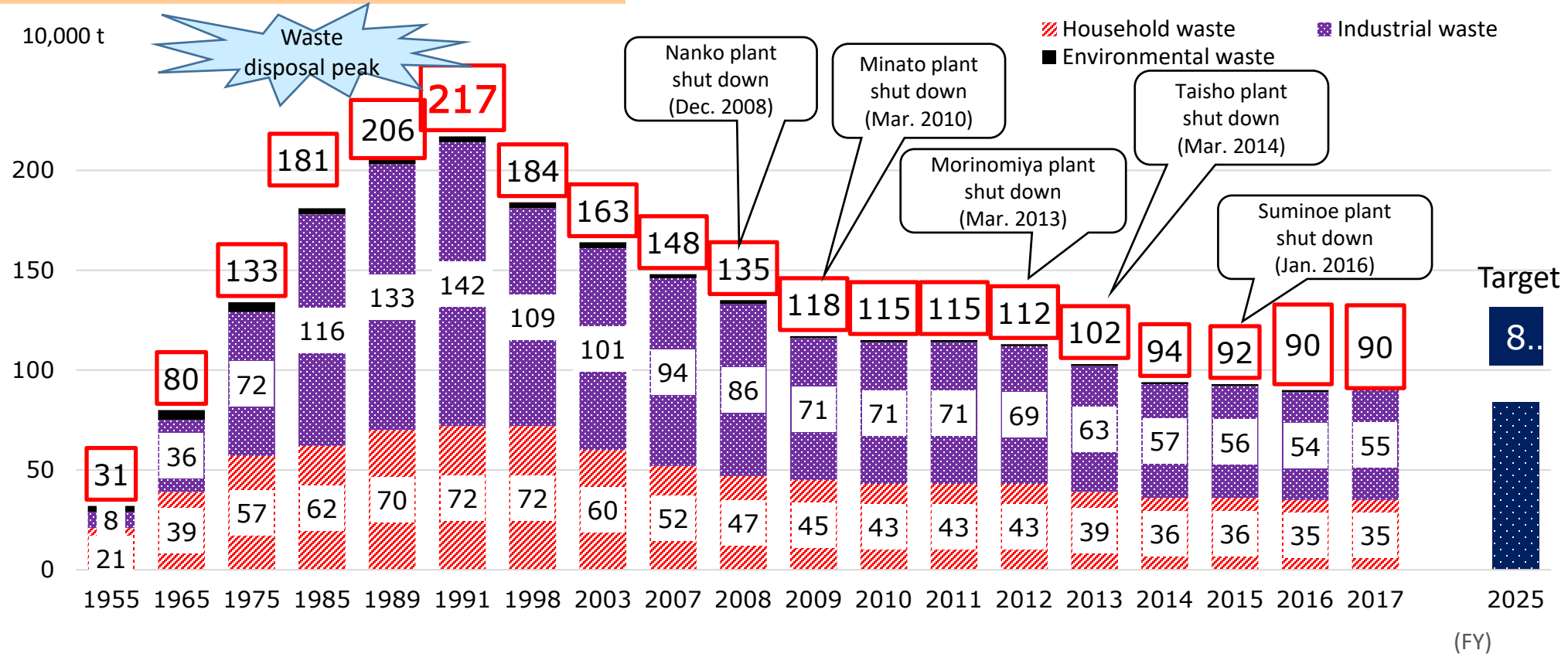


Trend of waste reduction in Osaka City

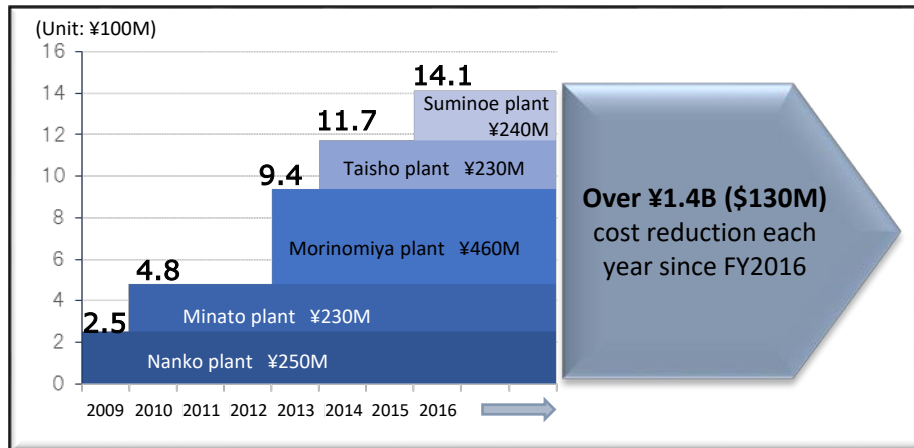


Previous waste reduction efforts

- (◆: Household waste ◇: Industrial waste)
- ◆ Sorted collection of recyclable resources (1994)
- ◆ Sorted collection of plastic containers and packaging (2001)
- ◆◇ Mandatory use of see-through waste bags (2008)
- ◇ Reinforced inspections of incoming waste at incineration plants, provision of awareness-raising programs and instructions to operators generating improper waste or bringing such waste to incineration plants (2009–2011)
- ◆◇ Revision of waste disposal fee (2012) (¥58/10 kg → ¥90/10 kg)
- ◆ Sorted collection of used paper/clothing (2013)
- ◆◇ Prohibition on bringing recyclable paper into incineration plants (2013)

Effects of reducing waste disposal costs

Reduced maintenance and operation costs from incineration plant shutdowns



Reduced construction costs at incineration plants

About **¥30B** construction cost reduction for each plant (600 t/day)
Over ¥120B (\$1.1B) of construction cost reduction for four plants

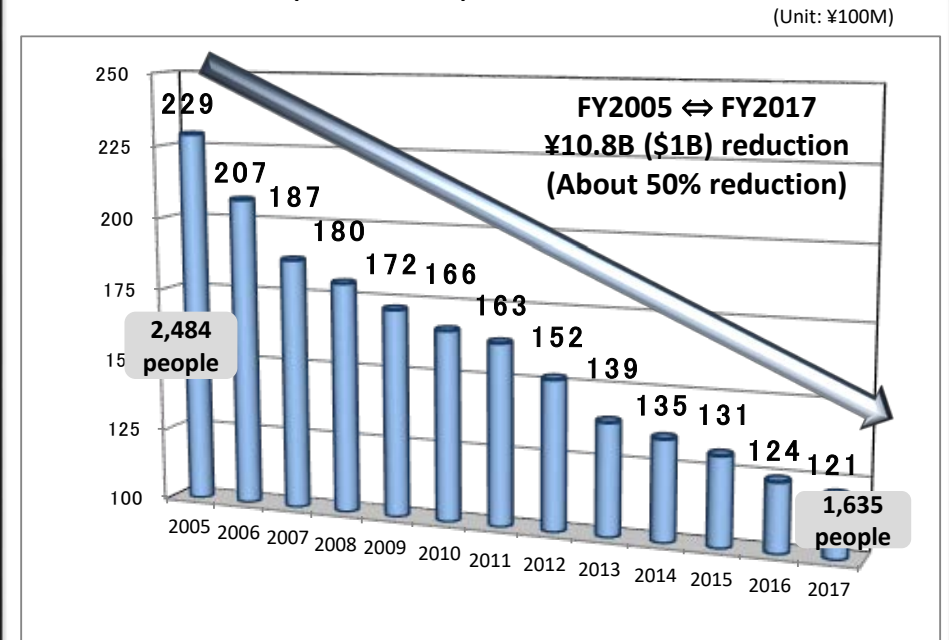
4 recent plant shutdowns

Morinomiya plant	• Completed in 1969 Treatment capacity: 900 t/day
Minato plant	• Completed in 1977 Treatment capacity: 600 t/day
Nanko plant	• Completed in 1978 Treatment capacity: 600 t/day
Taisho plant	• Completed in 1980 Treatment capacity: 600 t/day

Effects of reducing waste collection & transport costs

Reduced labor costs in collection and transport of waste

● Trend of labor cost (total amount)



[Accumulated labor cost]
About ¥84.2B (\$7.6B)
cost reduction
(FY2005–FY2017)

[Reduction breakdown of 849 people]

- Due to reducing waste 543 people
- Due to outsourcing household waste collection & transport to private company 306 people

Strategy for future environmental policies [Building a sustainable, circulation and symbiosis-based society (Environmental and Life Centered Civilized Society)]

- It is necessary to respond appropriately across broad areas of civil life as a municipality.
- It is necessary to fulfill the roles and responsibilities as a large international city.
- It is important for each individual making up each entity such as citizens, business operators, and administrative authorities to deepen their understanding of the relationship between the environment and themselves, recognize their responsibilities, and fulfill their respective roles.

