



Pilot Testing Report

MEASUREMENT METHODOLOGY FOR GREEN
PURCHASING NETWORKS

THE SECRETARIAT OF INTERNATIONAL GREEN PURCHASING NETWORK
CHINA ENVIRONMENTAL UNITED CERTIFICATION CENTER



About the International Green Purchasing Network

The International Green Purchasing Network (IGPN) is a global multi-stakeholder partnership, launched by Japan Green Purchasing Network in 2005 with the mission: 1) promote globally the development of environmentally friendly products and services and green purchasing activities; 2) share information and know-how on green purchasing and environmentally friendly products and services internationally; and 3) harmonize the efforts of green purchasing and the development of environmentally friendly products and services from a global viewpoint.

The International Green Purchasing Network (IGPN) is composed of the Green Purchasing Networks from Japan, Korea, Thailand, Malaysia, Singapore, the Philippines, India, Vietnam, China, China Hong Kong, and Chinese Taipei, etc.

The International Green Purchasing Network (IGPN) partners with the Global Lead City Network (GLCN) on sustainable procurement. It collaborates with the Sustainable Public Procurement Programme of One Planet Network.

The International Green Purchasing Network (IGPN) Secretariat is hosted by China Environmental United Certification Center (CEC) since 2018.

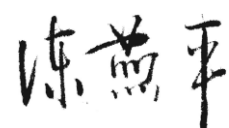
Foreword

Climate change, pollution and the inappropriate human activities which destroy biological diversity are accelerating to become the causes of the planet's environment deterioration. Implementation of convention, collaborate to action have become the main approach to solve these global environmental problems. Green purchasing aims to advocate sustainable consumption and production, should also to be the important policy and technical tool to decarbonization, plastic reduction, pollution elimination and harmonized people and nature.

International Green Purchasing Network (IGPN), as global network cooperation organization, it has embedded to support global sustainable procurement development in capacity building, awareness raising, tools and approach development. In 2023, the IGPN proposed "Green Purchasing Network (GPN) measurement methodology development initiative", aimed to formulate a measurable, reportable, and replicated IGPN-Green Purchasing Network measurement methodology, through which scientifically monitors and evaluates the impact and potential for each GPN toward achieving Sustainable Development Goal, therefore accelerate the sustainable consumption and production transition by leveraging its characteristic GPN model.

The "Pilot testing report: measurement methodology for Green Purchasing Networks" is an important output of IGPN's "Green Purchasing Network (GPN) measurement methodology development initiative", collects facts of the "Measurement methodology for Green Purchasing Networks" applied in GPN Japan, Thailand, Malaysia, China and Hong Kong Special Administrative Region, verifies the applicability and feasibility of the "Measurement methodology for Green Purchasing Networks", will be useful to promote IGPN by which its characteristic GPN model, enhance its growing role on sustainable production and consumption. It can be foreseen that the GPN model can be effectively extended or replicated to new region or area or location to expand its influence, serving to maintain the sustainability, relevance and value of the IGPN with its members and stakeholders, result in positive economic, environmental and social benefits accordingly.

Last but not least, I hope the "Pilot testing report: measurement methodology for green purchasing networks" and "Measurement methodology for Green Purchasing Networks" benefit to raise the awareness of the GPN model addressing climate change, pollution and biodiversity lose, inspire more organizations and institutions moving to the journey for achieving the sustainable consumption and production pattern.



CHEN Yanping

Acknowledgement

The work behind the *Pilot Testing Report-Measurement Methodology for Green Purchasing Networks* was overseen by the managing team of China Environmental United Certification Center (CEC) led by its general manager LIU Zunwen.

Moreover, the *Pilot Testing Report-Measurement Methodology for Green Purchasing Networks* was made possible by the fund allocated from China Environmental United Certification Center.

IGPN Secretariat and writing team

The pilot testing report was reviewed by LIU Zunwen, YAN Tao, GU Jiangyuan, CHEN Xiaoshuo, ZHANG Xiaohui of China Environmental United Certification Center.

The writing was drafted and conducted by the IGPN Secretariat from WANG Jing of China Environmental United Certification Center.

Pilot testing of Measurement methodology for Green Purchasing Networks

The pilot testing of Measurement Methodology for Green Purchasing Networks was part of IGPN initiative of Green Purchasing Network measurement methodology development initially proposed by IGPN Chair Mr. CHEN Yanping.

Members from Green Purchasing Network participated in the development of Green Purchasing Network measurement methodology and pilot testing of this methodology. Without their efforts we would not have been able to provide such detailed information on their policies, activities and practices.

The following are the members from Green Purchasing Network: Gakuji FUKATSU (Japan Green Purchasing Network); Yasushi UMEDA (Japan Green Purchasing Network); Kanae ISHIZAKA (Japan Green Purchasing Network); DING Ling (China Green Purchasing Network, China Environmental United Certification Center); Augustine Koh (GPN BERHAD, Green Purchasing Network Malaysia); Michele Siew (GPN BERHAD, Green Purchasing Network Malaysia); Chuttree Phurat (Green Purchasing Network Thailand, Thailand Environment Institute); Linda Ho (Green Purchasing Network China Hong Kong, Green Council); Steven Choi (Green Purchasing Network China Hong Kong, Green Council); Daphne Chan (Green Purchasing Network China Hong Kong, Green Council).

Peer reviewers

The following are professionals specifically reviewed and provided their feedback, recommendations on the survey report and methodology: Maxwell Torney (Office of International Affairs, Office of International and Tribal Affairs, U.S. EPA); Huber Patrick (Office of International Affairs, Office of International and Tribal Affairs, U.S. EPA); Finman Hodayah (Office of International Affairs, Office of International and Tribal Affairs, U.S. EPA); Gakuji FUKATSU (Japan Green Purchasing Network); Yasushi UMEDA (Japan Green Purchasing Network); Saita (Japan Green Purchasing Network); Augustine Koh (GPN BERHAD, Green Purchasing Network Malaysia); Vincent Teo (Green Purchasing Network Singapore, Singapore Environment Council); Chuttree Phurat (Green Purchasing Network Thailand, Thailand Environment Institute); Chaiyod Bunyagidj (Thai Sustainable Consumption and Production Network); Felix Lam (Green Purchasing Network China Hong Kong, Green Council); DENG Qiuwei (China Green Purchasing Network, China Environmental United Certification Center); LIU Juan (China Green Purchasing Network, China Environmental United Certification Center).

Table of Content

CHAPTER 1. GREEN PURCHASING NETWORK AND THE MEASUREMENT METHODOLOGY.....	1
1. Context	1
2. Development of GPN Measurement Methodology	2
CHAPTER 2. PILOT TESTING AND GENERAL OUTCOMES.....	5
1. Objective and scope.....	5
2. Participate organizations brief introduction	5
3. Overall outcome of the pilot evaluation.....	7
CHAPTER 3. DETAILED FINDINGS FROM PILOT TESTING AND THE REVISION OF THE METHODOLOGY	10
1. Indicator A. Policy Framework	10
2. Indicator B. Organizational management.....	11
3. Indicator C. Capacity Support.....	14
4. Indicator D. Program Activity.....	16
5. Indicator E. Measurement Improvement.....	17
CHAPTER 4. CONCLUSION AND LESSON LEARNT.....	20
1. Pilot testing process conclusion and lesson learnt	20
2. The Green Purchasing Network implementation and lesson learnt	21
3. The Methodology for scale up the Green Purchasing Network.....	22

Chapter 1. Green Purchasing Network and the Measurement Methodology

1. Context

Green Purchasing was recognized in Agenda 21, adopted at the 1992 United Nations Conference on Environment and Development (UNCED Earth Summit), as an effective approach not only to minimize of environmental impacts but also shift toward Sustainable Consumption and Production. Since then, approaches, solutions relevant to sustainable consumption and production were actively exploring. Consequently, the concept of Green Procurement, Environmentally Preferable Purchasing, Sustainable Procurement, Green Purchasing were defined according the extended practices and implementation activities.

