UNSD/UNEP Questionnaire on Environment Statistics – waste section

Sixth Meeting of the Expert Group on Environment Statistics

New York, United States of America

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Outline

- Introduction to UNSD/UNEP Questionnaire on Environment Statistics

- Waste section of the Questionnaire

- Variables collected for the first time in 2018

- Selected SDG indicators related to the waste section of the Questionnaire

Introduction

- Waste management is a key concern for the environment and the sustainable management of natural resources. The primary targets of waste management are:

  - Reducing toxicity and volume of waste generated in the different production and consumption processes;

  - Increasing the share of recovered waste materials;

  - Sound environmental management of waste for disposal

- The UNSD/United Nations Environment Programme Questionnaire on Environment Statistics is complemented by the OECD/Eurostat Joint Questionnaire on the State of the Environment – their member states. Close collaboration is maintained on conceptual issues, validation procedures and data validation.

- 2018 was the 9th collection round since 1999. Questionnaires were sent in September, 2018. Data dissemination is expected to be completed late 2019.

Purpose/Objective

- Purpose: To provide consistent data to draw reliable information and trends on:

    - the share of economic activities and households in the generation of waste;

    - the generation and treatment of hazardous waste;

    - the generation, collection, treatment and composition of municipal waste;

    - the generation and collection of electronic waste (e-waste).

- Objective: To provide internationally comparable statistics on environmental issues based on standard questionnaires and methodology.

