





NETWAP

NETwork of small "in situ" WAste Prevention and management initiatives

Priority Axis: ENVIRONMENT AND CULTURAL HERITAGE

Specific Objective 3.3 - Improve the environmental quality conditions of the sea and coastal area by use of sustainable and innovative technologies and approaches

Deliverable 3.4:1 Definition of a common framework methodology for waste management in small communities – Annex V Regulation scheme for home composting to be issued by a municipal administration (in english)

WP3: Data analysis, baseline elaboration and methodology definition on organic waste and plastic management

Activity 3.4 Organic waste and plastic management methodology for small communities

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CITY COATS OF ARMS

CITY OF XXX

MUNICIPAL REGULATION FOR THE HOME- COMPOSTING ACTIVITY

Approved by the resolution of the Municipal Council N. xxxx of xxxxx





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1. Preamble

In the framework of the circular economy, the European Union (EU) has clearly set the steps for all its members, in order to progress towards an overall improvement regarding urban waste management.

The aim is to overcome the old conceptual model where waste were previously considered as refuse, and now become to be seen as a resource. First measures should include minimization and prevention, leaving as last options the energy recovery and landfilling of waste.

The EU has set through the *Circular Economy Package (Directive 2018/851/EU)*, the obligation of managing separately the organic streams generated in the municipalities as well as organic domestic waste by following very precise delays and goals. The main objectives of the EU are:

- 65% of recycling by 2035
- Reduction of municipal waste landfill down to 10% by 2035

Furthermore the requirements for the organic waste are:

- Obligation to implement the separate collection or recycling at source (home and community composting) of bio-waste by 31 December 2023
- Bio-waste that has not been separately collected/separated at source and treated through composting or anaerobic digestion, will not be counted as recycled as from January 2027

Also the *Waste Framework Directive (Directive 2018/850/EU)* added some key elements related to community and home composting:

- It equates composting with selective collection in terms of enforceability of managing biowaste selectively.
- Composting is considered a (in situ) waste recycling activity (so it is confirmed that the idea of framing it as a bio-waste prevention practice should be ignored). Additionally, it means that the tonnes managed through home and community composting must be included in the waste recycling concept in relation to the achievement of objectives
- Member States must take measures to foster and encourage home and community composting (*Article 22*).
- Recycling processes through composting must ensure a high level of environmental protection and result in output which meets relevant high-quality standards. Such conditions must be also ensured for home composting practices.

It is therefore evident how the use of this practice meets the goals set by the EU.





2. Definitions

"Bulking/complementary material": woody or ligneous material of plant origin that, mixed with bio-waste in suitable proportions, allows air circulation throughout the mix, prevents compacting, provides carbon and regulates moisture. It is essential to provide it at adequate proportions in order to guarantee the right conditions for the composting process.

"Collection": the collection of waste, including the preliminary sorting and storage prior to collection, including the management of the collection centers, for the purpose of transporting it to a treatment plant.

"Compost": mixture of humified substances deriving from the aerobic biological degradation of organic waste not intended for sale.

"Composter": container suitable for the production of compost through aerobic treatment of domestic and vegetable organic waste, carried out directly by the producer to the users.

"Composting": aerobic process of degradation, stabilization and humification of the organic substance for the production of compost. For the correct development it requires oxygen, humidity and a correct ratio between the fibrous component, containing carbon, and the protein component, containing nitrogen; when the fibrous component is excessive (too much twigs or wood sawdust) the process is slow to start and is very long; when the protein component is predominant, the process develops quickly but forms little humus.

"Composting process": see "Composting".

"Domestic user": user associated to households generating domestic/residential waste.

"Home (or Individual) composting": Treatment of bio-waste generated by individual persons or families, done by application of the composting process in their own house, terrace, garden, vegetable gardens, etc. It implies particular usage of the resulting compost.

"Lateral turning composter": equipment suitable for composting aimed at the production of compost by aerobic decomposition in which aeration occurs naturally and the turning of the pile is helped by the rotation of the equipment carried out manually by the user.

