Hierarchy of shredded banknote disposal 2025

Jeroen Kusters, Director of sales

1st December 2025

Banknote shred waste pyramid

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Banknote shred waste pyramid

Source: Royal Dutch Kusters Engineering

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Landfill & dumping

- Landfilling recovers no energy and serves no useful purpose
- Raises concerns in security, technical, economic and environmental aspects.
- Not recommended due to negative environmental impact.
- A reliable currency disintegration method is essential.

Incineration

- Burning without energy recovery is least eco-friendly
- Still common due to cost, ease, and poor infrastructure

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Incineration with energy recovery

- Briquettes have excellent combustion properties
- Suitable for controlled waste incineration at 900°C
- Environmentally sound with proper flue gas treatment
- Can be used as an additive fuel in waste plants or furnaces

Composting

- Cotton banknotes can be composted sustainably
- Turns cash into a natural soil improver
- Enhances soil biodiversity and reduces waste volume

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Technical materials

- Banknote shreds offer diverse opportunities for new product developments
- Potential applications include:
  - Incorporating shreds into recycled paper
  - 3D printed products and furniture
  - Sustainable packaging and transportation solutions

Circular products

- Development of products that can reused and recycled over and over again
- Closed loop process

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Recycling shredded banknotes

Our mutual challenges which makes recycling challenging

- Relatively low volumes
- Decentralised
- Maturity level of local recycling markets
- Waste follows the money
- Wide variety of banknotes
  - Inks
  - Security features
  - Substrates

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Recent development

KOMSCO

- Crowdfunded in Korea
- Shreds of one 50,000 Won bill
- Approx.: 0,0001522% of yearly waste

986%	$34K+	761
Funded	Raised	Supporters

This project successfully ended on Jul 25, 2025 with the valuable cheer and support from our supporters.

A premium golden pen designed by Korea Minting and Security Printing Corp. (KOMSCO) / Courtesy of KOMSCO

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The Banknote Recycling Study 2025

The first results - Asia

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About the participants in 2025

- 82 countries
- 6 continents

- Africa – 15 countries
- Asia – 17 countries
- Europe – 27 countries
- North America – 12 countries
- Oceania – 4 countries
- South America – 7 countries

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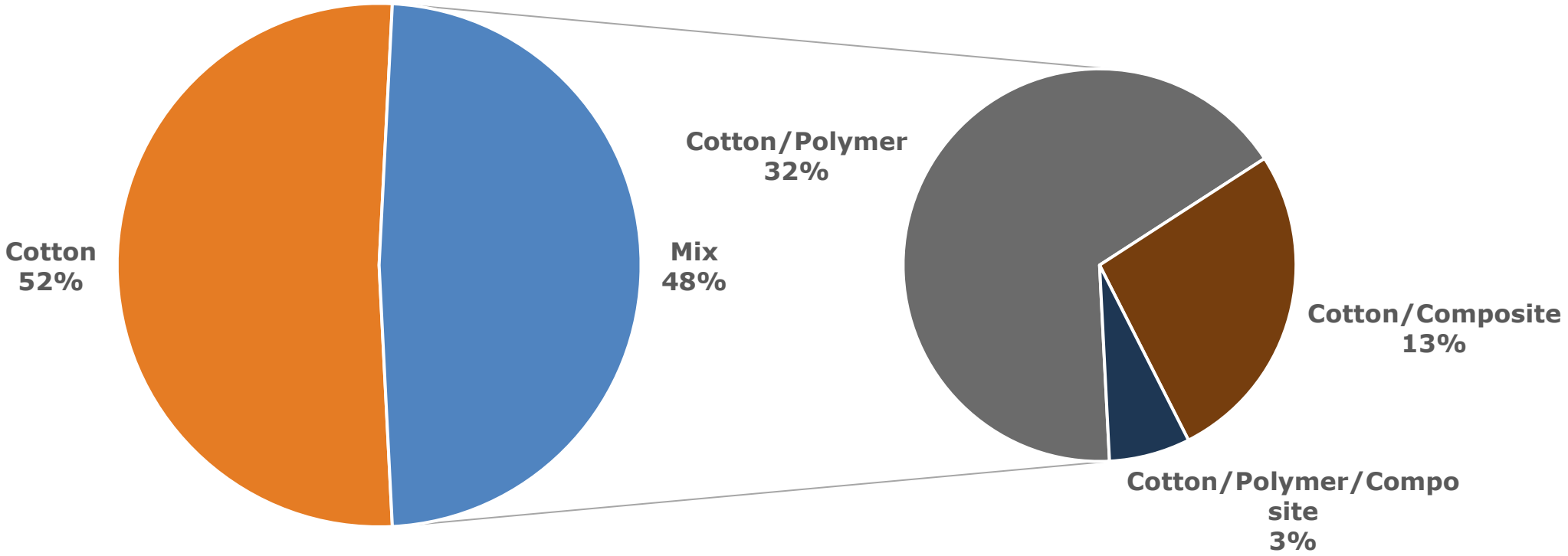
Composition of substrates in Asia 2025

