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Green Public Procurement in China: Quantifying the benefits **Discussion Paper** 

April 2015

Written by Benjamin Denjean, Jason Dion, Lei Huo and Tilmann Liebert

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# 1.0 Background

In recent years, policy-makers in both industrialized countries and emerging economies have become increasingly interested in green public procurement (GPP), which is frequently also referred to as sustainable public procurement (SPP) (UNEP, 2013). In essence, and this is IISD's approach to GPP, these are policies and practices that allow harnessing the large volumes and values involved in public spending to pursue strategic objectives, including policy coherence with overarching government priorities. While both GPP and SPP have a strong environmental focus, they can also cover social and economic/financial considerations (see Box 1 for internationally accepted definitions).¹ A global review conducted by UNEP found that at least 56 countries across all five continents had adopted national SPP/GPP policies by the end of 2012, led by European Union member states. The review also showed that measuring GPP activities and their impact is important, as keeping track of them is a challenge (UNEP, 2013). Despite uncertainty on exact levels of GPP activities, the case for pursuing strategic procurement is clear: with public procurement spending frequently sitting at around 20 per cent and up to 30 per cent or more of gross domestic product (GDP), GPP can provide a powerful demand-side instrument for governments to influence markets and better satisfy their constituencies' needs, while also supporting economic, environmental and social development objectives.

#### BOX 1: INTERNATIONALLY ACCEPTED DEFINITIONS OF GPP/SPP VERSUS CHINESE TRANSLATIONS

United Nations Marrakech Task Force on Sustainable Public Procurement defines "sustainable procurement" as:

"A process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment." <sup>2</sup>

#### The European Union defines GPP as:

"A process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured" (European Commission, 2008).

It is important to highlight the clear differentiation in China between government procurement (政府采购, Zhengfucaigou) and public procurement (公共采购, gonggongcaigou). The former refers exclusively to central and local government organs, while the latter also encompasses other public bodies, agencies and state-owned enterprises (SOEs) and the like.

In the People's Republic of China, policy-makers have introduced GPP into procurement practice. Since 2006, when the country launched its approach to GPP, billions of Chinese yuan renminbi worth of certified environmentally friendly goods have entered the market (International Trade Centre, n.d.), many of them purchased by the public sector. Nonetheless, as this working paper argues, there is large potential for further upscaling both the volume and the stringency of green requirements in GPP. Using GPP, China can overcome the manifold challenges that are barriers on its path to eco-civilization. As the IISD-developed model presented in this report shows, increased GPP can improve sustainability in the environmental, social and economic/financial spheres. China needs to pursue ambitious policies to reap these benefits.

In this paper, sections two through five demonstrate the rationale for GPP in China, provide an overview of the country's public procurement systems and outline the current approach to and degree of GPP's implementation in China, including the legal framework. As these sections show, although China is actively applying GPP, the space for increasing its coherence and stringency is very large. Sections six and seven provide a preliminary evaluation of the effectiveness of current GPP practice and provide a discussion of the current policy and institutional reforms that benefit GPP. Section eight presents IISD's tool for quantifying and communicating the benefits of GPP in China, the China Green Public Procurement model, as well as preliminary outputs. The report closes with preliminary conclusions.

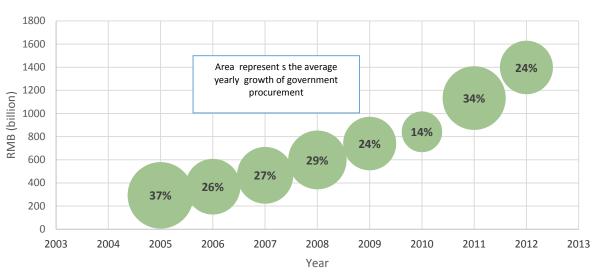
 $<sup>^{\</sup>rm 1}\,\mbox{This}$  report will use the term GPP, as it is more common in China.

<sup>&</sup>lt;sup>2</sup> This definition was originally quoted from Department for Enviornment, Food and Rural Affairs (2006, p. 10).



## 2.0 The Rationale for Green Public Procurement in China

The potential for leveraging public procurement to achieve economic, social and environmental development objectives in the People's Republic of China is obvious when one considers the sheer volume of procurement: governments on various levels spent more than RMB1.63 trillion (US\$263.73 billion) on procurement in 2013, which accounted for 11.7 per cent of national spending. That was around 2.8 per cent of China's GDP in 2013 (over RMB56.5 trillion) (Ministry of Finance of the People's Republic of China, 2014b). Figure 1 shows the evolution of government procurement spending from 2005 to 2012.



Total and average growth of government procurement

FIGURE 1: PUBLIC PROCUREMENT OF GOODS AND SERVICES IN CHINA (2005-2012)

Source: Public Procurement Working Group of the European Union Chamber of Commerce in China (2014)

Given these substantial sums, there is a strong case for government to use its substantial purchasing power to catalyze markets for more sustainable products. This, in turn, will incentivize businesses to invest in and innovate in clean and responsive products and services to meet the government's guaranteed long-term and high-volume demand. International experience shows that, if carefully and strategically implemented, sustainable goods and services are affordable and worthwhile in pursuing long-term benefits (UNEP, 2013). Besides the intrinsic potential of GPP policies, pursuing GPP is well aligned with China's development goals and plans. The second chapter of the national 12th Five-Year Plan (2011-2015) states that, "in transforming the economic development mode, the importance of building a resource-saving and environment-friendly society should be stressed to save energy, reduce greenhouse emissions and actively tackle global climate change" (State Council, 2011). In 2012 this statement was followed by a declaration at the 18th National People's Congress elevating "ecological civilization" at the highest level by integrating it into the "five-in-one" framework of Chinese policies (Zhou, 2013). These actions demonstrated the central government's commitment to promoting a sustainable, low-carbon economy in China, mandating government at all levels to contribute to achieving national development goals and promote eco-civilization. Procurement is a powerful tool that can help government achieve these outcomes. The power of the GPP toolbox does indeed not depend on the sheer volume of green goods gaining access to market.

Specifically, GPP can contribute in three ways to Chinese socioeconomic development in line with ecocivilization:

- Crowding-in domestic industry: GPP creates opportunities for private sectors to improve how they
  perceive where clean-tech products and services are needed in the market. When the domestic
  private sector sees that government is demanding green products, they will be encouraged to
  invest in and produce more energy-efficient, eco-friendly products.
- Driving green competitiveness: Increasing the demand for products with high sustainability performance will invite local producers to increase their competitiveness to meet the requirement. This will facilitate their ability to do so abroad and thereby find better access to international markets.
- Fostering sustainable consumption and production: Government's bulk-buying practice stimulates the economy. By integrating environmental and social aspects into large volumes of public spending, GPP can make sustainable consumption and production practical for the entire domestic economy

In addition to GPP's support for broad environmental objectives and industrial competitiveness, there is also a narrower value-for-money justification for GPP. If government agencies can realize value for money across asset life cycles, and not simply aim for the cheapest price at the point of purchase, fiscal savings and greater development impact through use can be realized over the long term. This is particularly so if outcomes that are not typically weighed in procurement decisions but come with externalities, such as air and water pollution, begin to enter into procurement decision making. Key to this, however, is having a clear understanding of the net benefit that different procurement choices offer when these traditionally poorly understood impacts are considered. IISD's China GPP model aims to address this challenge. The model is discussed in detail in Section 8.

As will be detailed in Section 4, the opportunity that GPP presents is already well understood by the Chinese government, and a lot of important initiatives on this front are already underway. The challenge will be to ensure that implementation of these and new GPP policies is comprehensive, efficient and effective. As we will present in Section 3, responsibilities are spread over various entities whose mandates even overlap, contributing to the complexity of the efficient management and rapid reform of the procurement system.



