

Baseline analysis

Black = fundamental

Green = more detailed

1. Background information

- 1.1. Population
- 1.2. Population density (pop/km²)
- 1.3. GDP (thousands €)
- 1.4. Area (km²)
- 1.5. Demographic and geographic distribution - urban/rural, male/female, age
- 1.6. Main economic activities (%)
 - 1.6.1. Agriculture, livestock, forestry, fisheries:
 - 1.6.2. Industry:
 - 1.6.3. Construction:
 - 1.6.4. Services:
 - 1.6.5. Tourism:
 - 1.6.6. Other:
- 1.7. Other relevant aspects

2. Circularity strategy

- 2.1. Does your city/region have a strategy/action plan/assessment/stakeholder identification for circular economy at the urban level?
- 2.2. If so, does it include bioeconomy?
- 2.3. Does your city/region already have circular policies and/or investment plans in place?
- 2.4. Do these strategies/plans/policies already cover the valorisation of urban biowaste and wastewater to produce bio-based products?

Specify:

- 2.4.1. Specific targets
- 2.4.2. Implementation plans and timeframe
- 2.4.3. Process monitoring activities
- 2.4.4. Planned investments (€ and describe the investment objective, facilities affected/improved)
- 2.4.5. Is the municipality responsible for UBW/WW treatment facilities or are they managed by a private company or a public-private company?
- 2.5. Does urban biowaste and wastewater feature as an input in any other strategies or plans? For example:
 - 2.5.1. Does your regional agriculture plan include measures to promote and use urban biowaste as fertiliser?
 - 2.5.2. Does your energy plan include measures to promote and use biowaste as a source of energy?
 - 2.5.3. Does your transport plan include measures to promote and use biofuels?
 - 2.5.4. Does your water plan include measures to reuse elements of wastewater?
- 2.6. Are there studies on how urban biowaste is produced, collected, and/or recycled in your city/region, e.g., by universities, NGOs, national government, etc.?

- 2.7. If yes, what did the studies conclude about how the process could be improved?
- 2.8. Are you aware of other cities/region in your country that have already successfully established biowaste recycling or valorisation schemes or are in the process of doing so?

3. Legislation

- 3.1. What legislation is there at the local, national, or European level that affects the creation or operation of biowaste recycling and valorisation systems in your city/region? For each please include: title of legislation, date that it came into force, and either the implications for your city/region or the outcomes of implementation.

4. Motivation

- 4.1. What aspects of your city/region's circular bioeconomy performance could be improved?
- 4.2. How do you think your city/region's circular bioeconomy performance can improve over the next 5 years?
- 4.3. Which aspect of your city/region's circular bioeconomy do you think should be targeted first?

5. Citizen engagement

- 5.1. How do you think engaging citizens can help increase the circular economy in your city/region?
- 5.2. What kind of citizen engagement and awareness-raising activities in urban biowaste recycling have been/are being done in your city/region?
- 5.3. Main results of these activities – e.g. on the quality and quantity of (bio)waste
- 5.4. How could these activities be improved?
- 5.5. Are you aware of good citizen engagement activities in other sectors and/or from other places that you think were successful? (Consider not only biowaste but also e.g., waste separation, recycling.)
- 5.6. What do you think made these activities successful?

6. Stakeholder engagement

- 6.1. How do you think engaging stakeholders can help increase the circular economy in your city/region?
- 6.2. What kind of stakeholder engagement on urban biowaste recycling has been or is being carried out in your city/region?
- 6.3. How could this be improved?
- 6.4. Are you aware of good stakeholder engagement activities in other sectors and/or from other places that you think were successful? (Consider not only biowaste, but also e.g., waste separation, recycling.)
- 6.5. What do you think made these activities successful?

7. Biowaste value chain

Names of the actors and their roles in the biowaste value chain can be found in the stakeholder mapping exercise

7.1. Waste Production

- 7.1.1. Amount of urban biowaste (UBW) generated in your city/region (tonnes/year)
- 7.1.2. UBW composition
- 7.1.3. How does this compare to the national average?

