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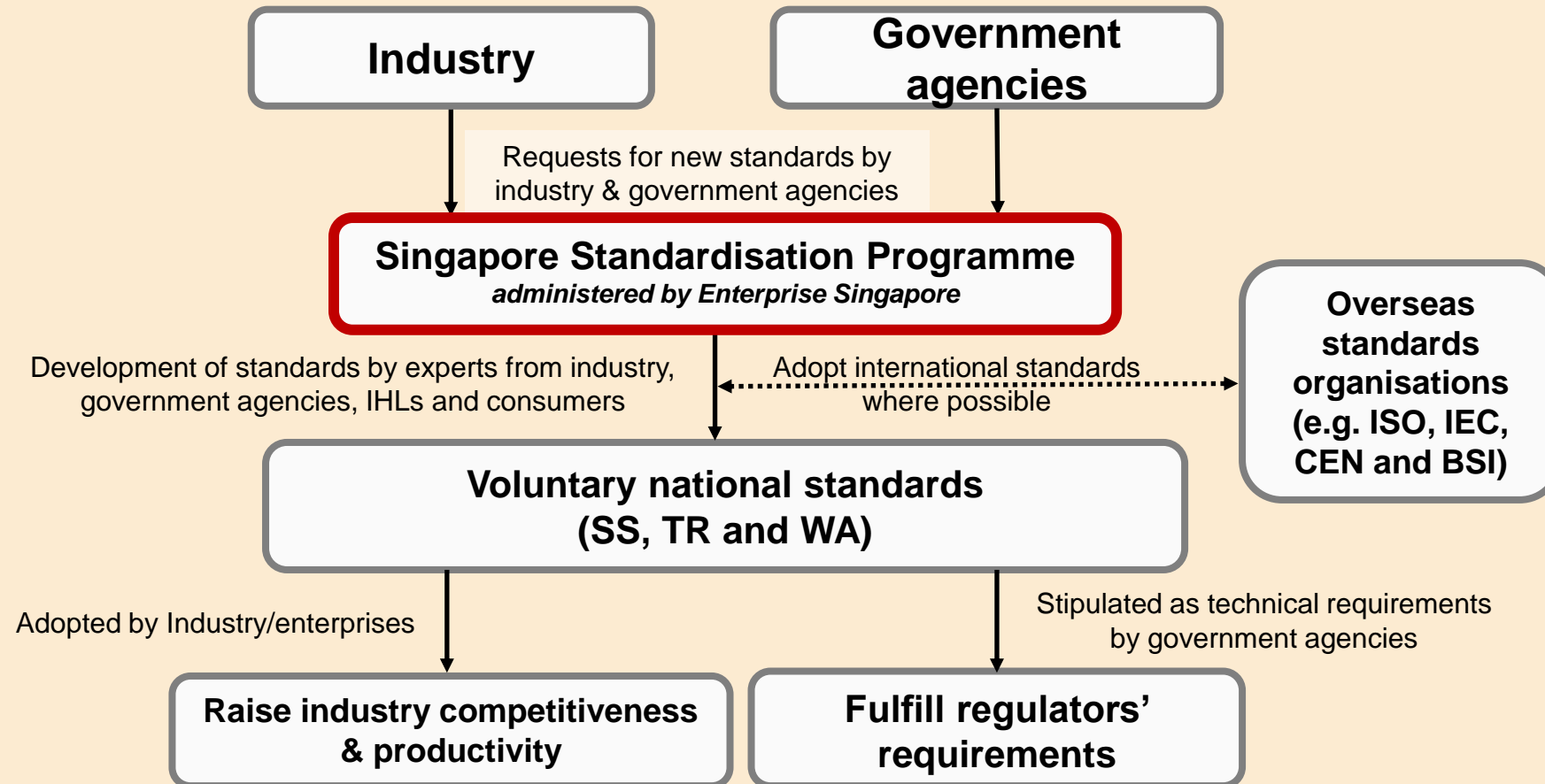
# Standardisation for Waste Management

Ms Melissa Tan  
Deputy Chair of Technical Committee for Circularity of Materials  
Convenor of National Mirror Committee on ISO/TC 297  
Convenor of ISO/TC 297 Working Group 1  
Chairperson, Waste Management and Recycling Association of Singapore

