



ENWISE

TURN YOUR WASTE TO ENERGY

WISEN
YOUR
WASTE



ENWISE
www.enwise.co.jp



Rapid growth of organic waste in China



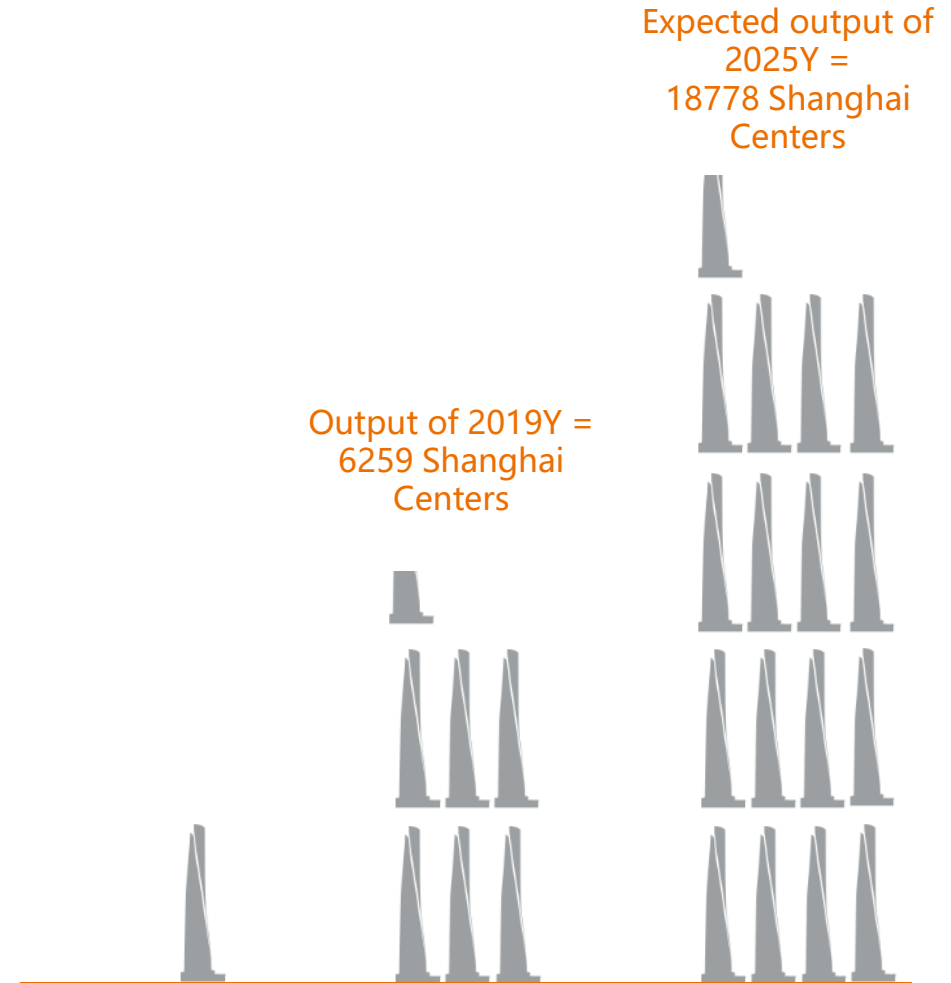
Current situation in China:

- High waste disposal cost
- Space limit
- Environmental impact (odor, sewage)
- Low processing efficiency
- Waste of resources

