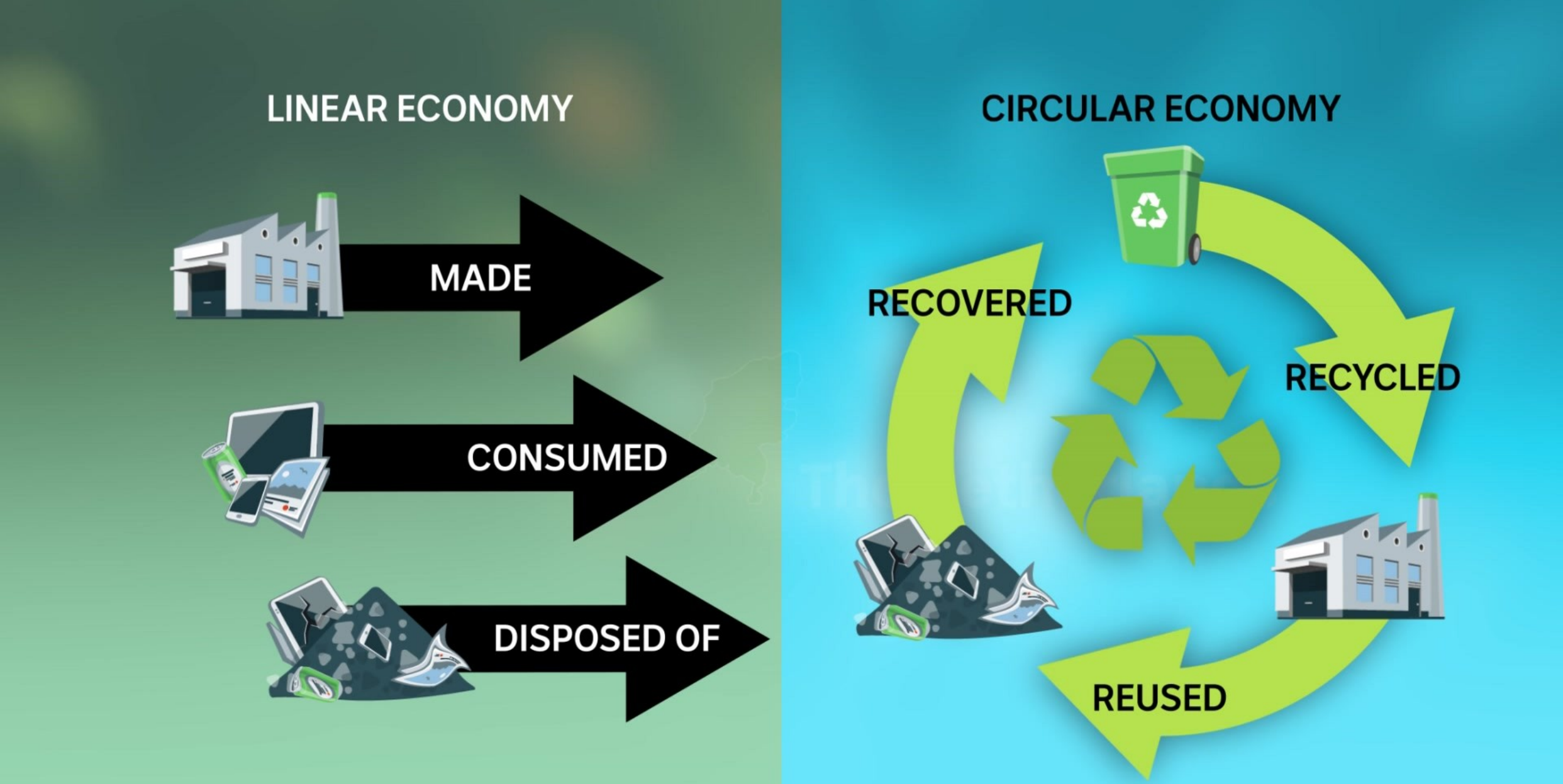
Source: https://www.abc.net.au/news/2024-07-21/bega-circular-economy-renewable-target-sustainable-waste/104108834

UNSD/UNEP Questionnaire on Environment Statistics (waste), and Western Africa trends and data gaps

Prepared for: Western Africa Workshop on Waste Management and the Circular Economy: Bridging data gaps, enhancing technical capacity, and facilitating **evidence-based** policymaking to accelerate the Sustainable Development Goals

26-28 August 2025

Environment Statistics Section,
United Nations Statistics Division (UNSD)

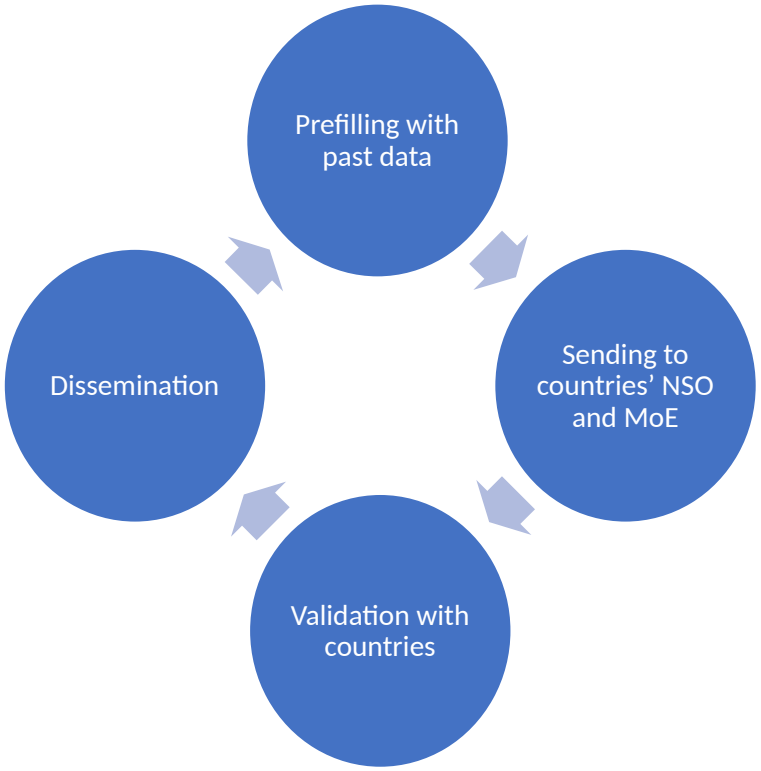


Source: https://www.abc.net.au/news/2024-07-21/bega-circular-economy-renewable-target-sustainable-waste/104108834