"Managing entity": company responsible for the management of urban and similar waste.





"Master composter": Technical person responsible for the follow-up of the composting process and the maintenance of each composting point or site. It also usually works in informing participants.

"Municipal register of home composting users" is the list of users who homenomously treat biowaste by home composting according to the provisions of this regulation and having signed the Agreement Scheme or submitted related documentation, in order to benefit from the waste tax reduction.

"Non-domestic user": user associated to commercial/business activities generating waste.

"Organic fraction": organic waste with a high moisture content, coming from separate collection of the municipal solid waste urban and similar that can be used in composting.

"Organic recycling": the aerobic (composting) or anaerobic (biomethanation) treatment, by microorganisms and under controlled conditions, of the biodegradable parts of packaging waste, with the production of stabilizing organic residues or methane, with the exception of landfill, which cannot be considered a form of organic recycling.

"Organic waste" biodegradable waste from gardens and parks, food and kitchen waste from households, restaurants, food service and retail outlets and similar waste from the food industry collected separately.

"Separate collection": collection in which a waste stream is kept separate based on the type and nature of the waste in order to facilitate its specific treatment.

"Static composter": equipment suitable for composting aimed at the production of compost by aerobic decomposition in which the aeration occurs naturally and the turning of the pile is done manually by the user.

"User": subject registered in the role of the waste tax.

"Waste": any substance or object which the holder discards or intends or is required to discard.

"Waste management": Set of operations aimed at addressing waste to the most appropriate destination according to its characteristics, in order to prevent damages or risks to human health and the environment. It involves the collection, transport, recovery and disposal of waste, including the control of such operations and the after-care of disposal sites, and including actions taken as a





dealer or broker (according to Waste Framework Directive as amendment by Directive (EU) 2018/851);

"Waste producer": the subject whose activity produces waste and the subject whom is legally referable that waste production (initial producer) or whoever carries out pre-treatment, mixing or other operations that have changed the nature or composition of said waste (new producer).

"Waste Tax": is the rate paid by the user for the municipal waste management service. It is made up of a fixed part and a variable part.

3. Home composting register

- 1. The Municipal register of home composting is the list of users who declare that they independently treat compostable biodegradable waste according to the provisions of this regulation by not giving them to the waste management service and who wish to access tax rebate provided by the Municipality.
- 2. All residents (whether households or commercial activities; i.e. restaurants, hotels, harbours,...) who ask to set off the practice of home composting and are up-to-date with waste tax payments, can be enrolled in the home composting register. These subjects are asked to fill in and sign an adhesion form (hereby enclosed), subscribe the Convention Scheme (according to the forms enclosed to these guidelines). They are asked to correctly and continuously carry out the home composting activity since the date of signature of the Convention Scheme.
- 3. Based on the specific activity carried out on the waste, the user may be registered in one of the following categories of the Municipal home composting register:
 - a. Home composting for domestic users;
 - b. Individual composting of agricultural and plant-nursery activities;
 - c. Individual composting for non-domestic users;
- 4. All users registered in the Municipal Composting Register will receive a sticker or plates to be affixed next to the house number of the house involved in the practice, diversified according to the category to which they belong.
- 5. The user who intends to cease the practice of home composting is required to give prior cancellation by communicating the date of cessation through the models provided (annexed to the Regulation): the cancellation involves the cancellation from the Municipal home composting register and the loss waste tax rebate starting from the date of cessation of the practice.





6.	The Municipa	l home	e compos	sting re	egister	and tl	ne re	lated	l activiti	es are	managed,	from	an
	organizational	point	of view,	by the	e Tax	Servic	e or	by	another	service	delegated	for	this
	purpose.												

7.	Users have the possibility to	verify the	registration	or cancellation	on from the	register	by
	consulting the periodic update	of the same	which will be	e published on	the instituti	ional webs	site
	www	by	of ea	ach year.			

4.

Compliance to the present regulation, cancellation from the home composting register

If residents who are signed up to the Home Composting Register do not comply to the prescriptions of the present regulation are cancelled and excluded from the connected benefits.

