

# REGIONAL TRAINING ON THE PRODUCTION AND USE OF WASTE AND CIRCULAR ECONOMY STATISTICS AND INDICATORS

## SESSION 3: MAIN CONCEPTS, TERMS, DEFINITIONS AND CLASSIFICATIONS USED IN WASTE STATISTICS

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## **MAIN CONCEPTS, TERMS AND DEFINITIONS**

**In this presentation (15') :**

- **What should be covered when establishing waste statistics?  
Conceptual framework and scope**
- **Main terms and definitions relevant for waste statistics and indicators**
  - What is meant by waste?
  - What is meant by municipal waste?
  - What is included in waste management?

# **CONCEPTUAL FRAMEWORK AND SCOPE OF WASTE STATISTICS**

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## WHAT SHOULD BE COVERED WHEN ESTABLISHING WASTE STATISTICS?

- **The scope of waste statistics varies among countries**
  - Depends on national policies and management practices
  - Depends on information needs, on national statistical capacity
- **No international standard ...**
- **... but a harmonised conceptual framework for official waste statistics (UNECE-CES)**



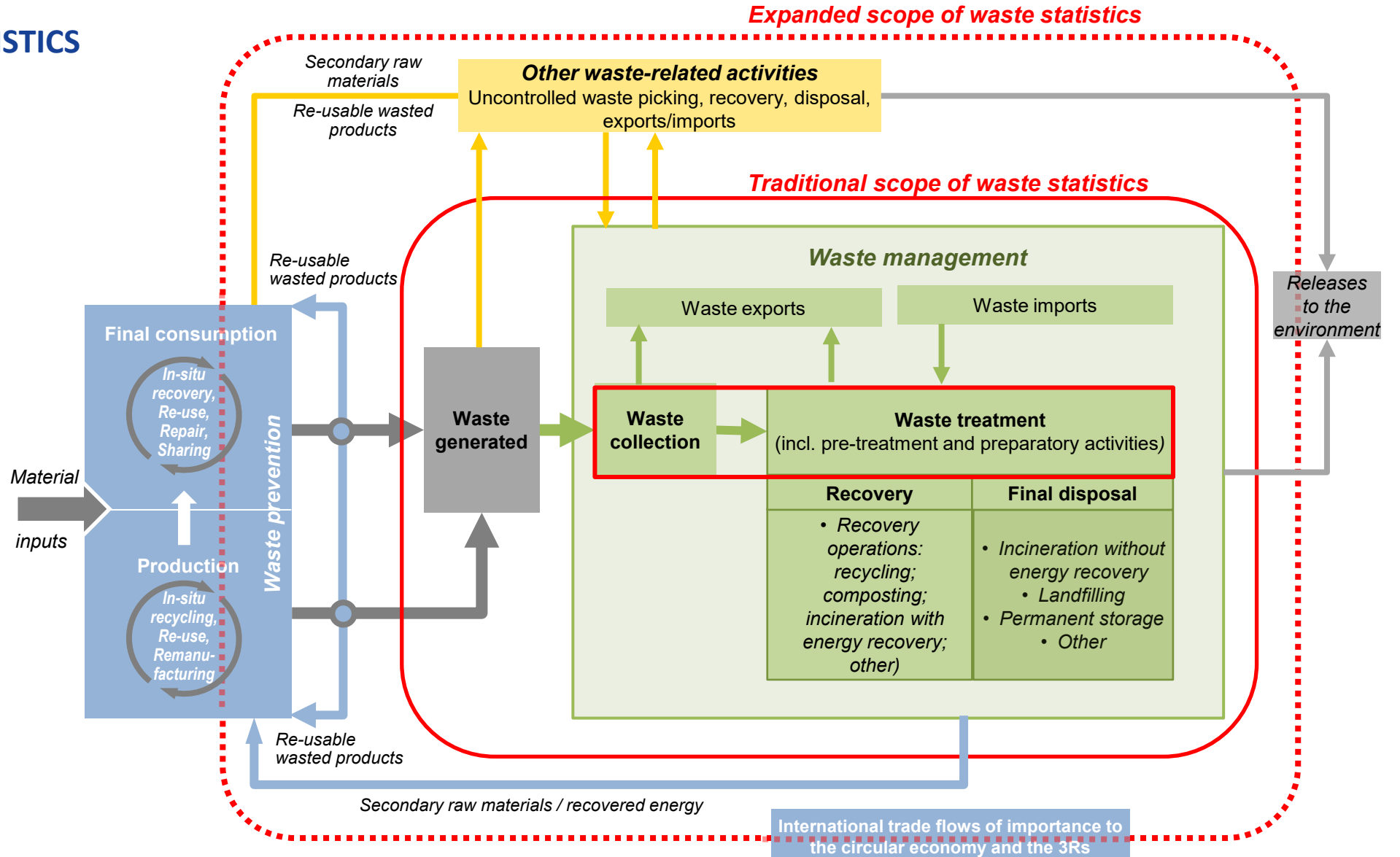
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## SCOPE OF WASTE STATISTICS

