



**Asia-Pacific
Economic Cooperation**

Research on Green Supply Chain Management of Yujiapu Financial District

Final Report

September, 2014

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天津绿色供应链中心
TianJin Green Supply Chain Centre



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APEC Project: EWG 05 2013A

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APEC#214-RE-01.15

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Part One

Research on Green Supply Chain Management of Yujiapu Financial District

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Chapter 1 Research Background and Objective

1.1 Research background

Under the current macro background of integration of global economy and globalization of environmental issues, green supply chain as the most direct and effective means to solve pollution problems of enterprises on the supply chain has come into people's vision. Green supply chain aims to generate an incentive effect under a market mechanism through the procurement and consumption forces of the governments, enterprises and the public and promote enterprises to reduce environmental pollution and raise efficiency through supply chain management so as to raise the environmental control efficiency of the whole supply chain system and promote green upgrading of the whole industrial chain. This innovative environmental management means tries to form an incentive and advocating measure through market force and encourage related enterprises on the supply chain to carry out green reform, raise environmental performance and make them cleaner, more low carbon and greener.

In September 2010, Yujiapu Financial District was determined as the First Low-Carbon Model Town of APEC. Hence it started a long and complex road for the research and construction of a low-carbon model town. By now, preliminary result has been achieved. Yujiapu Financial District will realize the goal of 100% green buildings and 70% high-star green buildings in the district. Meanwhile, during operation, Yujiapu Financial District will realize low-carbon traffic operation, low-carbon energy management, low-carbon system management, green utilities service and other management systems. Apart from this, in the process when the State vigorously pushes on a green supply chain management system, Yujiapu Financial District will give active response to government calls, actively

carry out the research work relevant with green supply chain management in the district and build a demonstration area for green supply chain management.

In order to boost economic restructuring and green transformation of Tianjin, promote harmonious development of economy, society and environment and implement the management work of green supply chain organized by the State, Tianjin Municipal Government issued *the Implementation Plan for the Pilot Project of Tianjin for Green Supply Chain Management* in November 2013. The Plan explicitly specifies Yujiapu APEC green commodity service demonstration area project shall be the key work of Tianjin for implementing the pilot project of green supply chain.

1.2 Research objective

Under the above background, Yujiapu Financial District will give active response to the call of China Council for International Cooperation on Environment and Development (CCICED), carry out related research on green supply chain management, integrate the establishment of a green supply chain with the construction of a Low-Carbon Model Town and make Yujiapu Financial District not only a real Low-Carbon Model Town but also a demonstration area for green supply chain management in the future.

This research will carry out research work in focus on the following few parts:

1. Concept and development significance of green supply chain management
2. Summarize domestic and foreign experience in the development of green supply chain and the revelation on the development of green

supply chain management in Yujiapu Financial District

3. Formulate a technical route and work plan for the development of green supply chain management in Yujiapu Financial District

1.3 Research methods

1. Literature consultation: Conclude and sort the experience of domestic and foreign government departments and enterprises in the development of green supply chain by method of consulting literature, and find bases from which Yujiapu Financial District may borrow when it establishes a green supply chain.
2. Field survey: Pay field visit to Environmental Defense Fund, Sino China Innovation & Investment Co., Ltd., Coca Cola, IKEA and other government departments and enterprises, which have carried out the research of green supply chain management, and analyze the practice and experience of advanced cases for green supply chain management.
3. Questionnaire survey: Select some enterprises, survey the implementation effect, development bottlenecks, existing problems and challenges of green supply chain management in form of questionnaire survey, analyze the problems during green supply chain management, know the policy demand of enterprises for implementation of a green supply chain and seek solutions.
4. Case study: Select typical enterprises and carry out case study on the implementation of a green supply chain.

Chapter 2 Basic Concept and Development Significance of Green Supply Chain

2.1 Basic concept of green supply chain

The complete concept of green supply chain was first put forth by the manufacturing research association of American Michigan State University in 1996. The purpose of putting forth this concept is to consider the development issue of the supply chain in the manufacturing industry based on environmental impact from the perspective of optimized resource utilization. That is to say, tracking and control are conducted from the raw material purchase period of products and the products observe the regulations of environmental protection in product design and R&D stage, thus reducing environmental harm from products in the use period and recovery period.

At present, no unified definition of green supply chain is formed and most domestic experts and scholars think green supply chain may be defined as that when enterprises consider environmental impact of their products, they not only consider their own flows but also should trace back the acquisition of raw materials, use after product manufacturing and even the condition after product abandonment, i.e.: environmental impact of products in all stages of their life cycle¹.

2.2 Basic significance of the development of green supply chain

Vigorous development of a green supply chain may raise the benefit of the whole supply chain and make it an important means for raising market competitiveness of enterprises. From the market, enterprises look for partners with whom they jointly establish and develop a green supply chain, conduct green integration with their upstream and downstream

¹Practice and innovation of green supply chain

partners and form a situation of complement with each other's advantage and association between strong enterprises. Meanwhile, the enterprises implementing green supply chain management may establish information about product safety and reliability and assumption of social responsibility, thus raising corporate image and market competitiveness. Therefore, the development of green supply chain may bring economic benefit, social benefit and environmental benefit to enterprises.

Many countries, economically advanced countries in particular, all attach importance to ecological issues and have established corresponding technical conditions and environmental regulations in order to maintain ecological peace. In order to realize development in these countries, enterprises must reach a specific level of environmental protection and observe corresponding conventions and laws. The implementation of a green supply chain will enable these enterprises to evade these green technical trade barriers, reach corresponding standards and meet their requirements, thus realizing development.

Besides, after green products enter the market, they may bring green benefit to customers while protecting environment, thus raising value of customers.

2.3 Factors hindering the development of a green supply chain

The development of a green supply chain should have the backup of relatively perfect environmental laws, regulations and management policies, industrial standards and taxation systems, but China lacks related content.

Although green supply chain may raise the efficiency of resource utilization and reduce cost, certain economic price has to be paid at resource recycling and waste treatment, so the implementation of a green

supply chain might cause negative financial effect.

During development, enterprises mainly consider their own development rather than maximization of social benefit. Enterprises hope their cooperative partners can profusely adopt green processes to reduce their own cost, the trust relationship among enterprises will also become a factor hindering their development.

The production technology, waste treatment technology, resource recycling technology and other management technologies for green products are still not advanced in China, so China lacks technical backup to the development of green supply chain and more efforts should be made in technical R&D.

Chapter 3 Overview of Domestic and Foreign Research

3.1 Current development status of green supply chain in the United States

The United States as an initiator of green supply chain started earlier than China did and has outstanding achievements in green supply chain management. It has many forerunners in the practice of green supply chain management and has accumulated a great many empirical results which are worth learning.

3.1.1 High attention from government and enterprises and vigorous support from related organizations

Under the policy guidance of green supply chain, the American government has formulated a series of forceful and flexible laws and regulations on the basis of science, such as: the policies and regulations for control of pollution sources, restriction of traffic volume, control of traffic flows, prevention of food contamination and protection of consumers' health, rights and interests and has established effective supervision systems.

In order to establish a good international image, more and more leading American enterprises are dedicated to a globally unified environmental standard, for example, requiring all the branches in the world to pass ISO14001 certification; many enterprises consider acquisition of environmental reputation as a main driving force of environmental management; some enterprises as pacemakers of green supply chain management also position themselves as the leaders of green supply chain management. They not only have formulated the goals for resource conservation, waste reduction, pollution avoidance and green design, which are higher than the provisions of related laws but also actively

raised the environmental protection level of the whole supply chain and even the whole industry.

3.1.2 The government formulates market incentives to influence environmental behaviors of enterprises

American government has formulated a series of tax policies and economic measures to influence the financial decisions of enterprises, prompt them to introduce brand-new design ideas, economically design their supply chains and realize optimum environment of the whole supply chain through close cooperation of the partners on the supply chain. In order to reduce the total energy consumption of the supply chain, American government introduced a series of market incentive measures, mainly including: loans at a low interest rate, loan guarantee and green sci-tech subsidies, to stimulate the investment, R&D and use of new equipment and new energies.

3.1.3 Guide enterprises on disclosure of environmental information of the supply chain

American government requires every enterprise must disclose environmental impact information in all links of its supply chain. U.S. Environmental Protection Agency established a “Toxics Release Inventory” and requires enterprises to disclose information of the emission amount of all the harmful chemicals in the Inventory.

Besides, the United States also actively promotes a system for voluntary reporting of environmental information. Domestic enterprises and foreign funded enterprises all must periodically report their financial status and management status to government departments. The report content is under strict supervision of government departments and needs to be disclosed periodically. The report content also includes detailed

information about the operation and external cooperation of the enterprises. The reports on environmental information mostly are voluntary reports, such as: disclosure of carbon emission information and sustainable development reports.

3.1.4 Vigorously practice green government procurement system

During formulation of a government procurement system, the United States explicitly requires the purchased facilities and office supplies must be green and environment friendly products with minimum impact on environment and human health. It also specifies priority shall be given to the brands designated by U.S. Environmental Protection Agency (EPA) when the amount of procurement exceeds 10,000 dollars. For this, EPA formulated a procurement catalog.

3.1.5 Enterprises need to establish cooperative systems on the basis of green supply chain

Good American enterprises are rather prudent during selection of suppliers. They pay great attention to environmental impact. During selection of suppliers, the ability in environmental protection is one of the important inspection indicators. According to the requirements of laws, regulations, EPA and enterprises, enterprises have established their own supplier inspection systems. Analysis and evaluation result on supplier indicators is used as a basis for supplier assessment. After suppliers are determined, the enterprises will also provide guidance and support to them, for example, organizing forums and supplier training relevant with environmental protection.

3.2 Development status of green supply chain in EU

EU took the lead in putting forth the concept of green product. It realizes that there are close interest relations on product supply chain, so it

actively promotes green supply chain, legislates some content of environmental protection and requires all links of a supply chain shall comply with the principle of green production. Meanwhile, EU hopes to upgrade global manufacturing industry into green manufacturing by relying on the huge EU market.

3.2.1 Proposition of EU environmental act

In 2003, EU officially announced a recovery standard of ten categories of motors and electronic equipment and required that by July 1, 2006, the ten categories of motors and electronic equipment may not contain Pb, Cd, Hg, Cr⁶⁺ and brominated flame retardants and other harmful substances. In 2012, EU promulgated *Waste Electrical & Electronic Equipment (WEEE) Directive* and the *Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment*. The release of these two directives effectively guarantees the recycling of electronic products in the territory of EU and reduces the environmental destruction caused by recovery of electronic products. In the same time, the two directives have made strong impact on global electronic goods producers and made them suffer “green trade barrier”. In order to sell their products to EU, the producers and other suppliers have to try to improve their production technologies to meet the requirements of EU.

3.2.2 Eco-labeling system of EU

In 1992, Europe established an eco-labeling system on a voluntary basis, thus encouraging the development of environment-friendly products and services. During granting of an eco-label, the product will be evaluated in its full life cycle. Eco-labeling is accepted in all of the 27 member states of EU. At present, EU is trying to enlarge the range of products covered by this label.

3.2.3 EU actively promotes green public procurement.

In 2008, EU proposed green public procurement and explained that this procurement system would reduce life-cycle environmental impact of products compared with conventional procurement. Green public procurement prompts the manufacturers to vigorously develop green technologies and green commodities, generate huge impact on the market and promote the market to leave a huge space for the development of green products. Just for this reason, enormous change has taken place to European market.

