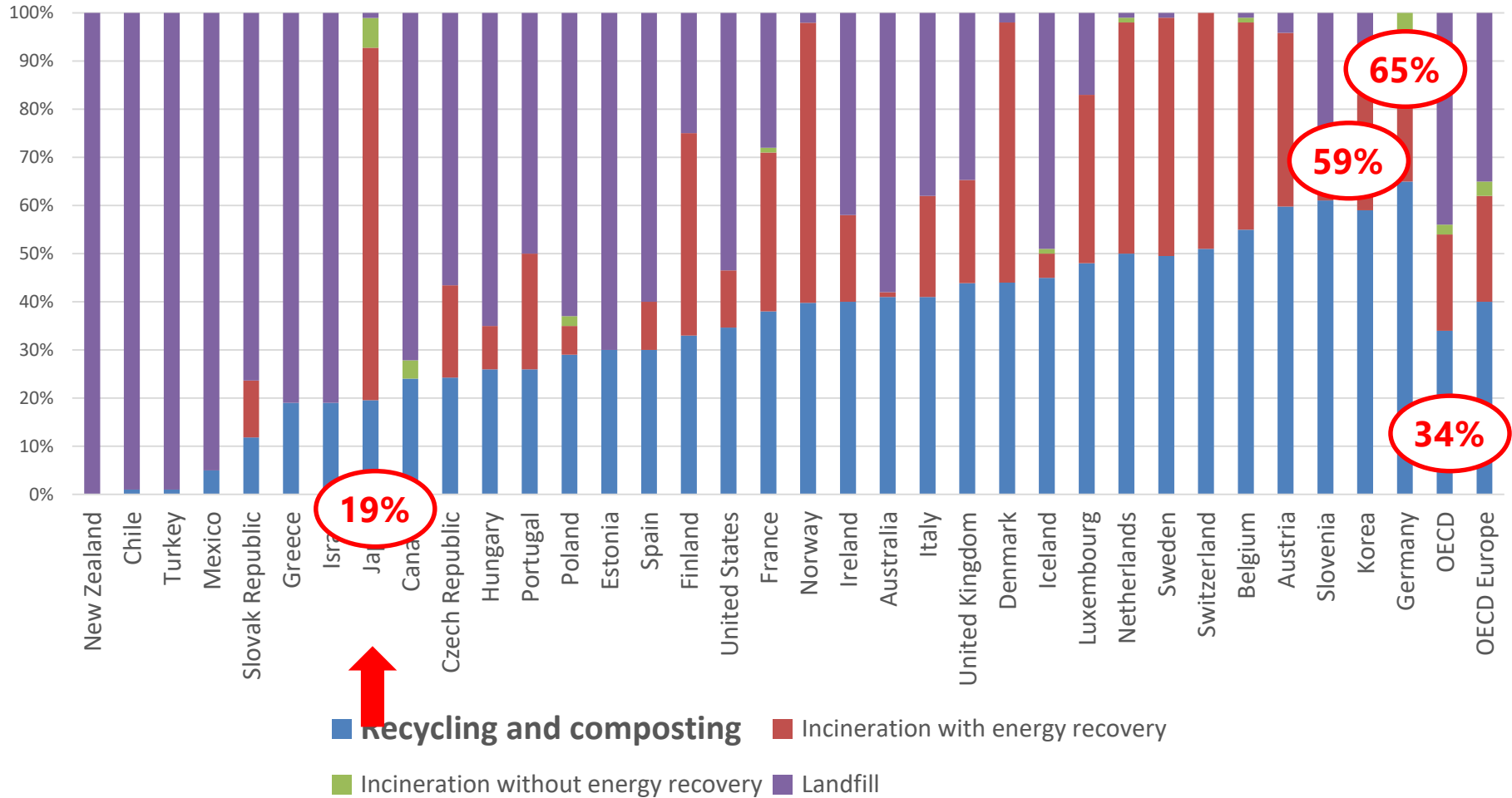


Organic Waste and its Treatment

Kazunobu Onogawa
IGES CCET

Breakdown of Waste Management Options in OECD Countries



Source: OECD (2015), "Municipal Waste", OECD Environment Statistics (database)

Flow of waste treatment and recycle

Reduce Reuse Recycle
First... Exercise 3R!