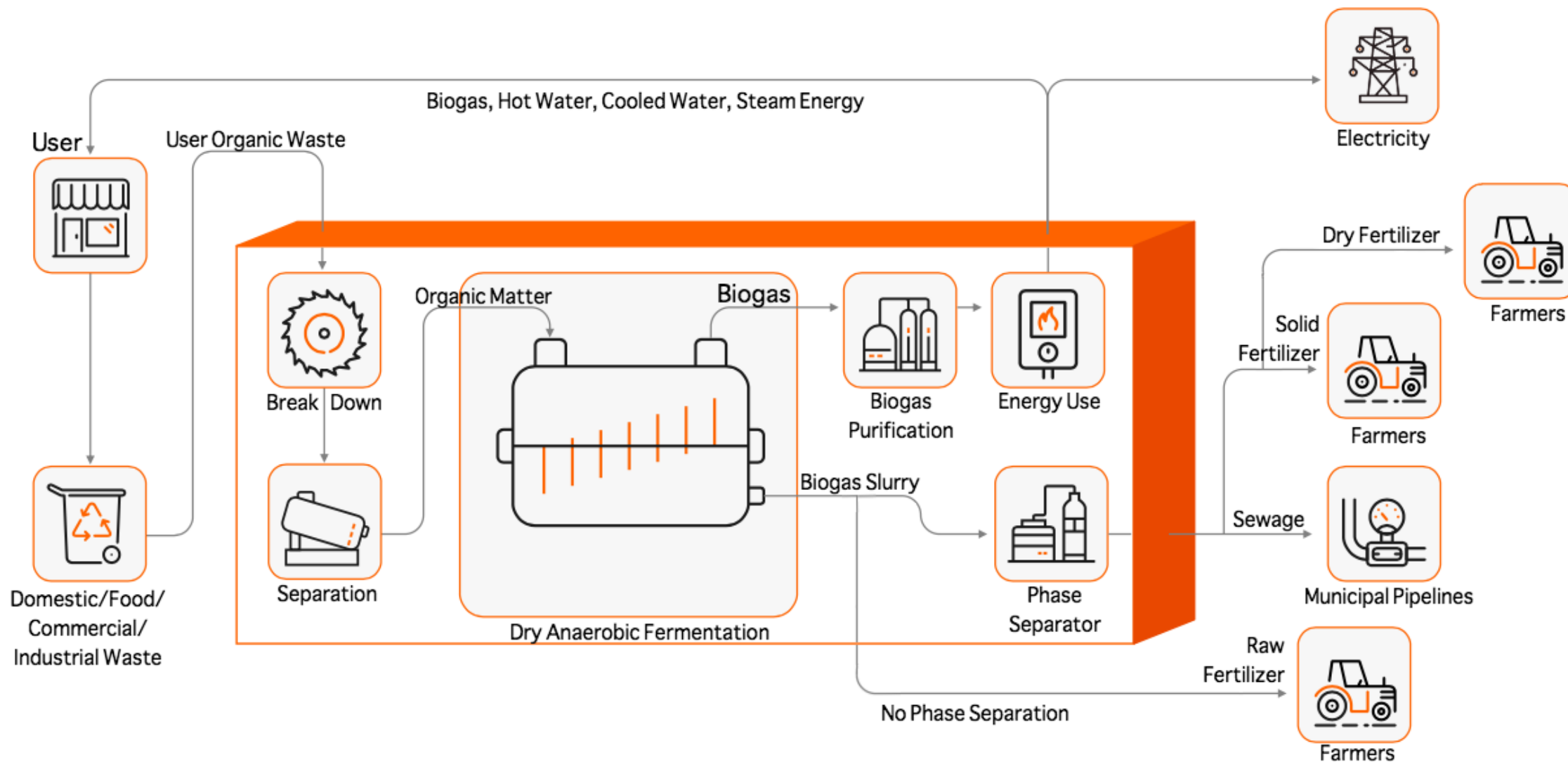


Current solution:

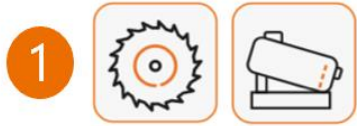
- Landfill
- Fast composting
- Waste incineration



Our Solution



Our Solution



1
Pretreatment
Module:
Prepare waste
for digestion



2
Digestion Module:
Performs the
digestion, extracts
fertilizer



3
Energy Module:
Purifies the biogas,
converts biogas to
electricity, hot water, cool
water, or steam



4
Post-Treatment Module:
Produces raw fertilizer, solid
fertilizer or dry fertilizer and
processes wastewater as per
options 1, 2, and 3



Use cases



Jiangsu, China
Supermarket waste



Shanghai, China
Supermarket waste



Shanghai, China
Food waste



Shanghai, China
Food waste



Lyon, France
Food waste



Shanghai, China
Spent grains waste

Energy Efficiency

With Enwise technology, 1 ton of organic waste will turn into 40KG solid fertilizer, reduce 96% of its volume

The biogas generated while processing organic waste can be applied to:



Self-circulation

The energy generated can be self-circulated for equipment operation and waste water treatment system



Heating

Energy output can be converted to 5 tons of hot water



Electricity

Energy output can be converted to electricity 200 KWH/day

Applicable Scenarios



M20
1 t/day (6*4.8m)



M40
2.5 t/day (13.7*4.8m)



U100
5 t/day (13.7*4.8m)



U600X
30t/day (23*15.6m)

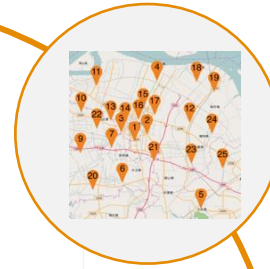
OTTO Service

OTTO: OSCAR's remote management and control system. It provides real-time visualization of KPI, allowing for continuous performance optimization.

