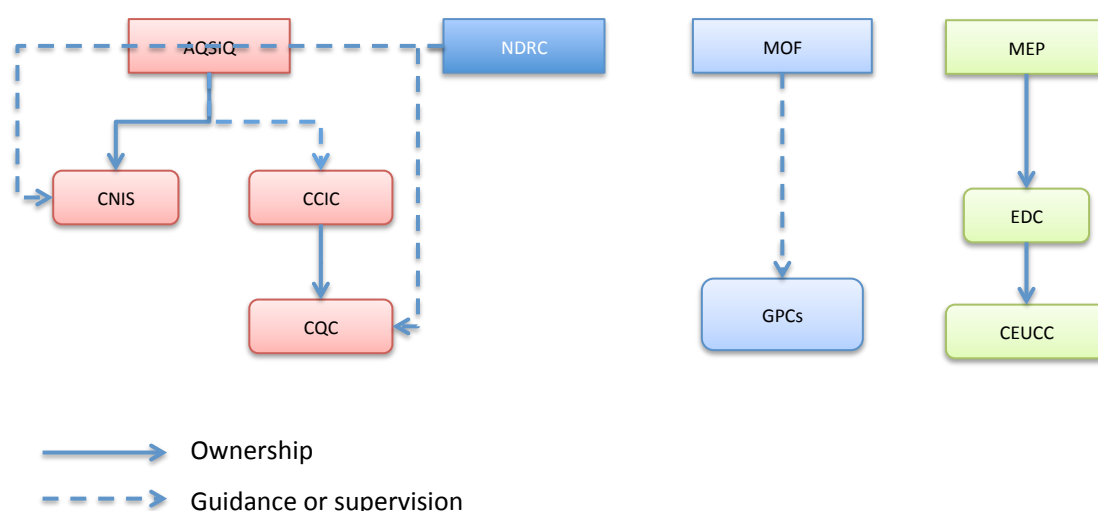
China Quality Certification Center (CQC) operates the energy conservation certification scheme. It took over the management of the energy conservation certification scheme from CSC in 2008. It produces the energy conservation procurement product list for NDRC and MOF. It is also responsible to propose new green procurement policies. CQC hosts the policy taskforce in charge of promoting China's green procurement. This taskforce consists of NDRC, MOF, CQC and relevant experts. CQC's core business covers all kinds of certifications including China compulsory certification (CCC), energy conservation certification, management system certification, carbon reduction certification, etc. CQC has a strong motivation in promoting energy conservation certification scheme via government procurement. After the announcement of government procurement for energy conservation products in 2004 and 2007, the number of certified energy conservation products was increased significantly. It could be said that government procurement for energy conservation products is the most important basis of the energy conservation certification scheme. Today, CQC faces the problem of too many certified energy conservation product models, which just have average energy performance on the market.

China Environmental United Certification Center (CEUCC) has the similar role with CQC. It is connected to MEP. It is smaller than CQC and has less policy impacts.

China National Institute of Standardization (CNIS) is responsible for developing national standards including energy efficiency standards. Energy efficiency standards are adopted as certification criteria. Before 2008, the energy certification scheme was managed by CSC, which is owned by CNIS. After 2008, it was transferred to CQC, which is affiliated to AQSIQ. Today, CNIS manages the China Energy Label program. It discloses product's energy efficiency classification and information. It is mandatory.

It uses the same energy efficiency standards than the energy conservation certification scheme. The Energy Label program was implemented in 2005 and covers today almost 30 products¹⁴. However, energy label is not the criteria of government procurement for energy conservation products.

Environmental Development Center (EDC) is a public institute affiliated to MEP. It develops certification standards and criteria for China's environment label certification.



*CCIC: China Certification and Inspection Group

Figure 17 Institutions involved in China's green procurement

2.4 Implementation of green procurement

CQC and CEUCC select qualified product models for green procurement lists from their certified product database. In principle, all certified products are qualified for the list, as long as their certificate validation date is longer than the validity period of the list, which is normally half a year.