Municipal police is in charge to control if the signed up people comply with the present regulation.

5. Fees

6. Changes

Communication of the change of the placement of the composter, number of members of the household or customers of the commercial activity (hotel., etc....)

7. Incentives

- 1. Users enrolled in the Municipal home composting register can submit a specific application (see Annex I) to receive from the Municipal Administration one household composter on loan. The composter is granted for the entire time of registration in the Register.
- 2. Users enrolled in the Municipal home composting register, in consideration of the suspension of the collection service of the organic fraction to which they are subjected, benefit from a reduction/rebate in the waste tax established annually by the City Council during the approval phase of the budget proportional to the reduction of the conferment of biodegradable organic waste to the manager.





- 3. The quantity of biowaste treatable by users registered in the Municipal home composting register for the category to which they belong is estimated each year according to the following formulas:
- a) For users belonging to the "Home composting for domestic users" category

QOc= 80 kg/year

Where

QOc= Quantity of biowaste treatable by registred users

b) For the users belonging to the "Individual composting of agricultural and plant-nursery activities" and "Individual composting for non-domestic users" categories:

QOc= VCO*ps *nSRDo

Where

QOc= Quantity of biowaste treatable by registred users

VCO = Total volume in liters of containers assigned to non-domestic users for home organic collection

ps= specific weight of the organic fraction equal to 500 kg / m3

nSRDo = Total annual number of container emptyings provided for non-domestic users from the municipal staff separate collection system.

- 4. The annual reduction provided for in paragraph 1 of this article is applied to the extent of the fraction of the year in which the user is registered in the Municipal Home Composting Register and is calculated on the variable part of the waste tax, as a percentage of savings achieved by the Administration for not carrying out the collection and treatment of organic waste produced by users, established annually by the City Council.
- 5. The cost of the collection and treatment of compostable organic waste is estimated as follows:

a) CRT O = [QOc * CRo] + [QOc * CTo]

where

CRT O = Cost of Collection and treatment of organic waste (euro / t)

QOc = Quantity of organic waste manageable by users registered in the Municipal Home Composting Register (t / year)

CRo = Cost of organic waste collection (euro / t)

Cto = Organic waste treatment cost (euro / t)

6. For the first year of validity of this regulation, the percentage of savings that will be recognized to users is equal to:





- a) 65% of the missed cost of collection and treatment of organic waste for the category of the Municipal Home Composting Register "Composting for domestic users";
- b) 75% of the missing cost of collection and treatment of organic waste for the categories of the Municipal Home Composting Register "Composting of agricultural and plant-nursery activities" and "Composting of non-domestic users".
- 7. Users who obtain the qualification of Master Composter are subject to an additional tax reduction of XXX euros.
- 8. For users of the same street or area who all carry out home composting, avoiding the door-to-door collection of staff in the entire street or area, an additional XXX euros rebate is granted.
- 9. The reduction of the waste tax will in any case be recognized in the final balance, or starting from the calendar year following the one in which the practice is actually carried out.
- 10. Without prejudice to the provisions of current regulations, in order to benefit for the rebate, the following conditions must also be met:
 - a) the composting activity must be uniquely attributable to the user who has signed the Agreement Scheme;
 - b) the user must accept and make possible educational visits and / or checks carried out by the staff appointed by the Municipal Administration, through access to the area where the home composting practice takes place and where the container of undifferentiated dry waste is positioned home composting.
- 11. The Municipality reserves the right to provide additional facilities to users registered in the Municipal Home Composting Register such as, for example, but not exhaustive, assistance, free loan of composters and any other bonuses that may possibly be identified.

8. Methods of assistance and monitoring

- 1. The Municipal Administration may arrange to carry out at least once, through appointed personnel, even without prior notice, to those who adhere to the practice of the home composting:
 - support visits, both for the purpose of giving indications on the correct procedures for carrying out the home composting practice, and in order to sensitize third parties (other applicants, school children, etc.) to its correct performance;
 - necessary checks in order to evaluate the correct application of this Regulation and the correct and continuous development of the practice.





