The 14th Five-year Plan for Developing Circular Economy

Developing circular economy is an important strategy for China's economic and social development. During the 14th FYP period, China has entered a new development phase and is embarking on a quest to fully build itself into a modern socialist country. Vigorously developing circular economy, promoting resource conservation and intensive utilization, and building a resource recycling industry system, along with a waste and old materials recycling system, are of great significance for ensuring national resource security, which would help promote carbon peaking, carbon neutrality, and ecological progress. This Plan is formulated to thoroughly implement the spirit of the Fifth Plenary Session of the 19th CPC Central Committee, carry out the requirements of the *Circular Economy Promotion Law*, and further promote the development of circular economy.

I. Development Foundation and the Current Situation

(1) *The outcomes of circular economy development during the 13th FYP period.* Since the 13th FYP period, China's circular economy has achieved positive results. In 2020, the output rate of major resources[1] increased by about 26% compared with that in 2015. The energy consumption per unit of GDP continued to drop sharply, and the water consumption per unit of GDP cumulatively decreased by 28%. In 2020, the comprehensive crop straw utilization rate reached over 86%, and that of bulk solid waste was 56%. The utilization capacity of renewable resources has been significantly enhanced. In 2020, the comprehensive utilization rate of construction waste reached 50%; the utilization of waste paper was about 54.9 million tons; the utilization of scrap steel was about 260 million tons, replacing about 410 million tons of 62% grade iron concentrate; the output of recycled nonferrous metals was 14.5 million tons, accounting for 23.5% of the total output of ten kinds of nonferrous metals in China, among which the outputs of recycled copper, recycled aluminum and recycled lead were 3.25 million tons, 7.4 million tons and 2.4 million tons respectively. Resource recycling has become an important way to ensure the resource security in China.

(2) *The current situation faced during the 14th FYP period.* Internationally, on the one hand, green and low-carbon circular development has become a global consensus, and major economies in the world generally regard the development of circular economy as the basic path to break the constraints of resources and environment, cope with climate change and cultivate new economic growth drivers. The United States, the European Union, Japan and other developed countries and regions have systematically deployed a new round of circular economy action plans to accelerate the development layout of circular economy and meet the new challenges of global resources and environment. On the other hand, the world landscape is undergoing profound adjustments. Unilateralism and protectionism are on the rise, in addition to the global Covid-19 pandemic. The

[1]Output rate of main resources (yuan/ton) = GDP (100 million yuan, constant price) ÷ physical consumption of main resources (100 million tons). Major resources include: fossil energy (coal, oil, and natural gas), iron and steel resources, non-ferrous metal resources (copper, aluminum, lead, zinc, and nickel), non-metallic resources (limestone, phosphorus, and Sulphur), and biomass resources (wood and grain).

global industry chain, value chain and supply chain are severely impacted by non-economic factors, while the uncertainty and instability of international resource supply increase, posing a major challenge to China's resource security.

From a domestic perspective, during the 14th FYP period, China will focus on building a new development pattern with domestic big circulation as the mainstay and domestic and international circulations promoting each other. This will help release the potential of domestic demand, expand residents' consumption, upgrade consumption levels, and build a super-large domestic market. The demand for resources and energy will grow rigidly. Meanwhile, China is highly dependent on foreign countries for some major resources, and the contradiction between supply and demand is prominent. The utilization efficiency of resources and energy is generally not high. Since the production method and life style of mass production, mass consumption and mass emission have not yet been reversed, there is large pressure on resource security. There is an urgent need to develop circular economy, improve resource utilization efficiency and renewable resource utilization levels. A huge space is visible in this regard.

At present, China's circular economy development still faces some prominent problems, such as low efficiency of resource output in key industries, low standardization of recycling of renewable resources, lack of land security for recycling facilities, difficulty in recycling low-value recyclable materials, high intensity of bulk solid waste generation, insufficient utilization and low added value of comprehensive utilization products. China's energy consumption and water consumption per unit GDP are still significantly higher than the world average level, and the recycling of bulk metals such as copper, aluminum and lead is still dominated by mid-low end approaches. The output of new-type wastes, such as power batteries and photovoltaic modules, has greatly increased, but it is difficult to recycle and disassemble them. The precision and depth of separation of rare metals are insufficient, and the quality and cost of recycling cannot meet the requirements of key materials in strategic emerging industries. Therefore, it is urgently needed to improve the ability of high-quality recycling.