MOF and NDRC or MOF and MEP make policy announcements about renewing green government procurement lists and then release the product lists prepared by CQC and CUECC.

The policy announcements and product lists are published on designated websites and sent to local government agencies and procurement centers.

All government procurement centers use the new version of the list to conduct green procurement.

The procurement center plays a central role in green procurement. It accepts the purchasing request from users and coordinates procurement activities. In bidding procedures, it selects the members of the bidding evaluation expert committee. It asks the experts to check the bidding offer and product list. Firstly, for all the compulsory products, all the offered product models have to be listed in the energy conservation product list, otherwise the offer will be disqualified. Secondly, for the preferential

¹⁴ Product list of China Energy Label

: <http://www.energylabel.gov.cn/NewsDetail.aspx?Title=&CID=83&ID=1001>

products, the offered models will be given higher preference in the evaluation. The “higher preference” means price deduction and bonus points in different bidding evaluation methods. In the lowest price evaluation method, price deduction means the preferred products’ evaluation price is cut by a certain rate from the offered price. The evaluation price of preferred product will be cheaper than its offered price. In the comprehensive evaluation method, all evaluation indicators are converted into evaluating scores. The higher of the scores, the higher chance of winning the bid. Bonus points means preferred products can get extra points in the evaluation scores. Methods on how to do price deduction and award bonus points vary around China, because the methods are decided by provincial or even municipal policies. There is no regulation to guide how to develop green procurement policy for the preferred products.

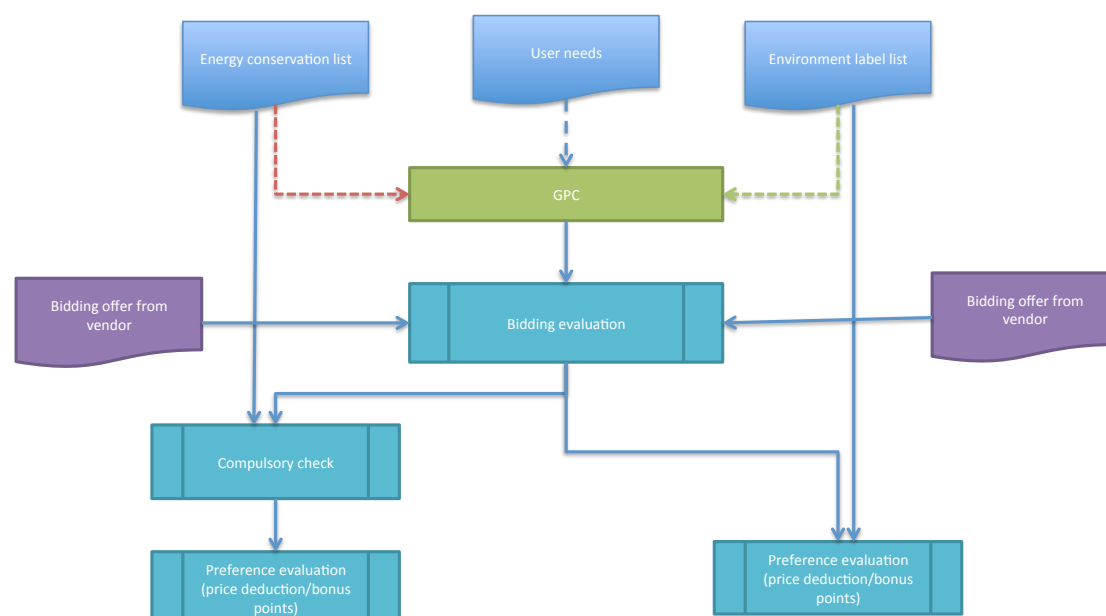


Figure 18 How green lists are applied to green procurement?