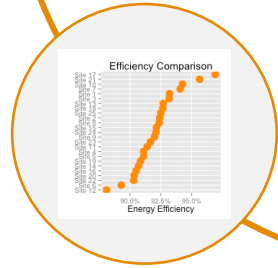
24/7 performance monitoring



**KPI visualization:
energy production,
amount of waste
treated**



**Predictive
maintenance**



**Professional
operation team**



Sustainable Development



Volume Reduction ↓
96%

CO2 Emission ↓
700 kg_{CO2}/ton

Public Cost Reduction ↓
50%

Renewable Energy Increase ↑
520 kwh/ton

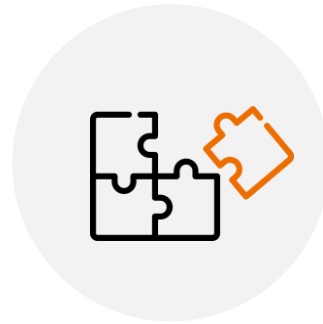
Cooperation mode

Enwise offers flexible cooperation modes with different channels



Direct Sales

Solution
Design+Equipment+
Installation+Operation



PPP

Government
Purchase+User Operation



Leasing

Equipment Leasing with
operation package

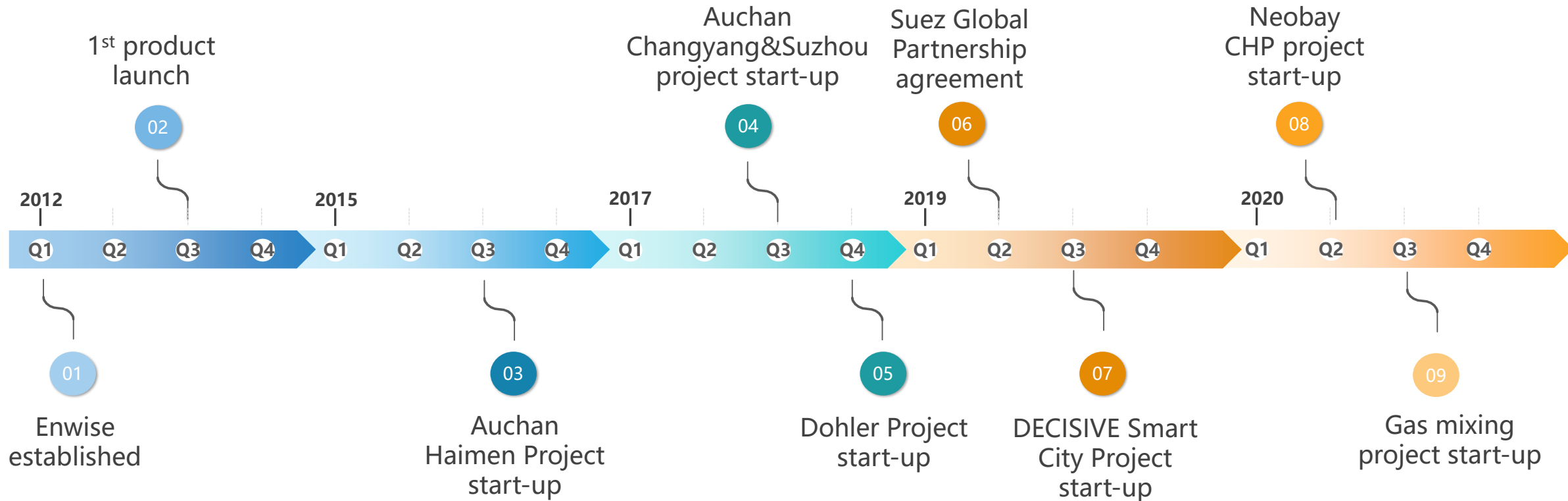
Our Core Business



Enwise provides a unique combination of waste disposal solution design through high-efficiency digesters and remote software platform. By using our technology, customers gain a convenient source of organic fertilizers and biogas while disposing of their waste. Most importantly, we offer modules that channel the energy from the biogas towards creating **hot water, cool water, steam, or electricity.**



