



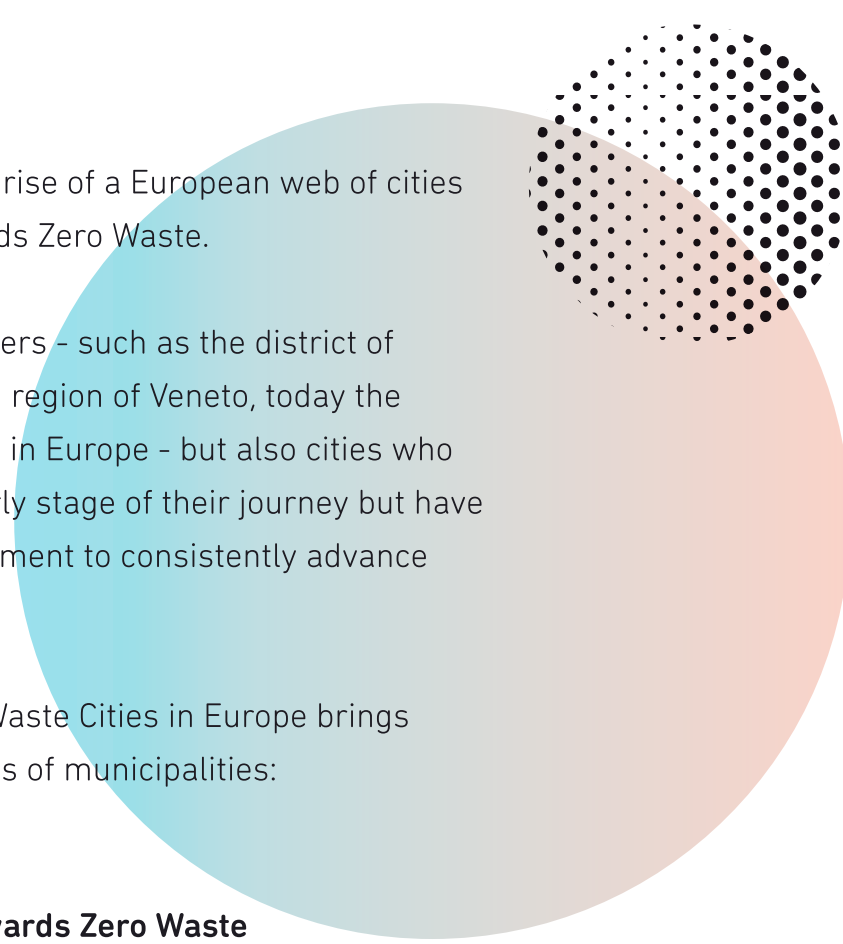
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The Zero Waste commitment in practice

What defines a
“Zero Waste Municipality”
is the firm and verifiable
commitment to move
towards Zero Waste
and the results
that it delivers.





We are supporting the rise of a European web of cities that are moving towards Zero Waste.

It comprises frontrunners - such as the district of Contarina in the Italian region of Veneto, today the best-performing entity in Europe - but also cities who are still at the very early stage of their journey but have made the firm commitment to consistently advance towards Zero Waste.

This network of Zero Waste Cities in Europe brings together two categories of municipalities:

1st Category – Cities working towards Zero Waste

The guidelines outlining the conditions that a city has to fulfil in order to qualify as a **Municipality Working Towards Zero Waste**, ensure alignment with those adopted by the Zero Waste International Alliance, and consist of the following:

- Define quantitative targets for the mid-term (within 10 years) and long-term (within 20 years). These could include a residual waste reduction target (e.g. less than 50 kgs per person by 2020) or reduction by a further amount within 10 years (e.g. reduce by 80% remaining discards), or adoption of “darn close to zero”.
- Adopt:
 - a commitment to implement residential collection programs for recyclables – and/or incentivised returns schemes such as reverse vending machines and Deposit and Refund schemes,
 - by a set date implement a management programme for organics (including food scraps) based on kerbside collection and/or home/community composting depending on the housing typology.
 - Programmes for recyclables and organics must anyway be aimed at maximising the capture and diversion from disposa