3 Implementation status of China's green procurement

Top10 and the China Government Procurement Magazine investigated the implementation status of green procurement at central and provincial level. China was separated into seven regions to conduct investigations about provincial level green procurement practices. The seven regions are: northeast, north, south, central, northwest, southwest and east of China. Officers from finance departments and procurement centers and procurement experts were contacted and interviewed about green procurement operation, policy, statistics, successful practices and lessons learned.

Under the current green procurement framework, energy conservation products procurement reached 16 billion EUR in 2012, which took 84.6% of all procurement of the energy conservation product category. Energy conservation procurement took 29.2% of all goods procurement in 2012. The statistical figures for procurement of products with environment label was not available at this point.

Central government procurement centers follow the two national lists to conduct green procurement. For compulsory products from the energy conservation list, only listed product models are qualified for procurement. The higher preferential products get price deductions and bonus points in the tendering evaluation. Special procurement specifications are set for green products. In 2013, the procurement amount of energy and water conservation products was more than 0.8 billion EUR by central government procurement center.

Northeast region:

Three provinces from the northeastern region were investigated, which are the provinces Liaoning, Jilin and Heilongjiang.

Table 3 Green procurement status of two provinces in northeast region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
Jilin	0.57	94.94
Heilongjiang	0.97	97.27

In 2012, the procurement amount of energy and water conservation products in northeast region was about 1.77 billion EUR. “Green procurement” has taken more than 90% share.

In Heilongjiang province, the preferential products took a share of 95% of energy conservation procurement; while the preferential products took the share of 94% in Jilin province. Microcomputers, air conditioners, printers, lighting equipment and copiers are popular compulsory products.

Some product models have received the energy and water certification but they are not included into national list due to time differences of different list versions. For those products, they are considered as the same as the listed product models in Heilongjiang province.

In Jilin province, all the purchased product models have to be listed on the compulsory procurement products. Preferential products get 3% price deduction in the

lowest price evaluation method and 3% bonus points of comprehensive scoring method.

In Liaoning province, the price deduction and bonus points rate ranges from 3% to 5% for preferential products. The specified rate for each procurement is decided by the users.

Shenyang (Liaoning province) municipal government procurement center defines the energy green procurement budget and transferred all preferential products to be compulsory products.

Northwest region:

Five provinces in China's northwest region were investigated, which are Xinjiang, Gansu, Shanxi, Qinghai and Ningxia.

Table 4 Green procurement status of northwest region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
Xinjiang	0.26	83.39
Shanxi	0.15	75.24
Gansu	0.05	60.69
Qinghai	0.01	71.39
Ningxia	n/a	n/a

Table 4 shows that the scale of green procurement in northwest region provinces is relatively small. The proportion of green procurement in northwest region is also below China's national average rate.

The officer from the government procurement division of the finance department of Gansu province stated the following reasons: the total government procurement scale in western China provinces is small due to lower economic development. Implementation of green procurement policies is not good due to low awareness about green procurement. However, the green procurement scale and proportion was slowly increasing in the last two years. Taking Xinjiang for example, the green procurement scale is 0.2 billion EUR and the proportion was 79.56% in 2011. The green procurement scale increased to 0.26 billion EUR and the proportion reached 83.39% in 2012.

Solar products take the top position in the procurement ranking system.

Table 5 Top green procurement products in northwest region in 2012

Province	Top3 total procurement products	Top3 green procurement products
Gansu	Solar water heating system, gas cooker, TV	Computer, solar water heating system, TV

Shanxi	Gas cooker, solar water heating system, fax machine	Gas cooker, solar water heating system, monitor
Qinghai	Solar water heating system, air conditioner	n/a

The northwest region has the richest solar energy resource in China, which is the main reason for the high-ranking position of solar water heating systems.

Based on the national policy, provincial governments issued a series of local regulations to conduct green procurement. Xinjiang issued detailed regulations in 2012. It emphasizes the procurement of compulsory and preferential products from the national list. The tendering documents have to clarify the specification of compulsory and preferential procurement, including vendor qualification, evaluation method, price deduction, bonus points, etc.

