



Capannori, Italy: The First Case of the Application of the 'Zero Waste Strategy' in Italy (and Other Measures to Reduce our Ecological Footprint)¹

Name of the policy: Zero Waste Strategy (and related policies)

Start date: 2004

Completion date: Ongoing

CONTEXT

GOVERNMENTAL CONTEXT

City context

Capannori, with 45,800 inhabitants, is a medium-sized municipality in central Italy that belongs to the Province of Lucca, one of the ten provinces in the Tuscany region (with Florence as regional capital) (see Table 1 and Figure 1).

¹ The **Inclusive Cities Observatory** is a space for analysis and reflection on local social inclusion policies. It contains over sixty case studies on innovative policies for community development, access to basic services, gender equality, environmental protection and the eradication of poverty, among others. The initiative has been developed with the scientific support of Prof. Yves Cabannes from the University College of London (15 case studies) and a team of researchers from the Centre for Social Studies (CES) at the University of Coimbra, which has worked under the supervision of Prof. Boaventura de Sousa Santos (50 study cases). This Observatory aims to identify and investigate successful experiences that might inspire other cities to design and implement their own social inclusion policies.

The **Inclusive Cities Observatory** has been created by the Committee on Social Inclusion, Participatory Democracy and Human Rights of UCLG. United Cities and Local Governments (UCLG) is the global platform that represents and defends the interests of local governments before the international community and works to give cities more political influence on global governance. The **Committee on Social Inclusion, Participatory Democracy and Human Rights** aims to contribute to building a common voice for the cities of UCLG in the areas of social inclusion, participatory democracy and human rights. It also aims to guide local governments in designing these policies and to that end, fosters political debates, the exchange of experiences and peer learning among cities around the world.

For more information: www.uclg.org/cisdpo/observatory





Table 1. Populations

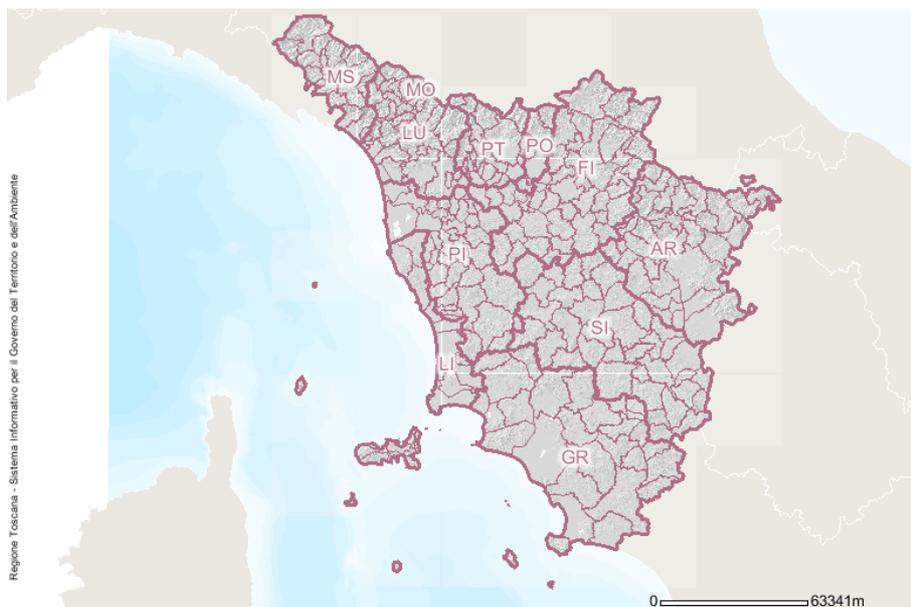
	Population	Area (km ²)	Density (inhab. per km ²)	No. of municipalities
Italy	60,045,068	301,336	199	8094
Tuscany Region	3,730,130	22,993	162	287
Lucca Province	392,000	1773	221	35
Municipality of Capannori	45,662	165	293	

Sources: Regione Toscana 2008, Istat 2010, Comune di Capannori 2010

Capannori is one of the most extended rural towns in Italy, with 40 hamlets (see Figure 2). It is composed of a large plain and two chains of hills on the northern and southern sides, so there is a great variety of landscape.

As a great part of the rural territory of Tuscany region does, the territory enables a thriving agriculture, with some excellent production of wine and olive oil cultivated in its flatland and in its beautiful hills. Other important sources of income are: the secondary sector, represented by small and medium-sized enterprises; some important paper factories; and a good footwear production sector.