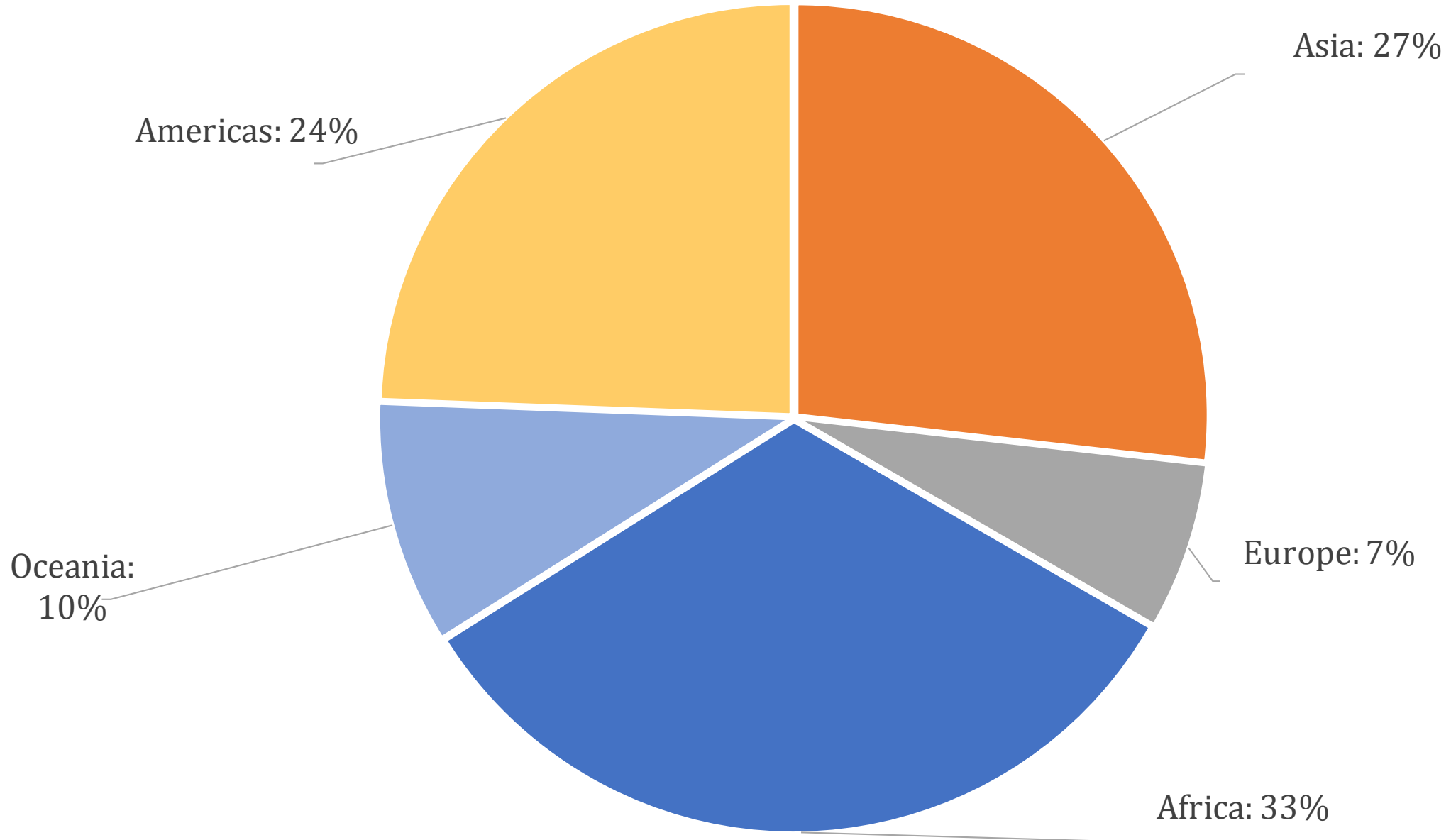# 2018 UNSD/UNEP Questionnaire Timeline

July 2018: Questionnaire announced to countries
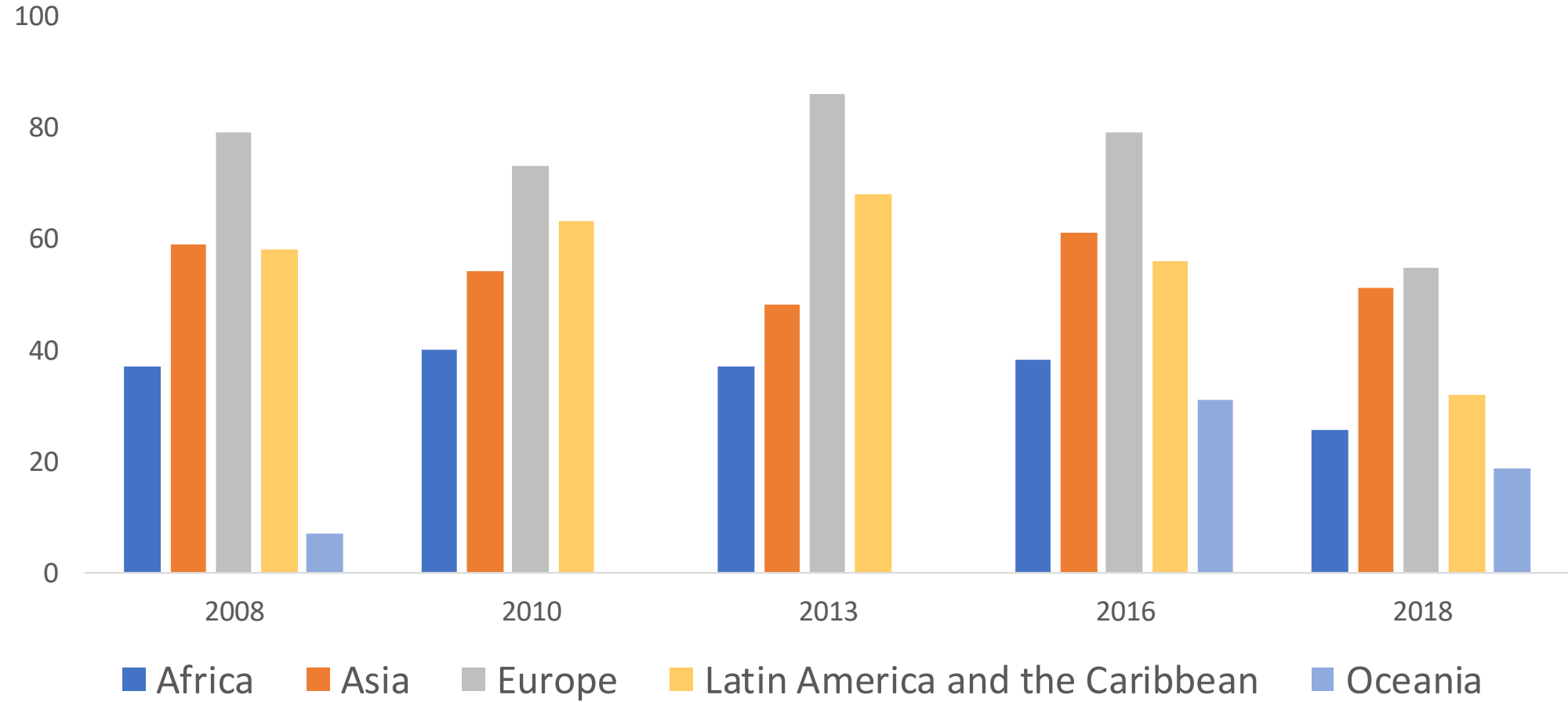
September 2018: Questionnaire sent to countries

