



# ACTION PLAN

## CASALGRANDE MUNICIPALITY



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## Part I – General Information

**Project: OptiWaMag. Optimisation of waste management in urban areas and households**

**Partner organisation: Municipality of Casalgrande**

**Other partner organisations involved (if relevant): not relevant**

**Country: Italy**

**Region: Emilia-Romagna**

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## Part II – Political Context

### 2.1 Policy tool - Regulation of the municipal waste management service of the Municipality of Casalgrande

The objective of the OptiWaMag project is "...to improve Structural Fund policies and the implementation in the field of waste management and to enhance regional and interregional ecosystems. OptiWaMag recognises that effective, policy-defining results require greater cooperation between the stakeholders involved. The policy project will therefore incorporate interregional collaboration, involving a wide range of expert stakeholders, including exchange of good practices, mutual learning, peer review, knowledge transfer, targeted coaching and collective and co-designed policy development. It will deliver its results through interlinked project activities and outputs during 3 sequential phases: 1) Identification and Analysis; 2) Interregional Mutual Learning; 3) Knowledge Transfer and Action Planning. Phases 1 and 3 also include evaluations of policy improvement and learning performance. A wide dissemination of good practices and lessons learned are the backbone of OptiWaMag. The main outcomes include:

- Self-, peer- and expert-assessment tools and results of the project focusing on strengths, weaknesses, policy priorities and policy improvements in regions
- a framework strategy for the development of evidence-based and co-designed policies, programmes and implementation methods and for identifying the best way to improve policy instruments;
- 6 regional action plans (reinforced by the framework strategy, pre- and mid-term self-assessments and the advisory committee case study) to improve the implementation of regional policy instruments across Europe."<sup>1</sup>

The policy instrument initially addressed by the Municipality of Casalgrande in the context of the OptiWaMag project was the Emilia-Romagna Regional Waste Management Plan.

The contribution of the Municipality of Casalgrande had to focus on:

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<sup>1</sup> OptiWaMag application form.

- INNOVATION: being in an industrial area, it was planned to involve young entrepreneurs and green start-ups;
- COMMUNICATION using the municipal network for dissemination.

The current Regional Waste Management Plan (PRGR), which was published in BURERT no. 140 of 13/05/2016 and came into force on 6 May 2016, responds to regulatory mandates and has made it possible to ensure effective and efficient waste management in Emilia-Romagna over the years.

The current PRGR is valid for 2014-2020 (extended to 2021 by a regional law) and therefore needs to be updated. The Region has thus been working for some time on the planning process that will lead to the realisation of the 2022-2027 Plan.

The main objectives of the current plan include:

- a reduction of between 20 and 25% in the per capita production of municipal waste;
- separate collection to at least 70% within 6 years;
- recycling of paper, metals, plastic, wood, glass and organic waste to at least 65%;
- self-sufficiency for disposal within the region by optimising existing plants;
- the energy recovery of waste fractions for which no recovery is possible;
- the minimisation of disposal from landfill.

Three strands of action are planned for municipal waste:

- Prevention. The objectives are to reduce the production of municipal waste per capita by between 15 and 20%, and to reduce the harmfulness of hazardous waste.
- Material recovery. The target was to achieve at least 70% separate collection by 2020. In the same period, an increase in the quality of separate collection was expected, allowing paper, metal, plastic, wood, glass and organic waste to be recycled at a rate of at least 65% by weight in relation to the total amount of the same fractions present in urban waste. The aim was also to increase the recovery of the organic fraction for the production of quality compost.
- Energy recovery and disposal. Self-sufficiency was foreseen for the disposal of urban and special waste produced in the region, through the optimal use of existing plants. This was followed by the energy recovery of waste fractions for which no material recovery was possible; the minimisation of disposal starting from landfill; the fair territorial distribution of environmental loads deriving from waste management.

The current plan envisages that, against a population growth trend of 5.4%, per capita production (kg/inhabitant) should decrease by an estimated 20-25% and separate collection should rise to between 53 and 70%. The legislator was aware that these forecasts require an integrated model of the entire management cycle, i.e. they could not be based solely on the results expected from the implementation of recovery and disposal policies, but should also include the objective of reducing waste at its source.

The Municipality of Casalgrande has about 19,000 inhabitants and is one of the 330 Municipalities of the Emilia-Romagna Region with a total population of about 4,500,000 inhabitants. From the very first phases of the project, it became evident that the ability to act of a small municipality like Casalgrande was not such as to be able to influence a complex and much larger and structured reality like the regional one. Therefore, it was decided to change the political instrument on which to direct the objectives pursued by the OptiWaMag Interreg project.

It was therefore decided to focus on the Municipality of Casalgrande's Urban Waste Management Service Regulations. Adopted pursuant to art. 198 of Legislative Decree no. 152 of 3 April 2006, the Regulations govern

the performance of municipal waste management services in the municipalities of the ATERSIR Local Area of the province of Reggio Emilia.

The following topics are covered by the Regulation:

- Provisions to ensure hygiene and health protection at all stages of municipal waste management.
- Arrangements for the collection and transport of municipal waste and special waste assimilated to municipal waste.
- The rules for the determination of the perimeters within which the services covered by the Regulations are established.
- The modalities of delivery, separate collection and transport of municipal waste in order to ensure a separate management of the different waste fractions and promote waste recovery.
- Rules to ensure the separate and adequate management of potentially hazardous municipal waste and waste from exhumation and exhumation referred to in Article 184, paragraph 2, letter f) of Legislative Decree 152/2006;

The objectives of the Regulation are the following:

