



For eternal green mountains and clear waters,
we will keep exploring

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Waste Treatment & Environment Governance Solutions



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Company Introduction

PEAKS-ECO was founded in 2005. It focuses on the design, construction, operation, production and technological innovation of comprehensive waste treatment projects, providing comprehensive environmental treatment solutions. The company is committed to realizing sustainable development of people and environment. Relying on the advantages of its equipment manufacturing and process technology innovation, the company focuses on the investment, construction and operation of waste recycling industrial park. The company's business includes the comprehensive treatment of many kinds of garbage, such as construction waste, kitchen waste, fruits and vegetables waste, household waste, industrial waste, etc., environmental restoration, sludge treatment and resource utilization.

The company has an 23 hectares OEM intelligent manufacturing base, and set up Qingshan Research Institute in Beijing as the leading team of technology research and development. In 2023, the company's Dezhou intelligent manufacturing, R & D center started production. In recent years, the company has successfully introduced new products and process technology from Germany and Finland, bringing the world's cutting-edge technology and products to China, and successfully going abroad as China's environmental protection enterprise.

The company's motto is "For everlasting green mountains and clear waters, we will keep exploring". PEAKS-ECO will adhere to scientific and technological innovation, and continue to achieve success in environmental governance.



2005
Company is established



50+
Senior technical
personnels



33+ hectares
Production base



350+
Staff

100+
Comprehensive projects at home and abroad

50+
Large transfer stations

200+
Small and medium-sized transfer station system

Huaxia Qingshan Research Center & Production Base

PEAKS-ECO

Company Glories

Provincial Engineering Academy Research Center



- 01 Participated in the compilation of the People's Republic of China's Industry Standards "Kitchen Waste Treatment Technical Specifications" and "Recyclable Waste Treatment Technical Specifications".
- 02 In 2019, the complete set of household waste treatment system and process technology were identified by experts organized by the Shandong Provincial Science and Technology Department and selected into the catalog of "Shandong's Top Ten Clean and Low-carbon Technologies".
- 03 In 2020, the establishment of Shandong Engineering Technology Research Center was approved.
- 04 In 2020, the establishment of Solid Waste and Biological Organic Waste Treatment Shandong Engineering Research Center was approved.

Cooperative Organizations and Institutions



Patents

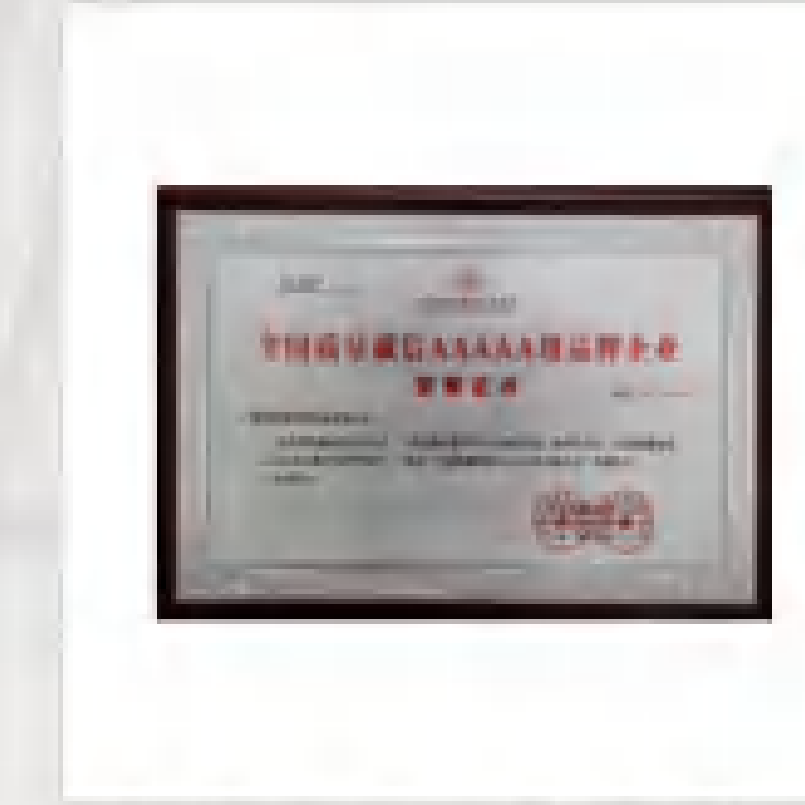


30+ Invention patents authorized
100+ Utility patents
10+ Patents under review

Certificates



Business License



National quality and integrity AAAAA brand enterprise certificate of honor



High-tech enterprise certificate



China cleaning industry grade qualification



Qualification certificate of garbage classification, cleaning, collection and transportation service



Construction enterprise qualification certificate



Safety production standardization certificate



Quality management system certification



Occupational health and safety management system certification

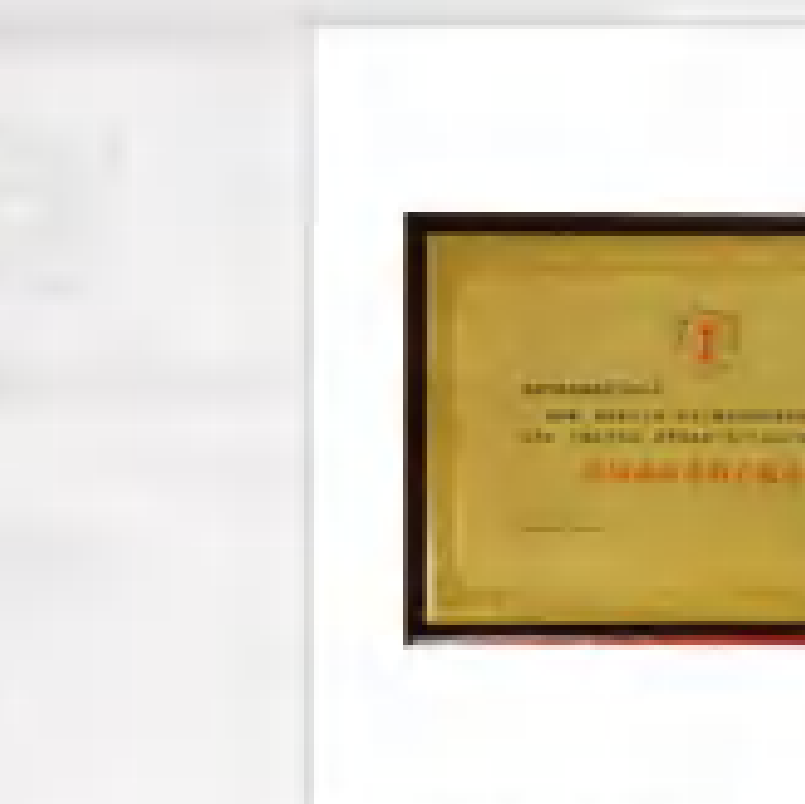


Environmental management system certification

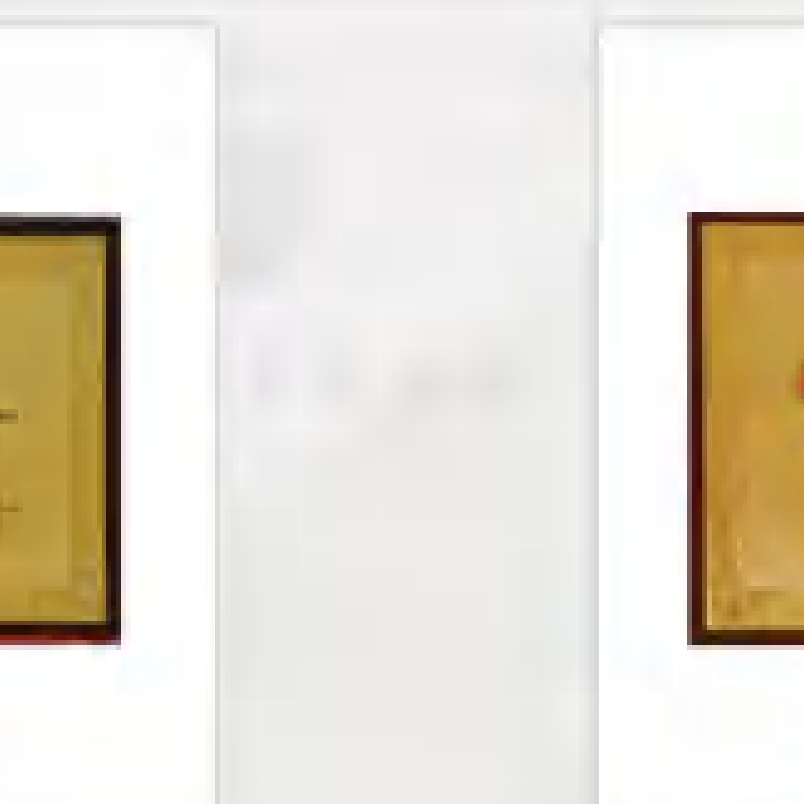
Awards



China's famous environmental protection enterprises



Preferred brand for government procurement



Famous brand in Shandong Province



Enterprises with a sense of social responsibility in fighting the epidemic

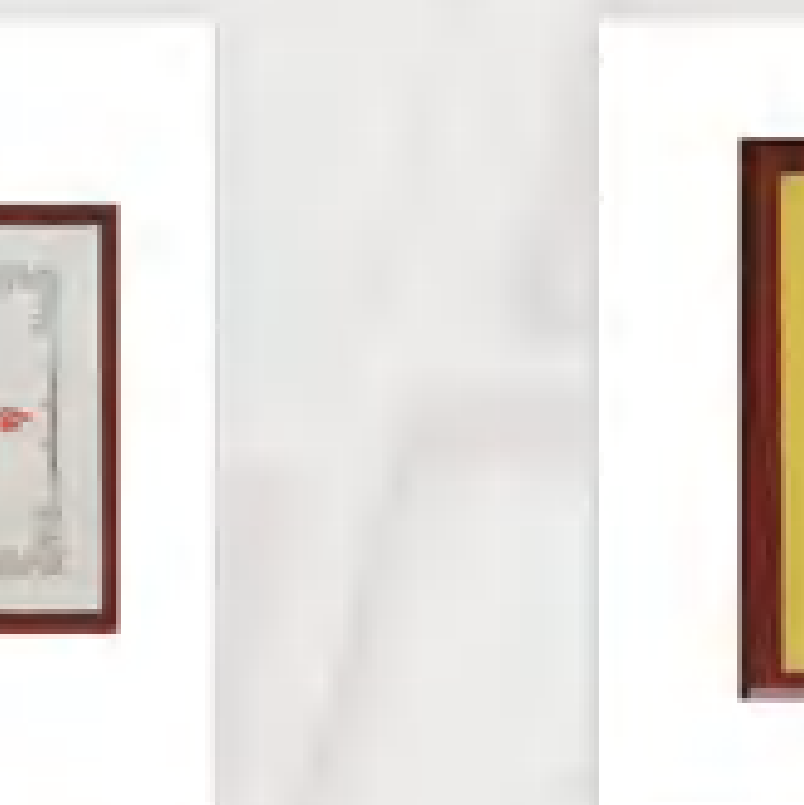
Joining Associations



Executive Member of China Enterprise Association Entrepreneur Club



Member of the National Association of Environmental Services



Member of Dezhou Chamber of Commerce



Recommended products of China Environment and Sanitation Association



Partners

Domestic Strategic Partners

Qunfeng Heavy Industry has reached strategic cooperation with well-known domestic enterprises, such as China Railway Construction, China Construction, China Communications, Everbright International, North China Research Institute, Shanghai Municipal Engineering Design Institute, Power China, Sinosteel Group, Three Gorges Group, Capital Environment, Hangzhou Environment, and MCC Group.

| | | | | |
|---|---|---|--|---|
|  中国节能 CHINA ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION GROUP |  中国铁建 CHINA RAILWAY CONSTRUCTION CORPORATION LIMITED |  CSCEC CHINA STATE CONSTRUCTION ENGINEERING CORPORATION |  CCCC CHINA COMMUNICATIONS CONSTRUCTION CORPORATION LIMITED |  CCTC CCTC (BEIJING) ENVIRONMENT TECHNOLOGY CO., LTD. |
|  NCME CHINA MUNICIPAL ENGINEERING NORTH CHINA DESIGN AND RESEARCH INSTITUTE |  SMEDI SHANGHAI MUNICIPAL ENGINEERING DESIGN INSTITUTE (GROUP) CO., LTD |  POWERCHINA POWER CHINA |  EBR EVERBRIGHT INTERNATIONAL |  CMES CHINA MUNICIPAL ENGINEERING CENTRAL SOUTH DESIGN AND RESEARCH INSTITUTE |
|  SINOSTEEL 中钢集团 SINO STEEL |  中国三峡 CHINA THREE GORGES CORPORATION |  CEP CAPITAL ECO-PRO GROUP |  HEG HANGZHOU ENVIRONMENT GROUP |  MCC CHINA METALLURGICAL GROUP CORPORATION |

Cooperative Organizations and Institutions

| | |
|--|--|
|  Brisort Introducing international advanced innovative technology,Bring higher added value to resource recovery industry. |  metso Design for different industries and waste logistics Manufacture and install recycling plants. |
|  KIVERCO RECYCLING PLANT Global sustainable mineral processing technology A leader in end-to-end solutions and services. |  STRABAG SOCIETAS EUROPAEA Our services cover all areas of the construction industry.It covers the whole construction value chain. |
|  Walair Professional design and supply of separation materials using air technology And equipment for further processing. |  WOIMA Provide the best waste conversion value products, projects and services worldwide. |
|  WILLIBALD Founded in 1965.The company has developed into a modern and successful oneIndustrial companies. |  HERMION Hermion focuses on various fields of plastic recycling, and provides plastic recycling technology and equipment in various fields. |

Our Mission

Garbage is very easy to ignore in our daily life, and the amount of garbage created per person per day is actually only a little, but when it is measured with 100,000 people or one million people, the garbage created everyday is enough to fill a small city. In China, there is really a situation of garbage siege. In more than 600 large and medium-sized cities across the country, two-thirds are surrounded by garbage, and a quarter of them have no suitable place to dump garbage.

With the gradual shortage of land for landfill, waste incineration is a way for large cities to deal with waste, and waste classification can effectively improve the efficiency of waste incineration. The widely adopted method is the implementation of classified collection, transportation and treatment according to the composition of waste, utilization value and environmental impact.



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PEAKS-ECO will stay true to the original aspiration, keep in mind the mission. The company reached a comprehensive strategic cooperation with China Railway Construction on the environmental industry sector. Combined with the European advanced system technology and waste treatment process concept. As an environmental protection pioneer, the company is based on its solid production and processing capacity.

Solutions

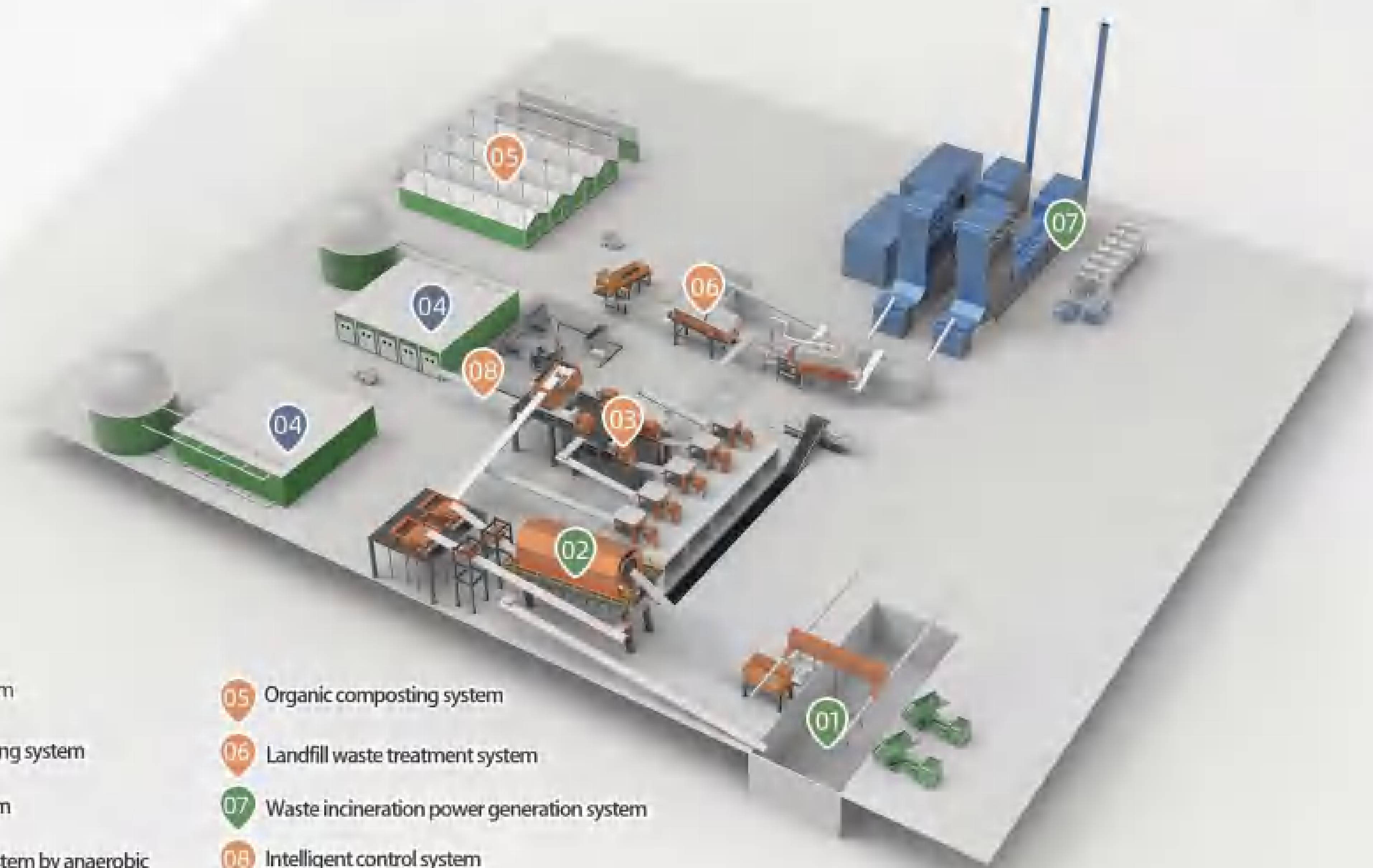


Waste Comprehensive Treatment & Recycling Industrial Park

The root of increasingly serious problems of resource and environment is the economic development pattern characterized by high exploitation, low utilization and high emission since the industrialization movement. With the urban disease becoming more and more serious, more and more attention has been paid to ecological protection. The circular economy industrial park establishes the material circulation mode of "producer, consumer and disintegrator" to realize the recycling of resources. The establishment of the circular industrial park will promote the recycling, reduction and harmfulness of waste, and provide a solid guarantee for achieving the ambitious goal of carbon neutrality.



Integrated waste management in China



- 01 Waste feeding system
- 02 Mixed waste pre-sorting system
- 03 Waste recycling system
- 04 Biogas production system by anaerobic fermentation of organic matter
- 05 Organic composting system
- 06 Landfill waste treatment system
- 07 Waste incineration power generation system
- 08 Intelligent control system

With complicated components, low calorific value, high moisture content and potentially harmful emissions, municipal solid waste (MSW) is the most challenging fuel for power generation. The MSW ecosystem uses municipal solid waste to support the circular economy, extract maximum energy from it, and minimize the discharge of waste water, waste residue and exhaust gases, thus maximizing the benefits of waste treatment. In fact, all waste can be recycled as raw material or energy, leaving less than 5% of waste for final treatment. PEAKS-ECO's ecosystem solutions combines three simple and powerful waste-to-value technology processes into one comprehensive solution. The waste pre-sorting solutions classify waste into recyclable materials (glass, metal, plastic, etc.), organic and inorganic matter. The recyclable materials will be used as the original raw materials in the manufacturing industry and be made into products for daily life. Organic matter will be used for biogas production, or to obtain purified natural gas or direct power generation and heating. The biogas residue is composted in the sun room, and finally processed into nutritious soil for green fertilizer. The inorganic matter will eventually be incinerated for energy.