No matter the perspective of global green development trend and the requirements of coping with climate change, or the perspective of domestic resource demand and utilization level, China must vigorously develop circular economy, focus on solving outstanding contradictions and problems, realize efficient utilization and recycling of resources, as well as promote high-quality economic and social development.

II. Overall Requirements

(I) *Overall principles.* Overall principles include following Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era to thoroughly implement the spirit of the 19th CPC National Congress and the Second, Third, Fourth and Fifth Plenary Sessions of the 19th CPC National Congress to carry out tasks assigned by the CPC Central Committee and the State Council; implementing new development concepts and build a new development pattern based on the new development stage; adhering to the basic national policy of conserving resources and protecting the

environment; observing the rules of "reduction, reuse and recycling"; making great efforts to build a resource-recycling industrial system; accelerating the building of waste and old materials recycling systems; deepening the development of agricultural circular economy; comprehensively improving the efficiency of resource utilization; enhancing the utilization level of renewable resources; and establishing and improving a green and low-carbon circular development economic system to provide resource guarantee for sustainable economic and social development.

(II) Working principles.

— *Persisting in highlighting key points.* We will focus on reuse and resource utilization to improve the resource recycling level in key areas and key varieties, vigorously improve the resource utilization efficiency in key industries and areas, and strengthen the resource guarantee capacity for economic and social development.

— *Adhering to the problem-oriented approach.* We will strive to solve the outstanding problems that restrict the development of circular economy, improve the system of laws, regulations, policies and standards, strengthen the supporting ability of science and technology, fill the shortcomings in resource recycling facilities, and effectively improve the development level of circular economy.

— *Following market guidance.* We will establish a long-term mechanism combining incentives and constraints, giving play to the decisive role of market allocation of resources, fully stimulating the enthusiasm of market players to participate in circular economy, and enhancing the endogenous driving force for the development of circular economy.

— *Pursuing innovation-driven development.* We will vigorously promote innovation and development, strengthen scientific and technological innovation, mechanism innovation and model innovation, increase investment in innovation, optimize innovation environment, improve innovation system, and strengthen the leading role of innovation in circular economy.

(III) *Main objectives*. By 2025, the recycling mode of production will be fully implemented, green design and cleaner production will be widely promoted, the comprehensive utilization capacity of resources will be significantly improved, and the resource recycling industrial system will be established. The waste and old materials recycling network will be more comprehensive, the capacity to recycle renewable resources will be further improved, and a resource recycling system covering all of society will take initial shape. The resource utilization efficiency will be greatly improved, the replacement ratio of renewable resources to primary resources will be further improved, and the supporting role of circular economy in resource security will be further highlighted.

By 2025, the output rate of main resources will increase by about 20% and energy consumption and water consumption per unit GDP will decrease by about 13.5% and 16% respectively compared with 2020. The comprehensive utilization rate of crop straw will remain above 86%, the comprehensive utilization rate of bulk solid waste will reach 60%, the comprehensive utilization rate of construction waste will reach 60%, the utilization rate of waste paper will reach 60 million

tons, and the utilization rate of scrap steel will reach 320 million tons. The output of recycled nonferrous metals will reach 20 million tons, among which the output of recycled copper, recycled aluminum and recycled lead will reach 4 million tons, 11.5 million tons and 2.9 million tons, respectively, while the output value of resource recycling industry will reach 5 trillion yuan.

III. Key Tasks

(I) *To build a resource recycling industry system, and improve the efficiency of resource utilization.*

1. *Promoting green design of key products*. We will improve the green product design policy mechanism, and guide enterprises to use environmentally friendly raw materials, such as non-toxic, harmless, low toxic and low harmful, low (no) volatile organic compounds (VOCs) content in the production process. We will popularize product design schemes that are easy to disassemble, classify and recycle, and increase the proportion of alternative use of recycled raw materials. We will promote the reduction of packaging and packaging printing. We will accelerate the improvement of technical specifications for the green design evaluation of key products, encourage industry associations to publish green product design guidelines, and roll out green design cases.