Gansu issued a regulation for energy conservation, environment label products and domestically innovated products in 2009. It regulates the price deduction and bonus points in tendering evaluations. In lowest price evaluations, the preferential products get 5-10% price deduction; in comprehensive scoring evaluations, the preferential products get 4-8% bonus points; and in performance-price evaluations, environment performance is added as extra bonus factor and preferential products receive 4-8% price deduction. In competitive negotiations and price enquiry procurement, energy conservation should be included in negotiations and price enquiry. Under the same performance and quality, the price of energy conservation products can be 5-10% higher than normal products.

In China, vendors have to pay a mount of fee (normally 50 to 100 EUR) to get the tendering documents. Gansu government asks the government procurement agencies to reduce the fee of tendering documents for manufacturers and vendors offering energy conservation products.

North China region:

Five provinces and municipalities directly under the Central Government were investigated in the north China region, which are Beijing, Tianjin, Hebei, Shanxi and Inner Mongolia.

In all the five provinces of north China, the tendering documents have to state the specifications for compulsory products and vendors. The preferential products receive price deduction and bonus points in evaluations.

Table 6 Green procurement status of north China region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
Beijing	n/a	n/a
Tianjin	0.04	86.5
Hebei	1.17	95.57

Shanxi	n/a	n/a
Neimenggu	n/a	71.79

Table 7 Top green procurement products in north China region in 2012

Province	Top3 green procurement products
Tianjin	Car, computer, air conditioner
Hebei	Computer, air conditioner, projector
Shanxi	IT products

Tianjin has made the step towards green procurement by including life cycle assessment on environment and energy impacts of products, which goes beyond policy requirements. Tianjin has published a performance assessment system for green and energy conservation products, which is a municipal initiative. The assessment system includes computer, appliances, office furniture and paper. It sets energy and environment assessment indicators and calculation methods for tendering evaluation. Tianjin GPC is developing green procurement regulation for further product categories. Methodologies for life cycle costing analysis have been developed in cooperation with Nankai University¹⁵

Hebei implemented a regulation to support preferential products (including green products) procurement in 2007. It proposed a method to highlight the preferred products including green products. This regulation has been out of implementation in 2012 and a new regulation is under development.

Inner Mongolia issued a regulation to promote the procurement of energy saving products in 2008. This regulation gives higher priorities to the procurement of green products.

Central China region:

Three provinces in central China were investigated, which are Hunan, Hubei and Henan.

Table 8 Green procurement status of central China region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
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¹⁵ Methodologies for LLC analysis and further information are available here: <http://public-procurement.emcc.cn/>

Hunan	n/a	92.38
Hubei	n/a	93.94
Henan	n/a	n/a

In supply agreements, the scope of Hunan compulsory products is wider than the national lists. The finance department of Hunan province develops standardized documents for tendering. And it suggests buyers to carry out vendor qualification checks of green products. The usage of these documents by users is voluntary.

South China region:

Three provinces in south China region were investigated, which are Guangdong, Guangxi and Fujian.

Green procurement scale reached 10.1 billion in 2012.

Table 9 Green procurement status of south China region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
Guangdong	0.93	79.57
Guangxi	0.21	70.81
Fujian	0.12	68.13

In 2004, Guangdong issued a regulation to conduct resource conservation work according to the national policy. It includes energy and water conservation products into the government procurement list. In 2007, Guangdong issued the implementation plan of energy conservation and emission reduction. It required the implementation of compulsory green procurement, including procurement for energy and water conservation products and environment label products.

However, there are no provincial specific green procurement implementation regulations in the south China region. It was stated by interviewees that vendors would complain about local protectionism if local energy and water saving procurement regulations were to be issued. That might be the main reason why no local green procurement regulations exist. For compulsory products, the implementation is almost the same for all provinces. For preferential products, the policy implementation varies between provinces due to lack of a unified operation regulation.

Guangxi developed standard procurement documents for energy and water conservation products. Products from national list can get one bonus point in the tendering evaluation.