# 3.0 Understanding China's (Green) Public Procurement Landscape

This section aims to introduce the reader to China's public procurement landscape and, in particular, to its GPP aspects. It provides a top-level overview, before outlining main practices, key actors and the distribution of spending.

China's national policy framework for government procurement has a centralized and hierarchical top-down structure. National government, including the National Development and Reform Commission (NDRC), the Ministry of Finance (MOF), the Ministry of Commerce (MOFCOM) and the Ministry of Environmental Protection (MEP), formulate the policy framework and allocate budgets to sub-central government entities for carrying out government procurement. Government procurement centres are responsible for implementing government procurement plans.

The central government provides the framework for public procurement in China. However, the actual budget allocation for carrying out public procurement, specification, customization of regulations and procurement officer training is the domain of sub-central government bodies (Philipps, Espert & Eichhorst, 2011).

#### 3.1 Practices and Procedures

Public procurement in China is carried out through constant communication between the buyer, the administrator, the procurement agent and the vendor. Figure 2 details a typical tendering procedure and highlights the central role of procurement agents at both the development and the contract management stages. It is important to consider that procurement can only pass on to the procurement agent once the administrator (i.e., the financial department) approves the corresponding budgets. Since financial departments are directly affiliated with MOF, the ministry has operative influence and a central role in the public procurement landscape.

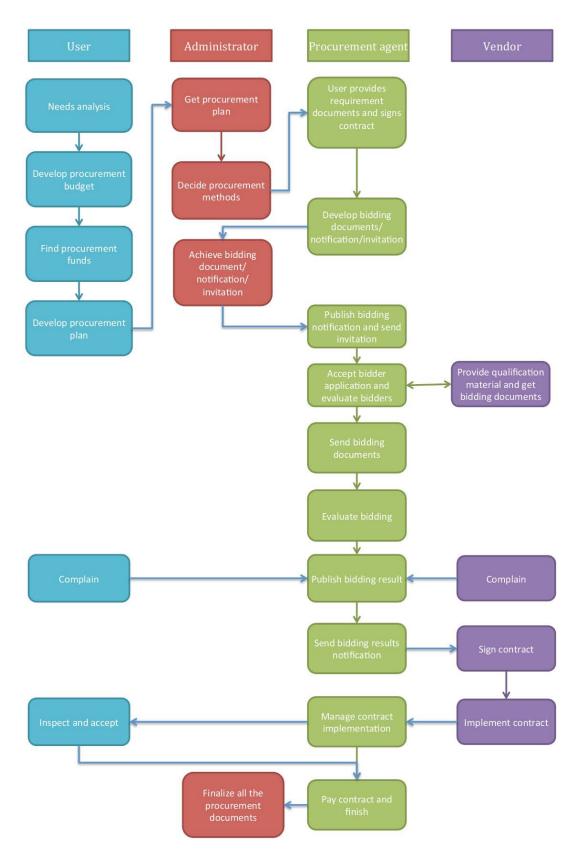


FIGURE 2: TYPICAL TENDERING PROCUREMENT PROCEDURES

Source: Hu & Yi, 2014

Procurement can be carried out through open tendering, invited tendering, competitive negotiation, single source procurement, inquiry and other procurement methods. As shown in Figure 3, open tendering is reported as the most widely used procurement technique in China (84 per cent of cases).

# **Tendering methods**

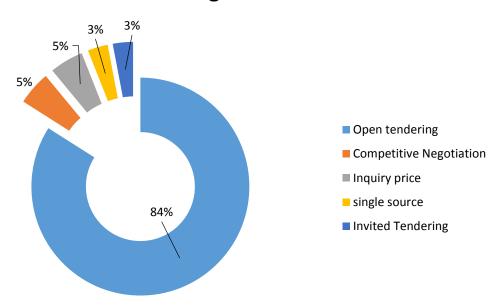


FIGURE 3: SHARE OF DIFFERENT TENDERING METHODS IN 2012

Source: Hu & Yii, 2014

However, while these are the official figures for China, some researchers are concerned about discrepancies in actual implementation (Gong & Zhou, 2014). While open tendering appears to be most frequently used, some believe that these statistics are inflated due to top-down pressure for this method's use. In the meantime, competitive bidding can limit the number of potential procurers and favour chosen candidates. In addition, procurement through inquiry and quotation—the least competitive method—could be as high as 79 per cent of procurement in some cities (Gong & Zhou, 2014).

Enforcement of procurement procedures is spread over all levels of government, as well as different ministries, as described in the proceeding section.

#### 3.2 Actors and Institutions

At the national level, **NDRC** and **MEP** are leading and governing GPP practice, with **MOFCOM** and **MOF** providing support in market coordination and financing. Thus, these agencies are also responsible for formulating legal directives, laws and guidelines for the strategic development of GPP in China. In addition, several other ministries issue qualifications and certification that can influence procurement decisions (European Union Chamber of Commerce in China, 2011, p. 11). The following sub-sections detail the roles of the main actors and institutions.

#### 3.2.1 National Development and Reform Commission

Since 2005 NDRC has been the leading body in an inter-ministerial coordination platform created by the State Council.<sup>3</sup> The Inter-Ministerial Coordination Mechanism for tendering proceedings is responsible for the following duties:

<sup>&</sup>lt;sup>3</sup> Besides NDRC as a coordinating body, the platform includes the following ministries: Ministry of Supervision, Ministry of Finance, Ministry of Construction, Ministry of Railway, Ministry of Communication, Ministry of Information Industry, Ministry of Water Resource, Ministry of Commerce, General Administration of Civil Aviation and the Legislative Office of the State Council

- a. Analyzing the status of tendering regulations and discussing possible solutions for regulating tendering activities involving multiple government organs
- b. Coordinating conflicts between different government departments regarding the supervision of tendering
- c. Exchange of information
- d. Coordinating the promulgation of tendering regulations by different departments
- e. Communicating the enforcement of tendering rules
- f. Joint surveying and research

Besides the activities covered by the Government Procurement Law (GPL), the NDRC also supervises the bidding activities of all government and state-owned enterprises (SOEs) that fall under the Bidding Law. It also manages and publishes the energy conservation products (ECP) list together with MOF.

#### 3.2.2 Ministry of Finance

MOF plays mostly supporting roles in many levels of the GPP process in China. It prepares the Centralized Purchasing (CP) Catalogue and jointly manages the ECL and the Environmental Labelling Products (ELP) lists with NDRC and MEP, respectively. MOF is also in charge of setting up the central procurement centres. Together with MOFCON, MOF also provides support in market coordination and financing for the GPP program.

There is clear intent from policy-makers to centralize the government procurement by defining a **CP Catalogue**, which is prepared by MOF and approved by the State Council at the central level and provincial government at local level. The supervisory authority (MOF) also supports a number of other government departments in setting up **their own central procurement centres**. As a result, much of the procurement business is allocated among the various procurement centres (Cao, Yan & Zhou, 2010).

MOF also works with the financial departments of local governments to handle supplier complaints. This contact with implementation friction points, combined with the central role of MOF in law making, makes it the only institution to have a complete vision of the overall public procurement procedures and chain of command.

It is important to consider that the apparent position of MOF in public procurement policy-making is reinforced by its role as China's negotiator for accession to the World Trade Organization's Agreement on Government Procurement trade agreement. Besides matters directly related to public procurement, MOF has also been a major player in Chinese sustainable consumption policy in the recent years, by regularly publishing notices and rules of implementation for specific products since 2010 (China Council for International Cooperation on Environment and Development, 2013).<sup>4</sup>

#### 3.2.3 Ministry of Environmental Protection

MEP initiated the procurement of China ELPs. It manages and publishes the EPL list together with MOF. Figure 4 shows the involved actors and institutions and their relationships at the central government level..

<sup>&</sup>lt;sup>4</sup> In 2012 alone, MOF published four rules promoting high-efficiency and energy-saving for (1) flat-panel televisions, (2) energy-saving refrigerators, (3) electric washing machines and (4) energy-saving water heaters.