2. *Strengthening cleaner production in key industries.* We will follow relevant laws to implement mandatory cleaner production audits in industries with "excess emission levels and volume, using or discharging poisonous materials in production, and high energy consumption", as well as guide other industries to voluntarily carry out audits. We will further standardize cleaner production audit behavior and improve the quality of cleaner production audits. We will encourage key industries, such as petrochemical, chemical, coking, cement, nonferrous metals, electroplating, printing and dyeing, packaging and printing, to formulate cleaner production transformation and upgrade plans in accordance with the principle of "one policy for one industry". We will accelerate the technological innovation, achievement transformation and standard system construction of cleaner production, establish and improve the differential reward and punishment mechanism, as well as explore the pilot and demonstration of overall cleaner production audits in regions, industrial parks and industries.

3. *Promoting the circular development of industrial parks*. We will encourage enterprises to adopt circular production and industrial circular combination, promote comprehensive waste utilization, gradient energy utilization, water resource recycling, and recycling of industrial residual pressure, afterheat, waste water, waste gas and waste liquid, so as to realize green and low-carbon circular development, as well as actively roll out centralized gas supply and heating. We will encourage industrial parks to promote the construction of green factories, so as to realize intensive workshops, harmless raw materials, clean production, recycling of wastes, low carbonization of energy and green building materials. We will formulate guidelines for the circular development of industrial parks, as well as promote the typical model of circular economy development in key industries, such as iron and steel, nonferrous metals, metallurgy, petrochemical, equipment manufacturing and light industry. We will advocate the creation of national eco-industrial

demonstration parks.

4. *Strengthening comprehensive resource utilization*. We will step up the comprehensive utilization of low-grade ore, associated ore, refractory ore and tailings, promoting the efficient extraction and utilization of valuable components. We will further broaden the comprehensive utilization channels of bulk solid wastes, such as fly ash, coal gangue, metallurgical slag, industrial by-product gypsum and construction waste, as well as expand utilization scale in ecological restoration, green mining, green building materials, traffic engineering and other fields. We will strengthen the research and development of large-scale utilization technologies for complex and difficult industrial solid wastes, such as red mud, phosphogypsum, electrolytic manganese slag and steel slag. We will encourage the use of mine water for supplementary water sources in mining areas and for production and ecological water use in surrounding areas. We will step up the comprehensive utilization of dredged soil and dredged sand in waterway.

5. *Advancing the coordinated disposal of municipal wastes*. We will improve policy mechanisms and standards, and promote collaborative disposal facilities with reference to urban environmental infrastructure management, so as to ensure the continuous and stable operation of facilities. We will determine the payment standard for the coordinated disposal of municipal wastes through market-oriented methods, promote the coordinated disposal of medical wastes, hazardous wastes and domestic wastes by cement kilns and smelting kilns in an orderly manner, and advance the coordinated emergency disposal of medical wastes by domestic garbage incinerators. We will promote the coordinated disposal of low-value organic wastes such as kitchen waste, garden waste and sewage sludge.

(II) *To construct a waste and old materials recycling system, and build a resource recycling society.*

1. *Improving the waste and old materials recycling network*. We will incorporate waste and old materials recycling related facilities into the overall land and space planning, ensure land demand, rationally lay out and standardize the construction of recycling network systems, and promote the integration of waste and old materials recycling outlets and domestic waste sorting outlets. We will relax restrictions on the entry of waste and old materials recycling vehicles into cities and communities, and standardize management to ensure reasonable road rights. We will actively promote the “internet plus recycling” model, realize online and offline collaboration, improve the integration ability of standardized recycling enterprises to be self-employed, and further improve residents’ convenience level in trading waste and old materials. We will standardize the business order of waste and old materials recycling industry, as well as improve its overall image and management level. We will improve the rural recycling network according to local conditions, and promote the integrated development of an urban and rural waste and old materials recycling system. We will support the supply and marketing cooperative system to rely on the sales service network to carry out the recycling of waste and old materials.