At home

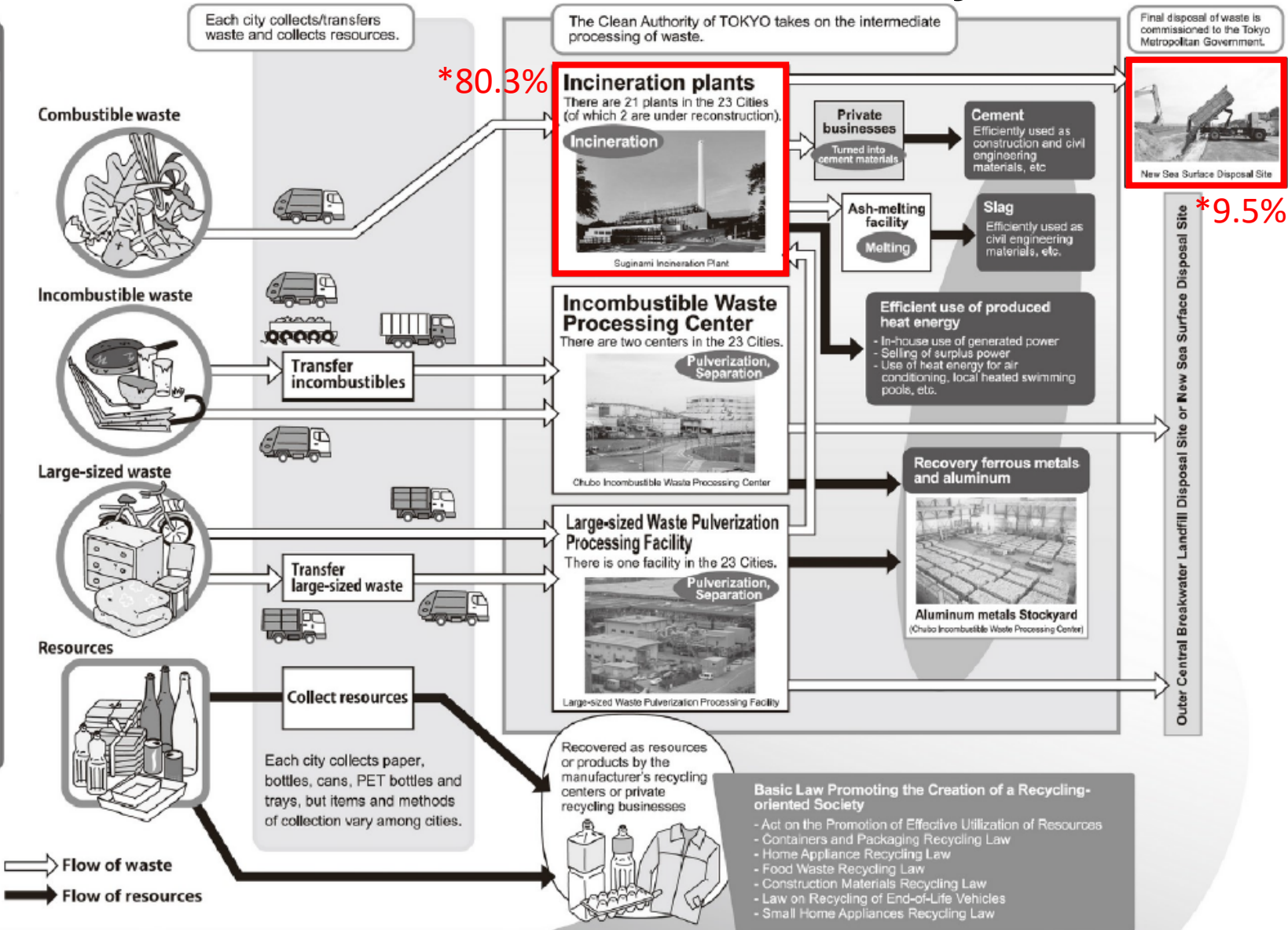
In stores and companies

In the city as well

Anything that remains as waste...

Should be adequately classified in accordance with the rules, and taken out for waste/resource collection.