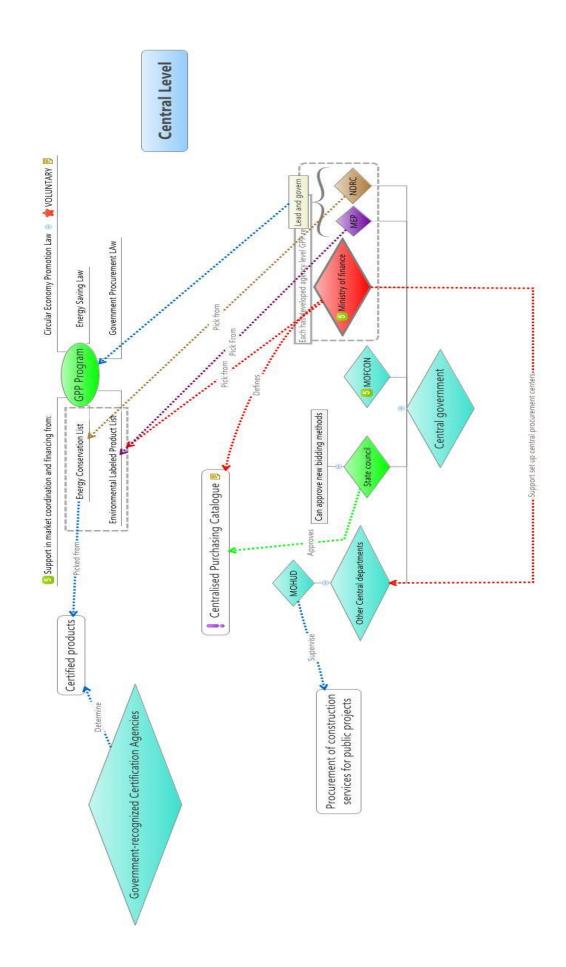


FIGURE 4: CENTRAL GOVERNMENT ACTORS AND DECISION HIERARCHIES IN CHINA'S PUBLIC PROCUREMENT

#### 3.2.4 Public Procurement Centres

Procurement in China can be carried out through two different methods. In decentralized procurement, the buyers do the procurement themselves, while in the centralized variant, the procurement role is delegated to public procurement centres (PPCs). Whether a specific operation falls into one or another category depends on the CP Catalogue.<sup>5</sup>

PPCs exist in all levels of government and are in charge of an overarching and growing part of global procurement. While in 2007 they handled 65.5 per cent of the total procurement—for a value of RMB305 billion—this number was as high as 88 per cent in 2012, at RMB 1,230 billion. Procurement under the central and local purchasing catalogues must be implemented by PPCs. In contrast, departments' centralized

# CENTRALIZATION AND REGIONAL DISPARITIES:

CP Catalogues are published by provincial governments. Since local governments also have the power to exempt single procurement contracts from centralized procurement, this transfer of power from the national level may undermine a unified national public procurement market. This is reinforced by the regional variability of Prescribed Procurement Thresholds, which also determines which transaction must goes through centralized procurement (Articles 7 and 8 of the GPL).

and decentralized purchasing only took up 19.5 per cent and 15 per cent, respectively, of total procurement. Thus, **PPCs play a highly significant role in China's government procurement** (Tian, 2010). Local PPCs take care of managing the actual procurement process for all administrative units. Such centralized public procurement comprises all purchases for public service units like municipal administrations, public institutes, universities, hospitals and SOEs (Philipps, Marsille, Schröder, & Haberland, 2011).

PPCs are subordinated to superior administration bureaus in charge of public procurement (usually called Public Procurement Bureaus in charge of strategizing and monitoring, or office administration of province/municipal government). Depending on the respective relationships, they can have remarkable freedom when it comes to developing procedures for internal management, as well as communication with users and suppliers. **PPCs function as procuring intermediaries** and therefore do not directly receive budgets for GPP from the local financial departments (Philipps, Espert & Eichhorst, 2011). While it is possible for PPCs to supervise service-based procurement, this depends on local government decisions to include it or not (and with corresponding categories) in the procurement catalogue.

While PPCs exists at various government levels, most procurement is realized at the county level (43 per cent), where the procurement procedure is usually carried out by municipal PPCs endorsed for this special purpose. PPCs fall under overlapping policies and a duplicated management system among parallel governing bodies, and the absence of a designated GPP agency can raise the concern of weak execution (Qiao & Wang, 2010).

At the end of 2012 China had established 2,345 PPCs for a total of 16,000 practitioners. This figure must be put in the perspective of the more than 3,000 professional tendering companies that employ more than 48,000 professionals. The important and attractive private employment opportunities for trained experts exacerbate the insufficient human resources in public institutions, leaving many procurement positions occupied by employees without formal and systematic training on GPP provided by the Chinese government (Ju, Zhang, Zhan, Ren & Yang, 2009).

Figure 5 provides a top-level overview of the system for GPP in China, including law, technologies and methods, management and environmental awareness, as well as the supply of green products.

<sup>&</sup>lt;sup>5</sup> Article 18, Provisional Measures on the Administration of Government Procurement, MOF, 1999 as well as article 2 of the GPL.

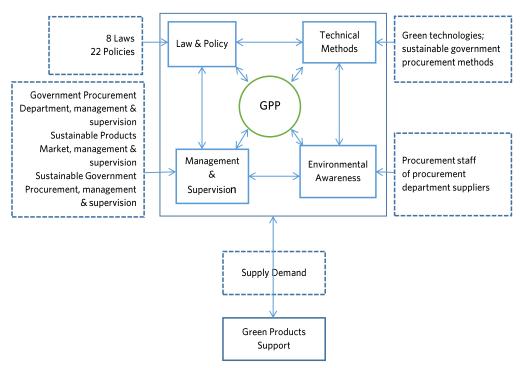


FIGURE 5. STRUCTURE OF THE GPP SYSTEM IN CHINA

Source: MOF, 2014b; China Green Purchasing Network, 2014

# 3.3 Breakdown of Public Procurement Between Different Levels of Government

As shown in the Figure 6, in 2012 about 75 per cent of the public procurement in China was carried out at either the municipal or county level (Hu & Yi, 2014). Such a breakdown makes it crucial for China to have an efficient capacity-building mechanism so procurers can follow the fast-changing landscape and regulation of public procurement. In the meantime, both the coverage of public procurement and the institutions in charge depend on local decisions. A clear picture of the national volume of procurement is thus highly dependent on the knowledge of such an arrangement. An exchange platform (China Government Procurement Association [中国政府采购协会]) is being prepared by the MOF to increase communication and transparency between procurers, which is expected to provide reliable bottom-up reporting flow and nationwide data. But for now, local procurers have few examples or best practices used in innovative administrative units and are not benefitting from international expertise.

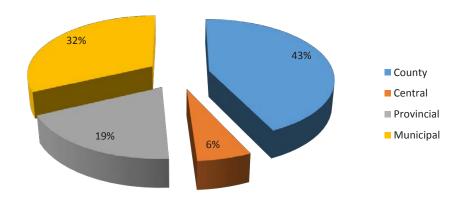


FIGURE 6: PROCUREMENT SHARE PER GOVERNMENTAL LEVEL IN 2012

Source: Hu & Yi, 2014

After laying out the main pieces of the public procurement landscape in China, the next section analyzes how GPP is presently practiced in China.



## 4.0 Current GPP Practice in China

GPP is receiving increased attention in China and is increasingly supported by public policies on various levels. However, so far no single GPP overarching policy has been enacted. Broadly speaking, the implementation of GPP in China relies on product certification. Two separate schemes are in place in the form of independent product lists: one for ECPs and one for ELPs. The two lists function similarly in terms of their use in procurement, mainly differing in certification procedures and agencies as well as ministries in charge. The two product lists cover different product categories, but in some cases have overlapping products such as air conditioners or fluorescent lamps. As a result of the reliance on product certification in GPP, the level of impact of Chinese GPP policy depends on both the stringency of certification and the update frequency.