The International Green Purchasing Network (IGPN) aims to promote green purchasing around the globe by coordinating those who take the initiative in implementing green purchasing towards sustainable consumption and production, with its members of the Green Purchasing Network (GPN) from countries of Japan, Korea, Thailand, Malaysia, Singapore, the Philippines, India, Vietnam, China etc., and regions from China Hong Kong Special Administrative Region, Chinese Taipei. As an international network, it has been stepped to support global sustainable procurement development in capacity building, awareness raising, tools and methods development, practices advocating respectively. In 2021, the IGPN conducted case study of <Green Purchasing Network- A Landscape of Practice to Achieve Sustainable Consumption and Production>, illustrated that Green Purchasing Network laid an important role both individual sector and public sector; drew initial attention on the definition, implementation logic, and impact of GPN network.

Although these various organizations and communities have been developed and implemented to advocate green purchasing with demonstrated progress for more than decades, a standardized and comprehensive methodology for measuring and communicating the benefits of the GPN networks remains elusive. The link between GPN networks and the environmental, economic, and social benefits for sustainable procurement it advocated seems plausible, however, documenting and articulating those outcomes remains as challenge.

So far, various monitoring method has been existed there, including the methodology, calculator, report, or guidelines, to evaluate the impact of sustainable procurement drive the sustainable consumption and production patterns toward national economic and environment social goals, respectively by measuring the benefit in terms of environmental, economic, and social. SDG 12.7.1 indicator methodology led by the UNEP has provided reference, evaluated the degree of SPP implementation in national or local level through the appraisal of six main factors, including SPP policy, legal framework, tools and support, sustainability criteria, monitoring, and evaluation.

Consequently, a critical component in making the case for GPN networks is to measure and communicate the potential for contributing to broader sustainable development goals combined with

the network and community operation and management mechanism. there are several significant reasons for presenting outcomes of the GPN network, to begin with it can help to identify the impact within the organization and the IGPN network directly link with the objective; more importantly, generated with a transparent method, supporting evidence, and clear communication in terms of benefits –to the organization, and to meeting sustainable development goals, can greatly improve the visibility of IGPN on the broader sustainable development context; additionally, it can help motivate and inspire more network on the topic of green purchasing, provide efforts to support the sustainable procurement implementation and practice; finally, it will provide opportunity to learn from peers with shared insights and recommendation by informing the correct directions for continuously improvements.

2. Development of GPN Measurement Methodology

2.1 Development Format

- Launch the initiative
 - On June 15 2023, the GPN measurement methodology development initiative was launched to advocate green purchasing practice, promote the SCP transition by using the IGPN's unique GPN model ubiquitously through a measurable, reportable, and replicated measurement methodology. <http://www.mepcec.com/xwzx/zcxx/2023/11572.shtml>
- Soliciting comments
 - Draft and First batch soliciting comments (2023.6.15-2023.7.31):7 organizations respectively from the GPN from China, Japan, Malaysia, Singapore, Thailand, Philippines, and China Hong Kong SAR; 24 comments are all accepted.
 - Revised and Second batch soliciting comments (2023.8.25-2023.10.31): 20 comments, respectively from the GPN from Japan, Malaysia, Singapore, and China Hong Kong SAR); professors from the United States EPA. Accept (14), reply to the question (3); Item to be determined (3) (this content needs to be determined in conjunction with the pilot test results).
 - Revised and Third batch soliciting comments (2023.10.31-2023.11.7): Formulate 3rd version and pilot test calculator guide, collaborate to develop guidelines, tools of green purchasing toolkit, collaborate to develop GPN measurement methodology which no further feedback from this batch.
- Start the pilot testing
 - On December 13, 2023, the pilot testing was launched to clarify the information and facts needed in the provided file of <GPN measurement methodology pilot testing questionnaire> for the <Measurement methodology for Green Purchasing Networks (Version 3.0)>(annex 1), help to verify the applicability and feasibility when GPN members evaluate its implementation level by using the measurement methodology. <http://www.mepcec.com/xwzx/gsxw/2023/11649.shtml>
 - On June 30, 2024, 4 IGPN members including GPN Japan, GPN Malaysia (GPN BERHAD), GPN China (CEC), GPN Hong Kong SAR (Green Council), GPN Thailand (TEI) have taken the lead and conducted the pilot and filled the Questionnaire-Pilot Testing of GPN Measurement

2.2 Description of GPN Measurement Methodology

2.2.1 Definition

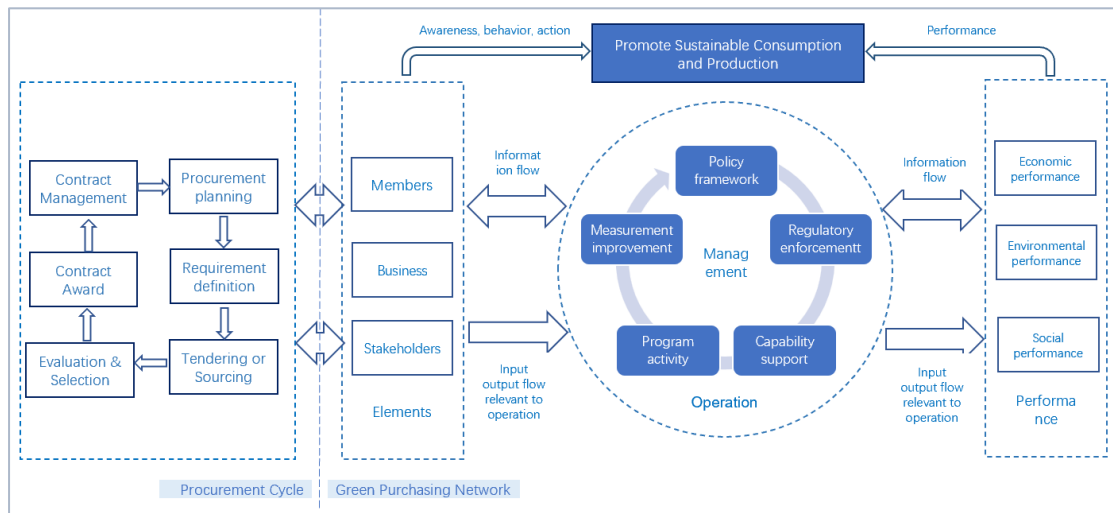
Green Purchasing Network is defined in the Measurement Methodology as:

- a. A network, which is an organic organizational system consisted of active network connections node including independent organizations or associates;
- b. Achieve to promote environmentally friendly products and services towards sustainable consumption and production, through initiating, advocating, and implementing “green” or “sustainable” or “environmentally preferable” purchasing;
- c. A particular scope includes:
 - Country (Region);
 - Sub-country;
 - Industry.

2.2.2 Operation and Management Flow

Figure 1 illustrate the interaction among organizational management, operation, and performance of the Green Purchasing Network through the procurement cycle.

Figure 1. Green Purchasing Network Management and Operation Framework



- Two sources of GPNs performance can be described:
 - Management performance: Performance information relevant with the management process, mostly come from strategy, plan, personnel, procedure, rules etc.;
 - Operational performance: Performance information relevant with the operation process, mostly come from the practice activities through input and output.
- Three pillar indicators of GPNs performance can be described:
 - Economic performance indicator: provides the information relevant to promote green purchasing practice, including green product market, membership scale etc.;
 - Environmental performance indicator: provides the information relevant to promote green purchasing practice, including pollution elimination, greenhouse gases reduction and promoting biodiversity etc.;

- Social performance indicator: provides the information relevant to promote green purchasing practice, including awareness raising, information disclosure, participation, compliance with ILO, and development of SMEs etc.