Outline

1. History and context of the UNSD/UNEP Questionnaire on Environment Statistics
2. Analysis of East African country responses
3. User attention on the Questionnaire demonstrating why country-owned data are much preferred
4. Changes in the UNSD/UNEP Questionnaire on Environment Statistics – 2024, for food waste
5. General comments on the UNSD/UNEP Questionnaire on Environment Statistics and links to circular economy analysis

1. UNSD/UNEP Questionnaire on Environment Statistics



- Since 1999, UNSD has completed 11 data collections on water and waste data (usually biennially) from about 160-170 UN member states. Mandated by Statistical Commission 28th session (1995); reinforced at 34th session (2003) **and 56th session (2025)**.
- Questionnaires are sent to National Statistical Offices and Ministries of Environment.
- Questionnaires are not sent to Eurostat and OECD members and candidate members. 170+ member states in previous years; about 163 member states in the 2024 collection cycle.
- Response rate typically hovers around 50% (2018: 52%; 2020: 46%; 2022: 48%).
- Emphasis is on **country-owned data** (that's what stakeholders value most). No imputation, no estimation.
- The current data collection (2024) is the 12th one. Questionnaires were sent to countries in October 2024. To date, 66 responses.

UNSD/UNEP Questionnaire on Environment Statistics: disseminated outputs

- **UNSD environmental indicators**: https://unstats.un.org/unsd/envstats/qindicators Time series, or most recently available data for selected variables provided by countries. Disseminated after completion of collection cycle. **Includes side-by-side analysis of UNSD/UNEP and Joint OECD/Eurostat respondent countries.**
- **Country files**: https://unstats.un.org/unsd/envstats/country_files Individual country data on water and waste. Disseminated periodically during collection cycle. Demand from key users to view Country files as soon as possible.
- **Country snapshots**: https://unstats.un.org/unsd/envstats/snapshots/ Individual country data spanning many environmental themes.
- **Tailored queries**: Per solicitation from key users (often World Health Organization, UN Environment Programme, UN-HABITAT, UN Institute for Training and Research, academia).
- **United Nations Sustainable Development Goals Database**: https://unstats.un.org/sdgs/dataportal Country data sourced from the Questionnaire published alongside country data from other sources.
- **UNdata**: https://data.un.org/Default.aspx Web-based data service for the global user community.

UNSD

United Nations Statistics Division (UNSD) and United Nations Environment Programme

QUESTIONNAIRE 2024 ON ENVIRONMENT STATISTICS

Section: WASTE

TABLE OF CONTENTS

Guidance	Introduction, Steps to Follow, Description of Tables
Definitions	List of Definitions
Table R1	Generation of Waste by Source
Table R2	Management of Hazardous Waste
Table R3	Management of Municipal Waste
Table R4	Composition of Municipal Waste
Table R5	Management of Municipal Waste — City Data
Table R6	Electronic Waste Generation and Collection
Table R7	**Food Waste Generation**
Table R8	Supplementary Information Sheet

Country:

Table R1: Generation of Waste by Source

Line	Category	Unit
1	Agriculture, forestry and fishing (ISIC 01-03)	1000 t
2	Mining and quarrying (ISIC 05-09)	1000 t
3	Manufacturing (ISIC 10-33)	1000 t
4	Electricity, gas, steam and air conditioning supply (ISIC 35)	1000 t
5	Construction (ISIC 41-43)	1000 t
6	Other economic activities excluding ISIC 38	1000 t
7	Households	1000 t
8	**Total waste generation (=1+2+3+4+5+6+7)**	1000 t

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator **12.5.1**: **National recycling rate, tons of material recycled.**
- Custodian agencies: UNEP, UNSD
- Metadata [link]
- Application of the International Standard Industrial Classification (ISIC) to trace generation of waste to economic activity.

Country:

Table R2: Management of Hazardous Waste

Line	Category	Unit	2021	
1	Stock of hazardous waste at the beginning of the year	tonnes		
2	Hazardous waste generated during the year			
3	Hazardous waste imported during the year			
4	Hazardous waste exported during the year			
5	**Hazardous waste treated or disposed of during the year (=6+7+9+10)**			
6	*Amounts going to:* Recycling			
7	Incineration			
8	*of which:* with energy recovery			
9	Landfilling			
10	Other, please specify in the footnote			
11	Stock of hazardous waste at the end of the year (=1+2+3-4-5)			

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator **12.4.2**: **Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment**
- Custodian agencies: UNEP, UNSD
- Metadata [link]
- Relevant to the Basel Convention

Table R3: Management of Municipal Waste

Line	Category	Unit	2021	
1	Total amount of municipal waste generated	1000 t		
2	Municipal waste collected from households			
3	Municipal waste collected from other origins			
4	**Total amount of municipal waste collected (=2+3)**			
5	Municipal waste imported for treatment/disposal			
6	Municipal waste exported for treatment/disposal			
7	**Municipal waste managed in the country (=4+5-6)**			
8	*Amounts going to:* Recycling			
9	Composting			
10	Incineration			
11	*of which:* with energy recovery			
12	Landfilling			
13	*of which:* controlled landfilling			
14	Other, please specify in the footnote			

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator **12.5.1**: **National recycling rate, tons of material recycled.**
- Custodian agencies: UNEP, UNSD
- Metadata [link]

Section: WASTE

Country:

Table R4: Composition of Municipal Waste **Cuadro R4: Composición de desechos municipales**

Line	Category	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	Paper, paperboard	%									
2	Textiles	%									
3	Plastics	%									
4	Glass	%									
5	Metals	%									
6	Other inorganic material	%									
7	Organic material	%									
8	*of which* : food waste and garden waste	%									
9	TOTAL	%	100	100	100	100	100	100	100	100	100

- Municipal waste is composed of a mix of different materials. The table asks for the percentages of the mass of the main material groups in mixed municipal waste.