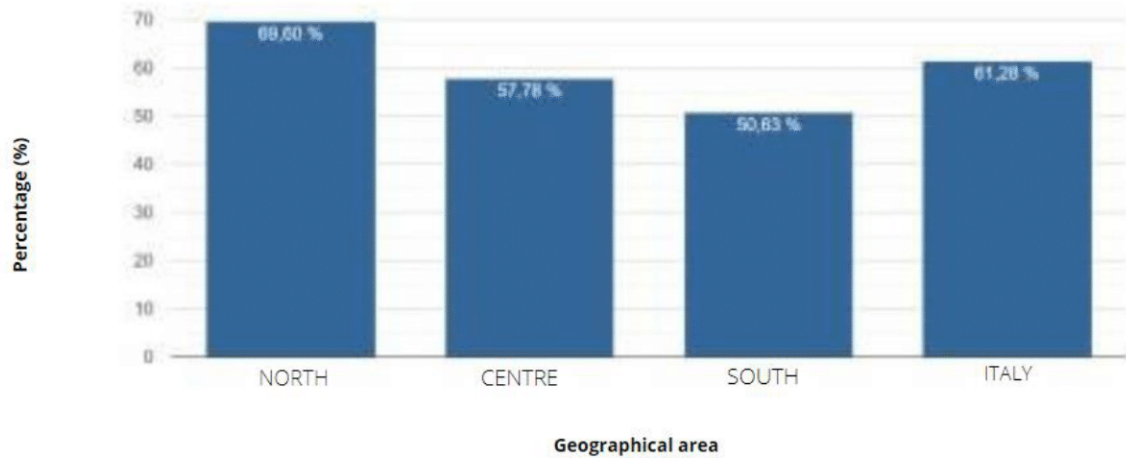
- Ensuring high environmental protection and effective controls.
- Ensuring the smooth delivery of services in an effective, efficient, cost-effective and transparent way.
- Identifying the most significant quality standards of the provided services.
- Limiting waste production;
- Define a supply chain system aimed at achieving real recovery of the material.
- Avoid any damage or danger to health by guaranteeing the safety and security of the community and individuals, both directly and indirectly.
- Enhancing the collaboration of voluntary associations and the participation of citizens or their associations, also through suitable forms of communication.
- Guaranteeing the principle of equal rights of users with behaviours inspired by criteria of objectivity, justice and impartiality.

## 2.2. Reference situation in the waste management sector in Casalgrande

In Italy, the reference values for municipal waste management vary considerably between the north and south of the country. The reference data available for the year 2019 are given below:

National Production						
Data Summary		Detailed Data				
Geographical area	Population	Sorted Waste Collection (t)	Urban Waste (t)	Sorted Waste (%)	Sorted Waste per capita	Urban Waste per capita
NORTH	27.616.216	10.021.294,608	14.398.682,472	69,60 %	362,88	521,39
CENTRE	11.831.092	3.761.965,272	6.510.345,525	57,78 %	317,97	550,27
SOUTH	20.194.180	4.614.058,815	9.114.005,337	50,63 %	228,48	451,32
ITALY	59.641.488	18.397.318,695	30.023.033,334	61,28 %	308,47	503,39

### Percentage of sorted waste collection by macro area - base year 2019



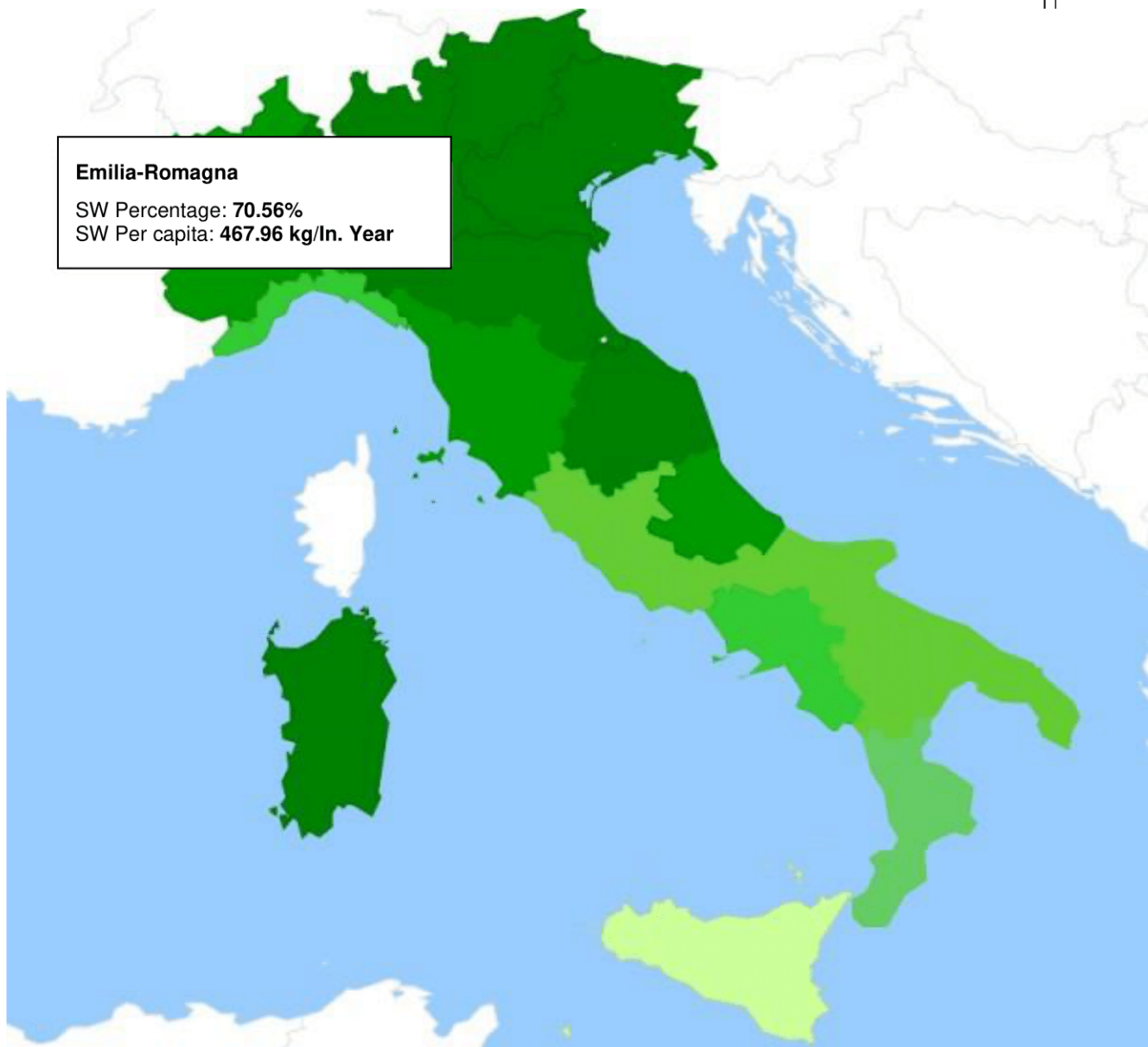
Data source: <https://www.catasto-rifiuti.isprambiente.it/index.php?pg=nazione&advice=s1>

Emilia Romagna is a region located in Northern Italy.

A detail of the values found at regional level is given below.