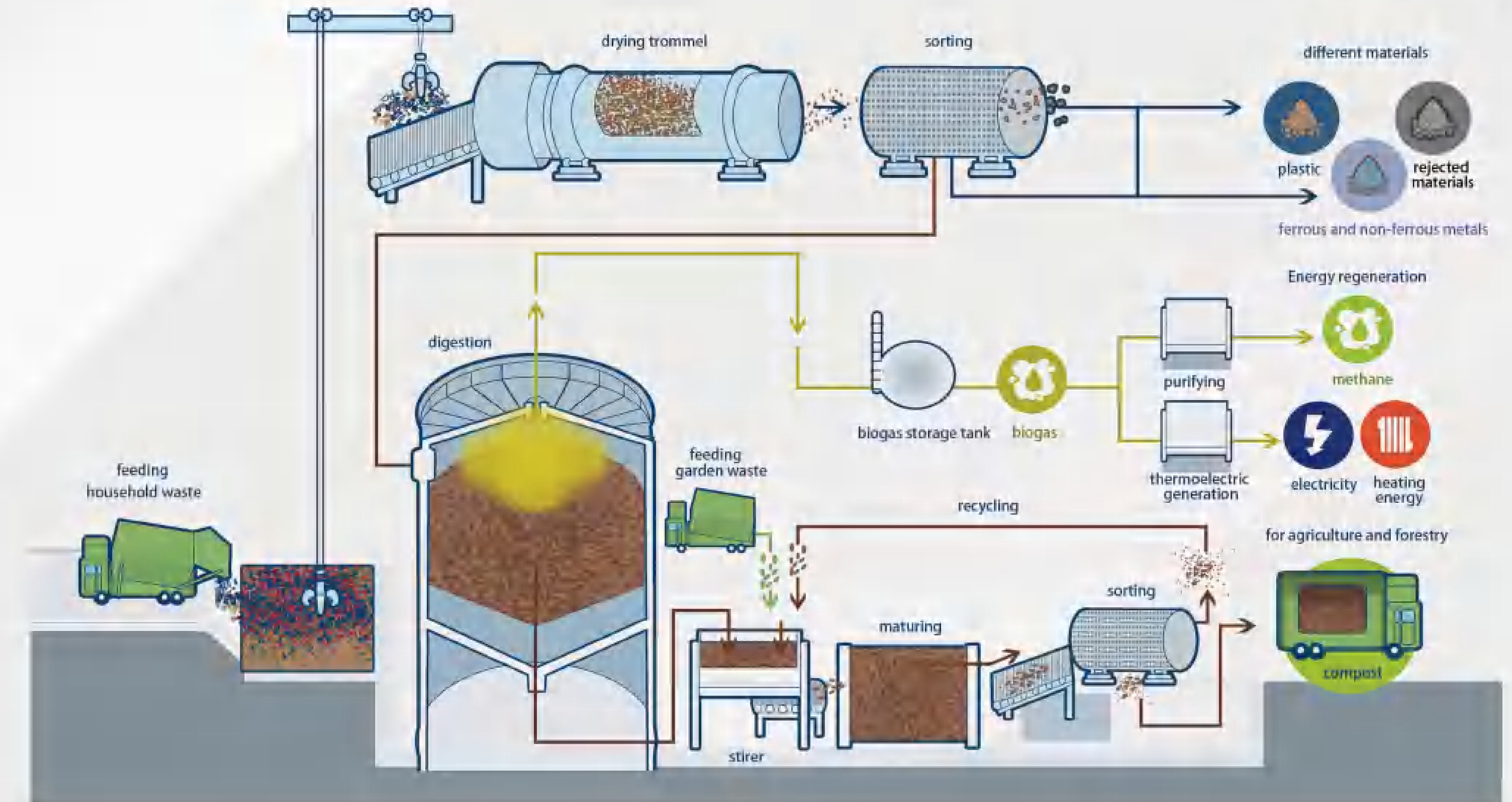




Waste Mechanical and Biological Treatment Plant (MBT)

Waste mechanical and biological treatment plant (MBT) mainly treats sorted household waste. MBT technology combines the mechanical sorting process and biodegradation process of waste treatment.

The mechanical sorting process includes an automatic sorting system for sifting out recyclable materials such as metals and fibers from the mixed waste. The biodegradation process removes water from the waste and helps produce fuels with stable caloric values and fewer impurities. Biodegradation of waste through MBT technology helps to reduce the production of greenhouse gases, slow global warming, and thus achieve the ambitious goal of carbon neutrality.



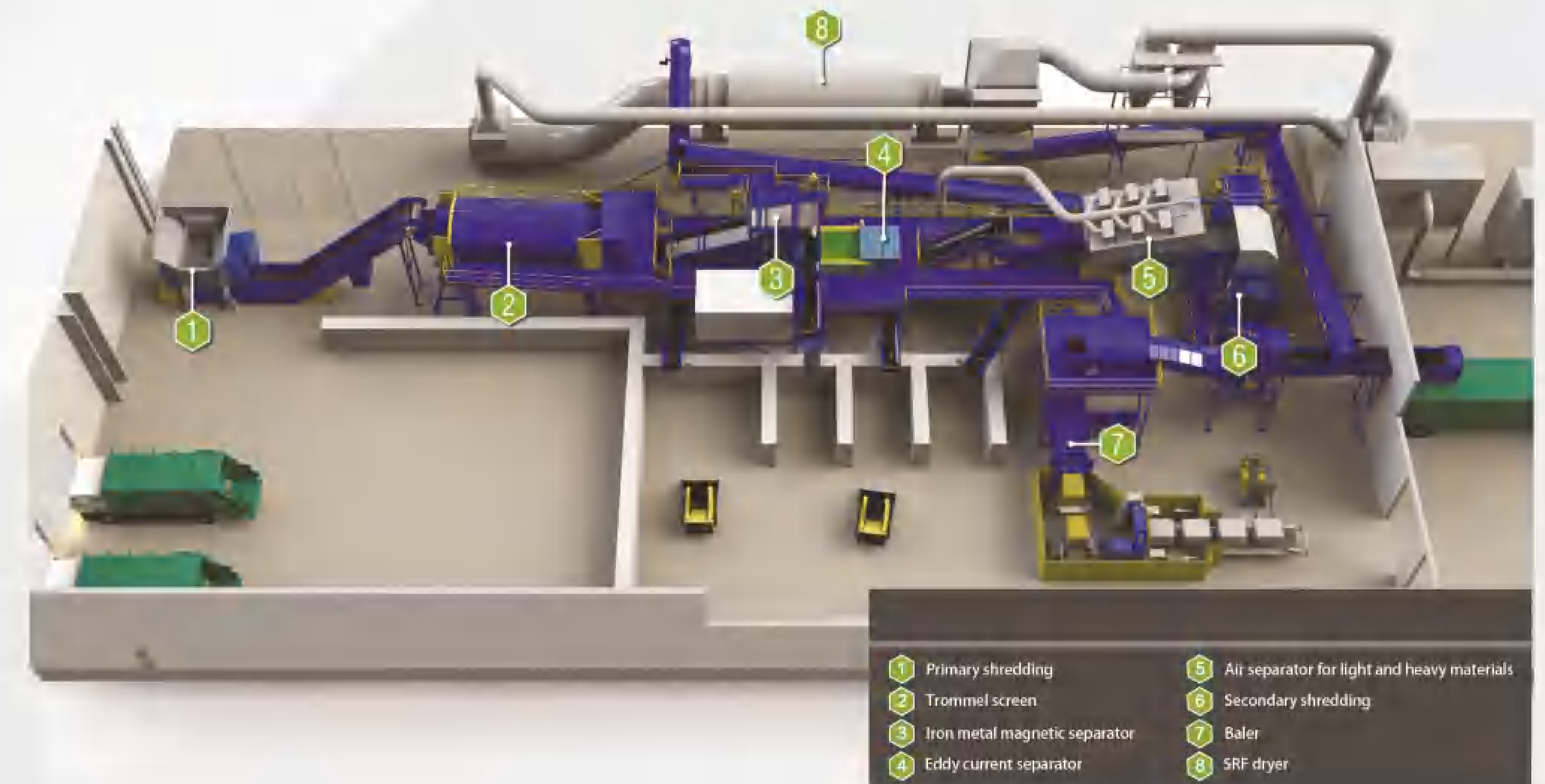
The waste MBT process is a strategic and innovative comprehensive waste treatment process introduced from Finnish company. This system can achieve the maximum resource utilization and waste reduction of domestic waste. Before the garbage enters the sorting process, it is first dried, the process does not need to rely on external heat sources, only rely on the heat generated by its own fermentation, which can evaporate most of the water. After 24 hours, the water can be reduced by about 15%. The dried waste enters the mechanical sorting system, and the waste is finely screened. The material on the sieve can be crushed and made into burnable derived fuel (RDF or SRF). The material under the sieve can be directly used for aerobic fermentation or dry anaerobic fermentation to produce biogas for power generation or purification of natural gas.

Waste drying MBT process adopts enclosed treatment mode, which can effectively reduce secondary pollution.





Household, Industrial and Commercial Waste Treatment System



Urban solid waste mainly including household waste, commercial waste, market waste, street waste, waste in public places, schools, factories etc. With the development of cities and the continuous improvement of people's living standards, the amount of urban solid waste produced is increasing year by year, and the environmental pollution caused by it is becoming more and more serious.

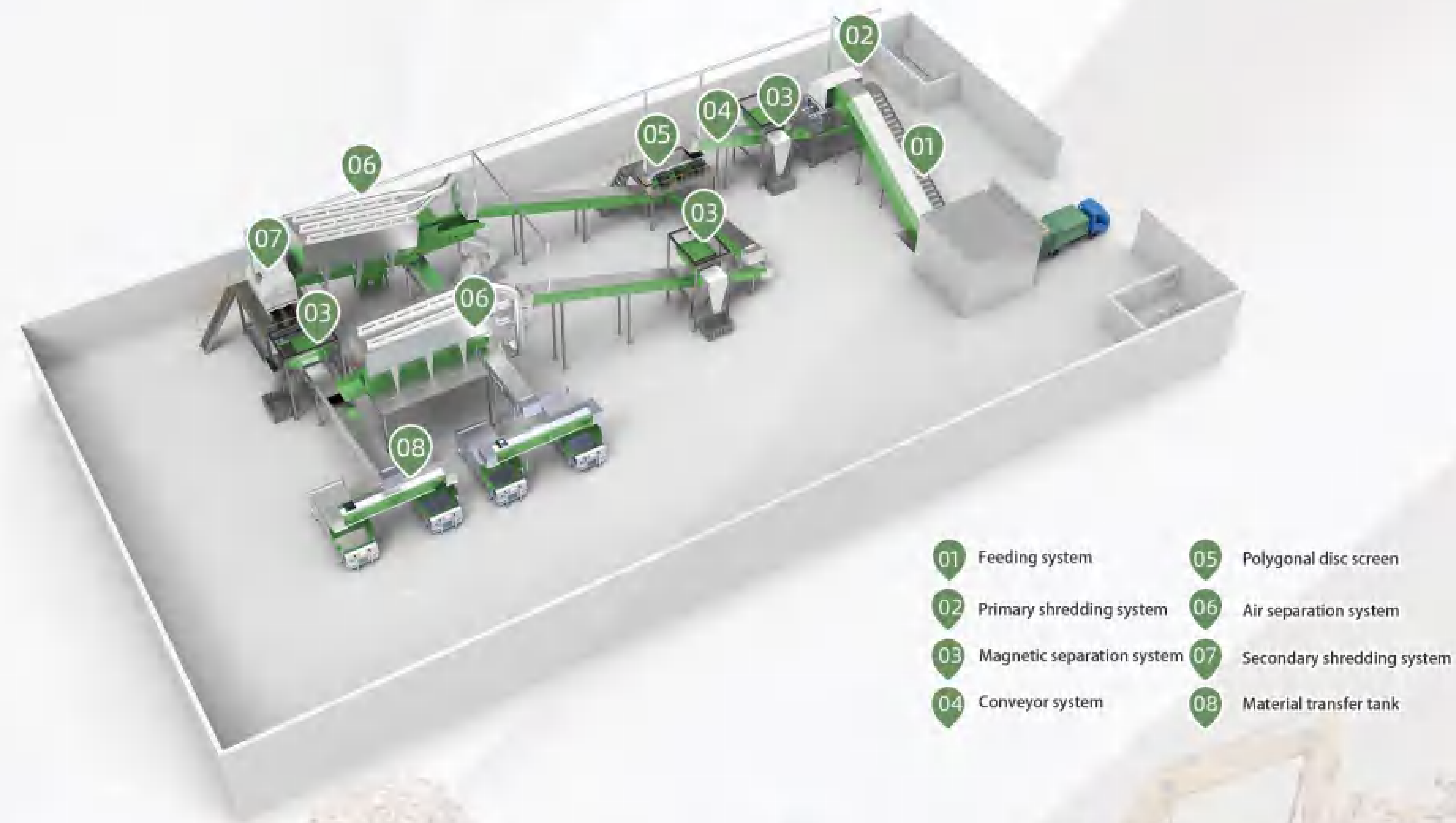
According to the China Urban Construction Statistical Yearbook released by the Ministry of Housing and Urban-Rural Development in 2018, since 2010, China's household waste transfer volume has increased year by year, exceeding 200 million tons in 2016, an increase of 6.81% year by year. In 2017, it reached 216 million tons, an increase of 5.82%. More than 1,500 counties produced nearly 0.7 billion tons of garbage in a year. The amount of household waste produced in China is more than 400 million tons in a year.



After the household waste is transferred to the treatment plant by the special garbage carrier, it enters the enclosed discharge room. When the transport vehicle automatically unloaded the waste, the sterilization device and negative pressure deodorization system are automatically started during the unloading process. The feeding system then pours the garbage into the hopper of the primary shredder of the garbage sorting and pretreatment system, and the particle size of the material will be broken to less than 250mm after the bag is broken. The garbage broken by the primary crusher is transported to the trommel screen by conveyor, and the iron removal device is installed on the conveyor to sort out iron in the garbage.

The trommel screen sorts the waste into two specifications larger than 80mm(on the screen) and less than 80mm(under the screen). The material on the screen (larger than 80mm) is transported to the air separator, which is separated by the air separator and sorted out the light and heavy material. Heavy materials (stone, glass, concrete, etc.) are transferred to designated sites for landfill. Light materials (paper, plastic and other combustibles) enter the secondary crusher, then iron is separated, and the remaining material is made into refuse derived fuel (RDF).

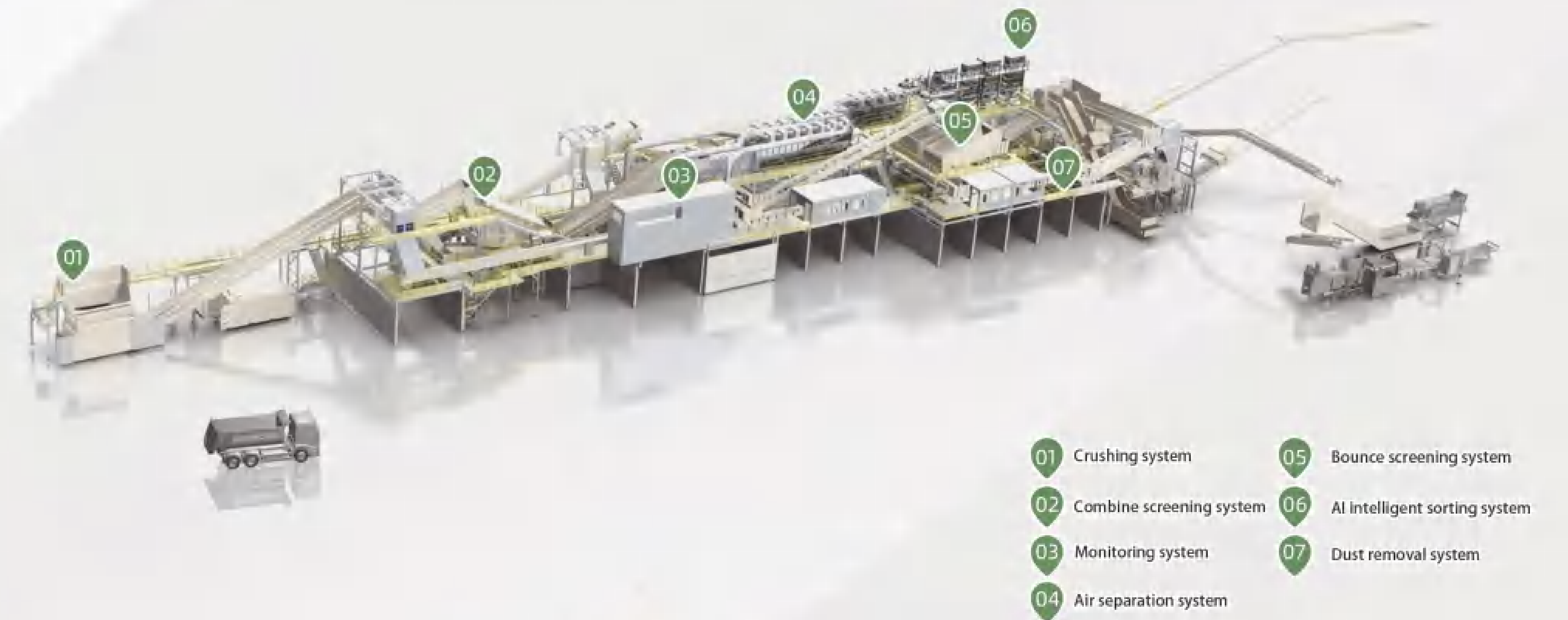
Industrial and Commercial Waste Treatment System I



Commercial and industrial waste enters the primary crushing system through the feeding system after the special garbage carrier enters the site. The particle size of the material will be broken to less than 250mm when the bag is broken. The garbage broken by the primary crushing system is transported by the conveyor system to the polygonal disc screen, which divides the garbage into two specifications: the material on the screen and the material under the screen, while the magnetic separation system sorts out the metal material.

The material on the screen and the material under the screen are respectively transported to the air separation system, and the light and heavy substances are separated. Heavy materials (stone, glass, concrete, etc.) are transferred to designated places for landfill. Light materials such as paper, plastic and other combustibles enter the secondary crushing system. After the shredding of the secondary crushing system, the waste going through the magnetic separation system to separate the material containing iron (magnetic material), and the remaining waste is made into RDF fuel.

Industrial and Commercial Waste Treatment System II



In order to achieve the maximum utilization of resources, PEAKS-ECO launched a more complex process, which adds the combine screening system, bounce screening system, AI intelligent sorting system, etc., the commercial, industrial waste are further classified, including wood, paper, fiber, concrete, brick, metal, etc. Screened materials can be directly transported to the downstream for treatment and reuse.

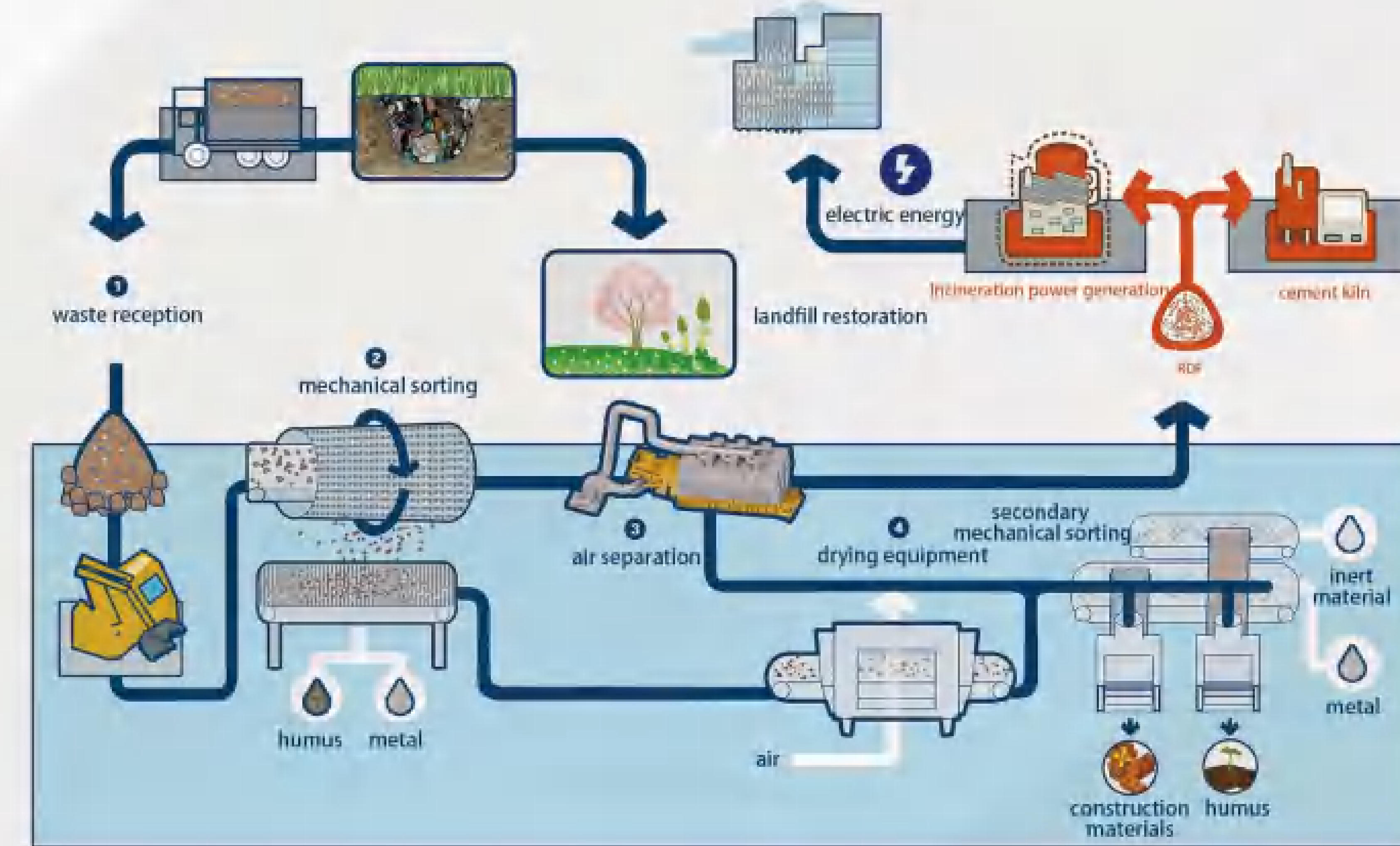
Commercial and Industrial Waste:



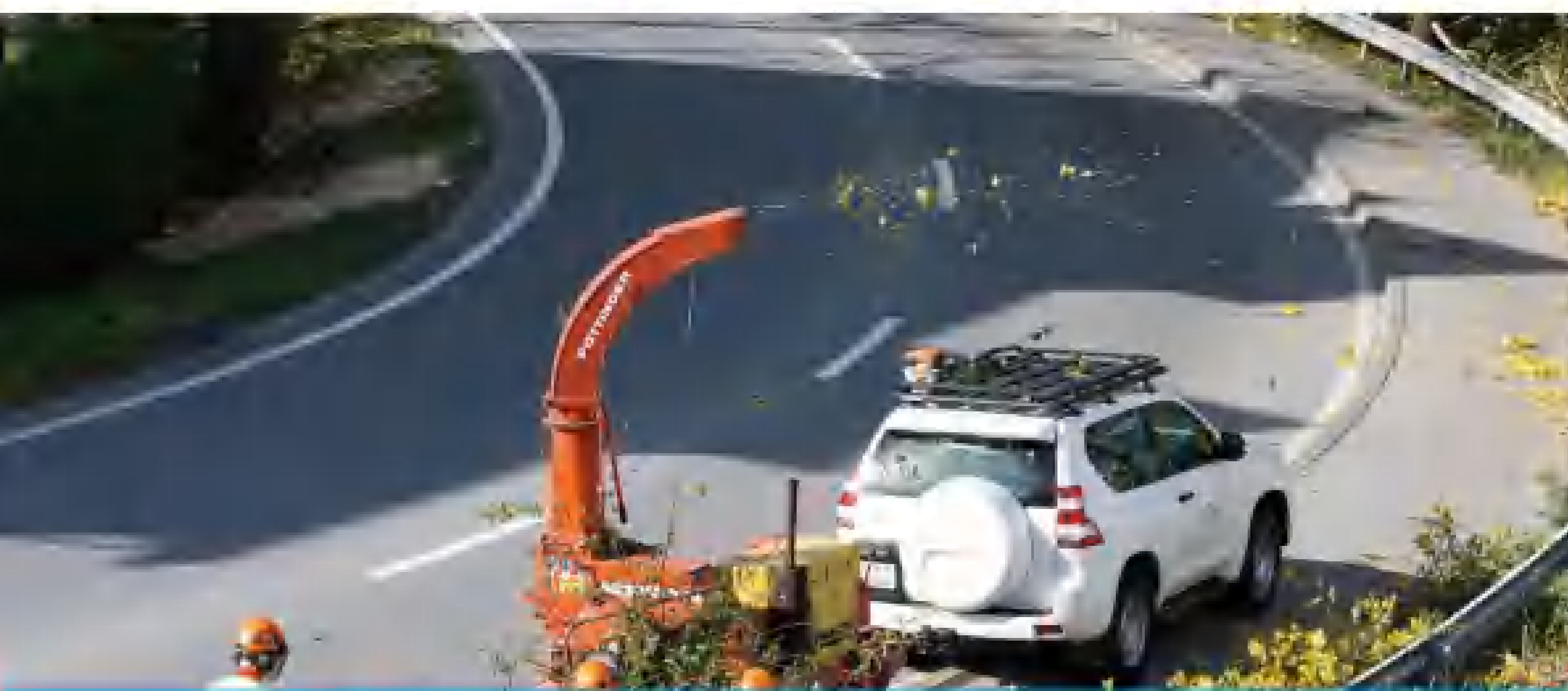
Commercial and Industrial waste usually contains a mixture of wood, metal, plastic, cardboard and paper, or contains some concrete, bricks, rubble and soil. Ferrous, non-ferrous, inert materials (bricks, concrete, etc.) and non-recyclables are removed from the mixture and the mixture is processed into PEF fuels, which can replace traditional fossil fuels. All recovered metals are transported to specialized companies for sorting and recycling, and inert materials are recovered and offered to the construction market as an alternative to traditional quarrying products.