Figure 1. Tuscany region and its provinces



Source: Regione Toscana - Sistema Informativo per il Governo del Territorio e dell'Ambiente





Figure 2. Municipality of Capannori (Province of Lucca) and its hamlets



Source: Comune di Capannori – Sistema Informativo Territoriale

Governmental decentralization context

The Italian territorial administration is composed of four main levels of government: state, regions, provinces, and municipalities. Following the constitutional reform of 2001, the local authorities acquired more power. Regions have an important role in planning the territorial policy, while municipalities, following the reform that permitted the direct elections of majors (1993), acquired a key role in promoting local initiatives.

Tuscany is one of the few regions in Italy that approved (on 19 December 2007) a regional law on participatory processes (n° 69), which gives citizens the possibility to participate in the discussion of new projects of great impact on the local and regional territory, and also on social matters, such as the public health system, and other local projects.

Institutional level of policy development: Municipal

SOCIAL CONTEXT

Tuscany is the Italian region with the most equitable rate of wealth distribution and it is one of the richer regions. The population is relatively old (one-quarter of residents are more than 64 years old), but this trend is changing a little with the growing rate of migration. In 2009, immigrants represented 8.4% of the population, compared to a national average of 6.5%. A





regional welfare state and public services are of good quality, and their work is supported by a deep-rooted NGO and non-profit sector.

Tuscany is also a region with a high level of consumption that generates a great amount of waste. According to the national waste production data, the region is the highest producer of urban waste per capita in Italy (see also Table 2). Usually this trend is linked to GDP per capita (and the regional GDP is above the national average), but there are also other factors that could influence this data, like a flux of population (e.g., tourists) and different ways of calculation, such as including production residues (artisanal and industrial) into the urban calculation. The production of waste is reducing due to a variety of reasons, including the economic crisis and the rise of preventative measures such as the growing rate of recycling of materials (see Table 3).

Table 2. Production of urban waste per capita

	Production of urban waste per capita		
	2006	2007	2008
Tuscany	704	694	686
Center Italy	637	630	619
Italy	550	546	541

Source: Apat 2009

Table 3. Recycling rates

	Recycling rate		
	2006	2007	2008
Tuscany	30.9	31.3	33.6
Center Italy	20.0	20.8	22.9
Italy	25.8	27.5	30.6

Source: Apat 2009

COMPREHENSIVE NARRATIVE

Description of the policy

The municipality of Capannori is developing a set of environmental policies to make it one of the most effective local authorities in applying alternative ways of consuming and managing natural resources. Its efforts are in various fields, like promoting water as a public good and defending it from resource privatisation; promoting alternatives to oil energy like solar energy (the town is at the top in its region for energy production from photovoltaic roofs); and promoting local food production (e.g., a project selling fresh milk on tap). But the most striking result concerns the changes in the waste management: Capannori is the first municipality in Italy that adhered to





the Zero Waste Strategy, a way to manage materials and waste adopted by several municipalities internationally that intend to reduce waste production and its toxicity to (near) zero emission levels. Many steps have been taken to accomplish this goal by 2020. This policy started as an initiative of the Mayor's Cabinet (from the Councillor in charge of the environment), and was designed in the form of a large, participative process, involving citizens at all levels of implementation.

The zero waste objective is pursued through many activities, such as practices of waste prevention, reusing, and recycling:

- Waste prevention activities are based on campaigns like home composting; 'green public procurement' (public administrations take account of environmental factors when buying products, services, or works); a campaign against bottled water and in favour of tap water, complemented by the 'water trail', a guided tour to the spring of the territory; the introduction of milk and detergents on tap; a campaign on town festivals and refectories without plastic dishes; and the introduction of ecological diapers and sanitary towels.
- Waste reusing activities are based on a project to create a permanent marketplace to exchange second-hand goods.
- Waste recycling activities are based on introducing a door-to-door waste collection system, which has achieved a very high percentage of recycling and reduced the economic and environmental costs of waste disposal. Since 7 June 2010, the door-to-door collection of waste has reached all of the municipal territory, including extra-urban areas.

Background / Origins

"It is impossible to perpetually consume the world's natural resources when the world is finite": this is the main idea found in the preambles of the municipal documents that explain Capannori's strategy. It recognizes it cannot change the *global* model of development, but the local administration intends to start from its local context, acting locally with its own means. This choice has proven to be a way to involve other municipalities and other levels of government, and to be a successful example used by environmental activists to encourage their local authorities to act similarly.