Country:

City name:

Table R5: Management of Municipal Waste — City Data

Line	Category	Unit	2021
1	Total population of the city	1000 inh.	
2	**Total amount of municipal waste generated**	1000 t	
3	Percentage of city population served by municipal waste collection	%	
4	Municipal waste collected from households	1000 t	
5	Municipal waste collected from other origins		
6	**Total amount of municipal waste collected (=4+5)**		
7	***Amounts going to:*** **Recycling**		
8	**Composting**		
9	**Incineration**		
10	***of which:*** **with energy recovery**		
11	**Landfilling**		
12	***of which:*** **controlled landfilling**		
13	**Other, please specify in the footnote**		

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator **11.6.1**: **Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by cities**
- Custodian agencies: UN-HABITAT, UNSD
- Metadata [link]

Country:

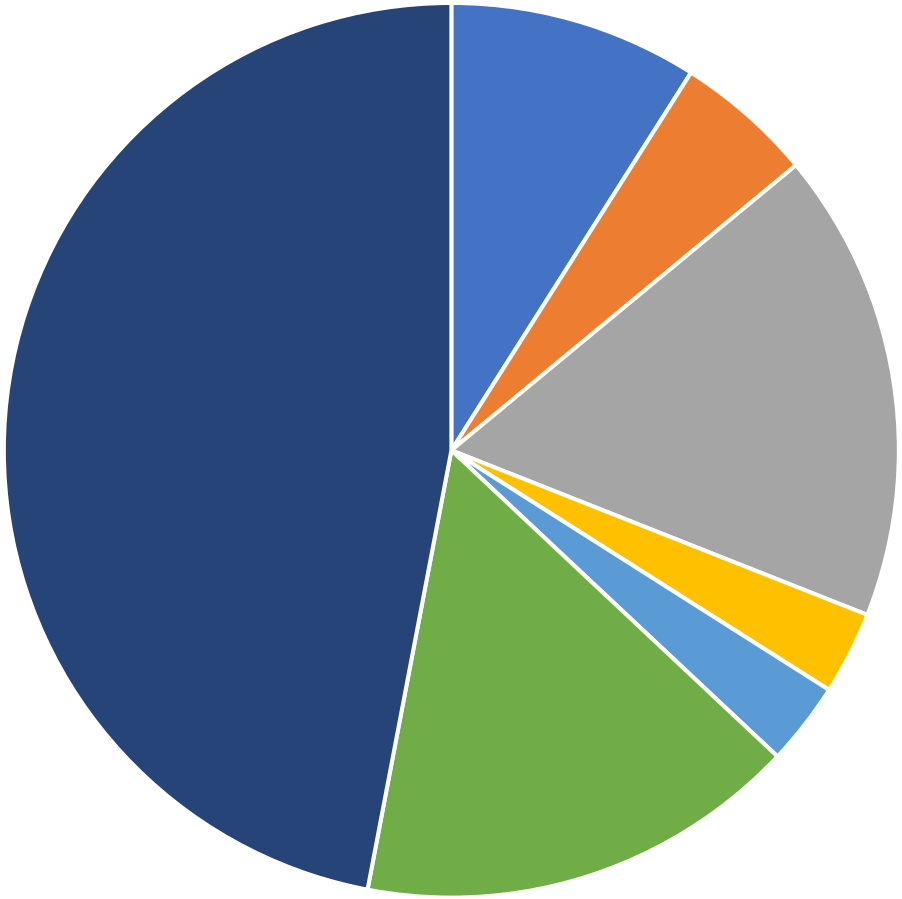
Table R6: E-Waste Generation and Collection

Line	Category	Unit	2021	
1	**Total E-waste Generated**			
2	*Amounts going to:* Large equipment			
3	Screens, monitors, and equipment containing screens			
4	Temperature exchange equipment (cooling and freezing equipment)			
5	Small E-waste (=6+7+8)			
6	*of which:* lamps			
7	*of which:* small equipment			
8	*of which:* small IT and telecommunication equipment			
9	**Total E-waste collected**	1000 t		
10	*Amounts going to:* Large equipment			
11	Screens, monitors, and equipment containing screens			
12	Temperature exchange equipment (cooling and freezing equipment)			
13	Small E-waste (=14+15+16)			
14	*of which:* lamps			
15	*of which:* small equipment			
16	*of which*: small IT and telecommunication equipment			

- Variables highlighted in yellow directly feed into Sustainable Development Goal indicator **12.4.2**: **Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment; and**
- **12.5.1: National recycling rate, tons of material recycled**
- Custodian agencies for both: UNEP, UNSD
- Metadata for 12.4.2: [link]
- Metadata for 12.5.1: [link]

3. Analysis of West African country responses

Ghana (2017): Composition of Municipal Waste (%)