Landfill Waste (Landfill restoration)



Landfill restoration process mainly includes garbage excavation, transfer, sorting, dust removal and deodorization during treatment, and site restoration. Before the excavation of the landfill, the site survey should be done, and a reasonable plan should be formulated according to different conditions. The excavated garbage can be transferred by vehicle or transported to the garbage sorting line. The garbage sorting line mainly includes trommel screening system, air separation system, magnetic sorting system and so on. The garbage is first screened by the trommel screening system, and the material is divided into large particle and small particle. The material on the screen is divided into heavy substances and light substances by the air separation system, and the light substances are mostly plastics, which can be used for incineration power generation or cement kiln. Heavy materials are humus and construction residue. After iron metal is removed by magnetic separation system, humus can be used for gardening or landfill, and construction residue can be used as architectural aggregate for resource reuse.



Organic Waste Treatment System

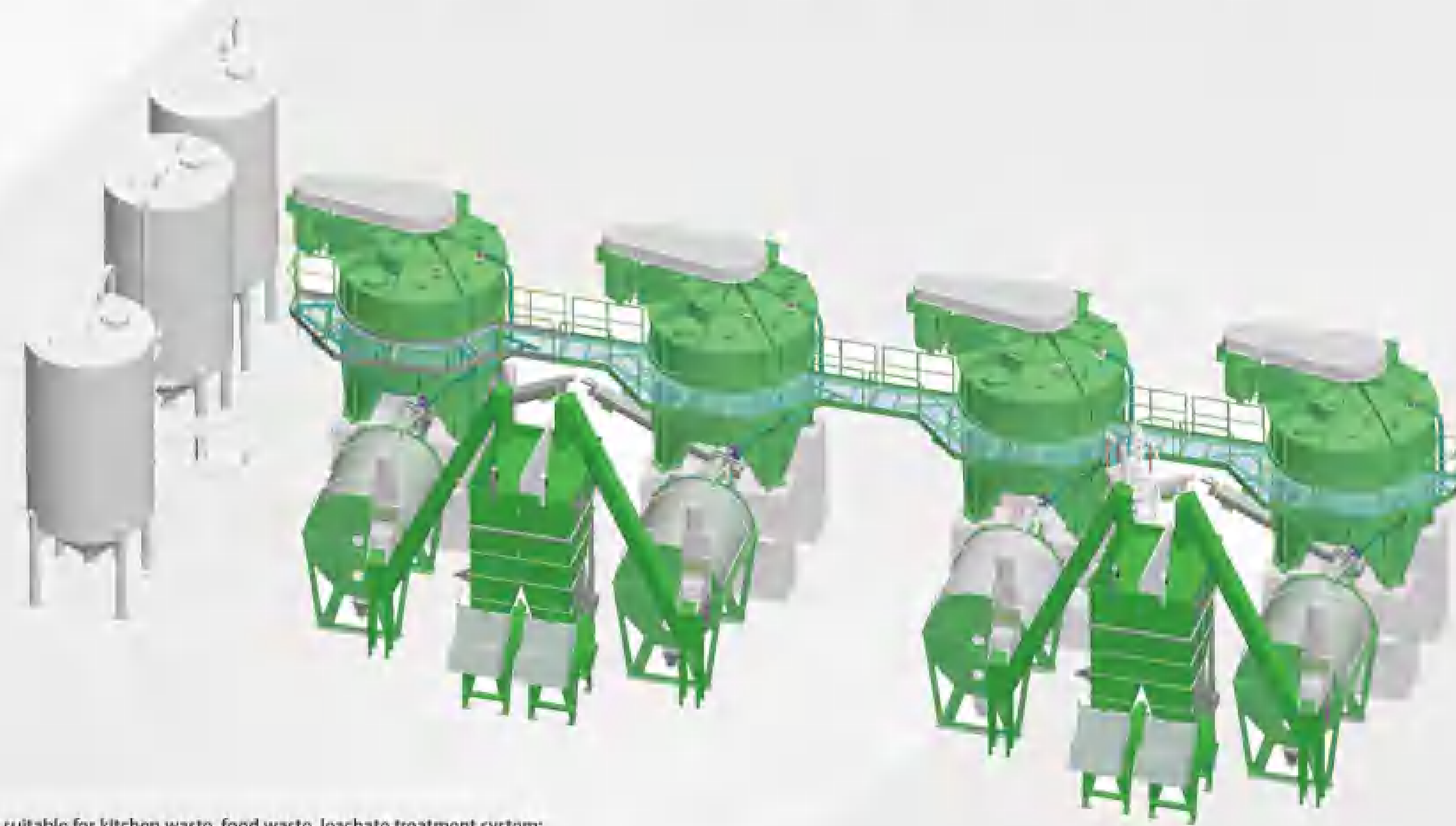
In November 2019, the Ministry of Housing and Urban-Rural Development issued a new version of the Classification of Household Waste. In the new standard, kitchen waste, food waste and wet waste are classified as kitchen waste.

In a time of garbage classification promoted by national leaders, kitchen waste treatment will become the focus of the government's garbage treatment work.

The amount of kitchen waste produced in China has increased year by year at a considerable rate, leading to the great demand for waste treatment. Between 2014 and 2018, the amount of kitchen waste increased from 884.1 billion tons to 1,080 billion tons, with a compound annual growth rate of 5.1%. Thanks to the continuous increase of investment in environmental protection industry, the strengthening of public awareness of environmental protection, and the increase in the proportion of kitchen waste treatment, the market size of China's kitchen waste treatment industry (measured by project investment) has basically shown an increase in the past five years. The market of kitchen waste treatment industry developed rapidly from 2014 to 2018, rising from 134.38 million yuan to 221.62 billion yuan, with a compound annual growth rate of 13.3%. In the future, China's kitchen waste treatment industry market will maintain stable growth. According to the estimates of the national planning, it is expected that the market size of the kitchen waste treatment industry will maintain the current development rate, with a compound annual growth rate of about 16.3%.



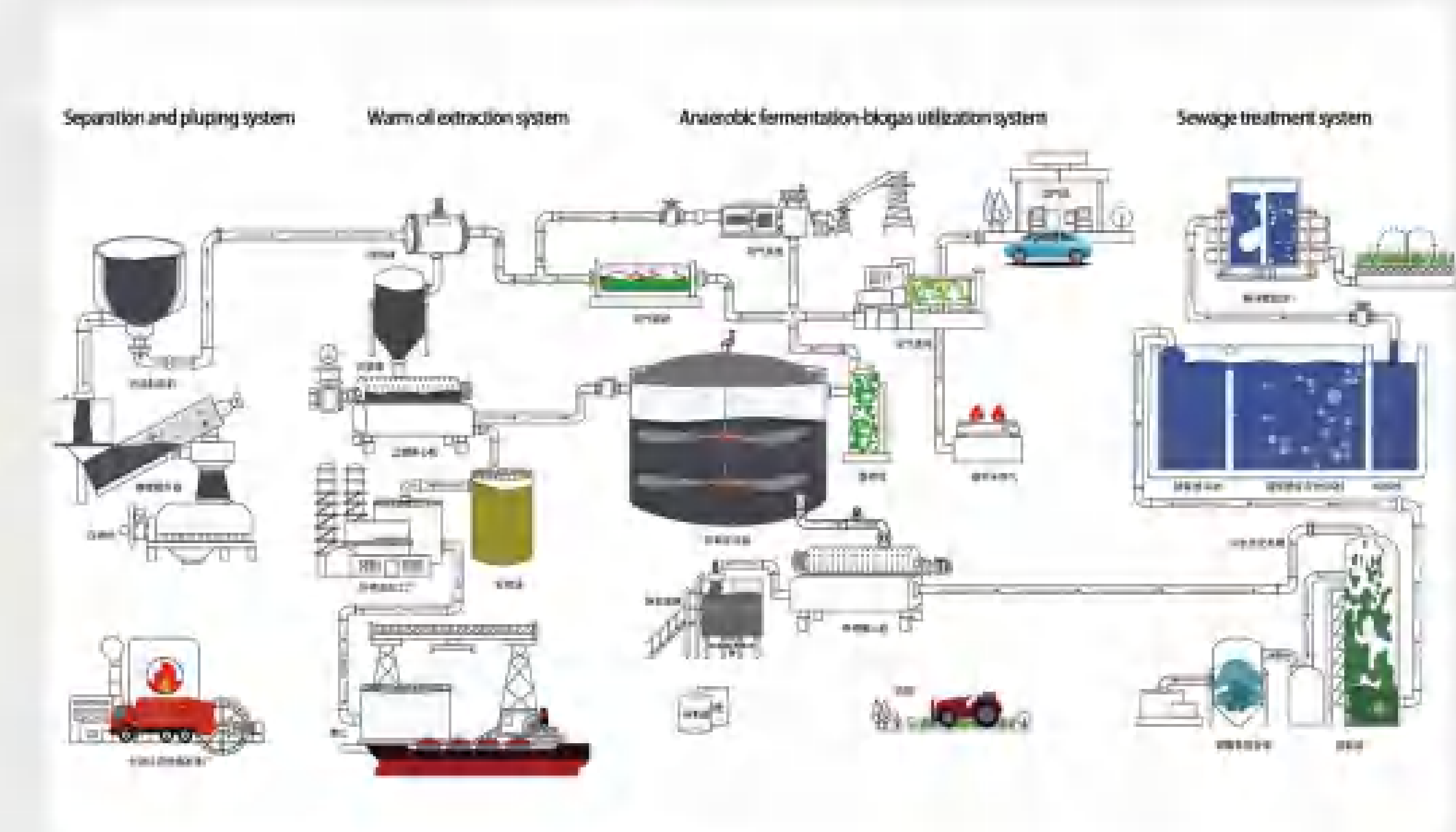
Kitchen Waste Treatment System—Water Pulping Treatment Process



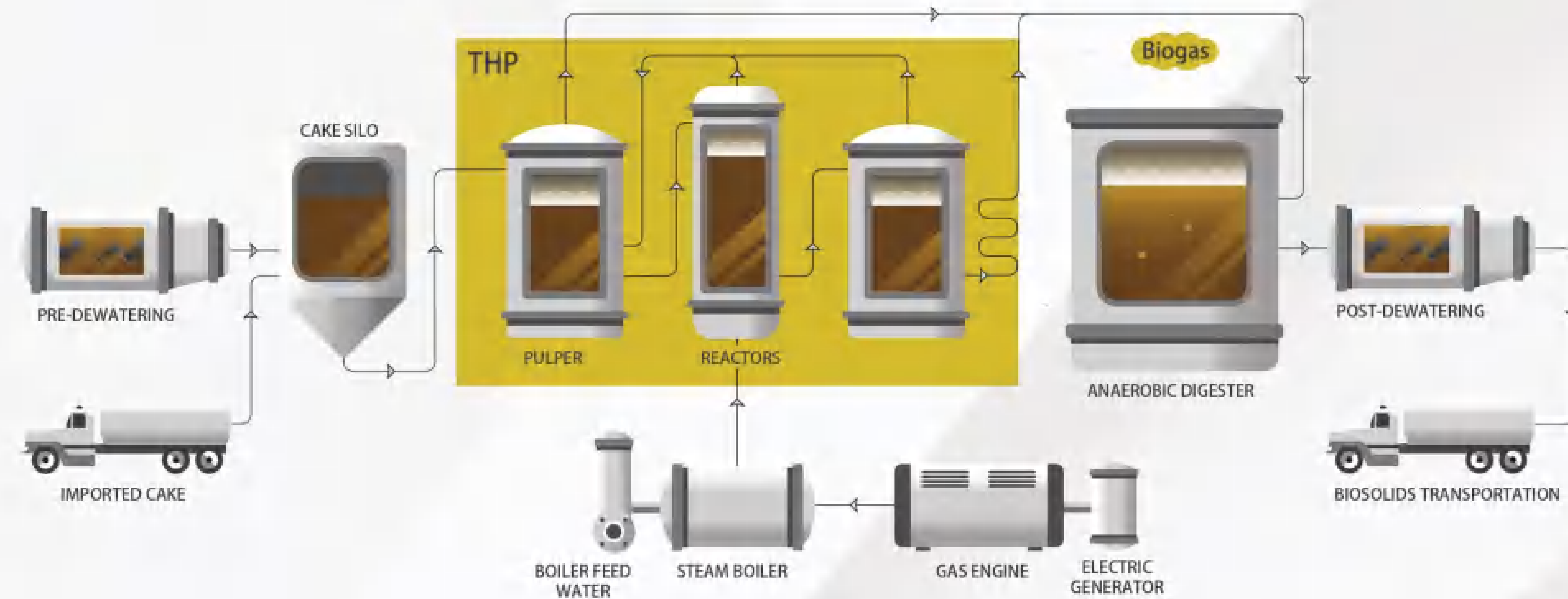
It is suitable for kitchen waste, food waste, leachate treatment system:

PEAKS-ECO's latest water pulping and washing process is equipped with primary shredding equipment, which is used for poorly classified kitchen waste, fruit and vegetable waste, and food waste.

The process can be applied to different waste, such as: food waste, commercial waste, biomass waste, kitchen waste, etc. It can be applied to waste with complex composition, and the process' s ultimate effect will not be affected by the proportion of compositions in the waste.



Kitchen Waste Treatment System—Thermal Hydrolysis and Cell Disruption Technology

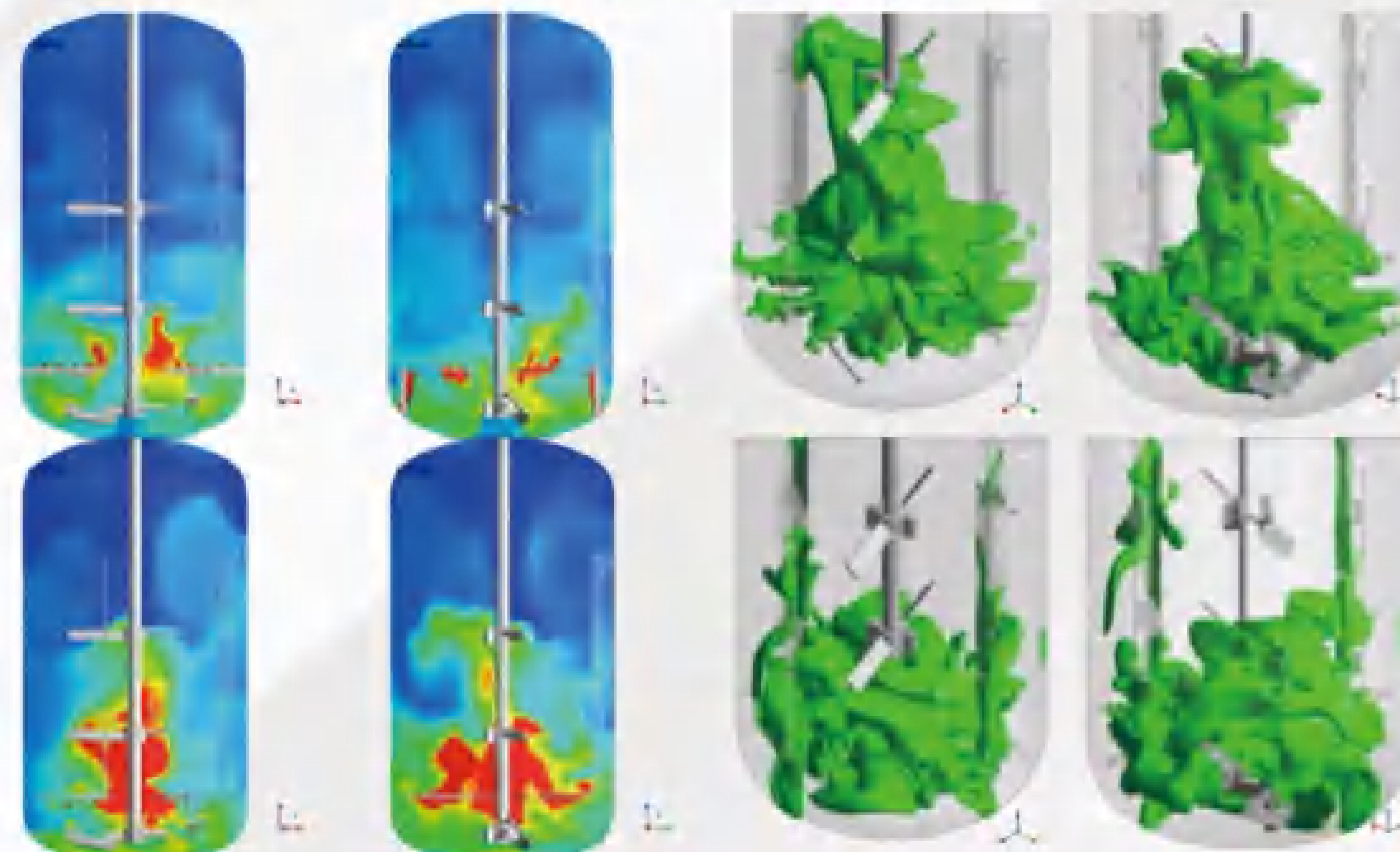


High pressure cracking technology:

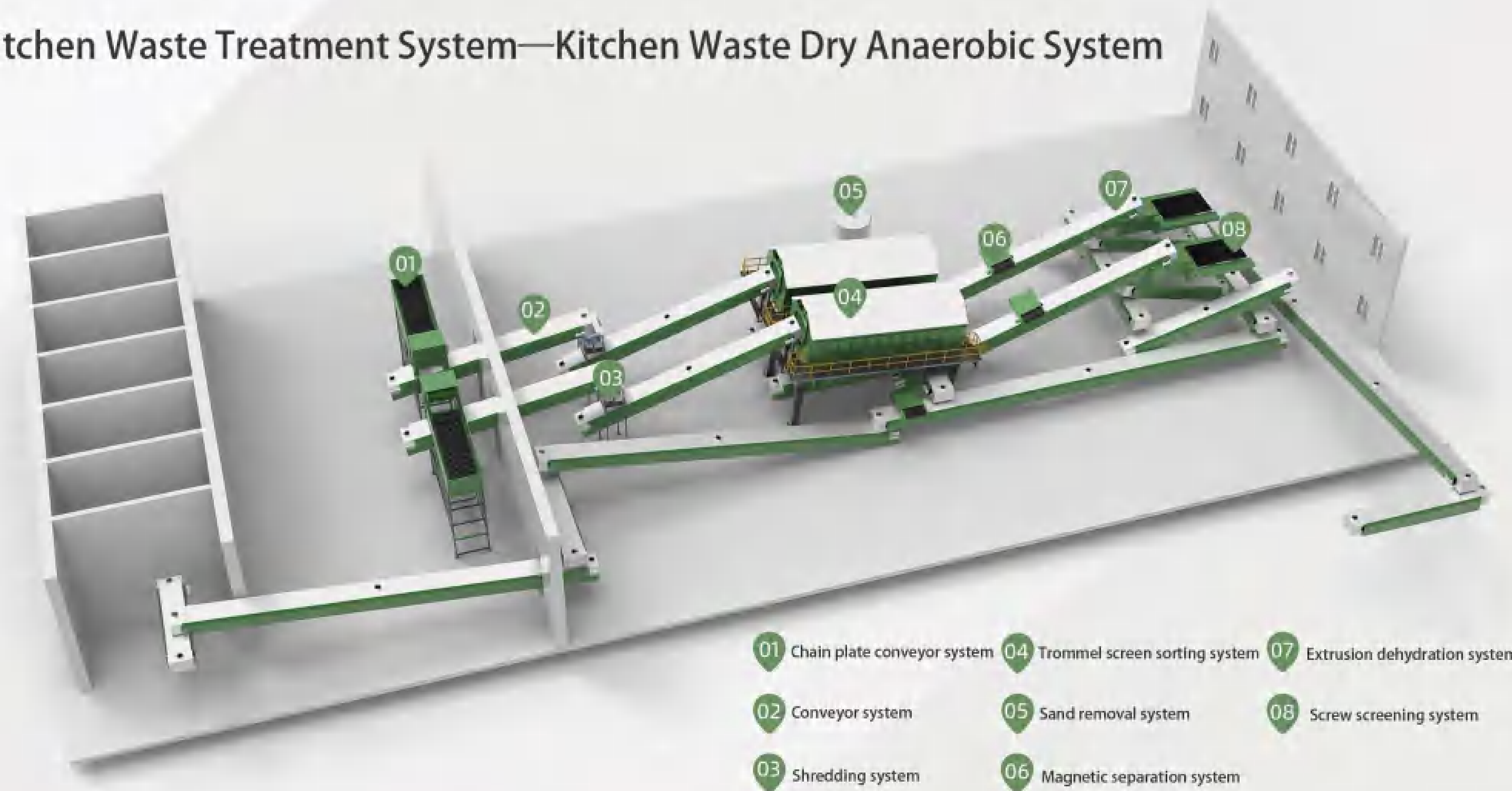
This is a process technology independently developed by our company according to the status quo of domestic organic waste to effectively improve the efficiency of organic waste treatment. High pressure cracking technology can treat kitchen and food waste, fruit and vegetable waste slurry and slurry of other types of organic waste through high temperature and high pressure pyrolysis reaction. The reaction tank in the technology can be set to a parallel mode of multiple tanks, which can ensure the higher operation efficiency of the system and solve the problem that batch production process is difficult in continuous production.



