

THE STORY OF ARGENTONA

CASE STUDY

#2

The town of Argentona, northeast from Barcelona, introduced door-to-door collection in 2004, managing to more than double its recycling rates and becoming a pioneering reference in Catalonia.

CHANGING WASTE COLLECTION

By giving the contract for collection services to a local social enterprise, the municipality also boosted local employment and raised the environmental awareness of the community, showing once more that zero waste is not only about waste, but about our relationship with our surroundings and the empowerment of communities.

Without the tradition of recycling boasted by many Western European nations, this area of 18,000 inhabitants has leapfrogged the recycling rates of many better-established programmes around Europe, reaching 76.17% separate collection of municipal solid waste (MSW) and aiming to reach 82% in the next 5 years.

Up until 2004, Argentona had followed the most common waste collection system in Spain, consisting of the separate collection of four waste streams – glass, paper, lightweight packaging such as plastics and cans/tins, and residual, in separate containers placed on streets. Organic waste would not be collected separately, usually resulting in significant contamination in the recyclable and residual waste streams. Following this system, recycling rates were stable below 20% and most of the waste generated was taken to the incinerator in Mataró, located 5km away.

The opportunity to move away from this system came after the incinerator in Mataró showed signs of satu-

ration. In 2001-2002, with increasing rates of waste generation, those municipalities that were sending waste to the incinerator realised they had a choice to make: Either they would have to expand the incinerator, or they could develop a system that would increase recycling rates and make incineration redundant. Fortunately, the mayors chose the latter and committed to improve the separate collection of waste.

Argentona, being one of the closest towns to the incinerator, was especially sensible to the waste issue, and began a ground-breaking initiative to look into alternatives. At the time, three small-sized towns in Catalonia had already started a door-to-door collection system, Tiana, Tona and Riudecanyes. Drawing from the experiences of these pioneering towns, the Argentona Town Council was convinced that door-to-door collection was the way forward.

As the waste collection contract with FCC (Fomento de Construcciones y Contratas) was coming to an end in 2004, the Town Council, which was controlled by a non-partisan group of locals, devoted time to discuss the door-to-door proposal with the Town Environmental Council, which included the town's environmental civil society and other engaged individuals. Together, they decided to take the opportunity to replace the street container collection system with a separate doorstep collection system.

“Our motivation to improve the system was environmental but also social, as we believed that it was very important for people to be aware and engage on issues around waste”
- Joan Pujol (at the time Town Council Technical Expert on Waste)

- » Population: 12,000
- » Recycling rate 2012: 68,5 %
- » The door-to-door collection system is implemented in the old town, which is home to around 8,500 residents, with the rest of the population living in houses in the outskirts



STEP BY STEP: ORGANIC & RESIDUAL WASTE FIRST

Before kicking-off with the new system, the inhabitants of Argentona were informed about the upcoming changes with an awareness-raising campaign. In the first phase, a small brown bin was distributed to everyone to separate food waste at home, and step-by-step the system started functioning. Businesses were charged for their food container, according to the size of the organic waste bin they required. Residual waste – what is not recyclable – was also collected door to door whereas other waste streams continued to be collected in containers.

Joan Pujol remembers that, "at the beginning it wasn't easy, a minority of people refused to change their habits and even protested against the doorstep collection. Fortunately the Town Hall decided to stay strong, to focus on making the first phase of implementation a success and let it calm down. And indeed, a few weeks later the system was already running smoothly without complaints".

