OPENCOESIONE

DataCard

"Cohesion policy and waste. New composting plants to reduce unsorted waste"

November 2021

The manifesto of the 2021 edition of the **European Week for Waste Reduction (EWWR)**, scheduled between 20 and 28 November, endorsed among others by the European Commission and the Committee of the Regions, invites to adopt the actions and practices aimed at preventing the waste production "being one of the biggest threats that our society and our planet are facing. The fight against it is again a shared responsibility among all humans". This is why “the European Week for Waste Reduction challenges you to act together to shape circular communities aimed at preventing waste generation”. In August 2021, OpenCoesione published for the first time a **focus dedicated to the waste** financed by the national and European cohesion policies' funds. The **dataset** collects, at the latest update of the National Monitoring System (referring to 30 April 2021), **2,185 ongoing projects** relating to the 2007-2013 and 2014-2020 programming periods, for a **total public cost of over 2.27 billion euro** (with **commitments** amounting to **1.18 billion euro** and **payments** equal to **759.7 million euro**). **The resources directly referable to cohesion policies amount to 2.06 billion euros.**

Among the projects available in the focus, OC has chosen some relating to the **construction of composting plants**, **which are described in this Data Card**. The choice is linked to the importance that this type of technology can have in stimulating a reduction in per capita production of unsorted waste. **The percentage of municipal waste sent to compost in 2018 on the total of those produced represents 23%**: Italy exceeds the European average, which is still at 17% (ISPRA, 2020). In fact, organic waste already represents 38.8% of those sent for recycling (ISPRA, 2020), separating paper and cardboard by almost fifteen percentage points (24.9%).

According to the "Urban Waste Report - 2020 Edition" of the Higher Institute for Environmental Protection and Research (ISPRA), in 2019 the treatment of the organic fraction of separate waste collection (wet + green) reached 6.4 million tons (respectively, 3.1 million tons are treated in the composting plants, about 2.9 million tons are treated in integrated anaerobic / aerobic treatment plants, while about 328 thousand tons are sent to anaerobic digestion plants) ".

The **ISTAT data**, those published on OC in the section "**Territorial indicators for development policies**", however, highlight the presence of marked territorial differences. If at national level the quantity of **wet fraction intercepted and treated in composting plants for the production of quality compost was 59.9% of the total in 2019**, in the .

Southern Regions the average figure is still at 36.9%. The situation is also complex in the Central Regions, stuck at 30 percent. The North, on the other hand, is capable of intercepting over 90% of the wet fraction in composting plants, a figure that also takes into account flows arriving from other Regions.

In order to cope with this situation, cohesion policies, as the **projects monitored on OpenCoesione show, focus their investments on improving plant engineering, particularly in the Southern Regions**. The Data Card is dedicated to these projects. In particular, 3 interventions carried out in Sardinia are described: this is the Region that between 2007 and 2019 was able to radically change its situation, passing from a capacity to intercept in composting plants only 11.8% of the organic fraction to managing 88.8% efficiently (ISTAT).

The ISPRA analysis specifies how "in some regions, structural deficiencies emerge, especially in relation to the treatment of the organic fractions of separate waste collection, which determine the location of such waste in plants located in different regions and often distant from those in which they are produced". **The total quantity of organic fraction flows handled in 2019 is approximately 1.7 million tons.** The latest ISPRA report, however, highlights an increase in the number of treatment plants: "The year 2019 is characterized by an increase in equipment (6 operating units more than in 2018) solely conditioned by the increase in plants that use the integrated anaerobic / aerobic treatment, thanks also to the conversion of pre-existing composting plants. The entire system consists of 345 operating units with a total authorized quantity of 10.8 million tons ".

At the end of 2019 the endowment present on the national territory was made of:

- **281** (unchanged compared to 2018) **plants dedicated only to aerobic treatment (composting)**;
- **41** (35 in 2018) **integrated anaerobic / aerobic treatment plants**,
- **23 anaerobic digestion plants** (unchanged compared to 2018) ".

