DO

The plan is set; now it's time for action! This phase brings choices to life on the ground, tests solutions at a local scale, and mobilises the community.

Operational & Policy Readiness



OPTIMISING BIO-WASTE COLLECTION & PROCESSING

Once the municipal council or supervisory boards make formal decisions on structural waste revisions, cities must execute, deploy, and monitor optimized bio-waste collection and processing frameworks on a day-to-day basis. This activity operationalises comprehensive guidelines to run a continuous bio-waste valorisation process, producing high-quality end-products (such as soil improvers) suitable for commercial market distribution or local agricultural use. By carefully rolling out logistics, monitoring processing facilities, and tracking interim operational results, municipalities establish a functional, sustainable bio-waste system.

- **Who leads it:** The city administration leads the implementation process. Essential technical and community partners include experts in collection, processing, and soil application, municipal council members, agricultural customers (e.g. farmers), and local stakeholder groups (house owner/tenant associations and environmentalists).
- **What needs to be done:** Execute and refine system operations based on baseline waste data (mass flows, technical aspects, operational costs). Establish operational logistics, run processing facilities, track interim performance metrics, and iteratively review financial

operational expenses against revenue outputs. Facilitate ongoing engagement with local stakeholders and farmers to ensure the final soil products meet local quality standards and market requirements.

- **Timeline:** 6 to 12 months, depending on local targets, existing infrastructure, and system maturity.

Activity Abstract Guidelines

WASTE CHARGING POLICY & INCENTIVE SYSTEM DESIGN

Implementing a targeted waste charging scheme, such as a Pay-As-You-Throw (PAYT) or differentiated fee structure, incentivises residents to separate bio-waste at the source, directly supporting municipal circularity and waste reduction targets. By aligning local fee structures with environmental goals, cities create financial incentives for households and businesses while generating the revenue needed to cover collection and processing operations. Carefully testing and executing these charging models ensures the policy fits the local urban context without triggering unintended consequences or misuse.

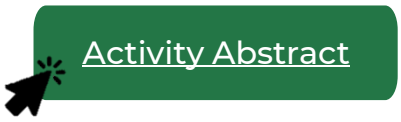
- **Who leads it:** The city administration and city council lead the activity. Key internal and external partners include municipal waste management, budget offices, facility managers, house owner and tenant associations, engaged citizens, and the chamber of commerce (if commercial waste is included).
- **What needs to be done:** Analyse EU and national waste legislation, document existing system costs and revenues, and calculate total value chain economics from bio-waste collection to soil improver production. Develop charging models (e.g., card-reader PAYT systems), exchange best practices with experienced cities, and run small-scale pilot tests to measure impacts on bio-waste quality and residual waste streams. Evaluate pilot findings, draft final statutes, secure city council approval, and roll out the adjusted fee policy city-wide.
- **Timeline:** plan for approximately 1 year in total across all operational steps:
    - Preparation & data mining: 3 months
    - Full cost calculation & review: 1–2 months
    - Model discussions & expert review: 2–3 months
    - Small-area field testing: 3–6 months
    - Evaluation, council decision & final deployment: 1 month for evaluation/decision, followed by 3 months for full rollout

Activity Abstract Bin2Bean Report: Charging Systems for Bio-Waste Collection and Valorisation

PUTTING STRATEGY INTO ACTION: COMMUNICATION AND AWARENESS RAISING

Once your technical and market foundations are set, it is time to launch targeted awareness campaigns to engage citizens and secure a clean, abundant bio-waste stream. Instead of reinventing the wheel, this activity focuses on deploying the project's proven tool, the *Bin2Bean Guidelines for communication and awareness raising*. By reusing these ready-made strategies, your city can design targeted campaigns that effectively shift citizen behaviour, boosting both the volume and the purity of separately collected organic waste so it easily meets strict European standards for soil improvers.