Data Summary		Detailed Data						
Region	ISTAT	Population	Sorted Waste (t)	Urban Waste (%)	Sorted Waste (%)	Sorted Waste per capita	Urban Waste per capita	
Piemonte	01	4.311.217	1.355.656,167	2.143.651,916	63,24 %	314,45	497,23	
Valle d'Aosta	02	125.034	48.933,153	75.824,892	64,53 %	391,36	606,43	
Lombardia	03	10.027.602	3.488.627,628	4.843.569,561	72,03 %	347,90	483,02	
Trentino-Alto Adige	04	1.078.069	399.672,202	546.635,970	73,11 %	370,73	507,05	
Veneto	05	4.879.133	1.795.250,930	2.403.334,993	74,70 %	367,94	492,57	
Friuli-Venezia Giulia	06	1.206.216	405.089,141	603.106,550	67,17 %	335,83	500,00	
Liguria	07	1.524.826	439.016,538	821.949,486	53,41 %	287,91	539,04	
<b>Emilia-Romagna</b>	<b>08</b>	<b>4.464.119</b>	<b>2.089.048,849</b>	<b>2.960.609,104</b>	<b>70,56 %</b>	<b>467,96</b>	<b>663,20</b>	
Toscana	09	3.692.555	1.370.961,791	2.277.253,816	60,20 %	371,28	616,71	
Umbria	10	870.165	300.105,841	454.253,661	66,07 %	344,88	522,03	
Marche	11	1.512.672	559.503,629	796.289,045	70,26 %	369,88	526,41	
Lazio	12	5.755.700	1.531.394,010	2.982.549,002	51,35 %	266,07	518,19	
Abruzzo	13	1.293.941	376.107,993	600.277,966	62,66 %	290,67	463,91	
Molise	14	300.516	56.112,491	111.240,771	50,44 %	186,72	370,17	
Campania	15	5.712.143	1.368.911,138	2.595.166,096	52,75 %	239,65	454,32	
Puglia	16	3.953.305	946.823,088	1.871.828,382	50,58 %	239,50	473,48	
Basilicata	17	553.254	97.369,856	197.213,762	49,37 %	175,99	356,46	
Calabria	18	1.894.110	367.638,723	767.269,802	47,92 %	194,10	405,08	
Sicilia	19	4.875.290	860.325,020	2.233.278,717	38,52 %	176,47	458,08	
Sardegna	20	1.611.621	540.770,507	737.729,841	73,30 %	335,54	457,76	

Percentage of sorted waste (%) – year 2019



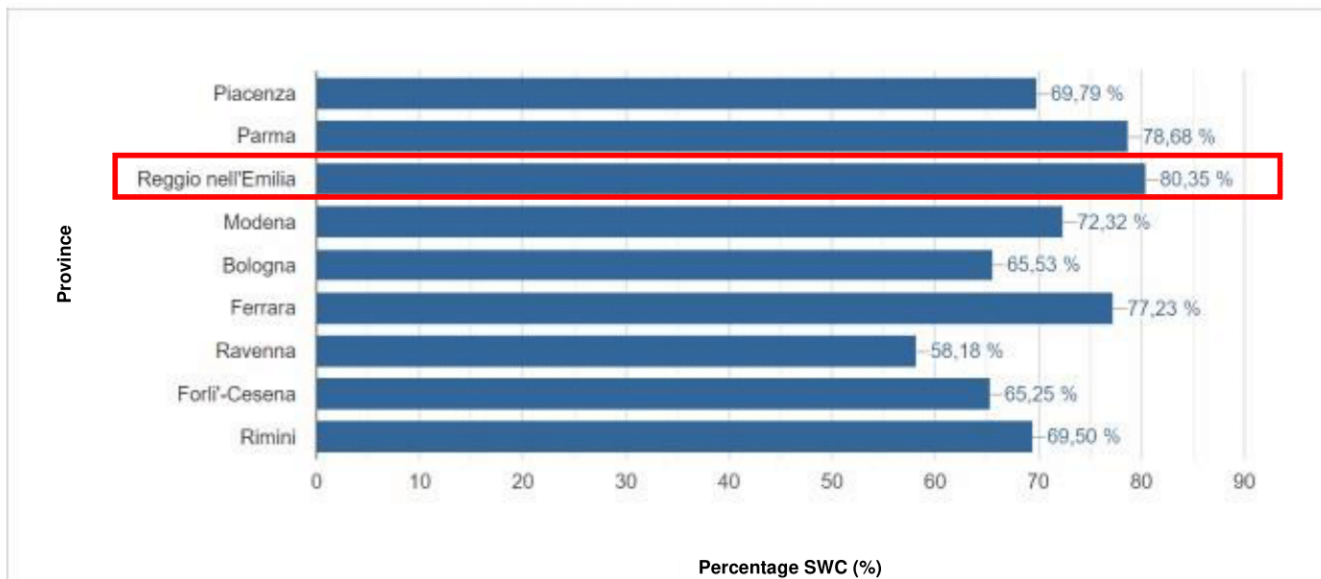
Source: <https://www.catasto-rifiuti.isprambiente.it/index.php?pg=regione>



The region of Emilia-Romagna is administratively divided into nine provinces. The municipality of Casalgrande is located in the province of Reggio Emilia. The following is a summary of the levels of differentiated collection in the Emilia-Romagna region divided by province, highlighting the data for the province of Reggio Emilia:

Data Summary		Detailed Data						
Region	Province	ISTAT	Population	Sorted Waste (t)	Urban Waste (t)	Sorted Waste (%)	Sorted Waste per capita (kg <sup>in</sup> /year)	Urban Waste per capita (kg <sup>in</sup> /year)
Emilia-Romagna	Piacenza	08033	286.433	138.265,557	198.116,581	69,79%	482,72	691,67
Emilia-Romagna	Parma	08034	454.873	212.770,822	270.442,708	78,68%	467,76	594,55
Emilia-Romagna	Reggio nell'Emilia	08035	529.609	330.823,105	411.741,832	80,35%	624,66	777,44
Emilia-Romagna	Modena	08036	707.119	322.561,035	446.040,625	72,32%	456,16	630,79
Emilia-Romagna	Bologna	08037	1.021.501	394.983,928	602.770,992	65,53%	386,67	590,08
Emilia-Romagna	Ferrara	08038	344.510	170.252,141	220.439,200	77,23%	494,19	639,86
Emilia-Romagna	Ravenna	08039	387.970	170.398,943	292.903,686	58,18%	439,21	754,96
Emilia-Romagna	Forlì-Cesena	08040	395.306	170.618,385	261.499,278	65,25%	431,61	661,51
Emilia-Romagna	Rimini	08099	336.798	178.374,933	256.654,202	69,50%	529,62	762,04