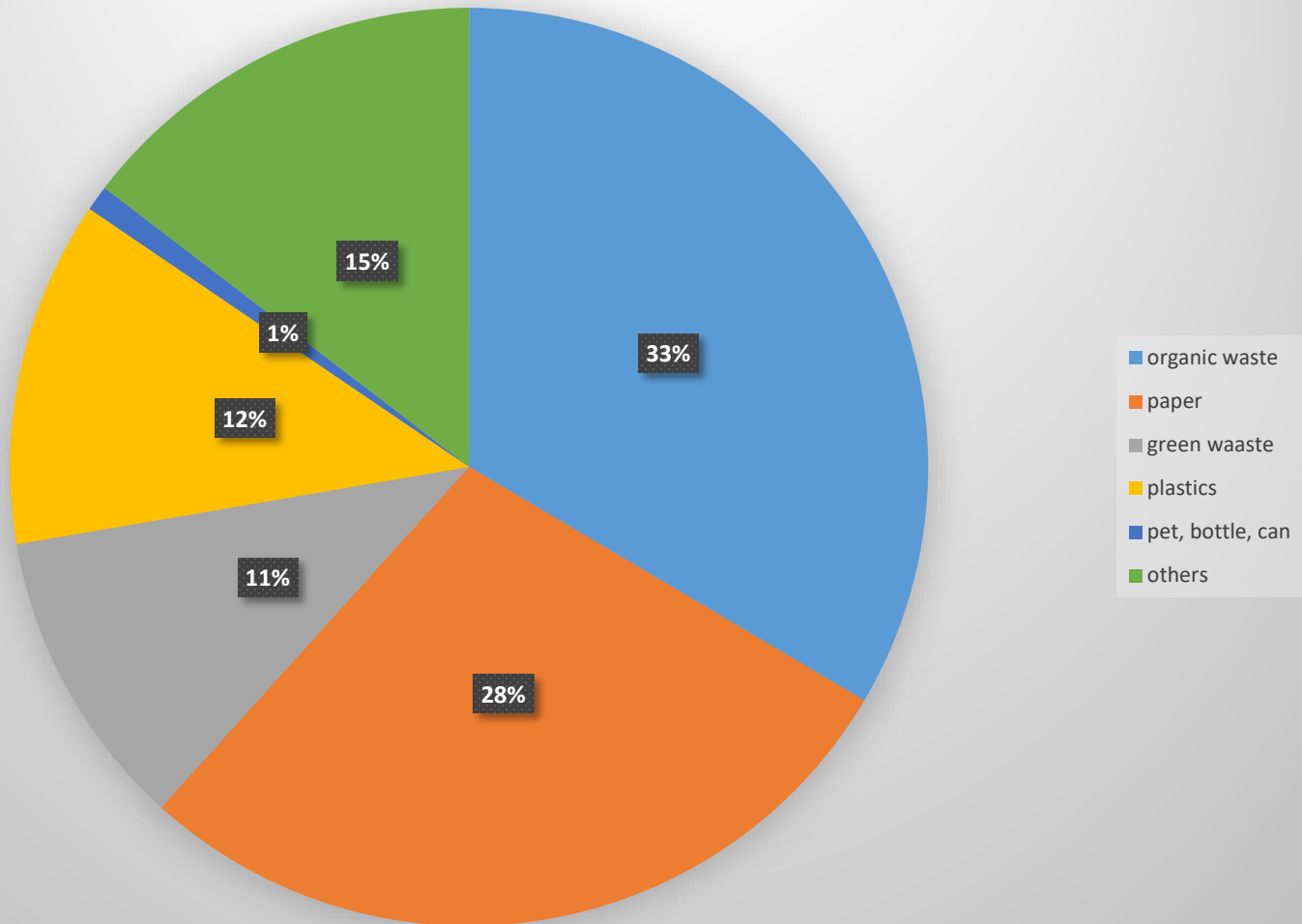
Where should it go?
 Here!