Our Milestones



Our Advantages



Plug&Play

Fast installation and
start up modular



Environmental Protection

Reduce 96% of volume
Odorless



Competitive Payback

Shortest payback in 1 year
with selected models



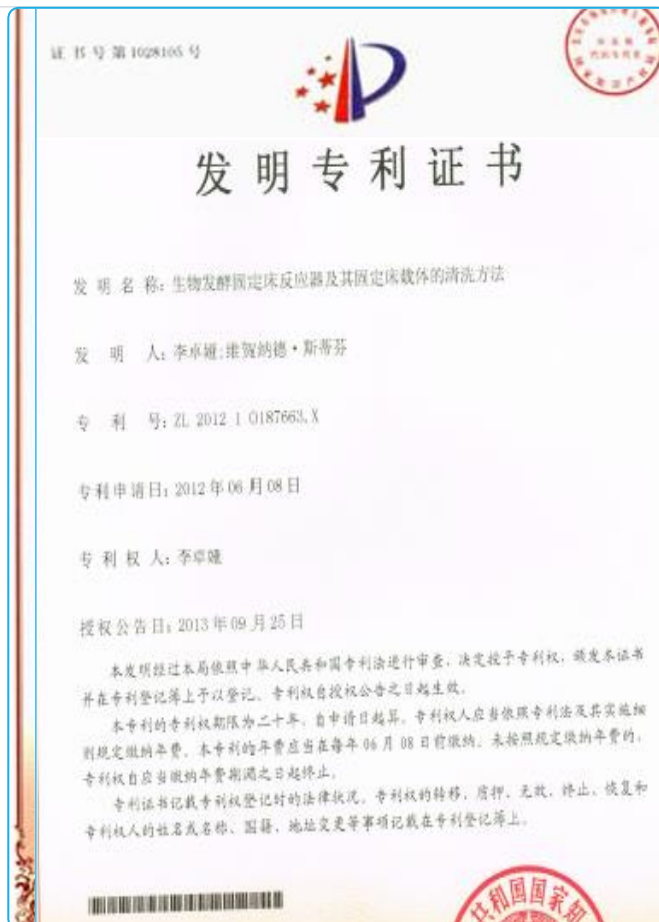
Smart Remote System

Easy Management
Remote operations

Intellectual Properties



6



CE Certification



HAZOP(Hazard and Operability Analysis) proceeded by Suez Group

Risk Assessment:

To determine if environmental and industrial risks identified through your own risk management system needs to be reported, please evaluate them using this matrix.

Risk Calculation:

The following calculation formula is to be used: $Risk\ Severity = MAX(Impact) + Probability$

0-2: **Acceptable Risk**

3-5: **Moderate Risk**

6-8: **Significant Risk**

9-10 **Critical Risk (immediate treatment)**

Impact / Severity			
Human	Environment	Economic	Press Media
Several deaths.	Irreversible impact on sensitive area or >2000 tons hazardous products or > 500 tons of very toxic products spilled	> 20 000 000 €	Persistent major impact against the Company.
1 death or permanent disabled, or irreversible professional illness.	Reversible impact on sensitive area or 200 to 2000 tons of hazardous products or 50 to 500 tons of very toxic products spilled	5 000 000 a 20 000 000 €	Major impact on Press Media.
Work accident with medical leave > 30 days, or reversible professional illness. Physical injury on neighbours or customers.	Reversible impact on long term (> 3 months) or Notification or prosecution or Chronic impact or 20 to 200 tons of hazardous products or 5 to 50 tons of very toxic products spilled	1 000 000 a 5 000 000 €	Regional or National Impact.
Work accident with medical leave < 30 days. Significant nuisance on neighbours (noise, odour).	Light impact reversible in some weeks (1 to 3 months) or 2 to 20 tons of hazardous products or 0,5 to 5 tons of very toxic products spilled	100 000 a 1 000 000 €	Potential Regional Impact.
Medical treatment (no medical leave of absence).	Situation normally reversible in the short term (1 to 7 days) or 0,2 to 2 tons of hazardous products or 0,05 to 0,5 tons of very toxic products spilled.	10 000 a 100 000 €	Local Press Media Impact.
No impact.	Situation normally reversible in short term (< 24 h) or <0,2 tons of hazardous products or <0,05 tons of very toxic products spilled.	<10 000 €	No impact.

		Probability					
		0	1	2	3	4	5
Exceptional Every 100 years, have never heard about	Unlikely 1 every 50 years or less Happens in the business Low probability						
Already happened in the Group	Probable 1 every 20 years or less Already happened in the EU						
Already happened in the EU	Probable 1 every 5 years or less Already happened in the EU						
Already happened in the site	Almost certain 1 every 2 years or less Already happened in the site						
Every year or so/occurred	Already happened to us often						

Sewage disposal standard enter into China norm DB31/199-2018 Class III standard

Fertilizer Report

污染物控制项目	单位	最大值
pH(无量纲)	-	6-9
色度(稀释倍数)	mg/l	64
溶解性总固体 (TDS)	mg/l	2000
悬浮物(SS)	mg/l	400
五日生化需氧量(BOD5)	mg/l	300
化学需氧量(CODCr)	mg/l	500
总有机碳 (TOC)	mg/l	150
氨氮(NH3-N)	mg/l	45
总氮(TN, 以 N 计)	mg/l	70
总磷(TP, 以 P 计)	mg/l	8