[Strategies to implement for improving sustainability]

Strategy



Strengthening partnerships with communities, citizens, and business operators

Accelerate the transformation of lifestyle and economic activities of each entity, including communities, citizens and business operators, as well as social mechanisms, into environment-friendly ones.

Strategy



Integrated improvement of economy, society, and environment

Enhance functions as a city supporting a healthy, secure, and comfortable civil life and high-density and active economic activities of companies.

Strategy



Creating and utilizing new technologies and innovations

Osaka City will become a field for practical application of new technologies and innovations for improving sustainability to promote their development and dissemination.

Strategy



Strengthening international cooperation (global partnerships)

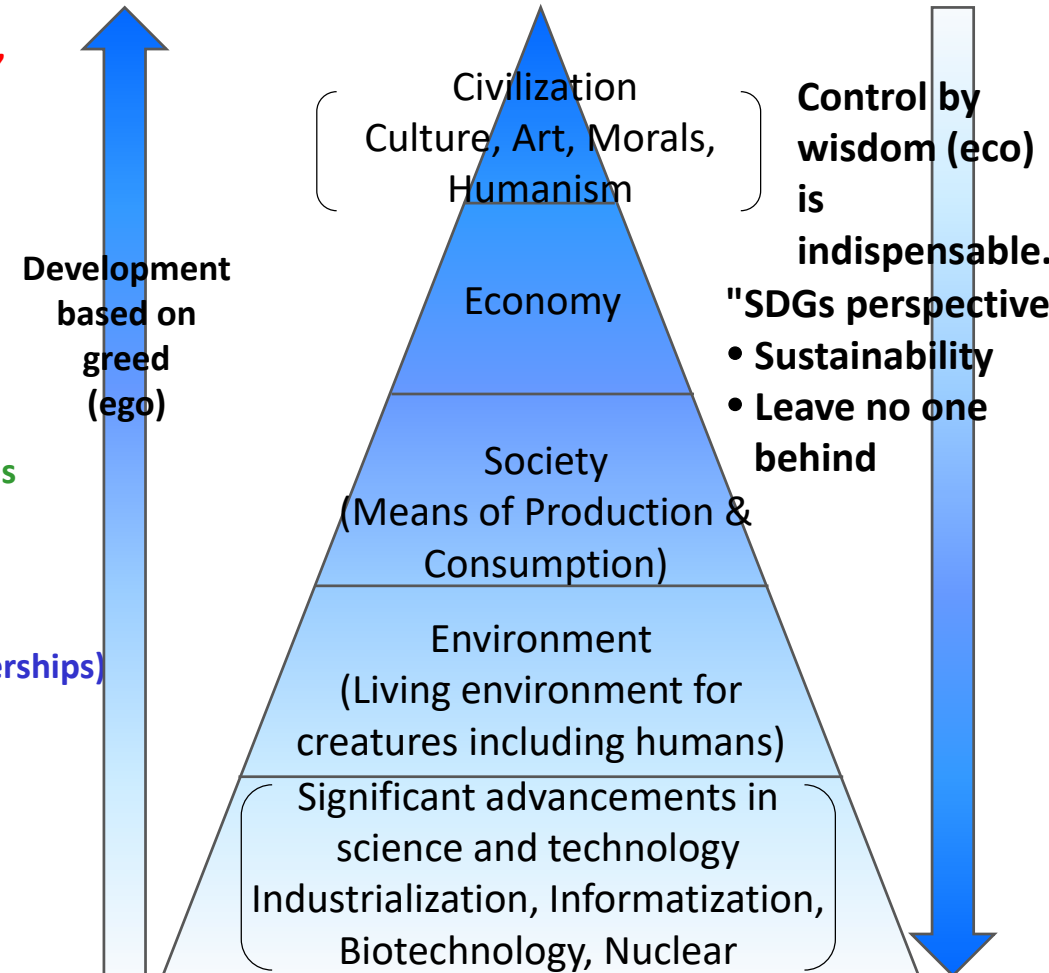
Promote international environmental cooperation with "All-Osaka" involvement through public-private partnerships by utilizing technology, know-how, and networks including UN Environment that Osaka has accumulated from its experience in overcoming various environmental problems.