Scope of waste statistics depends on the waste issues and management practices in a country



CES Framework on Waste Statistics (with OECD, UNEP, Eurostat, UNSD)



Legend:

Controlled flows and activities:  
Waste management

Uncontrolled flows and activities:  
Other waste-related activities

# **MAIN TERMS AND DEFINITIONS**

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## MAIN TERMS AND DEFINITIONS

- **Terms and definitions vary among countries and sometimes within a country**
- **More than 40 years of harmonization efforts**
  - Driven by international environmental reporting activities and the development of international questionnaires and accounting frameworks
- **Terms and definitions used in international work are generally harmonized, though slight variations exist**
  - Have evolved over time to reflect developments in waste management practices and measurement methods
  - Have been adapted to cope with practical measurement issues (operational definition)
  - Are sometimes formulated differently but remain conceptually identical
  - Slight differences are not a problem as long as the data are well documented
  - But: even slight variations can be confusing for statisticians and lead to misuse of related indicators
  - Harmonising national data using international definitions remains challenging

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## MAIN TERMS AND DEFINITIONS - WHAT IS MEANT BY “WASTE”?

### • **Conceptual definition**

- Materials for which the generator has no further use for their own purpose of production, transformation or consumption, and which they discard, or intend or are required to discard. Note: It excludes material directly recycled at the place of generation and waste materials that are directly discharged into ambient water or air as wastewater or air pollution (UNECE CES framework)
  - Specification: Materials that are not prime products (i.e. products produced for the market) for which the generator has no further use (UNSD/UNEP; OECD/Eurostat; SEEA-CF)

### • **Where is the boundary between “waste” and “non-waste”?**

- Waste cease to be waste when
  - They have undergone a recovery operation and become a product or a secondary raw material and fulfill specific criteria and requirements (cf EU end-of-waste criteria), e.g. technical, legal, environmental, health requirements; existence of a market or demand

### • **Why is the term “solid waste” used?**

- Initially used to clarify the measurement scope by specifying the distinction between liquid residuals (e.g. wastewater, excluded from the definition) and solid residuals
- Term still used in the SDGs, in many countries; no longer used in Europe, OECD work, UNSD/UNEP questionnaire.



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## MAIN TERMS AND DEFINITIONS - WASTE GENERATION

- **Waste generation refers to the amount of waste generated before any collection or treatment**
  - Should cover all types of waste from all activities in the country
  - Related data can be broken down by origin or generator (households, businesses, ISIC), by type of waste (household, municipal, hazardous, ...)
- **Waste generation can be wrongly interpreted as equivalent to waste management**
  - It happens that a country reports the same value for “waste collected” and “waste generated”)

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## MAIN TERMS AND DEFINITIONS - MUNICIPAL WASTE

- **Pragmatic definition based on the type of collection**

- Initially a second-best solution for the purpose of international reporting
- Further developed and specified over time

- **Definition**

- Waste collected by or on behalf of municipalities, by public or private enterprises
- Includes - waste originating from: households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings)
- *Also includes* - bulky waste (e.g., white goods, old furniture, mattresses)  
- waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste),  
*if managed as waste.*
- Excludes: - waste from municipal sewage network and treatment  
- municipal construction and demolition waste

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## MAIN TERMS AND DEFINITIONS - MUNICIPAL WASTE – DATA SOURCES AND PROVIDERS

### • Data sources

- Local authorities, municipalities, cities, inter-municipal associations
- Public & private service providers and waste operators
- Ministries and their agencies; NSOs; other government agencies responsible for official data
- NGOs; community organisations; traders of recyclables: informal sector
- Trade statistics and notifications for transboundary movements: hazardous waste; waste destined for recovery operations
- International data sources