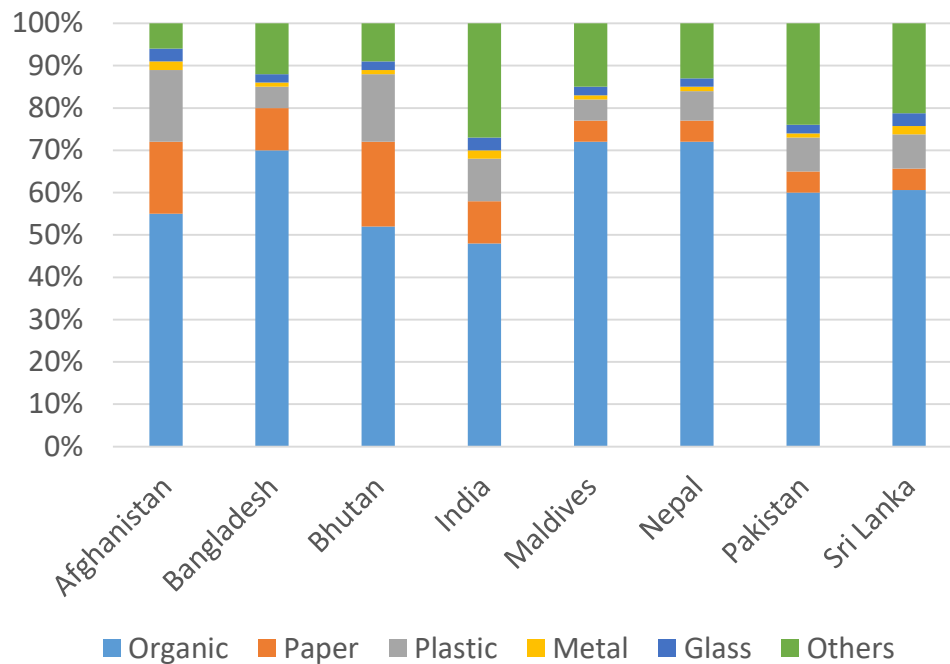
Would-be waste can be transformed into resources, energy, and other useful products/items and returns to us...

(*Source: Ministry of the Environment "Survey on disposal of municipal solid waste in 2017" <https://www.env.go.jp/press/files/jp/press/2dtgw29.pdf.pdf>)

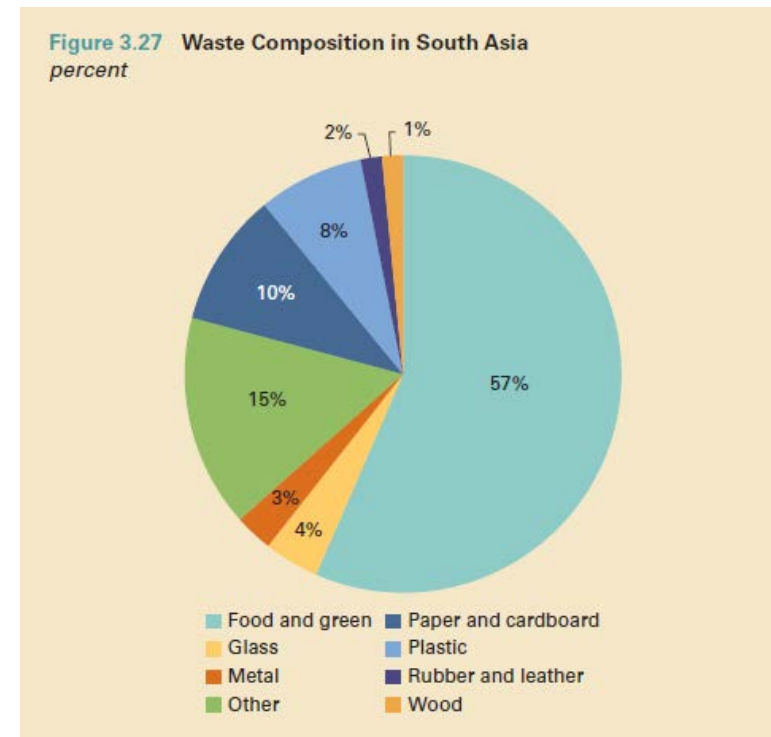
Composition of Waste Yokohama, FY2018



A Composition of MSW in South Asian Countries (based on data provided by countries for CCET/SACEP Study)



An Average Composition of MSW in South Asian Countries (based on World Bank Report, 2018)