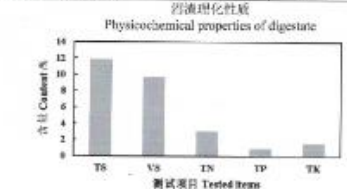
检测报告
TEST REPORT

日期: 2019年2月15日
Date: February 15, 2019

客户 Client	常州益优新能源有限公司 Enwise			
样品来源 Source of sample	常州上海长阳路, 有机垃圾厌氧发酵处理系统(OSCAR), 固体有机肥料 Aochan Shanghai Changyang street, organic waste anaerobic digestion unit (OSCAR), solid fertilizer output			
测试项目 Tested items	均值 Average	方差 Variance	标准偏差 Standard deviation	数值 Value
总固体 (TS) Total solid %wt	11.849	1.169×10^{-4}	0.108	11.849 ± 0.108
挥发性固体 (VS) Volatile solid %wt	9.607	4.521×10^{-2}	0.067	9.607 ± 0.067
总氮 (TN) Total nitrogen %dm	3.052	0.135	0.367	3.052 ± 0.367
总磷 (TP) Total phosphorus %dm	0.956	0.010	0.100	0.956 ± 0.100
总钾 (TK) Total potassium %dm	1.557	0.001	0.034	1.557 ± 0.034

测试项目结果
Tested items and results

沼渣理化性质
Physicochemical properties of digestate



注: TS, VS为湿重含量; TN, TP, TK为干重含量
Note: TS and VS are in wet weight basis; TN, TP and TK are in dry weight basis

备注: 采样由委托单位完成。
Note: Sampling is done by the Client.

批准: 吕凡 审核: 蒋文英 主控: 陈汶欣
Approver: 吕凡 Checker: 蒋文英 Main Checker: 陈汶欣

国联质检
UNITED NATION QUALITY DETECTION

西安国联质量检测技术股份有限公司
Xi'an United Nations Quality Detection Technology CO., Ltd.

试验报告

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序号	试验项目	单位	试验结果	试验方法
1	大肠杆菌(大肠埃希氏)	MPN/g	<3.0	GB 4789.38-2012
2	沙门氏菌	/	未检出	GB 4789.4-2016
3	耐热大肠菌(粪大肠菌群)	MPN/g	<3.0	GB 4789.39-2013

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Analysis done by a third party laboratory in Tongji University