Governmental agencies at all levels, institutions and organizations that use public funds for procurement should give priority to products on the two public procurement lists. Currently, procurement from the ECP list is mandatory, while procurement from the ELP list is voluntary. Departments that disobey the regulation indicating mandatory procurement from the ECL list may be punished according to the relevant laws and regulations. Sanctions may include retaining the procurement fund or forcing the reorganization of the tendering process in the relevant PPCs. The lists specify exactly which products should be preferentially purchased by providing detailed information such as the name of the producer, registered trademarks, the product name and model, the number and expiration as well as the validity date of the certification.

Both lists must also keep being compliant with national energy conservation or environmental standards set by governmental agencies. Their revision periods are typically in the range of two to three years. However, it does not appear that products are regularly delisted, so procurers are faced with cumbersome lists that may not always point out the alternatives that are the most eco- and cost efficient. The governance and use of these lists is described in greater detail in the following subsection.

#### 4.1 Certification and Standards

#### 4.1.1 Environment Labeling Product (ELP) List

In October 2006 the State Environment Protection Administration (succeeded by the Ministry of Environmental Protection) and the Ministry of Finance jointly published the *Recommendations on the Implementation of Environment Labeling Products (ELPs) in Government Procurement* and the ELPs list. The launch was a milestone for GPP in China. As of today, standards are developed and published by MEP and the Environmental Development Center (EDC), which is affiliated with the MEP. The 2006 document indicated that, having considered the progress of public purchasing reform, the technology and the market maturity of ELPs, the two departments thought that ELPs with national certification in the form of "environment labelling product public purchasing lists" should have priority in purchasing. Thus, it is voluntary for procuring entities to procure products on the ELP list. This non-mandatory approach arguably leads to lower effectiveness compared to a policy that foresaw a legal obligation to purchase from the list, as is the case with the ECP list described in the next sub-section.

The ELP list is drawn from products that meet China Environmental Labelling (CEL) standards, which are managed by the China Environmental United Certification Center (CEC). The labelling program was initiated in 1993 as a response to the 1992 Rio Conference on Environment and Development. As of December 2014 it covered cover 91 product categories. Table 1 gives an overview of the ELP list.

#### **TABLE 1: ELP LIST**

Products list	Bi-annually updated Last updated version is the 14th as of December 2014
Available at	www.ccgp.gov.cn/qyycp/jnhb/jnhbqd/hbqd/
Criteria/Standard	China Environmental Labelling
Certification Authority	China Environmental United Certification Center, EDC
Relevant Ministries	MOF, MEP

#### 4.1.2 Energy Conservation Products (ECP) List

The current system of government procurement of ECPs was formally implemented in December 2004, after six years of being voluntary, when MOF and NDRC jointly published the *Circular on Opinion on Implementing Government Procurement of ECPs* (MOF & NDRC, 2004), which indicated that energy-saving products should have priority in procurement bidding by government agencies.

The later *Circular on Establishing System of Compulsory Government Procurement of ECPs* (State Council of the People's Republic of China (State Council, 2007) further requires authorities to formulate the ECP list by a scientific process and lays down the conditions for inclusion. It indicates that energy-saving products must be certified by the central government's authorized certification agencies and must have a verifiable energy-saving effect.

**TABLE 2: THE ECP LIST** 

Products list	Bi-annually updated Last updated version is the 16th as of December 2014
Available at	www.ccgp.gov.cn/qyycp/jnhb/jnhbqd/jnqd/
Criteria/Standard	Energy conservation and water conservation
Certification Authority	CQC
Relevant Ministries	MOF, NDRC, AQSIQ

The ECP list is divided into products with and without energy-efficiency standards. When national energy standards exist for a specific product category (to define rights for market entry), they are used as certification criteria, with Tier 2 being the minimum requirement for Energy Conservation Certification. These two lists are supervised by two institutions; the Chinese Quality Certification Center (CQC), which acts to establish certification rules, and the China National Institute of Standardization (CNIS), which acts to establish national energy standards. This interaction is carried out under the umbrella of the General Administration of Quality Supervision, Inspection and Quarantine of China (AQSIQ). While the certification itself is voluntary, in the scope of public procurement, for some categories, procurement from the ECP list is compulsory.

#### **BOX 2: THE ECP AND ELP PRODUCT LISTS**

The ECP list and ELP list have been functioning as the key policy instruments in China's GPP system and are criticized for following reasons.

- Even though the lists expand, the **limited coverage** cannot push the GPP process, compared with the huge scale of public procurement.
- Currently, the two lists specify **only concrete manufacturers**, which has brought about exclusion, a non-transparent selection process and legitimacy problems. However, in order to widen the scope, the government may move beyond predefined product lists and specify only obligatory environmental characteristics or benchmarks instead (Philipps, Espert & Eichhorst, 2011).
- Almost all award decisions are based on purchase cost, as opposed to **life-cycle assessments** of costs, which does not take into account the advantages of more energy-efficient products (Cao, Yan & Zhou, 2010).
- Multiple players in the field are affiliated with different administrative bodies using various benchmarks and certification standards that are not uniform, notably CQC, China Standard Certification Center (CSC) under CNIS, and CEC under MEP (Guo, Duan & Zhang, 2008).
- The Chinese central government has applied **administrative means**, **but not economic means** (i.e., subsidies), to green product industries (Qiao & Wang, 2010).

As summarized in Figure 7, the two lists rely on distinctive mandates and independent control mechanisms. The only organism with responsibilities in both is MOF; all others have limited visions of the other half of the GPP drivers, and thus they cannot benefit from an overarching view of the process. The dichotomy of mandates hinders GPP reform in China.

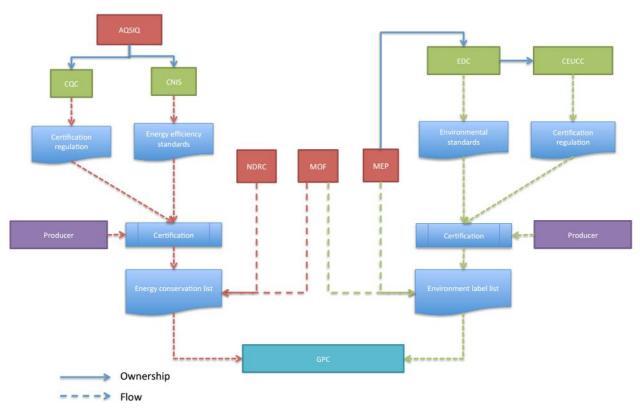


FIGURE 7: GPP LISTS AND CONTROLLING INSTITUTIONS.

Source: Hu & Yi, 2014

However, responsibilities are split on more than just the policy level. Section 5 describes how, from its early development, the legal foundation of Chinese public procurement and GPP have coexisted with varying degrees of conflict under two separate legal frameworks.



# 5.0 The Legal Framework

GPP in China is based on the series of laws shown in Table 3. GPP development in China started with the Clean Production Law of 2002 and the Government Procurement Law of 2003, which states that government cannot procure a product whose production environment does not meet the environment standard and cannot procure products that do not meet the environment protection standards. The State Council has drafted a set of implementing regulations under the laws listed in Table 3. However, none of these has been enacted, creating a regulatory gap preventing the implementation of the laws. For instance, the Implementing Regulation on the Bidding Law and the Implementing Regulation on the GPL, drafted by NDRC and MOF, respectively, which were published for opinion on September 29, 2009 and on January 11, 2010, respectively.