A summary of this year's participants



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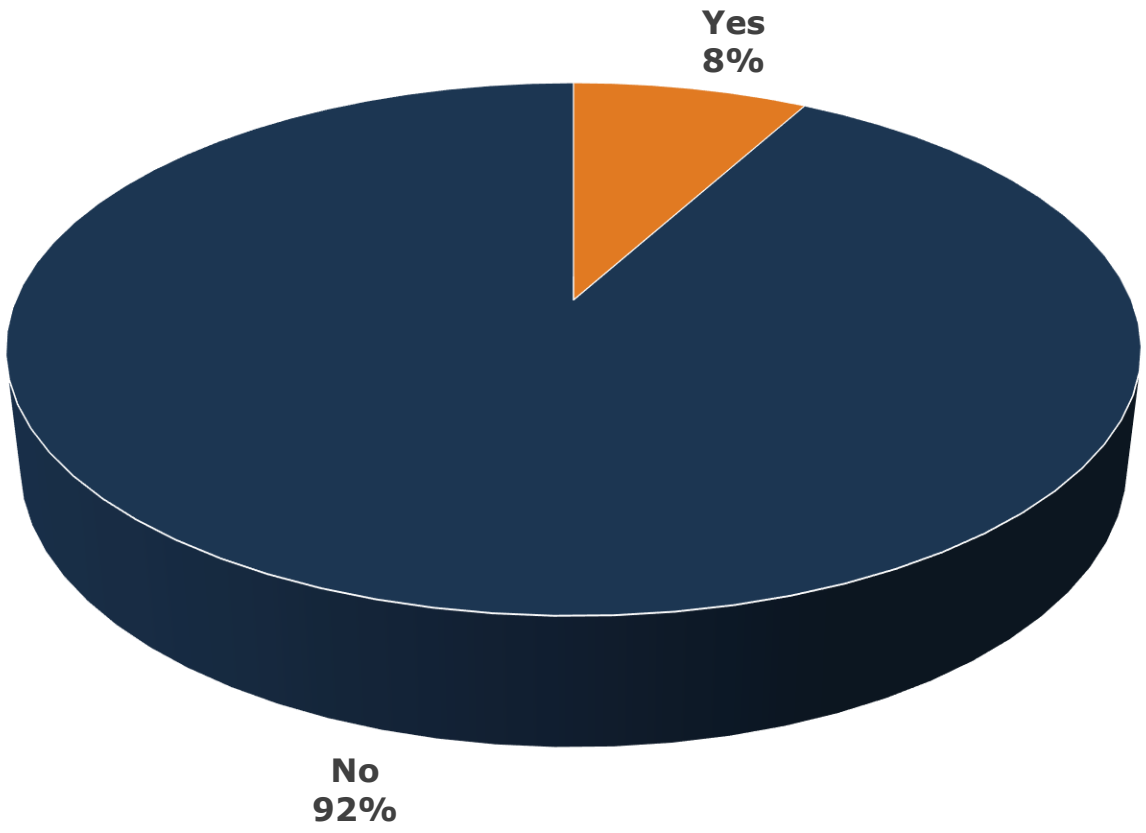
Asia: consider to change substrate