Discussion points

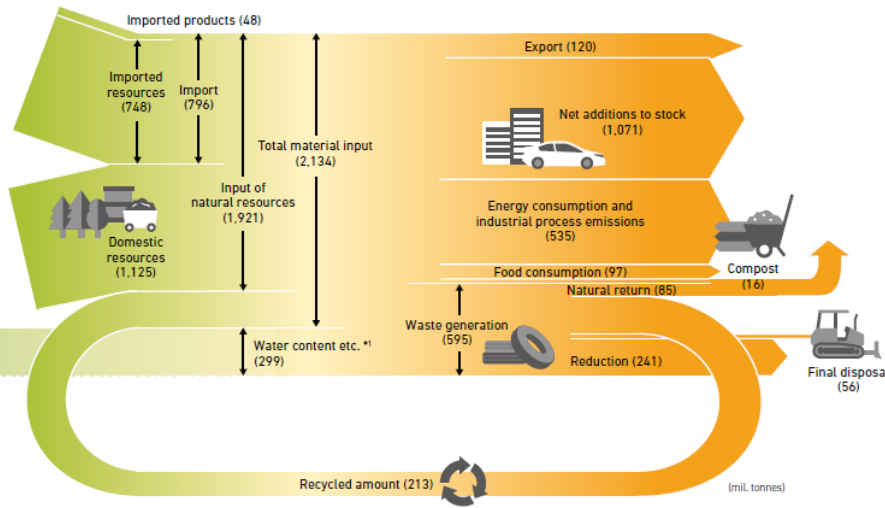
- Governmental Policy
 - promotion of “[Sound Material Cycle Based Society](#)” based on 3R concept (Reduce, Reuse, Recycle)
- Understandings on Organic component of wastes
 - 40% in Yokohama, 60-80% in Asia
 - Better use as [resources](#) or, more efficient waste management?

Discussion points

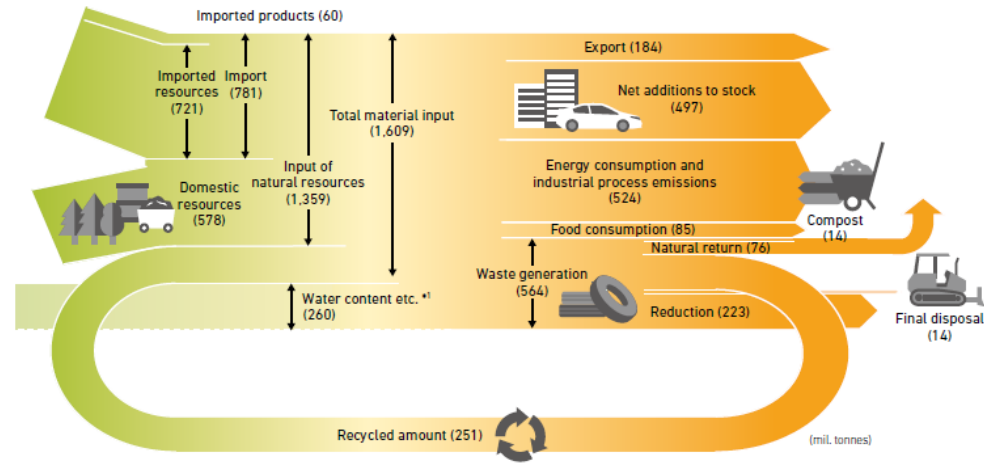
- Separation (dry or wet) and treatment
 - better use as resources
 - organic (wet): anaerobic digestion
 - inorganic (dry): return to resource channel
 - benefits for incineration: easy to incinerate with high calorific value and less water content
 - creating of new business
- How can lead/guide ?