3.3 Development status of domestic green supply chain

In the recent years, China carried out policy reform and issued some measures during macroscopic control of national economy, such as: closing many SMEs with high energy consumption and heavy pollution. At present, China has realized the importance of environmental protection and resource conservation in the course of fast economic development. Meanwhile, Chinese enterprises have started the research on the production technologies of various green products and the greening of supply chain. Many Chinese enterprises only pay attention to the green management of their own products, while whether the products and technologies of upstream and downstream products meet the requirements for environmental protection does not arouse enough attention. Moreover, the product waste treatment technology and recycling technology of Chinese enterprises do not reach an advanced level. Therefore, China has not reached the level of life-cycle green management of products and is still in a preliminary stage for the development of green supply chain.

Chapter 4 Plan of Yujiapu Financial District for Establishment of a Green Supply Chain

4.1 Brief introduction of Yujiapu Financial District

Located in the core area of Yujiapu Financial District, Tanggu Haihe River north shore District, and is surrounded by water on east, west and south, covers 3.86 million square meters of land and is the core area of Binhai New Area CBD. Yujiapu Financial District will focus on the development of financial services, a modern business, commercial and other high-end modern service industry, to build the Bohai ring area financial center, trade center, business service center and high-quality international ecological livable city.

Yujiapu Financial District was established as the APEC First Low Carbon Model Town in September, 2010. Adhering to the "development of the concept of green building, low carbon city", to carry out a full range of low carbon planning implementation from the regional planning, the architectural design to the engineering construction. Energy saving as the goal, to green building technology as the standard, the implementation of green development policy from the composite architecture of the traffic network, the humanities affinity ecological environment to regional energy concentrated supply and management, and strive to build a low carbon financial business district.

Yujiapu Financial District as a low-carbon modern business district has its unique advantages to develop green supply chain, Tianjin Municipal Government will implement green supply chain management as one of tasks, organize the project demonstration zone located in the green goods and services to the Yujiapu Financial District.

4.2 Preliminary work for green supply chain management service of Yujiapu Financial District

4.2.1 The first case for APEC Low-Carbon Model Town construction has produced preliminary result, providing a favorable condition for introducing the means of green supply chain management.

Yujiapu Financial District is planned and built in strict compliance with a green low-carbon concept. On June 19, 2010, the 9th APEC Energy Ministerial Meeting was held in Fukui, Japan. The meeting determined Yujiapu Financial District as the first APEC Low-Carbon Model Town. The external environment and work mechanism for low-carbon town construction are being improved day by day. In order to promote APEC Low-Carbon Model Towns, APEC established APEC Low-carbon Town Work Group on the basis of the original AECCE Energy Work Group and set up an exchange and communication mechanism. It holds two special meetings a year. Chinese government pays great attention to it. At the 18th APEC Leaders' Meeting in 2011, Chinese state leaders proposed for

“strengthening cooperation in Low-Carbon Model Town”. This proposal was included in the Leaders’ Declaration of the 19th APEC Meeting held in 2012. The International Cooperation Department of National Energy Administration worked with the Energy Research Institute of National Reform and Development Commission and the International Department of the Ministry of Foreign Affairs to promote the implementation of related research, cooperation and projects. Tianjin Municipal Development and Reform Commission and Binhai New Area CBD Administrative Committee are concretely responsible to coordinate and promote the construction of Yujiapu Low-Carbon Model Town.

Yujiapu Financial District achieved outstanding effect in the construction of low-carbon town. It has successively completed the Guideline on Sustainable Development of Yujiapu, Feasibility Study on Low-carbon Town, APEC Low-carbon Town Indicator System and other guiding documents and implemented them one by one in view of engineering construction progress. It completed the green building evaluation of seven high-rise office buildings. Four of them have obtained green building design labeling certificates and signs issued by the Ministry of Housing and Urban-Rural Development. It completed the planning design and technical standards of regional energy center, low-carbon landscape, and bicycle lease system, electric vehicle charging piles and other low-carbon

facilities of Yujiapu Financial District and determined investment and operation models. The construction of the regional energy center and piping network utility tunnels has been started smoothly.

The effect of Yujiapu Financial District as a low-carbon model is getting more obvious. While strengthening self-building and standard research, Yujiapu Financial District took active effort in external exchange and publicity. It assisted National Energy Administration undertaking Forum on APEC Low-Carbon Town twice; held expert review on APEC Low-Carbon Model Towns three times; received the visits of construction authorities from Japan, Singapore, Chinese Taipei, Thailand and other APEC economies as well as Beijing, Shanghai, Chongqing, Anhui, Shanxi and other provinces; assigned an expert panel to attend the examination of Thai Samui Island, Vietnamese Da Nang and other low-carbon towns at the invitation of APEC low-carbon town work group.

The strength of Yujiapu Financial District in low-carbon technology grows quickly. It cooperated with Tenio Architecture and Engineering Co., Ltd. to establish Tianjin Innovative Finance Low-carbon Institute (Low-carbon Institute), playing an important role in technical support to the construction of Yujiapu Financial District. In response to the construction of Yujiapu Financial District, Low-carbon Institute actively introduced high-caliber professionals and carried out a series of major research projects. It concretely undertook the preparation of more than ten technical documents, including the first low-carbon town indicator

system of APEC - Low Carbon Town Indicator System of Yujiapu Financial District, and Low-carbon Launch Plan of Yujiapu Financial District. The institute as the first professional low-carbon town research institute of which establishment was supported by APEC has rapidly grown into a core technical supporting force to low-carbon towns of APCE and carried out many domestic and foreign technical output services.

4.2.2 Yujiapu Financial District attended in the whole process the initial research and policy demonstration of the pilot project of Tianjin for green supply chain management. Significant progress has been made in the pilot project.

Yujiapu Financial District attended in the whole process the initial work of the pilot project of Tianjin for green supply chain management and was selected as a pilot area for green supply chain management in Tianjin. Yujiapu Financial District designated a professional research institute to carry out project study of the Plan for Green Supply Chain Management of Yujiapu Financial District. On January 23, 2014, it initiated the first green purchase of building materials, involving ceramic tiles, sanitary ware, lamps, carpets, gypsum boards, sunshades and other bulk building materials and covering five high-rise office buildings and underground business streets in the starting area of Yujiapu Financial District.

China Environment Certification Center of the Ministry of Environment and other domestic leading green low carbon service institutions were introduced to establish Tianjin Low-Carbon Development and Green Supply Chain Management Service Center (Green Supply Chain Service Center). Since establishment in October 2013, breakthrough has been

made in business. The center took part in carbon inventory of the first batch of carbon trading pilot enterprises in Tianjin. As one of the first carbon quota trading buyers in Tianjin, it bought 5000 tons of carbon quota indicator. It put forth a green design specification for the bidding of the design of fine decoration of business buildings and underground business streets of the TIFI and provided full-process service for green purchase of Yujiapu Financial District. The Chinese version of its website was launched on January 23 and bidding announcement was published. It undertook the project of Tianjin Municipal Development and Reform Commission for research on a model for sustainable carbon trading and a cooperative platform of APEC for green supply chain management. It participated in the research on the plan for Northeast Asia Financial Center. The draft of the plan is basically completed. It involved in the management planning, standard formulation and related project study of the green supply chain of Yujiapu Financial District.

Besides, the green supply chain service center actively developed green certification business, set up a green certification department, researched service rules and flows, strengthened shareholder and external cooperation and formed green product certification, certification of green building materials and decorative materials, consultation of green building certification, carbon inventory, the development, operation and maintenance of the electronic information system of enterprise greenhouse gas reports and other service abilities. In combination with the first procurement of green buildings of Yujiapu Financial District, it is studying a work plan for promotion of regional green procurement. The green and low-carbon training service is mature. It may provide training service of “carbon manager” qualification under the Ministry of Human Resources and Social Security and is applying for training on “green

supply chain manager” qualification. Headway has been made in the development of green financing rating service.

4.2.3 Yujiapu Financial District will exert effort to develop industrial finance and green low-carbon modern service system.

Yujiapu Financial District established China Financial Lease Co., Ltd. after reorganization and establishment of Tianjin Innovative Finance Low-carbon Institute, Galaxy Dahua Low-Carbon Industrial Fund Management, Innovative Finance Smart City Operation Company, Suez Energy Center Operation Company, Green Supply Chain Service Center and other institutions. It established relations of strategic cooperation with many leading Chinese and foreign green low-carbon enterprises and public institutions and built up core competence of green low-carbon industry.

Tianjin Innovative Finance Low-carbon Institute is also one of the main executive agencies for implementing the work ask of green supply chain of Tianjin. In the initial work process, the Low-carbon Institute completed the compilation of Yujiapu Financial District indicator system; the consultation and application of green building evaluation for the starting area of Yujiapu Financial District; low-carbon energy research, low-carbon traffic research and smart city research of Yujiapu Financial District.

4.3 Work approach and main objective for green supply chain management service of Yujiapu Financial District

Yujiapu Financial District is spearheaded by promoting facilitation of

green investment and trade, actively takes part in the research and practice of green trade and investment facilitation of the free trade zone, centers on the construction of APEC Low-Carbon Model Town, explores an innovative model for applying market means of green supply chain management to promote green low-carbon urbanization, relies on green supply chain management service platform, low-carbon research institutions and other supporting entities, drive standard formulation and popularization, rating, certification, purchase, trading, technical R&D application, logistics and other market services of green low-carbon commodities, puts forth diversified innovative services for green finance, researches and introduces supporting regional support policies, strives for supporting policies for the free trade zone in order to promote facilitation of green investment and trade, develops landmark green buildings with a carrier function, accelerates gathering of industries, funds, technologies and talents, builds an APEC green supply chain service center and develops Northeast Green Finance Center.

Following the deepening of the construction of a Low-Carbon Model Town of Yujiapu Financial District, while implementing the work task of a green supply chain, the district will gradually play its advantage as a shareholder of the service center, allies with low-carbon research institutions, strengthens external cooperation, develops a business team and forms regular business and the ability of continuous profitability as soon as possible. It will integrate resources, exert effort in the R&D of innovative and knockout products and introduce commercialized services in the shortest possible time. It will establish a market network, focus on key customers and upgrade its service brand. It will develop an integrated service platform for electronic information of green supply chain management and raise service capability and management level.

4.4 Executive agency for green supply chain management service of Yujiapu Financial District

Tianjin Innovative Finance Investment Co., Ltd.(hereinafter referred to as “TIFI”) is a city operator of Yujiapu Financial District and undertakes the overall planning, development, construction, investment promotion and operation management of Yujiapu Financial District.

Tianjin Low-Carbon Development and Green Supply Chain Management Service Center (“Service Center”) is China’s first market-based integrated service platform for green supply chain management. As an important result of a demonstration project of China Council for International Cooperation on Environment and Development (CCICED) for green supply chain management policy, the Service Center is dedicated to providing one-stop service for green supply chain management under the guidance of CCICED and related departments.

Tianjin Innovative Finance Low-carbon Institute (hereinafter referred to as “Low-carbon Institute”) as a support unit to the low-carbon construction of Yujiapu Low-Carbon Model Town carries out systematic research, practice and promotional activities in the whole process including planning, design, construction and operation. The institute is the first research institute which is specialized in low-carbon town and whose establishment is supported by APEC. Under the guidance of National Energy Administration, it has quickly grown into a core technical supporting force to APEC Low-carbon Town, carried out a number of projects for domestic and foreign technical output service and held “Low-Carbon Town Tour in China” program.

