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People's governments of all provinces, autonomous regions and municipalities directly under the Central Government, all ministries and commissions and all organizations directly under the State Council:

Work Plan on " Zero-waste City" Pilot Program in China is now printed and distributed to you. Please implement it conscientiously.

The General Office of the State Council

Dec 29,2018

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Guided by the idea of innovative, coordinated, green, open and shared development, " Zero-waste City" refers to an urban development model that aims at reducing generation and promoting recycling of solid waste, reducing landfill and minimizing the environmental impact of solid waste by promoting green development and green lifestyles. The concept of " Zero-waste City" does not mean that the city generates no waste at all, nor does it mean that solid waste can be fully utilized. Rather

it is an advanced urban governance concept, which aims for minimum generation, maximising recycling and disposing of solid waste in an environmentally sound manner in the administrative region of a city, however, needs to be perfected through long-term practice. At this stage, through the "Zero-waste City" Pilot Program, we must coordinate the solid waste management with social and economic development, vigorously promote the reduction, recycling and the environmentally sound disposal, and resolutely curb illegal transfer and dumping of solid waste, establish a quantitative indicator system, systematically summarize the experience from the pilot cities and refine replicable and applicable models. This work plan is formulated to guide pilot cities to carry out the "Zero-waste City" Pilot Program.

I O R

1. Great significance. Since the 18th National Congress of the Communist Party of China (CPC), the CPC Central Committee and the State Council have intensively implemented the action plan for prevention and control of the air, water and soil pollution, took the prohibition on foreign waste imports as a landmark measure for ecological civilization construction, continued to promote the reform of solid waste import management system, accelerated the construction of municipal solid waste treatment facilities and implemented a municipal solid waste classification system, thus made great progress in solid waste

increases in frequency of severe solid waste pollution incidents and
es. There is still a big gap between people's growing
demand for a beautiful ecological environment and the reality of the h
environment. The pilot program is a concrete action to implement the
decisions of CPC Central Committee and the State Council. It is a key
initiative to deepen reform on the comprehensive management of solid
waste in a holistic approach and promote the construction of a
“Zero-waste Society”. It is also an important measure to enhance
ecological civilization and build a beautiful China.

2. Guiding ideology. Guided by Xi Jinping Thought on Socialism
with Chinese Characteristics for a New Era and fully implementing the
instructions of the 19th CPC National Congress and of the 2nd and 3rd
plenary meetings of the 19th Congress, adhering to the “Five-Pronged
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industrial solid waste, major agricultural waste, municipal solid waste, construction and demolition waste, and hazardous waste, select typical cities for pilot program, steadily promote the construction of " Zero-waste City" and make contributions to protecting ecology and environment and building a beautiful China.

3. Basic principles. Focusing on the problem-oriented and innovation-driven principle. Efforts must be made to solve current prominent problems such as the large amount of solid waste generation, poor recycling, illegal transfer and dumping and difficulties in site selection of disposal facilities, etc., adopt a holistic approach to solve local practical problems and common problems, accelerate institutional, systematic and modal innovation, achieve key breakthroughs and overall innovation and develop a long-term mechanism for building " Zero-waste City".

Adopting measures according to local conditions. In line with regional industrial structures and stages of development, pilot cities will focus on identifying weak points and key links in the process of production, collection, transfer, recycling and disposal of major solid waste, defining objectives, refining tasks, improving measures and taking targeted actions based on local conditions so as to continuously enhance the reduction, recycling and environmentally sound disposal of solid waste.

Adhering to system integration and focusing on synergy. Experiences and practices related to solid waste management in the pilot cities can be integrated systematically in the process of achieving the goals set by the pilot program. Government guidance and market forces should be connected, and improving capabilities in comprehensive management of solid waste should be linked with promoting structural reform on the supply side, so as to achieve green and circular production, distribution and consumption in the whole industrial chain.

Advocating concept first and initiating mass engagement. People's consciousness of ecological civilization should be enhanced, and green, low-carbon and circular development should be an important concept in building " Zero-waste City" in order to promote simple and moderate green and low-carbon, civilized and healthy lifestyles and consumption pattern. Enterprises should strengthen self-discipline and avoid wasting resources in order to increase resource utilization efficiency. Social organizations and the general public should play an important role in supervision to create a wonderful atmosphere of mass engagement.