**TABLE 3: CHINA'S LAWS RELEVANT TO GPP** 

YEAR	LEGISLATION/REGULATION	RELEVANCE
1999	Bidding/Tendering Law	Procurement regulation by SOEs and for stand-alone infrastructure projects. Only related to tender procedures.
2002	Government Procurement Law (GPL)	Central piece of legislation when it comes to the field of government procurement, initiated by the National Procurement Centre (NPC). Introduced the definition of "government procurement." For construction works, goods and services listed in certain catalogues or above certain threshold.
2002	Promotion of Clean Production Law	Government required to give preferential consideration in its procurement for those energy-conservation, water-conservation and waste-utilization products
2004	Ministerial Regulation for Implementation of Government Procurement for Energy Conservation Products	Issued by MOF and NDRC giving higher preference to ECPs (certified by CSC) in government procurement.
2006	Ministerial Regulation of Government Procurement for Environmental Labelled Products	Issued by MOF and MEP giving higher preference to ELPs (labelled by CEUCC) in government procurement.
2007	Revision of the Law on Energy Conversation	Public entities are required to give preferential treatment in their procurement to products and equipment that are on the government procurement list of ECPs and equipment.
2007	Regulation on Compulsory Government Procurement for Energy Conservation Products by the State Council	Established compulsory government procurement for energy conservation products. Products concerned: air conditioners, fluorescent lamps, televisions, electric heaters, computers, printers, monitors, urinals and water faucets.
2008	Promotion of Circular Economy Law	Government procurement policy that is advantageous to the development of a recycled economy; products that are energy/water/material saving, environmentally friendly products and renewable products are granted preferential procurement status.
2011	Implementing Regulations for the Tendering and Bidding Law	Grants greater oversight to MOF regarding budgetary control and overall policy in the government and procurement of construction.

To this it must be added that public procurement is still ruled by two different but overlapping main regulations: the Bidding Law and the GPL, whose simplified scope and coverage are summarized in Figure 8 below.

<u>Government Procurement Law:</u> Public healthcare, Government buildings, IT for government departments, Government office equipment, government car fleet, Non-urgent relief work and Geological surveys



<u>Bidding law:</u> Energy, transportation, Construction, Telecommunications and post, Municipal facilities, Commercial housing and Social Welfare projects (Estimated at 9,26 trillion yuan in 2011 by the European Chamber of Commerce)

#### FIGURE 8: COVERAGE OF CHINA'S OVERALL PUBLIC PROCUREMENT MARKET BY THE GPL AND BIDDING LAW

Source: Public Procurement Working Group of the European Union Chamber of Commerce in China, 2014

Originally, the Bidding Law was intended to cover all tenders, whether they concerned public or private entities, for services, products or construction. GPL's Article 4 was meant to limit the Bidding Law by eliminating government procurement of goods and services from its scope. Nevertheless, in 2014, the vast majority of public procurement expenses was still carried out under the Bidding Law. Areas of conflict between regulations still exist. According to the EU-Asia Inter University Network for Teaching and Research in Public Procurement Regulation, the "fight for administrative territory under the name of the law" continues to rage in public procurement in China (Wang & Zhang, 2010).

Another consideration in how the structure of Chinese laws affect GPP is that government procurement law is considered budget law. Because its purpose is using financial funds economically, it belongs to a different area of economic law than the competition law (Fang, 2012). While this might limit the initial consideration of the multiple potentials of both public procurement and GPP, it **makes the practitioners** and decision-makers more receptive to considering benefits that are articulated in monetary terms.

Public procurement legislation still lacks coherence and unified supervision. As the main laws assign responsibilities, this transmits to the spread liabilities and requirements ruling GPP. As such, while present policies and regulations could yield high penetration of GPP, it is hindered by too many cases in which the law remains unclear. As such, knowing the framework in which GPP is executed, Section 6 looks at the quantitative outcomes resulting from the application of such laws and stakeholders interactions.



# 6.0 Effectiveness and Other Challenges of Current GPP Practice

In 2013 various levels of government spent more than RMB1.63 trillion (US\$263.73 billion) on procurement (Ministry of Finance of the People's Republic of China, 2014b), and the potential for using these funds to accomplish environmental, economic and social objectives and foster eco-civilization is clear. Analyzing GPP on two governance levels as well as through transversal considerations, this section evaluates the Chinese experience as a mix of successes and drawbacks.

#### 6.1 The National Level

In 2013, 29 per cent of all public procurement was theoretically under GPP regulation (China Green Purchasing Network, 2014). Of that, 80 per cent was actually dedicated to expenditures on energy efficiency and ELPs (China Green Purchasing Network, 2014), representing the actual "green" intake in procurement (see Figure 9 below).

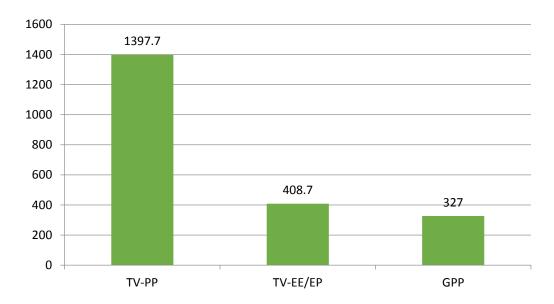


FIGURE 9: RESPECTIVE PUBLIC PROCUREMENT AND GPP AT THE NATIONAL LEVEL IN CHINA IN 2013, IN BILLION RMB

Source: MOF, 2014b; China Green Purchasing Network, 2014

These statistics show an impressive intake of GPP "labelled" products within the scope of GPP application. It also highlights the limited scope of GPP application under the labelling scheme and limited potential for disseminating GPP without further reform. Moreover, it hides both the inequities of application that appear at the provincial or municipal levels, as it does not provide inputs on the actual environmental value of GPP "labelled" products.

As such, any attempt to improve the overall environmental and economic impacts of procurement in China should not focus on level of procurement, but on the qualitative improvement of selection criteria, as well as accelerating the scope of GPP itself. The IISD model assesses the impact of a qualitative improvement of GPP, as presented in Section 8. As the revision periods of national standards typically lag compared to product improvement, it may greatly hinder certification capacity to follow market innovation. A study by Top 10 and CLASP showed that, for a definite subset of products, the Tier 1 and Tier 2 products (eligible for energy conservation certification) already represented more than 80 per

cent of total market share, thereby public procurement was no longer a driver for market innovation (Hu, Zhang, & Li, 2013). As a result, regardless of GPP penetration in the purchase of products, the present contribution to environmental and innovation agendas stays minimal because the GPP push is lagging behind industry.

One approach that allows procurement to keep up with market innovation, while fostering further ecoefficiency increases, is using performance-based specifications in procurement. Under this approach products are procured based on how well they satisfy public needs that have been identified beforehand. Tenderers are then largely open to respond with the most appropriate technological and process solutions they have. Procuring entities, on the other hand, can optimize value for money while incentivizing innovative solutions by suppliers. While performance-based specifications are no panacea and require a robust framework and expertise by parties involved to function effectively, they do represent an approach that holds large potential to increase GPP performance.