Our Clients



Auchan Group



Suez Group

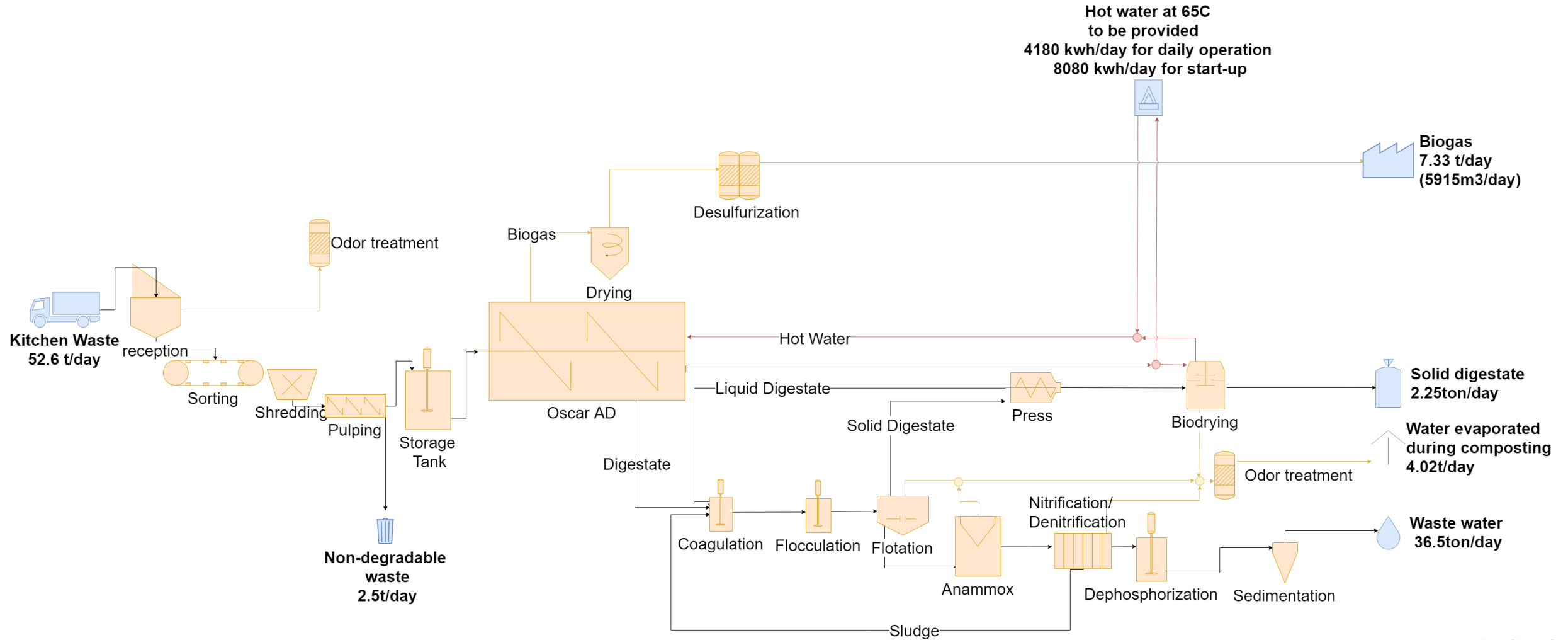


Dohler Group



**World leading
Microprocessor manufacturer**

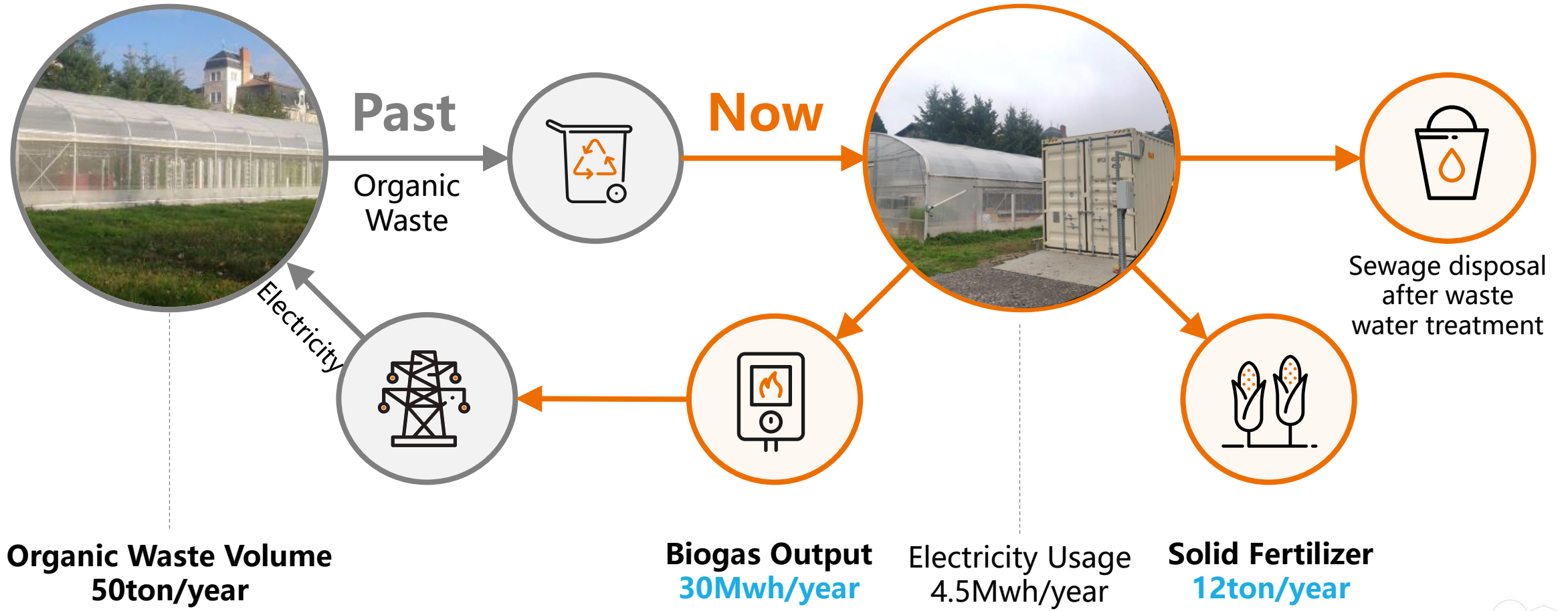
Flowchart



Case – DECISIVE Project in France

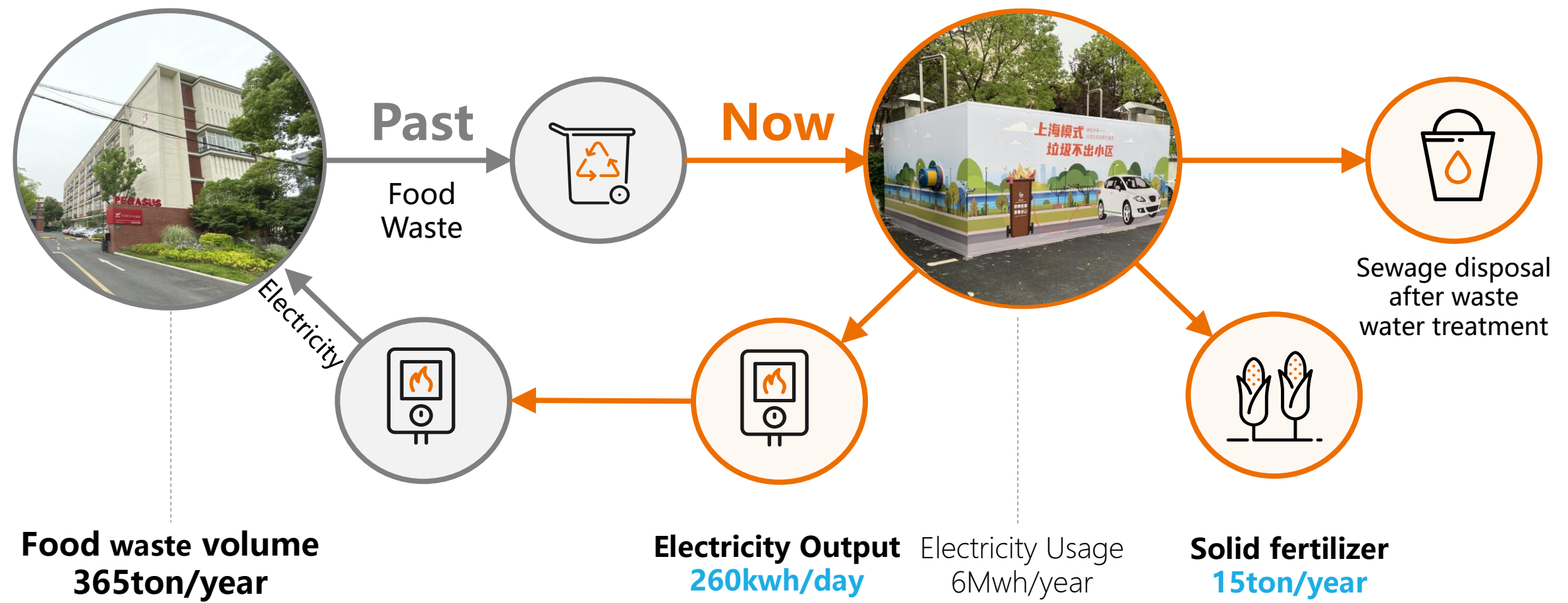