2. *Raising the level of processing and utilization of renewable resources*. We will promote the

large-scale, standardized and clean utilization of renewable resources, encourage the industrial agglomeration and development of renewable resources, as well as build a modern “urban mineral” base at a high level. We will implement standardized management of recycling and utilization of renewable resources, such as scrap iron and steel, scrap non-ferrous metals, waste plastics, waste paper, waste tires, waste mobile phones and waste power batteries, improve the industry standardization level, as well as promote the concentration of resources to advantageous enterprises. We will strengthen the standardized management and environmental regulation of enterprises that dismantle and utilize waste electrical and electronic products, scrapped motor vehicles, scrapped ships and waste lead batteries, and increase efforts to rectify illegal enterprises, as well as create a fair market competition environment. We will accelerate the establishment of a system for promoting the use of renewable raw materials, expand market application channels of renewable raw materials, as well as strengthen the supply guarantee capacity of renewable resources for strategic mineral resources.

3. *Standardizing the development of second-hand commodity market*. We will improve laws and regulations on the circulation of second-hand goods, establish and improve the standards for the identification, evaluation and grading of second-hand goods such as vehicles, home appliances and mobile phones, as well as standardize the circulation order and trading behavior of second-hand goods. We will encourage the development of “internet plus second-hand” model, strengthen the management responsibility of Internet trading platforms, step up supervision over trading behavior, provide standardized and normalized services for second-hand commodity trading, encourage platform enterprises to introduce third-party professional merchants of second-hand commodities, as well as improve the efficiency of second-hand commodity trading. We will promote the standardized construction and operation of offline secondary markets, as well as encourage the building of centralized and standardized “flea markets”. We will encourage schools at all levels to set up sharing corners of old books and sharing days to promote the exchange and use of old books among teachers and students. We will encourage communities to regularly organize second-hand commodity trading activities, and promote the trading and circulation of idle goods in households within the jurisdiction.

4. *Promoting the high-quality development of remanufacturing industr*ies. We will improve the remanufacturing level of auto parts, engineering machinery, machine tools, office equipment, etc., promote the development of remanufacturing industries in new fields such as shield machines, aero engines, industrial robots, etc., as well as encourage the application of common key technologies of remanufacturing such as nondestructive testing, additive manufacturing and flexible processing. We will cultivate specialized remanufacturing and recycling enterprises. We will support the building of remanufactured products trading platforms. We will encourage enterprises to apply remanufactured products in the after-sales service system and fulfill the informing obligation. We will promote the combination of remanufacturing technology and digital transformation of equipment, as well as provide customized remanufacturing services for large electromechanical

equipment. On the premise of information sharing and risk control by the regulatory authorities, we will support the exploration and development of bonded maintenance and remanufacturing and re-export business for aviation, CNC machine tools and communication equipment sectors in pilot free trade zones. We will strengthen the evaluation and promotion of remanufactured products.

(III) *To deepen the development of agricultural circular economy and establish a circular agricultural production mode.*

1. *Strengthening the recycling of agricultural and forestry wastes*. We will promote the efficient utilization of agricultural and forestry wastes such as crop straws, livestock and poultry manure, forestry wastes and by-products of agricultural products processing. We will strengthen the comprehensive utilization of crop straw, adhere to agricultural priority, increase the degree of returning straw to farmland, give play to the function of cultivated land conservation, encourage the industrial utilization of straw leaving the field, develop new materials and products, as well as increase the added value of straw feed, fuel and raw materials. We will strengthen the construction of livestock and poultry manure treatment facilities, encourage the combination of planting and breeding, as well as promote the use of agricultural organic fertilizer in the field. According to local conditions, we will encourage the use of secondary fuelwood and forestry residues (logging residues, rough-hew residues and processing residues) for composite board production, edible fungi cultivation and energy utilization, as well as promote the recycling of agricultural products processing by-products.

