

City intelligent life: A case study on Shenzhen city intelligent classification of domestic waste

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Abstract

How to efficiently, conveniently, safely, scientifically and intelligently reform the urban garbage classification system and the environmental sanitation system is a common problem to promote the ecological development of urban life. Taking the key elements in the whole process of garbage collection and disposal as the starting point, taking the development of technology as the driving force to improve the management system as the guide, and combining the current situation of infrastructure construction and market practice of environmental sanitation system in Shenzhen city of China, following the intelligent technology route map and realization route of "internet + municipal solid waste classification" are established by using the time line, with supporting of modern information technology, from the aspects of publicity and education, policy designation and industrial chain construction, this essay will discuss on the intelligent management countermeasures of Shenzhen urban domestic waste classification based on "Internet + " to fully exploit the potential value of municipal solid waste and form a win-win environment and sanitation intelligent ecological circle.

The necessity for sorting collection of municipal domestic waste was expounded. The status of municipal domestic waste sorting collection in China was analyzed. The waste sorting methods and techniques should be explained for residents and students in schools and residential communities. Equipment and systems of waste collection should be improved to facilitate residents in waste sorting.

1. China's urban living garbage governance: policies and progresses

In 2019, the state Department of Housing and Urban-rural Construction released news that by the end of 2020, the first 46 key cities will try to build the basic construction garbage classification processing system. The 46 major cities including Beijing, Tianjin, Shanghai, Chongqing, Shijiazhuang, Handan, Taiyuan, Hohhot, Shenyang, Dalian, Changchun, Harbin, Nanjing, Suzhou, Hangzhou, Ningbo, Hefei, Tongling, Fuzhou, Xiamen, Nanchang, Yichun, Zhengzhou, Jinan, Tai 'an, Qingdao, Wuhan, Yichang, Changsha, Guangzhou, Shenzhen, Nanning, Haikou, Chengdu, Guangyuan, Deyang, Guiyang, Kunming, Lhasa, Xigaze, Xi 'an, xianyang, lanzhou, xining, yinchuan, urumqi. It is worth noting that Shenzhen is on the list. This means that Shenzhen city becomes one of the 46 current living garbage classification city.

Housing and urban and rural construction department will input investment of 21.3 billion yuan and continue to accelerate the establishment of the domestic waste treatment facilities to meet the demand of living garbage classification processing.

The Housing and Urban-rural Construction Department seriously comb and Comprehensively summarize the 46 major cities' reproducible experience and practicable methods, and it will be in conjunction with the National Development and Reform Commission, the Ecological Environment, the Central civilization office, Ministry of Commerce, the Ministry of Education, the Communist Youth league Central Committee and the All-China Women's Federation, Administration of affairs of state organs and other relevant departments to print on the ground level and above cities in the whole nation, carry out the work of living garbage classification notice [2019] No. 56 (construction), deploy

ground level and above cities in China will comprehensively carry out living garbage classification of each work.

2. Garbage classification work target

1.By the end of 2020, the first 46 key cities will try to build rubbish classification processing system; Other cities will realize a complete coverage of public institutions living garbage classification, and at least one street district built basic living garbage classification demonstration area.

2.Cities around level by the end of year 2022, at least one area of will realize a complete coverage of living garbage classification, other districts must built at least street basic living garbage classification demonstration area.More than 2025 years ago, the national regional and urban garbage classification must built processing system.

3. To fully proceed the living garbage classification

Housing and urban and rural construction ministry will continue to join with the relevant departments and try on the different measures and more efforts to promote the living garbage classification work.

First, comprehensively considered a comprehensive, completely thinking, leading by the party to promote the "head" in person.

The second is to grab from baby, strengthen the living garbage classification of ecological civilization education.

Third,set the community as the focus, strengthen propaganda, embodies social consensus and create a good atmosphere of the whole society to participate in.

Fourth,to speed up the life garbage sorting facilities construction, improve facilities standards of garbage classification, strengthen classification put, classified collection, classification, sorting, processing each link organic link transport.

Fifth,to strengthen the construction of legal system, through legislation to strengthen the source reduction, living garbage management level of the whole process of ascension.

4. Shenzhen living garbage classification in details

Shenzhen becomes one of the 46 current living garbage classification.As early as June 3, 2017, Shenzhen has officially released the first *"Shenzhen family living garbage classification the guide"* that the classification of garbage shall be carried out in accordance with the nine categories of shunt.