The initial actions towards a new environmental policy were taken under the guidance of the Councillor of the Environment for the 2004-2007 term, Eugenio Baronti, who started a set of environmental actions like the door-to-door separated waste collection, the campaign on 'green public procurement', and the reduction of the TARSU (urban waste tax). In 2004-2005, the municipality started a massive informative campaign on recycling with the help of voluntary associations of the territory, involving the population of the first two hamlets where the project started.

The first steps to plan the extension of the door-to-door waste collecting system were taken with the help of a consulting agency; the following steps were planned directly by ASCIT SpA servizi ambientali, the public municipal company managing waste.





Since 2007, the new Councillor of the Environment, Alessio Ciacci, a young administrator with a background as an activist in pacifist and environmental movements, has continued and extended the environmental policy.

The practices are informed by others' experiences of reducing waste impacts based on radically changing the collecting system: the door-to-door collecting and recycling system, developed in many places in the world, seems to be the only way to reach concrete and remarkable results. From a pilot project with 600 inhabitants, the municipality and its public municipal company, ASCIT SpA Servizi Ambientali, spread the project to all municipal areas, step-by-step.

Policy objectives

The main objective of the municipality's environmental policy is to reduce the overall ecological footprint, in particular, by reducing the environmental impacts of waste disposal and of the production of new goods. Complementary objectives are to encourage citizens' participation in the waste management policy, necessary to accomplish the main objective, and to raise the public decorum of the city.

With the success of the policy, other secondary objectives grew, such as to save more and more public funds to invest new money in the policy, to develop new actions, and to increase local employment.

Chronological development and implementation of the practice

We can divide the new environmental policy of Capannori into three phases (for convenience only):

1. Experimental phase

The municipal waste recycling rate was 37% in 2004. The new environmental policy began in 2005 with an experimental door-to-door collecting and recycling waste service in Guamo, a hamlet of 600 inhabitants, where the garbage bins laid on the road were removed to force the inhabitants to use a new method to collect and separate waste.

2. Consolidation of the policy

The methodology of the transition from road waste collection to home-to-home waste collection was successful, so it was extended to other two hamlets by 1 February 2006: Marlia and Lammari, with 10,000 inhabitants (23% of the overall population). Here, after 9 months, the recycling rate jumped to 82%, moving the policy towards a consolidation phase.

3. Adhesion to the international Zero Waste Strategy

In 2007, the Municipality adhered to the Zero Waste Strategy. This means that all the efforts are taken in a broader context and with a stronger awareness of its capacity and potentiality. In March 2008, the door-to-door service reached 26,000 inhabitants with a rate of waste recycling





raised to 82% for their 18 hamlets, and to 65% at the municipal level. In June 2010, the new collecting system reached all 45,000 citizens and it is still in place, while many other initiatives are also in place. The most recent one (launched November 2010) is the acquisition of composting machines for public school canteens.

Agents involved

Partners of the Municipality of Capannori in the implementation of the policy have been: ASCIT SpA servizi ambientali (the public municipal company that manages waste collection, recycling, and disposal); ATO Due Rifiuti (the local consortium of municipalities that manages waste collection, recycling, and disposal in Lucca); Province of Lucca; some associations like Associazione per Lammari, Legambiente, Centro culturale di Tassignano, etc.; organizing committees of town festivals; schools; and a second-hand market group.

Beneficiaries

Policy beneficiaries are: all the 45,662 citizens of Capannori since June 2010; local associations; new workers employed in the municipal waste collection service; and second-hand market operators.

Participation processes implemented

The municipality involved citizens in a series of public assemblies in many public spaces (municipal rooms, bars, churches, and condos) explaining the new policy and involving people in the new manners of managing their domestic garbage. This tool was useful to collect opinions and criticisms from citizens involved in the project.

Moreover, various associations of the territory (Associazione per Lammari, Legambiente, Centro culturale di Tassignano, etc.) were involved in the activities of informing citizens and distributing tools for differentiating the waste (i.e., bags and bins).