2. *Strengthening the recycling of waste agricultural materials*. We will guide large planters, farmers' cooperatives, family farms, agricultural materials enterprises, waste and old materials recycling enterprises and other related responsible subjects to actively participate in recycling. We will support villages and towns to focus on the construction of recycling facilities, as well as improve the recycling system of waste agricultural materials such as agricultural film, fertilizer and pesticide packaging, irrigation equipment, agricultural machinery and fishing nets. We will construct regional centralized disposal and utilization facilities for waste agricultural materials, so as to improve the scale and recycling level.

3. *Promoting the development mode of circular agriculture*. We will promote the combination of planting and breeding, agriculture and animal husbandry, livestock farm construction and farmland construction, as well as encourage the coordinated development mode of livestock and poultry, fish, grain, vegetables, fruits and tea. We will create a number of ecological farms and ecological recycling agricultural industrial complexes, as well as explore the sustainable operation mechanism. We will promote the development and utilization of rural biomass energy, as well as bring into play the comprehensive benefits of clean energy supply and rural ecological environment improvement. We will build the industry chain of forestry circular economy, as well as promote the three-dimensional development mode integrating above, in and under the forests. We will promote circular links such as planting, breeding, agricultural product processing, biomass energy, tourism and healthcare, as well as encourage the integrated development of primary, secondary and tertiary

industries.

IV. Key Projects and Actions

(I) *Construction of Urban waste and old materials recycling systems*. We will focus on municipalities directly under the central government, provincial capitals, municipalities with independent planning authority, and cities with large populations. About 60 cities will be selected to carry out the building of waste and old materials recycling systems. We will make the overall layout of municipal waste and old materials recycling trading points, transfer stations and sorting centers. We will set up recycling trading points in communities, supermarkets, schools and offices to promote intelligent recycling terminals. We will make reasonable layouts of transfer stations and construction of comprehensive and professional sorting centers with sound functions, comprehensive facilities, and meet the requirements of safety and environmental protection. We will ensure overall planning and construction of renewable resource processing and utilization base, promote the classified utilization and centralized disposal of municipal wastes such as scrap iron and steel, scrap non-ferrous metals, scrapped motor vehicles, retired photovoltaic modules, wind turbine blades, waste household appliances, waste batteries, waste tires, waste wood products, waste textiles, waste plastics, waste paper, waste glass and kitchen waste, as well as guide the agglomeration and development of renewable resources processing and utilization projects. We will encourage key urban agglomerations such as the Beijing-Tianjin-Hebei Region, the Yangtze River Delta, the Pearl River Delta, and the Chengdu-Chongqing Economic Circle, to build regional renewable resources processing and utilization bases.

(II) *Industrial Park Circular Development project*. We will make a list of recycling development parks in various regions, as well as develop recycling transformation schemes one by one according to the principle of “one park, one policy”. We will organize enterprises in industrial parks to implement cleaner production. We will actively use waste heat and pressure resources, promote the application of cogeneration, distributed energy and photovoltaic energy storage integration systems, as well as encourage the gradient utilization of energy. We will construct centralised sewage collection, treatment and reuse facilities in industrial parks, thus strengthening sewage treatment and recycling. We will strengthen the industrial circulation link in industrial parks and promote the comprehensive waste resource utilization of enterprises. We will construct public information service platforms, as well as strengthen material flow management in industrial parks. All qualified parks at and above the provincial level will become recycling-oriented before the end of 2025.

(III) *Demonstration project for comprehensive utilization of bulk solid waste*. We will focus on key varieties such as fly ash, coal gangue, metallurgical slag, industrial by-product gypsum, tailings, associated minerals, crop straws and forestry residues, promote advanced technologies and equipment for comprehensive utilization of bulk solid waste, implement key demonstration projects, vigorously encourage the use of comprehensive resource utilization products, as well as build 50 bases for the comprehensive utilization of bulk solid waste and 50 bases for the comprehensive

utilization of industrial resources.