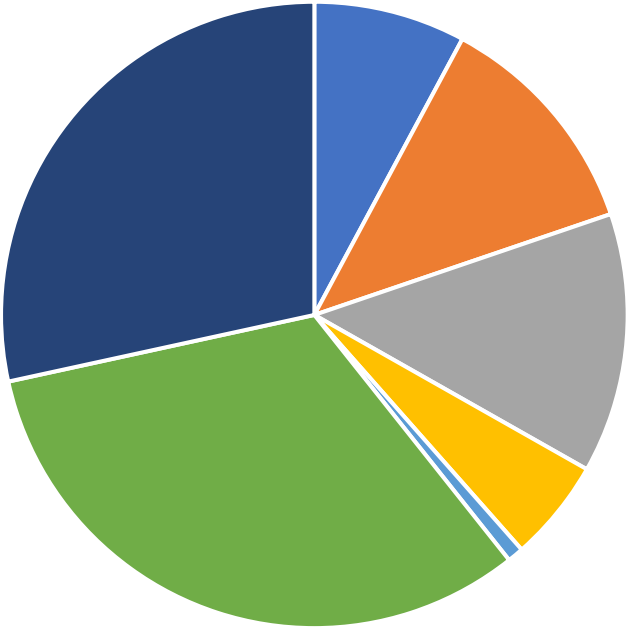


Source: https://unstats.un.org/unsd/envstats/country_files

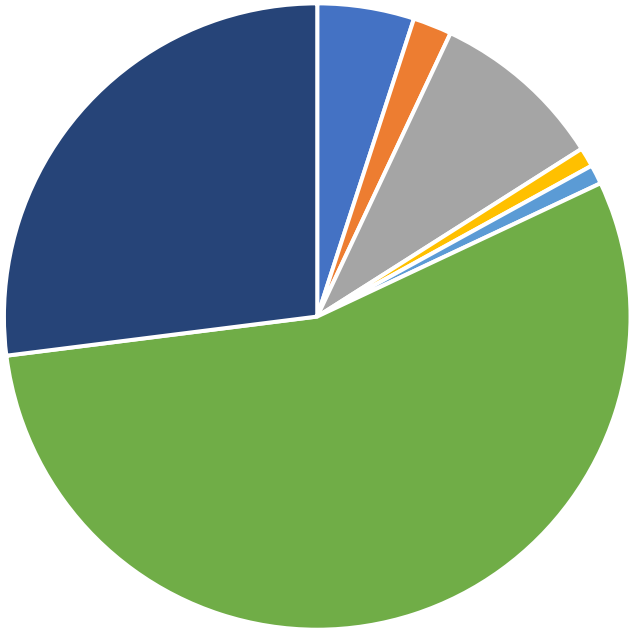
3. Analysis of West African country responses

Composition of Municipal Waste (%)