#### 6.2 The Provincial Level

At the provincial level, if we look at the 2012 expenditure in energy and water conservation products as an indicator of GPP practice, the average proportion of GPP was 81 per cent. That figure goes up to 87 per cent when we consider the actual proportion, since richer provinces tend to be more effective in their application of green procurement (Hu & Yi, 2014).<sup>7</sup>

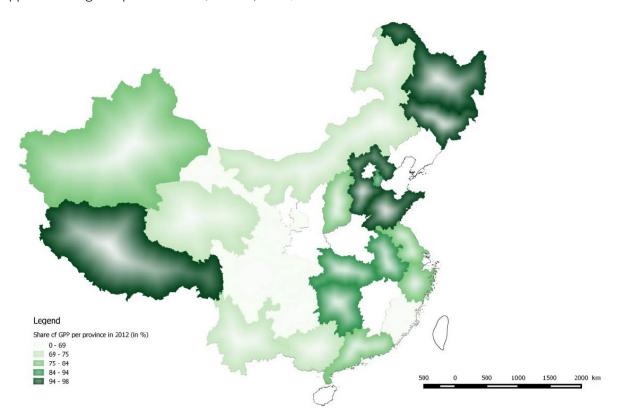


FIGURE 10: SHARE OF GPP PER PROVINCE IN 2012

Source: Hu & Yi, 2014

<sup>&</sup>lt;sup>6</sup> See, for example, IISD's *Performance-Based Specifications: Exploring When They Work and Why*, retrieved from https://www.iisd.org/publications/performance-based-specifications-exploring-when-they-work-and-why

<sup>&</sup>lt;sup>7</sup> Based on data from a joint study by Top10 and the China Government Procurement Magazine, Research on Government Procurement Policy Implementation on Energy-Saving Products, Focus in Local Levels of Finance Bureaus and Procurement Centres (2013). This study is an internal document that has not been published publicly. Data was only partially available or missing for the some provinces (see Figure 10).

But such impressive results must be tempered by the scope of provincial public procurement, which in 2012 represented only 19 per cent of overall procurement (see Figure 6). This division of expenses makes the exercise of identifying GPP performance particularly challenging, as no available centralized data exists for the two main governmental actors, namely the counties (43 per cent) and the municipalities (32 per cent) (see Figure 6).

Those figures show that, with the available knowledge and according to the national criteria for GPP statistics, Chinese institutional and legal systems prove very efficient at promoting green products, with more than half of the provinces achieving GPP penetration of over 70 per cent, as shown in Figure 10. The remaining issue is the actual criteria of product selection, as such success is indirect proof that all products are already available in the market, and so the actual incentive might be lower than expected.

#### **BOX 2: KEY IMPLEMENTATION PROJECTS**

The will of public authorities to develop GPP, as well as their capacity to mobilize adequate resources, can be illustrated through the following four examples, taken from the recent but rich history of GPP development:

- Implementation of GPP programs is only in the initial stage. On top of existing national-level initiatives, in October 2012, MOFCOM launched the **Three Green** project, encompassing green procurement and green markets for the purpose of fostering green consumption through establishment of a low-carbon supply chain all along the food industry sector (MOFCOM, 2012).
- Green procurement regulations and practices are implemented in **bigger cities**, such as Guangzhou, Guiying, Shenzhen, Tianjin, Shenyang, Beijing and Shenzhen. Qingdao was the first city to issue a green procurement list and the first city to actually operate GPP in China (Zheng & Zheng, 2007).
- Among the many implementation activities were the **Green Olympics** in 2008, a program that supported green procurement in acquiring construction materials, in designing the Olympic facilities and in providing services.
- In order to promote Chinese sustainable consumption and green procurement, the Environmental Development Center (EDC) of MEP established the **Chinese Green Purchasing Network** (CGPN). The China Association of Environmental Protection Industry developed the **Guideline of Green Procurement** to help green product producers join the national procurement lists and to help other companies procure green products.

Currently, these projects remain either in the pilot stage or are exchange platforms that do not necessarily represent the present needs for improvement. Those can be seen differently depending on how China unveils its GPP policies.

# 6.3 Beyond Goods: The Potential of Works and Services

An important point to consider when discussing the effectiveness of GPP in China is the importance of services and construction projects in procurement. Figure 11 shows that the full potential of Chinese public expenditure cannot be efficiently unlocked without including services and construction projects that occupy not only an important share of total expenditure (respectively 8.7 per cent and 59.9 per cent), but also a growing proportion of public procurement, with 3.7 per cent and 4.8 per cent annual growth respectively over the 10 years prior to 2012. This is what leads to the continuously decreasing share of goods in public procurement: an annual average decrease of 5.9 per cent over the same period (Hu & Yi, 2014). This shows that, while the impact of improving the procurement of goods will increase both from list enlargement and Chinese global GDP growth, goods are no longer necessarily the best focal point to reform procurement to achieve value for money.

As such, and considering the Chinese legal framework, GPP's full potential in this area cannot be unlocked without legislative reform. While this is not necessarily reflected into the present legal framework, the MOF already highlighted the priority of "pushing forward the government's purchase of services" in its *Government Work Priorities* document released February 25, 2014 (Ministry of Finance of the People's Republic of China, 2014a).

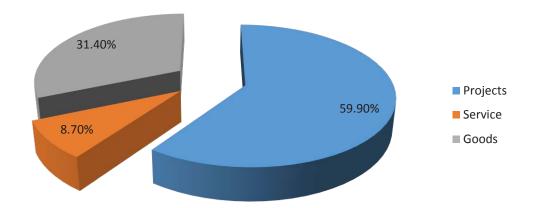


FIGURE 11: PROCUREMENT SHARE PER CATEGORY IN 2012

While it is beyond the scope of this paper to present best practices, the wider use of public-private partnerships (PPPs) in infrastructure procurement could potentially be a major driver for public investment into environmentally sound projects. In a context of limited reforms, PPPs offer an opportunity as they follow different procedures and guidelines than outlined in the standard Chinese procurement laws.

# 6.4 Informal Challenges

Legal framework and historical analysis can be used to identify most efficiently how to maximize GPP multiplier benefits in China, especially the consideration that substantive progress cannot be achieved without accounting for informal rules. As presented by Gong and Zhou (2014), procurement efficiency in China is hindered by the corruption of procurement officials by potential bidders in various ways. This corruption has direct consequences for GPP as it may favour the procurement of less sustainable products that would otherwise be encouraged through the regulations in force.

One of the most widely used methods to sidestep procurement rules is to exclude some goods and services normally listed in the CP Catalogue from budgets (National Audit Office, 2010). Without a dedicated budget, the bidding process does not start and the buyer can chose a supplier and exercise discretion over procurement spending. A similar effect is achieved by dividing big projects into smaller and cheaper ones—a formally illegal practice—thereby not reaching the threshold set by the purchasing catalogue and excluding the smaller items from a budget proposal.

When we consider these tactics, we can also conclude why the official figures of public procurement in China are smaller than in comparable countries. It can be assumed that actual figures are substantially higher. Another way to avoid the formal bidding process is through claiming that a project involves confidential information, as well as purposely delaying the initiation of procurement until it can be considered an emergency (Gong & Zhou, 2014).



# 7.0 Current Reforms Supporting GPP

As presented in this document, the legal landscape of public procurement has remained unchanged since 2011, with the Implementing Regulations for the Tender and Bidding Law. After this period of relative latency, and to tackle the issue of yet ill-defined administrative and ministerial responsibilities, the concept of "four into one platform" reform emerged in 2011 (Mitterhoff, 2012). It aims to regroup tendering and bidding, government procurement, public land-use auctions and public asset exchanges under the Public Resources Exchange Centre, a tailor-made single management structure. While this reform has not yet been implemented, late 2014 witnessed a rebirth of interest for public procurement and the official will to push for reform on various fronts.

Again, the opportunity that GPP presents is already well understood in China, and GPP is gaining increasing traction on the policy and institutional levels in the country. Notably, in October 2014, MOF made an announcement at EcoProcura China 2014—the first Chinese edition of a well-established series of international symposia on green procurement—that it is in the final stages of establishing the China Government Procurement Association. This platform is intended to meet the increasing needs for exchange of Chinese stakeholders in procurement as well as GPP in particular. On the top policy level, in December 2014 Premier Li Keqiang invited the State Council to discuss the reform of public procurement, which led to the approval of the China Government Procurement Regulation (Draft), the legal foundation of GPP, on December 31, 2014 (State Council of the People's Republic of China, 2015), which demonstrated the government's resolve to consolidate a legitimate, open and standardized system for government procurement. While the report outcomes contain only relatively small changes compared to the previous draft, it focuses on four main points for reform, all relevant to increasing GPP activities:

- Law development with a focus on small and medium-sized enterprises and support for lessdeveloped provinces. It also mentions the continuing efforts to give preference to energy-efficient and environmentally friendly products.
- 2. Improved control and management of procurement "from source to results": this line of work includes developing clear standards for bids and tracking national records of all transactions.
- 3. Develop public access to information: This is in line with the recent reform of Environmental Protection Law and became a trans-sectorial national priority (National People's Congress of the People's Republic of China, 2014). It will focus on improved transparency and publication of procurement contracts, bid winners and notices of contract completion in the media.
- 4. Strengthening the control of civil society: These regrouped priorities are related to law enforcement, such as the mainstreaming of punishment for bad practices, continuing the national fight against corruption. Precise procurement bad practices that must be reduced are also specifically targeted, such as "overexpensive procurement" (天价采购), "ill-oriented procurement" (黑心采购) and "false procurement" (虚假采购).