4.5 Main task for green supply chain management service of Yujiapu Financial District

4.5.1 Strengthen plan research and standard formulation of Yujiapu Financial District relevant with green supply chain.

When implementing the work tasks of Tianjin for green supply chain, Yujiapu Financial District needs to formulate *Special Plan for Green Urban Area of CBD*, and *Regulations for Management of Green Buildings in CBD* to manage and guide the planning design, development and construction of construction projects, and define regulations for green procurement. It should summarize the experience in the planning and implementation of green buildings in the starting area of Yujiapu Financial District, promote the green urban planning of the areas outside the starting area of Yujiapu and Tianjin Business Area, and determine a green building star-rating standard and road map in a scientific and reasonable manner. It should formulate *Mid/Long-term Plan for Green Supply Chain Management of Yujiapu Financial District*, an action plan and a road map. It should formulate *Measures for the Administration of Green Buildings and Green Procurement of Yujiapu Financial District*, organize the research of a green standard of building materials, establish *Technical Standard of Yujiapu for Green Building Materials* and introduce by stage A *List of Green Building Materials in Yujiapu*. It should formulate *Measures for the Administration of Green Certification in Yujiapu Financial District*, *Plan for Development of a Green Procurement Platform of Yujiapu Financial District*, *Business Rules*, and *Plan for Pilot Project of Green Trade and Investment Facilitation of*

Yujiapu Financial District and release in an appropriate time the *Measures for the Administration of Green Trade and Investment Facilitation of Yujiapu Financial District*.

4.5.2 Carry forward the construction of the first APEC Low-Carbon Model Town, realize regional green low-carbon objective and create demand for green consumption

Deepen and refine the low-carbon indicator system of Yujiapu Financial District and guide the planning, construction and operation management of subsequent projects by the research results of the indicator system. Implement the *Low-carbon Town Indicator System of Yujiapu Financial District* and the *Low-carbon Launch Plan of Yujiapu Financial District* and form demonstrative effect of low-carbon towns as soon as possible. Encourage enterprises in the district to make innovation in concepts, adopt low-carbon operation and introduce the *Measures for the Administration of Low-carbon Commerce of Yujiapu*.

Build an urban area with at least 10 million square meters of green buildings and accelerate the design labeling review and evaluation of green buildings in the starting area. Through “advance planning, meticulous design, optimized technology and scientific operation”, develop an urban district of green buildings with the highest standard in China, realize high-standard green buildings at a low price, ensure the projects in the starting area realize at least 30% of high-star-rated buildings in an urban area of green buildings as required by the Ministry

of Housing and Urban-Rural Development, and strive to reach 70%. Emphasize low-carbon operation of buildings, realize full-life cycle green buildings and ensure all property companies in the district must pass the certification of ISO14001 environmental system and the energy saving rate of buildings reaches 50% or above.

The first financial district adopting intensive energy supply was built up. In 2012, French Suez, one of Global 500, established presence in Yujiapu Financial District, the investment and construction of the energy center in the starting area was initiated and effort will be made to ensure it is put into service synchronously with the buildings in the starting area. Through intensive energy supply and intelligent efficiency management means, it is predicted that the emission of more than 30,000 tons of carbon dioxide may be reduced.

Perfect low-carbon traffic planning and operating model and establish an integrated low-carbon traffic system. Build underground space and surrounding buildings synchronously, realize seamless connection of public transit and promote the building of an intelligent traffic system, bicycle leasing, electric vehicle charging piles and other low-carbon facilities. Build waterfront low-carbon landscape, and enrich low-carbon demonstration and low-carbon culture in the area. Rely on roof greening, popularize urban agriculture and explore low-carbon potential.

4.5.3 Practice green procurement, apply green supply chain management means and drive green transformation of suppliers.

Carry out a comprehensive green procurement system in a planned and step-by-step way, and expand from incentive transition to compulsory transition, from building materials and components to daily procurement, from commodity procurement to whole-process service procurement, and

from Yujiapu Financial District to CBD and Binhai New Area. Realize green procurement and sunshine procurement through an open, transparent and unified green bidding and procurement platform, apply market means to drive industrial upgrading of upstream construction enterprises and suppliers and lower the overall environmental low-carbon footprint of Yujiapu Financial District. Organize demonstrative trading, explore experience, discover problems and optimize the flow. Do well in demonstrative trading of green procurement for fine decoration of the five plots in the starting area of Yujiapu Financial District and the underground business street, and accelerate its reproduction and popularization.

Support the service center to carry out certification service of green building materials. Provide service for green procurement of Yujiapu Financial District, start with green tender agent service, establish a sound service platform, continuously enlarge the scope of green procurement, and gradually extend service to CBD, Binhai New Area and other areas.

4.5.4 Support development of key research institutions and strengthen standard research, and technology R&D, popularization and application.

Increase support to Tianjin Innovative Finance Low-carbon Institute, and carry out related standard R&D in focus on the core issues concerning the pilot project for Low-Carbon Model Town construction and green supply chain management of Yujiapu Financial District. Demonstrate and lead the practice of APEC Low-Carbon Model Town construction in coordination with the activities of 2014APEC China Year, aim at building

a green supply chain market service system and mainly support the Low-carbon Institute to organize and carry out the R&D and application of low-carbon technologies, policies and industries. Support the Low-carbon Institute to carry out evaluation of green buildings and building efficiency, perfect the special plan of Yujiapu and the green urban area of CBD and implement the objective of all coverage of green buildings by starting with land sorting and assignment. Push on the development and service of carbon inventory and carbon verification standards for the construction and operation of public buildings. Support the Low-carbon Institute to carry out the R&D, application and popularization of underground space environment quality, roof landscape agriculture and other low-carbon technical industry and enlarge the industrial connotation of the supply chain.

Quicken the building of service ability of the service center, develop flagship enterprises of green supply chain, and provide one-stop service for the pilot project of green supply chain management. Enlarge the scope of service products of the service center, formulate business rules and develop a business group. Take the lead in carrying out certification standard development and verification and certification service of green commodities, green buildings, building materials, components and decorative materials under the support of related government departments, integrate resources, exert effort in the R&D of green innovative products for financing rating and put forth commercialized service as soon as possible. Perfect carbon inventory and verification service, and try to make the service center obtain the qualification of a third party service institution for carbon verification in Tianjin in 2014. Provide technical support for related departments to develop carbon emission report system and carbon asset management system and provide technical service for

enterprises to develop carbon emission report systems and carbon asset management systems. Promote training and education, initiate “carbon manager” training course under the Ministry of Human Resources and Social Security, gradually enlarge training scale, and apply for and carry out “green supply chain manager” training course under the Ministry of Human Resources and Social Security. Undertake major empirical research and project demonstration of green supply chain management.

4.5.5 Perfect the green supply chain management market service platform and exert effort to raise comprehensive service ability.

Support the green supply chain service center and take the lead in carrying out green certification service of building materials, components and decorative materials in Yujiapu Financial District. Build a market network in focus on the key business of the service center, actively develop a green procurement platform service, establish a sound membership system, perfect member service and actively expand the market. Designate the green supply chain service center as green tender agency of Yujiapu Financial District, support it to develop an integrated service platform for electronic information of green supply chain management, and organize information publication and green bidding of green building material procurement of Yujiapu Financial District. Integrate resources, exert effort in the R&D of green innovative products for financing rating and introduce commercialized service as soon as possible.

Formulate and carry out related service software development and background construction as per the service rules and flows of the service center, and put up a unified electronic information service platform consisting of main blocks including green supply chain information bank, green certification system, green rating system, green procurement

platform, green low-carbon online education system and carbon emission information report system.

In the same time, support the green supply chain service center to get carbon verification business of Tianjin in 2014, provide the services for development, operation and maintenance of enterprise carbon emission report electronic information system and carbon asset management system, undertake major empirical research projects, cooperate in capacity building, organize and carry out “carbon manager” training course under the Ministry of Human Resources and Social Security, apply for and carry out “green supply chain manager” training course under the Ministry of Human Resources and Social Security, do well in serving the pilot units for green supply chain of the city, develop key customers, build service brands and establish an integrated service platform for electronic information of green supply chain management.

4.5.6 Research and introduce supporting regional policies and measures and reform the models of financial and tax support to green low-carbon industries and projects.

Yujiapu Financial District will research and introduce regional supporting policies and measures and reform the model of financial and tax support to green low-carbon industry and projects. Research and introduce promoting measures and incentive policies of green urban areas and buildings, attract green industry investment and encouragement policies, as well as related fiscal reward and subsidies, tax preference and other supporting support policies. Research an innovative mechanism for integrating and revitalizing special fiscal support funds to energy conservation and emission reduction, reform fund innovation mechanism

and fund appropriation model, provide financial subsidies and rewards no longer based on whether the project is started but based on the actual energy conservation benefit verified by an independent third-party audit institution, raise the use efficiency and transparency of financial fund, strengthen public supervision and drive development of third-party service institutions.

4.5.7 Build an APEC green supply chain service center and help the development of Northeast Asia Green Financial Center

Establish Northeast Asia Financial Center, set up a green financial fund platform, explore innovative green financial service and develop landmark green buildings with a carrier function. Seize the opportunity that Tianjin is trying to develop a national reform and innovation area, strengthen regional exchange and cooperation, attract private investment and support funds of Northeast Asia, establish Northeast Asia green and environmental protection parallel fund and government guidance fund, develop Galaxy Dahua Low-Carbon Industry Fund, and strengthen green low-carbon financial lease business of China Financial Lease Company. Integrate and upgrade the existing environment-friendly, low-carbon and free finance and related specialized services in Binhai New Area, Tianjin, rely on professional service for green supply chain management market, attach importance to developing a standard evaluation system which serves the environmental protection industry and links green finance, introduce various kinds of innovative services for green finance, and

earnestly solve the fund bottlenecks holding back the development of green industries. Develop Northeast Asia Green Finance Center Building, increase hardware support, promote industrial incubation and attract the gathering of low-carbon industries, funds, technologies and talents. Establish Northeast Asia Green Finance Center with scientific concept, complete functions, smooth mechanism and controllable risk.

Develop the service center into an APEC green supply chain service center, practically play the role of market platform and make it serve the building of Northeast Asia Green Finance Center. Strive for policy support of related departments of the State and the city, strengthen international cooperation, accelerate development of green financing rating service products of the service center, formulate a green rating standard, model and business guidelines, put up a bridge between green low-carbon industry and financial market, provide a market-based solution to solve the fund bottlenecks of green low-carbon development and provide technical support for the development of green finance.

Northeast Asia Green Finance Center will settle down in the starting area of Yujiapu Financial District. The proposed site is plots 3-15. It will attract a great many international financial institutions. The Low-carbon Institute will, on the basis of the green building design of this project, continue to deepen the research and application of advanced low-carbon energy-saving technologies and the management means of the intelligent system, consider “intelligence and low carbon” as the objectives, optimized design of green buildings and integration of low-carbon advanced applied technologies as the support, and build the buildings of Northeast Asia Green Finance Center into a key demonstration project of Yujiapu Financial District.

4.5.8 Explore an innovative mechanism for promoting facilitation of green trade, strive for supporting policies for the free trade zone, establish APEC green supply chain service center and provide assistance in undertaking an APEC round table conference for green development.