2.2.3 Framework and Calculation Formula

The Methodology aims to measure the implement performance level of Green Purchasing Network (GPN), provide methodology for monitoring sustainable performance of Green Purchasing Network (GPN) in various scale and types, through the following **Seven** factors:

- Basic requirement: requirement of legality of the organization or initiative organization;
- Policy framework: requirement of existence of policy, initiative, or action plan on green purchasing (indicator A);
- Organizational management: requirement of existence of management rules, regulations, by-laws, leadership, and information disclosure to support policy/initiative/action plan implementation (indicator B);
- Capacity support: requirement of personnel competency, community competency, and technology competency to support policy/initiative/action plan implementation (indicator C);
- Program activity: requirement of the content of green purchasing practice, including technical support, information disclosure, and promotion activities (indicator D);
- Measurement improvement: requirement of monitoring sectors, monitoring methods and actual outcome for the policy/initiative/action plan implementation (indicator E).

Based on the attribution of a maximum point per each indicator, a final score is calculated to evaluate what kind of level of the GPN implementation performance.

This score calculation is based on the formula below:

$$\text{Final score (S)} = \sum_{n=A}^E n / S = A + B + C + D + E$$

Indicator	Content	Score
A	Policy framework	0-20
B	Organizational management	0-20
C	Capacity support	0-20
D	Program activity	0-20
E	Measurement improvement	0-20

Based on the final score calculated, the GPN implementation mature level could be defined as **TWO** different levels presented in the following figure, which is the “Advanced level” at the score from 80 to 100, the “Medium level” at the score from 60 to 80.

Level	Score
Advanced	80-100
Medium	60-80

Chapter 2. Pilot Testing and General Outcomes

1. Objective and scope

The pilot testing of Measurement Methodology for Green Purchasing Networks was launched to verify the applicability and feasibility when measuring the implementation level by using the GPN measurement methodology. The objective of the pilot testing is to clarify the information and facts needed in the provided file of <GPN measurement methodology pilot testing questionnaire> for the <Measurement methodology for Green Purchasing Networks (Version 3.0)>, help to verify the applicability and feasibility when GPN members evaluate its implementation level by using the measurement methodology.

The scope included any interest participant organization which belongs to the concept of Green Purchasing Network (see 2.2.1) and the GPN members of the International Green Purchasing Network.

2. Participate organization brief introduction

□ Japan Green Purchasing Network

The Green Purchasing Network (GPN) is a nation-wide network of purchasers and others contributing to the realization of Carbon Zero, SDGs, and the Circular Economy through the promotion of sustainable procurement (consumption and production). Since its establishment in 1996, **1,303 members** including businesses, local authorities and NGOs, with its main secretariat office and **Seven** local networks, offer opportunities to know and learn, dissemination, practice, Public Relationship and network.

● **Support for promoting of green purchasing**

The GPN provides training sessions and seminars for both newly appointed and experienced personnel of local governments to promote green purchasing in their municipalities. The GPN also helps local governments with developing their own procurement policy, manual, and training materials.

● **Green Purchasing Guidelines**

Green Purchasing Guidelines are the list of the important environmental aspects that shall be considered when purchasing a product. As of March 2016, the GPN has drawn up Green Purchasing Guidelines in **21 products and service categories** including Printing and information paper, toilet paper, tissue paper, stationery, office supplies, photocopiers, printers, facsimiles, PCs, tablets, refrigerators, washing machines, TVs, air conditioners, toilet seats, lamps, lighting, furniture, clothes, footwear, automobiles, urinals, Faucet fittings, Food (processed foods), Hotels. Ryokan, Printing services, Green power certificates, Transportation and delivery (lorries), Electric power, Soap & detergent.

● **Eco-products Database**

The Eco-products Database is the largest database that discloses environmental information about products and services along the Green Purchasing Guidelines. A number of local

governments use this database because more than 13,000 products are listed as of March 2016. The database also indicates which products meet evaluation criteria of the Basic Policy of the Act on Promoting Green Purchasing.

- **Green Purchasing Award**

Since 1998, 24 Green Purchasing Award has conducted the "Green Purchasing Award" to honor the best practices of green purchasing and encouraged practices of both manufactures and consumers.

- **Green Purchasing Network Berhad (Green Purchasing Network Malaysia)**

Green Purchasing Network Berhad is dedicated to promoting green purchasing and raising environmental awareness. They encourage sustainable consumption and production practices among buyers, suppliers, and manufacturers. Additionally, GPN Berhad shares expertise on eco-friendly products and services, offering a blockchain-integrated certification system to ensure traceability and transparency within the supply chain.

- **China Green Purchasing Network**

The China Green Purchasing Network is founded by the Environmental Development Center of the Ministry of Ecology and Environment, aims to promote China's sustainable consumption process, promote the implementation of green public procurement, focus on China's green procurement research and service, and provide consumers with a variety of green procurement and green consumption solutions.

China Green Purchasing Network was designated as one of the information release media of China national Green Public Procurement list in 2006 and is managed by China Environmental United Certification Center (CEC) of the Environmental Development Center of the Ministry of Ecology and Environment, which is a comprehensive certification and service institution leading in environmental protection, energy saving and low carbon areas.

- **Green Council**

The Green Council is a non-profit environmental stewardship organisation and certification body (Reg. No.: HKCAS-027) of China Hong Kong established in 2000. A group of individuals from different sectors of industry and academics shared the vision to help build Hong Kong into a world-class green city for the future. They formed the Green Council with the aim of encouraging the industrial and commercial sectors to include environmental protection in their management and production processes. With the motto of "Conservation begins with Education", the Green Council is fully committed to provide continued education and training on sustainable procurement, ecolabelling, sustainability, environmental management, etc.

The Sustainable Procurement Charter was established by the Green Council in 2018 to promote the implementation of sustainable procurement to all organizations in Hong Kong. Charter members are committed to implementing sustainable procurement procedures with reference to ISO 20400. The Sustainable Procurement Charter is recognized by the United Nations One Planet network as one of the initiatives to support the Sustainable Development Goal 12 "Responsible Consumption and Production".

□ Thailand Green Purchasing Network

Thailand has initiated green purchasing since 2003 by Thailand Environment Institute (TEI), Thailand Business Council for Sustainable Development (TBCSD), and Thailand Research Fund. Then a year later, the Thailand Green Purchasing Network (TGPN) had setup to facilitate between the group of purchases and suppliers of environmentally friendly products and services, good practices and knowledge sharing, including enhancing the expansion of the green market. Besides being the certification scheme operator of Thailand Green Label (TGL) which is Type I ecolabel of Thailand, TEI serves as the secretariat of the TGPN. In addition, TEI has been involving in supporting TGPN continuously by being a part of the Green Public Procurement (GPP) promotion plan committee and technical committee for various environmental friendly products and services criteria development.

3. Overall outcome of the pilot evaluation

The following outlined the general outcome of the pilot test evaluation participated by the five GPNs mentioned beforehand, as shown in Table 2.1 and Figure 2.1.

Generally, the GPN participating in the pilot evaluation has two types, one is as an independent organization; the other is as an initiative or program hosted by an organization.