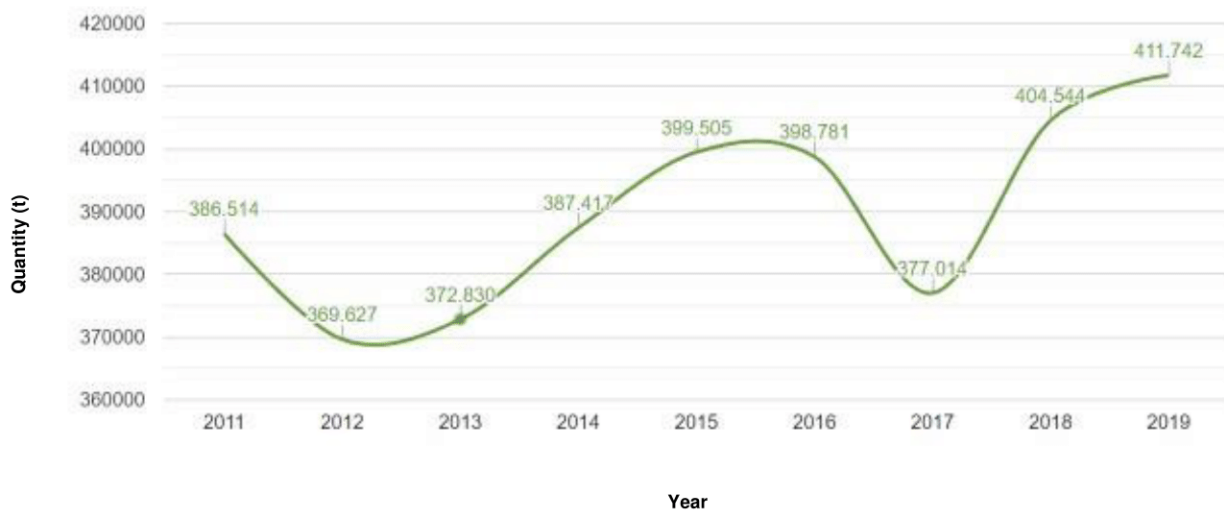
Percentage of sorted waste on a provincial scale – Emilia-Romagna Region, year 2019



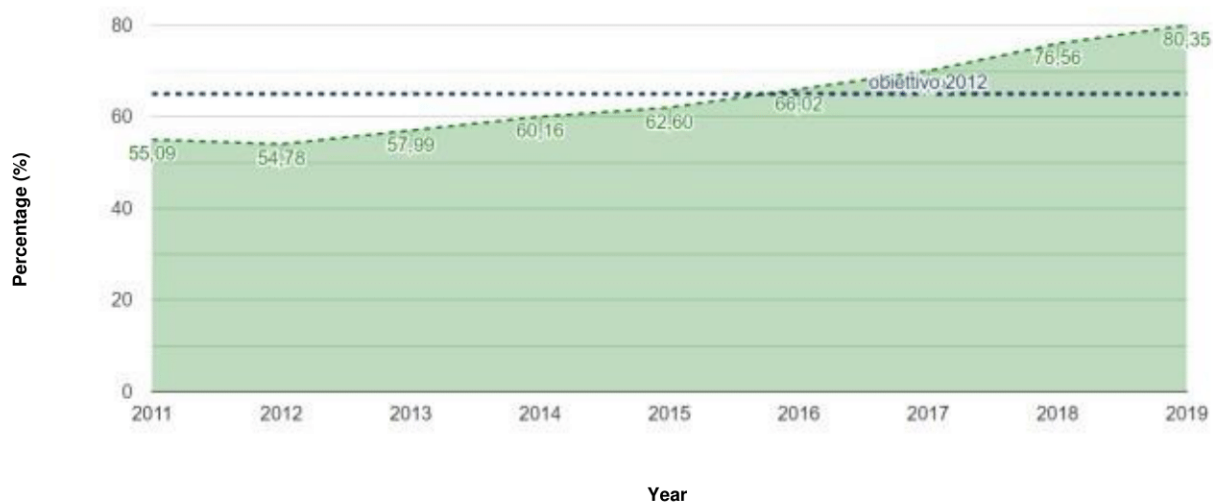
Sources: <https://www.catasto-rifiuti.isprambiente.it/index.php?pg=provincia&aa=2019&regid=Emilia-Romagna>

It is useful to take a closer look at the data for the period 2011-2019 in terms of the amount of municipal waste produced and the percentage of sorted waste collection:

Trends in municipal waste production in Reggio nell'Emilia province, 2011-2019



Trends in municipal waste production in Reggio nell'Emilia province, 2011-2019



Source: <https://www.catasto-rifiuti.isprambiente.it/index.php?pg=comune&aa=2019&regid=08035&nomereg=Emilia-Romagna&p=1>

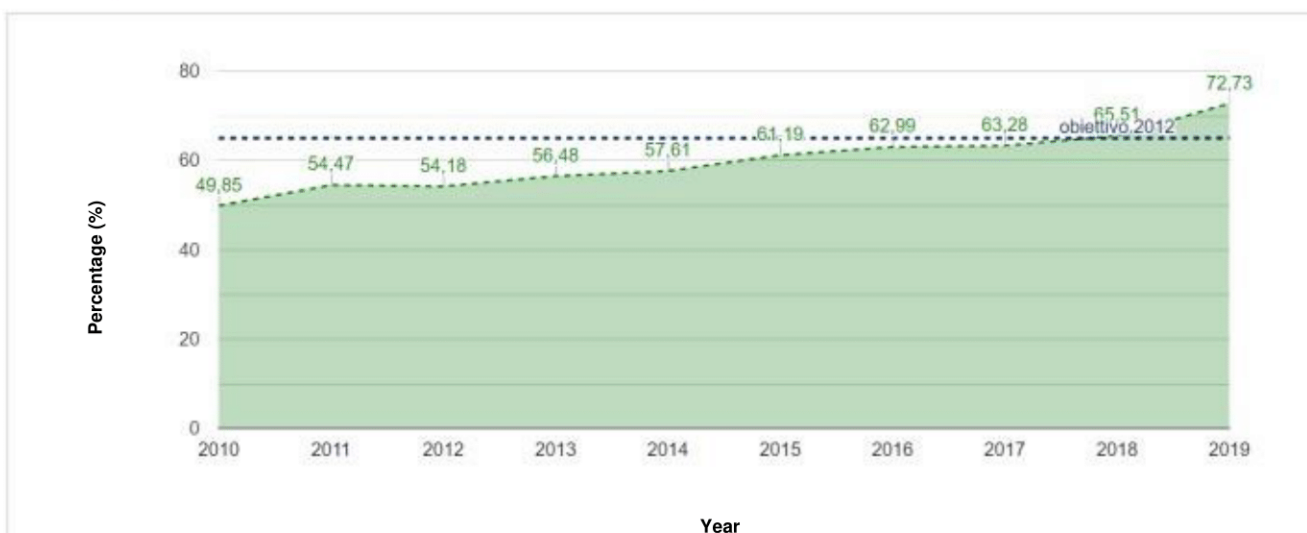
The data show a substantial upward trend in the amount of waste produced per capita per year, as well as a marked increase in the amount of sorted waste.