In Fujian different methods and rates exist for comprehensive, lowest price and performance-price tendering evaluations. Taking comprehensive evaluation as an example, if the proportion of energy and water conservation products is below 20% of

all procurement, the green products can get 4% bonus points; if the proportion of energy and water conservation products is between 20% and 50% of all procurement, the green products can get 6% bonus points; if the proportion of energy and water conservation products is above 50% of all procurement, the green products can get 8% bonus points.

Under the same tendering evaluation, energy saving products, environment label products, SMEs, domestically innovated products can all be given preferences. If suppliers can offer more relevant certificates, they have a higher chance of winning the tender.

East China region:

Four provinces in east China region were investigated, which are Shandong, Anhui, Zhejiang and Jiangsu.

Table 10 Green procurement status of east China region in 2012

Province	Green procurement scale (billion EUR)	Proportion of all procurement (%)
Shandong	1.9	95
Anhui	0.61	92.8
Zhejiang	0.69	75.89
Jiangsu	1.35	83.61

All east China provinces have issued local regulations putting energy conservation procurement into local government procurement policies.

Shandong issued its provincial government procurement management regulation as recently as 2013. It states clearly that government procurement should be supportive to energy conservation, environmental protection, SMEs development, etc. Shanghai issued the regulations to manage and supervise government procurement agencies, which includes green procurement requirements.

Southwest China region:

Five provinces in southwest region were investigated, which are Yunnan, Guizhou, Sichuan, Chongqing and Tibet.

Table 11 Green procurement status of southwest China region in 2012

Province	Proportion of all procurement (%)
Yunnan	73.7
Chongqing	68.07
Sichuan	67.97

Guizhou	67.8
Tibet	97.97

Because of lower economic development, the proportion of green procurement of Yunnan, Chongqing, Sichuan and Guizhou is all below the national average rate, which is 84.6%. However, the proportion of Tibet ranks first in the country due to its small total procurement amount. Computers, air conditioners and printers are the top three products in the southwest region.

The major measurements of energy saving procurement are: highlighting energy conservation in the tendering documents; giving preferential policies in qualifications and evaluation for energy conservation product vendors; conducting price deduction and bonus points in the evaluation process.

4. Difficulties of current green procurement

Generally, **China's green procurement means the procurement of certified products by government related agencies**. The policy framework has been established and implemented across the country for a number of years. However, there are still numerous problems to be addressed in future.

4.1 Green procurement policy

- **The scope of current government procurement is quite limited**, which also sets a limitation to green government procurement. It only covers government agencies and affiliated institutes. As mentioned above, current government procurement only accounts for 2.7% of GDP, which means government procurement cannot play the expected leading role in market transformation and sustainable development. Bigger purchasing power related to public funds such as public invested projects and state owned enterprises is not included in the current government procurement framework.
- **The scope of green procurement is quite limited too**. The current green procurement is limited to only include certified products. The engineering projects and services, which are the other two pillars of government procurement, are excluded from the current green procurement framework. And there is almost no sustainable or green procurement implemented by private sector players, not even by state-owned enterprises.
- **The complicated government procurement hierarchy creates confusion about green procurement**. From central to local procurement, four to five different levels of procurement implementing agencies are involved. There are also numerous specialized departments and differentiated procurement agencies. It prolongs the implementation time from top to bottom and decreases the efficiency. The capacities of different agencies vary significantly in implementing green procurement. Of course, it is impossible for such a large country to make major changes in a short time, but there is room for rationalization.
- **The major green procurement policy improvement has been suspended from 2007 until now**. The first green procurement policy milestone was the implementation of preferential government procurement for energy conservation products in 2004. The next milestone was the implementation of compulsory government procurement for designated energy conservation products in 2007. Since then, the State Council and related ministries just renewed the national product lists twice a year in January and July. There were no major changes in green procurement policies since 2007. Even the compulsory product categories kept the same during the last seven years. In the latest 16th edition of energy and water saving products published in July 2014, the compulsory products include microcomputers, printers, monitors, air conditioners, electrical water heaters, ballasts, lamps (but no LED), TVs, urinals and water faucets, which are almost the same product categories that were published in 2007. The only major difference is that the number of listed product models of the new version is much higher than the older version. The first energy conservation product list had 1,526 product models and covered 86 producers; while the current 16th edition has more than 270,000 product models and covers around 900 producers. The latest

environment label product list has more than 90,000 product models and covers around 1,200 producers. That is quite big business for both certification bodies. A review of current policies is urgently needed.