Seize the opportunity that China hosts the 2014 APEC Conference, persuade China and other member economies of APEC into supporting the establishment of APEC green supply chain cooperation platform, and develop APEC green supply chain management service center in Yujiapu Financial District, Tianjin. Seize the opportunity of development of a free trade zone, take an active part in the national pilot project for trade and investment facilitation in Tianjin, give play to the dominant role of the market, explore commercialized solutions in such aspects as green supply chain building and performance improvement, and the development and popularization of standards for environmental products and environmental service, arrangement of international mutual recognition, service relating to green low carbon certification and verification, green rating and credit rating system, total solution of green credit, and technical service and international trading platforms for innovative financial products and open and transparent green commodities, and strive for green customs clearance of environmental products and other national pilot policies.

Support and actively participate in the 2014 APEC round table conference for green development undertaken by related departments of the State and Tianjin, learn related foreign experience, further enlarge the influence of Yujiapu Financial District among the member states of APEC, invite the experts in the industry to hold various seminars, academic forums and

other activities, actively undertake related APEC conferences for green supply chains and raise the influence of Yujiapu pilot project for green supply chain management.

4.6 Measures for green supply chain management service of Yujiapu Financial District

4.6.1 Establish a green supply chain industry alliance and carry out research on industrial standards for green commodities in each industry

The building of a green supply chain management system mainly caters for “green commodities”. Developing a green supply chain management system is a fundamental guarantee in the full life cycle of green commodities and an important basis for construction of green cities. It is good for realizing institutional innovation of green transformation and provides an important industrial backup for implementing the strategic goal of energy conservation and emission reduction. It is an intrinsic requirement for promoting traditional industries to adapt to the changes in international market environment. Chinese green commodity system develops fast in the recent years, but it has always faced the restriction from lack of industrial standards. What are “green commodities” and how to identify a commodity as a “green commodity” are always the questions the participants of green supply chain think over.

Yujiapu Financial District has been determined as a demonstrative area for implementing green supply chain in Tianjin. When implementing the work of green supply chain, Yujiapu Financial District should actively

organize the leading enterprises of all commodity production enterprises to set up a green supply chain industry alliance. In the system of the green supply chain industry alliance, the leading enterprises in each industry play a leading role, the research work on industrial standard for green commodities is conducted for the industry and a green commodity evaluation standard system is completed, laying a solid foundation for nationwide green commodity evaluation in the future.

Meanwhile, while Yujiapu Financial District implements work tasks for green supply chain, it shall also support green commodity certification enterprises to settle down in Yujiapu Financial District, support the subordinate enterprises to join the green supply chain industry alliance to become the shareholders or controllers of the laboratories relevant with green commodity certification, and support subordinate enterprises to carry out the research and popularization of standard systems relevant with green commodity certification.

4.6.2 Demonstrative trading of green building materials in Yujiapu Financial District

While implementing the work tasks of green supply chain, Yujiapu Financial District will take the lead in implementing procurement of green building materials during construction of a Low-Carbon Model Town. At present, the principal buildings in the plots of the starting area of Yujiapu Financial District are basically completed. In the next step, secondary structure and interior decoration works will be conducted. In the secondary structure and interior decoration works of the buildings in the starting area of Yujiapu Financial District, all the related building

material products adopt green products.

At present, the procurement of green building materials for the construction of Yujiapu Financial District has completed the formulation of a green design specification and green building material standard for the starting area, and requirements for green procurement have been put forth for some building material products related during construction of the starting area. Meanwhile, with the help of the pilot project for construction of the starting area, the first demonstration trade of green building materials was initiated. The plots participating in the first demonstration trade of green building materials in the starting area of Yujiapu Financial District are mostly the buildings owned by Innovative Finance Company. Through this demonstration trade of green building materials, the reactions of market participants were collected to know market situation, inspect the reasonableness and applicability of technical standards, accumulate preliminary experience for green building material procurement of more plots and more buildings and gradually promote demonstration trade of green building materials to Baolong Building, Shenglong Group, Cognition Building and the construction of buildings in other plots of Yujiapu Financial District. Eventually all the building materials involved during construction of all the plots and buildings in Yujiapu Financial District will be green building materials.

4.6.3 Procurement of green office supplied in Yujiapu Financial

District

During construction of a Low-Carbon Model Town, Yujiapu Financial District not only guaranteed the related building materials are all green buildings, and the office furniture, office supplies and office equipment inside buildings in the future all shall be green products.

In the future, after the buildings of Yujiapu Financial District are completed, the work relating to the formulation of standards for green furniture and green office supplies needs to be done, definite requirements for the office furniture, office supplies and office equipment selected by the organizations in the district shall be set forth, and the selected office furniture, office supplies and office equipment must all conform to the provisions of green products.

Or a “green brand database” may be established for the office furniture, office supplies and office equipment selected in Yujiapu Financial District to collect the brands of all the office furniture, office supplies and office equipment that meet the green product standard. The brands of the office furniture, office supplies and office equipment selected by the organizations in Yujiapu Financial District must be the brands in this database. The brands not in the database may not be used in the buildings inside Yujiapu Financial District.

4.6.4 Establishment of a green commodity trading platform of Yujiapu Financial District

While implementing the work tasks of green supply chain, Yujiapu Financial District will also carry out the service of green commodity trading, establish a green commodity network trading platform, apply the trading system established in the early period to the construction of a network platform, and build a C2C e-commerce model. The traded products must meet the requirements for green commodities. By relying on the urban construction of Yujiapu Financial District and by taking green building materials as the cut-in point of traded products, the district will build China’s first green commodity network trading platform. After the trading platform is mature, the scope of traded products will be

gradually enlarged. They mainly include: energy-saving lamps, electric vehicles and other energy saving environment friendly products.

The green commodity network trading platform of Yujiapu Financial District shall attract all kinds of low-carbon environment-friendly product suppliers and becomes China's first low-carbon environment-friendly product e-commerce platform. The green commodity network trading platform mainly cater for corporate procurement and government procurement.

4.6.5 Visit and survey institutions relevant with the establishment of a green supply chain

While implementing the work tasks of green supply chain, Yujiapu Financial District should tighten the ties with other domestic and foreign places where the work tasks of green supply chain are implemented and establish relations of strategic cooperation with them. In order to actively absorb the successful experience of various areas in the establishment of a green supply chain, Innovative Finance Company as the owner of Yujiapu Financial District and an organization responsible to implement green supply chain needs to go out and visit the competent government departments, technical consulting institutions and local green supply demonstration zones, such as: the Ministry of Environmental Protection, Environmental Defense Fund, National Development and Reform Commission, the Ministry of Finance, Shanghai Green Supply Chain Demonstration Area and other related departments, observed and researched them, knew related policies, green supply chain development trend, current technical condition, market-based model, market intention, successful cases, development potential and development directions, draw on the research results and practical experience of all departments and areas, and design the realization path of green supply chain of

Yujiapu Financial District as one of the basic support conditions for establishing a green supply chain of Yujiapu Financial District.

4.6.6 Organize or undertake meetings relevant with green supply chain

Green supply chain is an emerging industry in China, even the whole world. At present, no uniform model has been formed in China in regard to standard formulation, institutional building and industrial development direction of green supply chain, and there exists a large policy blank, market blank and technical blank in the field of green supply chain in China. Strengthening exchange and learning of domestic and foreign experience in the establishment of a green supply chain is a necessary means to perfect Yujiapu Financial District and develop a green supply chain project.

Therefore, during implementation of the work tasks of green supply chain, in order to realize better and faster development of green supply chain in Yujiapu Financial District, Yujiapu Financial District should strengthen contacts with other areas and organizations which implement the work tasks of green supply chain, and acquire experience. For this reason, Yujiapu Financial District should organize or undertake many meetings relating to green supply chain, carry out exchange, study and cooperation with related domestic and foreign government departments, research institutions and operating institutions, know domestic policies and international trends relating to green supply chain, extensively absorb experience for the implementation of green supply chain in Yujiapu Financial District, and broaden the road for establishment of green supply chain of Yujiapu Financial District.

4.6.7 Promote green consumption and cultivate green consumption culture

While implementing the work tasks of green supply chain, Yujiapu Financial District not only should realize 100% procurement of green building materials and 100% procurement of green office supplies for self-construction but also should actively promote green consumption among the enterprises in the district and local people, cultivate green consumption culture of Yujiapu Financial District and build a green supply chain.

Green consumption is a necessary choice for the development of human consumption pattern. Yujiapu Financial District is a Low-Carbon Model Town. The establishment of a green consumption pattern is a necessary choice for realizing a Low-Carbon Model Town of Yujiapu Financial District. It relies on consumption education to change consumption concept, thus changing consumer's consumption behaviors. Therefore, in the operating stage of Yujiapu Financial District, vigorous effort should be made to cultivate people's awareness on ecological civilization, encourage the people to take part in low-carbon consumption, stimulate green consumption, establish a correct consumption concept, form a lifestyle of moderate consumption and meanwhile highlight environmental education of enterprises and consumers.

4.6.8 Establish an independent green commerce support system of Yujiapu Financial District

In order to more effectively implement a green supply chain of Yujiapu Financial District, Tianjin Municipal Government has defined "Yujiapu

Green Commodity Service Demonstration Area” project as key work for the establishment of a green supply chain in Tianjin. Therefore, in the future investment promotion of Yujiapu Financial District, active effort should be made to attract the enterprises relevant with green supply chain to settle down in Yujiapu Financial District. It is suggested to research and formulate “green entry standard” for business entities in Yujiapu Financial District. The main content includes: shop design, packaging, sold commodities, and condition of upstream and downstream suppliers relating to the organizations in the district, making it a yardstick during investment promotion of Yujiapu Financial District. The organizations which conform to this standard in this district may obtain honorary rewards or policy subsidies, making them star enterprises in the category of green supply chain of Yujiapu Financial District.

4.6.9 Actively apply for APEC green commodity demonstration area

Tianjin Municipal Government has included the construction of Yujiapu APEC green commodity service demonstration area into the *Implementation Plan for the Pilot Project of Tianjin Green Supply Chain Management*. In the period to come, the building of APEC green commodity demonstration area will become a key task for implementing a green supply chain of Yujiapu Financial District. Therefore, the future work should seize the opportunity that China will host APEC Annual Conference this year in China and effort should be made to have high-level international conferences relevant with green supply chain settle down in Yujiapu or reflect the elements of Yujiapu. Meanwhile, Yujiapu Financial District will strive to obtain support of the Ministry of Environmental Protection, China Council for International Cooperation on Environment and Development (CCICED) and other departments and institutions, actively apply for green commodity service demonstration

area and bring the model of Yujiapu Financial District for implementing the work tasks of green supply chain to the world.

4.7 Develop flagship enterprises for green supply chain management service of Yujiapu Financial District

In order to implement the work tasks of Tianjin green supply chain, Innovative Finance Company as the owner of Yujiapu Financial District led and allied with Sino Carbon Innovation & Investment Co., Ltd., China Environment Certification and related enterprises to establish Tianjin Low-carbon Development and Green Supply Chain Management Service Center. The establishment of the service center aims to more effectively implement the work tasks, develop Yujiapu Financial District into a demonstration area of green supply chain in the range of APEC, and build itself into a flagship enterprise at home and even in the range of APEC.