Finally, the data recorded in the Municipality of Casalgrande in the decade 2010-2019 are reported.

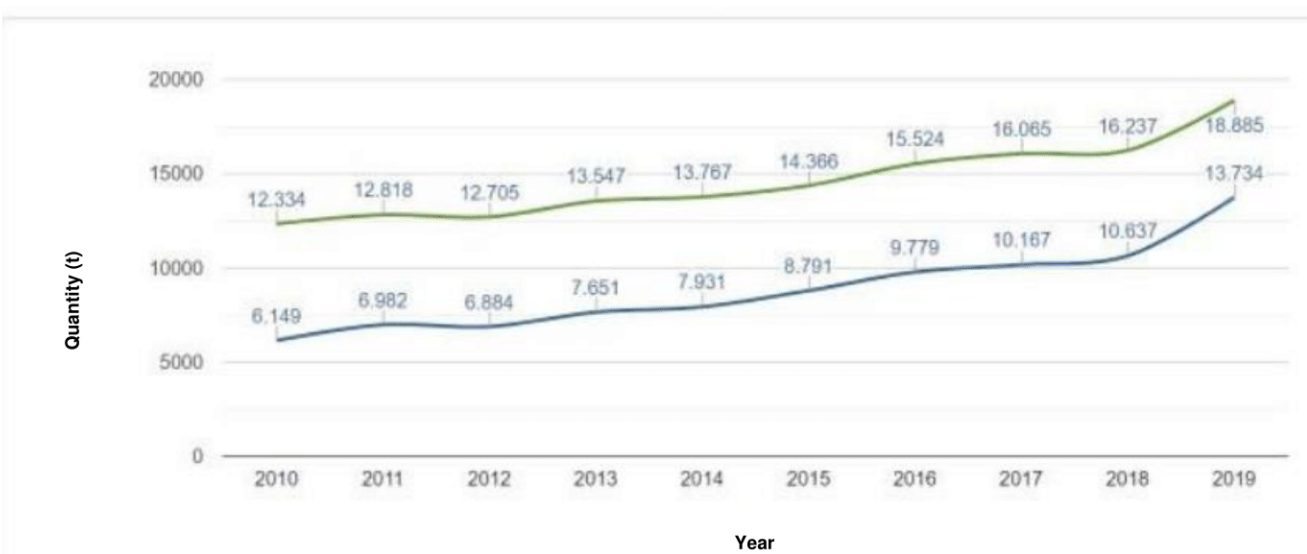
National production > Regional production > Provincial production in Emilia-Romagna region > Municipal production in the province of Reggio nell'Emilia > Production of Casalgrande Municipality

Year	Data related to:	Population	Sorted Waste (t)	Urban Waste (t)	Sorted Waste (%)	Sorted Waste per capita (kg/in*year)	Urban Waste per capita (kg/in*year)
2019	Municipality of Casalgrande	18,982	13.734,013	18.884,535	72,73	723,53	994,87
2018	Municipality of Casalgrande	19,009	10.636,791	16.236,721	65,51	559,57	854,16
2017	Municipality of Casalgrande	19,234	10.166,996	16.065,436	63,28	528,59	835,26
2016	Municipality of Casalgrande	19,215	9.778,565	15.524,458	62,99	508,90	807,93
2015	Municipality of Casalgrande	19,310	8.790,522	14.366,141	61,19	455,23	743,97
2014	Municipality of Casalgrande	19,160	7.930,889	13.767,297	57,61	413,93	718,54
2013	Municipality of Casalgrande	19,105	7.651,196	13.546,649	56,48	400,48	709,06
2012	Municipality of Casalgrande	18,669	6.883,768	12.704,898	54,18	368,33	679,81
2011	Municipality of Casalgrande	18,635	6.982,121	12.818,475	54,47	374,68	687,87
2010	Municipality of Casalgrande	18,785	6.148,979	12.334,349	49,85	327,33	656,61

Percentage trend in sorted waste collection – Municipality of Casalgrande



Production trend in total production of sorted waste– Municipality of Casalgrande



Source: [Catasto Rifiuti ISPRA](#)

The numbers are very clear: waste production has continued to grow in absolute terms and, particularly, in per capita terms, reaching almost a tonne per person in 2019! It is a small consolation to see that the constant growth in the amount of waste produced per capita is combined with a constant increase in the percentage of sorted waste.

In the territory of the Municipality of Casalgrande, the municipal waste management service is entrusted, through a specific agreement, to IREN Ambiente Spa.

The waste managed by IREN, refers to 6 main categories:

- paper
- plastic
- glass
- organic waste
- unsorted waste
- plant waste (grass clippings and plant prunings)
- edible oil

In addition to these waste categories, there are several other categories such as batteries and accumulators, bulky waste (mattresses, furniture, wardrobes), wood, electrical and electronic waste, motor oil, paints and varnishes, and used clothes.

Plant waste is collected through door-to-door collection throughout the municipality.

For 5 main waste categories, IREN carries out 2 types of waste collection and subsequent transport:

- a small part of the territory, as of October 2018, is served by a mixed system of home collection (door-to-door on organic and unsorted waste) and street collection using containers (dumpsters and bins of various sizes);
- the remaining part, most of the territory, is served by a street collection system with containers.

The part of the territory served by the door-to-door system, for a total of about 3,600 people, is organised as follows:

- collection of organic waste twice a week, in front of one's home or apartment block;
- collection of unsorted waste once a week, in front of one's home or apartment block;
- collection of paper, plastic and glass, using street dumpsters as in the rest of the territory, with the frequency of emptying the bins varying according to type of waste and type of dumpster.

All unsorted waste is transported and disposed in a plant outside Casalgrande.

All other categories of waste are transported and recovered/recycled, and contribute to defining the fundamental indicator for establishing the percentage of separate waste collection in the municipality of Casalgrande.

There is a Recycling Centre (also called Isola Ecologica), where residents and businesses can deliver the less frequent waste categories (mentioned above). The Recycling Centre is also managed by IREN Ambiente.

For some less frequent waste categories (e.g. electronic equipment and household appliances), delivered to the Recovery Centre, the Municipality has started a procedure to reduce the six-monthly fee of the service cost for inhabitants, through recognition with a personal health card.