4. Objectives. By 2020, an indicator system for the construction of " Zero-waste City" will be established and an institutional and technical system for the comprehensive management of " Zero-waste City" will be developed. By then, the pilot cities will have made marked progress in major areas and key processes, with almost zero growth of large-scale

industrial waste storage and disposal, fully utilization of major agricultural waste, a decrease in municipal solid waste generation and an increase in their recycling, well-controlled management of hazardous waste, no illegal transfer and dumping incidents occurred, and a group of backbone solid waste recycling enterprises established. Experiences and practices can be summarized through deepening solid waste management reform in pilot cities so as to come up with a number of “ Zero-waste City” models that is replicable and applicable in order to provide a good foundation for constructing a “Zero-waste Society”.

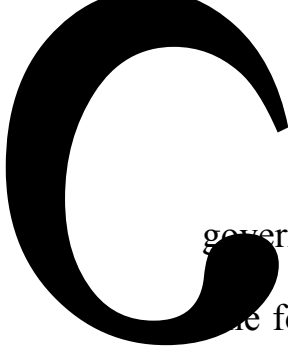
5. Scope. A total of 10 cities with suitable conditions, foundations and scales will be selected nationwide to carry out the “ Zero-waste City” Pilot Program in the city’s urban and rural area. Priorities will be given to cities in provinces designated as national ecological civilization pilot zones, demonstration cities for the circular economy, demonstration bases for comprehensive utilization of industrial resources and cities which are implementing or have already implemented pilot programs on recycling and environmentally sound disposal of various solid wastes with positive achievement.

II M T

1. Strengthening the top-level design and giving full play to the macro guidance of the government. The “ Zero-waste City” construction indicator system will be established and will play a guiding role. Before

the end of June 2019, the indicator system for the "Zero-waste City" construction with solid waste reduction and recycling rate as its core indicators will be explored and established. This indicator system will be integrated with other systems such as green development index system and ecological civilization evaluation index system. The statistical system of solid waste should be improved, such as unifying the statistical scope, caliber and methods of industrial solid waste and perfecting the statistical methods of agricultural waste and construction and demolition waste. [Guided by Ministry of Ecology and Environment (MEE), together with National Development and Reform Commission (NDRC), Ministry of Industry and Information Technology (MIIT), Ministry of Housing and Urban-Rural Development (MOHURD), Ministry of Agriculture and Rural Affairs (MARA), and National Bureau of Statistics (NBS)]

Optimizing the management system and mechanism for solid waste and strengthening the coordination among departments. Based on the actual economic and social development of a city and on deepening the local institutional reforms, a list of responsibilities for related departments will be established to further clarify responsibilities and boundaries regarding the generation, collection, transfer, recycling and disposal of solid waste in order to enhance the regulatory capacity and form an integrated management system with clear division of labor, rights and responsibilities and synergetic effects. (Guided by the MEE;



governments of the pilot cities are responsible for the implementation.

The following are all required to be implemented by the governments of pilot cities and will not be listed again.)

Strengthening the integration and innovation of institutional policies and enhancing the systematic nature of the pilot program. Relevant reform measures of the

will be implemented by integrating existing policies, mechanisms and measures related to circular economy, cleaner production, resource utilization and rural revitalization with a focus on the goal of " Zero-waste City" construction. On the basis of inheritance and

or environmentally sound disposal will be strictly controlled. A system of utilization and recycling of resources and energy between industries, agriculture, and municipal consumption area will be built. Based on the analysis of material flow, an operational mechanism of the circular economy industrial chain will be constructed within and between enterprises in the industrial park as well as within the region. The capacity gaps for urban infrastructures during the planning period will be identified, and collection and environmentally sound disposal facilities of solid waste such as municipal solid waste, urban sewage sludge, construction and demolition waste, used tires, hazardous waste, agricultural waste and scrapped automobiles will be integrated into the scope of urban infrastructure and public facilities with land guaranteed. (Guided by NDRC, MIIT, MNR, MEE, MOHURD, MARA, and MOC)