October 2018: Responses commence arriving

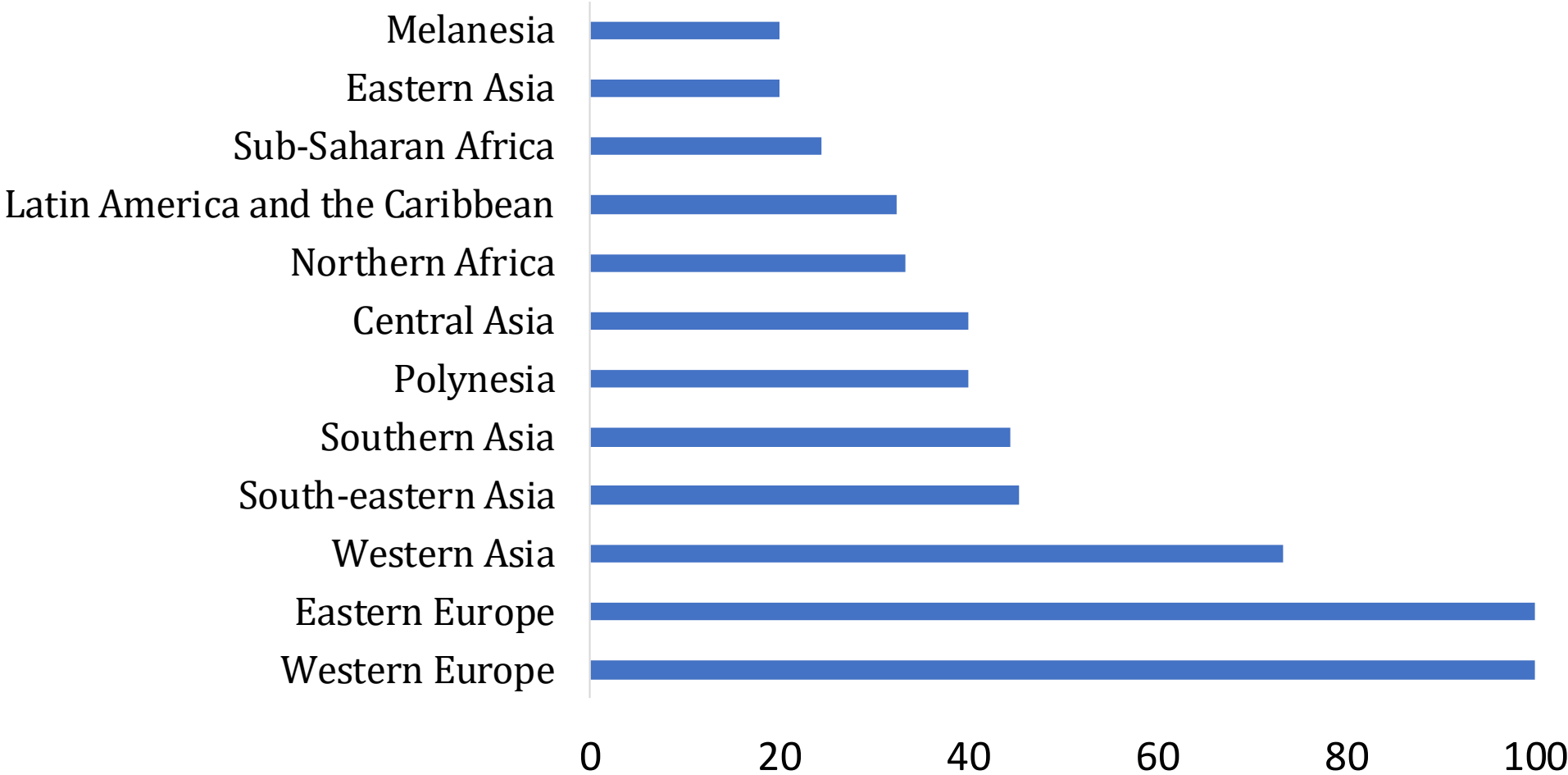Q4, 2018 to Q3, 2019: Validate responses and disseminate data

From which regions does UNSD collect data?

Asia: 27%

Europe: 7%

Africa: 33%

Oceania: 10%

Americas: 24%

% response rate by region from 2008 collection round and onward

# 2018 collection round % response rates by M49 sub-region

Scope

- 2016: N = 171

- 2018: N = 168 (… and now within Eurostat's scope)

- "Candidate countries" and "potential candidates" to the European Union typically move into Eurostat's collection

- Countries who ratify the convention of the OECD move into OECD's scope.

- Such countries have typically been responding to the UNSD/UNEP Questionnaire for several years which adds to UNSD's challenge to maintain response rates as high as possible. To date, we received 66 responses and we should expect a minimum of 80-90 responses upon completion.

UNSD/UNEP Waste Questionnaire

- Table R1: Generation of Waste by Source

- Table R2: Management of Hazardous Waste

- Table R3: Management of Municipal Waste
  - (Municipal waste generated variable added per SDG demand)

- Table R4: Composition of Municipal Waste

- Table R5: Management of Municipal Waste — City Data (new variable being added)
  - (Municipal waste generated variable being added per SDG demand)

- Table R6: Electronic waste generation and collection
  - (Completely NEW in 2018)