- **The policy framework of green procurement is not complete.** Normally, the policy framework should be consisted of laws, enforcement regulations and guidance specifications. There is no green procurement law in China and there is no clear official definition of green procurement. Therefore, there is no unified green procurement in China. Two related green procurement practices are operated in parallel. The policy basis for energy conservation procurement is a two-page announcement from the State Council issued in 2007⁷. The policy basis of procurement of products with environment label is also a two-page announcement from MOF and MEP issued in 2006. Both announcements only provide the general principles of their procurement. Further and detailed regulations, specifications and documents on how to do the procurement have not been issued. It has created big challenges and confusion for procurement officers. Taking preferential products as example, both procurement notices state the procurement of preferential procurement, but how much price deduction and bonus rates should be given for those products? There are no criteria and specifications on this issue. Many interviewed officers stated that they do not know how to start a 'green' procurement in their daily work. Detailed operation measures are what they want. Standardized or common tender documentation and evaluation methods are also needed as they are one of the key for an effective green procurement. However, there are no implementation regulations and templates for tender documentation and evaluation.

4.2 Difficulties of certification schemes

- **The current green procurement practices are closely bound to China's certification schemes.** Certification schemes set solid technical basis for procurement. However, they also set limitations for further development.
 - Firstly, certification bodies are the most enthusiastic promoters and biggest beneficiaries of the current green procurement framework. They are responsible for developing national product lists and conduct certification business. Taking CSC for example, it initiated the first government procurement for energy conservation products and pushed it further to become compulsory procurement.;
 - secondly, the **certification criteria cannot keep pace with the rapid market development.** The revision and tightening of criteria is not flexible for certification bodies. That means a lot of normal or even lower energy and environment performance products are qualified to receive certification. And of course, they are eligible for inclusion in the green procurement product lists, which reduces the credibility of the lists. That is also the reason why the product list is so long. The 16th edition of energy conservation products is longer than 2,600 pages and contains more than 240,000 product models. Although the product list is very long, the number of product categories is limited. The interviews revealed that many procurement officers want to buy product categories that are not included by certification schemes. And there is no green technical guidance for the products outside of certification schemes.
- There are two major certification schemes for green procurement. It seems that **the integration and collaboration of those two schemes are not foreseen in**

near future. Producers and importers have to apply to both certificates if they want to take the advantage in winning government business. Actually, applying for the certificate is rather an essential issue than an advantage in competition. After each new product lists are released by MEP and NDRC, the producers and importers are asked to login in the management system to update new listed product models and remove others by themselves. Information will be randomly checked by the supervisors (normally CQC and CEUCC). It creates additional costs for producers, as producers have to manage two lists and systems.

- **Users and procurement officers have limited technical knowledge in differentiating the products in terms of energy efficiency and environmental protection.** In the best case, when there are still some performance differences on the market, certification schemes provide the advantage for them to tell at least the difference between products with good and normal performance. However, **they cannot differentiate the good and the best products among the certified products due to lack of knowledge and insufficient information.** All listed products are treated the same in the evaluation. The labeling schemes do not disclose the detailed performance information. They just tell the users which product is complying. However, the performance differences between the certified products are sometimes huge. Taking copiers for example, almost all the copiers on the market meet the certification criteria due to low standards. However, the top-performing products consume 80% less energy than the qualified products with lowest performance. And yet, both products are treated in the same way in the evaluation. They have the same qualification standards and given the same price deduction and bonus points. **No life cycle concept is implemented in the procurement process.**