WSH Forum for Waste Management Industry 2023  
17<sup>th</sup> November 2023



# Standards development requires private and public partnership



National and international standards are developed based on the principles of *transparency, openness, impartiality, consensus, market relevance and coherence*

# Environment and Resources Standards Committee (ERSC) – As of Nov 2023



## ERSC Chair:

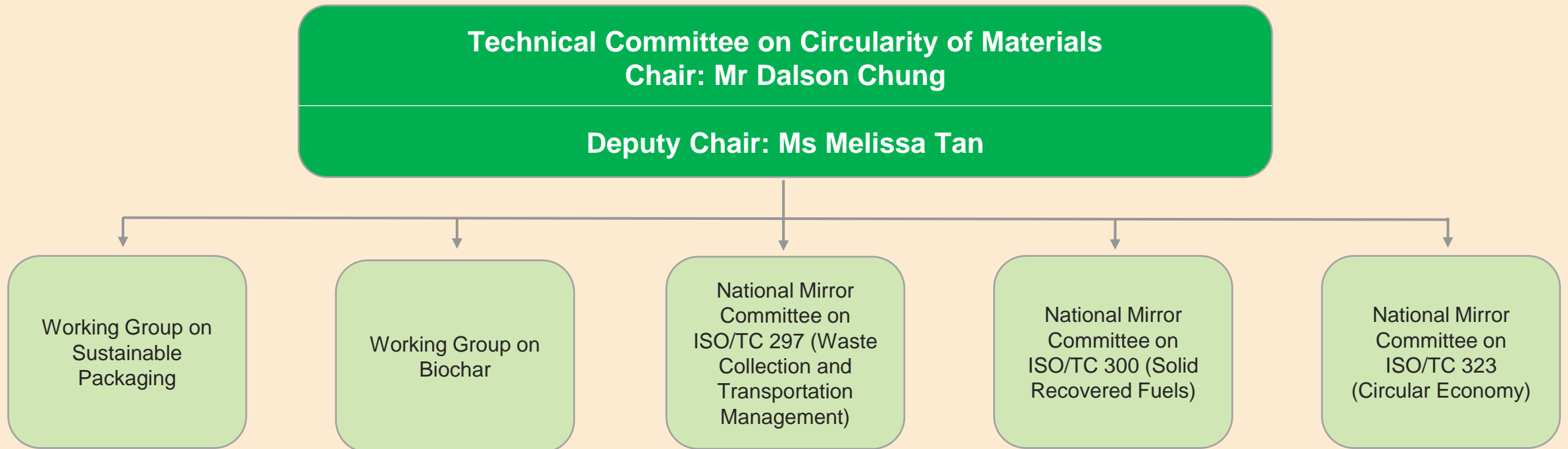
- Mr Wim Roels

## ERSC Deputy Chair:

- Mr Dalson Chung



# Technical Committee on Circularity of Materials – As of Nov 2023



# Overview of ISO/TC 297 Waste Collection and Transportation Management



## Scope of ISO/TC 297

- Standardisation of machines, equipment and management systems for collection, temporary storage and transportation of solid and sanitary liquid waste and recyclables (valuables)

### Taking into particular account:

- Terminology;
- Technology
- Performance
- Quality
- Environmental aspects;
- Safety and ergonomic aspects
- Maintenance;
- Logistical aspects
- Data management and
- Service procedures

### Excluded are:

- Urban wastewater system
- Sludge recovery, treatment and disposal and also water-reuse as far as they are covered by ISO/TC 275 and ISO/TC 282
- General environmental management (e.g. ISO 14000) and road traffic safety management systems aspects (e.g. ISO 39001) are covered by ISO/TC 207 and ISO/TC 241
- Road Maintenance equipment are covered by ISO/TC 195/SC2
- Road vehicles are covered by ISO/TC 22

# 20

## Participating Countries

- Belgium
- China
- Denmark
- Egypt
- Ethiopia
- France
- Germany
- India
- Iran, Islamic Republic of
- Italy
- Japan
- Korea, Republic of
- Norway
- Pakistan
- Singapore
- Spain
- Sri Lanka
- Sweden
- United Arab Emirates
- United Kingdom

# 19

## Observing Countries

- Argentina
- Austria
- Boliva, Plurinational State of
- Bulgaria
- Cuba
- Czech Republic
- Finland
- Hungary
- Indonesia
- Israel
- Malaysia
- Mongolia
- Netherlands
- Philippines
- Poland
- Portugal
- Romania
- Russian Federation
- Thailand