2025



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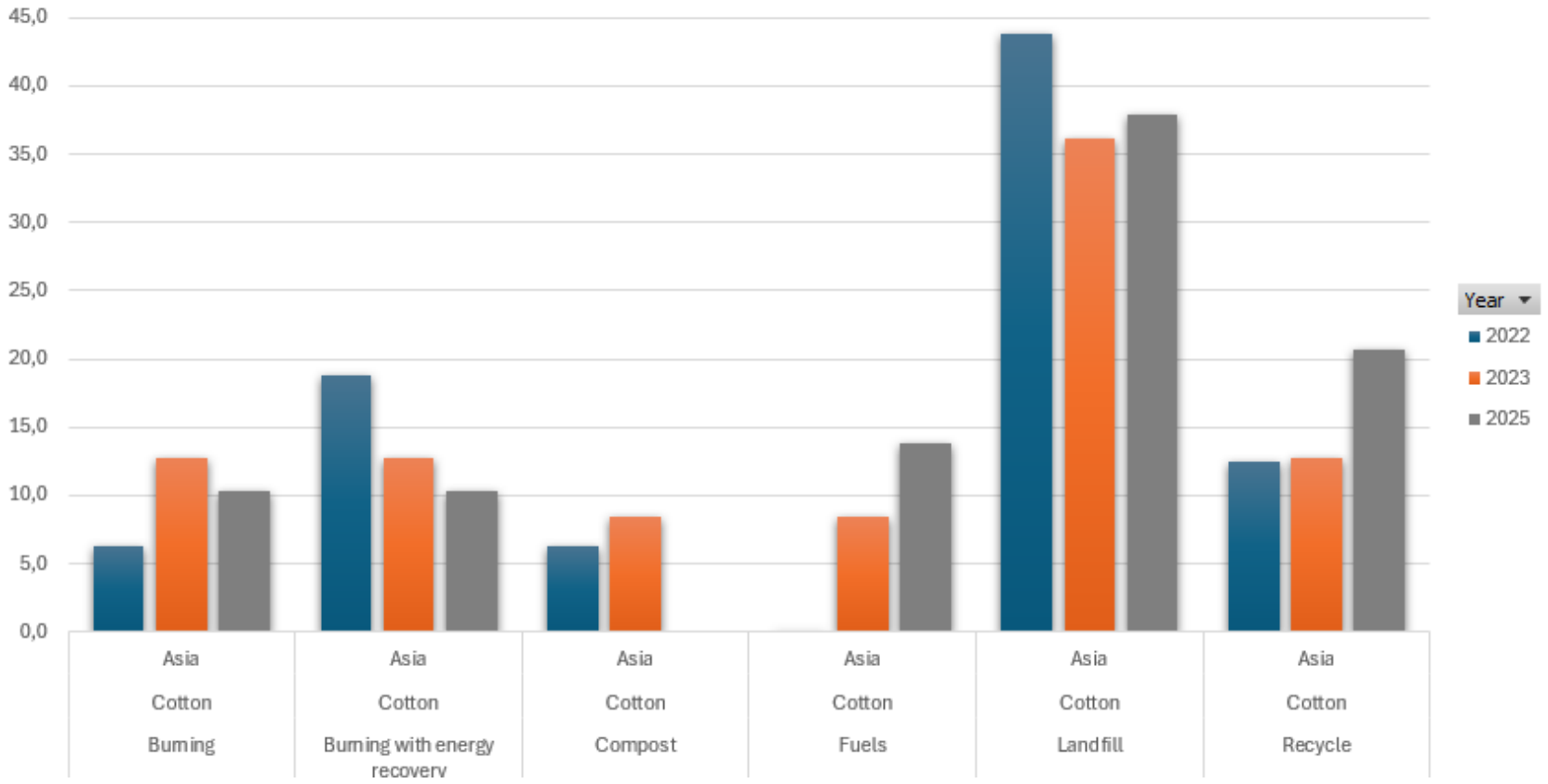
Cotton recycling trend