### • Measurement tools

- Surveys of local authorities and of waste generators: households, commercial units, institutions (schools, offices, etc.), enterprises, ...
- Surveys of waste operators (public and private)
- Waste sampling: composition

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## MAIN TERMS AND DEFINITIONS - MUNICIPAL WASTE – MEASUREMENT ISSUES (1)

- **The scope of data on amounts generated can vary**
  - When amounts measured are limited to waste collected (neglecting waste generated but not collected)
    - important difference for countries where the population served is low
    - amounts increase when the population served increases
  - When the amounts measured include or exclude certain type of waste collected by private companies, through EPR schemes, take-back schemes
  - When the amounts measured include or exclude certain types of waste (e.g. bulky waste; hazardous waste as defined by the Basel Convention)
  - When the coverage of non-household sources of municipal waste is incomplete
- **Data on amounts generated can change over time**
  - When the scope of the waste surveyed changes and when separate collection expands
  - When measurement methods for specific waste improve/evolve

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## MAIN TERMS AND DEFINITIONS - MUNICIPAL WASTE – MEASUREMENT ISSUES (2)

- The term “municipal waste” can be confused with household waste, residential waste and urban waste
- Question: Are “household waste” and “waste from households” the same?
  - Not necessarily, but the two terms are inter-related and in practice used as synonyms

- The term “household and similar waste” refers to the waste characteristics

- The term “waste from households” refers to the origin of the waste

“household and similar waste”: waste from households as well as other waste, which, because of its nature or composition, is similar to waste from households (OECD/Eurostat questionnaire)

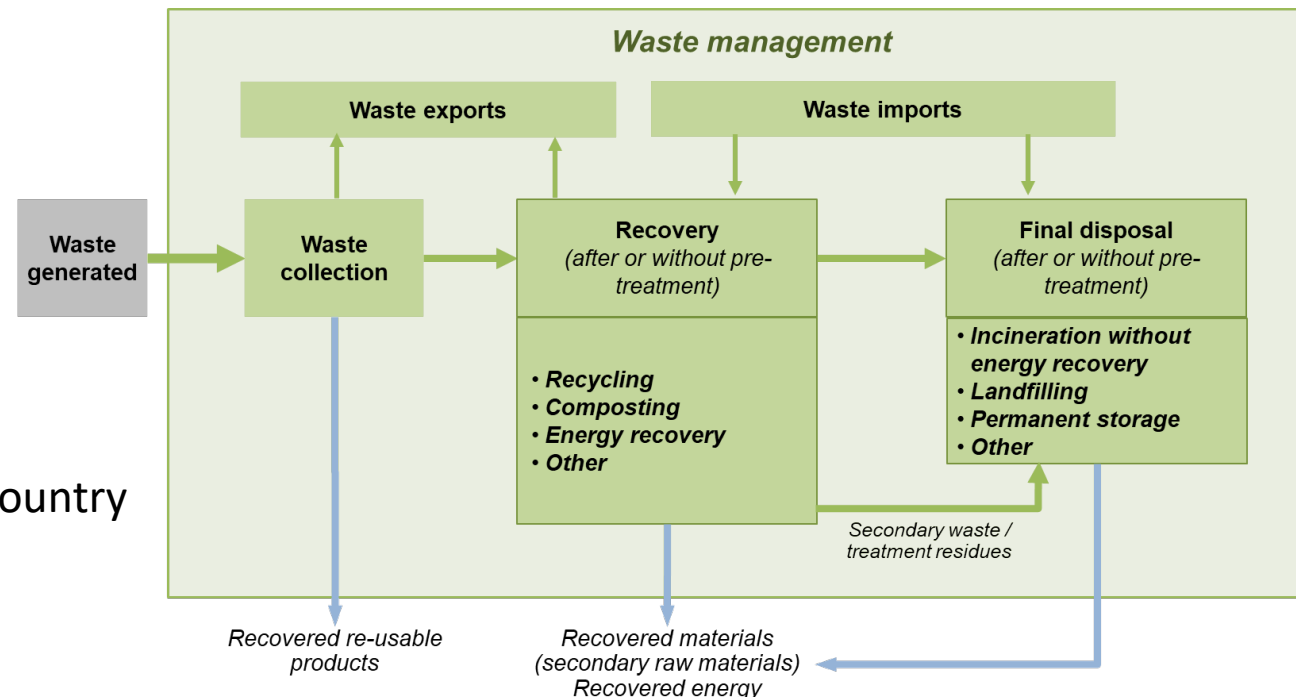
“waste from households”: waste material usually generated in the normal functioning of households (UNECE CES framework, UNSD/UNEP questionnaire)