### **2.3. Main results and conclusions of the OptiWaMag research work**

As part of the OptiWaMag project, a survey was launched in early 2020 and distributed to stakeholders involved in the project, namely:

- ATERSIR – Emilia-Romagna Territorial Agency for Water and Waste Services
- IREN – operator of the public urban waste collection service

- 
- CEAS Tresinaro-Secchia: Centre for Sustainability Education
  - UNINDUSTRIA -. the territorial association of the Confindustria system
  - ANCI national association of Italian municipalities
  - ARTER, the Consortium Company of Emilia-Romagna, set up to promote the sustainable growth of the region through the development of innovation and knowledge, attractiveness and internationalisation of the territorial system.
  - Freelance expert in waste management regulations

Most of the interviewed stakeholders are public bodies that interact and collaborate in various ways within the waste management system.

They are certainly stakeholders with experience and expertise in the field of waste management.

For a detailed analysis of the survey results (strengths and weaknesses) the following elaborations were developed:

- two spider diagrams: one presenting the needs (interpreted as priority actions) and the other presenting the strengths of the regions participating in the Interreg OptiwaMag project;
- the SWOT analysis, based on the results of the survey.

### **2.3.1. Self-assessment results**

The questions included in the survey were developed by the project's ETF working group and aimed to identify the strengths and weaknesses of the waste management system in place in each partner country.

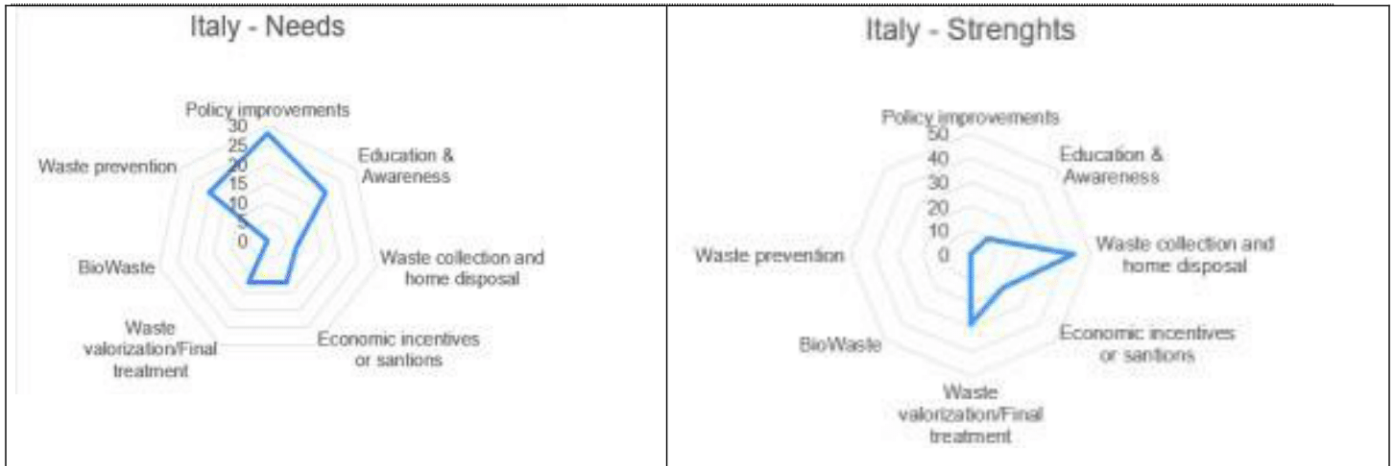
When analysing the survey results, there is a substantial alignment of respondents' opinions on both strengths and weaknesses.

With reference to the 7 topics considered, the strengths of the regional waste management plan, as expressed by the stakeholders, are the following:

- Waste collection e home disposal : frequency 43%
- Waste valorization/final treatment: frequency 29%
- Economic incentives or sanctions: frequency 19%

Weaknesses were found to include the following:

- Policy improvements: frequency 28%
- Education & Awareness: frequency 20%
- Waste prevention: frequency 20%



The concentration of results for strengths is clearly more pronounced for at least two of the three most frequent topics, while this concentration of results is not so evident for weaknesses.

A comparison of the values found for each topic is proposed in order to clearly visualise the incisiveness of the results shown above:

topic	forza %	debolezza %
Policy improvements	0	20
Education & Awareness	10	20
Waste collection and home disposal	43	8
Economic incentives or sanctions	19	12
Waste valorization/Final treatment	29	12
BioWaste	0	0
Waste prevention	0	20

For example, although the frequency of weaknesses in the topic "policy improvement" was not very high (20%), it was significantly higher than the frequency of strengths (0%), which made it possible to immediately appreciate the significance of the topic in terms of weaknesses.

It was very simple and obvious to observe the difference in judgement for each topic.

It would certainly have been interesting to have a wider range of interviewees in order to have a more significant representation of the data, also in relation to the specific skills of each stakeholder; from the beginning of the project, the ETF group had talked about involving a maximum of 6-8 stakeholders, but the management of municipal waste embraces multiple specialised subjects both from a technical and administrative point of view, as well as from an economic point of view, so it would have been appropriate to collect the contribution of all, in order to obtain a result that is representative and free of distortions related to the specialisation of the stakeholders involved.

Another aspect that should be further investigated is the effectiveness of the questions proposed in the survey. Compared to the multitude of questions included in the survey, only four were actually useful in defining the strengths and weaknesses of the seven topics identified.

It is believed that with the same number of questions it would have been possible to investigate the individual topics identified as most relevant, and then score them in terms of strengths and weaknesses on the specific topics.

This would have allowed for detailed input based on how each stakeholder assesses a topic as a strength or weakness.

Through the subsequent stakeholder meeting it was possible to deepen the single themes.

The topics that raised most interest are, in a nutshell, the following.

Tools to prevent waste production. As an example, the reuse centres set up by the Emilia-Romagna Region were mentioned: sites where citizens can bring in objects no longer used or of interest but still in good condition. This is an example of good practice for the prevention of waste production. Someone, however, has observed that these centres should assume a role entirely comparable to that of "shops", while the perception that is mostly given is more similar to an activity with a social purpose.

Also with regard to the concept of waste prevention, the difficulty that the population in general has in understanding how to make choices that reduce the amount of waste produced, for example in the case of packaging, was highlighted. In particular, a reflection was made on the difficulty encountered by most users in understanding what packaging is and therefore what can actually be sent for sorted collection: it is generally unclear that only packaging can be sent for sorted collection, while materials in the same product category but not classified as packaging cannot be sent for sorted collection, with a few exceptions.

On the subject of awareness and awareness-raising among the population, it was pointed out and shared that, despite the many years that separate collection has been in operation, the population really does have a hard time understanding what can and cannot be separated.