Asia



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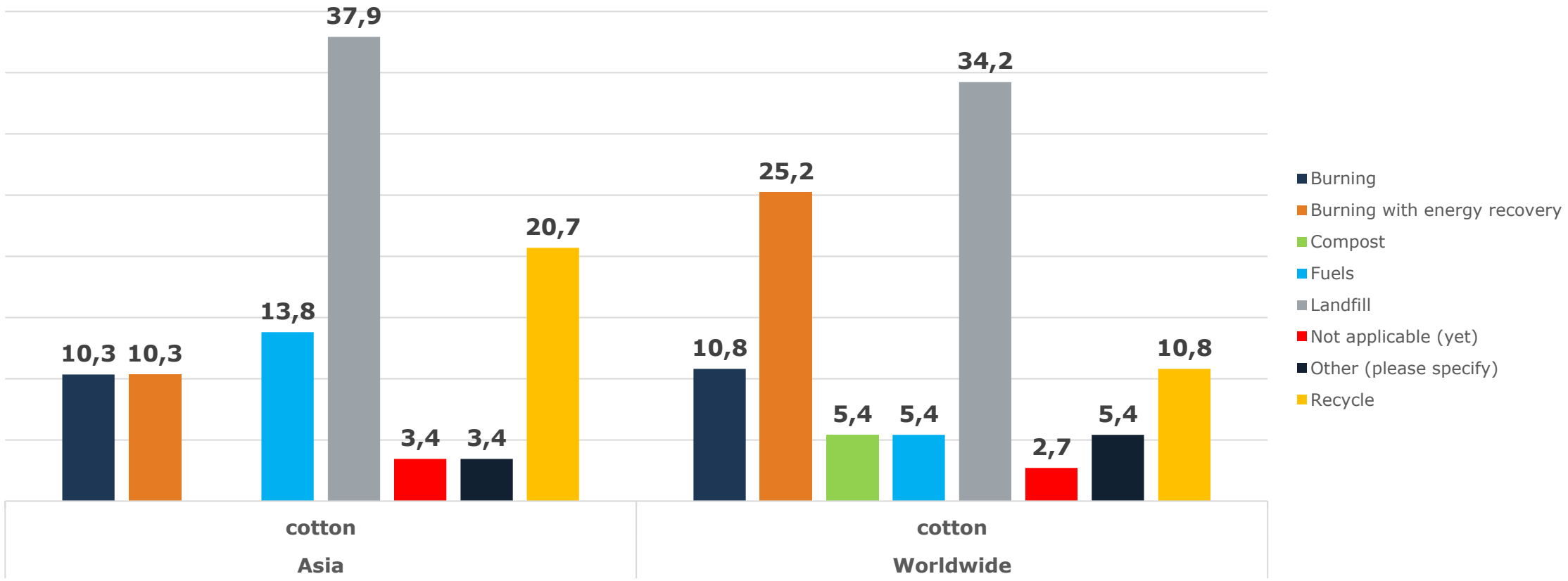
Method of cotton disposal