Material flow in Japan

FY2000



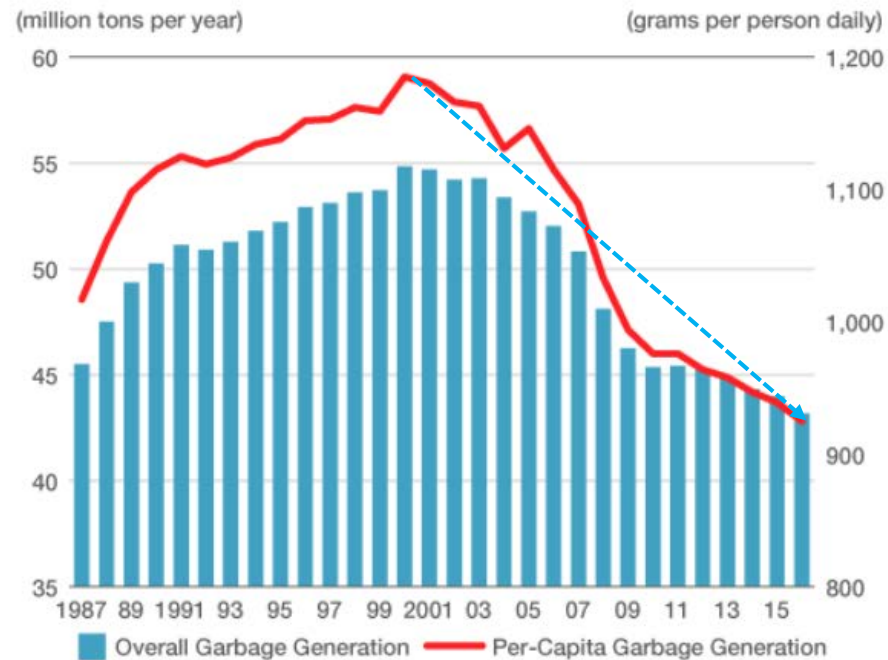
FY2015



Source: Ministry of the Environment

(mil. tones)