In the future, the main business of the service center should focus on the following few aspects:

- 1) The service center will be developed into a green procurement service platform of Yujiapu Financial District. The work on procurement of green building materials and green office furniture will be spread from points to a surface. It starts with the procurement of green building materials for the buildings owned by Innovative Finance Company in the starting area of Yujiapu Financial District, is gradually spread to the whole starting area and finally to the whole Yujiapu Financial District and CBD, and forms a regional center of Binhai New Area for the establishment of a green supply chain.

In the same time, the service center should establish a green commodity trading system of Yujiapu Financial District, carry out related research on the trading models and give full consideration to the links and interactions among key influencing factors of green commodity trading. It should establish a green commodity trading platform of Yujiapu Financial District, gather green commodity manufacturers, agents and consumers, enhance the financial vitality of green commodity trading in Yujiapu Financial District and establish a perfect green commodity trading assessment system.

- 2) Promote industrial clustering of green supply chain. When pushing on the establishment of a green supply chain in Yujiapu Financial District, the service center should actively bring related financial institutions, certification institutions, low-carbon research and consultation institutions, trading centers and other related enterprises into Yujiapu Financial District and form industrial clustering of the green supply chain. It should prompt the establishment of a green supply chain in the starting area of Yujiapu and gradually transfer it from procurement of green building materials to green procurement of commercial and office products and other industries.
- 3) Carry out low-carbon training service. Training courses with different content and objects should be introduced and mainly fall into two categories, including: green supply chain training and low-carbon training. In the range of Tianjin, “low-carbon economist”, “carbon manager”, “carbon inspector”, “low-carbon auditor”, “low-carbon financier” and popular training courses will be opened at first. Meanwhile, related qualification assessment and identification will be undertaken and training classes will be opened for

enterprises. “Green supply chain manager” qualification training course accepted by the Ministry of Human Resources and Social Security will be researched and developed. Training courses for the party and government organs of Tianjin at all levels and financial institutions will be developed and implemented as soon as possible.

- 4) Expand carbon inspection and verification business. The service center will establish and improve rules and service flows for carbon verification business, and obtain related qualifications for carbon inspection and verification. It should provide training service for initial inventory and counseling for pilot carbon trading in the area. As a chartered service institution, it should provide carbon verification service for pilot carbon trading enterprises in Tianjin and for voluntary carbon emission reduction projects. It should take the lead in carrying out carbon verification of public buildings in Yujiapu Financial District at first and then gradually spread it to the whole CBD and even Binhai New Area.
- 5) Promote the establishment of a green commodity certification system. During investment promotion, the service center should support green commodity certification enterprises to settle down in Yujiapu, cooperate with the institutions or laboratories relevant with green commodity certification, carry out the research on standard systems and policies relevant with green commodity certification in combination with the construction of a Low-Carbon Model Town and the implementation of the work tasks of a green supply chain in Yujiapu Financial District, and gradually carry out green credit rating and certification.

- 6) Organize publicity of green supply chain. The service center as a flagship enterprises for the implementation of the work on green supply chain should actively organize the publicity relevant with green supply chain, enlarge its influence in all fields and popularize related knowledge. Meanwhile, the service center as a platform implementing the work of green supply chain in Yujiapu Financial District should organize the publicity work of Yujiapu Financial District from the perspective of establishment of a green supply chain and enlarge its popularity and influence in the field of green supply chain. In Yujiapu Financial District, it may publicize the achievements and latest trends of Yujiapu Financial District for implementation of work tasks of green supply chain on the websites of Innovative Finance Company and the service center, and meanwhile may organize publicity activities relevant with green commodity trading inside Yujiapu Financial District, such as: green commodity exposition and technical exchange meeting for green commodities. Outside Yujiapu Financial District, the service center may cooperate with China Council for International Cooperation on Environment and Development (CCICED) and APEC, jointly organize or attend meetings and activities relevant with green supply chain and publicize the establishment of a green supply chain in Yujiapu Financial District at such meetings or activities. 2014APEC Green Development Forum will be opened in Tianjin. Yujiapu Financial District is also a major participant. On this occasion, the service center may publicize its achievements made during implementation of the work tasks of green supply chain and its future development trends, thus raising its influence in the field of green supply chain.

Chapter 5 Conclusion

On June 19, 2010, Yujiapu Financial District was determined as the first APEC Low-Carbon Model Town. Since then, Yujiapu Financial District has carried out enormous research and practice relevant with Low-Carbon Model Town. According to the deployment and requirements of Tianjin Municipal Party Committee and Municipal Government, Yujiapu Financial District as a supporting service base for the financial reform and innovation of Tianjin established the planning and design standards for environmental protection, low carbon, energy conservation and emission reduction at the very beginning of planning. Moreover, the construction and development objectives of Yujiapu Financial District are highly consistent with the goal of implementing the work of green supply chain issued by Tianjin Municipal Party Committee and Municipal Government, so Yujiapu Financial District possesses the good basic conditions for the implementation of the work of green supply chain. According to the construction approach of Yujiapu Financial District, Yujiapu Financial District will rely on its unique location advantage, policy advantage and environmental advantage, gradually carry out and implement the concrete work on the work task of green supply chain, establish an APEC green commodity service demonstration area in Yujiapu and eventually develop Yujiapu Financial District into a demonstration district in the process of implementing the work of green supply chain.

Part Two

Work Plan for the Pilot Project of Green Supply Chain Management of Yujiapu Financial District

Work Plan for the Pilot Project of Green Supply Chain Management of Yujiapu Financial District

In order to implement the *Decision on Intensively Implementing the Spirit of the Important Speech Made by General Secretary Xi Jinping during His Visit to Tianjin and Building a Beautiful Tianjin* made at the Third Session of Tianjin Tenth Municipal Party Committee and the *Implementation Plan for the Pilot Project of Green Supply Chain Management of Tianjin* issued by Tianjin Municipal People's Government (Jin-Zheng-Ba-Fa [2013] No. 94) and actually promote the pilot project of green supply chain management of Yujiapu Financial District, this implementation plan is hereby formulated.

I. Executive agency

Tianjin Innovative Finance Investment Co., Ltd. (hereinafter referred to as "TIFI") is a city operator of Yujiapu Financial District and undertakes the overall planning, development, construction, and investment promotion and operation management of Yujiapu Financial District.

Tianjin Low-Carbon Development and Green Supply Chain Management Service Center ("Service Center") is China's first market-based integrated service platform for green supply chain management. As an important result of a demonstration project of China Council for International Cooperation on Environment and Development (CCICED) for green supply chain management policy, the Service Center is dedicated to providing one-stop service for green supply chain management under the guidance of CCICED and related departments.

Tianjin Innovative Finance Low-carbon Institute (hereinafter referred to as “Low-carbon Institute”) as a support unit to the low-carbon construction of Yujiapu Low-Carbon Model Town carries out systematic research, practice and promotional activities in the whole process including planning, design, construction and operation. The institute is the first research institute which is specialized in low-carbon town and whose establishment is supported by APEC. Under the guidance of National Energy Administration, it has quickly grown into a core technical supporting force to APEC Low-carbon Town, carried out a number of projects for domestic and foreign technical output service and held “Low-Carbon Town Tour in China” program.

II. Preliminary work basis

- (I) the first case for APEC Low-Carbon Model Town construction has produced preliminary result, providing a favorable condition for introducing the means of green supply chain management.

Yujiapu Financial District is planned and built in strict compliance with a green low-carbon concept. On June 19, 2010, the 9th APEC Energy Ministerial Meeting was held in Fukui, Japan. The meeting determined Yujiapu Financial District as the first APEC Low-Carbon Model Town. The external environment and work mechanism for low-carbon town construction are being improved day by day. In order to promote APEC Low-Carbon Model Towns, APEC established APEC Low-carbon Town Work Group on the basis of the original AECE Energy Work Group and set up an exchange and communication mechanism. It holds two special meetings a year. Chinese government pays great attention to it. At the 18th APEC Leaders’ Meeting in 2011, Chinese state leaders proposed for “strengthening cooperation in

low-carbon model town”. This proposal was included in the Leaders’ Declaration of the 19th APEC Meeting held in 2012. The International Cooperation Department of National Energy Administration worked with the Energy Research Institute of National Reform and Development Commission and the International Department of the Ministry of Foreign Affairs to promote the implementation of related research, cooperation and projects. Tianjin Municipal Development and Reform Commission and Binhai New Area CBD Administrative Committee are concretely responsible to coordinate and promote the construction of Yujiapu Low-Carbon Model Town.

Yujiapu Financial District achieved outstanding effect in the construction of low-carbon town. It has successively completed the *Guideline on Sustainable Development of Yujiapu*, *Feasibility Study on Low-carbon Town*, *APEC Low-carbon Town Indicator System* and other guiding documents and implemented them one by one in view of engineering construction progress. It completed the green building evaluation of seven high-rise office buildings. Four of them have obtained green building design labeling certificates and signs issued by the Ministry of Housing and Urban-Rural Development. It completed the planning design and technical standards of regional energy center, low-carbon landscape, and bicycle lease system, electric vehicle charging piles and other low-carbon facilities of Yujiapu Financial District and determined investment and operation models. The construction of the regional energy center and piping network utility tunnels has been started smoothly.

The effect of Yujiapu Financial District as a low-carbon model is

getting more obvious. While strengthening self-building and standard research, Yujiapu Financial District took active effort in external exchange and publicity. It assisted National Energy Administration undertaking Forum on APEC Low-Carbon Town twice; held expert review on APEC Low-Carbon Model Towns three times; received the visits of construction authorities from Japan, Singapore, Thailand and other APEC economies as well as Beijing, Shanghai, Chongqing, Anhui, Shanxi and other provinces; assigned an expert panel to attend the examination of Thai Samui Island, Vietnamese Da Nang and other low-carbon towns at the invitation of APEC low-carbon town work group.

The strength of Yujiapu Financial District in low-carbon technology grows quickly. It cooperated with Tenio Architecture and Engineering Co., Ltd. to establish Tianjin Innovative Finance Low-carbon Institute (Low-carbon Institute), playing an important role in technical support to the construction of Yujiapu Financial District. In response to the construction of Yujiapu Financial District, Low-carbon Institute actively introduced high-caliber professionals and carried out a series of major research projects. It concretely undertook the preparation of more than ten technical documents, including the first low-carbon town indicator system of APEC - *Low Carbon Town Indicator System of Yujiapu Financial District*, and *Low-carbon Launch Plan of Yujiapu Financial District*. The institute as the first professional low-carbon town research institute of which establishment was supported by APEC has rapidly grown into a core technical supporting force to low-carbon towns of APCE and carried out many domestic and foreign technical output services.

- (II) Yujiapu Financial District attended in the whole process the initial research and policy demonstration of the pilot project of Tianjin for green supply chain management. Significant progress has been made in the pilot project.

Yujiapu Financial District attended in the whole process the initial work of the pilot project of Tianjin for green supply chain management and was selected as a pilot area for green supply chain management in Tianjin. Yujiapu Financial District designated a professional research institute to carry out project study of *the Plan for Green Supply Chain Management of Yujiapu Financial District*. On January 23, 2014, it initiated the first green purchase of building materials, involving ceramic tiles, sanitary ware, lamps, carpets, gypsum boards, sunshades and other bulk building materials and covering five high-rise office buildings and underground business streets in the starting area of Yujiapu Financial District.