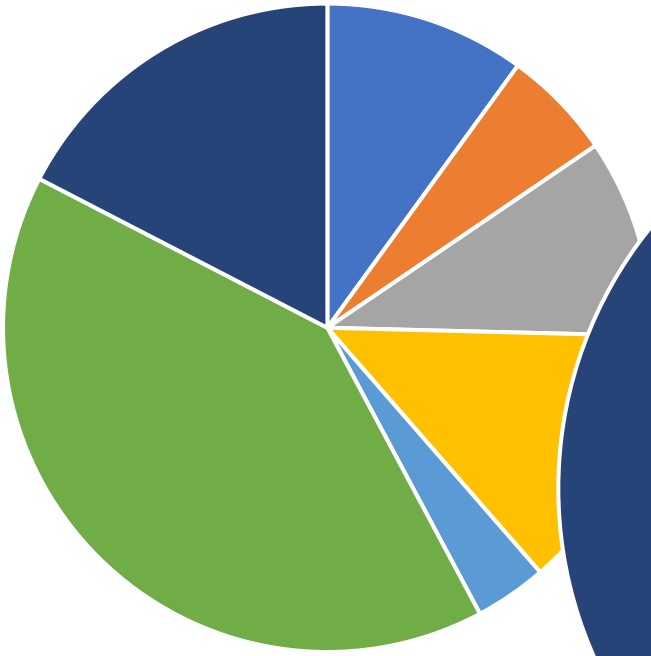
Burkina Faso, 2019



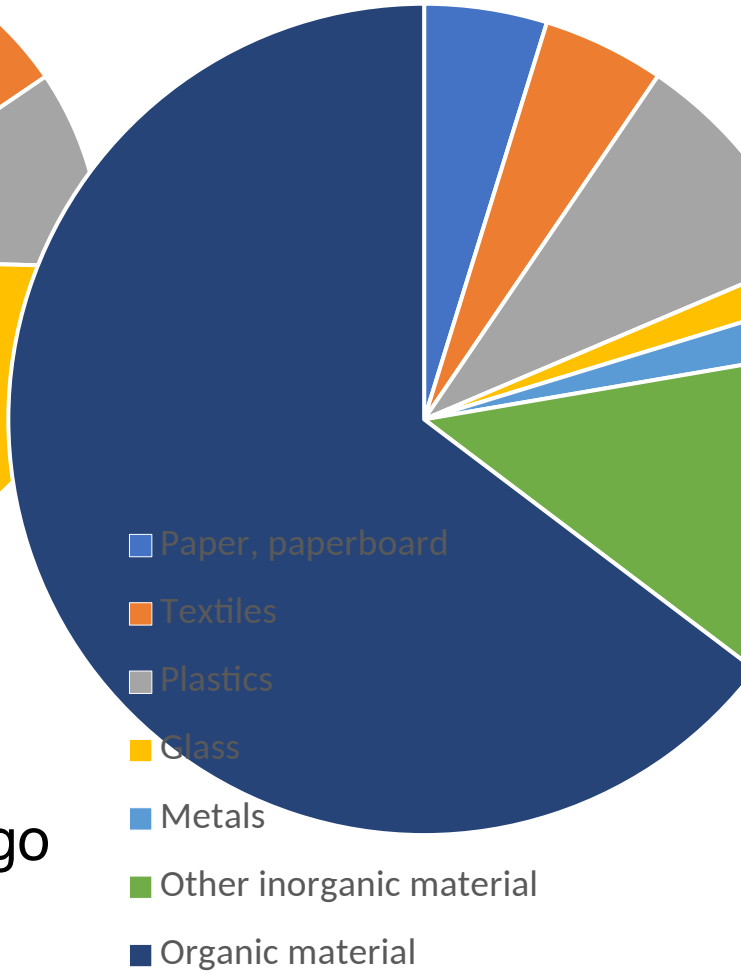
Niger, 2019



Cabo Verde, 2015



Senegal, 2015

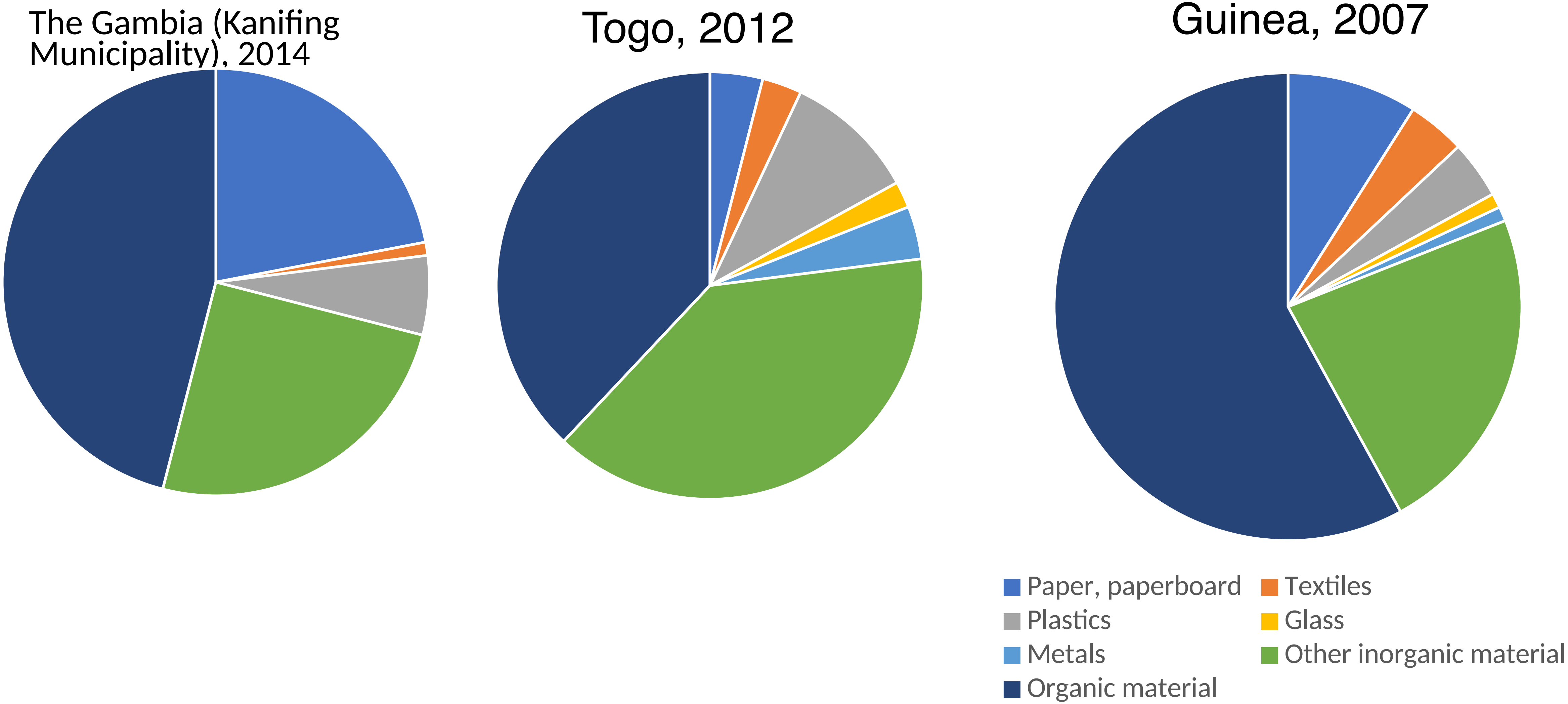


- Analysts with a circular economy mindset can make such better informed decisions based on this country-owned information.
- What % of all municipal waste could be sustainably treated (e.g. composted, recycled, etc.)? Where should prioritisation of money go for investment into recycling, composting, incineration, etc.?

Source: https://unstats.un.org/unsd/envstats/country_files

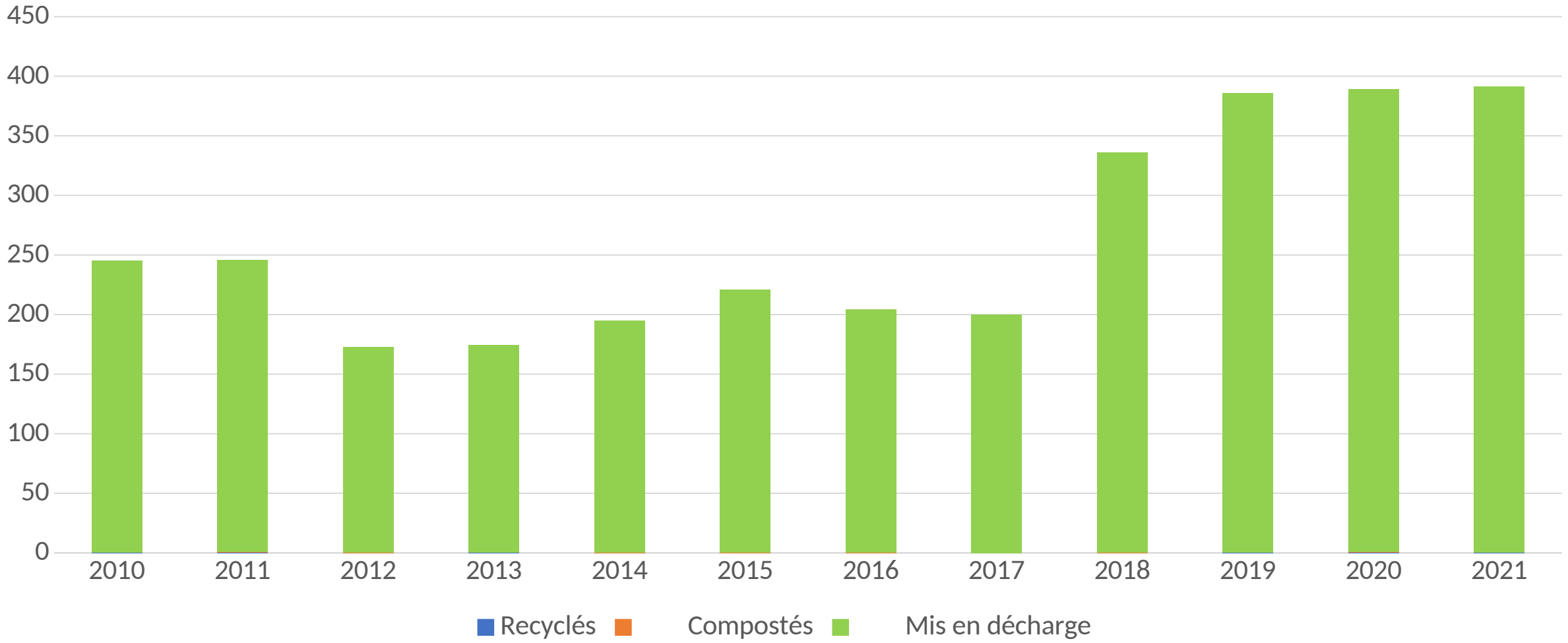
3. Analysis of West African country responses