Key messages of overall outcome are illustrated including 3 parts shown as follows:

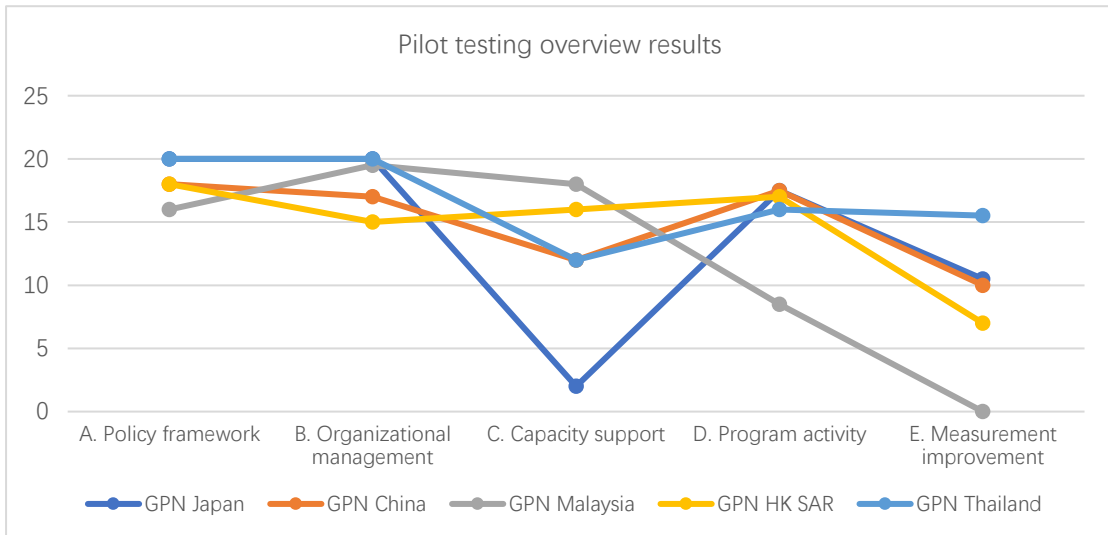
- Indicator A policy framework, indicator B organizational management, and indicator D program activity has better performance, indicating that participating GPNs basically formulated correspondent vision, rules, regulations, procedures, work plan; practices and activities were designed and implemented to support and achieve the objectives of the indicator A policy framework;
- Several unfeasible items mostly from indicator C capacity building, such as personnel competency, community competency, technology competency; indicator B organization management, details relevant further revision are illustrated in the chapter 3;
- Relatively speaking, the participated GPN as a program initiated by an organization seems have the better outcome than the GPN as an organization, mostly because there are on-going activities and unfeasible items for the GPN as an independent organization which failed to score, this will be as reference and not as the final evaluation for performance level,

Table 2.1 Geneal outcome of the pilot test evaluation

Indicator ¹	Score				
	GPN Japan	GPN Malaysia	GPN China	GPN HK SAR	GPN Thailand
GPN type	As an organization		As a program		
A. Policy framework	20	16	18	18	20
A(a) Existence of policy, initiative, or action plan on green purchasing	20	16	18	18	20
B. Organizational management	20	19.5	17	15	20
B(a) Existence of management rules, regulations, by-laws support policy/initiative/action plan implementation	4	4	2(partly unfeasible)	unfeasible	4

B(b) Leadership in organization to promote policy/initiative/action plan implementation	10	8	10	10	10
B(c) Information disclosure in organization to promote policy/initiative/action plan implementation	6	5.5	5	5	6
C. Capacity support	2	18	12	16	12
C(a) Personnel competency to promote policy/initiative/action plan implementation	unfeasible	8	8	4	8
C(b) Community competency to promote policy/initiative/action plan implementation	2	6	unfeasible	8	unfeasible
C(c) Technology competency to promote policy/initiative/action plan implementation	unfeasible	4	4	4	4
D. Program activity	17.5	8.5	17.5	17	16
D(a) Content of green purchasing practice	5	4.5	5	5	2.5
D(b) Technical support green purchasing practice	5	On-going	5	5	5
D(c) Information disclosure support green purchasing practice	5	On-going	5	2	5
D(d) Promotion support green purchasing practice	2.5	4	2.5	5	3.5
E. Measurement improvement	10.5	On-going	10	7	15.5
E(a) Monitoring the policy/initiative/action plan implementation	7	On-going	3	3	7
E(b) Monitoring requirement of the outcome and output	3	On-going	2	2	1
E(c) Actual outcome	0.5	On-going	5	2	7.5
S. Total score¹	70	62	74.5	73	83.5
<p>Note:</p> <p>1.The indicator refers the <Measurement methodology for Green Purchasing Networks (Version 3.0)>;</p> <p>2.The score in pilot stage is not used to evaluate for performance level.</p>					

Figure 2.1 Pilot testing overview results



Chapter 3. Detailed Findings from Pilot Testing and the Revision of the Methodology

1. Indicator A. Policy Framework

1.1 Findings from pilot testing

The first part of questionnaire looked at policy framework, the existence of policy, initiative, or action plan on green purchasing.

It is important to note that at the beginning stage the policy aims to fulfill the IGPN mission.

Figure 3.1 illustrate the different policy type relevant to the IGPN mission. There are slightly less reflect the IGPN commitment, and equivalent for both indicate the priorities and share information.

Figure 3.1 Policy types relevant to IGPN mission

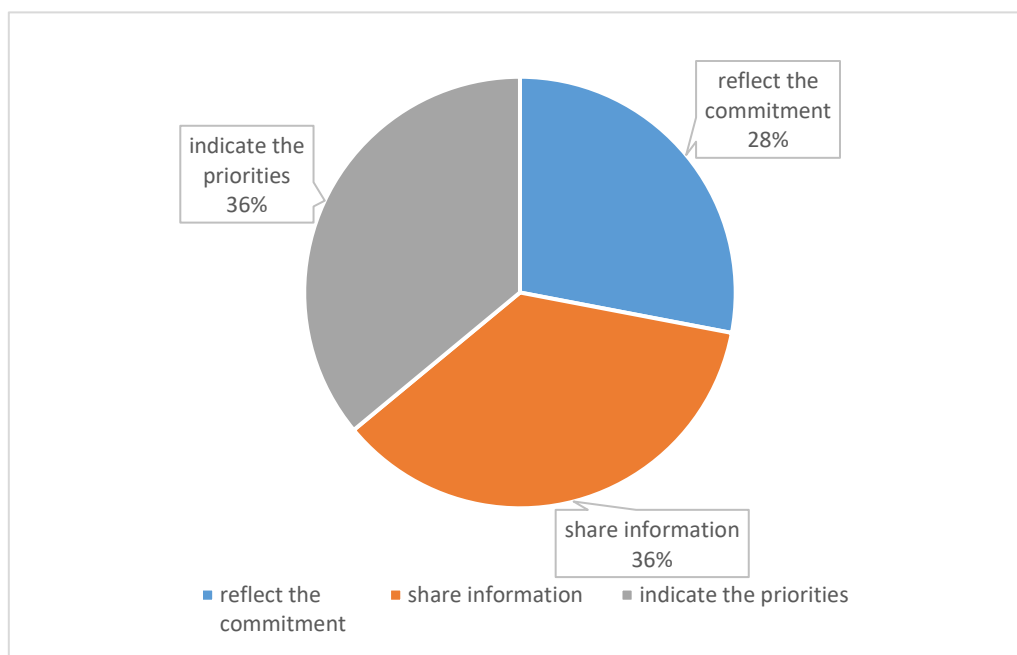
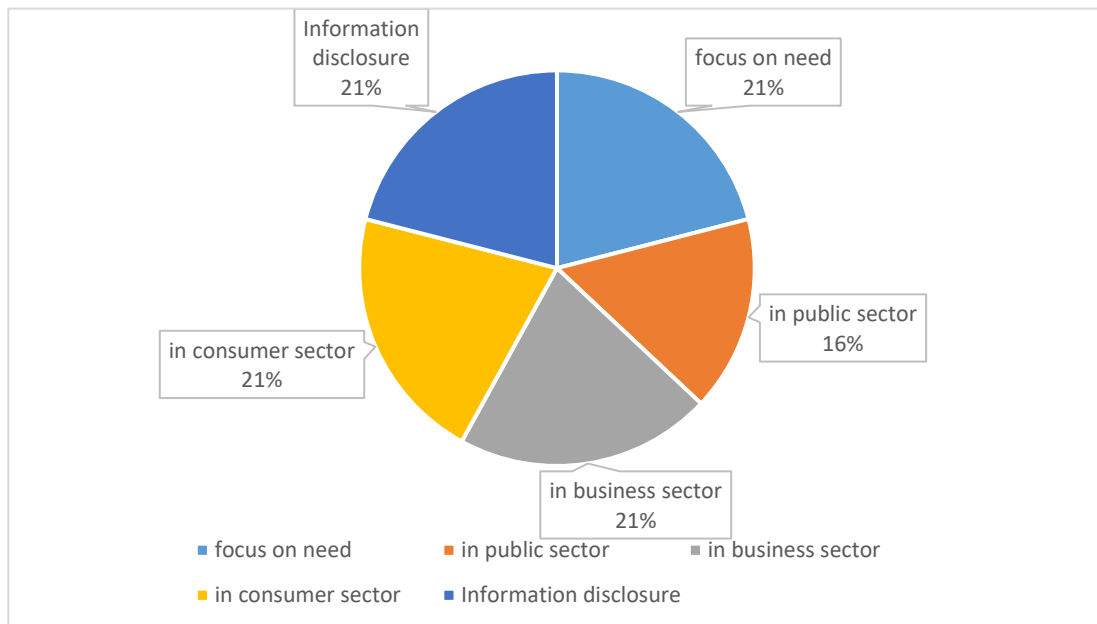