China Environment Certification Center of the Ministry of Environment and other domestic leading green low carbon service institutions were introduced to establish Tianjin Low-Carbon Development and Green Supply Chain Management Service Center (Green Supply Chain Service Center). Since establishment in October 2013, breakthrough has been made in business. The center took part in carbon inventory of the first batch of carbon trading pilot enterprises in Tianjin. As one of the first carbon quota trading buyers in Tianjin, it bought 5000 tons of carbon quota indicator. It put forth a green design specification for the bidding of the design of fine decoration of business buildings and underground business streets of the TIFI

and provided full-process service for green purchase of Yujiapu Financial District. The Chinese version of its website was launched on January 23 and bidding announcement was published. It undertook the project of Tianjin Municipal Development and Reform Commission for research on a model for sustainable carbon trading and a cooperative platform of APEC for green supply chain management. It participated in the research on the plan for Northeast Asia Financial Center. The draft of the plan is basically completed. It involved in the management planning, standard formulation and related project study of the green supply chain of Yujiapu Financial District.

Besides, the green supply chain service center actively developed green certification business, set up a green certification department, researched service rules and flows, strengthened shareholder and external cooperation and formed green product certification, certification of green building materials and decorative materials, consultation of green building certification, carbon inventory, the development, operation and maintenance of the electronic information system of enterprise greenhouse gas reports and other service abilities. In combination with the first procurement of green buildings of Yujiapu Financial District, it is studying a work plan for promotion of regional green procurement. The green and low-carbon training service is mature. It may provide training service of “carbon manager” qualification under the Ministry of Human Resources and Social Security and is applying for training on “green supply chain manager” qualification. Headway has been made in the development of green financing rating service.

(III) Yujiapu Financial District exerts effort to develop industrial finance and green low-carbon modern service system. It established China Financial Lease Co., Ltd. after reorganization and establishment of Tianjin Innovative Finance Low-carbon Institute, Galaxy Dahua Low-Carbon Industrial Fund Management, Innovative Finance Smart City Operation Company, Suez Energy Center Operation Company, Green Supply Chain Service Center and other institutions. It established relations of strategic cooperation with many leading Chinese and foreign green low-carbon enterprises and public institutions and built up core competence of green low-carbon industry.

Tianjin Innovative Finance Low-carbon Institute is also one of the main executive agencies for implementing the work ask of green supply chain of Tianjin. In the initial work process, the Low-carbon Institute completed the compilation of Yujiapu Financial District indicator system; the consultation and application of green building evaluation for the starting area of Yujiapu Financial District; low-carbon energy research, low-carbon traffic research and smart city research of Yujiapu Financial District.

III. Work Approach and Main Objective

Yujiapu Financial District is spearheaded by promoting facilitation of green investment and trade, actively takes part in the research and practice of green trade and investment facilitation of the free trade zone, centers on the construction of APEC Low-Carbon Model Town, explores an innovative model for applying market means of green supply chain management to promote green low-carbon urbanization, relies on green supply chain management

service platform, low-carbon research institutions and other supporting entities, drive standard formulation and popularization, rating, certification, purchase, trading, technical R&D application, logistics and other market services of green low-carbon commodities, puts forth diversified innovative services for green finance, researches and introduces supporting regional support policies, strives for supporting policies for the free trade zone in order to promote facilitation of green investment and trade, develops landmark green buildings with a carrier function, accelerates gathering of industries, funds, technologies and talents, builds an APEC green supply chain service center and develops Northeast Green Finance Center.

Following the deepening of the construction of a low-carbon model town of Yujiapu Financial District, while implementing the work task of a green supply chain, the district will gradually play its advantage as a shareholder of the service center, allies with low-carbon research institutions, strengthens external cooperation, develops a business team and forms regular business and the ability of continuous profitability as soon as possible. It will integrate resources, exert effort in the R&D of innovative and knockout products and introduce commercialized services in the shortest possible time. It will establish a market network, focus on key customers and upgrade its service brand. It will develop an integrated service platform for electronic information of green supply chain management and raise service capability and management level.

IV. Main tasks

- (I) Strengthen plan research and standard formulation of Yujiapu

Financial District relevant with green supply chain.

When implementing the work tasks of Tianjin for green supply chain, Yujiapu Financial District needs to formulate *Special Plan for Green Urban Area of CBD*, and *Regulations for Management of Green Buildings in CBD* to manage and guide the planning design, development and construction of construction projects, and define regulations for green procurement. It should summarize the experience in the planning and implementation of green buildings in the starting area of Yujiapu Financial District, promote the green urban planning of the areas outside the starting area of Yujiapu and Tianjin Business Area, and determine a green building star-rating standard and road map in a scientific and reasonable manner. It should formulate *Mid/Long-term Plan for Green Supply Chain Management of Yujiapu Financial District*, an action plan and a road map. It should formulate *Measures for the Administration of Green Buildings and Green Procurement of Yujiapu Financial District*, organize the research of a green standard of building materials, establish *Technical Standard of Yujiapu for Green Building Materials* and introduce by stage A *List of Green Building Materials in Yujiapu*. It should formulate *Measures for the Administration of Green Certification in Yujiapu Financial District*, *Plan for Development of a Green Procurement Platform of Yujiapu Financial District*, *Business Rules*, and *Plan for Pilot Project of Green Trade and Investment Facilitation of Yujiapu Financial District* and release in an appropriate time the *Measures for the Administration of Green Trade and Investment Facilitation of Yujiapu Financial District*.

- (II) Carry forward the construction of the first APEC Low-Carbon Model Town, realize regional green low-carbon objective and create demand for green consumption

Deepen and refine the low-carbon indicator system of Yujiapu Financial District and guide the planning, construction and operation management of subsequent projects by the research results of the indicator system. Implement the *Low-carbon Town Indicator System of Yujiapu Financial District* and the *Low-carbon Launch Plan of Yujiapu Financial District* and form demonstrative effect of low-carbon towns as soon as possible. Encourage enterprises in the district to make innovation in concepts, adopt low-carbon operation and introduce the *Measures for the Administration of Low-carbon Commerce of Yujiapu*.

Build an urban area with at least 10 million square meters of green buildings and accelerate the design labeling review and evaluation of green buildings in the starting area. Through “advance planning, meticulous design, optimized technology and scientific operation”, develop an urban district of green buildings with the highest standard in China, realize high-standard green buildings at a low price, ensure the projects in the starting area realize at least 30% of high-star-rated buildings in an urban area of green buildings as required by the Ministry of Housing and Urban-Rural Development, and strive to reach 70%. Emphasize low-carbon operation of buildings, realize full-life cycle green buildings and ensure all property companies in the district must pass the certification of ISO14001 environmental system and the energy saving rate of buildings reaches 50% or above.

The first financial district adopting intensive energy supply was built up. In 2012, French Suez, one of Global 500, established presence in Yujiapu Financial District, the investment and construction of the energy center in the starting area was initiated and effort will be made to ensure it is put into service synchronously with the buildings in the starting area. Through intensive energy supply and intelligent efficiency management means, it is predicted that the emission of more than 30,000 tons of carbon dioxide may be reduced.

Perfect low-carbon traffic planning and operating model and establish an integrated low-carbon traffic system. Build underground space and surrounding buildings synchronously, realize seamless connection of public transit and promote the building of an intelligent traffic system, bicycle leasing, electric vehicle charging piles and other low-carbon facilities. Build waterfront low-carbon landscape, and enrich low-carbon demonstration and low-carbon culture in the area. Rely on roof greening, popularize urban agriculture and explore low-carbon potential.

- (III) Practice green procurement, apply green supply chain management means and drive green transformation of suppliers.

Carry out a comprehensive green procurement system in a planned and step-by-step way, and expand from incentive transition to compulsory transition, from building materials and components to daily procurement, from commodity procurement to whole-process service procurement, and from Yujiapu Financial District to CBD and Binhai New Area. Realize green procurement and sunshine procurement through an open,

transparent and unified green bidding and procurement platform, apply market means to drive industrial upgrading of upstream construction enterprises and suppliers and lower the overall environmental low-carbon footprint of Yujiapu Financial District. Organize demonstrative trading, explore experience, discover problems and optimize the flow. Do well in demonstrative trading of green procurement for fine decoration of the five plots in the starting area of Yujiapu Financial District and the underground business street, and accelerate its reproduction and popularization.

Support the service center to carry out certification service of green building materials. Provide service for green procurement of Yujiapu Financial District, start with green tender agent service, establish a sound service platform, continuously enlarge the scope of green procurement, and gradually extend service to CBD, Binhai New Area and other areas.

- (IV) Support the development of key research institutions and strengthen standard research, and technology R&D, popularization and application. Increase support to Tianjin Innovative Finance Low-carbon Institute, and carry out related standard R&D in focus on the core issues concerning the pilot project for low-carbon model town construction and green supply chain management of Yujiapu Financial District. Demonstrate and lead the practice of APEC Low-Carbon Model Town construction in coordination with the activities of 2014APEC China Year, aim at building a green supply chain market service system and mainly support the Low-carbon Institute to organize and carry out the R&D and application of low-carbon technologies, policies and

industries. Support the Low-carbon Institute to carry out evaluation of green buildings and building efficiency, perfect the special plan of Yujiapu and the green urban area of CBD and implement the objective of all coverage of green buildings by starting with land sorting and assignment. Push on the development and service of carbon inventory and carbon verification standards for the construction and operation of public buildings. Support the Low-carbon Institute to carry out the R&D, application and popularization of underground space environment quality, roof landscape agriculture and other low-carbon technical industry and enlarge the industrial connotation of the supply chain.

Quicken the building of service ability of the service center, develop flagship enterprises of green supply chain, and provide one-stop service for the pilot project of green supply chain management. Enlarge the scope of service products of the service center, formulate business rules and develop a business group. Take the lead in carrying out certification standard development and verification and certification service of green commodities, green buildings, building materials, components and decorative materials under the support of related government departments, integrate resources, exert effort in the R&D of green innovative products for financing rating and put forth commercialized service as soon as possible. Perfect carbon inventory and verification service, and try to make the service center obtain the qualification of a third party service institution for carbon verification in Tianjin in 2014. Provide technical support for related departments to develop carbon emission report system and carbon asset management system and provide technical service for enterprises to develop carbon emission report systems

and carbon asset management systems. Promote training and education, initiate “carbon manager” training course under the Ministry of Human Resources and Social Security, gradually enlarge training scale, and apply for and carry out “green supply chain manager” training course under the Ministry of Human Resources and Social Security. Undertake major empirical research and project demonstration of green supply chain management.

- (V) Perfect the green supply chain management market service platform and exert effort to raise comprehensive service ability. Support the green supply chain service center and take the lead in carrying out green certification service of building materials, components and decorative materials in Yujiapu Financial District. Build a market network in focus on the key business of the service center, actively develop a green procurement platform service, establish a sound membership system, perfect member service and actively expand the market. Designate the green supply chain service center as green tender agency of Yujiapu Financial District, support it to develop an integrated service platform for electronic information of green supply chain management, and organize information publication and green bidding of green building material procurement of Yujiapu Financial District. Integrate resources, exert effort in the R&D of green innovative products for financing rating and introduce commercialized service as soon as possible.

Formulate and carry out related service software development and background construction as per the service rules and flows of the service center, and put up a unified electronic information

service platform consisting of main blocks including green supply chain information bank, green certification system, green rating system, green procurement platform, green low-carbon online education system and carbon emission information report system.