Strategy



Sustainable and effective administrative management

Respond adequately to citizen needs as a municipality directly related to civil life to improve administrative services and realize efficient and effective administrative management.



Approaches to reducing waste (household waste)

Strategy Strategy Strategy



Objectives of food waste reduction

▶ Reducing food waste, Collaborating with social welfare initiatives, Revitalizing communities

● 3 actions for food waste

Reduce "food loss" by taking 3 actions: "Using up" food you already have, "Eating all your food", and "Drying out" waste before disposal.

● Food drives

Develop a system to support running food drives where people can bring extra food from home to donate to social welfare facilities or organizations.

● Stores promoting zero leftovers

Restaurants and other stores promoting reduced leftovers are registered and introduced on the Osaka City website, etc.

● Utilizing farmlands

Use food waste as a compost for allotment gardens and develop a system to enable utilizing farmlands in neighboring areas to prepare for the coming decline in population.

Objectives of reducing paper waste

▶ Reducing waste, Revitalizing communities by promoting voluntary collection in local communities (securing revenue), Reducing waste collection costs (administrative cost)

● Zero waste leader

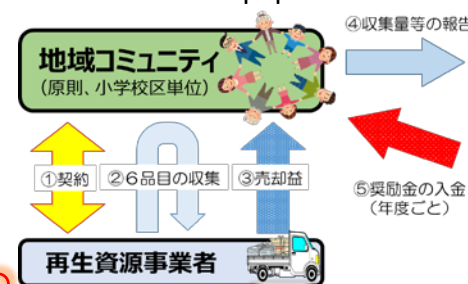
Citizen education on waste reduction and voluntary reduction & recycling of wastes in communities are carried out in cooperation with Osaka City.

● Promoting group collection of recyclable resources

Citizen groups voluntarily collect recyclable resources generated at home including used paper such as newspapers, magazines, and cardboard plus used fabric, and sell them to resource recycling operators to utilize the resources.

● Voluntary collection by local communities

A system where sorted collection of used paper and clothing is performed by a resource recycling operator entrusted by local residents instead of Osaka City. Local residents take the initiative in the effort and receive incentives from Osaka City based on the amount of collected used paper and other resources.



OSAKA CITY 大阪市 奨励金について	
古紙・衣類の収集量 (t)	1キログラム 当たり単価
15トン以下	3.8円
15トンから30トン以下	4.3円
30トンを超えるもの	4.8円
【奨励金 上限100万円】	

平成30年度活動分 (平成31年支給分) より

* PET bottles were added to the list of items voluntarily collected by local communities.

Objectives of reducing plastics

▶ Reducing plastic waste, Revitalizing communities (securing revenue)

● Osaka Declaration toward Zero Plastic Waste

Implement waste reduction measures in cooperation with citizens and business operators, and promote initiatives for collaboration between Osaka Prefecture and Osaka City, and for international deployment.

● Efforts to reduce plastic shopping bags

A "plastic shopping bag reduction agreement" was concluded with supermarkets to call on them to charge for plastic shopping bags and encourage customers to carry their own bags. This initiative will be expanded as the "Osaka eco bag campaign."

Purpose

To respond to large-scale disasters in big city Osaka (high-density urban area) [secure citizens' safety and security]

Current status

[Amount of waste, etc. expected to be generated in Osaka City]

Expected disaster	Debris (concrete mass, wood debris, etc.)	Area needed for temporary storage sites
Nankai Megathrust Earthquake	Approx. 12 million tons *1	Approx. 3.8 million m ²
Uemachi Fault Earthquake	Approx. 18 million tons *2	Approx. 5.94 million m ²

[Status of selecting candidate temporary storage sites]

Parks	95 sites	1.03 million m²
Unused sites	27 sites	0.41 million m²
		Total: 1.44 million m²

Problems

In the event of a large-scale disaster, there is expected to be a substantial shortage of temporary storage sites for debris even if public lands in the city are used.

Countermeasures, etc.

Secure temporary storage sites in cooperation with citizens, etc.