Institutionalization processes

With the Town Council Resolution n. 44 of 14/06/2007, the Municipality of Capannori started the process towards the objective Zero Waste for 2020. The process comprises 11 projects:

1. Green Public Procurement
2. Domestic composting
3. The water trail
4. Milk on tap
5. Good water in the school refectories
6. Detergents on tap
7. 'Ecosagre' (eco-town festival)
8. Ecological diapers
9. Ecological sanitary towels
10. Second hand market for reuse and exchange
11. Refectories without plastic dishes





A recent City Council Resolution (2010) institutes a Municipal Observatory on Waste, in which there are members of civil society involved. Also in 2010, the Municipality adhered to the UN programme Agenda 21.

Financing

At present, the project is financed by the municipality with money saved through re-using recycled waste materials and, especially, through the non-disposal of undifferentiated waste in a landfill, which represents one of the main expenses for municipalities in Italy.

To start the new environmental policy, the Municipality of Capannori needed very little monetary investment because its commitment concerned only 600 inhabitants. There was an expense for a consulting society to help the public society ASCIT to extend the door-to-door system, but the next steps were elaborated and planned by ASCIT.

Key results and achievements

In 2010, Capannori achieved a waste recycling rate of over 80%. Between 2006 and 2010, the recycling of waste doubled and undifferentiated waste was reduced by more than half (-64% from 2005 to 2009). The overall annual production of urban waste was reduced by 21% between 2005 and 2009 (from 30,887 tons in 2005 to 24,288 tons in 2009).

The total amount of waste produced per capita was reduced from 672 kg in 2006 to 532 kg in 2009, while the rate of undifferentiated waste per capita was impressively reduced from 340 kg in 2006 to 152 kg in 2009 (RSA and ARPAT).

Between 2004 and 2010, the production of waste per capita per day was reduced from 1.92 kg to 1.4 kg, with a significant reduction of undifferentiated waste, from 1.21 kg to 0.4 kg per capita.

Since the beginning of the policy, the municipality has employed 50 new workers for the collection of waste.

In 2009, over €2,000,000 of public funds were saved, derived from avoiding the disposal of undifferentiated waste and some income from selling recycled materials like paper. A little reduction of the municipal waste tax was possible: -20% on the fixed amount for all inhabitants, and an additional -10% for those inhabitants (about 2000 families) who adhere to the project 'Home composting' and were compensated for their commitment.

The municipality estimates that, from 2004 to 2009, the policy saved 13,000 tons of carbon dioxide, based on the results obtained with recycling of materials (paper, glass, plastic, organic waste) and not utilizing virgin resources.

In conclusion, the practice is successful because it is sustainable from many different points of view: it is feasible in economic terms, because it is self-financing; in social terms, because it develops employment; and, obviously, it is a way to reduce environmental impacts and to develop a type of sustainable way of life. It also introduces also a new lifestyle that can be developed by other local authorities.





Main obstacles

In 2005, the Municipality of Capannori started to involve citizens in the project towards 'zero waste'. At this time, there was popular resistance due to a lack of information, some fear of a new system that implied a new effort to differentiate domestic rubbish, and some initial criticisms. These obstacles were overcome through continuous dialogue between administration and citizens, with a great effort in developing a campaign to make aware people, with many assemblies everywhere in the territory and with the participation of local associations (employed by the municipality) to explain the new collecting system while distributing a kit to differentiate garbage to each family.

Replicability or adaptation of policy elsewhere

Pre-requisites

Many municipalities in Italy are applying similar actions, but rarely as an integrated system of environmental policy: the experience of the municipality of Capannori shows that it is possible to use together many 'good practices' to accomplish a complex objective.

Two necessary pre-requisites to replicate or adapt this policy are: (1) a confident relationship between public institutions and citizens; and (2) a strong determination by the public administration to commit to start a new course of management of local environment, and to not stop the work at the first difficulties.

Capannori has an 'easy' situation in terms of territory, density of inhabitants, and confidence relationship, probably due to a quite pacific social environment. To apply this kind of policy in different communities, it is necessary to adapt the actions of the policy to the social and territorial contexts. The adaptation could represent a way to enhance the relationship between citizens and public authorities, for instance, where the political conditions are deteriorated (like in the south of Italy where the management of waste has become a huge political problem).

Recommendations

- Ensure broad inclusive public participation.
- Involve some key actors (associations, schools, etc.) in the development of the policy.
- Ensure people involved are carefully listened to, to quickly solve all the little and big criticisms at the beginning and in the course of the work (balance 'expert' and 'local' knowledge).
- Incentivize 'green' actions (e.g., 'green' purchasing, etc.) and discourage polluting actions (e.g., packaging, etc.).
- Build capacity in public offices and agencies.
- Develop citizens' awareness of environmental problems through various campaigns.