Multiple steam tanks and agitators



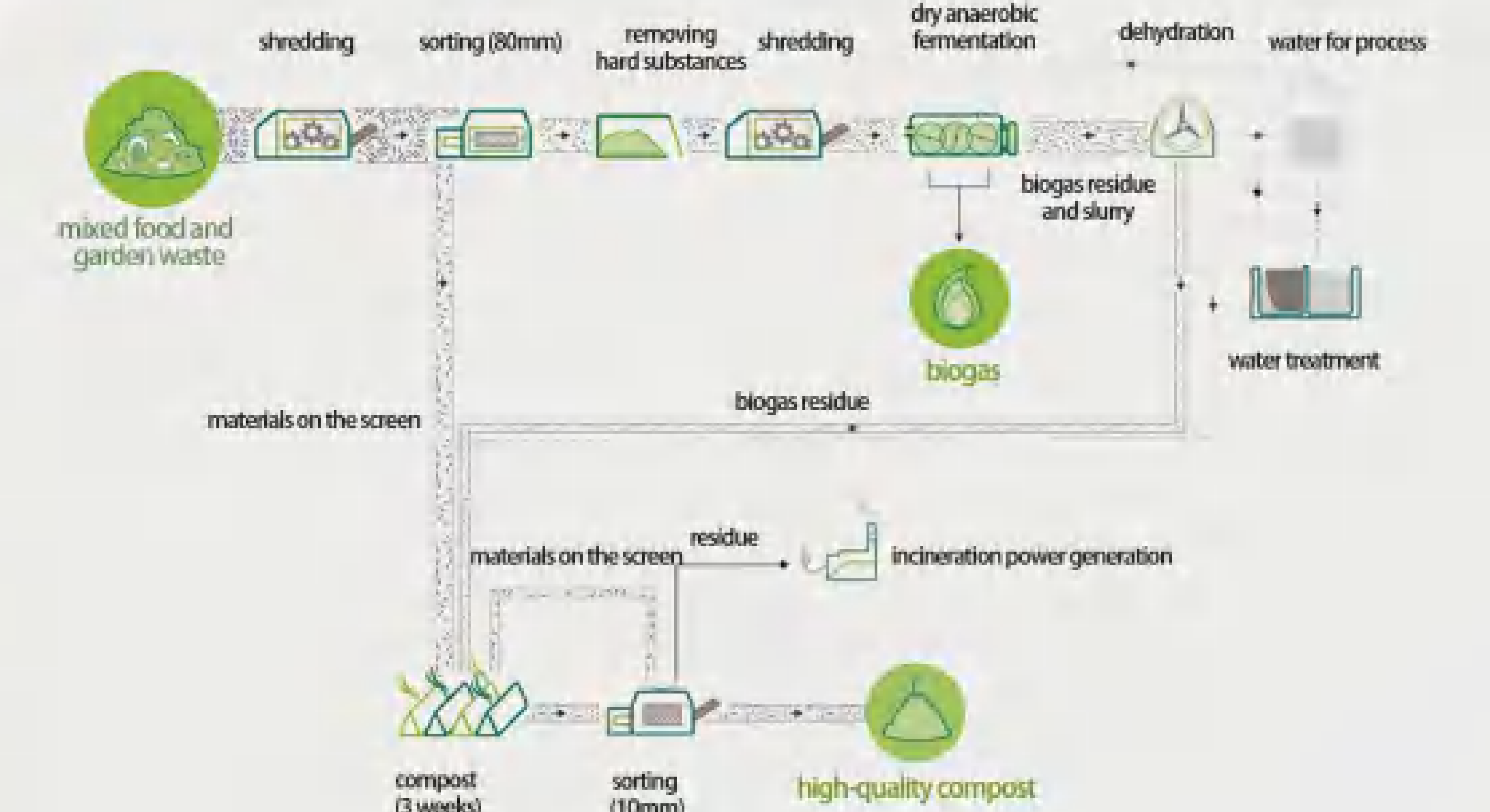
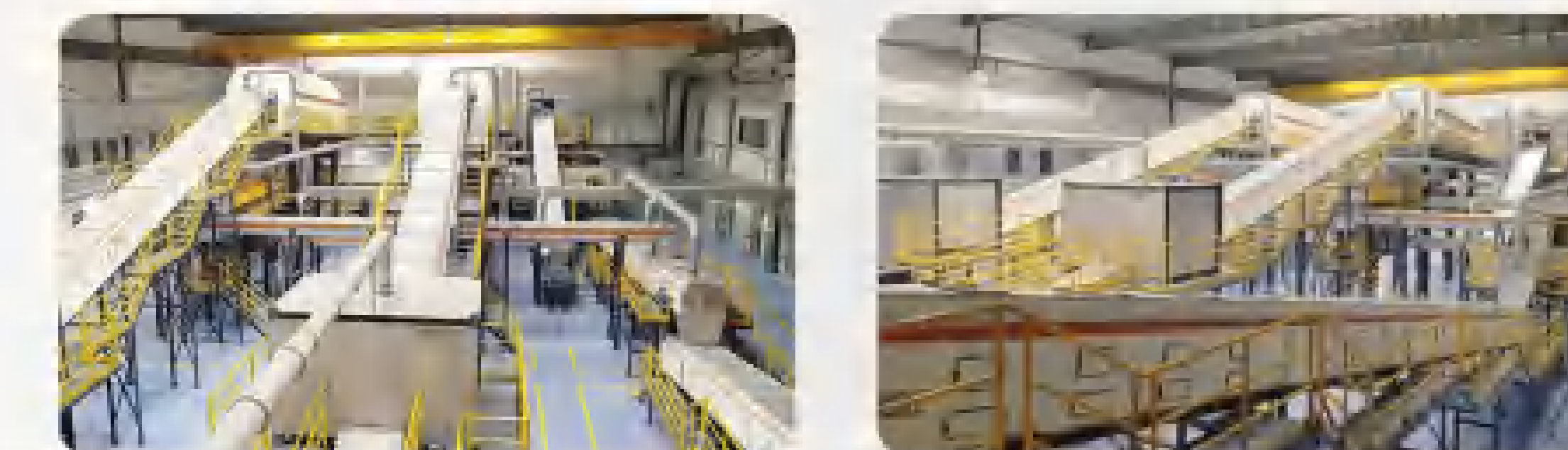
Kitchen Waste Treatment System—Kitchen Waste Dry Anaerobic System



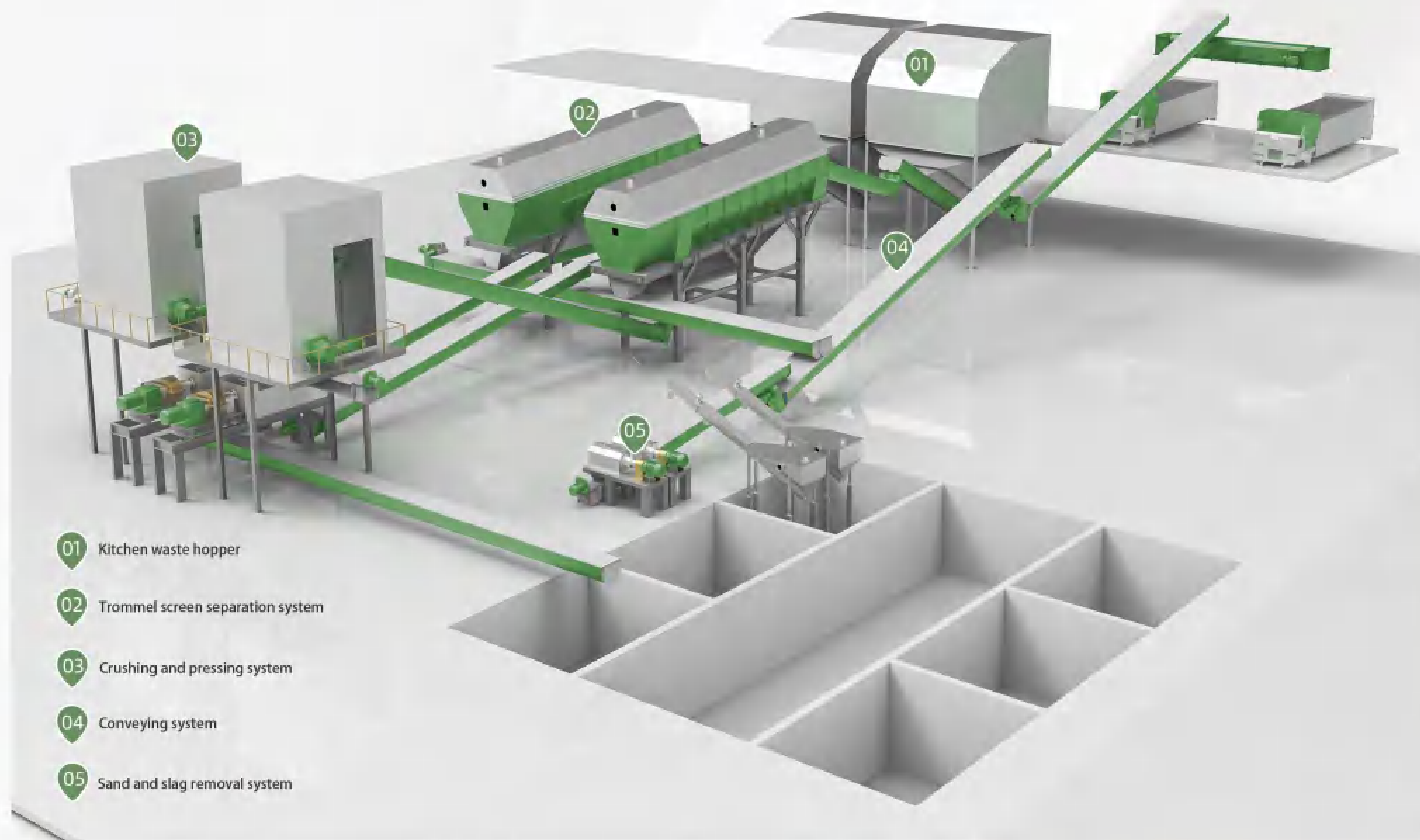
Kitchen waste pre-separation system suitable for dry anaerobic fermentation:

At present, the dry anaerobic fermentation technology in China has developed rapidly, which is more suitable for large-scale food and kitchen waste treatment. In order to adapt to the development trend of dry anaerobic technology, PEAKS-ECO has introduced advanced pretreatment technology from Germany. In view of the dry anaerobic fermentation system, PEAKS-ECO has independently developed the equipment for removing heavy hard substances and entanglements. It provides guarantee for the long-term stable operation of dry anaerobic fermenter.

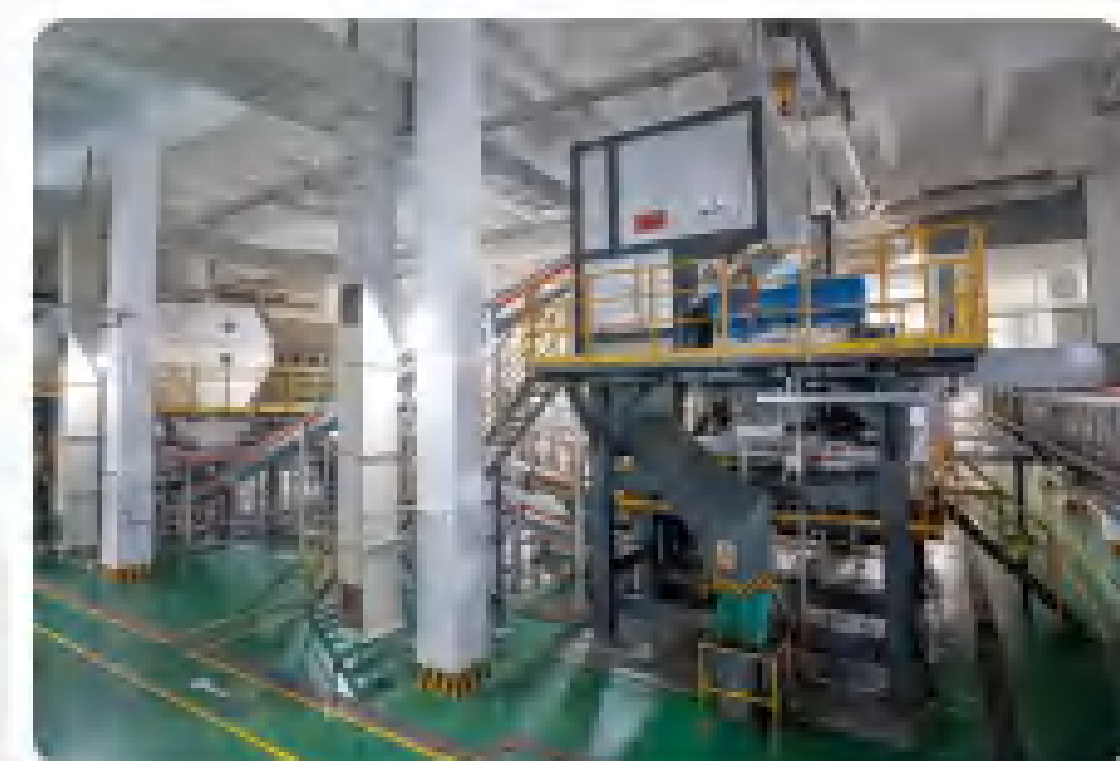
The system adopts the process of crushing, screening, fine screening, removing impurities, dry anaerobic fermentation.



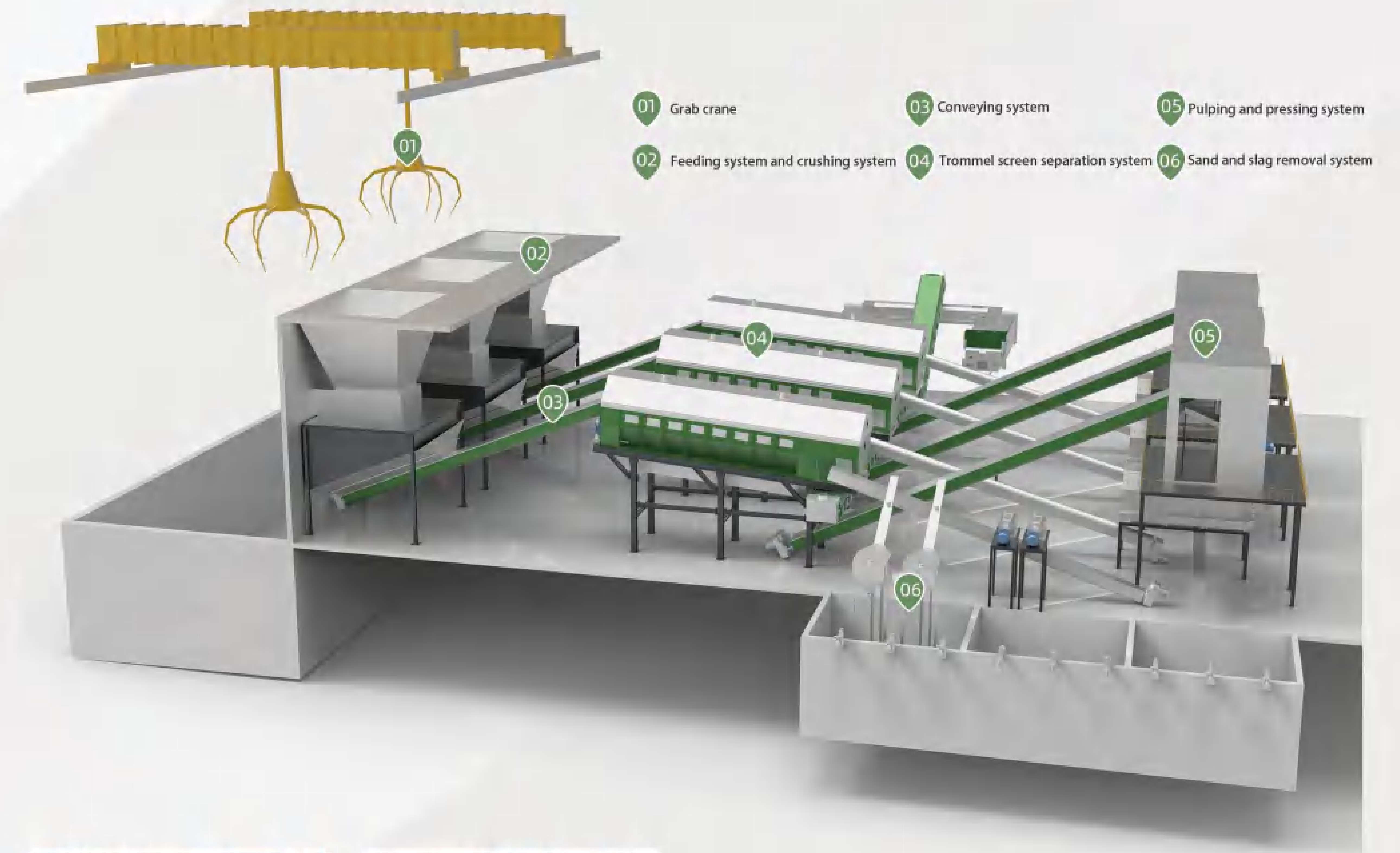
Kitchen Waste Treatment System — Kitchen waste wet anaerobic system I



Kitchen waste pre-sorting system suitable for wet anaerobic fermentation I
 The system combines with a storage pit feeding method, using the process of grab bucket feeding, screening, crushing, dewatering and pressing, wet anaerobic fermentation.
 System advantage: under the premise of less loss of organic matter content, low water consumption, large processing capacity, no clogging.