In the same time, support the green supply chain service center to get carbon verification business of Tianjin in 2014, provide the services for development, operation and maintenance of enterprise carbon emission report electronic information system and carbon asset management system, undertake major empirical research projects, cooperate in capacity building, organize and carry out “carbon manager” training course under the Ministry of Human Resources and Social Security, apply for and carry out “green supply chain manager” training course under the Ministry of Human Resources and Social Security, do well in serving the pilot units for green supply chain of the city, develop key customers, build service brands and establish an integrated service platform for electronic information of green supply chain management.

- (VI) Research and introduce regional supporting policies and measures and reform the model of financial and tax support to green low-carbon industry and projects. Research and introduce promoting measures and incentive policies of green urban areas and buildings, attract green industry investment and encouragement policies, as well as related fiscal reward and subsidies, tax preference and other supporting support policies. Research an innovative mechanism for integrating and revitalizing special fiscal support funds to energy conservation and emission

reduction, reform fund innovation mechanism and fund appropriation model, provide financial subsidies and rewards no longer based on whether the project is started but based on the actual energy conservation benefit verified by an independent third-party audit institution, raise the use efficiency and transparency of financial fund, strengthen public supervision and drive development of third-party service institutions.

(VII) Build an APEC green supply chain service center and help the development of Northeast Asia Green Financial Center

Establish Northeast Asia Financial Center, set up a green financial fund platform, explore innovative green financial service and develop landmark green buildings with a carrier function. Seize the opportunity that Tianjin is trying to develop a national reform and innovation area, strengthen regional exchange and cooperation, attract private investment and support funds of Northeast Asia, establish Northeast Asia green and environmental protection parallel fund and government guidance fund, develop Galaxy Dahua Low-Carbon Industry Fund, and strengthen green low-carbon financial lease business of China Financial Lease Company. Integrate and upgrade the existing environment-friendly, low-carbon and free finance and related specialized services in Binhai New Area, Tianjin, rely on professional service for green supply chain management market, attach importance to developing a standard evaluation system which serves the environmental protection industry and links green finance, introduce various kinds of innovative services for green finance, and earnestly solve the fund bottlenecks holding back the development of green industries. Develop Northeast

Asia Green Finance Center Building, increase hardware support, promote industrial incubation and attract the gathering of low-carbon industries, funds, technologies and talents. Establish Northeast Asia Green Finance Center with scientific concept, complete functions, smooth mechanism and controllable risk.

Develop the service center into an APEC green supply chain service center, practically play the role of market platform and make it serve the building of Northeast Asia Green Finance Center. Strive for policy support of related departments of the State and the city, strengthen international cooperation, accelerate development of green financing rating service products of the service center, formulate a green rating standard, model and business guidelines, put up a bridge between green low-carbon industry and financial market, provide a market-based solution to solve the fund bottlenecks of green low-carbon development and provide technical support for the development of green finance.

Northeast Asia Green Finance Center will settle down in the starting area of Yujiapu Financial District. The proposed site is plots 3-15. It will attract a great many international financial institutions. The Low-carbon Institute will, on the basis of the green building design of this project, continue to deepen the research and application of advanced low-carbon energy-saving technologies and the management means of the intelligent system, consider “intelligence and low carbon” as the objectives, optimized design of green buildings and integration of low-carbon advanced applied technologies as the support, and build the buildings of Northeast Asia Green Finance Center into a key

demonstration project of Yujiapu Financial District.

- (VIII) Explore an innovative mechanism for promoting facilitation of green trade, strive for supporting policies for the free trade zone, establish APEC green supply chain service center and provide assistance in undertaking an APEC round table conference for green development.

Seize the opportunity that China hosts the 2014 APEC Conference, persuade China and other member economies of APEC into supporting the establishment of APEC green supply chain cooperation platform, and develop APEC green supply chain management service center in Yujiapu Financial District, Tianjin. Seize the opportunity of development of a free trade zone, take an active part in the national pilot project for trade and investment facilitation in Tianjin, give play to the dominant role of the market, explore commercialized solutions in such aspects as green supply chain building and performance improvement, and the development and popularization of standards for environmental products and environmental service, arrangement of international mutual recognition, service relating to green low carbon certification and verification, green rating and credit rating system, total solution of green credit, and technical service and international trading platforms for innovative financial products and open and transparent green commodities, and strive for green customs clearance of environmental products and other national pilot policies.

Support and actively participate in the 2014 APEC round table conference for green development undertaken by related departments of the State and Tianjin, learn related foreign

experience, further enlarge the influence of Yujiapu Financial District among the member states of APEC, invite the experts in the industry to hold various seminars, academic forums and other activities, actively undertake related APEC conferences for green supply chains and raise the influence of Yujiapu pilot project for green supply chain management.

Work Plan for the Pilot Project of Green Supply Chain Establishment of Yujiapu Financial District

(Annex)

1. Background for establishment of a green supply chain in Yujiapu Financial District

The 21st century is full of new prospects and challenges. At present, the economy in the Asia-Pacific Region is being recovered from global financial crisis and getting more influential, but the challenges from increasing energy demand and climatic changes are becoming more prominent. APEC leaders claimed the theme in 2010 was “develop low-carbon economy and ensure energy security - realize sustainable development of APEC through a common energy solution”. Former Chinese President Hu Jintao pointed out at the 2007 15th APEC Leaders’ Informal Meeting, “we should make more efforts in the R&D and popularization of energy saving technologies, environmental protection technologies and low-carbon energy technologies, increase financial input and vigorously promote technical cooperation and transfer”. At the 2011 19th APEC Leaders’ Informal Meeting, former Chinese President Hu Jintao stressed again, “we should actively push on cooperation in low-carbon town demonstration project, and strengthen international cooperation in the fields of new energy and renewable energy, energy conservation, emission reduction, cyclic economy and efficiency raising.

On June 19, 2010, the 9th APEC Energy Ministerial Meeting was held in Fukui, Japan. The meeting determined Yujiapu Financial

District as the first APEC “Low-Carbon Model Town”. Developing Yujiapu Financial District into “a green ecological zone” is a future development goal of Yujiapu Financial District. In order to implement the Reply of the State Council on the Overall Plan for Comprehensive and Supporting Reform Test of Binhai New Area, Tianjin, push ahead economic restructuring and green transformation, promote harmonious development of economy, society and environment, and establish an energy saving and environmental protection system and mechanism integrating administration, economy, law and market. Tianjin Municipal Government plans to develop Yujiapu Financial District, CBD, Binhai New Area into a green city and a green supply chain center. On the basis of Yujiapu Financial District as the first APEC Low-Carbon Model Town, it will build a green city and green supply chain of the CBD. Yujiapu Financial District is the first APEC Low-Carbon Model Town and is also one of the first pilot projects of Tianjin for green supply chain management.

Yujiapu Financial District will realize construction of its blocks according to the concept and standard for green city, build green buildings by using green building materials and building commodities, build a green city by using green buildings, meanwhile establish a green supply management system of Yujiapu Financial District, realize all-round harmonious and sustainable development, develop an ecological city where human and nature exist in harmony and try to realize all-round low carbon in the area.

2. Principle for establishment of a green supply chain in Yujiapu

Financial District

(1) In the construction and planning stage, Yujiapu Financial District will plan and design the city and its blocks according to the concept and standard for green city.

(2) In the construction process, Yujiapu Financial District will build a green urban area by using green building materials and building commodities. After built-up, Yujiapu Financial District will realize 100% coverage of green buildings.

(3) During operation in the future, Yujiapu Financial District will build a green business district by using green furniture and green office supplies and realize low-carbon operation management and green supply chain management of Yujiapu Financial District.

(4) With the building of the first APEC Low-Carbon Model Town as a carrier, the procurement of green building materials as a cut-in point, and the characteristic industries of Yujiapu as reliance, Yujiapu Financial District will gradually build a modern green supply chain demonstration zone covering building materials, electronic products, auto parts as well as green technologies and green consultation.

3. Work tasks for the establishment of a green supply chain in Yujiapu Financial District

1) Establish a green supply chain industry alliance and carry out research on industrial standards for green commodities in each industry

The building of a green supply chain management system mainly caters for “green commodities”. Developing a green supply chain

management system is a fundamental guarantee in the full life cycle of green commodities and an important basis for construction of green cities. It is good for realizing institutional innovation of green transformation and provides an important industrial backup for implementing the strategic goal of energy conservation and emission reduction. It is an intrinsic requirement for promoting traditional industries to adapt to the changes in international market environment. Chinese green commodity system develops fast in the recent years, but it has always faced the restriction from lack of industrial standards. What are “green commodities” and how to identify a commodity as a “green commodity” are always the questions the participants of green supply chain think over.

Yujiapu Financial District has been determined as a demonstrative area for implementing green supply chain in Tianjin. When implementing the work of green supply chain, Yujiapu Financial District should actively organize the leading enterprises of all commodity production enterprises to set up a green supply chain industry alliance. In the system of the green supply chain industry alliance, the leading enterprises in each industry play a leading role, the research work on industrial standard for green commodities is conducted for the industry and a green commodity evaluation standard system is completed, laying a solid foundation for nationwide green commodity evaluation in the future.

Meanwhile, while Yujiapu Financial District implements work tasks for green supply chain, it shall also support green commodity certification enterprises to settle down in Yujiapu

Financial District, support the subordinate enterprises to join the green supply chain industry alliance to become the shareholders or controllers of the laboratories relevant with green commodity certification, and support subordinate enterprises to carry out the research and popularization of standard systems relevant with green commodity certification.

2) Demonstrative trading of green building materials in Yujiapu Financial District

While implementing the work tasks of green supply chain, Yujiapu Financial District will take the lead in implementing procurement of green building materials during construction of a Low-Carbon Model Town. At present, the principal buildings in the plots of the starting area of Yujiapu Financial District are basically completed. In the next step, secondary structure and interior decoration works will be conducted. In the secondary structure and interior decoration works of the buildings in the starting area of Yujiapu Financial District, all the related building material products adopt green products.

At present, the procurement of green building materials for the construction of Yujiapu Financial District has completed the formulation of a green design specification and green building material standard for the starting area, and requirements for green procurement have been put forth for some building material products related during construction of the starting area. Meanwhile, with the help of the pilot project for construction of the starting area, the first demonstration trade of green building materials was initiated. The plots participating in the first

demonstration trade of green building materials in the starting area of Yujiapu Financial District are mostly the buildings owned by Innovative Finance Company. Through this demonstration trade of green building materials, the reactions of market participants were collected to know market situation, inspect the reasonableness and applicability of technical standards, accumulate preliminary experience for green building material procurement of more plots and more buildings and gradually promote demonstration trade of green building materials to Baolong Building, Shenglong Group, Cognition Building and the construction of buildings in other plots of Yujiapu Financial District. Eventually all the building materials involved during construction of all the plots and buildings in Yujiapu Financial District will be green building materials.

3) Procurement of green office supplied in Yujiapu Financial District

During construction of a Low-Carbon Model Town, Yujiapu Financial District not only guaranteed the related building materials are all green buildings, and the office furniture, office supplies and office equipment inside buildings in the future all shall be green products.

In the future, after the buildings of Yujiapu Financial District are completed, the work relating to the formulation of standards for green furniture and green office supplies needs to be done, definite requirements for the office furniture, office supplies and office equipment selected by the organizations in the district shall be set forth, and the selected office furniture, office supplies and office equipment must all conform to the provisions of green

products.

Or a “green brand database” may be established for the office furniture, office supplies and office equipment selected in Yujiapu Financial District to collect the brands of all the office furniture, office supplies and office equipment that meet the green product standard. The brands of the office furniture, office supplies and office equipment selected by the organizations in Yujiapu Financial District must be the brands in this database. The brands not in the database may not be used in the buildings inside Yujiapu Financial District.