SUMMARY

The municipality of Capannori assumed that, in a finite world, it is necessary to act to stop consuming natural resources, and that it was possible to do so acting at the local level. The administration of Capannori has developed many instruments and activities to reduce its ecological footprint.

Capannori is the first municipality in Italy that adhered to the Zero Waste Strategy (in 2007), an international initiative used by some municipalities in the world that aims to reduce to (near) zero the quantity and the dangerousness of waste: 'Zero Waste is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural cycles, where all discarded materials are designed to become resources for others to use' (Zero Waste International Alliance).

This practice is always associated with some form of citizen participation. The municipality of Capannori held many public assemblies and involved some local NGOs to manage the new policy, obtaining general approval by the population. In the first phase of extending the new waste collecting system, some problems occurred, but they were debated in public assemblies during which people pointed out their difficulties: listening to the people was important to obtain direct feedback about the effects of the new strategy in the territory and to regulate and adjust the actions in process.

The environmental policy of Capannori is developed through many different activities, including: introducing waste prevention practices (e.g., home composting; 'green public procurement'; actions against packaging for water, milk, and detergents; and refectories without plastic dishes), introducing ecological diapers and sanitary towels, reusing items (e.g., through second-hand markets), and recycling waste. The collection of waste and recycling is based on the responsibility of all inhabitants: with the developing of a door-to-door collecting system and the elimination of road bins for garbage, they are the core actors to make the process possible and they are called to act directly in the management of household refuse.

After an experimental period in 2005, the door-to-door collecting system was extended, step-by-step, until June 2010, when it reached all town inhabitants. Today, the project is running successfully and it is developing new goals and new initiatives.

The policy was initially funded by the Municipality, and afterwards it was self-financing through the savings of public funds obtained by reducing undifferentiated waste and selling materials for recycling – economically, it is a sustainable project.

The project is also sustainable in social terms: from the beginning to 2010, about 50 persons were employed by the public company to manage the waste collecting system.

Environmental sustainability is enhanced through different goals reached: the actions developed have led to a relevant reduction of urban waste produced daily per capita (from 1.92 kg to 1.4 kg between 2004 and 2009) and have raised recycling rates to around 80%, confirming Capannori's position as one of the best municipalities in Tuscany and in Italy for its recycling rate.





The environmental policy continues to develop additional interventions and it is strengthening the Institutionalization process through, for instance, adhering to the Agenda 21 programme.

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Acknowledgements / Credits

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References

Comune di Capannori, 2005a, *Disciplinare relativo alla riduzione sulla tariffa rifiuti per le utenze domestiche che effettuano il compostaggio della frazione umida*.

Comune di Capannori, 2005b, *Lettera a tutto il comune sul tema Eco-Efficienza* (Councillor E. Baronti, 2004-2007).

Comune di Capannori, 2007, *La raccolta differenziata 'porta a porta' nel comune di Capannori – relazione* (Councillor E. Baronti, 2004-2007).

Comune di Capannori, 2010, *Deliberazione di Giunta Comunale del 11/12/2010 Osservatorio Comunale Rifiuti* (Municipality Council Decision of 11/12/2010 that institutionalizes a Municipal Observatory on Waste).

Comune di Capannori, 2007, *Delibera del Consiglio Comunale n. 44 del 14/06/07* (adhesion to Zero Waste Strategy).

Constitutional law n. 3/2001.

ISTAT website: www.istat.it

Legislative decree n. 267/2000, *Unified code on local authorities*.

Regione Toscana, Legge regionale 27 December 2007, n. 69 – *Norme sulla promozione della partecipazione alla elaborazione delle politiche regionali e locali*, In 'Bollettino Ufficiale Regione Toscana' n. 1, 03.01.2008.

Regione Toscana (Tuscany Region) website: www.regione.toscana.it

United Cities and Local Governments, 2008, *First Global Report on Decentralization and Local Democracy (GOLD Report)*. Barcelona: UCLG

United Cities and Local Governments, 2010, *Local Government Finance: The Challenges of the 21st Century. Second Global Report on Decentralization and Local Democracy*. Barcelona: UCLG

Zero Waste International Alliance website: www.zwia.org