# 3

## Working Groups

### Ad-Hoc Group 1

Research and investigation regarding post-consumer thermoplastics collection and transportation

### Working Group 1

Terminology

### Working Group 2

Waste collection and transportation vehicles



4  
Published  
ISO Standards

ISO/TS 24159:2022

Refuse collection vehicles – Safety of manual and read-loaded refuse collection vehicles

ISO 24160:2022

Refuse collection vehicles – Waste odour and leachate prevention and control

ISO 24161:2022

Waste collection and transportation management – Vocabulary

ISO 24162:2022

Test Method for energy consumption of refuse collection vehicles

1  
ISO Standard  
under development

ISO/CD 13155

Refuse collection vehicles – Terminology of main functional components & performance indicators

# ISO 24161

## **Waste collection and transportation management – Vocabulary**

**Led by Singapore**

# Development of ISO 24161



## ISO/TC 297/WG 1 Participating Members



# Purpose of ISO 24161

01

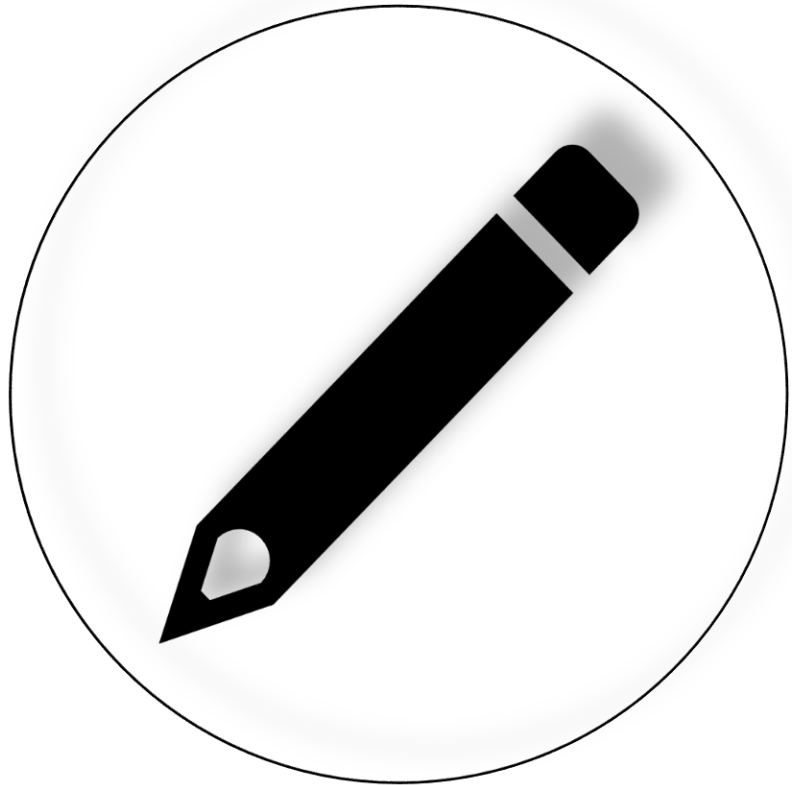
Enable user to understand the scope of work of ISO/TC 297 and is the source document for the terms and definition of ISO/TC 297