9. Master composter

- 1. The Master composter is a user, identified by the municipal administration with a specific public procedure, provided with specific skills on the home composting process, also gained thanks to experience and attendance of at least one of the seminars organized by the municipal administration or other Competent body in the field of waste composting.
- 2. This person also declares that he wishes to undertake to carry out a dissemination and support activity to the neighborhood on the correct practice of the composting process which may consist of activities such as:
 - a) respond by email, telephone or in person to requests for clarification made by their fellow citizens on the local self-composting and / or composting process;
 - b) go directly to the user registered in the Municipal Home Composting Register to verify the correct performance of the composting process carried out by it, provide support, assistance, show methods to improve the practice.
- 3. This subject for the activity carried out receives in exchange from the municipal administration a contribution, in the form of reimbursement of expenses, established annually by the City Council, based on the commitment shown and reported in carrying out his role.

10. Conditions required of users for carrying out the practice

- 1. Home/individual composting can be carried out by users who:
 - produces organic kitchen or canteen waste, mowing and pruning resulting from garden maintenance;
 - has a green area (garden, vegetable garden), uncovered, unpaved, for the exclusive and /
 or shared use of the object for which user is subjected to waste tax, owned or available,
 appurtenant or at least adjacent to the building where self-composting takes place, where
 to use the compost produced.
- 2. In compliance with the conditions set out in paragraph 1 of this article, all domestic users and only non-domestic users listed below may carry out the individual composting practice:
 - schools with canteens;
 - commercial activities with the sale of biodegradable products (fruit and vegetables, fishmongers, flowers and plants, pizza by the slice);
 - agritourism activities of farms and campsites with catering service;
 - restaurants, trattorias, taverns, pizzerias, pubs; is. hotels with restaurant service;
 - canteens, breweries, burgers; g. bars, cafes, pastry shops;
 - agricultural or horticultural activities.





- 3. Adherence to the home composting practice by the individual user is voluntary and subject to full acceptance of the conditions required for its performance by current legislation and these Regulations.
- 4. For anything not expressly governed by these regulations, please refer to the Municipal Regulations _____.

11. Organic waste suitable for individual composting

- 1. Materials suitable for self-composting are:
 - kitchen waste: for example fruit and vegetables, bread, pasta, egg shells and vegetable residues in general;
 - green waste from the garden or vegetable garden for domestic and non-domestic users, from agricultural and plant-nursery activities for non-domestic users referred to in point h paragraph 3 of art. 12: leaves, wood shavings, twigs, pruning, cut flowers, grass clippings, preferably still green but already dried;
 - cellulose: kitchen paper or paper handkerchiefs not containing ink.
- 2. In the case of static composting, citrus peels, coffee grounds, tea filters, ash are compostable only in modest quantities, as they may contain antifermentants or can inhibit the action of earthworms, organisms that are essential for carrying out the process.
- 3. In the case of static composting, food waste that is too rich in proteins such as meat, fish, cheese and cured meats are compostable materials that must be mixed and distributed evenly since in the decomposition process they can attract insects and rats or other non-functional superior animals, to the composting itself.
- 4. It is forbidden to compost the following materials: paper and cardboard, glass, metals, rubber and plastic objects, expired medicines, batteries (to be sent for separate collection), pesticides, wood waste treated with chemicals, some other waste that is not mentioned in paragraphs 2 and 3 of this article that may contain chemical or physical residues not attributable to biodegradable organic material.