(IV) *Demonstration project for construction waste recycling*. We will build 50 demonstration cities for construction waste recycling. We will implement construction waste source reduction, establish a construction waste classification management system, as well as standardize the construction and operation management of construction waste stacking, transit and recycling sites. We will improve the recycling policy for construction waste and the certification standard system of recycled products, promote the resources recycling of engineering waste residue, engineering mud, demolition waste, engineering waste and decoration waste, as well as enhance the market use scale of recycled products. We will cultivate backbone enterprises in the construction waste recycling industry, as well as accelerate the development, application and integration of new technologies, new processes and new equipment for construction waste recycling.

(V) *Circular economy-related key technology and equipment innovation project*. We will comprehensively implement major projects for key technologies and equipment of circular economy. We will make breakthroughs in a number of common key technologies and major equipment for green circular economy in the fields of typical product ecological design, cleaner production in key industries, comprehensive utilization of bulk solid waste, high-quality recycling of renewable resources, and remanufacturing of high-end equipment. In the Beijing-Tianjin-Hebei Region, the Yangtze River Delta and the Pearl River Delta, we will carry out integrated demonstration of green technology systems of circular economy, as well as promote the formation of a transformation model of scientific and technological achievements that integrates governments, industries, universities, and research institutes.

(VI) *Action for the high-quality development of remanufacturing industry*. Combined with industrial intelligent transformation and digital transformation, we will vigorously promote the remanufacturing of industrial equipment as well as expand the application scope of remanufacturing of machine tools, industrial motors and industrial robots. We will support enterprises in tunneling, coal mining, oil exploitation and other fields to widely use remanufactured products and services. In the fields of after-sales maintenance, insurance, commerce, logistics, leasing, etc., remanufactured auto parts and office equipment will be promoted, and the proportion of remanufactured products used in the after-sales market will be further increased. We will expand the scale of remanufacturing industry, guide the formation of about 10 remanufacturing industry clusters, cultivate a number of leading remanufacturing enterprises, as well as grow the output value of remanufacturing industries to 200 billion yuan.

(VII) *Action for improving the recycling of waste electrical and electronic products*. We will use internet information technology to encourage diversified participation, build an online and offline recycling network of waste electrical and electronic products, as well as continue to carry out pilot projects for extended producer responsibility of electrical and electronic products. We will support electrical and electronic product manufacturers to establish recycling systems through independent recycling, joint recycling or entrusted recycling, as well as guide and standardize the

sharing of information among production enterprises, recycling enterprises and e-commerce platforms. We will guide waste electrical and electronic products to flow into standardized dismantling enterprises. We will ensure the safety of personal privacy information in the whole process of recycling electronic products such as mobile phones and computers. We will strengthen scientific and technological innovation, encourage the popularization and application of new technologies, new processes and new equipment, support the upgrading of process equipment of standardized dismantling enterprises, promote intelligent and refined dismantling, as well as encourage high-value utilization.

(VIII) *Action for advancing whole life cycle management in automobile use*. We will study and formulate a life-cycle management plan for automobile use, build an automobile life-cycle information interaction system covering automobile manufacturers, dealers, maintenance enterprises, recycling and dismantling enterprises, as well as strengthen the interconnection and interactive sharing of information on automobile production, import, sales, registration, maintenance, used car trading, scrapping, and the flow of key parts. We will establish an identification system and an information inquiry system for certified fittings, remanufactured parts and reused appearance parts. We will pilot the extended producer responsibility for automobile products. We will select some areas to take the lead in carrying out the pilot project of automobile life cycle management, and then roll it out across China after the conditions are ripe.

(IX) *Special action for the whole chain treatment of plastic pollution*. We will scientifically and rationally promote plastic source reduction, prohibit the production of ultra-thin agricultural mulch films, daily chemical products containing plastic beads and other products that are harmful to the environment and human health, as well as encourage the public to reduce the use of disposable plastic products. We will conduct in-depth life cycle assessments of the resource and environmental impacts of various plastic substitutes. According to local conditions, we will actively and steadily promote degradable plastics, improve the standard system, enhance inspection and testing capabilities, as well as standardize application and disposal. We will promote the application of standard plastic film and improve the recycling level of waste agricultural film. We will strengthen the classification (and recycling of plastic waste, accelerate the construction of domestic waste incineration facilities, as well as reduce the amount of plastic waste landfill. We will carry out the clean-up of plastic waste in rivers, lakes and coastlines, as well as carry out special actions for the clean-up of marine waste. We will strengthen policy interpretation, publicity and guidance, so as to create a good social atmosphere.