○ Exchange information & cooperate with local residents

- Prevent illegal dumping of waste to waste collection sites in parks, etc., and prevent disposal of bulk waste not related to disasters

○ Observe disposal timing and priority

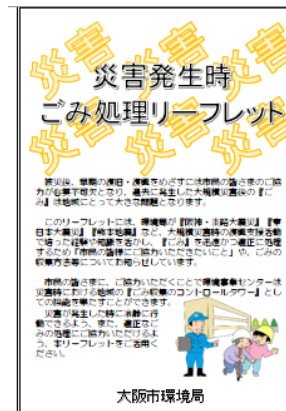
- Give top priority to collecting waste that disrupts traffic or is in a dangerous condition (clearing of roads) and burnable waste (normal waste).

Strategy Strategy



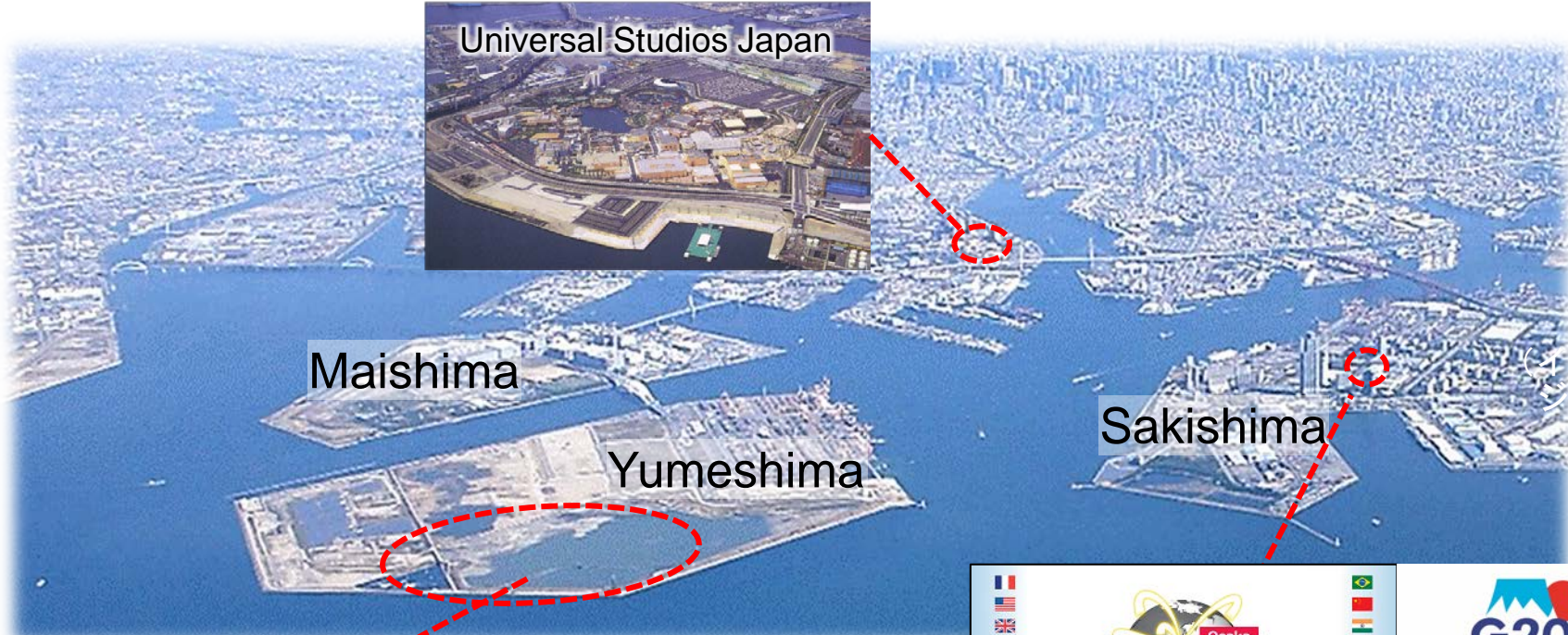
○ Cooperation with citizens and other stakeholders

- Disseminate information to residents and business operators, e.g. by providing leaflets.



○ Smoothly transport waste to final disposal sites (waterfront areas)

Thank you very much



G20 Japan Summit 2019

World Expo 2025