- Implement local actions for waste prevention/reduction which are in the jurisdictional capacity of the community (e.g. promote home composting; support in possible and appropriate ways local packaging free businesses and shops; promote the use of tap water whenever appropriate; support the use of cloth nappies; define local regulations for sustainable management of Events, etc.)
- Advocate for the redesign of problematic products that are not recyclable or compostable. Consider local actions/campaigns to encourage redesigns.
- Publicly report progress annually towards the Zero Waste Plan milestones to Zero Waste Europe national affiliate or the Zero Waste Europe office so that any citizen can monitor the progress made. Plan for a subsequent Implementation of a pay-as-you-throw rate structure or other financial incentives for residents (if allowed by state/provincial or national regulations) to encourage them to waste less and recycle more percentage-wise.
- Establish a Zero Waste Advisory Board (ZWAB) or multi-stakeholder process (involving residents, businesses, staff or elected officials, Zero Waste experts, and non-governmental organisations) to participate in the development, implementation, monitoring and adaptation of a Zero Waste Plan or Strategy. The tasks of the ZWAB may include checking achievements against commitments, assess critical steps, define workarounds or re-tabling of deadlines and development of similar key policy, program and facility implementation decisions.
- Conduct audits of discarded materials at least every 5 years (and preferably more frequently, e.g. yearly or biennially) in order to: analyse the progress of the Zero Waste Plan, assess what is left in the discarded materials and consider strategies and campaigns to achieve further improvements such as providing feedback to manufacturers and working with them to redesign materials, products and packaging that are barely or not reusable, recyclable, or compostable.

- In order to steadily improve the management of resources, increase ambition in material recovery and minimise residual waste; ZW Communities have to commit to move away from rigid residual waste management facilities that do not allow for constant improvement of waste prevention and recycling rates (eg. Incinerators, RDF-producing MBT, pyrolysis and other types of non-conventional thermal treatment). See footnote for clarification about acceptable technologies and strategies to define or renew local plans accordingly. These actions should be included in either a formal Zero Waste resolution and/or a Zero Waste Plan or Strategy signed by the person with jurisdictional authority (Mayor, Manager, Council, District, or otherwise, depending on the local regulatory framework and defined responsibilities for the parties locally).

¹ Zero Waste programmes in the long run only accept residual waste management facilities that

- i) maximise the recovery of recyclables
- ii) may be progressively converted into recycling platforms and
- iii) avoid any thermal treatment, which is considered as “destructive disposal” and a loss of resources.

Therefore, ZW Communities must adopt a commitment not to invest in such technologies, in the case that this is in their jurisdictional capacity; also, depending on their jurisdictional powers, they have to define, or promote, actions and plans for the phasing out/conversion of any such existing facilities (e.g. conversion of MBTs into Material Recovery Biological Treatment sites, MRBTs): depending on contextual conditions, they may act e.g. diverting residuals to other, acceptable treatment sites in next contract with service providers, when acceptable facilities are available, and/or they may explicitly ask for a renewal of local waste plans without unacceptable facilities, as time, conditions, local regulations, waste management infrastructures allow.

2nd - Category - Best practice Cities


In order to qualify as best practice the city will need to generate a maximum of 75kg of residual waste - per person per year- i.e. what is left after efforts for reduction, reuse and separate collection.

The cities committed to Zero Waste are marked with a blue pin and a star on the map of Zero Waste Cities, at www.zerowastecities.eu.



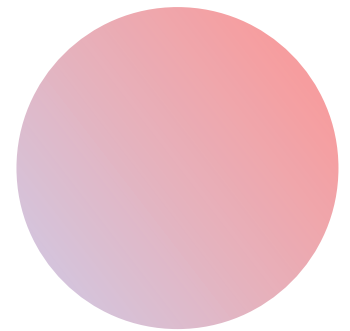
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ZERO WASTE HIERACHY



ZERO WASTE HIERARCHY

Best use

Reduce and conserve materials

Refuse - Return - Reduce toxics

Design out waste - Reduce consumption and packaging

Encourage cyclical use of resources and shift incentives to stop wasting

Manufactures design products for sustainability and take-back

Reuse

(retain value & function)

Recycle

Inorganics / Organics

Regulate disposal

Worst use

The waste hierarchy as commonly presented at the EU level until 2017.