Figure 3.2 below show the policy, initiative, or action plan designed to consider the sustainable procurement principles (ISO 20400 4.2).

Figure3.2 Sector type consider the sustainable procurement principles



Questionnaire results show, typically, formats are represented sectors consider the sustainable procurement principles:

- Public:
 - China environmental labelling green public procurement policy and item list;
 - workshops, seminars, individual consultations, and support for initiatives for local governments regularly;
- Business:
 - Seminars, create tools for sustainable procurement, and conducts supplier surveys for companies;
 - Traceability & blockchain certification criteria and the Certification Scheme for Traceability
- Consumer: awareness to consumers relevant campaign for green purchasing;
- Information disclosure:
 - Eco-products Database;
 - Sustainable Products/Services;
 - Renewable Energy 100 Solution;
 - Environmentally and Socially Conscious Products Using Palm Oil.

1.2 Revision of indicator A

There is no technical revision of indicator A except add note of illustration of “IGPN mission” as editing revision for clear understanding.

2. Indicator B. Organizational management

2.1 Findings from pilot testing

The second part of questionnaire focused on the organizational management aspects of the GPN operation.

The Methodology initially used in pilot testing mostly focus on 3 sectors 10 aspects, including regulations, leadership role, and communication to support the approved policy or action plan through the GPN operation stage, are indicated as follows:

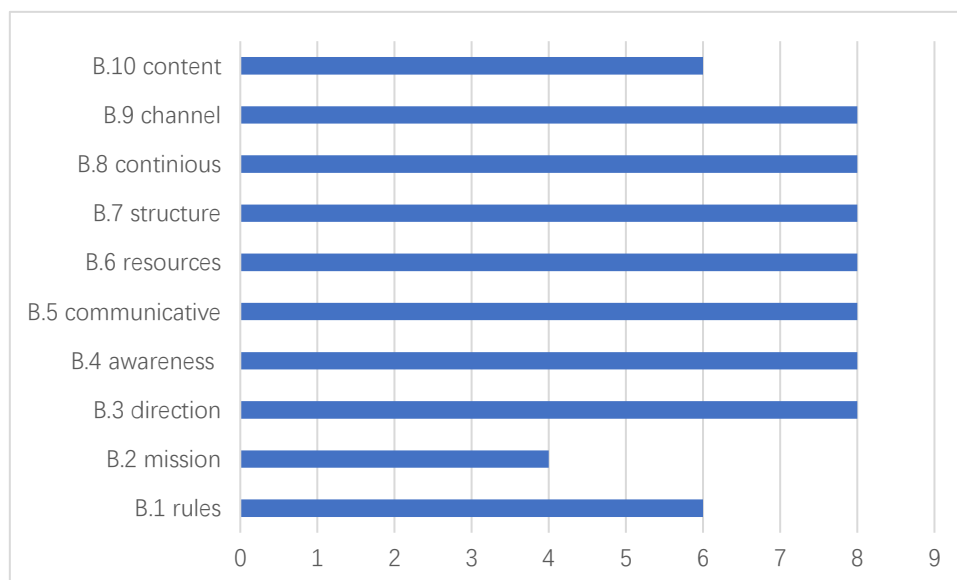
- B(a)Existence of management rules, regulations, by-laws support policy/initiative/action plan implementation;
- B(b)Leadership in organization to promote the policy/initiative/action plan implementation;
- B(c)Information disclosure in organization to promote the policy/initiative/action plan implementation.

These focused on whether the management support the approved policy or action plan through the GPN operation stage:

- i. Development of the government rules;
- ii. Enforcement of the implementation;
- iii. Communicate and promotion;
- iv. Transform the effect.

Figure 3.3 provided an overview the organizational management statue of the 4 GPNs participating in the pilot testing, which most aspect was paid attention and managed.

Figure 3.3 Statue of organizational management for GPN operation



2.2 Revision of indicator B

From the pilot testing, there are several problems of indicator B. First, several items of indicator B have similar meaning or with difficulty to understand the difference, are the obvious problem; Second, unfeasibility of B.1 and B.2 especially for those GPN which as an organization; third, some editing problems exist.

Accordingly, the revised indicator B is shown as table 3.1, items with reason are illustrated as follows:

- i. Revise the name of B Organizational management to Regulatory enforcement in order to embody the element of enforcement for implementation;
- ii. B(a) Existence of management rules
 - Add the content gradually from the Rules, to regulation, to operation procedure, and to plan, and check the progress based on the practical statue;
- iii. B(b)Management in organization
 - Change the “leadership in organization” to “management” practice, as the leadership included in the indicator C capacity support in a holistic view;
 - Revise the items with same meaning to encourage demands; strengthen collaboration; and increase satisfaction respectively from the real management outcome;
- iv. B(c)Information disclosure
 - Modify some words to avoid ambiguity for better understanding.

Table 3.1 Revised items of indicator B

Indicator B	Secondary	Tertiary	Value
Regulatory enforcement	B(a) Existence of management rules, regulations, by-laws support policy/initiative/action plan (A.1) implementation (8)	B.1 Has the constitution rules, regulations, or by-laws	2
		B.2 Has the ToR (Term of Reference) to enforce operation	2
		B.3 Has the annual work plan (or equivalent)	2
		B.4 Has monitored the progress annually (or equivalent)	2
	B(b) Management to promote policy/initiative/action plan (A.1) implementation (6)	B.5 Encourage demands of sustainable/green purchasing and sustainable development for members and stakeholders, for example, object declaration, information transparent, call for action	2
		B.6 Strengthen the collaborations of members and stakeholders, for example, set common goal, regular communicate, co-launching the initiative	2
		B.7 Increase satisfaction of members and stakeholders, for example, survey to identify demand, measuring satisfaction performance	2
	B(c) Information disclosure in organization to promote policy/initiative/action plan (A.1) implementation (6)	B.8 Has continuous information communication for the policy/initiative/action plan (A.1) implementation	2
		B.9 Specific channels used to provide information in and beyond the organization via any or more of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Newsletter, webpage <input type="checkbox"/> Social media <input type="checkbox"/> Webinar <input type="checkbox"/> Other such as live streaming, customer communication meeting 	2
		B.10 Information content cover any or more of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Members² updates <input type="checkbox"/> Stakeholder³ updates <input type="checkbox"/> Knowledge on sustainable/green 	2

		purchasing, sustainable consumption and production, sustainable development, <input type="checkbox"/> Other latest relevant information	
--	--	--	--