5 projects financed by the cohesion policies in Italy

Programming period
2007-2013

PLANT FOR THE FINAL TREATMENT OF THE ORGANIC FRACTION - SALERNO

The plant plays a fundamental role in the industrial waste cycle, aimed at disposal of the organic waste separated from solid urban waste, which on average constitutes about 30% by weight of the waste. Furthermore, the project aims to produce a quality composted soil improver to be reused and to activate an energy recovery from the biogas produced by the anaerobic digestion of FORSU. The **plant potential** located in Salerno in the industrial area adjacent to the treatment plant, is approximately **23,000 tons / year** of FORSU and **7,000 t/y of structuring greenery** and will produce **3.000.000 kWh/y of electricity** at full capacity and **11,000 t/y of quality compost**. The buildings were covered with a perfectly integrated **photovoltaic system** with an **installed power of 515 kWp**. The plant, by means of a squeezing selection process, separates the organic fraction (OFMSW) and divides it into 2 flows: a liquid fraction with a high organic content and a solid fraction with a moderate organic content. The entire plant is equipped with suitable odor abatement systems; mainly these systems guarantee the depression inside all the buildings by means of special suction systems that take the air and convey it to the washing towers and subsequently to the biofiltrating beds formed by ligno-cellulosic material that break down the odorous molecules coming from the processing departments . All the wastewater deriving from the process is collected by an appropriate network, stored in dedicated tanks and subsequently disposed of in appropriate authorized plants.

Facts & figures

Total cost

€ 23.797.457,48

Duration

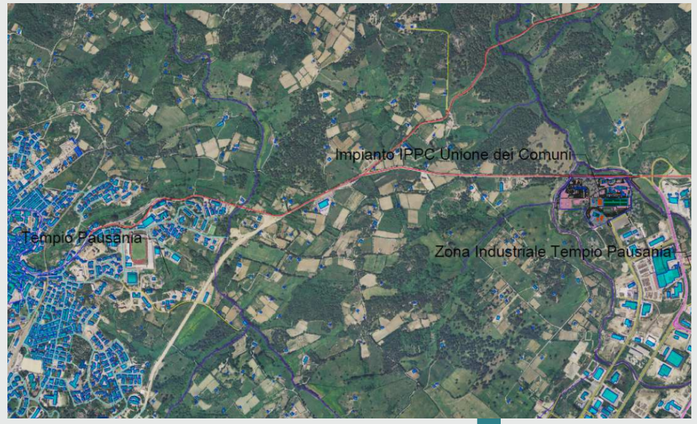
18 months

Financial source

ROP CONV ERDF CAMPANIA 2007-2013

Beneficiary

Municipality of Salerno



COMPOSTING PLANT ADJUSTMENT AND REDEVELOPMENT - UNION OF THE HIGH GALLURA MUNICIPALITIES

With this intervention, the **composting plant in Tempio Pausania was upgraded and expanded** and the packaging platform was adapted.
The aim is to reduce the amount of waste destined for disposal, increasing the production of quality compost that can be used as fertilizer in agriculture and gardening. The project was drawn up by the Union of Municipalities Alta Gallura, which includes the Municipalities of Aggius, Aglientu, Badesi, Bortigiadas, Calangianus, Luogosanto, Luras, Santa Teresa di Gallura and Tempio Pausania. The composting plant in Tempio is very important in the waste context in the province of Olbia-Tempio: an increase in its potential was necessary due to the gradual increase in separate collection. The redevelopment of the plant constitutes a long-term solution to the problems of transferring both sorted and unsorted waste: the latter can be sent to landfill or waste-to-energy following this pre-treatment, which will have reduced both their volume and their biodegradability, therefore in line with the requirements of EU and national legislation, and with the most modern concepts of the scientific community in terms of integrated waste management and plant sustainability. The intervention aims to promote a sustainable and efficient use of resources, with the aim of obtaining significant energy savings through the use of renewable energy sources.