2. Implementing green industrial production and promoting zero growth of the total storage and disposal of large-scale industrial solid waste. Green mining will be fully implemented to reduce the generation, storage and disposal of solid waste in mining industry. To focus on industries such as coal, non-ferrous metals, gold, metallurgy, chemical and non-metallic minerals, filling technologies will be adopted in line with conditions of local mines and promote the use of solid waste in mining industry to produce construction materials or to tackle worked-out sections and subsidence areas. By 2020, large and medium-sized mines in

pilot cities will meet the requirements and standards for green mine construction, with solid waste such as coal gangue and slime fully utilized. (Guided by MNR and MIIT)

Carrying out the construction of green design and green supply chain and promoting the reduction and recycling of solid waste. Green design will be vigorously promoted by improving product detachability and recyclability, reducing the use of toxic and harmful raw materials, and cultivating a group of green design demonstration enterprises. Green supply chain management will be strongly promoted by giving leading play to large scale enterprises and retailers, and cultivating a group of demonstration enterprises that generate only a small amount of solid waste and operate with high recycling rate. (Guided by MIIT, MOC and MEE) The extended producer responsibility will be implemented with a focus on lead-acid batteries, power batteries, electrical and electronic products, and automobiles. By 2020, the reverse collection system for waste products will be basically established. [Guided by NDRC, MIIT, MEE, MOC, and State Administration for Market Regulation (SAMR)]

Improving the standard system and promoting the utilization of large-scale industrial solid waste as resources. The comprehensive utilization standard system will be improved by formulating categorized technical standards for industrial by-products and comprehensive utilization products with a focus on large-scale industrial solid waste such

as tailings, coal gangue, fly ash, smelting slag, industrial by-product gypsum, etc. (Under the charge of SAMR and MIIT). A number of advanced and applicable technical equipment will be promoted to enhance the scaled-up, high value and intensive development of large-scale industrial solid waste comprehensive utilization industry. (Guided by MIIT)

Controlling the increment of industrial solid waste generation strictly and gradually solving historical problems of industrial solid wastes. With a focus on phosphogypsum and other materials, the policy of “determining production based on consumption” will be implemented to achieve a balance between generation and consumption of solid waste. Storage sites of industrial solid waste will be comprehensively investigated and rectified, and the total amount of storage and disposal will be gradually reduced. (Guided by MEE and MIIT)

3. Promoting green production in agriculture and full utilization of major agricultural waste. With the cyclic development mechanism for planting and breeding at the core, the comprehensive utilization of livestock and poultry manure on site will be gradually realized on large-scale farm. On beef cattle, sheep and poultry farms, it is encouraged to use solid manure compost or establish a centralized disposal center to produce organic fertilizer. On pigs and dairy farms, it is promoted to adopt rapid and low-emission technologies of solid manure compost,

reuse of manure litter padding, and water and fertilizer integration with strengthened control of secondary pollution. The comprehensive utilization of livestock and poultry manure, cyclic development of planting and breeding, and a variety of other eco-agricultural technology models such as fruit-biogas-livestock, vegetable-biogas-livestock and tea-biogas-livestock will be promoted. By 2020, 95% of large-scale farms will have established manure treatment facilities and 75% of livestock and poultry manure and on these farms will have had a comprehensive utilization rate of 75%. (Guided by MARA)

level of agricultural films and pesticide packaging waste. A recycling system guided by the government with enterprises taking the main responsibilities and farmers getting involved will be established. Technologies such as multi-purpose films, inter-row coverage, etc. are promoted to reduce the use of plastic films. The application of standard mulch films is encouraged and the production and use of mulch films with a thickness of less than 0.01 mm will be prohibited. The recycling of mulch film should be a necessary part of the mechanized production to fully promote mechanized recycling in cities where conditions permit. By 2020, the recycling rate of the mulch film in key areas will be over 80%. (Guided by MARA and SAMR) In accordance with the principle of “whoever buys should return, and whoever sells should collect”, the establishment of systems such as rewarding the recycling of pesticide packaging waste or refunding user deposits will be explored so as to achieve harmless disposal of pesticide packaging waste. (Guided by MEE, MARA and MOF)