3. Indicator C. Capacity Support

3.1 Findings from pilot testing

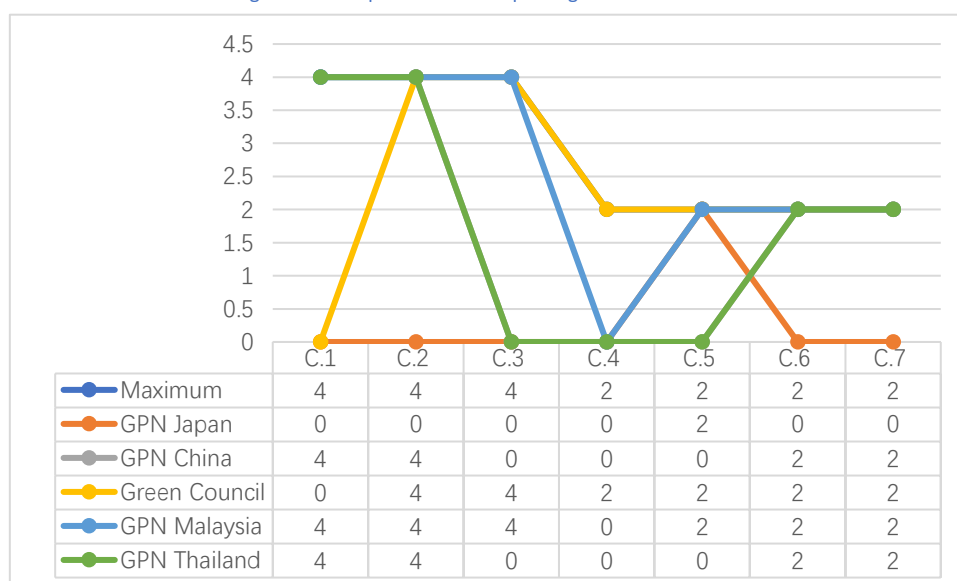
The third part of questionnaire provided how the GPNs support its capacity not only for GPNs itself but also for its members. Evaluating the capacity of a network organization, especially one focused on green purchasing, involves assessing various aspects that indicate its ability to effectively function and achieve its objectives.

The methodology initially used in pilot testing mostly focus on 3 sectors 7 aspects, including the human resources, network engagement, and technical resources to support the approved policy or action plan through the GPN operation stage, are indicated as follows:

- C a) Personnel competency to promote policy/initiative/action plan implementation: provide policy and activities to ensure the employee competency to the qualification;
- C b) Community competency to promote policy/initiative/action plan implementation: adequate and stable membership;
- C c) Technology competency to promote policy/initiative/action plan implementation: being with appropriate technology.

Figure 3.4 provide the pilot testing comparison results for the sector C. capacity support including C.1 to C.7. In this figure, there are more than 10 items from 3 participating organizations show its unfeasibility to application for almost each aspect of indicator C.

Figure 3.4 Comparison for each piloting GPNs on C.1 to C.7



3.2 Revision of indicator C

From the pilot testing, however, facts found that most items are inapplicable of indicator C. First, seldom formulate regulations to ensure the employee’s skill and capability; Second, the employees participate in seminars, events, and exhibitions organized by external organizations to gather information and improve their knowledge, which are proactive efforts for self-improvement, rather pushed by the organization; Third, it is impossible to evaluate the appropriateness of ratio between employee and member which is not meaningful enough; Fourth, the vague description of the word “technology” and “capacity”; Fifth, it is difficult to measure by evaluating the number of experts and the proportion of managers.

In this regard, the revised indicator C is shown as table 3.2, items with reason are illustrated as follows:

- i. Revised the structure from three aspects of capacity support which are “Personnel competency- Community competency-Technology competency” to three key priorities that affect organizational management capabilities which are “organizational structure-resources and funding-network engagement”;
- ii. C(a) Organizational structure and governance
 - Change the regulation and activities for the employee’s skill and capability into the leadership and roles and responsibilities, this is because the fact that GPN is the platform organization form with the smallest staff size to highlight the core elements of governance;
- iii. C(b) Resources and funding financial stability
 - Change to the most importance 3 factors affect the capacity, one is funding and budget, one is staff/expertise, one is physical and technology tools;
 - As it is difficult to define the evaluation of "effective" or "appropriate level", only provide the lowest “available” requirements would be feasible.
- iv. C(c) Network engagement
 - Move the two feasible elements of the original C(b) community competency into this part, one is stable and increased membership, one is active involvement rate.

Table 3.2 Revised items of indicator C

Indicator C	Secondary	Tertiary	Value
Capacity Support (20)	C(a) Organizational structure and governance to promote policy/initiative/action plan (A.1) implementation (6)	C.1 Being with qualified and effectiveness of leadership team	3
		C.2 Roles and responsibilities are clearly defined and distributed	3
	C(b) Resources and funding financial stability to promote policy/initiative/action plan (A.1) implementation (8)	C.3 Being with available funding sources, and budget allocation	3
		C.4 Being with available expertise, staff and volunteers	3
		C.5 Being with available physical infrastructure, technology, and tools necessary for operations	2
	C(c) Network engagement to promote policy/initiative/action plan (A.1) (6)	C.6 Being with stable and increase membership with external organizations, stakeholders, and experts	3
		C.7 Active involvement members or stakeholders at least take half of the whole membership for a mobilized community	3

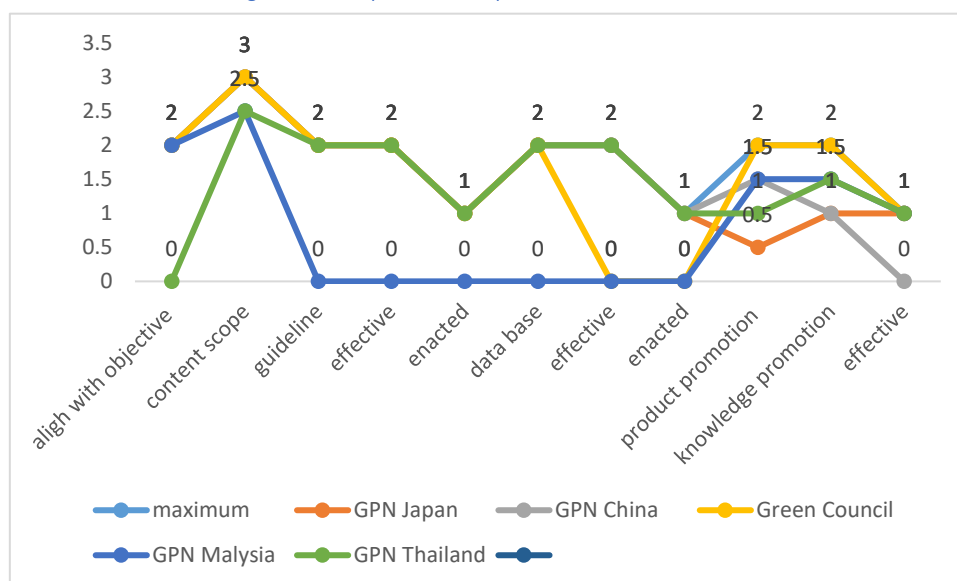
4. Indicator D. Program Activity

4.1 Findings from pilot testing

The fourth part of questionnaire focused on a) whether the program activities align with the objective of the policy/initiative/action plan; and b) whether these activities offered by the organization have the quality and impact.

Figure 3.5 provide the comparison results among respondents for the indicator D program activity, from the program activities contents whether align with the objectives of the policy, and the quality and impact for the activities including guidelines; information disclosure; and promotions.