- Table R7: Supplementary Information Sheet

Table R1: Generation of Waste by Source
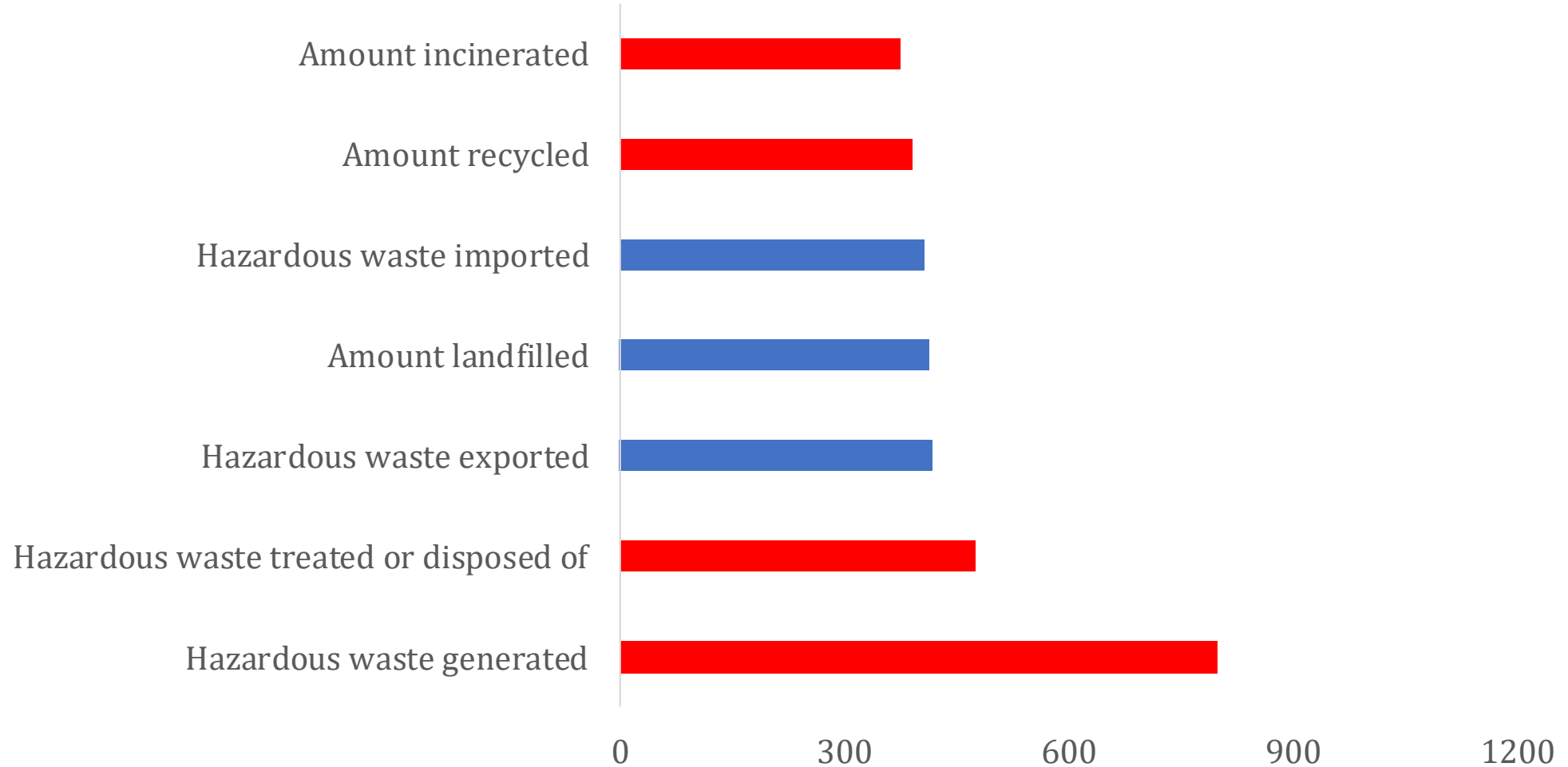## (number of records per variable in UNSD database)
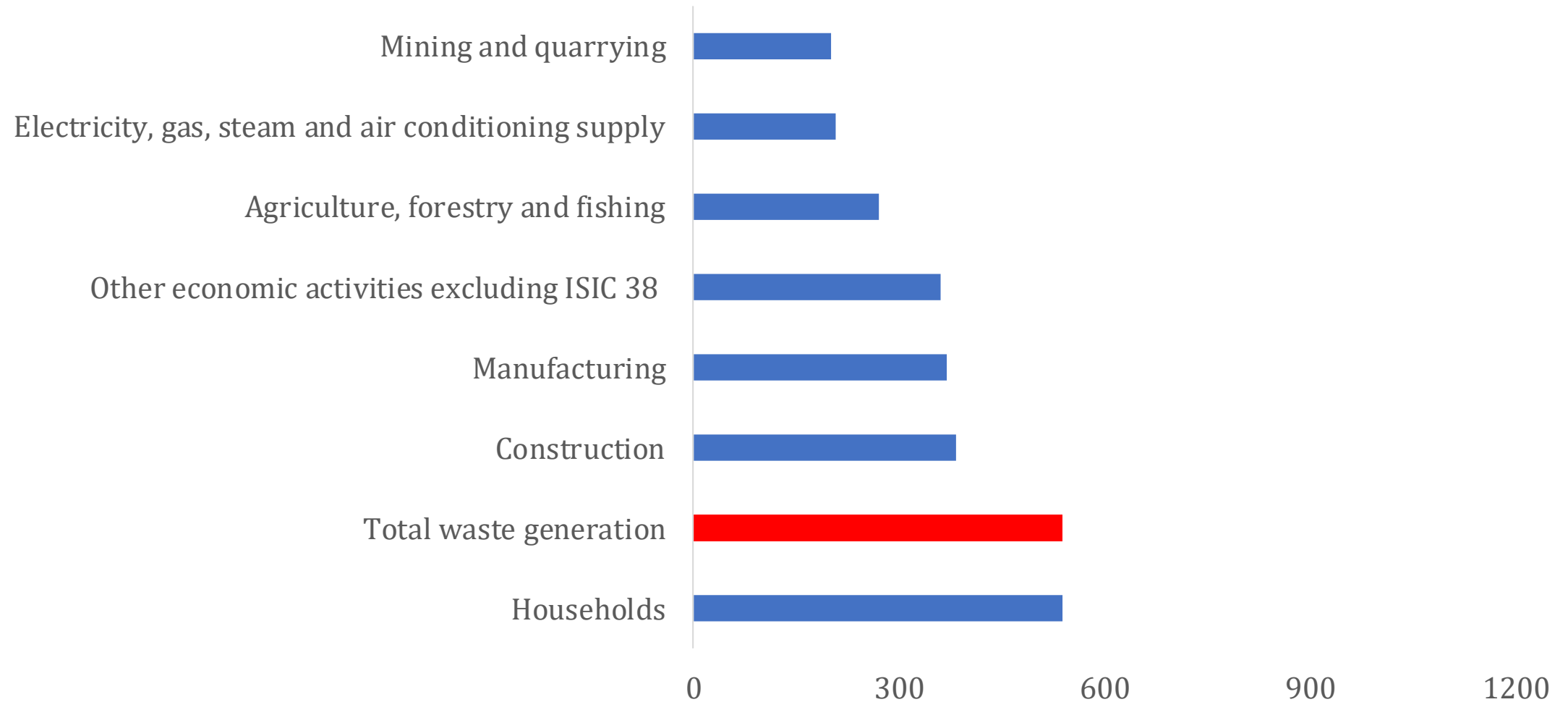
= variable relevant to SDG indicator 12.5.1