7.2. Waste collection and transport

- 7.2.1. What is the waste collection system (surface containers, door to door, buried containers)?
- 7.2.2. What fractions are collected separately?
- 7.2.3. Since when (year) has biowaste been collected separately (if applicable)?
- 7.2.4. If biowaste is collected separately, what is the collection system like, and how frequently is it collected?
- 7.2.5. What are the costs of the bio-waste collection for the households, HoReCa, and other waste producers?
- 7.2.6. What are, in your view, shortcomings in the current collection system and what are the main reasons for them?
- 7.2.7. What are the separation rates in your city?
- 7.2.8. What is the quality of the separation (level of improper materials)?
- 7.2.9. How do the separation rates and quality compare to national averages?

7.3. Sorting and pre-treatment

- 7.3.1. Does the biowaste undergo any sorting processes when it arrives at the processing plant?
- 7.3.2. Describe the treatment facilities for the UBW
 - 7.3.2.1. Facility type/name
 - 7.3.2.2. Type of UBW treated
 - 7.3.2.3. Type of process
 - 7.3.2.4. Effectiveness of the process (quality, % landfilling etc)
- 7.3.3. How does the effectiveness of the process compare to the national average?
- 7.3.4. What pre-treatment processes are selected?
- 7.3.5. What are, in your view, shortcomings in the current sort and pre-treatment system and what are the main reasons for it?

7.4. Valorisation processes and development of bio-based products

- 7.4.1. Does your city/region valorise UBW?
- 7.4.2. If so, what are the main valorisation processes, who is carrying them out, and where?
- 7.4.3. Types of bioproducts produced
- 7.4.4. Performance indicators:
 - 7.4.4.1. Treated amount of UBW/year
 - 7.4.4.2. €/ton of UBW
- 7.4.5. Are high added value bio-based products from UBW produced?
- 7.4.6. At which scale are bio-based products produced?
- 7.4.7. Is there planned investment to expand production of bio-based products?
- 7.4.8. Is there room for improvement of this facility/process?
- 7.4.9. How economically feasible is the valorisation process in your city/region?
- 7.4.10. Are you aware of private companies in the city working on biowaste valorisation?

- 7.4.11. Which companies or other local, national, or international actors might be interested in the UBW valorised products?
- 7.4.12. What are, in your view, the shortcomings in the current UBW valorisation processes and what are the main reasons for them?

8. Wastewater value chain

Names of the actors and their roles in the wastewater value chain can be found in the stakeholder mapping exercise

8.1. Wastewater and sludge generation

- 8.1.1. Amount of wastewater (WW) treated in your city/region (million m³/year)
- 8.1.2. WW composition (amount and type of organic matter)
- 8.1.3. Amount of sludge produced (m³/year)
- 8.1.4. How do these rates compare to national averages?

8.2. Treatment

- 8.2.1. Capacity of WW treatment plant (m³/hour)
- 8.2.2. Describe the treatment facilities for the WW:
 - 8.2.2.1. Name
 - 8.2.2.2. Facility type
 - 8.2.2.3. Type of process/technology applied

8.3. Valorisation

- 8.3.1. Does your city/region valorise urban WW sludge?
- 8.3.2. If so, what are the main valorisation processes, who is carrying them out, and where?
- 8.3.3. Types of bioproducts produced
- 8.3.4. Performance indicators:
 - 8.3.4.1. Treated amount of sludge/year
 - 8.3.4.2. €/m³ of sludge
- 8.3.5. Are any high added value bio-based products from WW produced?
- 8.3.6. At which scale are bio-based products from WW valorisation produced?
- 8.3.7. Is there planned investment for expansion of the production of bio-based products?
- 8.3.8. Is there room for improvement of this facility/process?
- 8.3.9. How economically feasible is the WW valorisation process in your city/region?
- 8.3.10. Are you aware of private companies in the city working on biowaste valorisation?
- 8.3.11. Which companies or other local, national, or international actors might be interested in the WW valorised products?
- 8.3.12. What are, in your view, the shortcomings in the current WW valorisation processes and what are the main reasons for it?