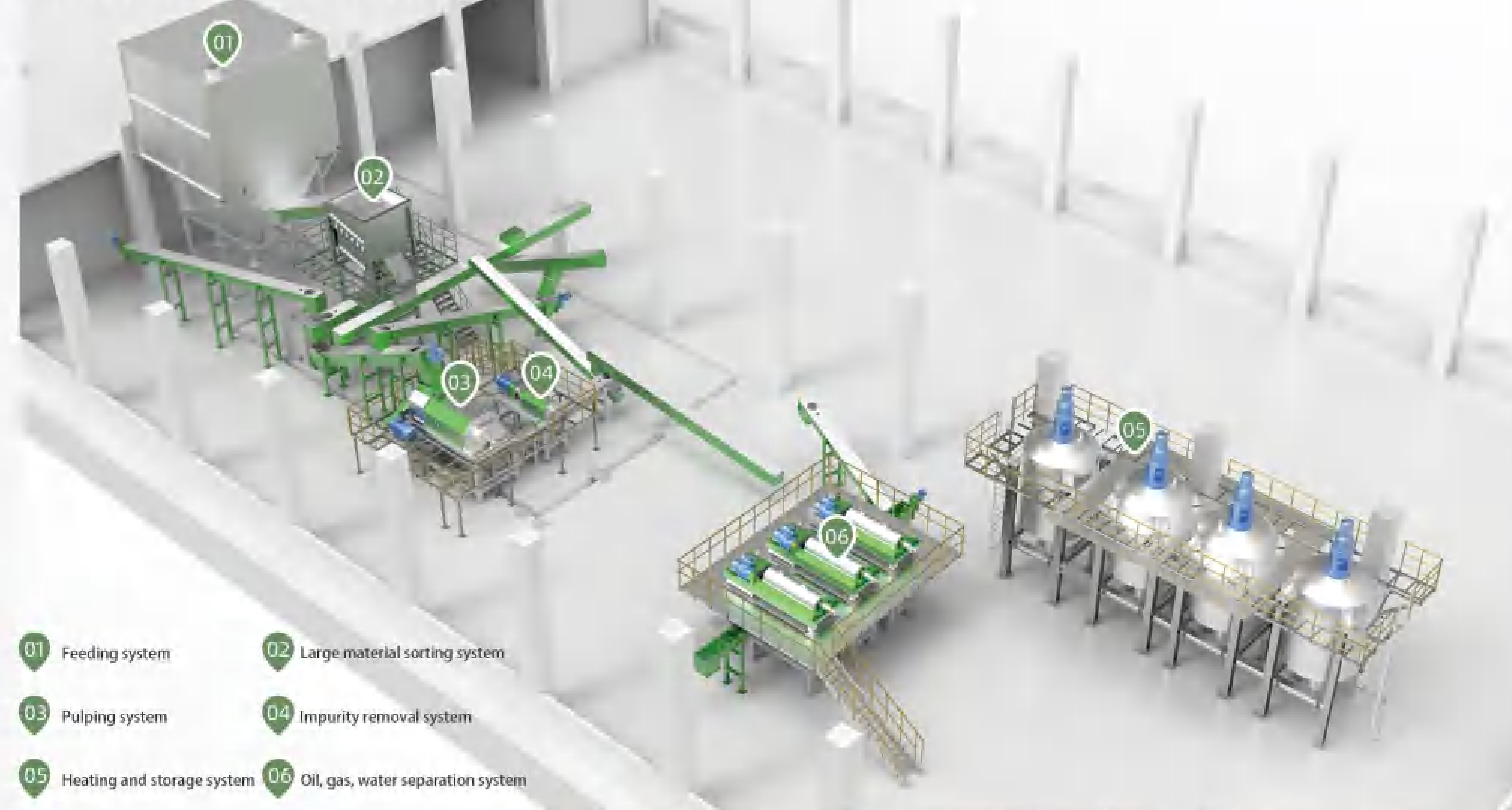


Kitchen Waste Treatment System — Kitchen waste wet anaerobic system II

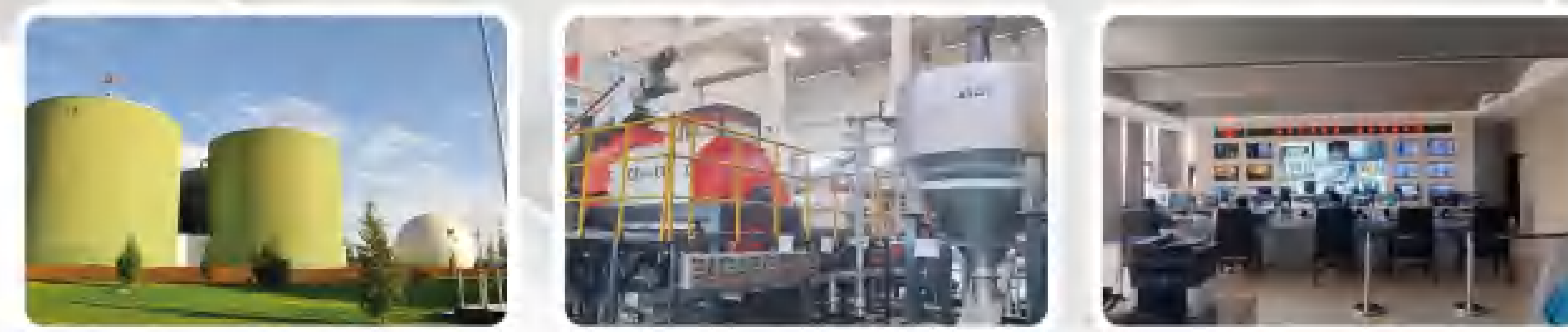


Kitchen waste pre-sorting treatment system suitable for wet anaerobic fermentation II
 The system is mainly for the treatment of urban food and kitchen waste in humid areas in south China, combined with the direct loading method of vehicles. It adopts the process of vehicle direct feeding, primary crushing, screening, pulping and pressing, wet anaerobic fermentation.

Kitchen Waste Treatment System

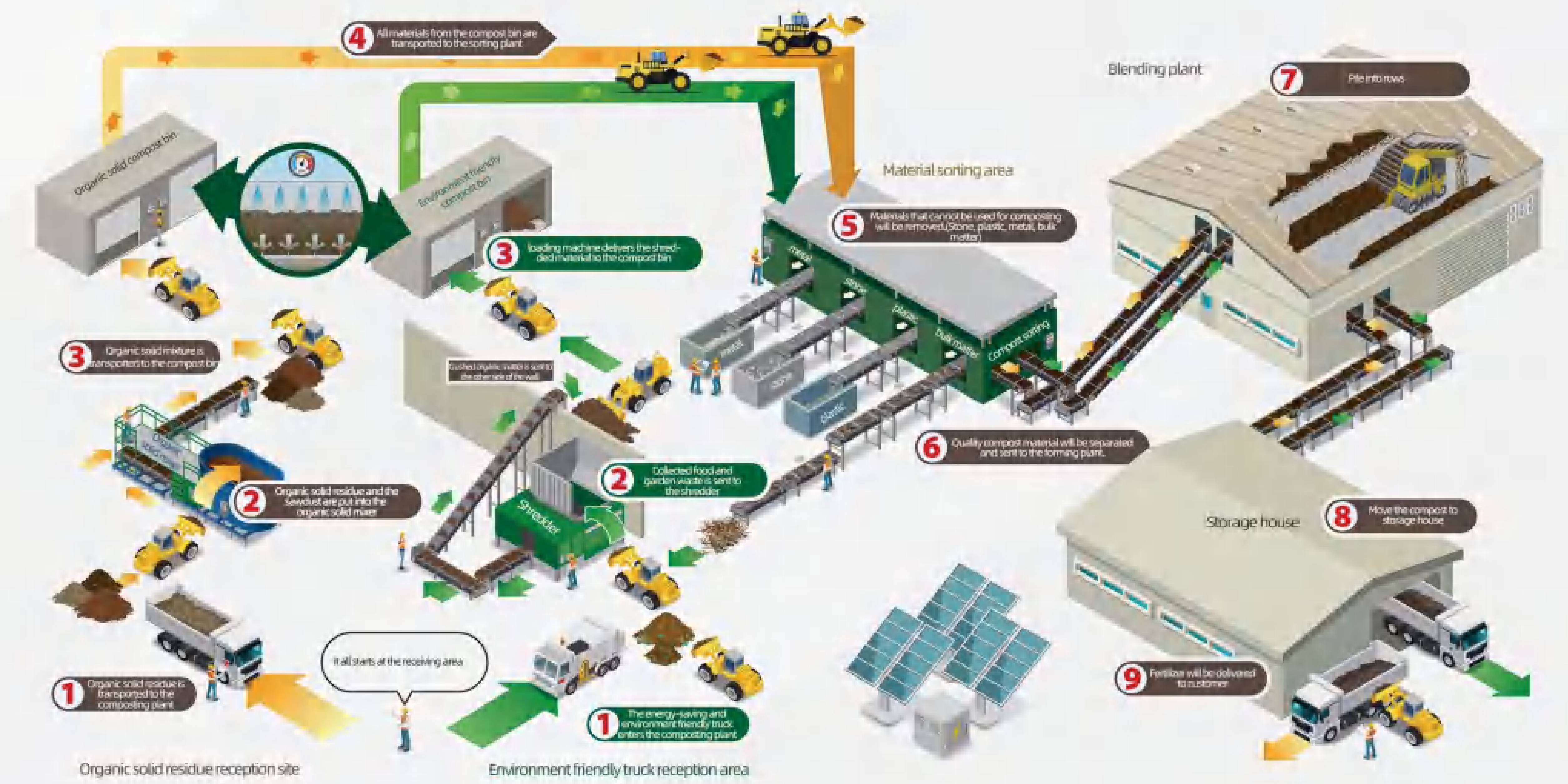


- 01 Feeding system
- 02 Large material sorting system
- 03 Pulping system
- 04 Impurity removal system
- 05 Heating and storage system
- 06 Oil, gas, water separation system



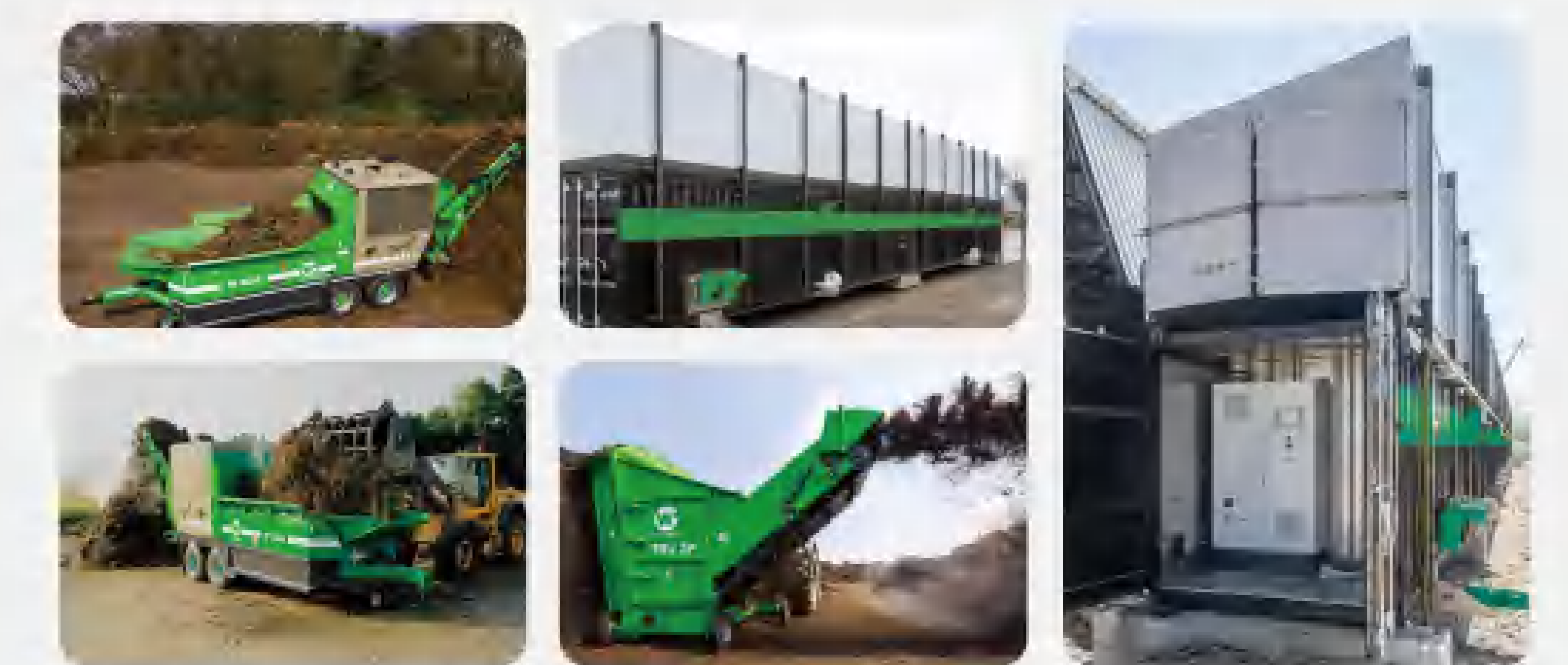
The food and kitchen waste is discharged to the receiving hopper. The receiving hopper is equipped with ultrasonic level meter to detect the feeding situation, so as to control the feeding speed and feeding amount. After entering the hopper, the food and kitchen waste is lifted to the large material sorting machine through the double screw conveyor. Plastic, paper, fabric, ceramics and metals are removed and transferred outside. The remaining material is mainly organic matter, containing a small amount of paper, plastic, inorganic inert matter and other debris, after filtration by the pulping system, they will be transported to the sand and slag removal system, then the slurry is pumped into the heating tank. The heated slurry goes into the horizontal oil, gas, water centrifuge, then the separated slurry goes into the anaerobic system. The solid slag with other screened slag, materials on the screen were transferred outside for treatment. The grease is transported to the storage tank for temporary storage.

Garden Waste Treatment System



With the rapid development of urban landscaping, the green coverage rate has increased significantly, the green area is also expanding, and the resulting branches, fallen leaves, lawn and hedge clippings and other garden waste have also appeared in large amount. Garden waste, as an important material for the material circulation and energy flow of green space ecosystem, contains rich nutrients, can increase soil organic matter, improve soil properties, and maintain the ecological balance of green space.

For garden waste, PEAKS-ECO reached a comprehensive strategic cooperation with German company Willibald, and brought German company's mobile crusher and mobile screening machine of garden waste into China. The crushed garden waste is fermented in PEAKS-ECO self-developed box-type aerobic compost bin. After 14 to 21 days of fermentation, the organic fertilizer can be directly used for greening or crops.





Construction, Demolition, Large Waste Comprehensive Treatment System

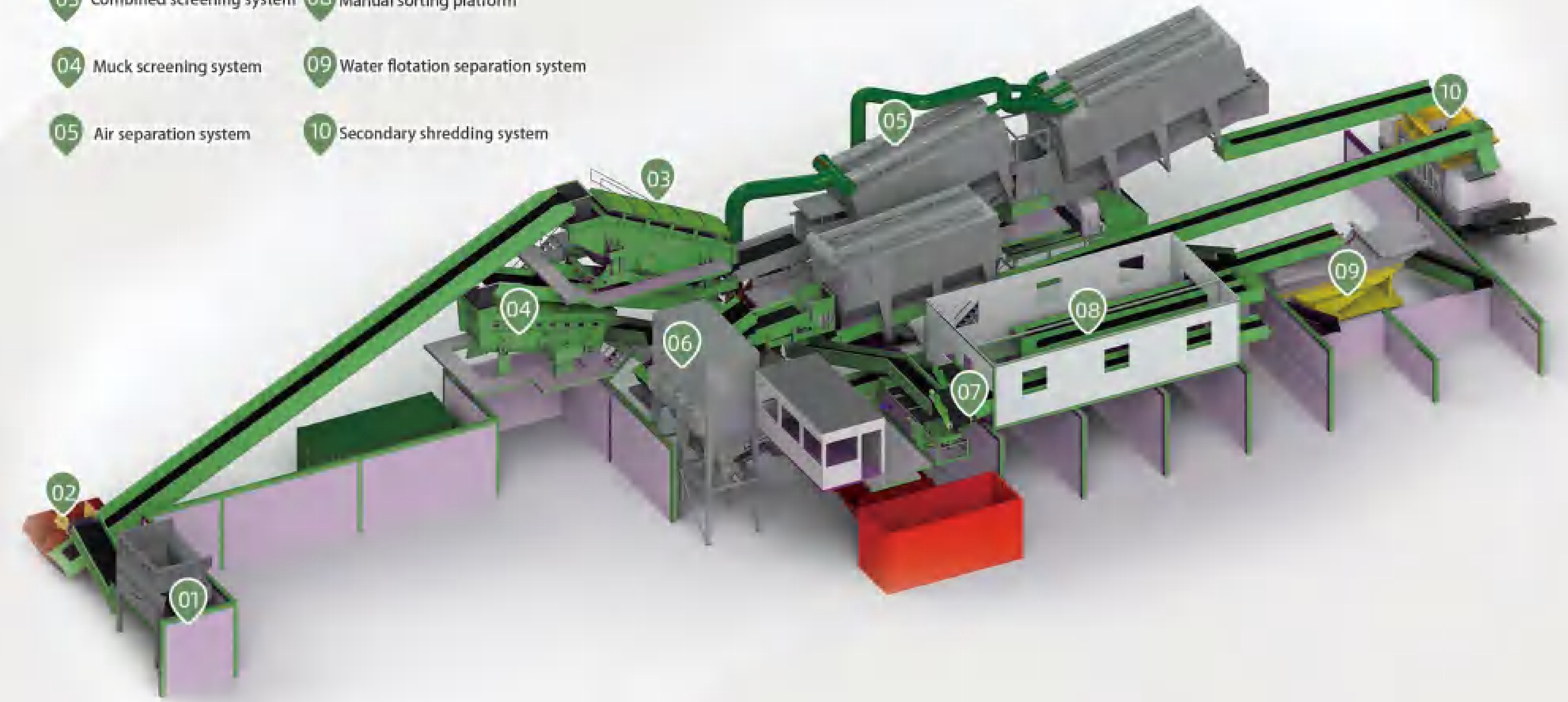
With the increasing speed of urbanization, the generating of construction waste is becoming more and more considerable.

According to the estimate of relevant institutions, as of the end of 2018, the generating of construction waste in China exceeded 1.7 billion tons, and the annual output of construction waste in China in recent years was 1.5 to 2.5 billion tons. Now the total generating of construction waste nationwide is at least 3.5 billion tons.

The Circular Development Leading Action issued in 2017 clearly said that the resource treatment rate of urban construction waste in China should reach 13% in 2020. Therefore, starting from March 2018, 35 cities such as Beijing, Shanghai and Xi'an have launched construction waste treatment pilots. Hebei, Zhejiang, Jiangsu, Hunan and other provinces and cities have adopted policies and measures to regulate the treatment of construction waste and the utilization of resources.

Decoration Waste Treatment System

- 01 Primary shredding system
- 02 Feeding system
- 03 Combined screening system
- 04 Muck screening system
- 05 Air separation system
- 06 Dust removal system
- 07 Magnetic separation system
- 08 Manual sorting platform
- 09 Water flotation separation system
- 10 Secondary shredding system



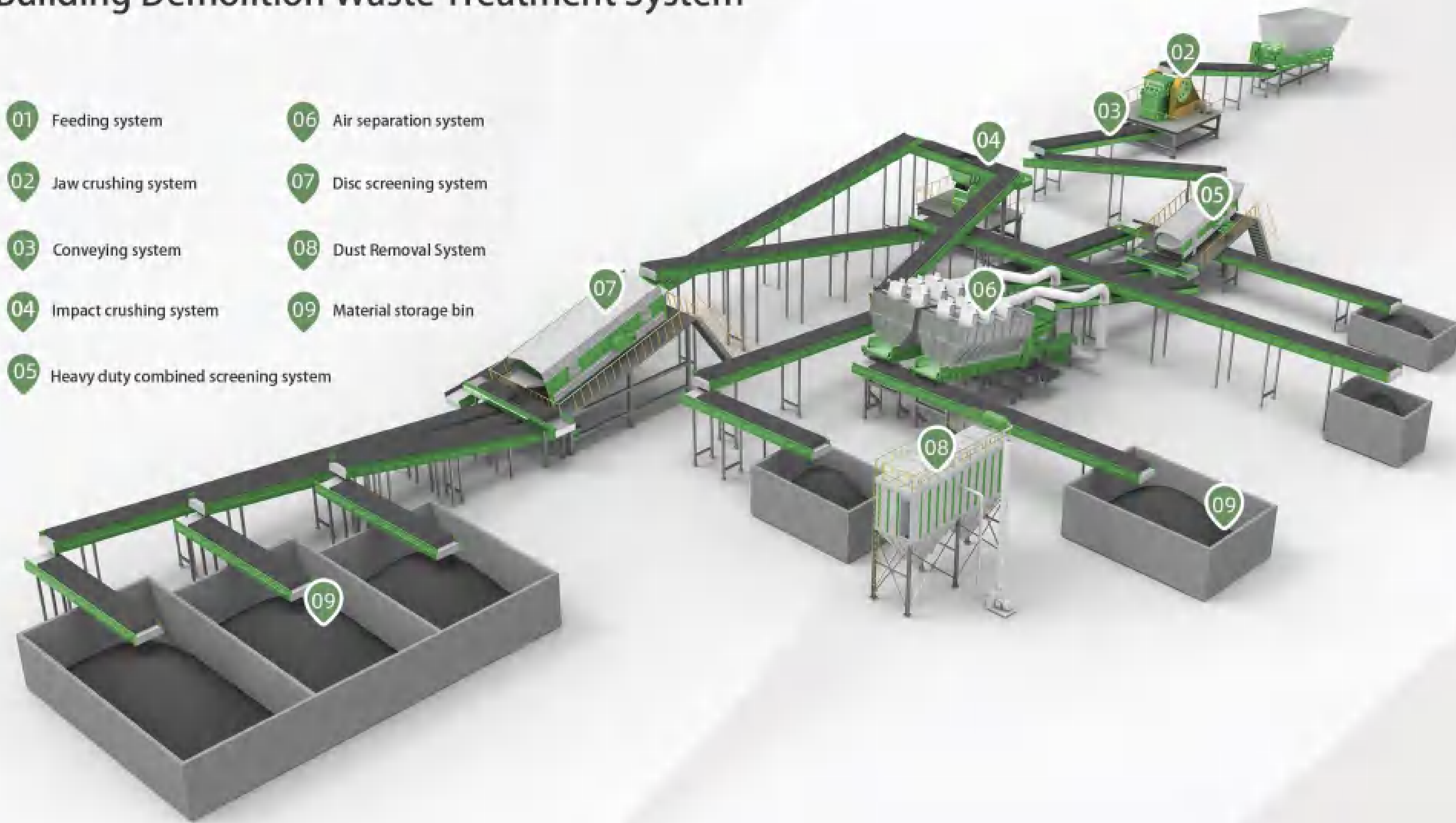
Construction waste consists of a mixture of heavy objects, usually wood, concrete, brick, rubble, metal and plastic. After the waste is sorted, inert ferrous and non-ferrous metals are separated, and non-recyclable materials are removed.

All recycled metals are transported to specialist company for sorting and treatment. Inert material is supplied to the civil construction market as an alternative to traditional quarry products, other sorted waste is crushed into gravels and subgrade material.



Building Demolition Waste Treatment System

- 01 Feeding system
- 02 Jaw crushing system
- 03 Conveying system
- 04 Impact crushing system
- 05 Heavy duty combined screening system
- 06 Air separation system
- 07 Disc screening system
- 08 Dust Removal System
- 09 Material storage bin



The building demolition waste treatment system can process construction waste into concrete aggregate, materials for new wall, road base filling materials, high-speed rail construction sand aggregate and other materials.