Composition of Municipal Waste (%)



3. Analysis of West African country responses

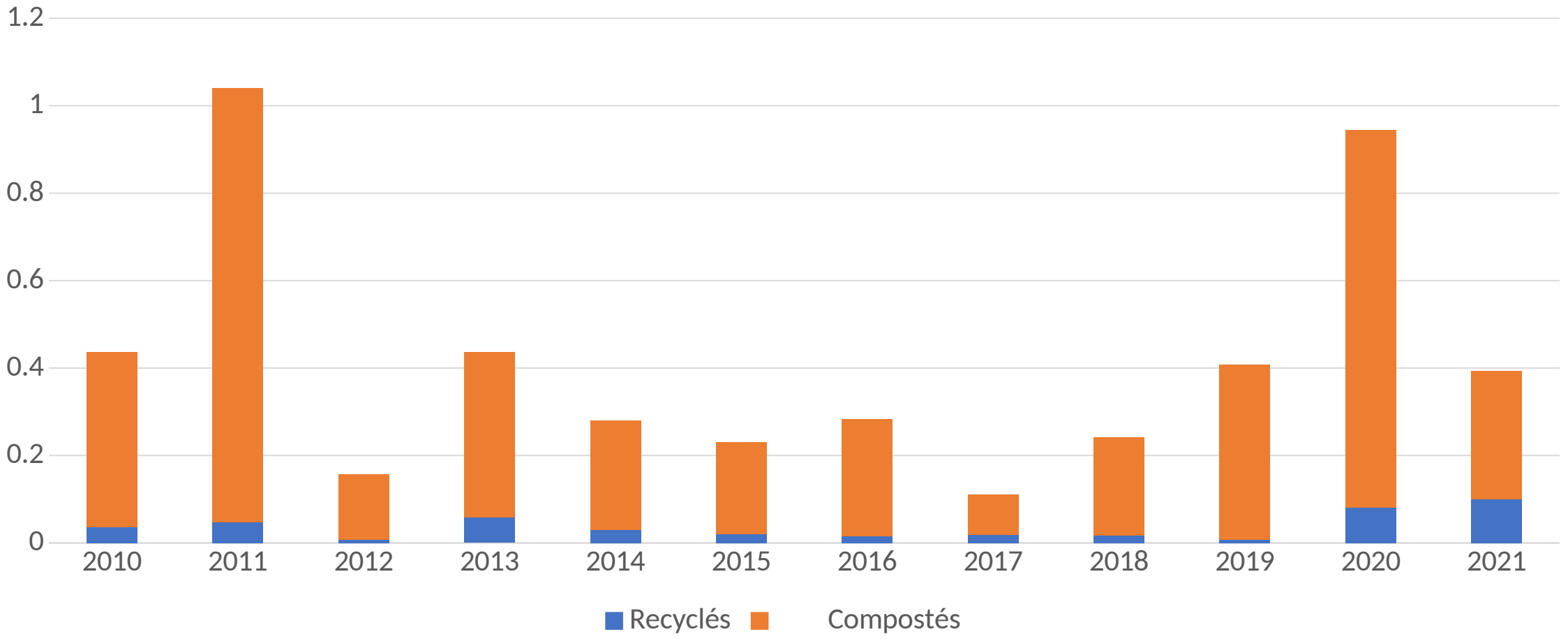
Waste treatment in Ouagoudou, Burkina Faso (1000t)