02

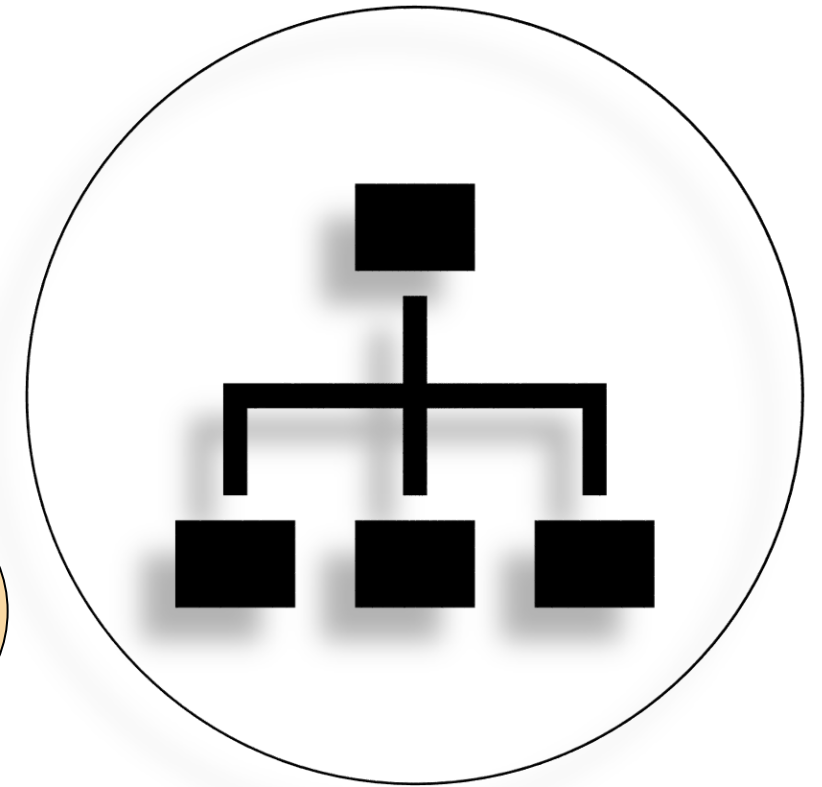
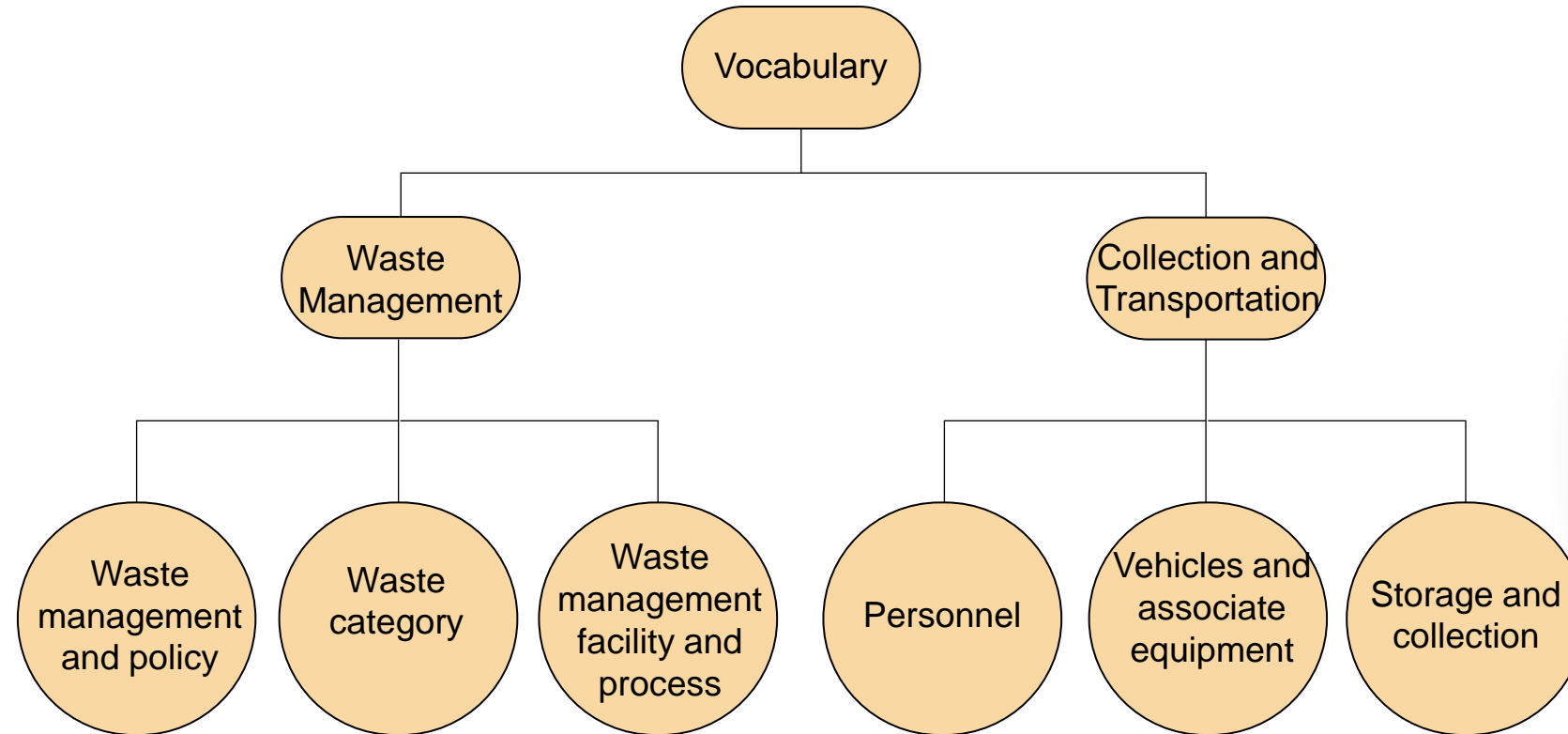
Harmonised terms and definitions will serve as a basis for a common language for regulations, standards, academia, research and training in the waste management industry