In a continuing effort to unify Chinese public procurement, in early 2013 MOF published the General Plan for Construction for National Government Procurement Management and Trading Platform (Government Public Purchasing Net, 2013). It includes a three-step plan to create a unified government procurement management and trading system by the end of 2015. As a follow-up, in June 2014 the NDRC opened a public consultation on the Establishment of Unified Public Resources Trading Platform.

<sup>&</sup>lt;sup>8</sup> The term 黑心采购 should be understood as a situation where the maximization of a single actor's profit is sought at the expenses of other stakeholders benefits.

In December 2014, MOF also ordered the China Quality Certification Center (CQC) to do a nationwide study on a subset of 10 representative products. The study aims to assess carbon emissions and target climate change. While the details are not public, a part of CQC's mandate is to provide companies with a better understanding of GPP requirements. Those two last developments highlight once again the central and growing role of MOF in the Chinese public procurement landscape and policy-making processes.

The above-described developments in policies and institutions are to be welcomed for their direct and indirect support of GPP. However, being evolutionary in nature, rather than providing step change, they are not enough to unleash the full degree of multiplier benefits that more ambitious GPP could provide. This would require considerably raising the share of GPP of total procurement in parallel to substantially increasing the stringency in GPP performance required. The next section presents the IISD-developed model that shows the environmental, social and economic benefits to be realized through more ambitious GPP.

<sup>&</sup>lt;sup>9</sup> The studied product categories are: computers, televisions, projectors, electric water heaters, air conditioners, lightning, furniture, printers and multifunction printers (Article in Chinese available at: http://www.cgpnews.cn/articles/24603)

# QUANTIFYING AND COMMUNICATING THE BENEFITS OF GPP



# 8.0 Quantifying and Communicating the Benefits of GPP: IISD's China Green Public Procurement Model

In order to gain an understanding of the quantitative impacts of scaling up GPP in China, IISD used a system dynamics model (discussed in detail below). The objective of the modelling exercise in this project is to estimate the net economic, social and environmental impacts of GPP in China, both in their own terms and in monetary terms, in order to create a clear picture of the value proposition that GPP represents, so that government and civil society will be better able to understand the different trade-offs that are being made in procurement choices. By quantitatively considering those tradeoffs, policy-makers and financial departments can then optimize the investment spread over public procurement categories for a better value for money.

### 8.1 The Modelling Approach

The general approach applied in the China GPP model is system dynamics (SD) modelling. SD is a flexible modelling approach that maps out a set of variables, their relationships and the types of influence they have on each other. The strength of an SD modelling approach is that it helps capture the way that highly complex systems can evolve over time, unlike in a computable general equilibrium model (CGE), where they would be hidden in a set of rigidly defined equations. Importantly, it also allows the modeller to include environmental variables that are not always easily captured by a CGE model. Another important distinction is that SD modelling allows for stocks and flows, where variables accumulate inputs over time—an important feature when trying to assess environmental impacts. It also allows for feedback loops, where one variable's impact on another can itself affect the original variable, an important feature of complex systems.

# 8.2 Scope of the Model

The model focuses on procurement in a set of product categories that were selected for their importance in terms of their share of overall procurement and the potential for economic, social and environmental benefit from increased GPP. They include the following:

- Laptops, computers and monitors
- Air conditioners
- Lighting
- Buses
- Cars
- Cement
- Paper

Broadly speaking, the model's scope can be broken down in terms of what types of variables it includes in the economic, social and environmental spheres. The economic sphere focuses on impacts on capital expenditure, current expenditure (annual maintenance, fuel and electricity, etc.), and attributable investment; the social sphere will largely focus on employment and health impacts; and the environmental sphere will consider greenhouse gas emissions and ecosystem service provision. While a broader set of impacts is associated with GPP, such as market transformation, human capital development and biodiversity protection, these may be more difficult to quantify and/or monetize, and will therefore be included only to the extent that reliable data is available.

The scope of the model is most clearly articulated through a causal loop diagram, which maps out the variables and relationships within the model (Figure 12).<sup>10</sup> The following points aid in its interpretation:

- Blue arrows represent positive relationships, where an increase (or decrease) in one variable leads to an increase (or decrease) in the other.
- Red arrows represent negative relationships, where an increase (or decrease) in one variable leads to a
  decrease (or increase) in the other.
- Orange-coloured variables represent GPP decisions, that is to say, where government can decide the mix of products it would like to buy when procuring in a product category.
- Boxed variables represent stocks, which can accumulate inputs (or withdrawals) over modelling periods.
- Blue variables represent economic, social and environmental output variables.

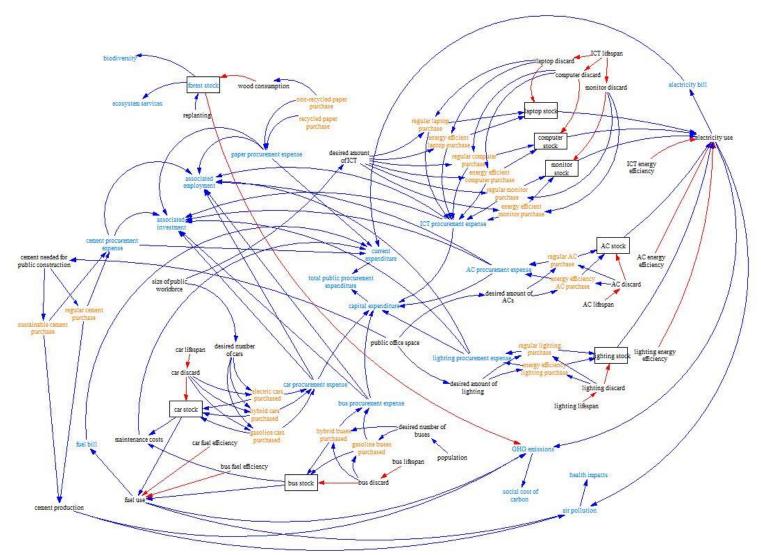


FIGURE 12: CHINA GPP MODEL: CAUSAL LOOP DIAGRAM (CLD)<sup>11</sup>

<sup>&</sup>lt;sup>10</sup> It should be noted that the causal loop diagram is a simplified summary view of the China GPP model. Individual variables seen in the causal loop diagram may in fact represent a number of variables in the actual SD model. For example, air pollution in fact encompasses emissions of particulate matter, SO<sub>2</sub> and NOx. And, for simplicity, some variables are not represented at all in this view, such as product prices.

<sup>&</sup>lt;sup>11</sup> The model itself is created in a piece of SD modelling software where the system represented in the CLD is more rigorously defined and its inner relationships modelled.

# 8.3 Example Outputs

Example outputs from the bus and air conditioner modules are provided below in order to give a sense of what sort of output views the model can create. Causal loop diagrams are also included for both products to provide a visual representation of how the relationships between variables in the model have been specified. At this stage, the results are only indicative of the types of results that will emerge from the modelling work, as work to define both the baseline and the scenarios is still ongoing. BAU represents a business-as-usual scenario, and GE represents a green economy scenario, in which GPP is practiced across all government procurement in 2015.