The system has the characteristics of integration, innovation, high productivity, stable operation, etc. The whole production line adopts a completely enclosed design, equipped with the dust removal and iron separation system. With computer automatic control, touch screen operation, it is safe, reliable, energy saving and environmental protection.



Large Waste Comprehensive Treatment System I

- 01 Conveying system
- 02 Crushing system
- 03 Dust removal system
- 04 Magnetic separation system
- 05 Intelligent control system



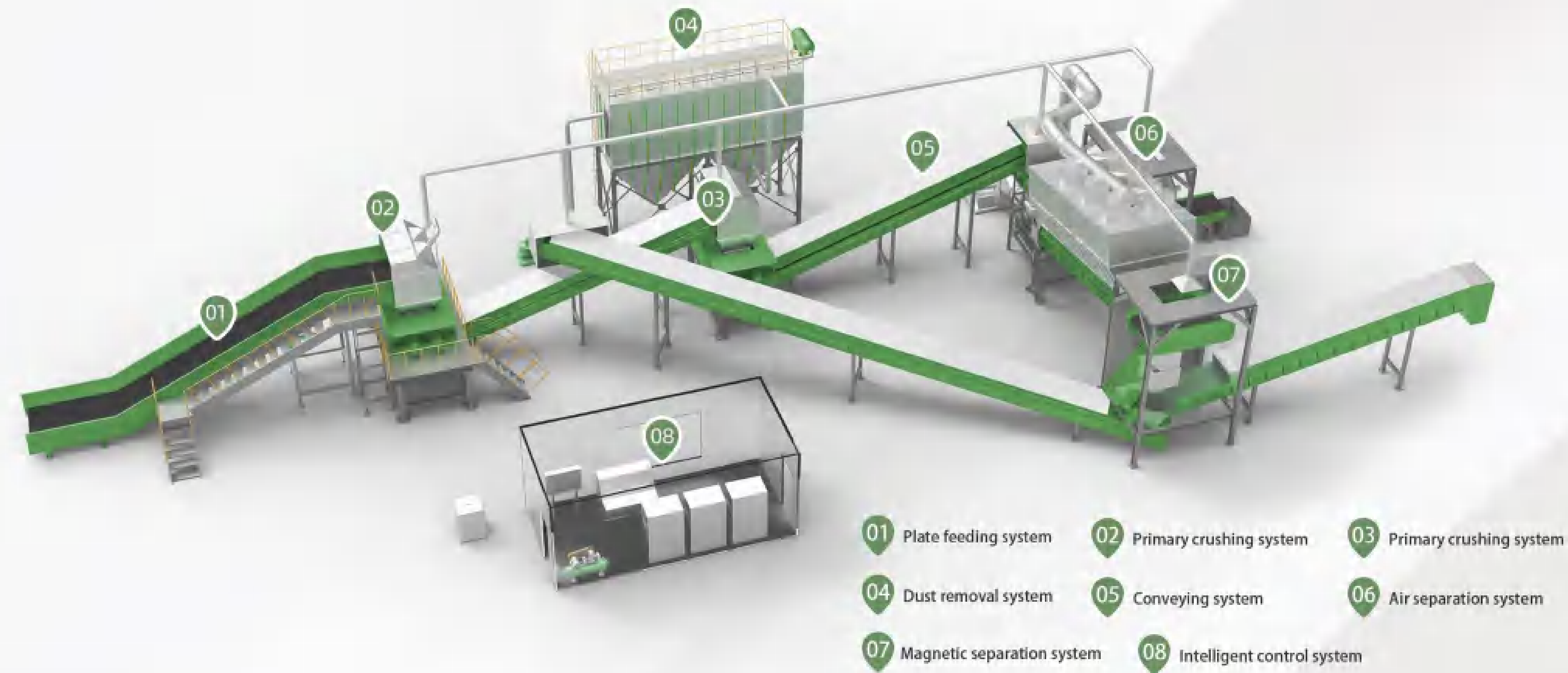
The process is composed of heavy-duty chain plate feeding, crushing, magnetic separation, dust removal, intelligent control and so on.

The large garbage is transported to the crushing cabin through the chain plate machine, it is broken into small particle size by the two-shaft shear shredder, and then the magnetic metal is removed by the magnetic separator. The residual material is sent to the terminal treatment site. The whole production line is equipped with dust removal system to avoid dust pollution.

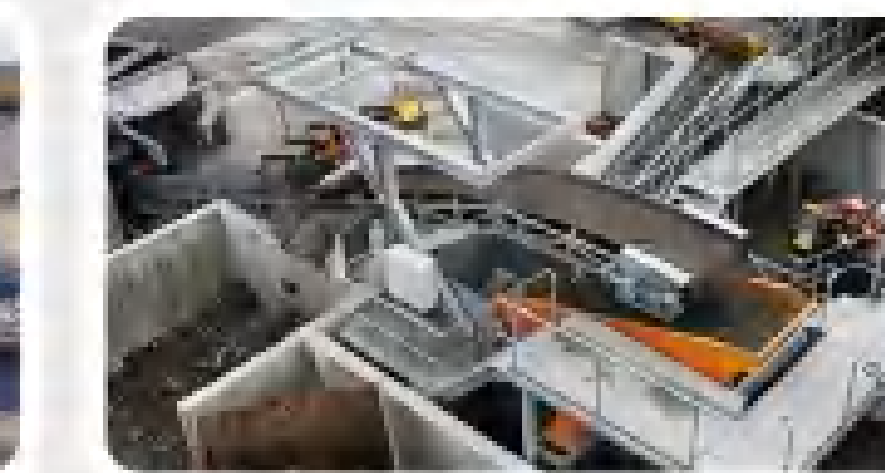
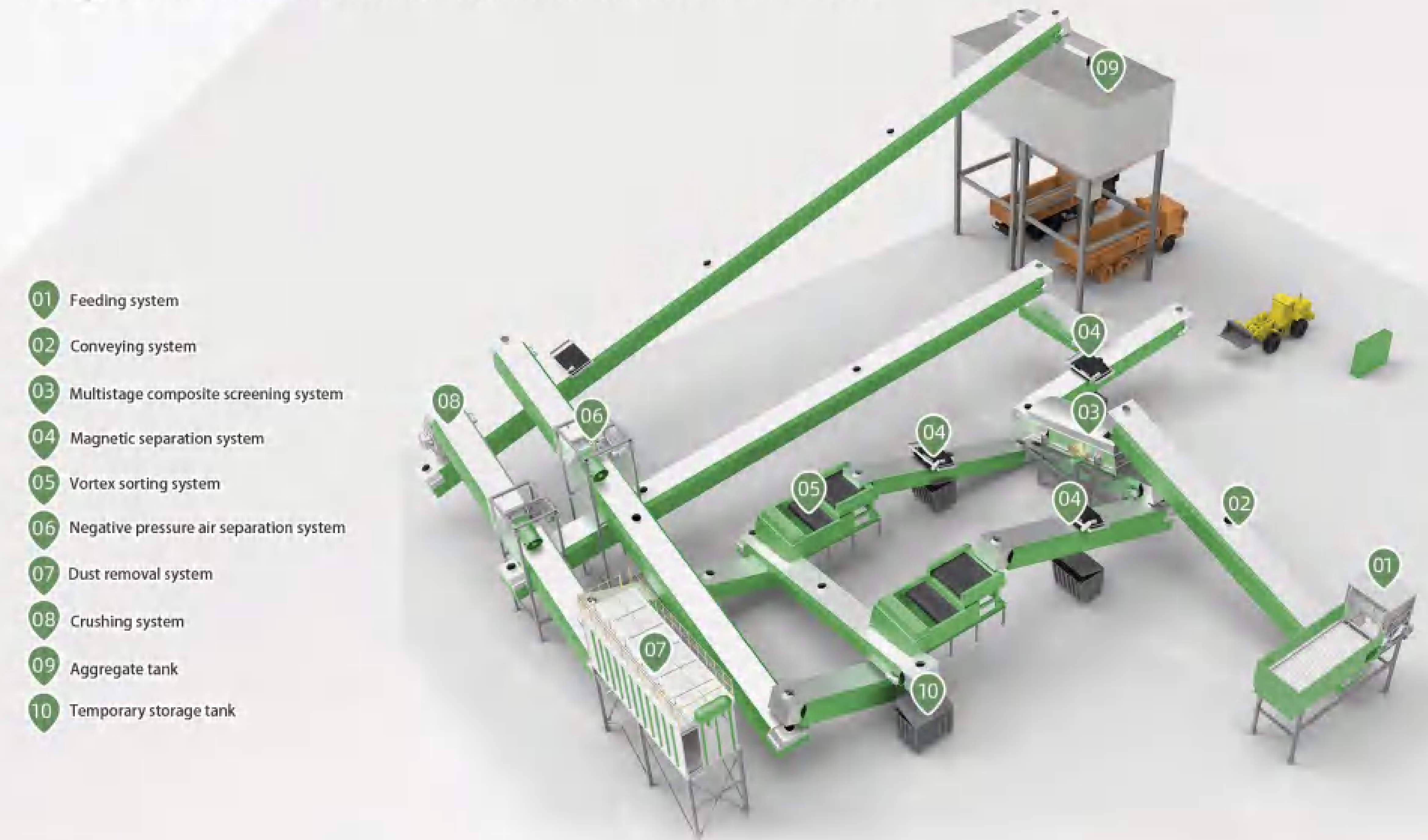
This treatment system realizes rapid transfer, effective capacity reduction and reasonable classification of large garbage.



Large Waste Comprehensive Treatment System II



Slag Treatment After Incineration Power Generation



The slag treatment system includes the feeding system, screening system, crushing system, transfer system, dust removal system, etc. The slag is put into the hopper by a grab bucket, then it is transported to the screening system by a conveying system. The slag is divided into three groups according to particle size: 0-30mm, 30-150mm and over 150mm. During the process, iron metal and non-iron metal are stored in temporary storage box. When the storage box is filled, the forklift will replace it in time. The whole process is enclosed and equipped with spray deodorization system and dust removal pipeline, so that the whole system is in a dust-free and odorless environment and operate steadily.



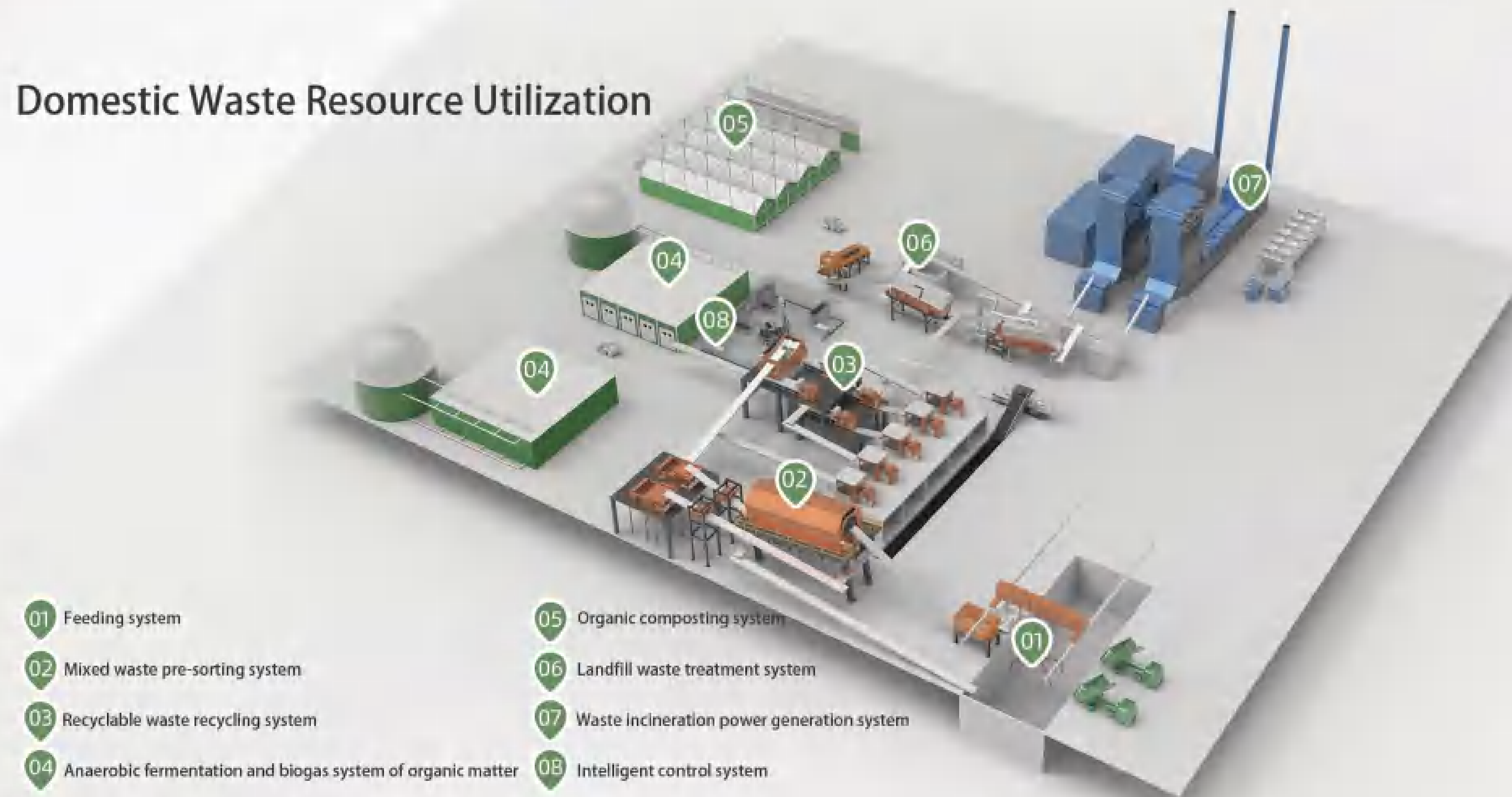
Systematic Treatment of Mixed Waste & Recyclable Waste Resource Utilization

Human development has a negative impact on the natural environment, due to a large amount of garbage floating on the sea, the eighth continent appeared on the sea. More than 4 million tons of floating garbage moves with the ocean circulation, expanding the pollution area, which is undoubtedly a time bomb for marine ecology and coastal countries.

It is everyone's duty to protect the earth. Human beings should face up to the mistakes that have been made, and at the same time take preventive measures to strengthen environmental protection.

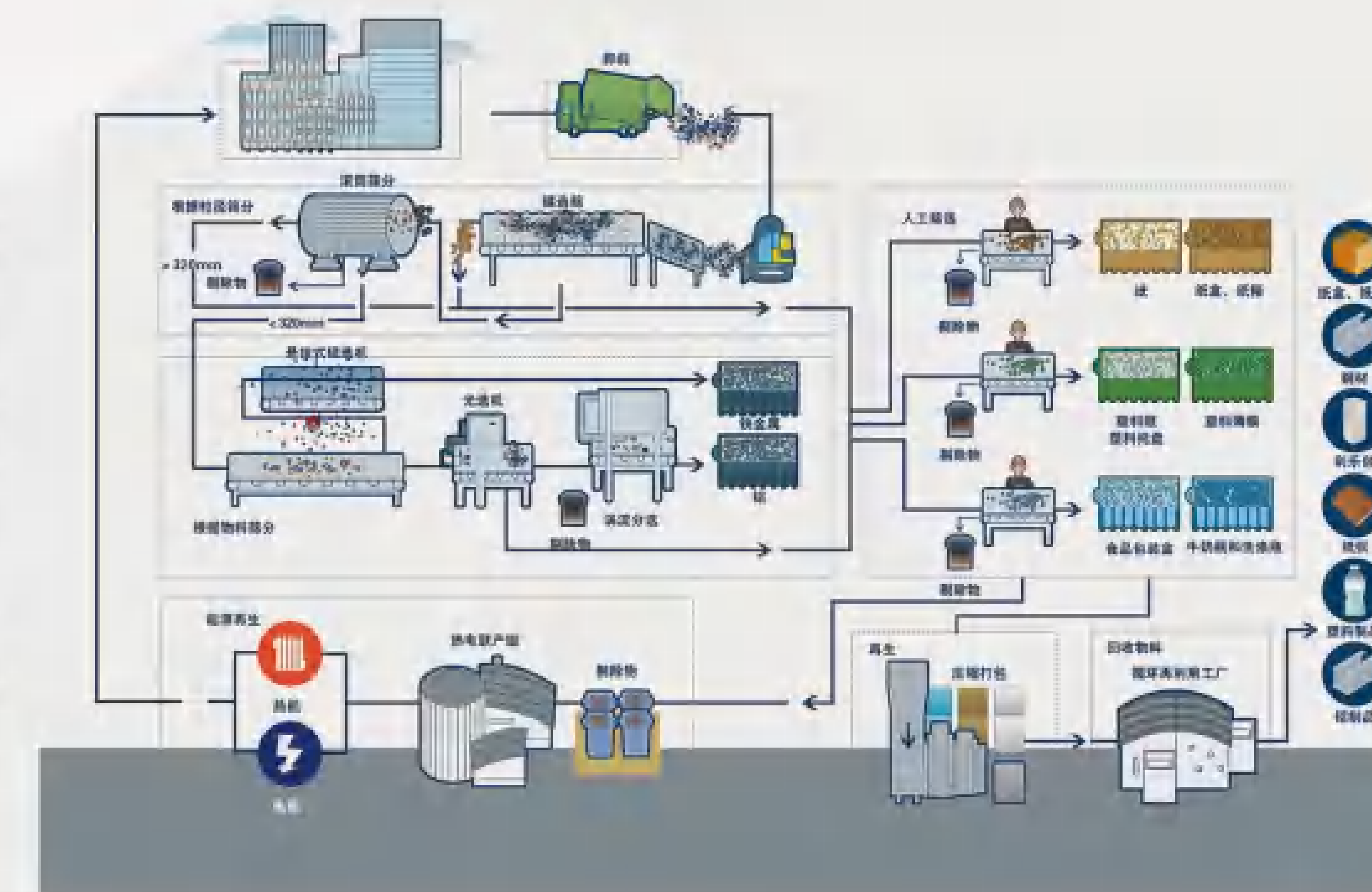


Domestic Waste Resource Utilization



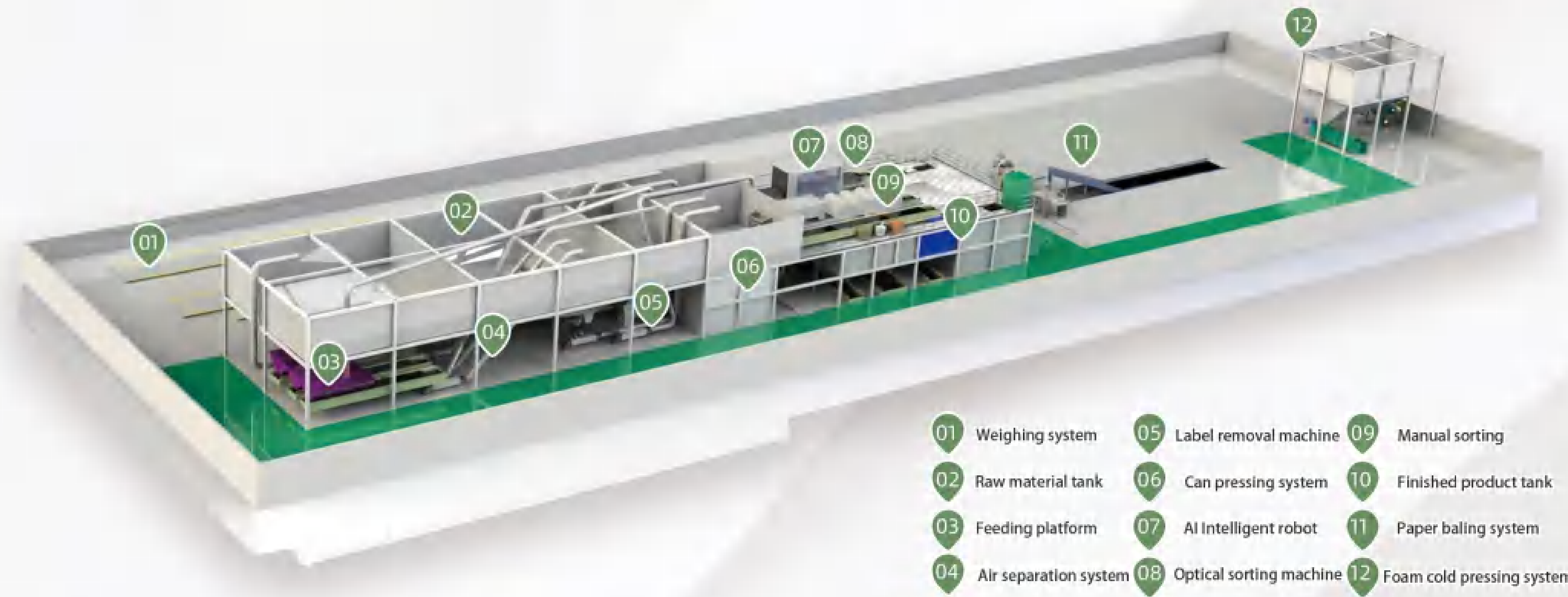
PEAKS-ECO's Ecosystem Solutions combines three efficient and stable waste treatment technologies into one comprehensive solution. Among them, the resource utilization of mixed waste is the top priority, and the pre-sorting solution divides waste into recyclable substances (glass, metal, plastic, etc.), organic and inorganic substances. Recyclable materials will be used for raw materials in manufacturing, and organic matter will be used in biogas production to obtain purified natural gas or direct power generation and heating. Inorganic matter will be incinerated for energy.

In this process, the company innovatively uses the self-developed near infrared light sorting system and AI intelligent sorting system (PEAKS-AI) to classify plastics, paper and metals through two different types of sorting methods, with a classification accuracy of 98%, which help subsequent processing of plastics, paper and metals recycling.