Overall and per-capita waste generation

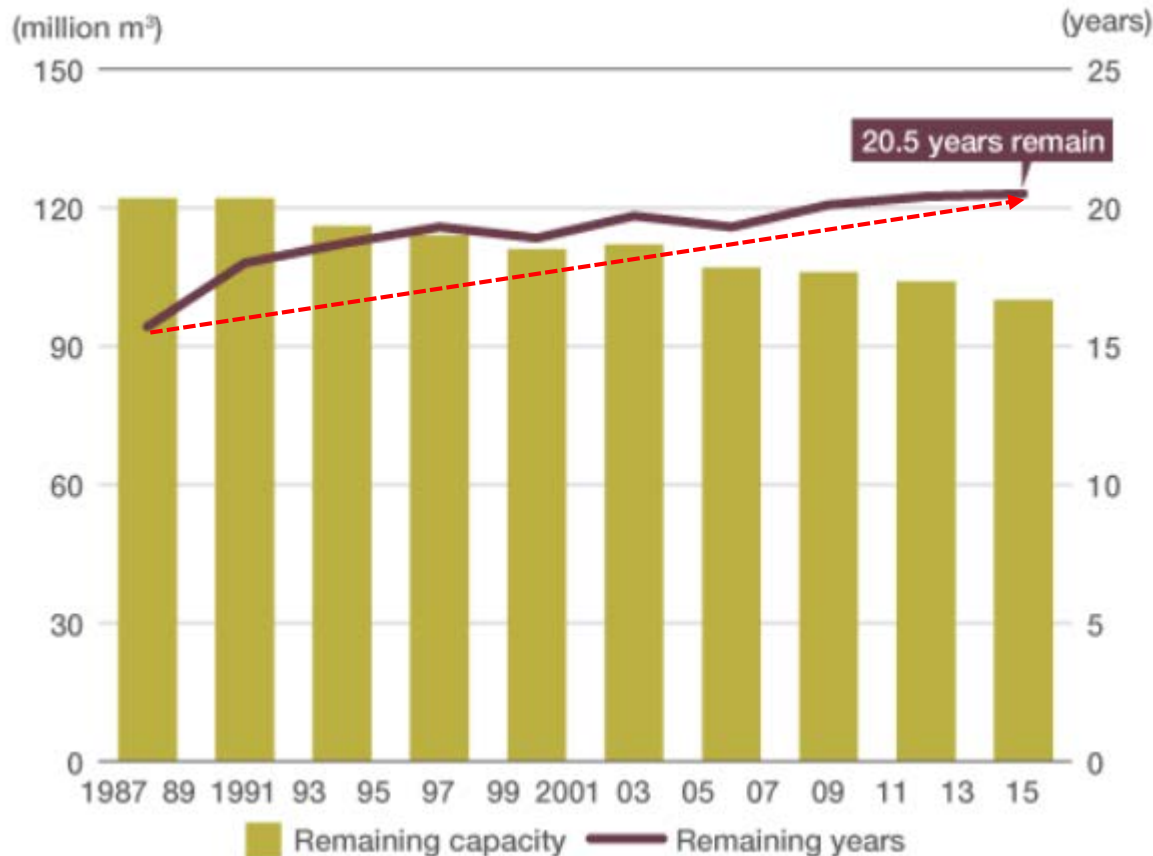


(Source: Nippon.com/Based on Ministry of the Environment "Survey on disposal of municipal solid waste")

Legal system for establishing a "sound material-cycle society"

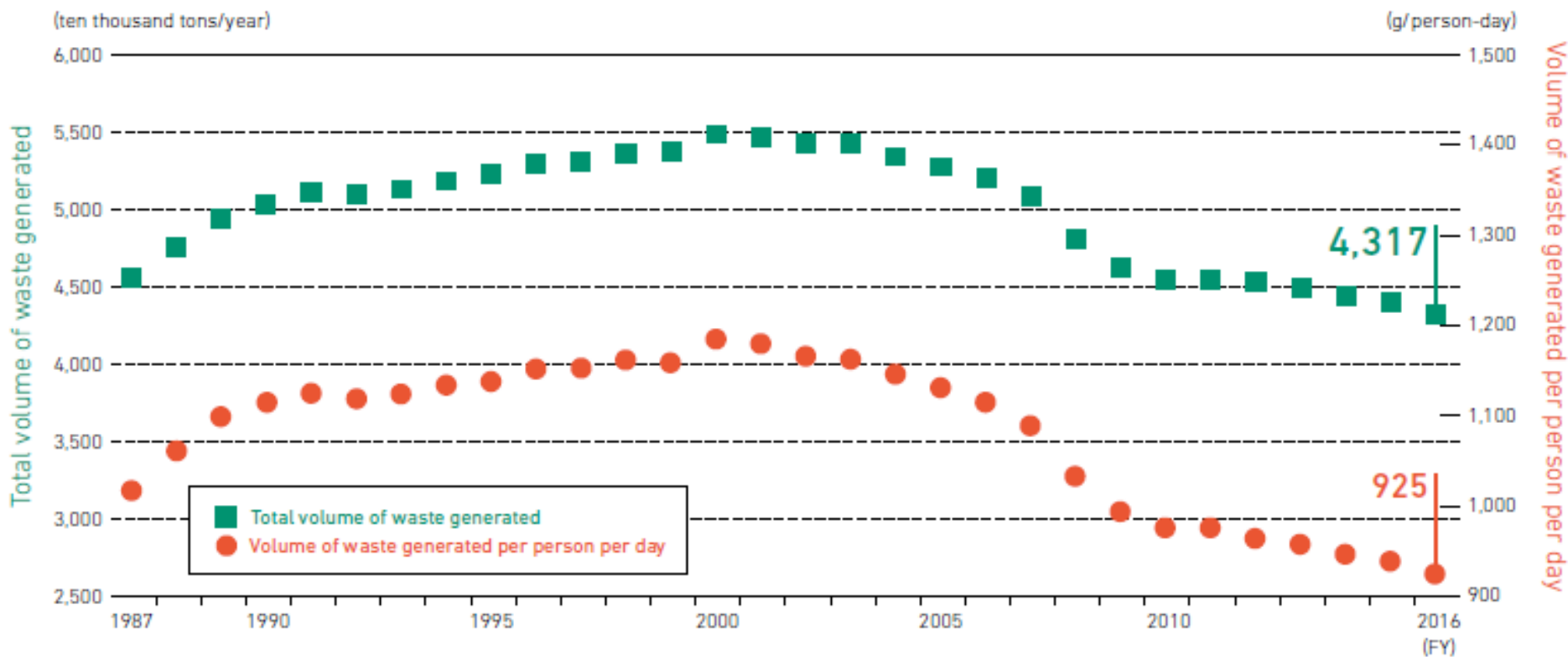
- The basic act for establishing a sound material-cycle society (2000)
- Effective resource utilization promotion act (1991)
- Recycling laws (1990s, 2000s)
 - Containers and packaging recycling act
 - Home appliance recycling act
 - Food recycling act
 - Construction recycling act
 - Automobile recycling act
 - Small home appliance recycling act