Therefore, it is certainly necessary to continue to insist on the correct way to carry out sorted waste collection, but the real challenge is to shift the focus to the needs to reduce the amount of waste produced at its source, with a consequent reduction in the amount of residual waste that cannot be sent for sorted collection. This could start by influencing distribution and the choice of products with "sober" and less composite packaging.

The most relevant aspects in the field of public awareness therefore concern both the concept of waste reduction, through the adoption of appropriate and conscious behaviour at the purchasing stage and such that the problem is not shifted from one matrix to another. In this regard, it is worth thinking, for example, about the spread of compostable plastics and the misleading advertising campaigns, which lead the citizen to believe that, consumption being equal, the use of biodegradable plastics is a clear improvement (this is not the case, as biodegradable plastics would be more difficult to manage than "real" plastics: the objective should be the reduction of plastics in general and not the reduction of "traditional" plastics and the increase of biodegradable ones).

As far as collection systems are concerned, a reflection was made on the collection methods currently in place in Emilia-Romagna and in particular in the provinces of Reggio Emilia and Parma, managed by the same stakeholder present at the workshop: the idea was shared that both collection systems - door-to-door and street collection - have their pros and cons, respectively, and can both be effective if implemented with awareness by citizens.

For this reason, the collection system was probably one of the strengths of the regional plan.

Attention then turned to pricing systems and the usefulness of putting in place reward systems for virtuous citizens and penalties for citizens who violate the rules of proper waste management, such as the dumping of bulky waste, which is unfortunately still a widespread practice, despite the fact that the operator provides a free home collection service upon request.

When discussing the tariff systems and the concept of "pay for what you throw away", a stakeholder with expertise in the application of the tariff system expressed his concerns about the choice of stakeholders to be targeted by the survey, considering the stakeholder qualification phase as the central point for obtaining a technically consistent and thorough evaluation of the waste management plan.

## 2.4. Exchange of experiences and good practices

### 2.4.1. Exchange of experiences during Phase 1

The self-assessment research was the main activity during Phase 1 and was therefore discussed in several OptiWaMag interregional meetings. The results were presented in reports and stakeholder meetings.

A number of good practices have been shared with European partners, some of which have been identified to meet their learning needs.



During the presentation of the Italian waste management system, the sorted collection through "smart bins" was presented. In particular, the experience of the Municipality of La Spezia was shared, where waste management is entrusted to the same multi-utility company that operates in Casalgrande, and where the collection system involves the distribution throughout the territory of various bins grouped into "islands" and dedicated to the disposal of individual types of waste (paper, plastic, glass and plastic, cans, organic, unsorted waste) where the user delivers his waste, using an



identification badge, which allows the opening of the container and is able to account for the number of openings made by the same user. The reporting system then makes it possible to allocate the costs of urban waste management in accordance with the "pay as you throw" criterion, rewarding virtuous citizens and penalising those who do not differentiate their waste. The 'smart bin' collection system could also be implemented in the municipality of Casalgrande; the economic viability of the system has already been verified and it is in fact proposed as a possible alternative to 'door-to-door' collection, which to date has proved to be the system capable of guaranteeing the most satisfactory results. It is true that even if one "equips" the container with intelligence, it is the good will and education of the user that will always make the difference. The system of collection with intelligent "islands of bins" was reintroduced among the best practices in the area thanks to the direct participation of the councillor for the environment of the municipality of La Spezia, Kristopher Casati, at the meeting held on 27 May 2021.

The other good practices that have been presented by the Municipality of Casalgrande to the other European partners are the following:

- **Home composting:** the use of composting systems through which each citizen can manage the organic waste produced on a daily basis, producing compost that can be used directly in their garden, and also benefiting from a reduction in waste disposal charges. The aim of home composting is to prevent waste production and thus reduce the amount of municipal and organic waste.;







- **Water Stations:** natural and sparkling water supply points, where citizens can go to fill their bottles free of charge. The aim is to prevent the production of bottled water packaging waste;
- **Collection of edible oils and fats:** use of street containers for the collection of used edible oils. The objective is to intercept a waste which is not widely known to be hazardous and for which only a small amount of waste is collected separately (without these ad hoc roadside containers, the only way to do this is to collect the waste in a separate collection system);



- **Change the Ending:** an initiative promoted by Hera - one of the two major multi-utility companies in Emilia Romagna - and Last-Minute Market to support and optimise the activities of the Reuse Centres distributed in 74 municipalities and mostly managed by local non-profit organisations. The objective is to prevent waste production and raise awareness among citizens.



The good practices presented by the other partners were very interesting and stimulating: some of them were difficult to apply to a limited geographical and administrative context such as Casalgrande, especially those involving large economic investments. Others turned out to be more applicable and adaptable also in economic terms and in terms of technical feasibility related to the context.

In particular, the good practice that turned out to be of greatest interest for the Municipality of Casalgrande was the one called "app SOS" presented by the Latvian partners: it is an application that allows citizens to report critical environmental situations, allowing institutions to intervene promptly.

This good practice was useful in raising awareness of the fact that digital technology can be an effective tool for involving citizens in environmental issues, if it is well designed and easy to use.

Another aspect that has been taken into account after having examined the good practices presented by the Portuguese partner, is the importance of introducing an economic incentive to encourage and reward the virtuous behaviour of citizens.

From nearly all the good practices presented by the partners, it is clear that information and communication campaigns play a fundamental role, with high quality information materials and events to be carried out possibly in presence.



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## Part III – Details of Planned Actions

### 3. ACTION 1

#### 3.1. Action - Reducing the production of packaging waste of commercial activities in the municipality of Casalgrande

During the analysis phase of the strengths and weaknesses in the waste management system, it emerged that the activity of "waste prevention and reduction" is a point on which it is necessary to work on in order to reduce the amount of waste produced, in particular packaging waste, which is continuously growing in the Municipality of Casalgrande, as well as in the rest of Emilia-Romagna.

Among the good practices exchanged between partners, the good practice presented by the Technical University of Riga, consisting of an application called "SOS" that allows to report critical environmental situations, was particularly appreciated. In analysing this good practice, it was possible to understand how digital technology is a tool capable of bringing a good percentage of citizens closer to environmental issues, due to the simplicity of approach and the spontaneity with which well-designed telecommunications applications manage to simplify and facilitate access to information. In addition, this good practice has been found to have low costs, so that it can be sustained even at the level of a small municipality, where it is much more difficult to plan interventions that require a significant commitment of resources.