IMMEDIATE INCREASE OF RECYCLING RATES

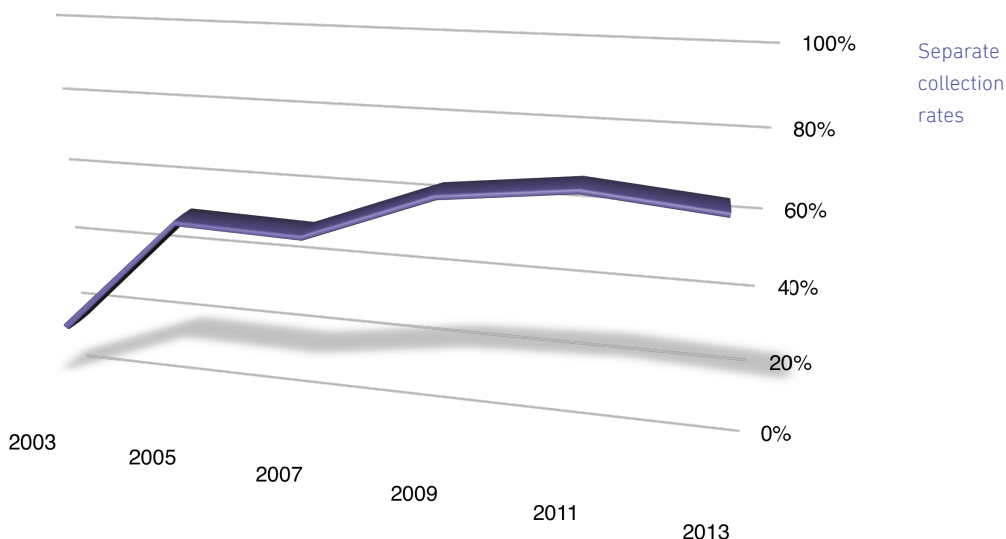
The positive results were felt from the beginning, and progressively, the percentage of separate collection increased by 10% each year. This

went a long way to reducing impurities in other waste streams and made it possible in 2006 for separate collection rates to peak at 80% in the Argentona areas with doorstep collection, which in turn raised the overall Argentona rates up to 50% of separate collection. At the same time, the quality of the organic material achieved records of only 2% contamination in 2009! Later on, the recycling rates continued to increase until they peaked again in 2012 at 68,5%.

Incentives were also provided for residents to begin composting at home, and in 2007 the municipality provided families with 113 composting bins for gardens (most of them as a donation) and 15 wormery bins (at the cost of citizens), along with training on composting techniques. The initiative was much-welcomed by their neighbours, with many of them converting into passionate composters.

In the second phase, Argentona rolled out collection of paper and packaging waste at the doorstep, which took place in 2008. Glass collection remained through 'bottle banks' dotted around the municipality. As a result the rates of separate collection continued to climb.

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BOOSTING THE LOCAL ECONOMY

GREEN LOCAL JOBS!

Another co-benefit of the door-to-door collection system was the boost in local employment, which tripled the number of jobs and improved social inclusion. The municipality awarded the collection contract to a local social enterprise called Arca Maresme, specialising in employing workers at risk of social exclusion. Arca Maresme committed to employ at least 30% of its staff from difficult to employ locals.

Before switching to door-to-door collection, the waste collection company (FCC - Fomento de Construcciones y Contratas) employed three people to carry out collection. Given the increased resources required for collecting 7 days a week over longer shifts, that number increased to 11. Arca Maresme currently employs all of them. This is one of the main lessons to learn from implementation of collection at the doorstep: apart from boosting recycling rates, the largest share of collection costs are shifted from costs related to equipment, technologies and disposal, to creating new jobs, which ultimately feeds back into the local economy.

WHAT IS COLLECTED WHEN?

Waste fractions are collected door-to-door every day of the week, according to the different waste streams, by rear-loading trucks. Residents put out their waste at a specific time – between 8 and 9pm, with collection starting at 10pm.

Collection is organised as follows: thrice weekly collection of organic waste (food scraps and small garden wastes – grass cuttings, leaves), twice a week for lightweight packaging such as plastics and cans/ tins, once a week for each paper and residual waste and a daily collection service for used, disposable nappies (a separate container on the collection truck is used for this). The specific collection for nappies is intended to keep a user-friendly scheme that meets the needs of families using nappies/diapers, while enabling a very low collection frequency for the rest of the residual waste. In this way, the system manages to cut collection costs, and drives most of the recyclables and compostable waste towards the appropriate containers.

Sr. Josep Salvador Bosch became a passionate composter after he participated in composting training and received a compost bin. Now he uses all his kitchen and garden waste to make compost and feeds it back into the soil in his allotment. "This has been such a positive experience. It's a bit of work indeed, but it's more important to close the loop with nature and stop using chemical fertilizers, which I don't need anymore. This is definitely the way forward."