- **Who leads it:** The responsible department of your city administration must take the lead. However, successful rollout requires building a strong network with municipal public relations and city planning departments, citizen associations, housing companies, and local environmental NGOs.
- **What needs to be done:** Start by checking the quantity and quality of your current bio-waste collection and processing outputs (see «**Erreur ! Source du renvoi introuvable.**»). Next, dive into the Bin2Bean Guidelines alongside previous city campaigns to define your target groups and specific districts. Gather your internal departments and external allies for in-person preparatory meetings, ideally hosted on-site at a bio-waste processing facility to build shared understanding. Following the true spirit of the Do phase, do not launch a massive campaign immediately; instead, plan and test your most promising communication activities in a small test area first. Evaluate the results of this pilot period with your stakeholders, refine your approach based on real-world feedback, and roll out the finalized campaign to the wider community.
- **Timeline:** The entire process takes between 6 to 12 months.





Activity Abstract

GUIDELINES TO OPTIMISE THE PERFORMANCE OF BIO-WASTE COLLECTION AND PROCESSING

WHO	
Who should be the "lead" when using the result?	City administration or waste collection company
Who should be involved?	Experts in the field of collection, processing, and application of soil improvers from bio-waste, customers, members of the city council, stakeholders (e.g. associations of house owners, tenants, environmentalists) – i.e. stakeholders from the whole value chain.
WHAT	
Short description of the result	Bio-waste valorisation process, which is working on a day-to-day basis yielding products, which can be sold on the market as soil improver.
Purpose/Goal	Introduction or optimisation of bio-waste collection. Planning or renewal of processing facilities. Support for farmers who are not satisfied with the product. Local, national, and EU regulations must be observed.
Inputs needed to use the result	Collection of data on the current waste management system including the processing facilities (mass flows, technical details, costs…) - see PCDA abstract "Table on current bio-waste collection & processing systems (SPG5)"
Main steps of the result	Define the targets Collect data on the current system Gather information on suitable facilities Collect opinions from experts in the field

	Draft a plan (logistics, processing, marketing, costs, revenues, charges…) Organise a stakeholder forum to discuss the planning (see PCDA abstract “Policy Forum”) Evaluate the results from the policy forum Re-evaluate the calculations on investments and operational expenses (The last steps might be repeated in an iterative process) Prepare a draft resolution for the council regarding the proposed change to the system
Outputs of using this result	A complete planning for the introduction or optimisation of bio-waste valorisation
Links to more information	Bin2Bean “Bio-waste Collection and Processing Guidelines” Further information on policy forums: See activity abstract Erreur ! Source du renvoi introuvable.
WHEN	
When should the result be used?	For the final decision on considerable revisions of the waste management system.
How much time should be planned to use this result?	9-18 months
Timeline	This depends on the targets and the current status. Example: M1-4 months planning and order, M 5-7 preparation, M8-12 realisation, M13-18 follow up and valorisation.
WHERE	
Where should the result be used? (e.g. on site (which site?), in person, online, …)	When the necessary decisions were taken by the city council, supervisory boards etc. the results must be carefully implemented. The implementation process should give space for checking interim results.
HOW WOULD YOU IMPROVE THIS ACTIVITY, COMPARED TO HOW YOU DID IT IN BIN2BEAN?	
Feedback on experience from Living Labs or people participating	LL1: This is how this process ideally would take place. In Amsterdam the (bio)waste valorisation strategy is developed and executed parallel with the political cadence of elections and terms. The political willingness and taste are determinative for the strategies. SRH: Despite the fact, that our pilot only touched a small part of the whole biowaste-collection system of Hamburg after more than 30 years of experience I added a few comments from the view of the city introducing the system as a complete new task. LL2: The regional authority must collaborate more closely with the Municipality. The Municipality of Egaleo does not collaborate with private companies for BW management, hence it is important to have more information regarding the details of its own quality and quantity of BW. Egaleo is still in its first steps of BW collection and management. From September 2026, the open grocery markets will be part of the BW collection as big producers. For the time that EGL has been engaged in the BW recycling it has done quite well.
Feedback on experience from partners leading the activity	The experiences gained in Hamburg with the amendments to the bio-waste collection and processing system, as well as my own experience from the perspective of municipalities and waste management companies, were used to optimise the process described here. LL leaders unanimously recommend this iterative approach.