Asia versus worldwide



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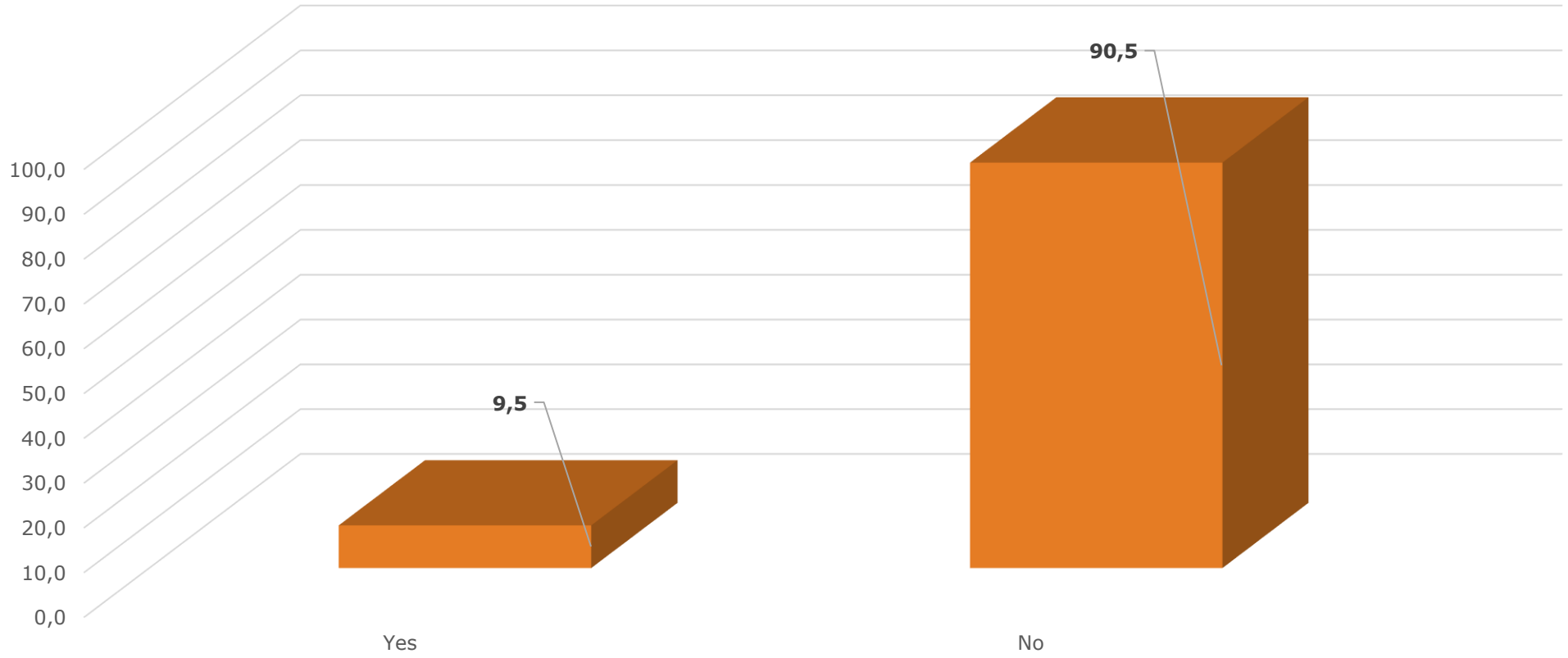
Asia: disposal method