Prevention

1 Maximum conservation of resources



Reuse

2 Reusing materials



Recycle

3 Recycling & reprocessing materials



Other Recovery

4 Including energy recovery only if high-efficiency



Disposal of waste

5 Zero conservation of resources

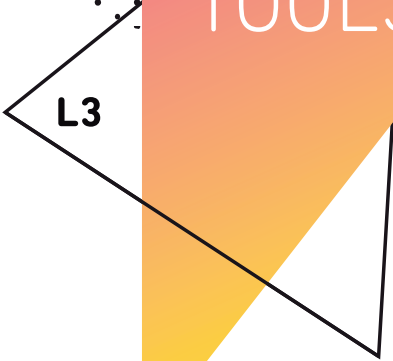


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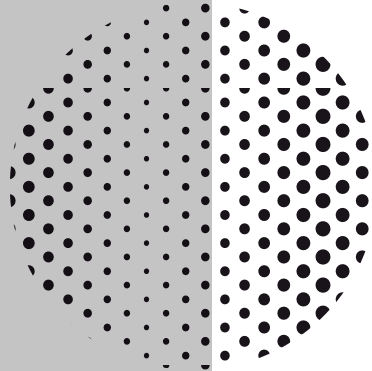
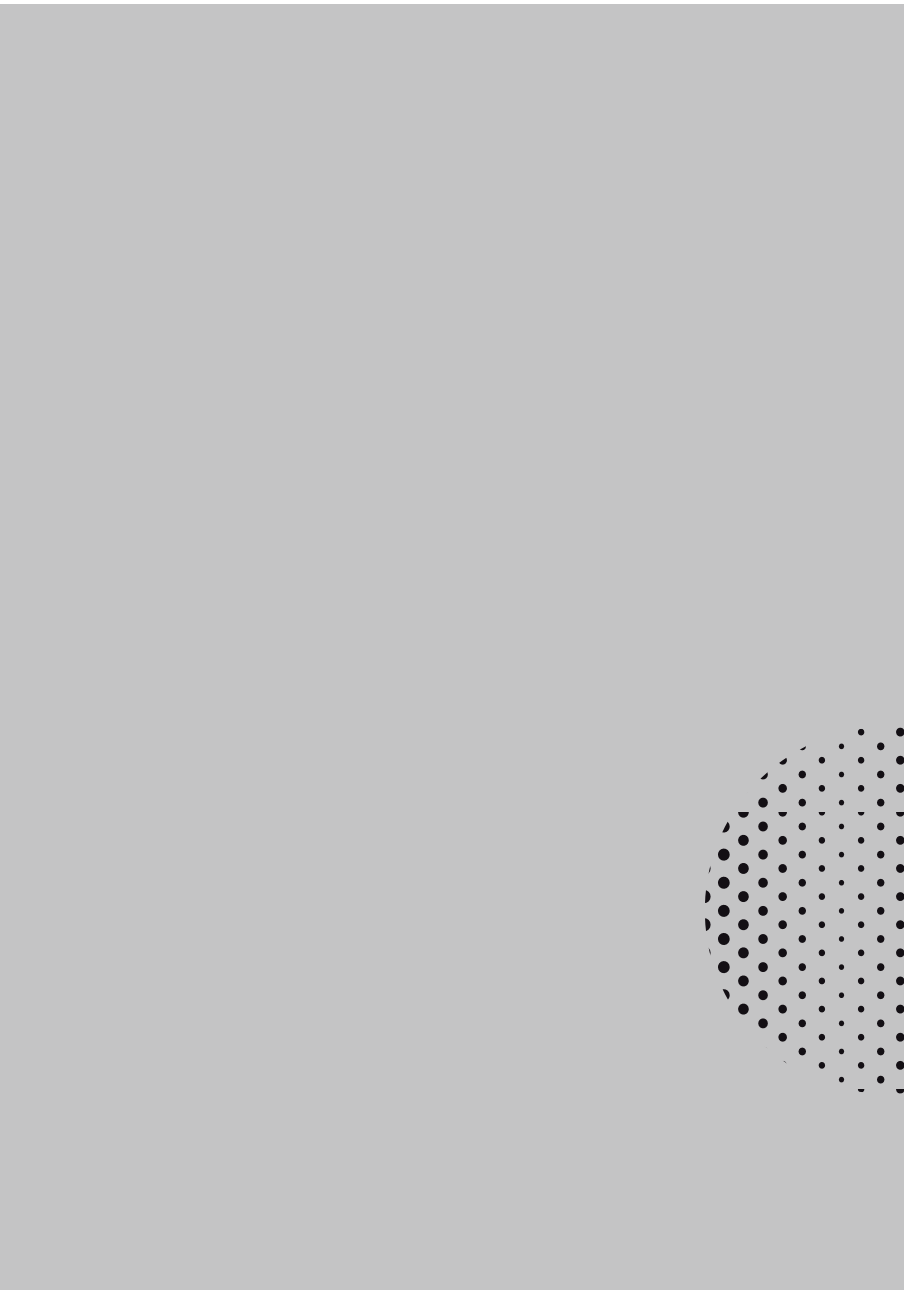


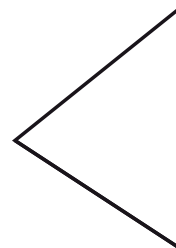
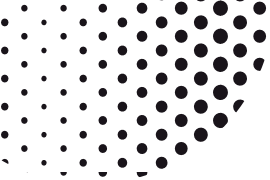
TOOL3

L3



Zero Waste guiding principles






Zero Waste Cities follow guiding principles. They are the foundation of the Zero Waste Masterplan. They are available in full at www.zerowasteeurope.eu. Below, we relate the key principles to the local context and the decisions that local governments can influence in most scenarios.