Recyclable Waste Sorting Center Processing System I

The Fourth Generation Sorting Center—using air separation and AI intelligent system



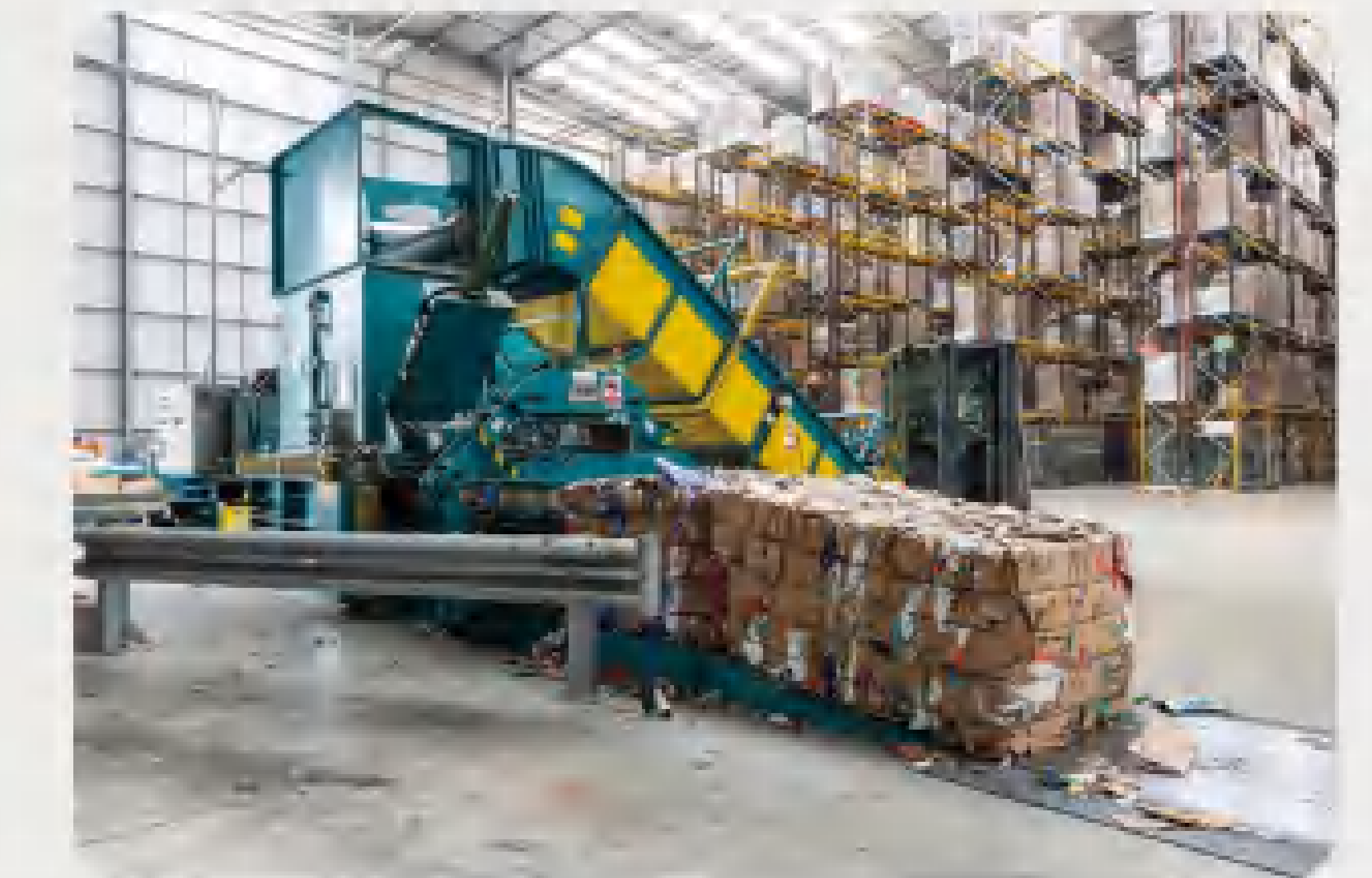
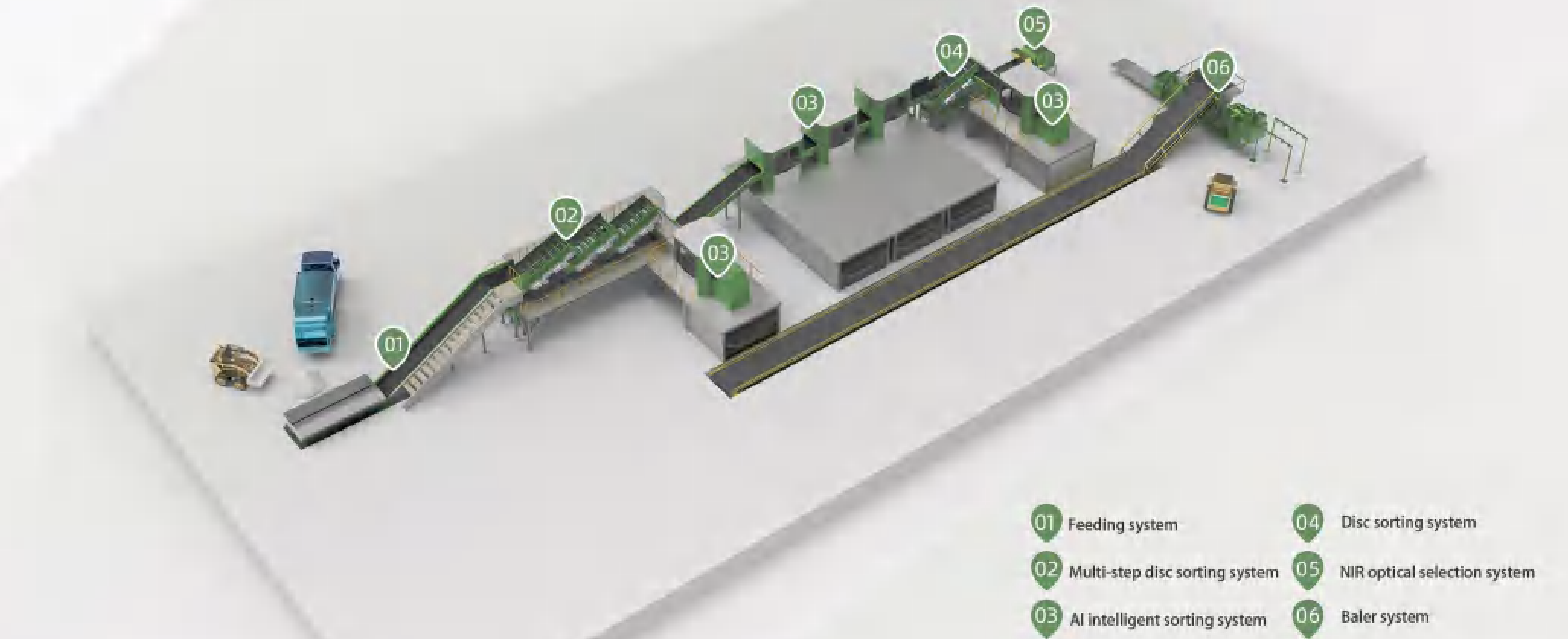
After the materials are transferred into the factory, the plastic bottles and cans enter the inspection platform and are sent to different storage cabins by the air delivery system. The single color bottles are transported to remove label and stored in the transit cabin. They are transported to the AI intelligent robot and optical sorting machine by the air delivery system, the material is classified into PET, PP and PE, and then baled. Other mixed plastic bottles are transported to the manual sorting platform and classified into four different color plastic bottles and then baled.

The cans go into the pressing machine for briquetting and transferred. Paper goes directly into the baler system for baling. The foam is sent to a shredder and then transferred to a temporary storage, it will be pressed by a foam cold pressing system.

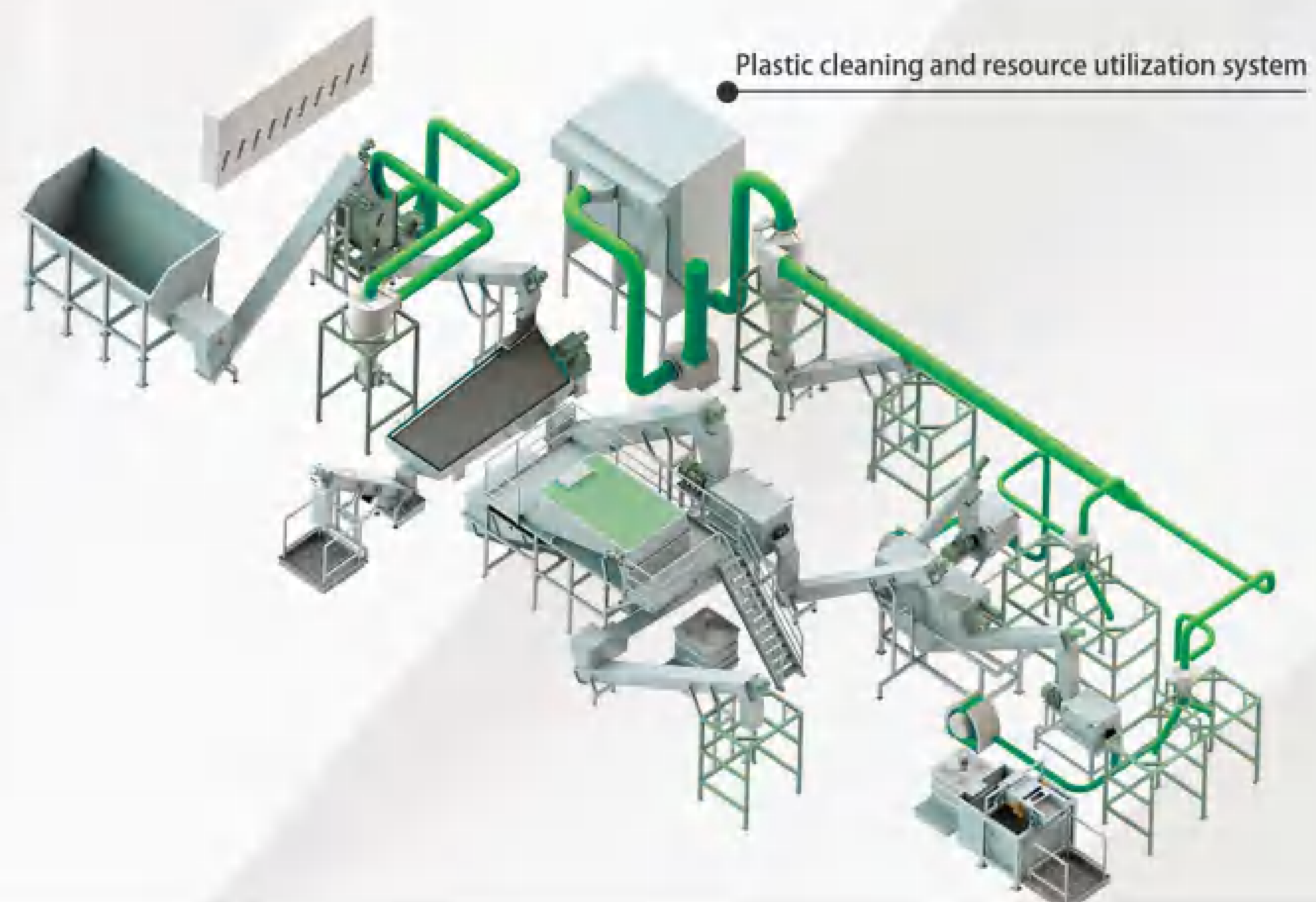
Everyday waste is transferred to the sorting area by the freight elevator. The materials are divided into four groups with different specifications, namely colored PP, black PP, ABS plastic and miscellaneous material.



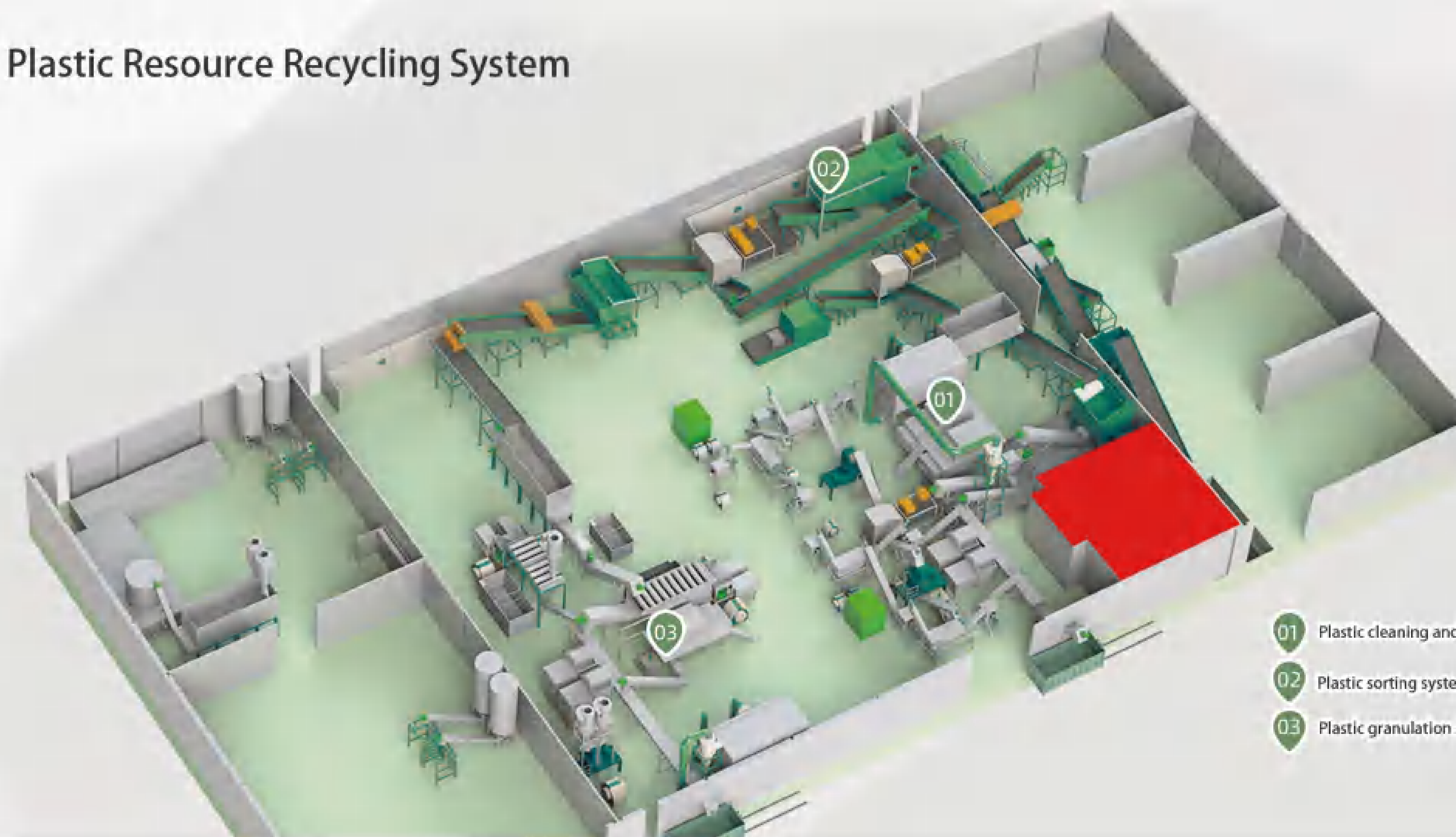
Recyclable Waste Sorting Center Processing System II



Plastic Cleaning and Resource Utilization Process



Plastic Resource Recycling System



For recyclable waste, especially plastics, the HERMION process from Europe has been introduced. The process is the best choice for separating plastic, metal and electronic waste as well as contaminated and mixed plastic materials.

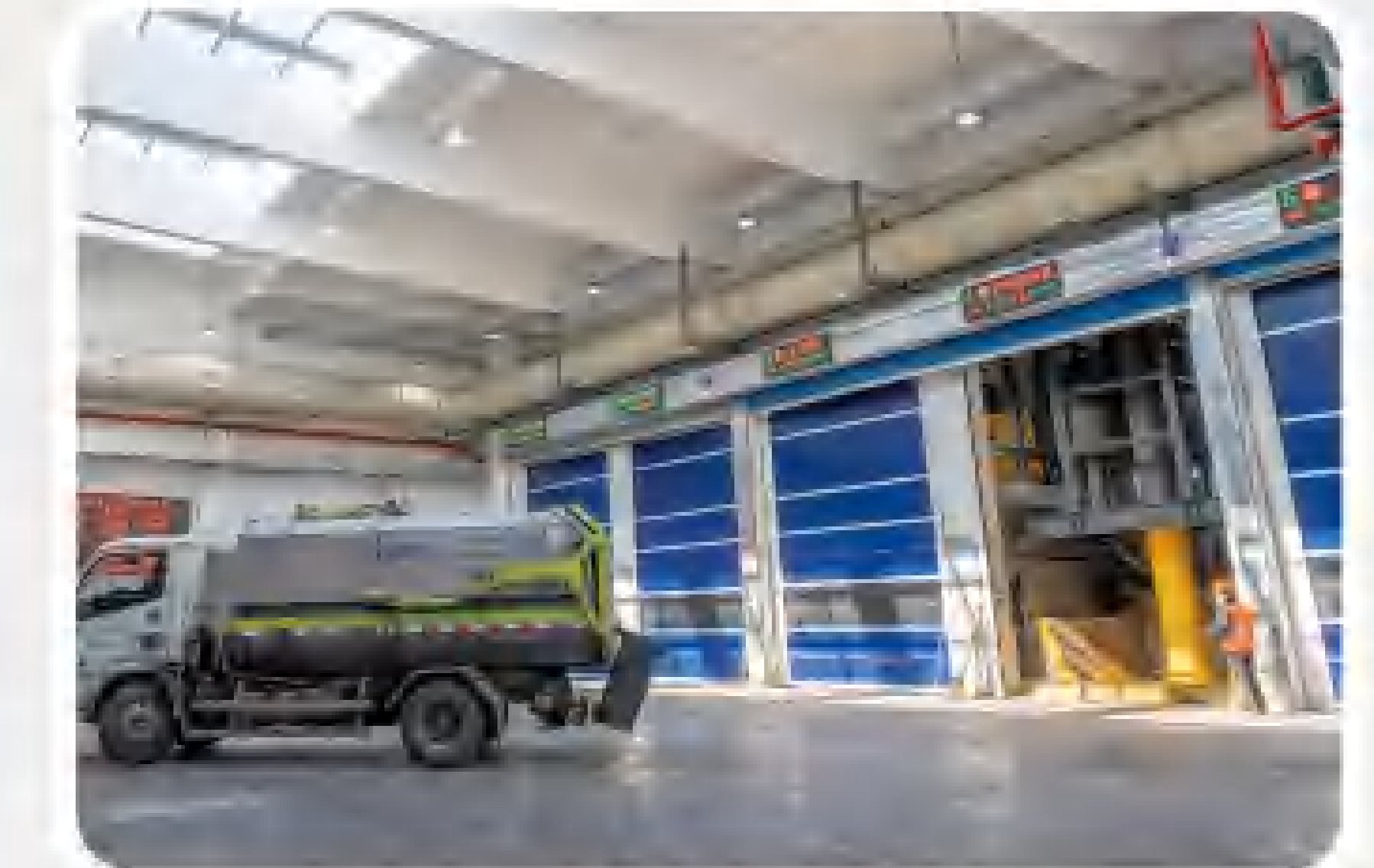
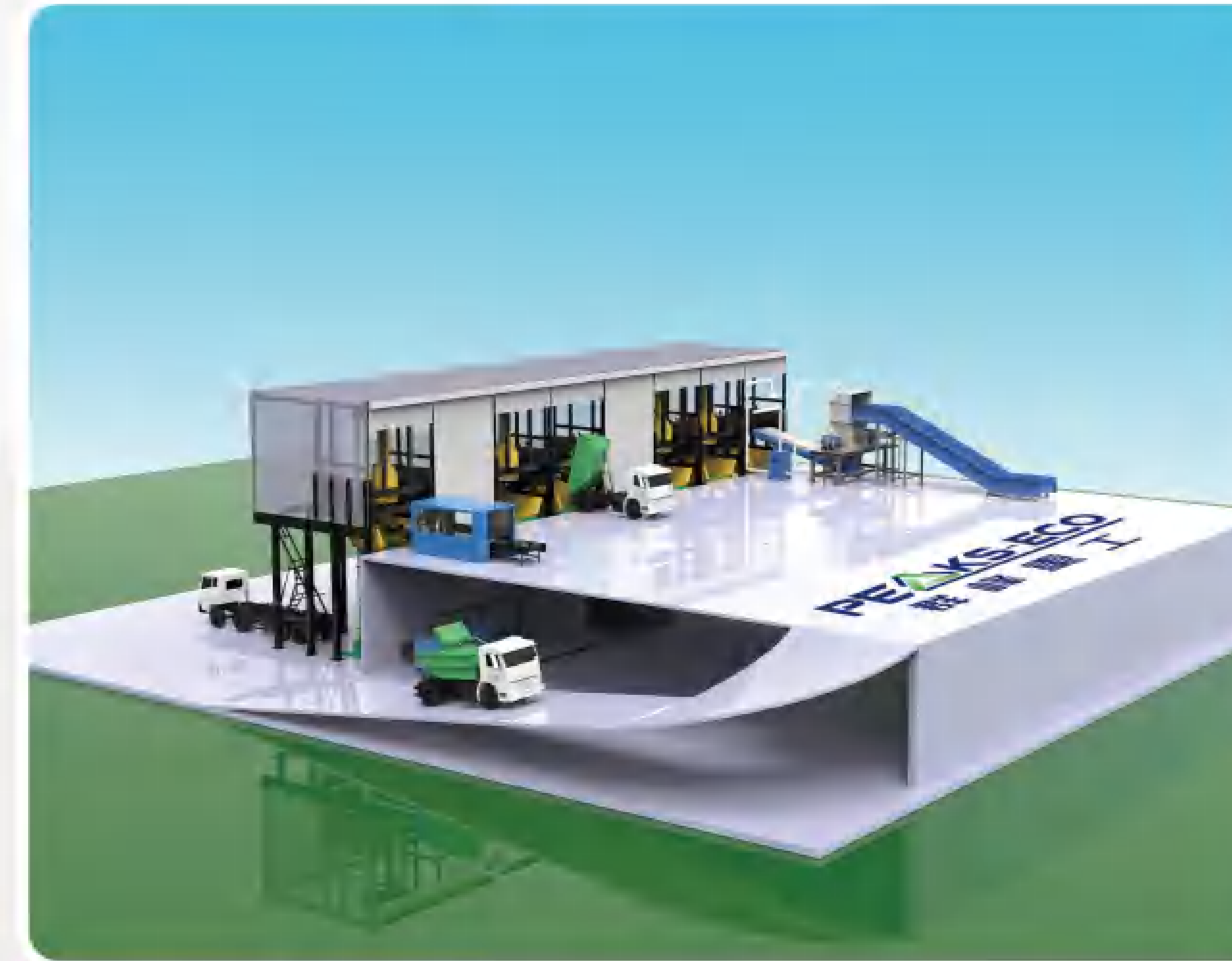
PEAKS-ECO can provide tailor-made solutions for plastic recycling projects, seeking a balance between customers' specific requirements and investments to meet their needs. The recyclable system of PEAKS-ECO with low operating, maintenance and repair costs can achieve optimal recycling with minimal input.