Have there been any changes past 2 years



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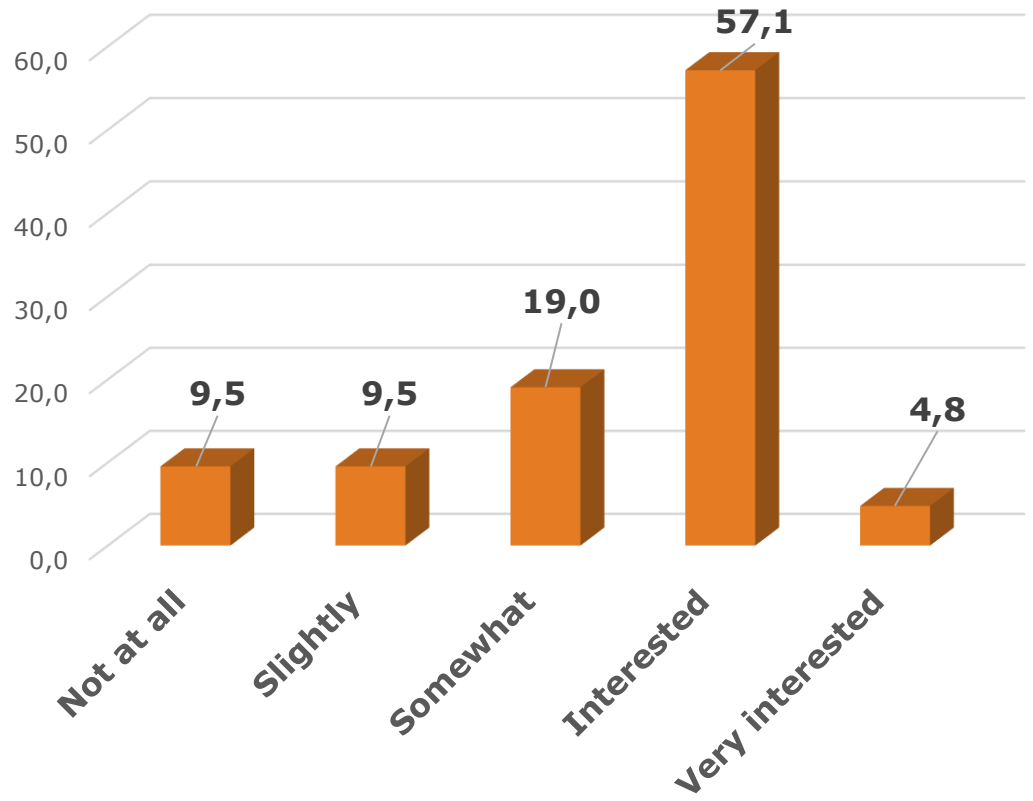
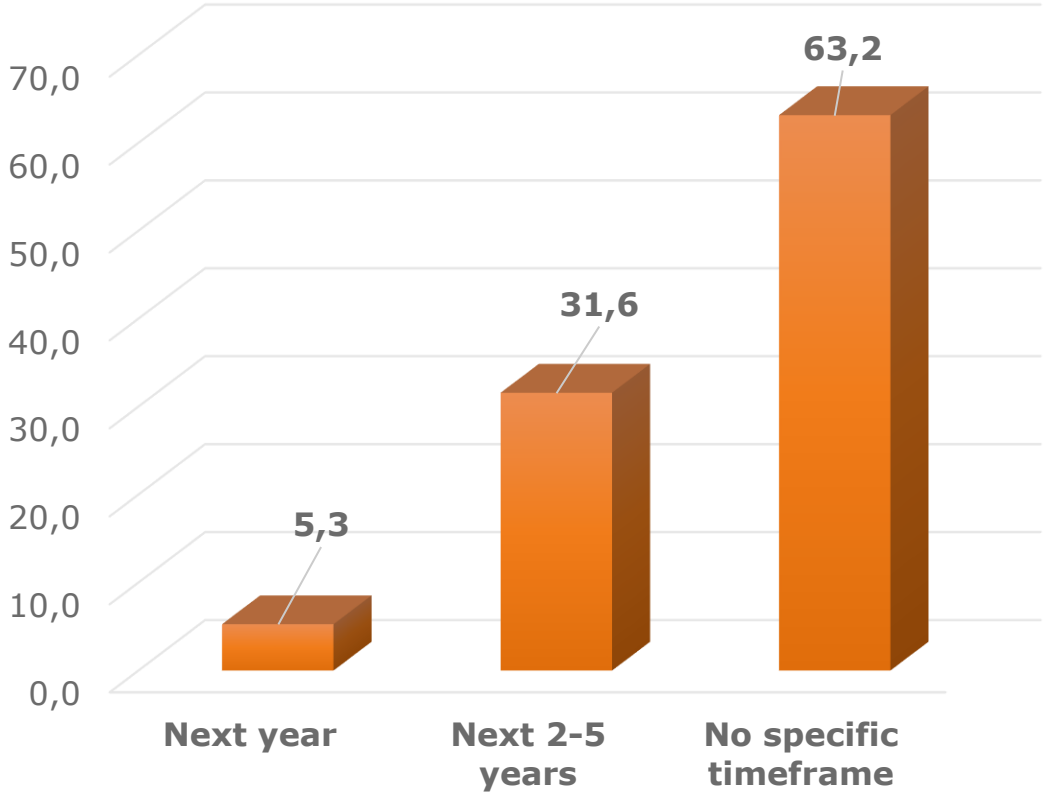
Asia: disposal method