# Scope of ISO 24161



This document defines terms that are commonly used in the area of waste collection and transportation management. It aims to align with terminology used internationally

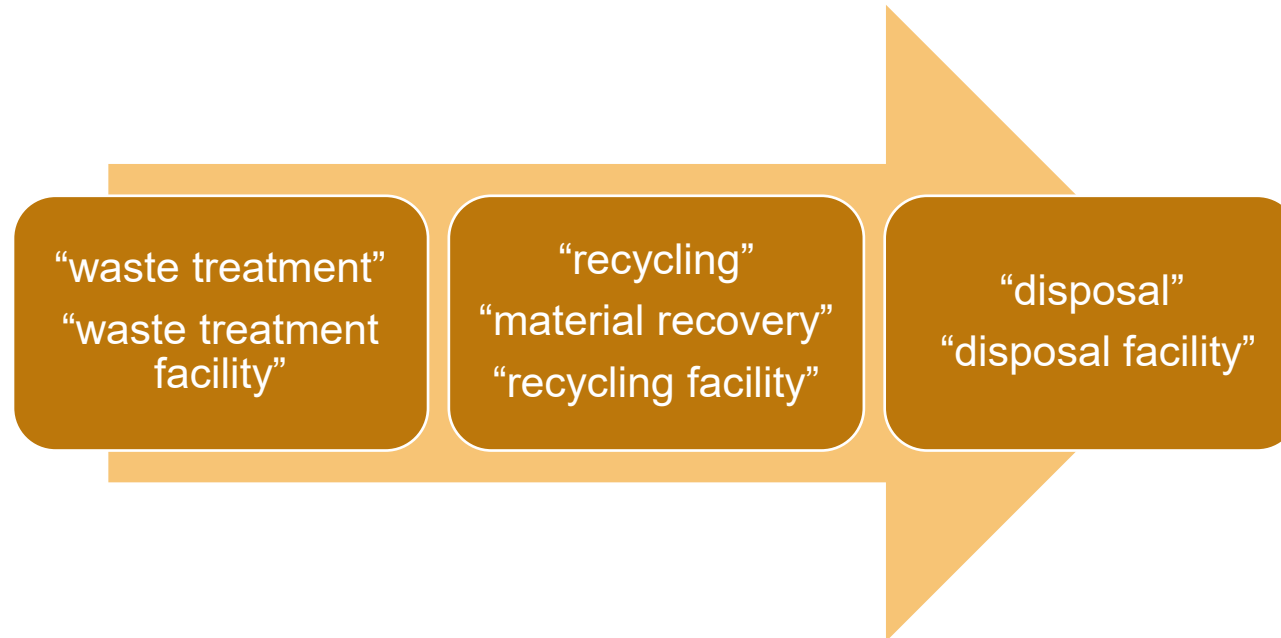
# Structure of ISO 24161





# Vocabularies of ISO 24161

- Taking into account the 3R concept (reduce, reuse, recycle)
- Examples of terms and definition for “Waste management” include:



# Vocabularies of ISO 24161

- Includes vocabularies complementary to standards under ISO/TC 297/WG 2 Waste collection and transport vehicles
- Examples of terms and definition for “Collection and transportation” include:
  - ✓ Refuse collection vehicle
  - ✓ Direct refuse collection
  - ✓ Indirect refuse collection
  - ✓ Hooklift loader, front loader, top loader

# Benefits of ISO 24161

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Minimise ambiguity



Minimise confusion



Minimise misunderstanding of terms used in the waste management industry

# Adoption of ISO 24161



Singapore is currently working towards adopting ISO 24161 as a Singapore Standard (Replacing SS 594)