4) Establishment of a green commodity trading platform of Yujiapu Financial District

While implementing the work tasks of green supply chain, Yujiapu Financial District will also carry out the service of green commodity trading, establish a green commodity network trading platform, apply the trading system established in the early period to the construction of a network platform, and build a C2C e-commerce model. The traded products must meet the requirements for green commodities. By relying on the urban construction of Yujiapu Financial District and by taking green building materials as the cut-in point of traded products, the district will build China’s first green commodity network trading platform. After the trading platform is mature, the scope of traded products will be gradually enlarged. They mainly include: energy-saving lamps, electric vehicles and other energy saving environment friendly products.

The green commodity network trading platform of Yujiapu Financial District shall attract all kinds of low-carbon

environment-friendly product suppliers and becomes China's first low-carbon environment-friendly product e-commerce platform. The green commodity network trading platform mainly cater for corporate procurement and government procurement.

5) Visit and survey institutions relevant with the establishment of a green supply chain

While implementing the work tasks of green supply chain, Yujiapu Financial District should tighten the ties with other domestic and foreign places where the work tasks of green supply chain are implemented and establish relations of strategic cooperation with them. In order to actively absorb the successful experience of various areas in the establishment of a green supply chain, Innovative Finance Company as the owner of Yujiapu Financial District and an organization responsible to implement green supply chain needs to go out and visit the competent government departments, technical consulting institutions and local green supply demonstration zones, such as: the Ministry of Environmental Protection, Environmental Defense Fund, National Development and Reform Commission, the Ministry of Finance, Shanghai Green Supply Chain Demonstration Area and other related departments, observed and researched them, knew related policies, green supply chain development trend, current technical condition, market-based model, market intention, successful cases, development potential and development directions, draw on the research results and practical experience of all departments and areas, and design the realization path of green supply chain of Yujiapu Financial District as one of the basic support conditions for establishing a

green supply chain of Yujiapu Financial District.

6) Organize or undertake meetings relevant with green supply chain

Green supply chain is an emerging industry in China, even the whole world. At present, no uniform model has been formed in China in regard to standard formulation, institutional building and industrial development direction of green supply chain, and there exists a large policy blank, market blank and technical blank in the field of green supply chain in China. Strengthening exchange and learning of domestic and foreign experience in the establishment of a green supply chain is a necessary means to perfect Yujiapu Financial District and develop a green supply chain project.

Therefore, during implementation of the work tasks of green supply chain, in order to realize better and faster development of green supply chain in Yujiapu Financial District, Yujiapu Financial District should strengthen contacts with other areas and organizations which implement the work tasks of green supply chain, and acquire experience. For this reason, Yujiapu Financial District should organize or undertake many meetings relating to green supply chain, carry out exchange, study and cooperation with related domestic and foreign government departments, research institutions and operating institutions, know domestic policies and international trends relating to green supply chain, extensively absorb experience for the implementation of green supply chain in Yujiapu Financial District, and broaden the road for establishment of green supply chain of Yujiapu Financial District.

7) Promote green consumption and cultivate green consumption culture

Green consumption is a necessary choice for the development of human consumption pattern. Yujiapu Financial District is a Low-Carbon Model Town. The establishment of a green consumption pattern is a necessary choice for realizing a Low-Carbon Model Town of Yujiapu Financial District. It relies on consumption education to change consumption concept, thus changing consumer's consumption behaviors. Therefore, in the operating stage of Yujiapu Financial District, vigorous effort should be made to cultivate people's awareness on ecological civilization, encourage the people to take part in low-carbon consumption, stimulate green consumption, establish a correct consumption concept, form a lifestyle of moderate consumption and meanwhile highlight environmental education of enterprises and consumers.

8) Establish an independent green commerce support system of Yujiapu Financial District

In order to more effectively implement a green supply chain of Yujiapu Financial District, Tianjin Municipal Government has defined "Yujiapu Green Commodity Service Demonstration Area" project as key work for the establishment of a green supply chain in Tianjin. Therefore, in the future investment promotion of Yujiapu Financial District, active effort should be made to attract the enterprises relevant with green supply chain to settle down in Yujiapu Financial District. It is suggested to research and formulate "green entry standard" for business entities in Yujiapu Financial District. The main content includes:

shop design, packaging, sold commodities, and condition of upstream and downstream suppliers relating to the organizations in the district, making it a yardstick during investment promotion of Yujiapu Financial District. The organizations which conform to this standard in this district may obtain honorary rewards or policy subsidies, making them star enterprises in the category of green supply chain of Yujiapu Financial District.

9) Actively apply for APEC green commodity demonstration area

Tianjin Municipal Government has included the construction of Yujiapu APEC green commodity service demonstration area into the Implementation Plan for the Pilot Project of Tianjin Green Supply Chain Management. In the period to come, the building of APEC green commodity demonstration area will become a key task for implementing a green supply chain of Yujiapu Financial District. Therefore, the future work should seize the opportunity that China will host APEC Annual Conference this year in China and effort should be made to have high-level international conferences relevant with green supply chain settle down in Yujiapu or reflect the elements of Yujiapu. Meanwhile, Yujiapu Financial District will strive to obtain support of the Ministry of Environmental Protection, China Council for International Cooperation on Environment and Development (CCICED) and other departments and institutions, actively apply for green commodity service demonstration area and bring the model of Yujiapu Financial District for implementing the work tasks of green supply chain to the world.

4. Develop flagship enterprises for green supply chain management

service of Yujiapu Financial District

In order to implement the work tasks of Tianjin green supply chain, Innovative Finance Company as the owner of Yujiapu Financial District led and allied with Sino Carbon Innovation & Investment Co., Ltd., China Environment Certification and related enterprises to establish Tianjin Low-carbon Development and Green Supply Chain Management Service Center. The establishment of the service center aims to more effectively implement the work tasks, develop Yujiapu Financial District into a demonstration area of green supply chain in the range of APEC, and build itself into a flagship enterprise at home and even in the range of APEC.

In the future, the main business of the service center should focus on the following few aspects:

- 1) The service center will be developed into a green procurement service platform of Yujiapu Financial District. The work on procurement of green building materials and green office furniture will be spread from points to a surface. It starts with the procurement of green building materials for the buildings owned by Innovative Finance Company in the starting area of Yujiapu Financial District, is gradually spread to the whole starting area and finally to the whole Yujiapu Financial District and CBD, and forms a regional center of Binhai New Area for the establishment of a green supply chain.

In the same time, the service center should establish a green commodity trading system of Yujiapu Financial District, carry out related research on the trading models and give full consideration to the links and interactions among key influencing

factors of green commodity trading. It should establish a green commodity trading platform of Yujiapu Financial District, gather green commodity manufacturers, agents and consumers, enhance the financial vitality of green commodity trading in Yujiapu Financial District and establish a perfect green commodity trading assessment system.

2) Promote industrial clustering of green supply chain. When pushing on the establishment of a green supply chain in Yujiapu Financial District, the service center should actively bring related financial institutions, certification institutions, low-carbon research and consultation institutions, trading centers and other related enterprises into Yujiapu Financial District and form industrial clustering of the green supply chain. It should prompt the establishment of a green supply chain in the starting area of Yujiapu and gradually transfer it from procurement of green building materials to green procurement of commercial and office products and other industries.

3) Carry out low-carbon training service. Training courses with different content and objects should be introduced and mainly fall into two categories, including: green supply chain training and low-carbon training. In the range of Tianjin, “low-carbon economist”, “carbon manager”, “carbon inspector”, “low-carbon auditor”, “low-carbon financier” and popular training courses will be opened at first. Meanwhile, related qualification assessment and identification will be undertaken and training classes will be opened for enterprises. “Green supply chain manager” qualification training course accepted by the Ministry of Human Resources and Social Security will be researched and

developed. Training courses for the party and government organs of Tianjin at all levels and financial institutions will be developed and implemented as soon as possible.

4) Expand carbon inspection and verification business. The service center will establish and improve rules and service flows for carbon verification business, and obtain related qualifications for carbon inspection and verification. It should provide training service for initial inventory and counseling for pilot carbon trading in the area. As a chartered service institution, it should provide carbon verification service for pilot carbon trading enterprises in Tianjin and for voluntary carbon emission reduction projects. It should take the lead in carrying out carbon verification of public buildings in Yujiapu Financial District at first and then gradually spread it to the whole CBD and even Binhai New Area.

5) Promote the establishment of a green commodity certification system. During investment promotion, the service center should support green commodity certification enterprises to settle down in Yujiapu, cooperate with the institutions or laboratories relevant with green commodity certification, carry out the research on standard systems and policies relevant with green commodity certification in combination with the construction of a Low-Carbon Model Town and the implementation of the work tasks of a green supply chain in Yujiapu Financial District, and gradually carry out green credit rating and certification.

6) Organize publicity of green supply chain. The service center as a flagship enterprises for the implementation of the work on

green supply chain should actively organize the publicity relevant with green supply chain, enlarge its influence in all fields and popularize related knowledge. Meanwhile, the service center as a platform implementing the work of green supply chain in Yujiapu Financial District should organize the publicity work of Yujiapu Financial District from the perspective of establishment of a green supply chain and enlarge its popularity and influence in the field of green supply chain. In Yujiapu Financial District, it may publicize the achievements and latest trends of Yujiapu Financial District for implementation of work tasks of green supply chain on the websites of Innovative Finance Company and the service center, and meanwhile may organize publicity activities relevant with green commodity trading inside Yujiapu Financial District, such as: green commodity exposition and technical exchange meeting for green commodities. Outside Yujiapu Financial District, the service center may cooperate with China Council for International Cooperation on Environment and Development (CCICED) and APEC, jointly organize or attend meetings and activities relevant with green supply chain and publicize the establishment of a green supply chain in Yujiapu Financial District at such meetings or activities. 2014APEC Green Development Forum will be opened in Tianjin. Yujiapu Financial District is also a major participant. On this occasion, the service center may publicize its achievements made during implementation of the work tasks of green supply chain and its future development trends, thus raising its influence in the field of green supply chain.

5. Summary

On June 19, 2010, Yujiapu Financial District was determined as the first APEC Low-Carbon Model Town. Since then, Yujiapu Financial District has carried out enormous research and practice relevant with Low-Carbon Model Town. According to the deployment and requirements of Tianjin Municipal Party Committee and Municipal Government, Yujiapu Financial District as a supporting service base for the financial reform and innovation of Tianjin established the planning and design standards for environmental protection, low carbon, energy conservation and emission reduction at the very beginning of planning. Moreover, the construction and development objectives of Yujiapu Financial District are highly consistent with the goal of implementing the work of green supply chain issued by Tianjin Municipal Party Committee and Municipal Government, so Yujiapu Financial District possesses the good basic conditions for the implementation of the work of green supply chain. According to the construction approach of Yujiapu Financial District, Yujiapu Financial District will rely on its unique location advantage, policy advantage and environmental advantage, gradually carry out and implement the concrete work on the work task of green supply chain, establish an APEC green commodity service demonstration area in Yujiapu and eventually develop Yujiapu Financial District into a demonstration district in the process of implementing the work of green supply chain.

Part Three

Technology Road for Green Supply Chain Technology in Yujiapu Financial District

Technology Road for green supply chain technology in Yujiapu Financial District