4. Practicing green lifestyles and promoting source reduction and recycling of the municipal solid waste. Guided by the concept of green lifestyles, the reduction of municipal solid waste is promoted. The public will be guided to practice a simple and modest, green and low-carbon lifestyle in terms of food, clothing, housing and transportation through the release of green lifestyle guidelines. (Guided by MEE and MOHURD)

The development of a sharing economy will be supported to reduce waste of resources. The production, sale and use of disposable non-degradable plastic bags and plastic tableware should be restricted, and the application range of degradable plastic products be expanded. The application of green packaging materials in the express delivery industry will be accelerated. By 2020, comprehensive application of environmental-friendly packaging materials in intra-city express service will be basically realized. [Guided by NDRC, MOC, State Post Bureau (SPB), and SAMR] Paperless offices in public institutions will be promoted. In the service industries such as hotels and restaurants, the use of recyclable products will be promoted and single-use products will be restricted. Green shopping malls will be promoted to create and a group of green circulation entities that use energy-saving technologies, sell green products, and provide green services will be cultivated. [Guided by MOC, Ministry of Culture and Tourism (MCT), and National Government Offices Administration (NGOA)]

Taking multiple measures to strengthen the utilization of municipal solid waste as resources. A charging system for collecting and processing municipal solid waste will be fully implemented and a weight-based charging mechanism will be promoted. Resource recycling bases will be built with strengthening the classification of municipal solid waste, and promoting resource utilization such as reusing of recyclable materials,

incineration for power generation, and biological treatment. (Guided by NDRC and MOHURD) Enterprises using solid waste incineration for power generation will implement the requirement of “installation, establishment, and connecting to internet” (i.e., waste incineration enterprises should install pollutant discharge online monitoring equipment, establish electronic display screens at the gates of the plants to disclose pollutants emissions and operating data of incinerators in real time, connect the online monitoring equipment and environmental protection departments through internet according to laws and regulations), strengthen information disclosure, improve operation and management, and ensure the compliance with the discharge standards. (Guided by MEE) With a focus on catering enterprises, hotels, government agencies and school canteens, green restaurants and green catering enterprises will be promoted to create, and the campaign of “Clean your Plate” will be advocated. The utilization of food waste as resources will be promoted and market for sale of utilization products will be expanded. (Guided by NDRC, MOC and NGOA)

Conducting construction and demolition waste treatment and increasing the reduction of generation and resource utilization level. The current situation and development trend of construction and demolition waste should be investigated to strengthen the whole process management of construction and demolition waste. The guidance of

planning will be strengthened to properly arrange for the transfer, distribution, disposal and utilization of the construction and demolition waste. The construction of facilities will be accelerated to develop a waste treatment system, with the capacity in line with the need of urban development. Storage of historical construction and demolition waste will be carried out, For the piled up and relatively concentrated storage sites, ecological restoration should be conducted if the evaluation results meet the safety and stability requirements. The utilization of construction and demolition waste will be promoted, and the quality of recycled waste products will be improved in cities where conditions permit. (Guided by MOHURD, NDRC and MIIT)

5. Enhancing risk prevention and control capabilities and strengthening comprehensive safety control of hazardous waste. A robust defense for hazardous waste from the source will be established. New construction projects related to hazardous waste will strictly implement the management requirements such as environmental impact assessment guidelines for hazardous wastes in construction projects, clarify the management targets and pollution sources, prevent secondary pollution, and control environmental risks. With a focus on industries such as non-ferrous metal smelting, oil extraction, petroleum processing, chemical industry, coking and electroplating, mandatory audit on cleaner production will be implemented. (Guided by MEE)

Tamping the foundation of strict control of hazardous waste. One-license management with pollutant discharge permits will be carried out by exploring to include solid waste in the scope of discharge permit management, in order to supervise the generation, recycling, transfer, storage and disposal of hazardous waste. The assessment requirements for standardized management of hazardous wastes will be strictly implemented to strengthen on-going and ex-post supervision and control. (Guided by MEE) Electronic management of hazardous wastes transfer will be fully implemented, and safety management for road transport will be strengthened according to the laws to timely supervise the waste flow, in order to significantly improve risk prevention and control of hazardous waste . [Guided by MEE and Ministry of Transport (MOT)] Pilot projects on issuing licenses for collection of hazardous waste such as lead-acid batteries will be conducted. (Guided by MEE) Regulations on the Administration of Medical Wastes will be implemented to strengthen the responsibility of local governments to construct centralized disposal facilities for medical wastes, and promote the centralized disposal system for medical wastes to cover all types of medical institutions at all levels. The classification management of medical wastes will be enhanced by classifying from the source, and promoting standardized disposal. [Guided by MEE and National Health Commission (NHC)]

Improving relevant standards and specifications for hazardous waste.