Figure 3.5. Comparison for respondent GPNs on indicator D



- a) Whether the program activities align with the objective of the policy/initiative/action plan
- Normally, almost all the program activities are based on the activity policy and mission/vision;
 - Planned activities, including activities of technical support; information disclosure; promotion; research, for example the public procurement demand criteria development carried by China GPN; some works on-going activities, for example, the GPN Malaysia (GPN Berhald) initiated the certification scheme for traceability by developing traceability & blockchain certification criteria across the supply chain.
- b) Whether these activities offered by the organization have the quality and impact
- Technical support green purchasing practice: except some not have such activity, most use guidelines as technical tools to support the green purchasing practice, which being updated and reviewed at regular time period, and enacted with number of products and services category; normally two approaches would be adopted, one is develop guidelines, for example, TEI has developed guideline for general user as well as special specification for some organization such as Metropolitan Electricity Authority, PTT Exploration and Production Public Company Limited https://www.tei.or.th/en/search_result.php; the other

is embedded the green procurement requirement of the supply chain in the certification scheme, for example, Thai Green Label (TGL) criteria are adopted for Green cart registration, where the green procurement has to refer when select product/service from green cart.

- Information disclosure support green purchasing practice: general used type of information disclosure is green product database, for example, [Eco-products Database](#); [Sustainable Products/Service](#); [Renewable Energy 100 Solution Site](#); [Environmentally and Socially Conscious Products Using Palm Oil](#) etc., which all are updated and indicate the product category;
- Promotion supports green purchasing practice: At the product promotion perspective, Award is one of typical promotion activity, for example, Japan GPN's [green purchasing award](#); Green Council's sustainable procurement award; TEI 's Green Office award; all these have been operated in a long term; Exhibition is another commonly used approach for green products and service promotion; at the same time, China GPN promote the China Environmental Labelling as the access requirement of China Construction Group green building materials mall. At the knowledge promotion perspective, seminar, workshop are the popularized methods at different occasion, in addition, policy recommendation works as another means.

4.2 Revision of indicator D

There is no specific technical revision of indicator D except changing some words, such as use "aligned with" replace "match to", change to "a certain number" rather "appropriate", specify some description of "other" as editing revision for clear understanding.

5. Indicator E. Measurement Improvement

5.1 Findings from pilot testing

In this sector, participants were asked to response a) whether they required the monitoring the policy/initiative/action plan implementation; b) what kind method are used to monitor the outcome and outputs; and c) what are the final actual outcomes at economic, environmental and social aspects.

- a) whether they required the monitoring the policy/initiative/action plan implementation

The monitoring the policy/initiative/action plan was evaluated through three separate questions:

- i. Is the progress of policy/initiative/action plan implementation monitored?
- ii. Has a specific target been set for policy/initiative/action plan implementation?
- iii. Is the target monitored?

From participants' responses, every GPN monitored its policy/initiative/action implementation status, the format generally integrated its action plan into the business plan to set objectives, organized to review the implementation status, and shared with the Board of Directors. Still, not all GPNs set the target specifically focus on the product/service percentage of green purchasing, there are 2 GPNs set

the target and monitored. One is Japan GPN set the target for the number of net listing products of "Eco-products Database", and updated, checked relevant objectives including "Eco-products Database", number of members, number of accesses on a regular time bases. The other is Thailand GPN (hosted by TEI), set the target "at least 50% of purchasing volume shall be green products", they recorded in an excel sheet and monitored monthly and annually at a regular basis.

b) what kind method are used to monitor the outcome and outputs

Regard to the outcome and outputs, participants were asked to specify from:

- i. The relevant monitoring policy indicating the requirement of monitoring the economic performance, environmental performance, or social performance
- ii. The type of means used for the collection of such performance relevant data

From participants' responses, the most monitored aspect is environmental performance, followed by the economic performance, and social performance is seldom monitored. Because it is not mandatory to report to government for some GPNs as NGO, generally used type of means for collection data is through self-survey, self-assessment mainly from internal monitor of the organization.

c) what are the final actual outcomes at economic, environmental and social aspects

Concern the last part of this session, are evaluated the final actual outcomes at economic, environmental and social aspects:

- i. Economic aspects: Green products application annual increase rate; Green purchasing knowledge promotion activity annual increase rate.
- ii. Actual environmental performance result for the green products application: GHG emission reduction; Pollution reduction; Resources efficiency etc.
- iii. Actual social performance: Influence capacity: Adoption rate for policy recommendation; credibility; traceability and chain of custody; compliance with national labor or ILO regulation; promote SMEs.
- iv. Any form of benefit calculator used.

From participants' responses, in reality most aspects seldom are monitored:

- there are 3 GPNs of China, China Hong Kong, and Thailand monitored the economic performance by evaluating the green products application rate, these benefit from their eco-label program, for example China Environmental Labelling program monitored its social and environmental performance of the green public procurement implementation at a regular basis; Hong Kong Green Label program which use incentives from public green public procurement, the other is Thai Green Label program which adopt date collections for green products application rate;
- GPN China and GPN China Hongkong monitor the actual environmental performance, these environmental performances include indicators of GHG emissions, pollution abatement and partial resource efficiency, due to the requirement of standards and criteria for eco-label product; However, the concept of environmental performance measurement could be at different levels, because the environmental performance is a complex social outcome of GPN activities, rather a single outcome of GPN activities-this means the social effect of environmental impact. For example, while the environmental performance of "greenhouse gas reduction" can be measured

numerically, the social effects are difficult to evaluate due to the lack of tools. Therefore, the evaluation social impact environmental performance might bring will be considered when tools available and applicable after the Methodology is implemented.

- GPN Japan monitor the social performance by its adoption rate of policy recommendation, GPN China monitor the social performance by evaluating the degree of company green transition and innovation;
- GPN China and GPN Thailand developed and applied the evaluation performance tool for monitoring.

5.2 Revision of indicator E

Although the fact of the final outcome part for indicator E is barely satisfactory, there are not too much revisions of indicator E, mostly because measuring the actual performance is the perennial problem faced.

The modification is illustrated as follows:

- i. Level the green product/service application rate according the difference percentage taken of the similar product procurement scale;
- ii. Add stakeholder satisfaction rate of social performance;
- iii. Several editing items: provide linkage between relevant items with same message, and specify some description of "other" for clear understanding.

Chapter 4. Conclusion and Lesson Learnt

1. Pilot testing process conclusion and lesson learnt

1.1 Summary and objective achieved statue

The prime objective of the pilot testing is to clarify the information and facts needed in the questionnaire for the Methodology, help to verify the applicability and feasibility when GPN members evaluate its implementation level by using the measurement methodology. Firstly, the facts have been delivered from the participated GPNs, indicated the fundamental overview how the GPN really operated; secondly, two types of GPN operation character have been observed from this pilot testing, one is as independent organization, one is as program included or merged in a larger organization; thirdly, in overall, most items in the Methodology have shown its feasibility, measurability and applicability, although there are part of items which being with difficulty to answer or unclear or inapplicable in somewhere, however it could be measured after modification according to the recommendation and feedback provided by the participants. Accordingly, from the pilot testing, this helped the Methodology (review for approval version) to be formulated as an effective tool——A comprehensive framework with the definition of Green Purchasing Network, qualitative and quantity monitoring indicators.

The advanced objective of the pilot testing is to encourage GPN members and all organizations belong to the concept of Green Purchasing Network (see 2.2.1), to exercise this methodology and reporting, identify the gaps and strength for each GPN member as the role of promoting green purchasing practice. For the objective of participants number, there are 5 GPN members, nearly half of all 11 GPN members, no new organizations outside from the IGPN, have taken part in the pilot——this mostly because two part, firstly, some GPN member plan to report after the Methodology released officially, some GPN member have to get approval from their superior organization; secondly, the Methodology is still new for the organization outside IGPN, if invite new to take the pilot, it probably should invest extra cost to train the new organization to take part in the pilot testing. However, for the purpose of identifying gaps and advantages, the four GPNS participating in the pilot can meet this goal due to their long-term participation and commitment to the operation of GPNs.

1.2 Lesson learnt from the process

The pilot testing provided experiences to improve the process in carrying out the routine reporting once the Methodology officially released. Firstly, consideration would be given to inviting experts from IGPN members including advisory board, council and GPNs to conduct mutual validation to increase the participation of members and enhance the transparency and credibility of methodological validation; Secondly, incentive measures need to be taken to encourage especially those led the pilot or reporting, those expertise who contribute in the developing the Methodology, for example, the award certificate.