## MAIN TERMS AND DEFINITIONS - WASTE MANAGEMENT – DEFINITION AND SCOPE

### • Waste management

- Set of lawful activities carried out by economic units of the formal sector, both public and private, for the purpose of the collection, transportation, and treatment of waste, including final disposal and after-care of disposal sites (UNECE CES framework based on UNSD/UNEP; OECD/Eurostat; EU FWD)
  - Specification (EU WFD): ‘waste management’ means the collection, transport, recovery (including sorting), and disposal of waste, *including the supervision of such operations* and the after-care of disposal sites, and *including actions taken as a dealer or broker*

- Refers to formal management
- Does not consider waste-related activities by the informal sector
- Waste managed in the country  
= Amount of waste collected in the country  
- amount exported for treatment  
+ amount imported for treatment



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## MAIN TERMS AND DEFINITIONS - WASTE MANAGEMENT – DEFINITION AND SCOPE

- **Waste treatment**

- Recovery and disposal operations, including pre-treatment & preparatory activities (UNECE, EU WFD)

- **Re-use**

- Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived (UNECE, EU, OECD)

- **Recovery**

- Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy (UNECE CES framework)
- Recovery operations: recycling; composting; incineration with energy recovery; other

- **Recycling**

- Any reprocessing of waste material in a production process that diverts it from the waste stream, except use as fuel. Both reprocessing for the same or different purposes should be included. Recycling at the place of generation should be excluded (UNECE CES framework)
- Not to be confused with recovery and re-use

- **Disposal**

- Any operation whose main purpose is not the recovery of materials or energy even if the operation has as a secondary consequence the reclamation of substances or energy [UNECE, EU WFD; UNHabitat-SDG].
- Disposal operations: Incineration w/o energy recovery, landfilling, permanent storage, other

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## **MAIN TERMS AND DEFINITIONS - FORMAL MANAGEMENT VERSUS INFORMAL ACTIVITIES**

- **Waste-related activities are carried out by formal and informal economic units, both public and private, and by generators for the purpose of prevention, collection, transportation, treatment and disposal of waste**
  - Many cities in developing and transitional countries have an active informal sector and micro-enterprise recycling, reuse and repair
- **Informal waste-related activities**
  - No internationally agreed definition
  - Refer to the collection, transportation, treatment and disposal of waste by the informal sector. Refer to uncontrolled activities that handle waste arising from production and consumption. Can be illegal.
  - SDG definition:
    - Informal waste management, recycling and recovery refers to waste management and recovery activities undertaken by individuals, economic units, or enterprises which are not sponsored, financed, recognised, supported, organised or acknowledged by the formal solid waste authorities, or which operate in violation of or in competition with formal authorities. Informal units are assumed to abide by local waste-related laws and regulations when it is in their interests to do so.
- **Accounting for informal activities is important to have a complete picture of waste issues in a country**



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## MAIN TERMS AND DEFINITIONS - WASTE MANAGEMENT - MEASUREMENT ISSUES

- **Data on amounts managed can vary**
  - Depending on the point where the amounts are measured
    - At the point of collection or at the point of delivery to a treatment facility
    - The data should measure amounts at the point of delivery, i.e. amounts received by the facility
  - Depending on the inclusion or exclusion of amounts managed in uncontrolled facilities
    - The data should include amounts managed in both controlled and uncontrolled facilities
  - Depending on how secondary waste are accounted for
    - Double counting can happen when secondary waste from a treatment operation (e.g. incineration residues; recovery losses/rejects) is delivered to a landfill; when waste delivered to a landfill is recovered and send to a recovery facility.
    - These amounts should be deducted to avoid double counting in total amounts managed.
  - Depending on whether imports and exports of waste are accounted for
    - The data should distinguish between waste of domestic origin and waste imported for treatment
    - Data on treated amounts should include amounts exported for treatment
- **Data on amounts managed can change over time**
  - When the scope of the waste surveyed and the measurement points change
  - When measurement methods for specific waste improve/evolve

## REGIONAL TRAINING ON THE PRODUCTION AND USE OF WASTE AND CIRCULAR ECONOMY STATISTICS AND INDICATORS

# Thank you !

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Assessment**

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