The SOS application is pretty in line with the APP that the Municipality of Casalgrande plans to develop in its action plan. In fact, taking inspiration from the SOS app presented by the Riga Technical University, the Municipality of Casalgrande also proposes as a pilot action the creation of an APP that will be used to map the commercial activities that do not use packaging within the territory of Casalgrande. The app will be downloadable by citizens directly to their cell phones and thus usable for all users who want to make conscious and sustainable purchases in local stores that reduce the use of packaging for the products sold. In fact, as reported by the SOS app, the app designed by Casalgrande will also be able to identify virtuous commercial merchants that make minimal use of packaging and simultaneously raise awareness among the local population about the importance of prevention and possible daily practices to adopt to reduce upstream waste production. Therefore, inspired by the RTU practice did inspire the Municipality of Casalgrande both in in the main concept the mapping of the commercial stores reducing packaging, the direct communication with citizens to inform them about the importance of prevention and where they can find the eco-friendly commercial stores, as well as practically, due to the creation of a digital tool (Geo referential App) which will provide Geo referential data to the users.

The action identified consists of creating an application that makes it easy to identify businesses that apply the "loose" distribution method, i.e. encouraging consumers to use their own reusable packaging for the supply of goods, as well as businesses that encourage the "returnable packaging" (with or without deposit), i.e. the possibility of returning empty packaging after use.



The idea is not only to network and make activities that already adopt these distribution strategies easily



identifiable, but also to encourage and disseminate these alternative distribution methods, so that the habit of buying products in bulk or through the use of returnable packaging becomes widespread among both companies and consumers, thus achieving the objective of preventing the production of waste, in particular disposable plastic materials, with the consequence of reducing the amount of waste produced.

There are not many companies in the Casalgrande area that currently distribute products in bulk or with returnable containers. It is considered appropriate to

start with this nucleus of existing activities (Dream stationery shop in S. Antonino, the two Water Houses, ...) in order to create a geo-referenced app that highlights the good practice implemented and the location of the activity. As information on the initiative progresses, other activities will be added. Considering that there are about 136 commercial activities in the area, the project aims to involve all those that already implement at least in part the method of distribution of loose or returnable goods, to which a sufficient number of activities will be added during the preparation phase of the project to start with an initial nucleus of 15 companies and arrive, after one year from the start, at involving 50% of the total number of commercial activities in the area.

The expected results are first and foremost a reduction in the amount of packaging waste produced, but above all awareness-raising on the subject of "preventing waste production", a subject that is certainly not innovative but very topical in relation to an issue, that of "sorted waste collection" which, although fundamental and very well known, is not the solution to the waste problem.

The action will consist of the following activities:

- Census of the activities that already carry out the distribution of bulk products and the service of withdrawal of the returnable packaging.
- Design and creation of a geo-referenced application that puts these businesses on the network, giving them visibility, with the possibility for them to edit and update the description of their business directly in the application, highlighting the method adopted to allow the distribution of their products in bulk or with returnable packaging;
- Involvement of commercial activities in the initiative with inclusion in the application and giving access to the visibility that it guarantees.
- Involvement of commercial activities in the initiative by including them in the application and giving them access to the visibility that it guarantees; Publicization of the application among citizens, including ad hoc meetings in schools and in combination with awareness-raising of the "water boxes", which are fully entitled to take part in the initiative as they contribute to the reduction of waste consisting of disposable plastic packaging.
- Feasibility study and possible application of forms of incentive for commercial businesses that participate in the initiative, such as a reduction in the Waste Tariff.
- Monitoring and reporting of the use of participating businesses with an estimate of the "avoided waste" produced.



Should the implementation of this pilot action be successful, the Municipality of Casalgrande envisions the possibility of making a structural change to the municipal waste service management regulations, including the use of the app as a non-mandatory practice for users and commercial operators.

In fact, the aforementioned regulation will be able to link to the pilot action any economic benefits intended for users who decide to use the app and thus purchase products without (or almost without) packaging. The economic benefits will be able to be translated into discounts or reductions for the payment of the Casalgrande Municipality's waste tariff in favor of these virtuous citizens. This will incentivize citizens to make more conscious choices when purchasing products, indirectly contributing to the reduction of the amount of packaging waste (plastic containers etc...) on the municipal territory. Similarly, local commercial merchants, if they decide to reduce packaging for products on sale, will also benefit from the implemented action, as they will have access to economic incentives that can be recognized by the Municipality of Casalgrande on the basis of performance criteria that will be indicated by the municipal office in charge. Finally, the list of commercial establishments that decide to reduce the packaging of products on sale will be periodically updated by the staff of the environment office of the municipality, which will be responsible for updating the information and data provided to users through the app, based on the strategic directions and objectives established at local level.

### 3.2. Involved Actors

Municipality of Casalgrande - Coordinator. Responsible for:

- application design and implementation.
- dissemination of the project among commercial activities.
- study of forms of economic incentives for the participating activities (e.g. reduction of TARI or institution of an ad hoc prize);
- monitoring and reporting.

The project may involve, for example:

- ✓ Proloco di Casalgrande to support and promote the active participation of the commercial companies in its network.
- ✓ CEAS - Centre for Environmental Education: for the dissemination in schools and among citizens of the application in the field of Education on waste reduction and disposable plastic materials in particular.
- ✓ IREN which could support the initiative as a pilot project to be possibly extended to other realities in which it carries out the waste management service.
- ✓ ANCI - Emilia-Romagna and ATERSIR as "experts" able to provide information on similar experiences in other contexts.
- ✓ Other provincial associations of commercial enterprises to help promote the initiative among their members.

### 3.3. Timing

<b>Duration: 12 months</b>	<b>Activities</b>
M1	Collection of data on activities in the territory that sell bulk products or provide a returnable packaging service.
M1 – M4	Application development and implementation
M2-M4	Information and involvement of commercial activities in the project
M5-M7	Application launch and dissemination among citizens
M12	Analysis and reporting of data 6 months after launch

### 3.4. Costs

Between 13,000 and 15,000 euros. In particular, the cost of developing the app is estimated at €10,000 and about €3,000 for specific communication initiatives.

### 3.5. Sources of funding

Own resources from the municipal budget

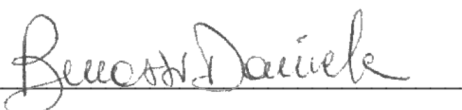
### 3.6. Monitoring and Evaluation

Three result indicators are proposed

- number of commercial establishments participating in the project with at least one measure out of the total number of commercial establishments potentially involved.
- number of measures adopted per commercial activity participating in the initiative.
- number of downloads of the app.

**Date:** 7/07/2022

**Signature:** Environmental Deputy Daniele Benassi



**Organisation stamp (if available):**