In cooperation with Suez, Enwise provides bio-digester for Michelin Star restaurant food waste



Case – Neobay in China

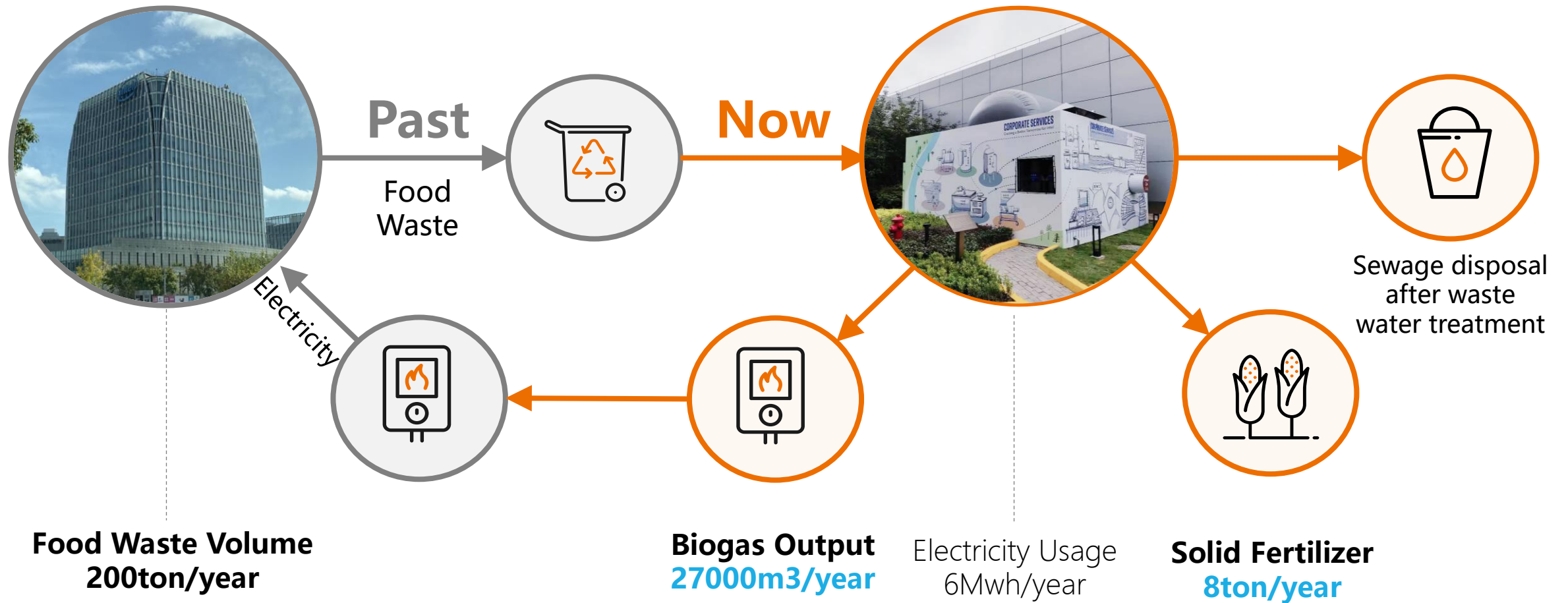
Enwise offers Neobay food waste processing system, produces electricity for new energy vehicle charging