Remaining capacity and years of use of waste landfill sites



(Source: Nippon.com/Based on Ministry of the Environment "Survey on disposal of municipal solid waste")

Total volume of waste generation and waste volume/person-day



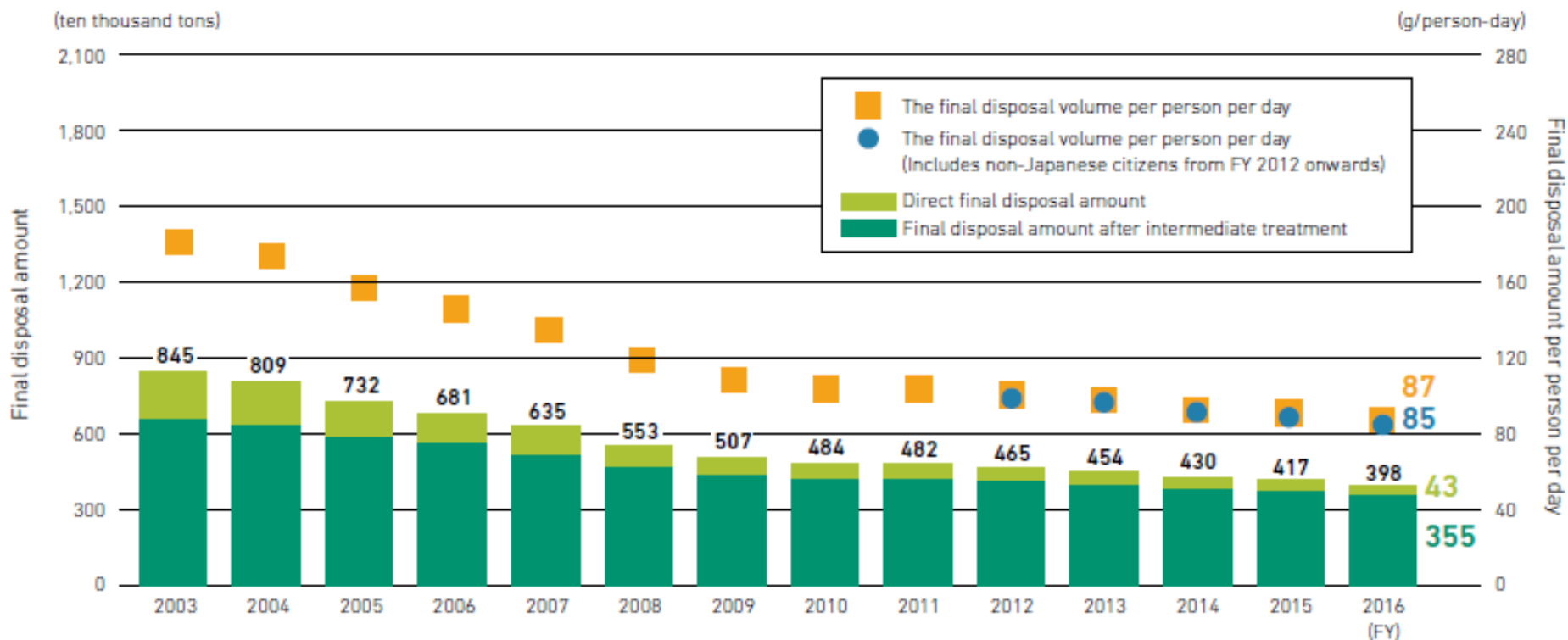
Incineration facilities in Japan



Yonago city clean center
(waste-to-energy power generation)



Final disposal amount and final disposal amount /person-day



Thank you

For further information: IGES Centre Collaborating with UNEP on Environmental Technologies (CCET), <https://www.ccet.jp/>

<https://blog.goo.ne.jp/wa8823/e/dce89290372db9da6a23b71351fd8570>