Are you interested in changing?



In what timeframe



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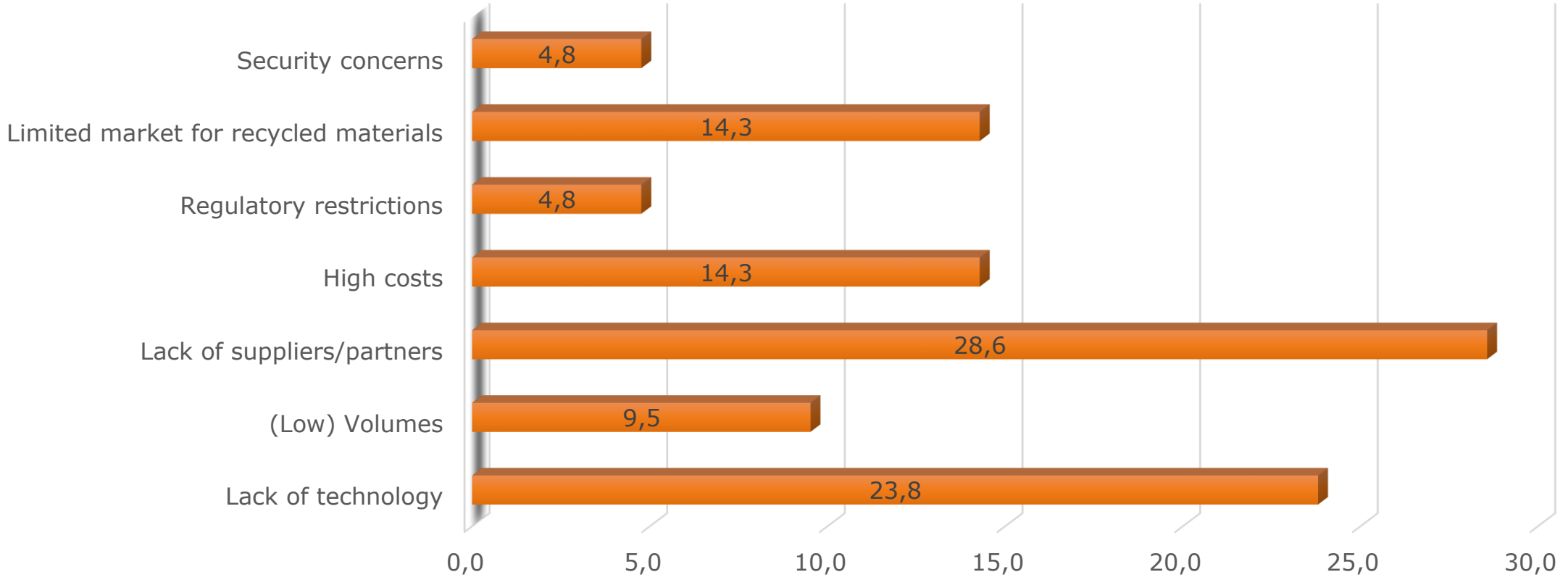
Asia: biggest barrier to start recycling

In percentage



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Participate in our study

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VALUE ADDING TECHNOLOGY