Case – APAC Research Center in China

World leading
Microprocessor manufacturer

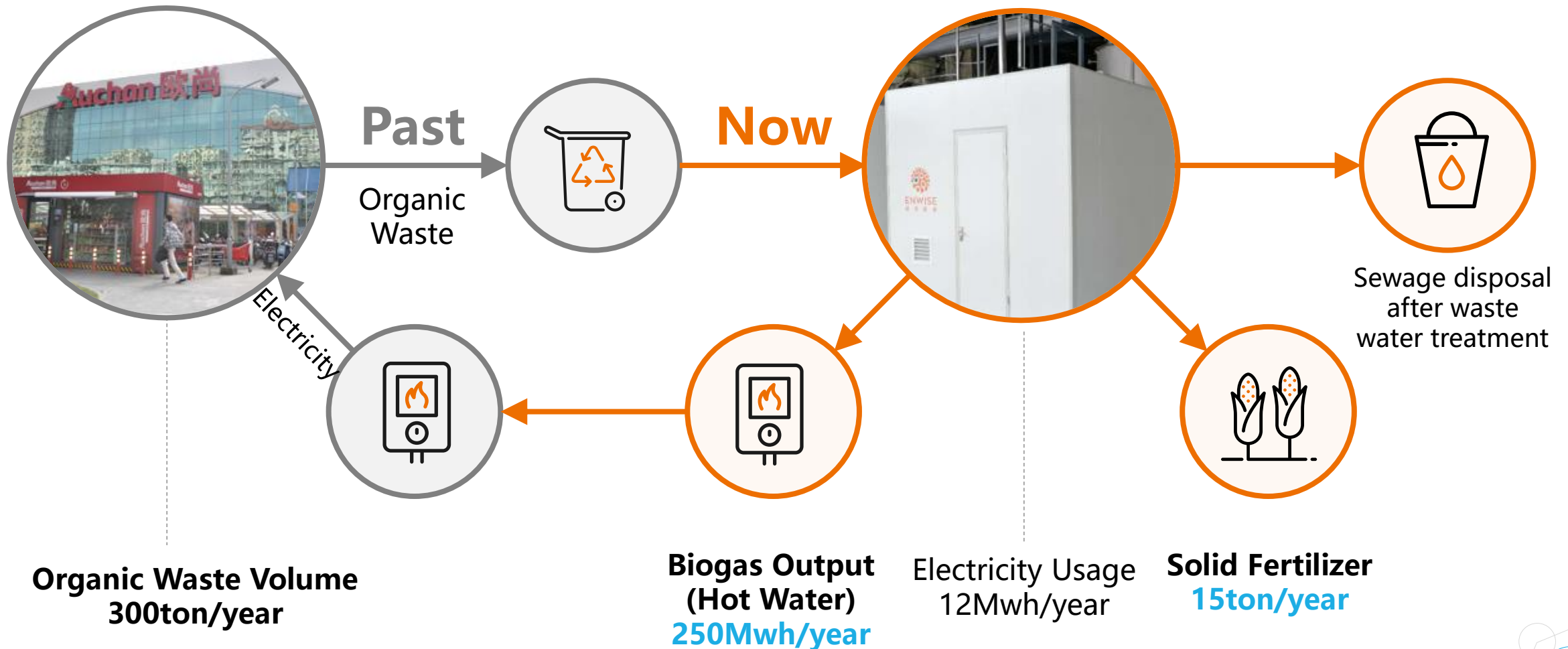
Enwise offers Intel a food waste processing system, produces biogas for center kitchen cooking usage



Case – Auchan Supermarket in China



Enwise offers supermarket waste disposal system, to supply hot water and save waste disposal fee



Case – Dohler group in China



Enwise offers food industry waste processing system, produces heat energy for factory processing usage