(X) *Action for promoting the green transformation of express delivery packaging.* We will strengthen the green governance of express delivery packaging, promote the cooperation between e-commerce and manufacturers, as well as realize the direct delivery of express mail of key categories in their original packaging. We will encourage upstream and downstream enterprises such as packaging production, e-commerce and express delivery to establish industrial alliances, support the establishment of a qualified supplier system for express delivery packaging products, as well as

promote production enterprises to consciously carry out packaging reduction. We will implement green product certification systems for express delivery packaging. We will carry out the pilot application of recyclable express delivery packaging on a large scale, as well as greatly increase the application proportion of recycling transit bags (boxes). We will increase the popularization and application of green circular and common standardized turnover boxes. We will encourage e-commerce, express delivery enterprises to cooperate with commercial organizations, convenience stores, property service enterprises, etc. to set up recycling points as agreed and put in specialized recycling facilities for recyclable express delivery packaging. By 2025, e-commerce express mail will basically realize no secondary packaging, and the application scale of recyclable express delivery packaging will reach 10 million pieces.

(XI) *Special action for recycling of used power batteries*. We will strengthen the construction of new energy vehicle power battery traceability management platforms, as well as improve the new energy vehicle power battery recycling traceability management system. We will promote the new energy vehicle production enterprises and waste power battery cascade utilization enterprises to build standardized recycling service outlets through self-construction, co-construction and authorization. We will promote standardized cascade utilization of power batteries, and improve the technical level of residual energy detection, residual value evaluation, reorganization and utilization, safety management. We will strengthen the popularization and application of integrated advanced technology and equipment for recycling and cascade utilization of waste power batteries. We will improve the standard system of power battery recycling. We will cultivate backbone enterprises in the comprehensive utilization of waste power batteries, as well as promote the development of the waste power batteries recycling industry.

V. Policy Guarantee

(I) *Improving circular economy-related laws, regulations and standards.* We will promote the revision of the *Circular Economy Promotion Law*, and further clarify the rights and obligations of relevant subjects. We will study and revise the regulations on the management of waste electrical and electronic products recycling, as well as improve supporting policies, thus giving better play to the market. We will encourage local governments to formulate local regulations to promote the development of circular economy. We will improve the standard system of circular economy, formulate standards and specifications for green design, cleaner production, remanufacturing, recycled raw materials, green packaging, and waste building materials, as well as deepen the pilot work of national circular economy standardization.

(II) *Improving the statistical evaluation system of circular economy*. We will study and improve the statistical system of circular economy, gradually establish a statistical system including the consumption of important resources and the amount of recycling, optimize statistical accounting methods, as well as enhance the supporting ability of statistical data for circular economy work. We will improve the evaluation index system of circular economy development, improve the evaluation system of circular economy, as well as encourage third-party evaluation.

(III) *Strengthening the support of fiscal, taxation and financial policies*. We will coordinate existing funding channels, as well as strengthen the support for major circular economy projects, key projects and capacity building. We will increase the government's green procurement efforts, as well as actively purchase renewable resources products. We will implement preferential tax policies for comprehensive utilization of resources, as well as expand the catalogue of corporate income tax credits for environmental protection and the conservation of water and energy. We will encourage financial institutions to increase investment in and financing of major projects in circular economy-related fields. We will strengthen the innovation of green financial products, as well as increase the support of green credit, green bonds, green funds and green insurance for enterprises and projects related to circular economy.