Source: https://unstats.un.org/unsd/envstats/country_files

3. Analysis of West African country responses

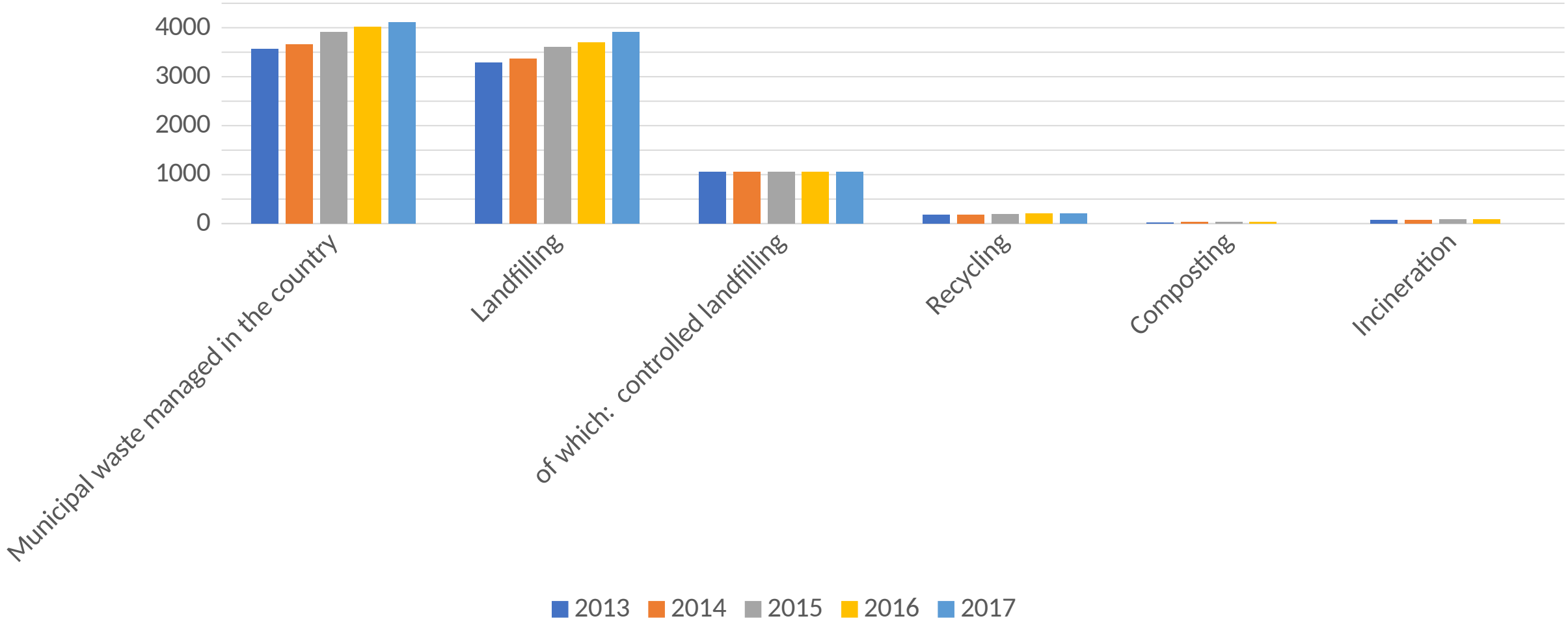
Circular economy waste treatment in Ouagoudou, Burkina Faso (1000t)



Source: https://unstats.un.org/unsd/envstats/country_files

3. Analysis of West African country responses

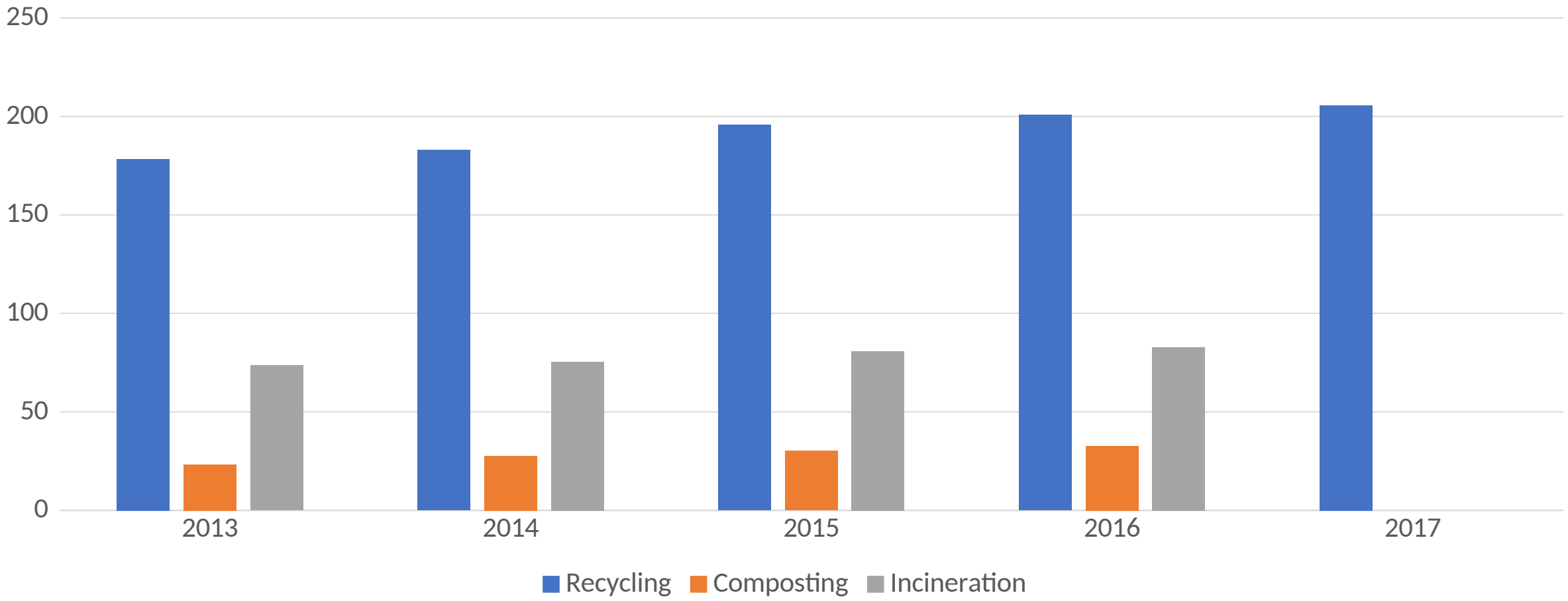
Ghana: Municipal waste managed and treated (1000 tonnes)



Source: https://unstats.un.org/unsd/envstats/country_files

3. Analysis of West African country responses

Ghana: Circular economy waste treatment (1000 tonnes)

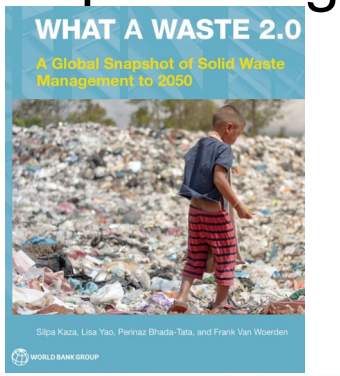


Source: https://unstats.un.org/unsd/envstats/country_files

3. User attention on the Questionnaire demonstrating why country-owned data are much preferred (I)

- Policy analysis, research papers by those analysing waste, flows of waste, material flows, etc. frequently reference the UNSD/UNEP Questionnaire and value the country-owned data within it.
- This is credit to the countries providing data and their collaboration with the UN.