CEN/TC 183 Waste management is identically adopting ISO 24161 as EN ISO standard

# ISO/CD 13155

**Refuse collection vehicles –  
Terminology of main functional  
components & performance indicators**

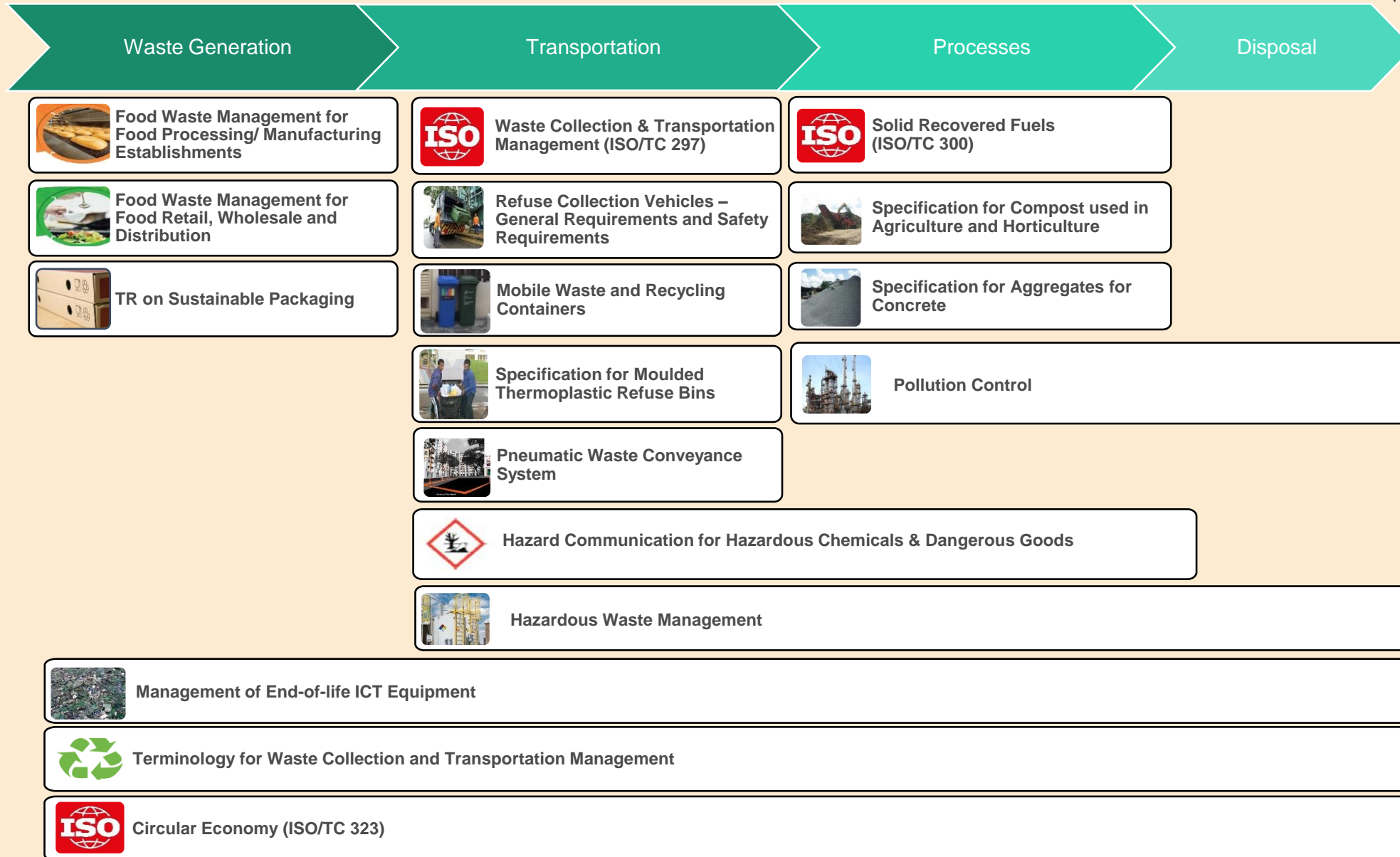
# ISO 13155

This standard defines terms and definitions of functional components and performance indicators that are commonly used in the area of RCV, as defined in ISO 24161.

It aims to align with the terminology that are used internationally



# Standards Supporting Waste Industry





# Thank You

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