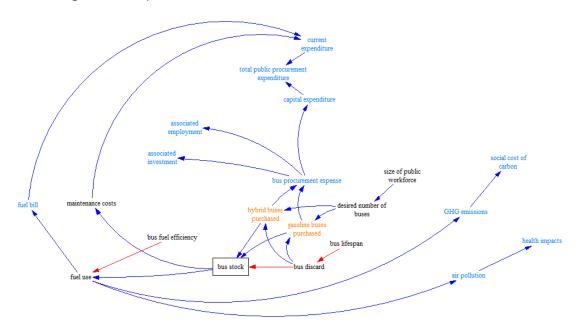


FIGURE 13: CAUSAL LOOP DIAGRAM FOR BUS MODULE

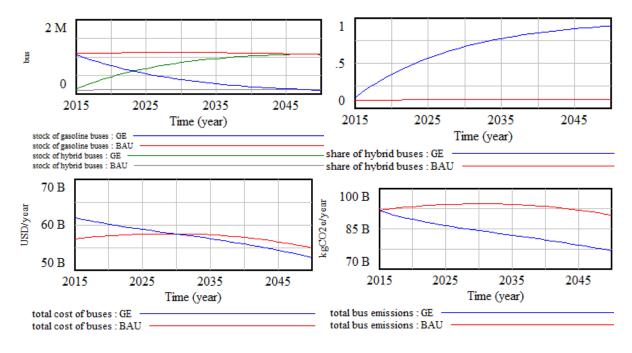


FIGURE 14: BUS MODULE: EXAMPLE OUTPUTS

#### **Air Conditioners**

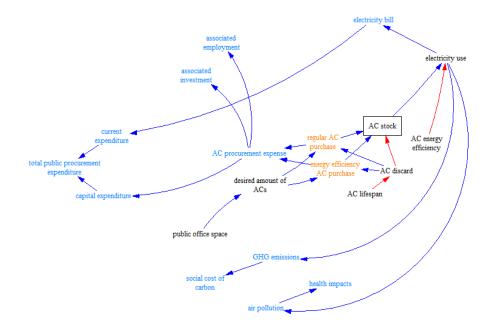


FIGURE 15: CAUSAL LOOP DIAGRAM FOR AIR CONDITIONER MODULE

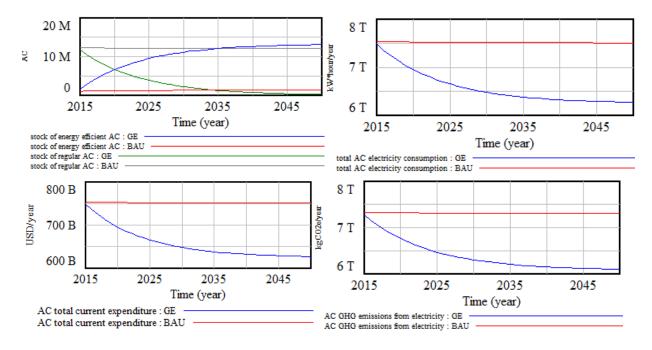


FIGURE 16: AIR CONDITIONER MODULE: EXAMPLE OUTPUTS

# THE WAY FORWARD: PRELIMINARY CONCLUSIONS



# 9.0 The Way Forward: Preliminary Conclusions

China is at the crossroads of an industrial transformation that has the potential to reconcile economic development with the protection that natural capital depends on. GPP provides an instrument to successfully pursue the path towards ecological civilization through encouraging the private sector to invest in more energy-efficient, eco-friendly products, driving green competitiveness and fostering sustainable consumption and production. Public authorities are already well aware of the need to optimize value for money of their spending and investment. While challenges lie ahead, IISD's China GPP model demonstrates the rewards that more ambitious GPP can provide. Chinese policy-makers are already pursuing GPP practice in order to incentivize businesses to invest and innovate in clean and responsive products and services to meet the government's guaranteed long-term and high-volume demand. However, there is much room to increase GPP shares and stringency of requirements.

One approach to improving value for money in procurement would be through a step change beyond the current "lists approach" to GPP in China towards performance-based specifications, whereby the products are procured based on how well they satisfy public needs. As a consequence, instead of specifying green products and suppliers, the lists would gradually be substituted by a more complete catalogue of green performance criteria with minimum performance requirements being built into tenders.

An intermediate step that would give a substantial boost to GPP would be to make purchasing from the ELP list mandatory, as is already the case for the ECP list. At present, procurement of products from the ELP list is voluntary, which significantly weakens the incentive to implement GPP. A simultaneous tightening of stringency in products' environmental performance should be required on the ELP list. This move would further strengthen GPP and, therefore, its multiplier benefits.

Independently of what approach is chosen regarding the evolution of the list approach, in order to better decide what criteria to put in place and what priority to assign, the right tools need to support procurement policy-making and estimate its impacts. Unfortunately, up until now, most GPP studies have been qualitative with a descriptive focus (Ho et al., 2010; Preuss & Walker, 2011), and a few quantitative survey-based studies (Nissinen et al., 2009; Walker & Brammer, 2009) are primarily based on developed country practices. Therefore, the complex synergies and benefits between different lines of GPP spending are as yet poorly understood and even less monetized. For this reason, and to show data-based links between economic, social and environmental impacts, IISD's China GPP model addresses the challenge of quantitatively demonstrating the multiple benefits of increased GPP in China.

More broadly, a lack of legal reform is among the obstacles on the path to more ambitious GPP, despite the encouraging developments outlined in Section 7. While they have experienced great expansion, neither public procurement nor GPP in China has benefited from legal reform or evolution in the last five years. Therefore, the legal framework is not yet mature. As recent individual-level research has shown (Zhu, Geng, & Sarkis, 2013), ambiguity in regulations and personal training are major concerns in GPP development. Also noteworthy is the fact that, while the Bidding Law was the first piece of regulation to introduce public procurement and was focused on tendering procedures applied to infrastructure, conflicts still remain between the Bidding Law and the GPL. Attempts to harmonize the two have failed to integrate the Bidding Law into real government legislation and into the GPL. This legal uncertainty is a major obstacle that prevents making full use of the purchasing power of SOEs, which, while subjected to tendering procedures, are excluded from the GPL.

In addition to the broad legal challenges, procurement policy reform should also address structural challenges to the successful implementation of GPP. Currently, local procurers have few examples or best practices used in innovative administrative units and are not benefitting from international expertise.

Procurement training is currently inconsistent across jurisdictions and should include establishing these learning networks. In addition, procurement policy should cover the wider inclusion of services and projects into GPP (due to their huge potential to green procurement) and provide flexibility and stringency to procurement selection criteria.

Indeed, reforms abound recently in the procurement domain, with attendant positive implications for GPP. Positive steps include establishing the China Government Procurement Association; approval of the China Government Procurement Regulation (Draft), the legal foundation of GPP in December 2014; MOF's 2013 General Plan for Construction for National Government Procurement Management and Trading Platform; and the China Quality Certification Center's nationwide study on the footprint of a subset of 10 representative products. However, the tools to assess alternative policy scenarios and cross-sectorial interactions still lie untapped. IISD's GPP model can accelerate the transition to a low-energy, low-carbon-intensity economy without increasing the burden of public debt (Bloomberg Business, 2013).

As such, we advocate for a top-down approach of priority definition based on increased bottom-up feedback of local needs and constraints, as is already being carried out by MOF. Deeper transformation would also be required to make best use of public spending, by concomitantly moving towards performance-based procurement as well as unifying the rules of financing for projects and large-scale infrastructure.

IISD is eager to discuss the findings and preliminary conclusions laid out in this working paper, including its GPP modelling work, with experts in order to realize the full potential of GPP on the path to ecocivilization. Public procurement is simply too large an opportunity to go unharnessed.

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