Source = source industry per International Standard Industrial Classification of All Economic Activities (ISIC)

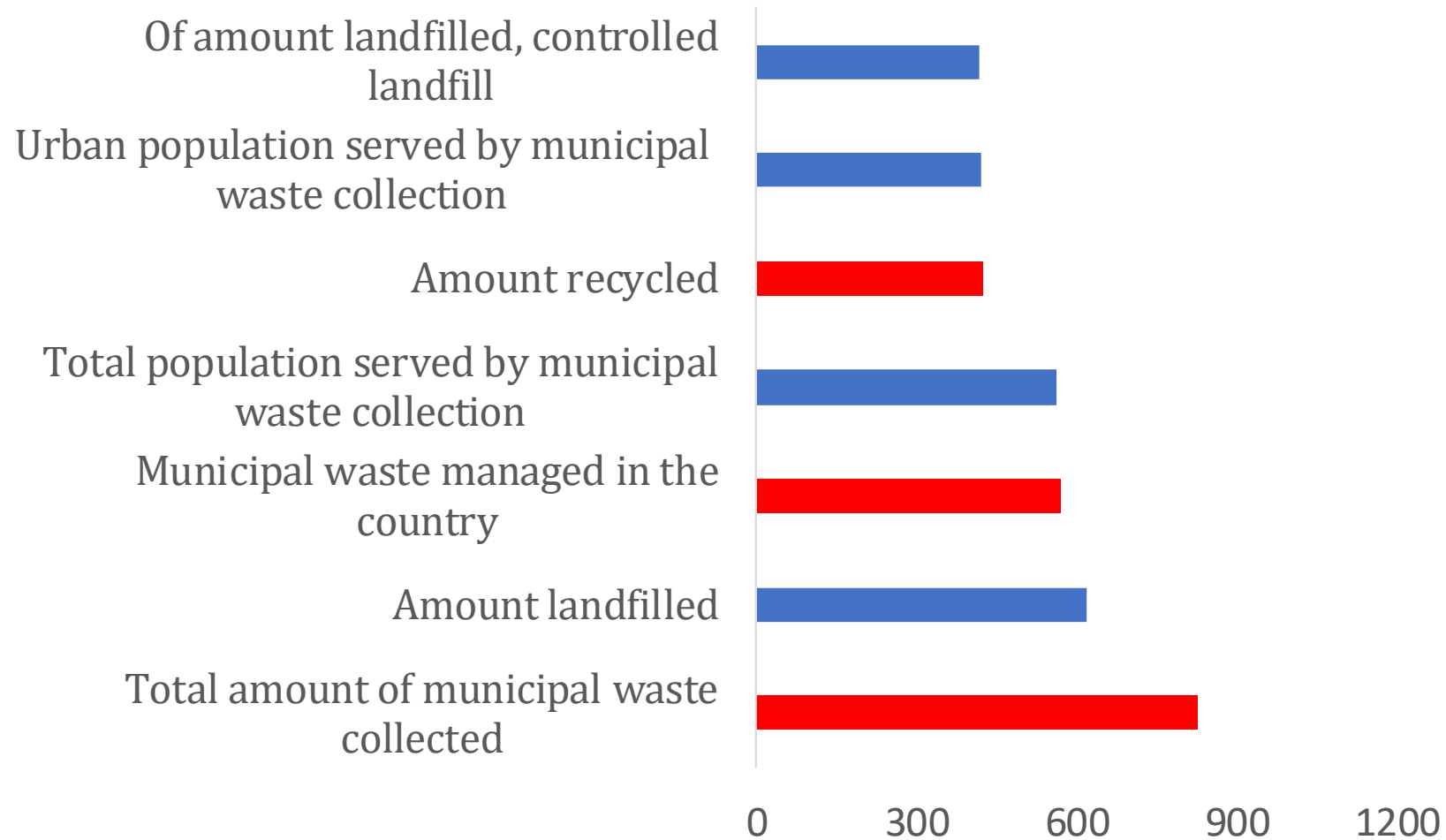# Table R2: Management of Hazardous Waste
(number of records per variable in UNSD database)

= variable relevant to an SDG indicator 12.4.2

Table R3: Management of Municipal Waste
(number of records per variable in UNSD database)