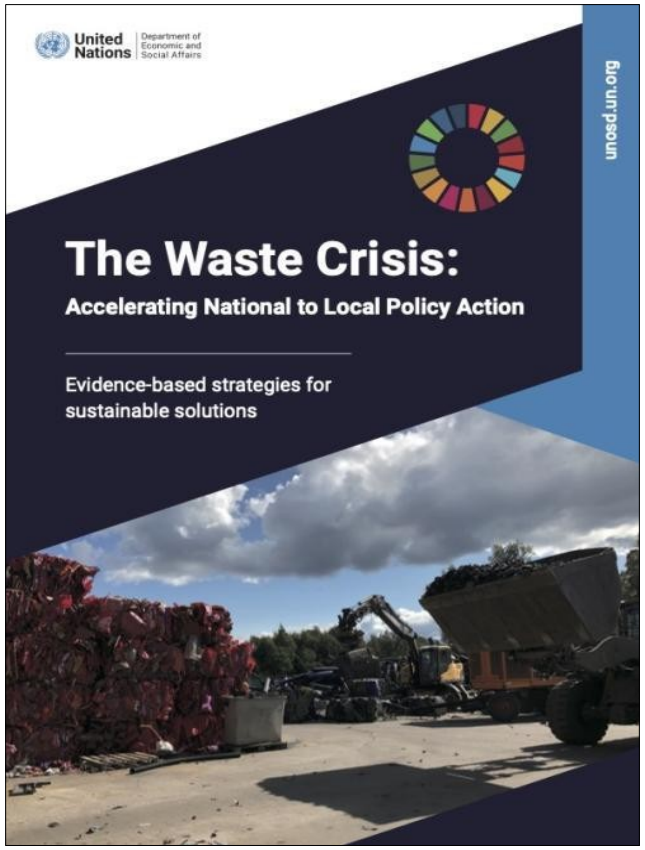
[Published by UNEP, February 2024](#).



[World Bank, 2018](#)

[Published by UNITAR, 2024](#).

[Published by UNEP, 2024.](#)



[Published by UNOSD, DESA, 2024](#).

4. Changes in the UNSD/UNEP Questionnaire on Environment Statistics – 2024

- A brand-new table with eight variables on Food Waste Generation is added.

Table R7: Food Waste Generation

Line	Category	Unit	2022	2023
1	Total food waste generated (=2+3+4)	tonnes		
2	Amounts generated by: Retail trade, except of motor vehicles and motorcycles (ISIC 47)	tonnes		
3	Food Service (ISIC 49-52, 55, 56, 84, 85)	tonnes		
4	Households	tonnes		
5	Total food waste generated: edible parts (=6+7+8)	tonnes		
6	Amounts generated by: Retail trade, except of motor vehicles and motorcycles (ISIC 47)	tonnes		
7	Food Service (ISIC 49-52, 55, 56, 84, 85)	tonnes		
8	Households	tonnes		

- So far approx. 5 (Andorra, Mongolia, South Africa, State of Palestine, Thailand), out of 60+ countries provided data, mostly on total food waste generated.
- Some countries providing ISIC breakdowns.
- “Other” category may be considered in the future.
- Early validation refers to a UNEP publication (varying degrees of confidence intervals in country estimations).
- Very roughly, approx. 30 kg to 200 kg food waste generated per capita per year from households being applied as a validation technique.

Changes in the UNSD/UNEP Questionnaire on Environment Statistics – 2024

- UNEP approached UNSD to demonstrate demand for the food waste addition.
- Similar to there being a table on e-waste (per SDG indicator and UN Institute for Training and Research (UNITAR) demand) added to the UNSD/UNEP Questionnaire in 2018, a pilot exercise has been conducted by UNEP on food waste prior.
- Careful considerations were made while adding new content. e.g.
  - application of the International Standard Industrial Classification (ISIC);
  - consideration of unit of measurement (tonnes);
  - identifying reputable sources for newly added terms such as “food waste: edible parts”; “food waste”; “food waste generated”.
  - Treatment methods of food waste are not yet included but could be considered in future.

5. General comments on the UNSD/UNEP Questionnaire on Environment Statistics and links to circular economy analysis

There is a strong case for pursuing a circular economy approach to waste management because…

- Cases where 100% or nearly 100% of waste is being landfilled are often observed;
- Well over 50% of the composition of municipal waste is often organic. This is true of this region, and globally.
- Other materials within municipal waste (e.g. paper, plastic, glass) are clearly recyclable.
- Data gaps remain. If they can be filled in, we can better understand the issue and the value of a circular economy approach; any country can make a stronger case with country-owned data demonstrating the need to address this issue.

5. General comments on the UNSD/UNEP Questionnaire on Environment Statistics and links to circular economy analysis

Why should a country such as yours exert effort to collaborate with UNSD…?

- By replying to the UNSD/UNEP Questionnaire, your country's data will be exposed and compared to other countries'. This will be visible to those monitoring SDG indicators, to donors, to foreign investors.
- Via the Envstats newsletter (a semi-annual newsletter edited by UNSD with readership of 1000+ environment and statistics professionals worldwide), your effort can be promoted.
- You can contribute to the culture of advocating that data be shared, and that your country's story be told.
- It's fine to adopt a supply-driven approach in the current context, and to progress toward a demand-driven approach in time.

Thank You!

UNSD Environment Statistics Section
Website: unstats.un.org/unsd/envstats
Email: envstats@un.org