Facts & figures

Total cost

€ 3.037.494,42

Duration

12 months

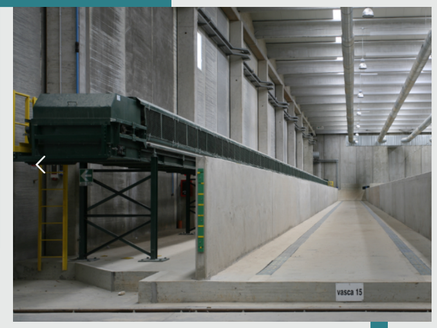
Financial source

ROP CRO ERDF SARDINIA 2007-2013

Beneficiario

Union of Municipalities in Upper Gallura

CACIP - ENHANCEMENT OF THE RECEPTION SECTION OF THE COMPOSTING PLANT



CCACIP, the Provincial Industrial Consortium of Cagliari, manages the Cagliari Industrial Development Area which is divided into three agglomeration zones: **Elmas, Macchiareddu and Sarroch**. One of the plants managed by the CACIP is that of composting the organic fraction from municipal sorted waste. Following the extensive adoption of the new households' separate collection methods in a very large area, which involves a greater quantity of organic waste, the **potential of the reception and treatment section** of the plant no longer allowed efficient management of all the organic fraction conferred. Therefore it was necessary to upgrade the reception section. Project objectives:

- to achieve adequate conditions of environmental sustainability;
- develop efficient and adequate environmental services for citizens and businesses;
- improve the supply capacity, quality and efficiency of the waste management service by strengthening the production chains connected to it;
- to recover, in order to achieve sustainable development, contaminated sites, also to protect and guarantee public health.

Facts & figures

Total cost

€ 2.020.646,00

Duration

8 months

Financial source

ROP CRO ERDF SARDINIA 2007-2013

Beneficiaries

Cesaro Mac. Import srl

CACIP - Consorzio industriale provinciale di cagliari

ADJUSTMENT OF QUALITY COMPOST PRODUCTION PLANT - MUNICIPALITY OF CARBONIA

The intervention focuses on the expansion of the composting plant in the Municipality of Carbonia (SU). The project aims to treat the **food fraction** (kitchen waste, market waste) and green waste in order to obtain the **production of quality compost**, able to be commercialized and to compete with other organic products currently used as **soil fertilizers in agriculture and gardening**.
The intervention also allows the reduction of the quantities of waste sent to landfills and therefore the consequent reduction of the polluting potential of the same. It is estimated that the **new plant produces 19,500 tons of quality compost per year**. Controlled waste disposal enables maintaining a healthy environment and reduce costs associated with collection management.

Facts & figures

Total cost

€ 1.893.260,56

Duration

7,5 months

Financial source

ROP CRO ERDF SARDINIA 2007-2013

Beneficiary

Municipality of Carbonia

ADJUSTMENT AND IMPROVEMENT OF THE COMPOSTING PLANT AND NEW ANAEROBIC DIGESTER PLANT IN CASONE

The biomethane plant in Casone (Foligno) **absorbs the organic fraction of solid urban waste**, namely the wet and garden waste. It consists of two sections, one for quality compost and another for the production of biomethane. **The treatment capacity at full capacity is equal to 53,500 tons of organic waste and cuttings of public green areas per year**, from which it is possible to obtain **15 thousand tons of quality compost** and **4 million cubic meters of biomethane, with an estimated saving of 3,280 tons of oil**.

The project promoted by Auri and Vus with Asja Ambiente integrates the current Casone plant and is equipped with a completely sealed digester within which the **organic waste is transformed into biogas** through a process that takes place in the **total absence of oxygen and therefore of unpleasant odour**. However, it should be noted that the plant is equipped with a system for capturing and treating odor emissions and a constant control and monitoring of the process.

Facts & figures

Total cost

€ 3.123.532,00 (Payments: € 9.830.427,96)

Duration

16 months

Financial source

PAR FSC UMBRIA 2007-2013

Beneficiary

ATI3 UMBRIA