WASTE CHARGING POLICY

WHO	
Who should be the "lead" when using the result?	City administration, city council
Who should be involved?	Depts. within the administration: waste management, budget office, managers of waste recycling and disposal facilities, associations of house owners and tenants, citizens engaged in bio-waste issues, the chamber of commerce (if the regulation is also binding for companies)
WHAT	
Short description of the result	A waste charging system aiming at motivations for waste separation at source reflecting the performance, environmental, economic and circularity goals set out in the (bio-)waste valorization strategy, either starting with the introduction of the bio bin or (if bio-waste is already collected) from a conventional fee system
Purpose/Goal	Increasing the quality and/or quantity of separately collected bio-waste (i.e. kitchen waste, green waste, food residues from HoReCa)
Inputs needed to use the result	Basic data including an inventory of technologies that are suitable for the pre-selected charging systems (e.g. card readers with PAYT) (see PDCA "Survey on needs and current initiatives"), detailed economic data and ecological assessments for all steps of the value chain. Tests of drafted charging statutes. Discussion in the council (maybe after discussions in technical committees with council members) and a final decision, which must be implemented by the administration.
Main steps of the result	- Analysis of EU and national legislation with regard to bio-waste and waste charging - Documentation of costs and revenues of the existing waste management system - Calculation of the costs and revenues along the value chain from bio-waste to soil improvers - Check for potential funding - Calculation of money saved for residual waste collection and disposal - Balancing costs and revenues for the whole system; calculating the amount of charges needed to finance the system - Development of models for the charging system. Exchange of experiences with cities, which already introduced differentiated waste charges. Discussion of promising models with experts and stakeholders. - Testing the impacts of the chosen model on the quantity and quality of separately collected bio-waste and the development of residual waste flows in a small area. Evaluation of the test, second testing (if necessary) and decision-making
Outputs of using this result	Differentiated charging systems support the citizens' motivation for separating waste at source, particularly bio-waste. It is very important to balance this instrument to avoid misuse
Links to more information	Bin2Bean "Charging Systems for Bio-Waste Collection and Valorisation" Agència de Residus de Catalunya: Guide for the Implementation of Pay-As-You-Throw Systems for Municipal Waste GIZ (ed.): Economic Instruments to Improve Waste Management in Greece J. Morlok et al.: The Impact of Pay-As-You-Throw Schemes on Municipal Solid Waste Management: The Exemplar Case of the County of Aschaffenburg, Germany, https://doi.org/10.3390/resources6010008