= variable relevant to an SDG indicator 12.5.1

Table R4: Composition of Municipal Waste
(number of records per variable in UNSD database)
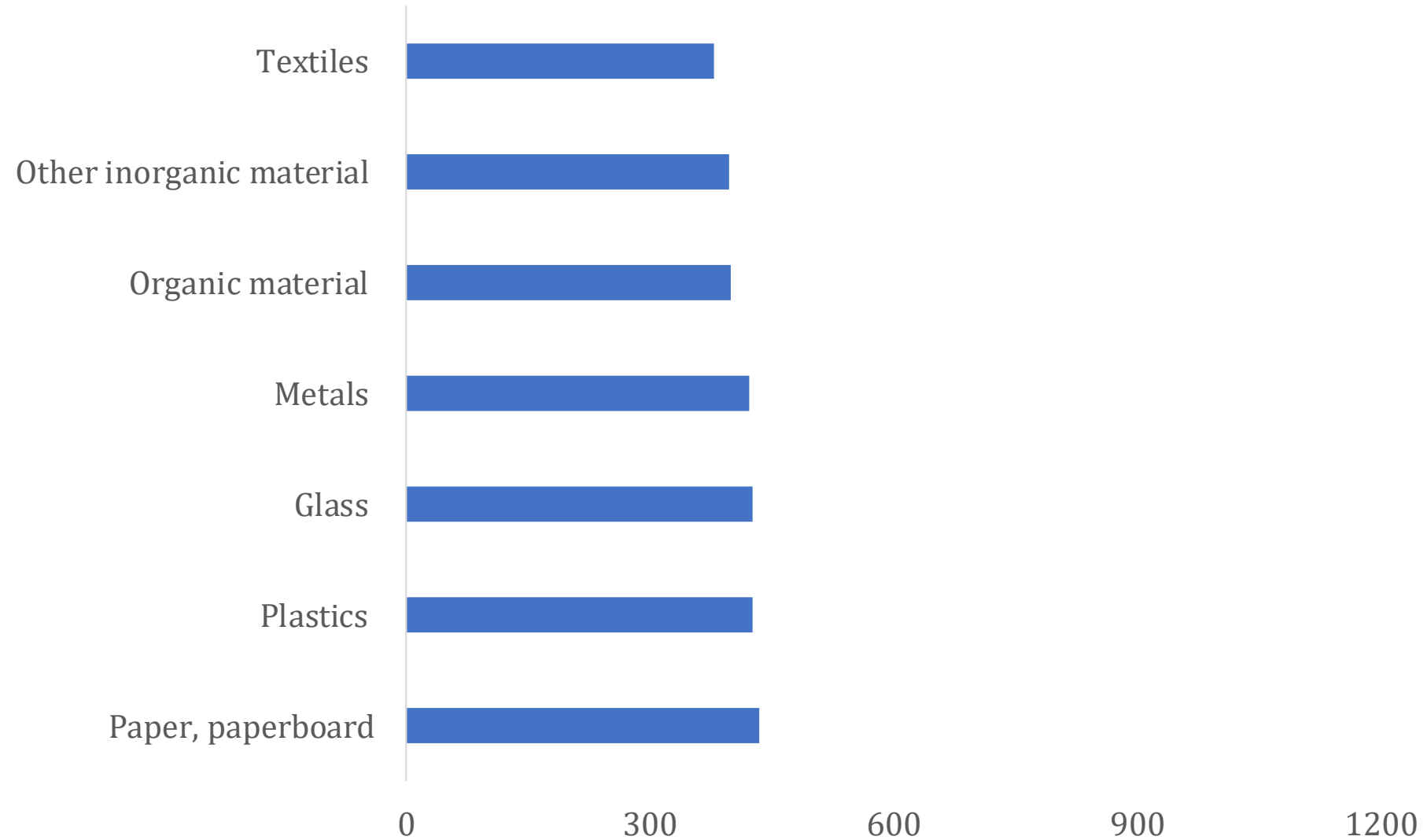
Table R5: Management of Municipal Waste — City Data
(number of records per variable in UNSD database)

Variable	
Amount incinerated with energy recovery	~320
Amount composted	~420
Amount recycled	~470
Of amount landfilled, controlled landfill	~660
Municipal waste collected from households	~910
Amount landfilled	~980
Total amount of municipal waste collected	~1280

Horizontal axis: 0, 300, 600, 900, 1200
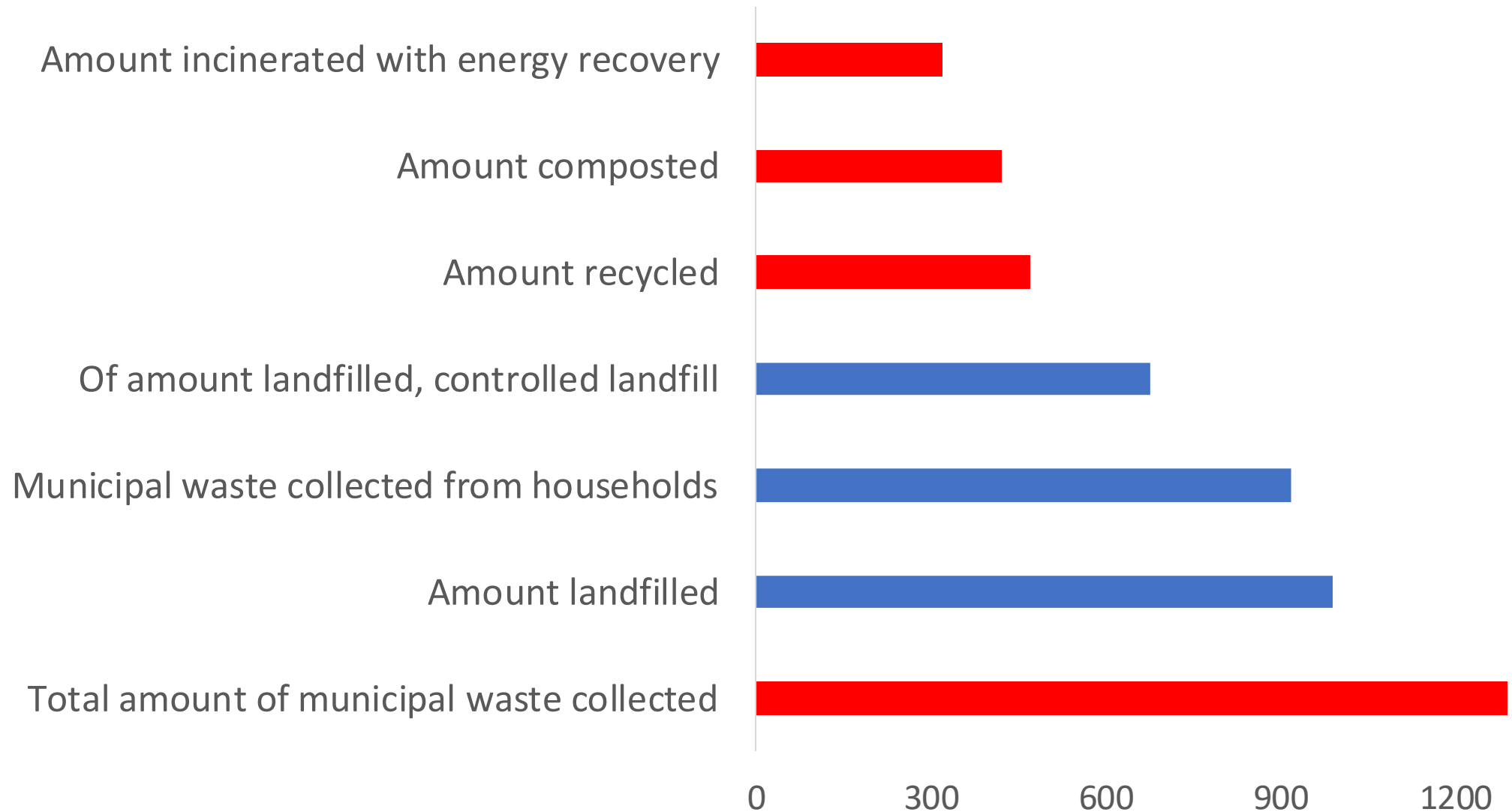
🟥 = variable relevant to an SDG indicator 11.6.1