2. The Green Purchasing Network implementation and lesson learnt

2.1 Consider facilitating the GPN as a marketing penetration tool for Eco or green labelled products

For those GPN type which is as a program included or merged in a larger organization, generally the GPN is integrated in the eco-label or green label certification organization (or company). This is because financially the organization (or company) could reimburse the GPN on the one hand, and the GPN could facilitate its featured network to stimulate the eco-labelled products adoption in return—leverage the GPN as a strategic marketing penetration tool for labeled products in the following aspects:

- i. Leveraging GPN's extensive membership, which includes governments, corporations, NGOs, and other stakeholders, provides a unique platform to promote eco-labeled products. By showcasing these products through GPN's channels, could reach a wide audience that is already committed to sustainable procurement practices.
- ii. Incentivizing adoption through recognition programs(standards), that reward organizations for adopting eco-labeled or green labeled products can drive market penetration. Awards, certifications, and public acknowledgments can incentivize members to prioritize products in their procurement processes.
- iii. Collaborating with policy makers and regulators, which advocate for supportive policies and regulations that favor eco-labeled or green labeled products nationally or locally can create a conducive environment for their adoption. Engaging with policymakers to incorporate the green criteria into public procurement policies can significantly boost demand.
- iv. Green products data base, where eco-labeled or green labeled products can be prominently featured, provide an opportunity for manufacturers to showcase their labeled products directly to potential buyers.
- v. Developing targeted marketing campaigns in GPN to raise awareness and drive demand for labeled products. These campaigns could be tailored messaging that highlights cost savings, regulatory compliance, and environmental benefits with the environmental priorities nationally and locally.

2.2 Financial and Innovation measures are highlighting priority for GPN as an independent

For those GPN type which as an independent organization, generally need to be financial benefit from the operation activities, such as from the membership fee, paid training activities, or diversity program activities which could bring stable revenue stream. In the meantime, innovation measures are helpful to offer added value propositions to its members, lead to the development of new services and solutions, amplify the environmental and social impact of the GPN's initiatives. In order to achieve this, the following are learnt to implemented:

- i. Keep financial stability: A healthy financial foundation makes the GPN more attractive to investors, donors, and partners. This can lead to increased funding opportunities and strategic partnerships.
- ii. Diversify revenue streams: Develop multiple sources of income such as membership fees, grants, sponsorships, and revenue from events or training programs. Diversification reduces

dependence on a single source and mitigates financial risks. For example, create a members-only portal with access to exclusive content, tools, and networking opportunities.

- iii. Invest in research and development: Allocate resources to research and development (R&D) to explore new technologies, methodologies, and best practices in green purchasing and sustainability.
- iv. Leverage technology: Use advanced technologies such as data analytics, artificial intelligence, and blockchain to enhance the efficiency and transparency of green purchasing processes. Such as online tools and software, help organizations assess and improve their green procurement practices.
- v. Grants and funding: Seek grants from foundations, international organizations, and government agencies that support environmental and sustainability initiatives, try some new method such as crowdfunding to raise funds for specific projects or initiatives.

2.3 Challenges exists in evaluating social, economic and environmental performance for long term

Evaluating the performance of Green Purchasing Networks (GPNs) in the economic, environmental, and social pillars can be challenging due to several factors:

- i. First, the economic benefits of green products can be influenced by market fluctuations, making it difficult to isolate the impact of GPN initiatives;
- ii. Second, obtaining accurate and comprehensive environmental data can be difficult, and lack of standardized metrics and methodologies for measuring environmental performance can lead to inconsistencies and difficulties in comparing results across different organizations or regions;
- iii. Third, social benefits often accrue over long periods, requiring longitudinal studies and consistent data collection, which can be resource-intensive and complex to manage;
- iv. Forth, conducting comprehensive evaluations requires significant resources, including time, money, and expertise, which may be limited, especially for smaller organizations or network;
- v. Finally, different GPN members might prioritize various objectives and use different performance indicators, making it difficult to create a unified evaluation framework.

To overcoming the challenges, it will be positive to use the Methodology as an opportunity, engaging stakeholders in the evaluation process to provide valuable insights, align expectations, and foster a more comprehensive understanding of performance impacts; from this as implementing a continuous improvement approach that regularly reviews and updates evaluation methods can help address emerging challenges and incorporate best practices.

3. The Methodology for scale up the Green Purchasing Network

Ideally, scaling up the Green Purchasing Network (GPN) model involves expanding its outreach, enhancing its impact, and ensuring sustainability. The Methodology will be helpful to effectively scale up the GPN model by introducing some normal steps as follows:

- i. Solidify the governance structure: ensure a robust and transparent governance structure with clear roles, responsibilities, and decision-making processes; Establish a strong leadership team

and advisory board to guide the expansion.

- ii. Develop a scalable framework: develop standardized processes, templates, and tools that can be easily replicated in new locations, create a comprehensive operations manual that outlines best practices for establishing and managing a GPN.
- iii. Develop a funding and revenue strategy: seek funding from a variety of sources, including grants, sponsorships, membership fees, and consulting services.
- iv. Build strategic partnerships: form partnerships with international organizations, governments, industry associations, and NGOs to gain support and resources for scaling; leverage these partnerships to access new markets and networks. collaborate with local stakeholders in new locations, including businesses, government agencies, and community organizations. adapt the GPN model to address local needs and contexts, ensuring cultural and regulatory alignment.
- v. Monitor and evaluate: track the progress and impact of scaling efforts. continuously review and adapt strategies based on monitoring data and feedback from stakeholders.
- vi. Enhance the value proposition: continuously improve the services and benefits offered to members, such as training, resources, and networking opportunities. Ensure that the GPN remains relevant and valuable to its members by staying updated on industry trends and needs.

In nutshell, by following these steps, the GPN model can be effectively scaled up to new locations, enhancing its outreach and impact. This approach ensures that the GPN remains sustainable, relevant, and valuable to its members and stakeholders, while driving positive economic, environmental, and social outcomes.

This document is a knowledge product of the International Green Purchasing Network, was developed and edited by the International Green Purchasing Network Secretariat-China Environmental United Certification Center.

This document may be explained by the Secretariat of the International Green Purchasing Network (IGPN). If it was reproduced in whole or in part and in any form for educational or non-profit purposes, please provided acknowledgement of the source.

No use of this document may be made for any commercial purpose without prior permission in writing from the International Green Purchasing Network (IGPN).

Disclaimer

The designations employed and the material in this document were from the contribution of the members from the International Green Purchasing Network, do not imply the expression of any opinion concerning the legal status of any country, or area or of its authorities or others.

The views expressed in the cases collections, do not necessarily represent the International Green Purchasing Network.

For additional information relevant this survey report, please contact igpn.secretariat@igpn.org
Or <http://www.igpn.org/>



China Environmental United Certification Center

China Environmental United Certification Center (CEC), approved by the Ministry of Ecology and Environment of the People's Republic of China (MEE) and accredited by Certification and Accreditation Administration Committee of PRC, is a comprehensive certification and service institution leading in environmental protection, energy saving and low carbon areas.

CEC is committed to serve building national ecological civilization; and has carried out research on environmental protection, energy saving, low carbon development strategies and solutions; has been continuously improving and innovating green industry evaluation system on industrial green development and transition.

CEC is engaged in China Environmental Labelling Program, strive to advocate China green public procurement development. On doing this, CEC holds the secretariat of International Green Purchasing Network (IGPN) since 2018, works as UNEP one planet network sustainable public procurement program co-leads implementation entity since 2019, proactively contribute the implementation of sustainable public procurement globally.

For more information, please find at:

<http://www.meecec.com/>.