12. Individual/home composting systems

1. Domestic users can practice home compost using one of the following systems:





- two holes, one in use, the other at rest, to be used every six months, each with good water drainage and the following minimum dimensions: 50 cm on the side, 50 cm in height, 40 cm in depth;
- a composter box, with a minimum size of 100 cm on each side, 50 cm in height, 40 cm in depth and features such as to allow air to penetrate inside;
- a static composter;
- a side-turning composter;
- an electromechanical composter;
- use compostable waste as feed for pets and courtyard animals.
- 2. Non-domestic users can practice individual composting using one of the following systems:
 - a static composter;
 - a side-turning composter;
 - an electromechanical composter;
 - use compostable waste as feed for pets and courtyard animals.
- 3. The volume of the individual composting systems used by users, domestic and non-domestic, must be quantifiable and, in any case, compatible with the average production of biodegradable organic waste of the users. The number and type of animals intended for compostable waste must be consistent with the amount of compostable organic produced by the user.
- 4. The composting system used must preferably be located in a shady area, to avoid an early and excessive dehydration of compostable waste and the slowing down of the decomposition process, and free from stagnation of water, to avoid alterations of the decomposing matter that can lead to its fermentation.
- 5. The composting process must be constantly monitored, so that it does not give rise to harmful or odorous emissions, to hygienic-sanitary dangers, to the formation of conditions lacking in hygiene and decorum, to damage to the environment or any other inconvenience to the population.
- 6. For a good result of composting, in case of use of non-electromechanical equipment, it is recommended to:
 - place the material on a draining base that allows the liquid to penetrate the soil, avoiding its stagnation in contact with the material itself;





- mix biowaste in a balanced way, not neglecting to use bulking material (branches in pieces, small remains of untreated wood);
- mix in the correct proportion the more humid organic waste (2-3 parts of kitchen waste, grass, etc.) with the less humid ones (1 part of twigs, wood, leaves) in order to obtain a balanced nutritional supply for the microorganisms responsible for degradation;
- shred or cut the largest waste before inserting it into the system used in order to reduce composting times and make the compost more homogeneous;
- make sure that the mixture has adequate porosity (presence of twigs and / or wood chips) and turn the material periodically (at least once a week) to promote its oxygenation and the decomposition process by aerobic microorganisms;
- control the humidity of the material, providing, if necessary, to increase it (with the addition of water or greater quantities of humid compostable waste) or to reduce it (with the addition of dry compostable waste, such as leaves, straw, sawdust from untreated wood, etc.);
- cover with insulating and breathable material in winter to avoid excessive cooling of the process.
- 7. It is mandatory, with the use of static composting systems, to keep the heap in contact with the ground in order to allow the passage of microorganisms, earthworms and insects responsible for the correct development of the whole process and to avoid the accumulation of leachate.
- 8. The composting system must be allocated considering the distances between the buildings, in order not to disturb the neighbors, compatibly with the size of the green area used for the practice and with the optimal conditions for its development: the composting must be placed at least 5 meters away from the border of the property of others or at the point furthest from the border of the property of others, unless otherwise agreed with the neighbors;
- 9. The user who carries out home composting must always keep in mind the rules of hygiene, as well as the fact that he can be subjected to periodic checks by the competent authorities.

13. Compost specifications and uses

According to the Law XXX, simplified quality characteristics are required for compost produced from the home composting practice, not spread on agricultural soils intended for the production and sale of products for human or animal use, limited to:

- Water content between 30 and 50 (% v/v)
- Maximum temperature not higher than 2 ° C with respect to the ambient temperature
- pH values between 6 and 8,5
- Extraneous fractions lower than 2% by weight





• Absence of dangerous fractions

Compost that does not comply with these requirements is to be considered undifferentiated urban waste, and as such to be given to the collection service with code CER 20 03 01.

Management times and use of compost

The vegetable gardens and gardens of our homes can suffer from the same problems as large agriculture, as they are subjected to a continuous removal of fertilizing elements by vegetables, flowers, rose gardens, lawn grass, etc. Compost, with its 40-60% organic substance, is able to restore the normal structure of a land exploited by processing and crops. However, the characteristics and uses of compost change according to quality and time:

Immature compost. It is compost between 2 and 4 months. It can be used on flower beds, in the vegetable garden, at the base of trees, preferably in autumn, incorporating it into the first centimeters of the ground, or in late spring, when the plants are already in an advanced stage of vegetation. In sandy soils, softer and more ventilated, it is possible to distribute a greater quantity of immature compost, thus favoring its decomposition. The use of immature compost allows you to bring interesting quantities of organic matter and fertilizing elements to the soil, but a low dose of humus compared to mature compost. Uncured compost must not be used as soil to pot flowers and plants or, in any case, in direct contact with the roots, as the decomposition processes are still active in it and produce substances that can be harmful to the root systems of plants.