Shenzhen garbage classification in details

At present Shenzhen carry out the nine categories of life garbage classification of shunt to deal with the family living garbage.The residents' daily life garbage mainly according to the "bo gold plastic paper" ,"kitchen waste" ,"hazardous waste" ,"other garbage“ to realize classification processing.Waste fabric is on the special waste fabric recycling bins.Furniture such as heavy junk, years spent years orange can contact special recycling

companies to charge by property. Urban greening garbage, the fruits and vegetable, eat hutch garbage and landfill mainly involves gardens, such as farmers, catering enterprises.

5. Shenzhen garbage classification accuracy

At present, Shenzhen citizens classify the "bo-gold plastic paper" with the highest classification accuracy which can reach 70% ~ 80%. "But the Kitchen waste" classification accuracy is the lowest, at only 30%.

6. Shenzhen has not yet implemented compulsory classification policy

Shenzhen currently has about 3600 property management community which have classified garbage on the box, but has not yet implemented compulsory classification. As of the first half of 2019, there have 805 community takes the lead in implementing the floor with no trash can, which taking the " centralized and classification on the + timing designated supervisor" mode and set up 2348 concentrated classification dropping point , involving 480000 about 1.67 million people.

More than 2700 supervisors in the front steering of garbage classification

The city is currently more than 2700 supervisors in front steering of garbage classification, who are mainly composed of members of volunteers and volunteer organizations. Nanshan district in shenzhen, supervisors live nearby are mostly community residents and mostly are on part-time job, nearby the steering has the advantage of high attendance, community residents are familiar with each other, the steering effect is good. Small program "E du online" can let the supervisor real-time clock in mount guard, organization managers through the map you can see the condition of each district supervisor on duty. Launched in 2018, Shenzhen put out the "living garbage classification rules of shenzhen special economic zone (draft)". In 2019, the Shenzhen city people's congress (NPC) living garbage classification legislation listed as key legislation project, in garbage sorting execution does not reach the designated position, units and individuals will face fines, and even affect the corporate and personal credit registry. After the "Centralized classification on+ timing designated supervisor mode" carried completely, it will be extended to the whole city residential areas. Shenzhen in the future also plans to introduce garbage fee with the bag model, which will change the way of measure of garbage in the water.

7. Shenzhen experience lesson: The intelligent governance of city living garbage

To implement the whole process under intelligent control

On October 22, 2020, shenzhen people's political consultative conference launched "promote living garbage classification" full implementation of the supervision and inspection activities. According to the inspection team, and the information by the end of September this year, Shenzhen city life garbage sorting recycled for 5623 tons per day, marketization of recovery of renewable resources is about 6600 tons per day, Living garbage recycling utilization rate is 40.2%, which have overfulfilled the demand of the state Department of Housing and Urban-rural Construction in advance that "By the end of 2020, living garbage recycling is above 35%" of the target task. Shenzhen CPPCC vice chairman Margaret Chin has participated in the inspection.

Shenzhen CPPCC vice chairman Margaret chin to participate in the inspection. Inspection team line arrived at xiaping solid waste landfill, the color tamura, urban management wisdom centers and other places, visit the landfill treatment, emergency rescue and engineering, residential living garbage classification on the collector, etc., understand wisdom sanitation supervision system, then a talk.

On September 1 this year, the shenzhen city living garbage classification management ordinance formally implemented, marked the shenzhen garbage sorting into a new stage under the rule of law. According to introducing, in September, the city's urban management departments at all levels out personnel 62710 people, vehicles, 14622 vehicle-timeses, check the delivery point 30842, discovered the problems point 9000, rectification notice issued by 8393.

"Shenzhen garbage sorting backend processing capacity has reached the international advanced level, but the front how to classify, many people still confused." Symposium, the CPPCC members and experts, the garbage classification on habit, will continue to strengthen publicity and education garbage classification, strengthen normative guidance and personnel guidance, promoting citizens to form the good habit of garbage classification. And experts believe that the future with the rapid development of cities, how to make use of big data technology means such as the garbage classification management wisdom, expanding the scope of the technology, it is worth to continue to think and explore.

According to the Shenzhen next to online garbage classification regulation system, the implementation of the whole process of supervision, wisdom construction whole process of intelligent information management platform, to realize the garbage sorting process, total factor closed-loop management.

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