



Source: United Arab Emirates Government, 2019

Waste to Energy: Global Overview

**Seminar on “Plastics in a Circular Economy”
7 March 2019, Amari Watergate Hotel,
Bangkok**

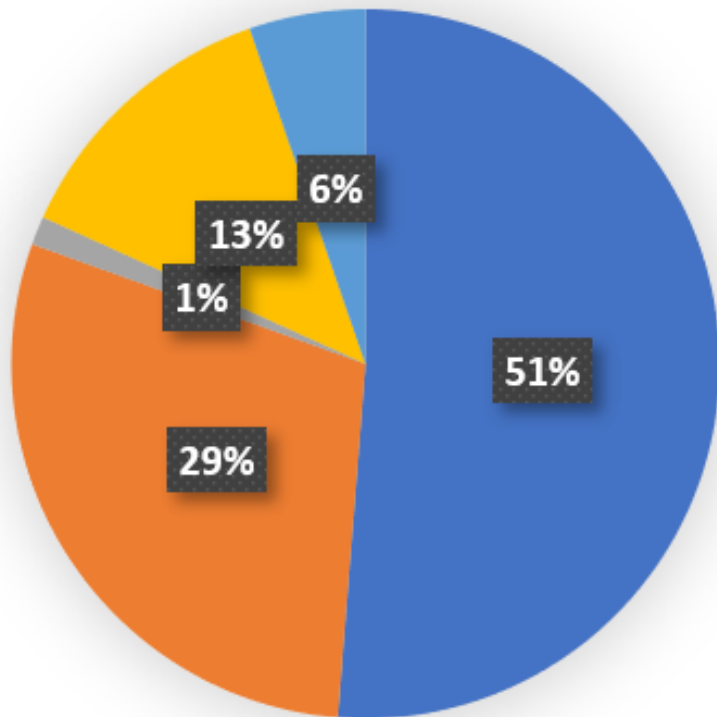


Source: Schmidt Hammer Lassen, 2019

Global Average



Asia Pacific



30 billion USD

25 billion USD

20 billion USD

15 billion USD

10 billion USD

5 billion USD

2010

2013

2016

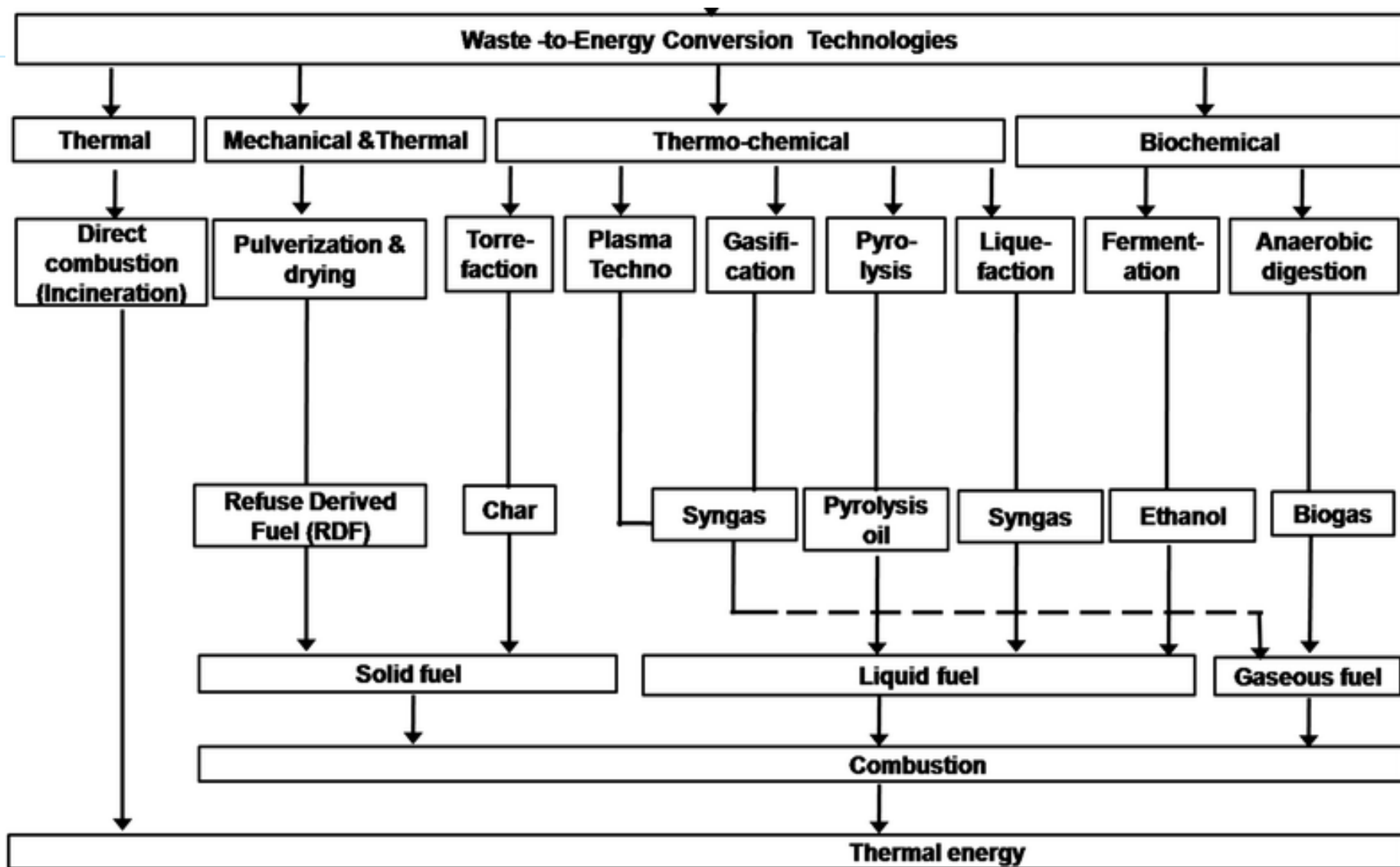
2019

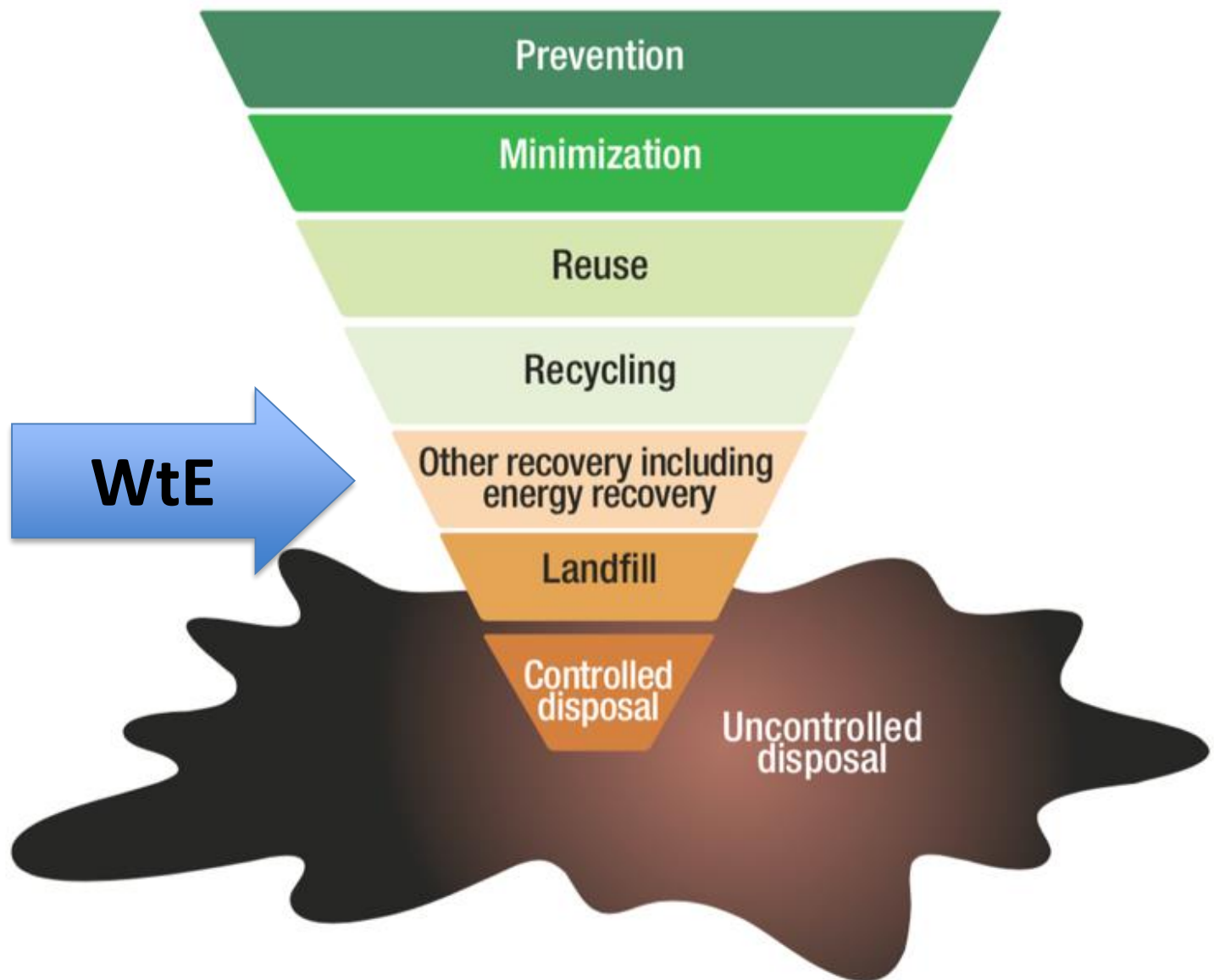
2022

2025

Ouda and Raza, 2014

- Landfill and other disposal
- Incineration with energy recovery
- Incineration without energy recovery
- Other recovery (recycling and composting)
- Waste unaccounted for





The health and environmental impacts of thermal WtE – A thing of the past

Most harmful:

- *direct and open landfilling*
- *illegal dumping and burning*
- *burning of household waste in residential areas*
- *informal recycling of hazardous waste*
- *small scale incinerators in factories and healthcare facilities*
- *burning of agricultural crop residues/ waste*



Summary

ADAPTATION IN ASIA AND THE PACIFIC:
CLIMATE-BASED SOLUTIONS



Benefit:

- Reduction in CO₂ emissions from waste sector compared to open burning and landfills without methane gas utilization
- Reduction in the waste volume by 75 – 90%.

Challenges

- Low calorific value and high moisture content of waste. **The average lower calorific value should be never below 6 MJ/kg.**
- Large-scale modern thermal WtE plant needs at least **10,000 tonnes of MSW per year.**
- **Significant investment for startup, operation and maintenance.**
- **Legislative framework, including strategies for maintenance,** including phase out plan, pollution monitoring, safe disposal of toxic by-products, etc.

Stay tuned for launch of the report on Waste-to-Energy: Considerations for Informed Decision-making!

ご清聴ありがとうございました。

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