4.3 Different common interests between central and local governments

- The central government has set three objectives for green procurement: first, unify and maintain the consistency and completeness of green procurement policies all around the country; second, set a good example of government energy conservation to the public; and, third, promote market transformation towards higher energy efficiency products.
- Local governments have somewhat different priorities and benefits compared to the central government in the following aspects: boost the competitiveness of local enterprises and ensure local economic development; and show the performance of local officers in energy saving and environment protection.
- **The coordination between central and local government is sophisticated.** Based on the national policies, local government would develop and implement local regulations to conduct operations. There are general policies of green procurement issued by the central government. **Some provincial governments develop local implementation regulations as mentioned above. However, in several provinces, the local implementation regulations are still absent** for two reasons: firstly, the awareness of green procurement is very low and green procurement is not listed as top priority. This phenomenon is normal in low developed provinces; secondly, the complaints of local protectionism from vendors make local governments hesitate to develop and implement local regulations as there is no specification on how to do procurement at local level. This phenomenon is prevalent in the developed provinces. **In the provinces implementing green procurement, the regulations vary in how to deal with the preferential products,** including transferring preferential status into

compulsory, giving price deductions and bonus points and giving exemption to green product producers and vendors. That means **the same products will be dealt with differently according to provinces and cities**. **Local protectionism is still a problem** for local regulations. The procurement officers are sometimes asked to give preference to local products. Local governments prefer to give the contract to local enterprises. In some cities, local green product producers and products lists are developed and distributed to local procurement agencies. Central policy makers are worried to give local governments too much flexibility in developing local green procurement policies, which might encourage local protectionism. That is one of the reasons why a long and specific product model list is published and updated, which applies to all level government agencies.

4.4 Difficulties in operation and implementation

- **The capacity and awareness of green procurement of the users, procurement officers and evaluation experts are still low.** Many of the interviewed officers and experts have little knowledge about national energy saving and environment protection policies, the importance of green procurement, the standards and criteria of product selection and the idea and methods of life cycle costing, etc. This puts limitation on green procurement implementation. Standard procedure is to check whether the products are listed or not and then treat the listed products all the same in the evaluation.
- **The “blank period” for new certified products is not reasonable.** Every product list sets a certificate deadline for the listed product models. The products which are certified after the deadline will not be listed and are not qualified for green procurement. They will be listed in the next edition. The list is revised twice a year. New technologies might not get timely benefit from green procurement practices. This is important for some electronic products that have rapid technology development.
- **The awareness and willingness of green procurement of users is still very low.** A lot of procurement officers state that users have the deciding role in procurement. Users feel concerned mostly with performance, needs and price rather than green product characteristics. Procurement agents can only communicate with users and convince them to buy green products. In some cases, users and vendors make different deals in contract execution. How to convince the users to buy green products is still a big problem.
- **There is no green budgeting.** The users interviewed stated that the finance departments allocate only limited budgets according to market prices. As the price of green products is generally higher than normal products in most cases, the users have to switch to normal products to meet the budget requirements. In this situation, green products do not receive high priority.

5 China green procurement improvement fields

Given the difficulties and problems mentioned in section 4, there is still improvement potential of China green procurement.

- The scope of green procurement has the potential to be expanded to all public expenditures, even the procurement of state owned enterprises.
- Not only the goods, but also the services and construction projects under government procurement should be covered by green procurement. The technical supporting institutes can develop the criteria and methodologies for green service and construction green procurement.
- Life cycle cost evaluation method for energy using products can be developed and applied in the green procurement to distinguish the performance differences among the certified products.
- Local government in developed regions can set higher green criteria than the national minimum requirements.
- The green procurement awareness of procurement officers needs to be raised and the capacity of procurement officers should also be built.
- The energy saving awareness of the users need be raised, which can stimulate the demands of green products and save the energy in the using phase.