Variables collected for the first time in 2018

There are four:

- Total amount of municipal waste generated (R3)

- Total amount of municipal waste generated (city level) (R5)

- Total e-waste generated (R6)

- Total e-waste collected (R6)

Total amount of municipal waste generated

(national and city levels)

- …is defined as: "…the sum of the amount of municipal waste collected **plus the estimated amount of municipal waste from areas not served by a municipal waste collection service**."

- Not to be confused with the definition of "municipal waste collected", which is: "Municipal waste collected by or on behalf of municipalities, as well as municipal waste collected by the private sector. It includes mixed waste, and fractions collected separately for recovery operations (through door-to-door collection and/or through voluntary deposits)."

- However, per questionnaire responses received, these two definitions probably are being confused.

- "MW generated" requires application of an estimation method.

Total amount of municipal waste generated

(national and city levels)

- "MW collected" may be conventionally sourced from (an aggregation of) waste treatment plant(s).

- "MW collected" typically covers whole of population in developed countries. This is often not so in developing countries where waste collection may be restricted to urban areas.

- Therefore, there is perhaps a stronger demand for collecting "municipal waste generated" in developing countries.

- To help in this regard, UNSD/UNEP Questionnaire does request for % of (i) total, (ii) urban and (iii) rural population served by municipal waste collection.

Credit to Sarah Miet of OECD and Karin Blumenthal of Eurostat, both of whom contributed to ideas and substance concerning the issue of municipal waste collected/generated.

Hypothetical example of distinction between municipal waste collected and municipal waste generated

= municipal waste collected

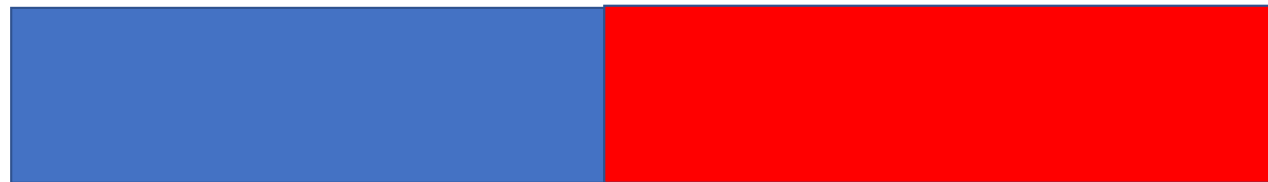= distinction between MW collected and MW generated

+ = municipal waste generated

Case of a country with a very high % of population served by municipal waste collection

Case of a country with a moderate % of population served by municipal waste collection

Total e-waste generated and collected

- E-waste defined as: "Electronic waste, or e-waste, refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use." This definition agrees with that used by key stakeholders, United Nations University and the International Solid Waste Association.

- Following a pilot data collection on e-waste conducted by UNSD in 2017 which included some 16 variables, only two variables were selected for inclusion in the regular data collection (mostly because of data availability and user demand).

Results of pilot: https://unstats.un.org/unsd/environment/FDES/EGES5/Session%202_6UNSD%20Ewaste%20pilot%20testing.pdf

Total e-waste generated and collected

- These are brand new time series, so cross-checking against other sources is important, especially to ensure order of magnitude of data is accurate.

- Therefore, UNSD is cross-checking against the Global Statistics E-waste Statistics Partnership's country sheets (International Telecommunication Union, United Nations University and the International Solid Waste Association) which have estimates for total e-waste <u>generated</u>.

- Whenever data are received for these two variables, UNSD is specifically asking for footnote explanations on (i) source; (ii) content of e-waste (e.g. large equipment; screens, monitors and equipment containing screens; temperature exchange equipment); (iii) scope of coverage (e.g. whole country, specific provinces/cities only

Observations on (unvalidated) e-waste data collected so far in 2018

- Seven countries have provided data on e-waste generated.