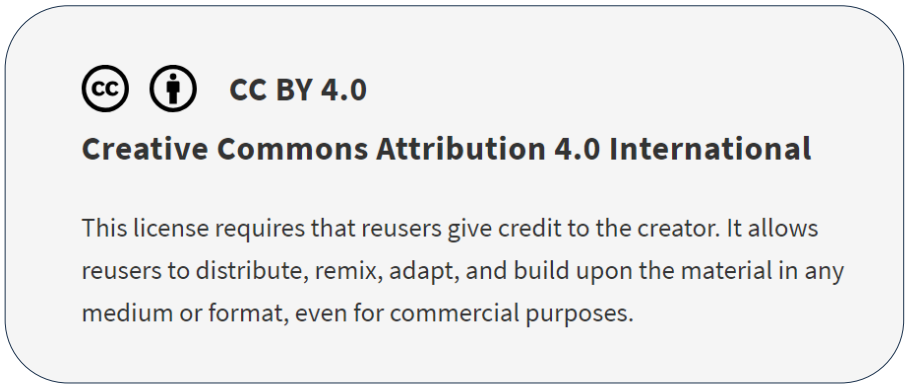
	H. Friege & M. Hentschel: Using Differentiated Waste Fees to Encourage the Sustainable Recycling of Organic Waste, https://doi.org/10.3390/su18010052
WHEN	
When should the result be used?	After a thorough development, testing, and discussion of alternatives.
How much time should be planned to use this result?	Take about a year for all steps to be done.
Timeline	Preparation, data mining: 3 months; full cost calculation and review: 1-2 months; discussion of suitable charging models: 2-3 months; testing: 3-6 months; evaluation and decision making: 1 month; implementation 3 months.
WHERE	
Where should the result be used? (e.g. on site (which site?), in person, online, ...)	In the whole city.
HOW WOULD YOU IMPROVE THIS ACTIVITY, COMPARED TO HOW YOU DID IT IN BIN2BEAN?	
Feedback on experience from Living Labs or people participating	LL1: Great guide, this is roughly what we experienced in Amsterdam. Comment to the "outputs": To keep it more generic an alternative could be as I described in the comment on short description of the results. IMHO differentiated charging system is not a goal on itself but a means. I can imagine that a fully rolled out PAYT system in Amsterdam will not work, therefore our desired result is a fitting charging policy rather than a 100% PAYT one. LL2: Despite of the fact, that our pilot only touched a small part of the whole biowaste-collection system of Hamburg after more than 30 years of experience I added a few comments from the view of city introducing the system as a complete new task.
Feedback on experience from SPG leaders	There is no one-size-fits-all solution! However, the experiences form the LLs prove that the approach described here can be used by other cities to find suitable solutions.

COMMUNICATION AND AWARENESS RAISING ISSUES

WHO	
Who should lead the activity?	The responsible department of the city administration
Who should be involved?	Associations of citizens, housing companies, public relation dept. of the city, environmentalists
WHAT	
Short description of the activity	Communication and awareness raising for the valorisation of bio-waste to soil improvers
Purpose/Goal	To collect bio-waste of good quality, which can be processed to soil improvers meeting the European standards
Inputs needed to prepare the activity	Experiences from former campaigns, experiences of other cities, scientific work on the collection of bio-waste

Main steps	- Check the quantity and quality of the current bio-waste collection. - Check the quality of products from processing. - Define the campaign/measure targets and the area/target groups (e.g. certain districts). - Look for allies, e.g. citizen groups, housing companies and NGOs. - Install the project and integrate all the necessary city administration departments (e.g. public relations and city planning) and stakeholders willing to support the campaign. - Discuss potential steps/activities for raising awareness. - Plan the most promising activities and test these in small areas. - Discuss the results of the testing period and make decisions on the final campaign.
Outputs of the activity	More and /or better bio-waste collected separately. Experiences from the campaign to be used for upcoming activities.
Links to more information	Bin2Bean "Guidelines for communication and awareness raising and information" (see links therein).
WHEN	
When should the activity be implemented?	In case of insufficient results from separate bio-waste collection
How much time should be planned to do this activity?	6 – 12 months
Timeline	- Data collection (1 month) - Discussion of targets and activities (1 month) - Preparation of a campaign in a test area (1 month) - Preliminary campaign and evaluation (2 months) - Preparation of the final campaign (1 month) - Campaigning and feedback (3 months)
WHERE	
Where should the activity take place? (e.g. online, in person, on site)	Preparatory meetings should be organised in person and – if possible on site (e.g. bio-waste processing facility). Informal meetings during the campaign can also be organised in an online format.
HOW WOULD YOU IMPROVE THIS ACTIVITY, COMPARED TO HOW YOU DID IT IN BIN2BEAN?	
Feedback on experience from Living Labs or people participating	LL1: All the facts for this guideline are good and helpful. In Hamburg at SRH the communication and awareness guideline is fixed and concerning the introduction of the bio-waste collection realized step by step. So, from our side there is nothing to be changed in this document.
Feedback on experience from partners leading the activity	As SPG22 is based on numerous reports from practitioners in the field, as well as scientific evidence, a wide range of potential activities is provided. The LLs either selected some of these (EGL) or contributed their own examples (SRH).

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