"ARGENTONA INTRODUCES PAY-AS-YOU-THROW SYSTEM IN 2009"

All of the collected recyclables are taken directly to the various local processing plants, while the residual fraction is taken to a sorting hub in nearby Mataró, where neighbouring municipalities also bring their residual waste to go through a Mechanical- Biological Treatment (MBT). This process pools further some of the unsorted recyclables within the residual waste, including organic material, and incinerates the rest. "This is indeed not ideal", recognizes Joan Pujol, from the Argentona Council "but we are sending less and less waste to incineration as our residual fraction is continually minimized. Fortunately we don't have to provide the plant with any specific amount".

THE REVOLUTION OF PAYING ACCORDING TO WASTE GENERATION

After the implementation of separate waste collection at the doorstep, it was important to introduce an incentive to keep improving the recycling rates and reduce waste generation. In 2009, it was time to implement a "Pay as you throw" (PAYT) system, which would reward or penalise households economically according to how much waste they would produce.

Up until then, Argentona had had a municipality-wide fixed charge, which was levied on all residents. When the PAYT system was introduced in 2009, residents were required to dispose of packaging and

residual waste in special, taxed bags. After the latest reform, the cost of waste management is now covered through a combination of a fixed rate tax, which is intended to cover the partial fixed costs of the system, and a variable fee charged in proportion to the waste disposed of.

REDUCING WASTE & SAVING COSTS

Since 2003, this system has effectively reduced residual waste by more than 50% and packaging waste by 21%, although some of this can be attributed to waste leakage into neighbouring municipalities with no PAYT charges, according to Argentona municipality sources.

The scheme is currently still largely self-funded, as the increased profits generated from the sale of recyclables to Ecoembes and Ecovidrio (intermediary companies in charge of collecting plastic, paper/carton and glass packaging) processing plants have offset the increased operating costs of door-to-door collection. Also, Argentona recovers part of the landfill and incineration tax collected by the Catalan government from every municipality, in compensation for sending less waste to disposal. In conclusion, the numbers work: the system has proven to be even more economically viable than the container-based collection system, saving the municipality €35,000 a year.

Waste fractions are collected door-to-door every day of the week, according to the different waste streams.



LATEST REFORMS IN THE SYSTEM

In 2011, the Town Hall introduced some flexibility into the PAYT scheme to combine a fixed and a variable cost. The variable part of the fee is determined now by the number of people in each household and the amount of waste generated.

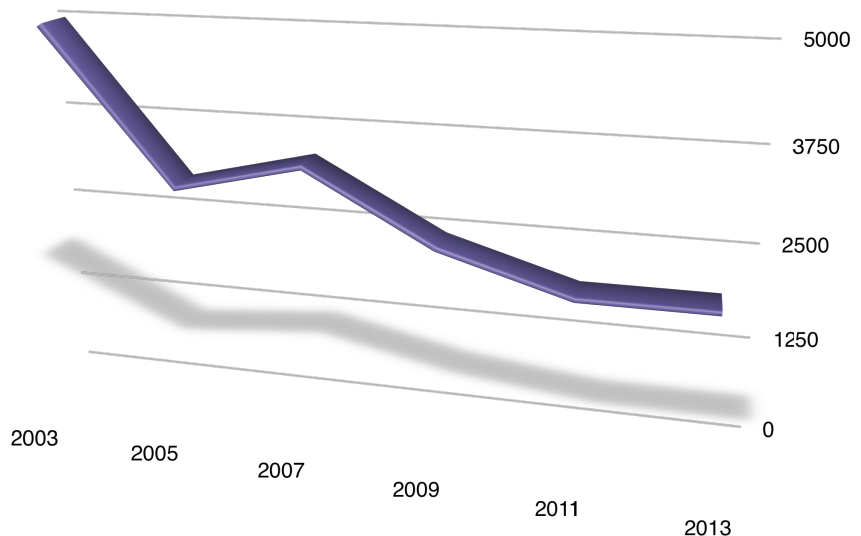
Also, in 2013 the Town Hall abandoned the use statutory yellow bags for packaging waste, with the aim of reducing the leakage of waste into neighbouring towns, the so-called 'waste tourism'. Since then, residents can instead use any bag they want, of any type and size.