- 15 countries have provided data on e-waste collected.

- In all cases, country data is significantly less than estimates for e-waste generated by Global E-waste Statistics Partnership. This is a concern for UNSD's e-waste generated data. Not so much of a concern for e-waste collected.

- Possible explanations lie in footnotes provided by countries:
  - "…records of e-waste surrendered by government agencies… does not include e-waste collected by households/scrap dealers/businesses."
  - "Waste electrical and electronic equipment (WEEE) from households, and of commercial, industrial, institutional and other origins which, because of their nature, are similar to households."
  - "Scrap non-ferrous metals household electronic equipment."

- One country asked why UNSD is not requesting breakdowns of e-waste content (e.g. large equipment, temperature exchange equipment, etc.)

Selected SDG indicators related to the UNSD/UNEP Questionnaire on Environment Statistics (waste section) – indicators 11.6.1, 12.4.2, 12.5.1
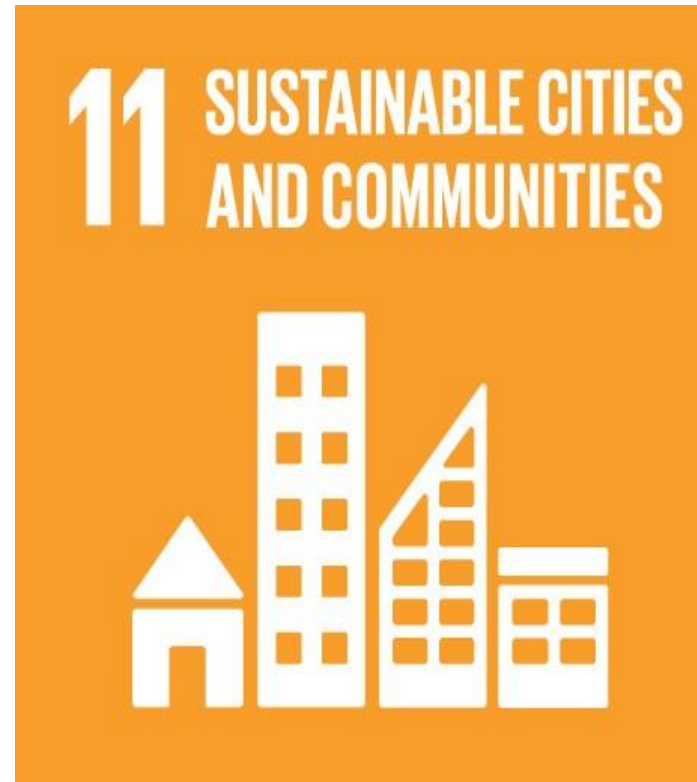

United Nations Statistics Division (UNSD) and United Nations Environment Programme (UNEP)
QUESTIONNAIRE 2018 ON ENVIRONMENT STATISTICS

Section: WASTE

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Table R5	Management of Municipal Waste — City Data
Table R6	Electronic waste generation and collection
Table R7	Supplementary Information Sheet

IAEG-SDGs tier classification for global SDG indicators (updated 4 Apr 2019): https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/

Indicator 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities (tier II)

- Custodian Agencies: UN-Habitat and UNSD; partner agencies: UN Environment

- Available metadata are here: https://unstats.un.org/sdgs/metadata/files/Metadata-11-06-01.pdf

- Using the four variables, a prospective estimate of the indicator can be derived.

- Adequate final discharge: Recycling, composting and incineration with energy recovery.

Table R5, line:	Category	Unit
1	**Total amount of municipal waste generated (NEW!)**	1000 t
6	Recycling	
7	Composting	
9	Incineration with energy recovery	

Indicator = (Lines 6 + 7 + 9)/Line 5

Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment (tier III)

- Custodian Agencies: UN Environment (more specifically the BRS Secretariat) and UNSD; partner agencies: OECD and Eurostat

- Work plan available here: https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-04-02.pdf which references the UNSD/UNEP Questionnaire and OECD/Eurostat data collections

- Both data from international data collections and the national reports under the Basel Convention should be viewed as complementary and are used for quality checks.

Indicator = Line 2/Population	Indicator = Line 6/Line 2	Indicator = Line 7/Line 2

Table R2, line:	Category	Unit
2	Hazardous waste generated during the year	tonnes
5	Hazardous waste treated or disposed of during the year	
6	Recycling	
7	Incineration	

Indicator 12.5.1: National recycling rate, tons of material recycled (tier III)

- Custodian Agencies: UN Environment and UNSD; partner agencies: OECD and Eurostat

- Work plan available here: https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-05-01.pdf which references the UNSD/UNEP Questionnaire and OECD/Eurostat data collections

- Difficult to have a statistics representing all waste, and other types of waste (hazardous waste) already monitored by other indicators => use of municipal waste as a proxy.

Table R3, line:	Category	Unit
1	Total amount of municipal waste generated **(NEW!)**	1000 t
7	Municipal waste managed in the country	
8	Recycling	

Indicator = Line 8/Line 7; or

Indicator = Line 8/Line 1

Questions for discussion...

- What have countries' experiences been in compiling "municipal waste generated" data, as opposed to "municipal waste collected" data?

- What methodology can countries share regarding estimating waste generated by people or households which are not served by a municipal waste collection service?

- What are the main impediments to collecting data on e-waste?

- How are countries establishing regular data dissemination of e-waste data?

- What issues are countries facing in data aggregation from city to national level?