Taking the whole process of environmental risk prevention and control as the basic principle, the requirements for controlling secondary pollution in hazardous waste disposal process and protecting the environment during resource utilization will be clarified, and the limits of toxic and hazardous substances in resource utilization products will be specified to promote the safe use of hazardous waste. (Guided by MEE and SAMR) A multi-department joint supervision and enforcement mechanism will be established to incorporate hazardous waste inspection into the “double random” mechanism, and severely crack down on illegal transfer, use, and disposal of hazardous waste. (Guided by MEE)

6. Stimulating the vitality of market players, fostering a new model of industrial development, improving policy effectiveness. The solid waste generation, recycling and disposal enterprises will be included in the scope of corporate environmental credit evaluation, and cross-department joint punishment shall be implemented according to the evaluation results. [Guided by MEE, NDRC, People’s Bank of China (PBOC), and China Banking and Insurance Regulatory Commission (CBIRC)] The existing preferential tax policies for the comprehensive utilization products, such as value-added tax, will be implemented to promote the comprehensive utilization of solid waste. [Guided by MOF and State Taxation Administration (STA)] An evaluation mechanism for the comprehensive utilization of industrial solid waste will be constructed. A national

catalogue for comprehensive utilization products of industrial solid waste will be formulated. Enterprises which conduct comprehensive utilization of solid waste according to relevant laws and in compliance with national and local environmental protection standards will be exempted from environmental protection taxes. (Guided by MIIT, MOF and STA) In accordance with the principles of market oriented and commercial sustainability, green finance will be explored to support the pilot project of livestock and poultry breeding waste disposal and treatment in environmentally sound manner, and to support the development of solid waste recycling and disposal industries. By 2020, the environmental pollution liability insurance will be fully implemented in the hazardous waste business units of pilot cities. (Guided by PBOC, MOF, NDRC, MEE, MARA and BCIRC) The agricultural protection subsidies for the comprehensive utilization of livestock and poultry manure and straw to produce organic fertilizers will be increased, and the subsidies for chemical fertilizers will be reduced meanwhile. (Guided by MARA and MOF) The types of recycled products in governments' green procurement and the procurement efforts will be increased. (Guided by MOF, NDRC, and MEE) The establishment of an incentive and restraint mechanism that is conducive to the reduction, recycling and harmless disposal of solid waste will be accelerated. During investing in public projects, governments should prioritize on products utilizing industrial solid waste,

and promote the application of green building materials such as new wall materials. The mandatory use system for products utilizing construction and demolition waste with clarified product quality requirements, scope of use and proportion will be explored. (Guided by NDRC, MIIT, MOHURD, SAMR, and NGOA)

Developing the “Internet plus” solid waste treatment industry. New recycling technologies and models will be promoted. Producer will be encouraged to cooperate with the retailers to optimize the construction of reverse logistics system. Resource recycling enterprises will be supported to establish online trading platforms, improve offline recycling outlets, and realize the organic integration of online trading and offline recycling of the wastes. [Guided by MOC with the engagement of All China Federation of Supply and Marketing Cooperatives (ACFSMC)] Information exchange systems between the government platforms for solid waste environmental management and the market-based solid waste public trading platforms will be established. Information technology such as the Internet of Things and Global Positioning System will be fully utilized to achieve IT-based and visualized collection, transfer and disposal of solid waste, and improve the efficiency and capacity of supervision and management. (Guided by MEE)