Extensive project experience and an international service network enable the company to provide relevant services worldwide, help and support in all aspects of the daily recycling business.

Plastics recycling technology and equipment:

- PET (bottles, packaging)
- PP/PC (bottle caps, batteries, crates, bumpers, flower pots)
- HDPE (bottle caps, oil cans, bottles)
- WEEE/PS/ABS (hangers, refrigerator plastic, electronics and household appliance plastic)
- PVC (cable)
- Others (plastic & metal combination and plastic & paper combination)





Technology of Waste Vertical Transfer Station

Waste vertical transfer station system

The vertical waste transfer station system uses the most advanced vertical compression technology, using gravity to discharge waste from above into a vertical compression tank below. The system makes full use of the limited space and simplifies the waste transfer process. After being weighed, the garbage collection vehicle enters the unloading hall. The waste collection vehicle will dump the waste into the compression box, when the compression box is fully filled, the feeding door at the top of the compression box is closed, and then the compression box is pulled to the vehicle through a special guide device to transfer to the final treatment plant. The garbage compression box can be printed into different colors according to the type of waste.



Smart sanitation is one of the important content of solid waste industry, PEAKS-ECO uses Internet+, cloud computing and big data application in the sanitation work through the construction and application of smart sanitation big data operation service platform, so that government regulatory authorities, sanitation operators and the public can understand and grasp the relevant sanitation business, data, tracking the complete garbage collection and transportation process, the control of key pollutants and the complete chain of renewable resource utilization, and steadily promote industrial upgrading and adjustment.



Internet of Everything (IoE)



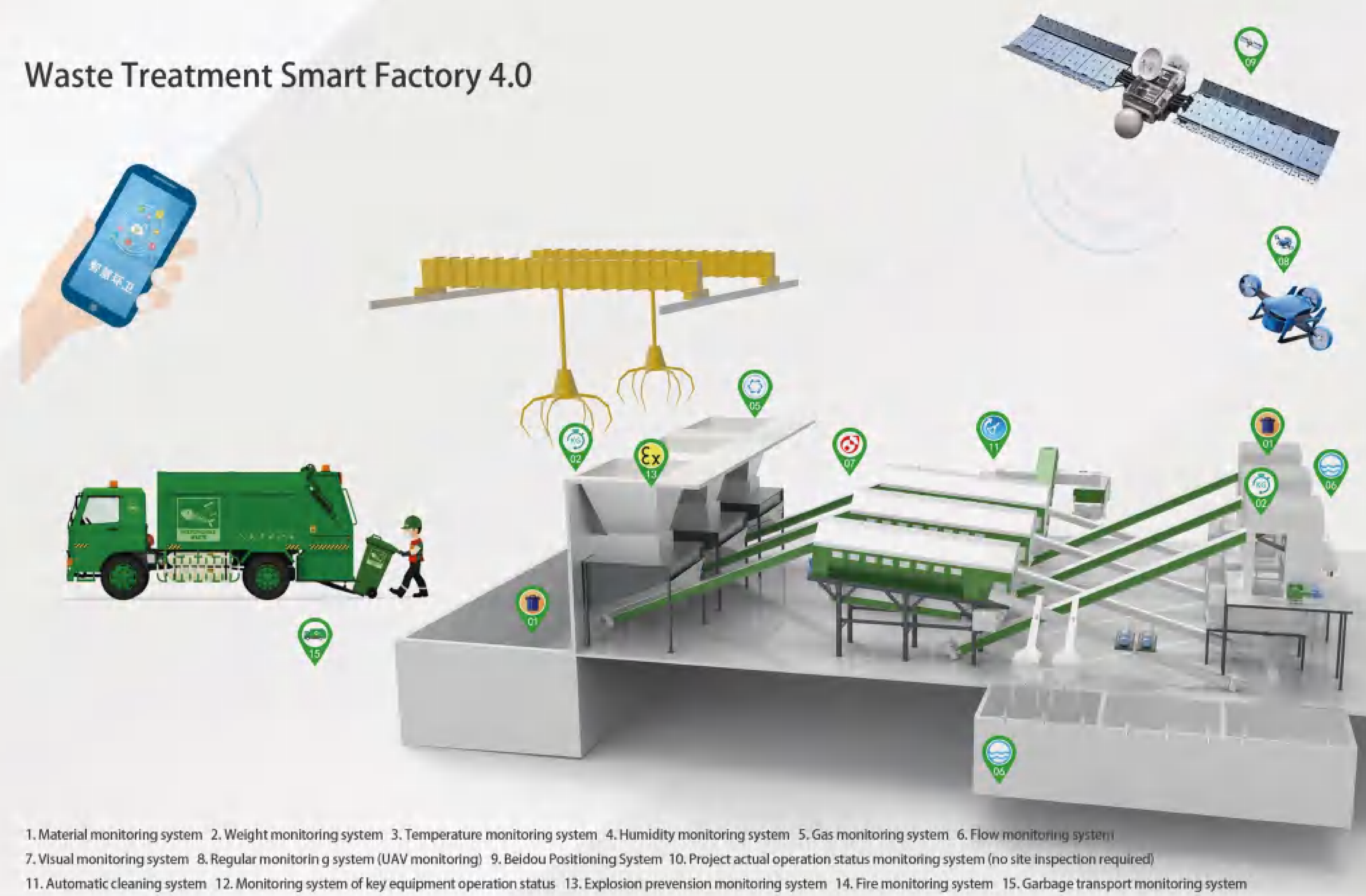
As the world's population grows, the total amount of global waste is expected to grow from nearly 3 billion tons in 2016 to 6 billion tons in 2050. With increasing consumption and waste due to population growth, waste management has become an increasing challenge. Intelligent sensing, control technology and real-time interaction make waste treatment equipment and system operation more efficient. The implementation of IOT solutions helps to improve the efficiency of overall waste management process.

The Internet of Things can accurately track and collect real-time data. IOT captures more and more data by connecting more and more devices in the system, and after obtaining the data, the data is converted into information through various possible network access, realizing the ubiquitous connection between things and things, things and people, and realize intelligent perception, recognition and management.

Remote metering solutions (smart metering) are a clear example of the evolution of IOT to Industry 4.0. The development of communication technology means that waste management can be brought closer to citizens through more frequent and higher quality data capture for more complete and quality services, such as communication on problems, tips on extravagance and advice on reasonable consumption.

In addition to improving the quality of services for citizens, it also enhances intelligent network management, while enabling early detection of waste leaks, achieving the goal of improving energy efficiency, optimizing management processes and enhancing waste management.

Waste Treatment Smart Factory 4.0



- 1. Material monitoring system
- 2. Weight monitoring system
- 3. Temperature monitoring system
- 4. Humidity monitoring system
- 5. Gas monitoring system
- 6. Flow monitoring system
- 7. Visual monitoring system
- 8. Regular monitoring system (UAV monitoring)
- 9. Beidou Positioning System
- 10. Project actual operation status monitoring system (no site inspection required)
- 11. Automatic cleaning system
- 12. Monitoring system of key equipment operation status
- 13. Explosion prevention monitoring system
- 14. Fire monitoring system
- 15. Garbage transport monitoring system



Grab weight monitoring



Total system visual monitoring



Material monitoring after screening



Garbage storage monitoring



Real-time monitoring of the treatment plant

Product Introduction

Star Products

Single Products

NIR Optical Sorting Machine



The optical sorting machine uses advanced optical technology, near infrared (NIR), mid-infrared (MIR) and visible light to sort wood, various plastics, paper, cardboard and non-ferrous metals by material and color.



PEAKS AI Sorting Robot

PEAKS-AI is a self-identifying sorting robot that employs AI technology to achieve accurate, aggressive materials recycling or precision quality control function.



Primary Shredder

Primary shredder is specially used for crushing large materials such as household waste, kitchen waste, bulky garbage, vehicle shell, etc. The materials can be shredded into 100-350mm particle.



Ballistic Separator

Materials of difference shape and size moving on the inclined area and colliding with the inclined area, with different motion speed and bounce trajectory, the materials are separated. The equipment is often used to separate the sheet 2D materials and three-dimensional materials when sorting household waste.

Organic Matter Separator



The machine uses vertical mechanical technology for separation, it combines the functions of bag breaking, separation and pulping in one, suitable for small, medium and large scale kitchen waste, food waste crushing and pulping. It can achieve the effective separation of slurry, organic matter, plastics and other things, to ensure that the organic matter is fully recycled, and reduce the difficulty of subsequent processing.



Vertical Shredder

Vertical shredder can effectively break organic materials, so as to ensure the effective separation of inorganic materials and organic materials, such as fibers and plastics. The crushed material can be effectively classified by the trommel screen or the disc screening screen, and the classification effect can reach more than 95%.



Trommel Screen

Trommel screen is used for dealing with household garbage, kitchen waste, recyclable garbage, stale garbage and so on. Material of different particle size is effectively screened through the size of the sieve hole of the trommel screen.



Intelligent Sorting Robot (Gripper)

PEAKS-AI is an automatic recognition intelligent sorting robot that uses excellent artificial intelligence technology to identify different materials in the garbage, so as to achieve accurate resource recovery and quality control functions.

Combined Screen



Materials can be screened twice in one process, providing an efficient screening solution for handling sticky, wet materials. It is ideal for dealing with compost, wood, garbage, trommel screen fine particles, construction waste, and incinerator ash.



Negative Pressure Air Separator

It uses the (negative pressure) suction effect to separate light materials, such as plastic, paper, dry leaves, etc. The equipment combines sorting and dust removal functions.



Air Separator

The air separation technology makes use of the density of garbage and uses air flow to effectively separate garbage, which can improve the recovery rate of small garbage. Equipment shape and functions are customized to meet the different needs of customers.



Disc Screen

The garbage of different size and shape is separated through the rotation of the discs and the gap between the discs. By adjusting the gap between the discs, the material of different size can be separated effectively and reasonably.



Water Flotation

After the material is transported to the water flotation tank, the materials with different densities are sorted into light and heavy materials with buoyancy. By means of conveying equipment, the light substances floating on the water and the heavy substances sinking under the water are transported to achieve separation.



Jaw Shredder

The crushing chamber is composed of two jaw plates, the moving jaw and the static jaw, to simulate the movement of jaws to crush materials. It is widely used in mining, smelting, building materials, road, railway, water conservancy and chemical industry, to crush all kinds of ore and bulk material.

Cooperative Products



Shear Shredder

The material size is reduced by cutting, tearing and extrusion. The machine has the characteristics of strong structure and high shredding efficiency.



Reciprocating Disc Screen

It is used to screen inert waste and small size waste. Through the moving of the disc, the garbage is vibrating on the screen and separated according to the size of the screen hole and the size and weight of the garbage, so as to achieve the effect of screening. Material is not easy to wrap and block, the processing efficiency is high.



EP500 Biomass Shredder

Willibald garden waste treatment equipment is used in garden waste and biomass crushing and composting, with strong performance, high efficiency, low operating costs, small footprint, flexible placement. It is widely praised by customers around the world.



Filter Press

It is a mechanical device that uses a special filter medium to exert a certain pressure on the object to make the liquid dialysis out. The machine is a commonly used solid-liquid separation equipment and is widely used in chemical, pharmaceutical, metallurgy, dyes, food, brewing, ceramics and environmental protection and other industries.



Extrusion Dehydrator

After the material enters the extruder, under the action of the taper spiral shaft and the variable diameter spiral, the material and liquid are compressed in volume, the water is extruded from the material and discharged through the porous filter cylinder. The remaining solid is discharged through the transport of the spiral, so as to achieve solid and liquid separation.



Mobile Disc Screen

The new FLEX-STAR 3000 star screen separates biomass, compost, pre-crushed old wood, bark mulch and wood chips into materials with three different properties and discharge them separately.



Eddy Current

The high frequency magnetic field (eddy current) is used to separate non-ferrous metals. The equipment has a powerful permanent magnet rotating at high speed, generating a strong magnetic field, which can effectively separate non-ferrous metals such as aluminum and copper.



Impact Shredder

The impact energy is used to shred the material from large to small in the crushing chamber. The impact is repeated until the material is broken to the specified particle size. The equipment is mainly used for construction waste treatment and slag treatment.



Intelligent Air Separation System

Walair intelligent air separation system enables extremely high material separation. It is recognized as one of the world leaders in air separation technology for material separation systems.

Projects



Project In Belarus



Fuzhou Hongmiao Kitchen Waste Treatment Plant



Household Waste Project in Sydney Australia



Chongqing Kitchen Waste Project



Qingdao Xiaojianxi Kitchen Waste Treatment Plant



Sichuan Neijiang Longchang Vertical Transfer Station Project



Sichuan Neijiang Shengdeng Vertical Transfer Station Project



Sichuan Neijiang Kitchen Waste Treatment Project



Sichuan Neijiang Shuangfeng Vertical Transfer Station Project



Yunnan Lincang Project

Aerial View of the Projects



Hangzhou Jingzishan Kitchen Waste Treatment Plant



Hangzhou Tianziling Organic Waste Treatment Plant



Deqing Vertical Transfer Station Project



Hefei Xiaomiao Kitchen Waste Treatment Plant



Wuhan Qianzishan Kitchen Waste Treatment Plant



Shanxi Datong Organic Waste Treatment Plant



Henan Yuanyang Kitchen Waste Treatment Plant



Sichuan Dujiangyan Kitchen Waste Treatment Plant



Zhejiang Yiwu Kitchen Waste Treatment Plant

Transfer Station Projects

| No. | Project Name | Capacity | No. | Project Name | Capacity |
|-----|---|-------------|-----|---|------------|
| 1 | Zhuozhou large transfer station | 800-1000t/d | 10 | Pingtian Lancheng medium scale transfer station | 200-500t/d |
| 2 | Jinan Lixia District large transfer station | 800-1000t/d | 11 | Sichuan Neijiang jin' e medium scale transfer station | 200-600t/d |
| 3 | Xinle medium scale transfer station | 200-300t/d | 12 | Sichuan Neijiang Shendeng medium scale transfer station | 200-600t/d |
| 4 | Shanghai medium scale transfer station | 300-500t/d | 13 | Sichuan Neijiang Huangjia medium scale transfer station | 200-600t/d |
| 5 | Shanghai medium scale transfer station | 300-500t/d | 14 | Lhasa Gongga medium scale transfer station | 300-500t/d |
| 6 | Panzhuhua medium scale transfer station | 300t/d | 15 | Fuzhou Guangchang medium scale transfer station | 300-500t/d |
| 7 | Pingtian Tiandashan medium scale transfer station | 200-500t/d | 16 | Ji' an Jizhou medium scale transfer station | 300-500t/d |
| 8 | Pingtian Aodong medium scale transfer station | 200-500t/d | 17 | Deqing medium scale transfer station | 500t/d |
| 9 | Chongqing Wanzhou Yaoziyan waste transfer station | 1200t/d | 18 | Yanbian Yumen waste transfer station | 400t/d |

Waste Sorting Projects

| No. | Projects | Capacity | No. | Projects | Capacity |
|-----|--|------------|-----|--|------------|
| 1 | Fuzhou Hongmiaoling kitchen waste project | 400t/d | 18 | Baotou kitchen waste treatment project | 200t/d |
| 2 | Hefei Xiaomiao kitchen and food waste treatment project | 200+400t/d | 19 | Songming fruit and vegetable waste pretreatment system | 300t/d |
| 3 | Hangzhou Jingzishan kitchen and food waste treatment project | 200+400t/d | 20 | Yanshan kitchen waste treatment project | 100t/d |
| 4 | Qingdao Xiaojianxi kitchen waste treatment project | 500t/d | 21 | Technical improvement of Huzhou kitchen and food waste treatment project | 200+200t/d |
| 5 | Shanghai Laogang kitchen waste treatment project | 800t/d | 22 | Wenjiang kitchen waste treatment Center project (Phase I) | 200+100t/d |
| 6 | Ningbo Xiangshan kitchen waste treatment project | 200t/d | 23 | Lanzhou fruit and vegetable waste treatment project | 2000t/d |
| 7 | Xinjiang kitchen waste sorting and treatment system | 300t/d | 24 | Pingding household waste pretreatment system | 100+20t/d |
| 8 | Technical improvement of Tianziling kitchen and food waste project | 200+200t/d | 25 | Linxiang household waste & kitchen waste pretreatment system | 250t/d |
| 9 | Bengbu kitchen waste pretreatment system | 150t/d | 26 | Baishan household waste pretreatment system | 200t/d |
| 10 | Fuzhou Hongmiaoling kitchen waste project renovation | 400t/d | 27 | Waste pretreatment system | 300t/d |
| 11 | Xinyi kitchen waste treatment project | 100t/d | 28 | Beijing household waste & kitchen waste sorting system | 600t/d |
| 12 | Hezhou kitchen waste treatment project | 100t/d | 29 | Beijing household waste pretreatment system | 500t/d |
| 13 | Pingyu kitchen waste treatment non-standard equipment | 100t/d | 30 | Beijing household waste pretreatment system | 600t/d |
| 14 | Qianzishan organic solid waste treatment project | 400+600t/d | 31 | Belarus Gredono household waste treatment project | 500t/d |
| 15 | Yiwu kitchen waste treatment project | 150+200t/d | 32 | Dubai household waste treatment project | 400t/d |
| 16 | Zhuhai kitchen waste treatment project | 200t/d | 33 | Ghana Kumasi household waste treatment project | 700t/d |
| 17 | Dujiangyan tourist area kitchen waste treatment project | 150+50t/d | 34 | Jintang kitchen waste comprehensive treatment project | 125t/d |

| 序号 | 项目名称 | 处理规模 |
|----|---|--|
| 35 | Household waste treatment project in Dakar, Senegal | 500t/d |
| 36 | Household waste treatment project in Patras, Greece | 200t/d |
| 37 | Cuiping Mountain landfill management project | 2000t/d |
| 38 | Dianchi Lake basin landfill treatment and household waste treatment | 1000t/d |
| 39 | Household landfill comprehensive treatment and safe development | 800t/d |
| 40 | Qingdao landfill sorting line | 1000t/d |
| 41 | Binhaiwan landfill comprehensive treatment equipment procurement | 3600t/d |
| 42 | Haerbin landfill sorting line (Xiaoyuelianwan Project) | 1000t/d |
| 43 | Harbin landfill sorting line (Shuangkoumian Project) | 1000t/d |
| 44 | Shenzhen County landfill waste reduction project | 1000t/d |
| 45 | Yanggu County landfill waste sorting line | 1200t/d |
| 46 | Qingyun County landfill harmless treatment project | > 600t/d |
| 47 | Leling landfill waste screening project | 800t/d |
| 48 | Nantong construction waste treatment and resource reuse project | construction 500000t/y, decoration 200000 t/y, demolition 200000 t/y, bulk waste 50000 t/y |
| 49 | Shanghai Pudong construction waste treatment and recycling project | construction 800000t/y, decoration 150000 t/y, demolition 200000 t/y, bulk waste 50000 t/y |
| 50 | Xuzhou construction waste treatment and resource reuse project | construction 500000t/y, demolition 200000 t/y, decoration 200000 t/y, tailings 800000 t/y |
| 51 | Zhangjiagang decoration waste resource utilization project | decoration waste 300000 t/y |
| 52 | Shanghai Huacao decoration waste resource utilization project | decoration waste 350000 t/y |
| 53 | Sichuan construction waste treatment system | construction waste 110000t/y |
| 54 | Shanghai construction demolition waste sorting system | construction waste 360000t/y |
| 55 | Beijing construction demolition waste sorting system | construction waste 360000t/y |
| 56 | Cangzhou construction decoration waste treatment system | construction waste 360000t/y |
| 57 | Shandong construction demolition waste pretreatment | 1 mln t/y |
| 58 | Tianjin recyclable waste treatment project | 30t/d |
| 59 | Nanyang large waste treatment project | 15t/h |
| 60 | Nanyang landfill waste treatment project equipment general contract | 1000t/d |
| 61 | Beijing Daxing industrial waste treatment project | 100t/d |
| 62 | Shandong Tai'an landfill waste treatment project | 2400t/d |

An aerial photograph of a lush green mountain range, likely the Green Mountains, with a river valley and several islands. The image is overlaid with a semi-transparent blue filter. The text is centered in the upper half of the image.

FOR ETERNAL GREEN MOUNTAINS AND CLEAR WATERS
WE WILL KEEP EXPLORING