(IV) *Strengthening industry regulation*. We will strengthen the standardized management of scrapped motor vehicles, waste electrical and electronic products, waste battery recycling enterprises, crack down on illegal modification, assembly, disassembly and other acts, as well as step up investigation and punishment in this regard. We will strengthen market regulation, crack down on illegal production and sales of plastic products prohibited by the state, as well as strictly investigate and deal with the false marking of degradable plastics. We will strengthen the environmental regulation of the recycling, utilization and disposal of waste and old materials.

VI. Organization and Implementation

The National Development and Reform Commission shall strengthen overall coordination, supervision and administration, give full play to the role of the inter-ministerial joint meeting mechanism for the development of circular economy, summaries and analyses the progress of work, as well as earnestly promote the implementation of this Plan. All relevant departments should pay attention to the implementation of key tasks in accordance with the division of functions, as well as strengthen the connection with energy conservation, water conservation, garbage classification, and the building of "zero-waste cities". All localities should attach great importance to the development of circular economy, conscientiously organize and arrange, clarify the key tasks and division of responsibilities, and do a good job in planning and implementing according to the actual situation.

Among them, the urban waste and old materials recycling system construction project is to be organized and implemented by the National Development and Reform Commission and the Ministry of Commerce in conjunction with the Ministry of Natural Resources, the Ministry of Industry and Information Technology, the Ministry of Housing and Urban-Rural Development as well as other relevant departments. The industrial park circular development project is to be organized and implemented by the National Development and Reform Commission in conjunction with the Ministry of Industry and Information Technology as well as other relevant departments. The demonstration project for comprehensive utilization of bulk solid waste is to be organized and implemented by the National Development and Reform Commission and the Ministry of Industry and Information Technology in conjunction with the Ministry of Ecology and Environment, the Ministry of Agriculture and Rural Affairs, the National Forestry and Grassland Administration as

well as other relevant departments. The demonstration project for construction waste recycling is to be organized and implemented by the Ministry of Housing and Urban-Rural Development in conjunction with the National Development and Reform Commission as well as other relevant departments. The circular economy-related key technology and equipment innovation project is to be organized and implemented by the Ministry of Science and Technology in conjunction with the National Development and Reform Commission as well as other relevant departments. The action for the high-quality development of remanufacturing industry is to be organized and implemented by the National Development and Reform Commission and the Ministry of Industry and Information Technology in conjunction with other relevant departments. The action for improving the recycling of waste electrical and electronic products is to be organized and implemented by the National Development and Reform Commission and the Ministry of Ecology and Environment in conjunction with the Ministry of Industry and Information Technology, the Ministry of Commerce, the All China Federation of Supply and Marketing Cooperatives as well as other relevant departments. The action for advancing whole life cycle management in automobile use is to be organized and implemented by the National Development and Reform Commission and the Ministry of Commerce in conjunction with the Ministry of Industry and Information Technology, the Ministry of Public Security, the Ministry of Ecology and Environment, the Ministry of Transport, the General Administration of Customs as well as other relevant departments. The special action for the whole chain treatment of plastic pollution is to be organized and implemented by the National Development and Reform Commission and the Ministry of Ecology and Environment in conjunction with the Ministry of Industry and Information Technology, the Ministry of Commerce, the Ministry of Housing and Urban-Rural Development, the Ministry of Agriculture and Rural Affairs, the State Administration for Market Regulation, the State Post Bureau, the All China Federation of Supply and Marketing Cooperatives as well as other relevant departments. The action for promoting the green transformation of express delivery packaging is to be organized and implemented by the National Development and Reform Commission and the State Post Bureau in conjunction with the Ministry of Industry and Information Technology, the Ministry of Ecology and Environment, the Ministry of Transport, the Ministry of Commerce, the State Administration for Market Regulation as well as other relevant departments. The action for recycling waste power batteries is to be organized and implemented by the Ministry of Industry and Information Technology in conjunction with the National Development and Reform Commission, the Ministry of Ecology and Environment as well as other relevant departments. The action for improving the statistical evaluation system of circular economy is to be organized and implemented by the National Development and Reform Commission and the National Bureau of Statistics in conjunction with the Ministry of Industry and Information Technology, the Ministry of Commerce, the Ministry of Ecology and Environment as well as other relevant departments.