Actively cultivating third-party markets. Specialized third-party institutions will be encouraged to engage in the utilization of solid waste,

environmental pollution control and consulting services, and a number of backbone enterprises for the recycling of solid waste will be created. (Guided by MIIT) The government will assume the main responsibility to promote construction projects and facilities of the collection, recycling and disposal of solid waste, and explore models such as the cooperation of third-party governance or public-private partnership (PPP) in accordance with laws and regulations without increasing debt for the local governments so as to share risks and profits with social capital. (Guided by MOF, NDRC, and MEE)

III I P

1. Selecting pilot cities. The pilot cities will be recommended by relevant provincial departments and decided by MEE, togetherwith NDRC, MIIT, MOF, MNR, MOHURD, MOA, MOC, MCT, NHC, NBS and SPB, etc.

2. Formulating implementation plans. The pilot cities are responsible for formulating their implementation plans for " Zero-waste City" pilot program, setting objectives and action lists, clarifying division of labor and identifying relevant targeted results, timetable and safeguarding measures of each task. Implementation plans will be submitted to Ministry of Ecology and Environment and implemented after they are reviewed and approved by the expert committee established by Ministry of Ecology and Environment and the relevant ministries. The

governments of pilot cities will issue the implementation plans in the first half of 2019.

3. Carrying out pilot program. The governments of pilot cities are responsible for implementing the plans. They should carry out the pilot program in a vigorous and orderly manner and ensure all the tasks set in the implementation plans are completed effectively. MEE will work with relevant ministries to provide guidance and conduct effectiveness evaluation of the pilot program, identify problems in a timely manner in order to adjust and improve, and promote exchanges of experiences.

4. Conducting evaluation and summarizing experience. By the end of March 2021, the governments of pilot cities will evaluate their program progress, main practices and achievements and existing problems and suggestions, etc. and submit a comprehensive report to MEE. MEE will conduct performance evaluation together with other ministries, praise cities with outstanding achievements and institutionalize effective reform and innovative initiatives in pilot cities.

IV S M

1. Strengthening leadership. MEE will set up a coordination group and an expert committee, and build a coordination mechanism to jointly guide the cities to carry out the pilot program by coordinating research on major issues and important policies and ensure the success of the pilot program. The governments of the pilot cities should attach great

importance to the pilot program by listing it as one of the annual key tasks so as to deepen reform in urban management systems. The governments should set up leadership groups, improve work mechanisms, clarify departmental responsibilities and enhance incentive measures. Cities which are carrying out pilot work related to solid waste should plan the work with the "Zero-waste City" pilot program, strengthen system integration and bring comprehensive benefits into full play.

2. Increasing financial support. Local governments are encouraged to make full use of relevant policies to support the construction of public facilities such as solid waste disposal. They should integrate financial resources at different levels and identify the scope and scale of funds for the pilot program. More input should be made in science and technology to accelerate the development of key technologies in reducing of generation and high-value recycling, and improving processes and equipment manufacturing. Financial institutions should be encouraged to increase support for the pilot program while risks being controlled.

3. Conducting strict supervision and law enforcement. It is necessary to strengthen supervision and inspection of green mines, construction and demolition waste disposal, and solid waste utilization in pilot cities, encourage pilot cities to formulate local regulations and rules, crack down on illegal transfer and dumping of various solid wastes and unlicensed collection, recycling and disposal of hazardous waste and continuously

curb illegal collection and dismantling of lead-acid batteries, scrapped automobiles and discarded electrical and electronic products. Efforts should be made to investigate and punish the production and sale of ultra-thin plastic shopping bags and agricultural films and strengthen the comprehensive management of collecting and distributing center for solid waste. Those who fail to exercise proper supervision of solid waste and to complete the tasks will be held accountable in line with laws and regulations.

4. Enhancing publicity and guidance. Ecological civilization education should be conducted in schools, communities, families and enterprises to unite the public and pool people's wisdom and promote green production and green lifestyles. Enhancing publicity and education of solid waste management helps to get rid of the "not-in-my-backyard (NIMBY)" mentality and develop a "beneficial-to-my-community" mentality. Green production and green lifestyles should be incorporated into relevant education and training systems. The generation, recycling, and disposal information disclosure of solid wastes should be enhanced in accordance with the law and the role of social organizations and the public in supervision should be brought into full play.