Mature compost. After 9-12 months from setting up the heap or composter, depending on the climatic conditions in which it was operated and the waste used, a compost that can be defined as mature will be obtained. During this period of time there is an average reduction in weight of 50% compared to the initial waste and a decrease in volume, compared to the percentage of shredded waste, which varies between 30 and 40%. It is suitable for use as a growing medium for growing potted plants. The mature compost can be distributed in any season on the bare soil, in the vegetable garden and in the garden, in a layer of a few centimeters thick which will then be lightly buried. In spring and autumn it is used directly in the planting furrows of the garden or in the planting hole, since it does not create problems even in direct contact with the bare roots and seeds. It is mainly suitable for indoor plants and is an excellent material for grassing lawn areas with stunted vegetation.

14. Organic waste not easily/suitable for home composting

In the case of organic waste, in terms of quantity or quality, which are not compostable within individual composter, these may be (the Municipality must indicate which method to provide between the two indicated below):

- 1. delivered free of charge at the Municipal Drop Off Center, using compostable bags certified in accordance with UNI EN 13432-2002
- 2. delivered to the residual waste container supplied to the user and delivered to the waste collection / collection circuit (door to door, etc.) on the fixed days.





ANNEXES





Fully aware of consequences in case of false declarations

DECLARE/STATE that

Waste tas payment register _____





-	I want to set off a home composting activity at the following address
	I ASK
	1 composter (manufacturer modelvolume) in loan for use in time of enrollement to the home composting register
Н	Iome composting will be done with the following organic fractions
	☐ Food waste
	☐ Yard waste, prunings
-	Home composting will be carried out in one of the following ways:
	□One composter of capacity of (liters)
	Use of food waste/yard waste to feed the animals:(write the number(type of domestic animals) e/o(number)(type of couranimals) of my own property.
-	The organic waste will be produced only by members of my household consisting of nr people;
-	The produced compost (will be used for my garden having a surface of ca. mq;
-	That the composter will be placed at a distance of:
	\square > 5 m from the property;
	\square < 5 m from the property;
-	That I am aware of the contents of the regulation of home composting
_	That I am up-to-date with waste tax payments.





I COMMIT MYSELF

- To perform correctly and continuously the home composting;	
- To allow inspections of the municipal authority to ascertain the comp	pliance of the correct practice.
Council of, date/	
	THE APPLIANT





Convention scheme for the free adhesion of home composting practice

FORM - CONVENTION SCHEME FOR THE FREE ADHESION OF HOME COMPOSTING PRACTICE

between	
the council of, address n° fiscal code Mr/Mrs nato/a il/ /a, role/qualification,	_
and	
I (name and surname), born, born,	า/
e resident in address ntel	in
e-mailPEC	_
Waste tas payment register)	
GIVEN THAT IN THE CONTRACTS	
With decision of the council the regulation of home composting was issued and approved	



Art. 1



THE ABOVE MENTIONE DSUBJECTS AGREE:

The user receives a composter from the council
The user is responsbile for the integrity of the composter
The user commits himself to:
 Recover food or yard waste performing the composting, whether by feeding animals of my property or by the use of a composter. The produced compost will be used in the garden of my property To not drop off my organic waste to the public waste collection service; To communicate propmptly anty variation; To accept the periodic inspections of the public authority; To drop off not biodegradable waste to the public waste collection service;
Art. 2
Home composting will be performed according ot the present regulation document.
Art. 3
The user will be enrolled in the Home composting register and will benefit a tax reduction according to

article 7 of the regulation





Art. 4		
This convention is valid from	to	
Art. 4 – Control, compliance, fee	es	
1		
2		
Signed.		
Council	, date//	
The Council		The user
	PRIVACY STATEMENT ()	