This simple change has had significant consequences. On the plus side, there has been an increase of collected separate waste, which shows that less of it is going to other towns, according to the Council. However, this change is no incentive to reduce packaging waste in the first place, and it is more difficult to monitor the amounts of waste generated and the contamination in the waste stream, since the thickness of some plastic bags can hide improper separation. Moreover, commercial spaces can now camouflage their packaging waste as household waste and avoid paying their fair share.

WHAT HAPPENS WITH OTHER TYPES OF WASTE?

Argentona has also improved in how it deals with other types of waste, such as bulky items, toxic waste or those particularly difficult to recycle, such as individual coffee capsules. For the bulky items, these are transported to the town's tip (Deixalleria), which had to be doubled in size in 2008 as a result of the awareness campaign that promoted its use amongst the people of Argentona. Residents can bring there their bulky items, as well as toxic waste, dry garden waste (pruned branches etc) and vegetable and mineral oils. Around 80% of waste received by the Deixalleria is recycled. Textiles are collected by a network of social enterprises in the region called Roba Amiga, through collection bins positioned in public places. Good quality textiles are sold in Roba Amiga second hand shops, or shipped to developing countries. If they cannot be reused they are recycled as cleaning rags or fibres for industry.

> Residual waste generation pp/year



DISPOSAL

For the moment, what is not recycled or composted is sent for disposal to the nearby incinerator in Mataró, but the plan, like in any other town committed to zero waste, is to eventually discontinue this.

Given the success of separate waste collection in the area and the reduction of waste production due to the economic crisis, the incinerator is now facing a situation of overcapacity, which it compensates for by collecting and burning waste from the neighbouring towns. Indeed, a major problem in the region is the price competition between recycling and disposal.

Currently, the costs of disposal do not reflect the priorities established by the Waste Hierarchy, and a combination of bad infrastructure planning, public funds and grants to disposal sites, and low disposal taxes (€7,40/t in this case, in comparison to a typical cost in Europe of around €100/t or more), means that composting is not yet cost-competitive with disposal options. This is a para-

dox which does not favour waste reduction and separate collection. The progressive increase in the incineration tax in Catalonia should fix this problem over time, creating a higher gate fee for incineration of waste as to make this option the least desirable possible, in compliance with the Waste Hierarchy.

FUTURE CHALLENGES, FUTURE TARGETS

Argentona has paved the way for other Catalan municipalities to walk the talk of Zero Waste. Over the last years, more and more municipalities have been adopting the door-to-door collection system and other prevention policies that have proven to be so successful in Argentona.

Following the model, municipalities such as Celrà, Vilabreix or Olot have recently more than doubled their recycling rates in less than a year. For instance, Celrà increased recycling rates from 21% in 2011 to 89% in 2013.

In the meantime the network of Catalan Zero Waste municipalities continues to grow strong, comprising more than 55 municipalities, all public universities in Catalonia, 30 companies and more than forty organisations and platforms that are committed to working cooperatively in a common space to develop strategies for Zero Waste.

For more information visit:

www.zerowasteurope.eu

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Or contact:

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Twitter [@zerowasteurope](https://twitter.com/zerowasteurope)

Sources

Argentona City Council

Estratègia Catalana de Residu Zero (Zero Waste Catalan Strategy)

<http://estrategiaresiduzero.cat>

Associació de Municipis Catalans per a la Recollida Porta a Porta

<http://portaaporta.cat/ca/index.php>

Zero Waste Europe was created to empower communities to rethink their relationship with the resources.

In a growing number of regions, local groups of individuals, businesses and city officials are taking significant steps towards eliminating waste in our society.

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Zero Waste Europe 2018

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Zero Waste Europe gratefully acknowledges financial assistance from the European Union. The sole responsibility for the content of this event materials lies with Zero Waste Europe. It does not necessarily reflect the opinion of the funder mentioned above. The funder cannot be held responsible for any use that may be made of the information contained therein.