A New Way to Look at Materials & Resources

Current European linear production, consumption and disposal patterns reflect the myth that we live in a world with infinite resources. Over the last few decades, Europeans have been living on a growing ecological deficit, importing almost 4 times more materials than we have exported. As the European Sustainable Development Strategy is pointing out, a change in paradigm is necessary. But this change has to go beyond “simply becoming a recycling society”; We need to integrate the reduction of material and energy use in our models - which cannot be achieved with “recycling only”. Promoting a new way to look at materials and resources means driving a real cultural change within the waste sector, although the current societal shift in mindsets combined with the direction set by EU policy is making this cultural change much easier than it would have been a few years ago.

Engaging your community – Community education and participation is indispensable for the success of the Zero Waste Masterplan which is people-centric. Citizens should be invited to invent & adopt waste-free practices



and actively participate in the design of a resource management system that significantly reduces waste production. Public education campaigns are critical to encourage public participation. The population ages over time, and newcomers move into the city as well. This constant inflow of citizens needs to be empowered to take part in community development. This is why those engagement and educational activities need to be well supported and sustained over the long term.

Education and training are vital to shift the paradigm and progressively phase out waste. The key personnel from your environmental division, the local Council and other community leaders need to upgrade their levels of awareness and knowledge of material management. Education & training is the best way to address cultural challenges around “waste” during the roll-out of the Zero Waste Masterplan.

Adapting infrastructure & budget expenditure – The production system and the waste management infrastructure must be designed to reflect the following priorities:



Priority 1: Waste Prevention – should be implemented in the local and sectoral plans.

The EU Waste Framework Directive (WFD) mandates Member States to define Waste Prevention Plans. Prevention targets prove necessary to trigger action at the local & national levels.

Adapting infrastructure for waste prevention means [...]

Ask the ZWE technical committee to assist you in defining waste prevention targets that are both ambitious and achievable based on your specific situation.

Priority 2: Rolling out Separate Collection of materials - maintaining the usefulness of materials.

Kerbside collection (at the doorstep) serves a dual purpose: It helps prevent any increase in waste production and also ensure a clean separation of materials at the source. This typically consists of source separation of:

Reusable products and components;

Various recyclable materials (metal, paper, glass, cardboard...);

Food & garden waste; and

Residual waste.



Zero Waste cities in Europe are showing that separate collection can achieve recycling rates of 80 to 90%. This leaves residual municipal waste of less than 100 kg per person.

How does it work?

Price incentives should be implemented as a key driver for behavioural change. Excessive waste generation should be penalised.

Kerbside collection should be supplemented with local reuse and recycling centres ("Civic Amenity Sites", "Recyclinghoefe", "Déchetteries", "Piattaforme ecologiche"...) that enable households and businesses to safely deliver and separate reusable items and recyclables as well as hazardous waste.

Regarding potentially reusable items, the civic amenity sites should, where possible, partner with local reuse centres run by social enterprises, where the primary aim of the organisation is the reintegration of disadvantaged groups back into the labour market. The reuse sector has significant socio-economic value and employment potential.

Priority 3: Reduction of residual waste


The small fraction of waste that is not reusable, recyclable, or compostable should be reduced as much as possible but kept very visible to continuously drive efforts towards phasing it out. Work should be done at the front-end to design it out of the system, notably through reinforced Extended Producer Responsibility (EPR)

Residual waste should be constantly studied in waste audits on-site or in screening facilities so that kerbside schemes and reduction programmes can be further implemented, and non-recoverable products can be redesigned or removed from the market.

Disposal infrastructure such as landfills or incinerators should no longer be built and be progressively phased out as prevention & recycling rates increase. Adaptability is vital in Zero Waste, therefore contracts and waste plans should not inhibit increased recycling by creating lock-in situations.

With due consideration for the lack of adaptability of incineration (whether conventional or non-conventional) new capacity for thermal treatment must be avoided, and existing sites should be progressively phased out. A transitional solution for residual waste fraction while local schemes increase reuse, separate collection, recycling and composting, and decrease waste amounts is to allow only a small and ever-decreasing amount of stabilised residual waste to be safely landfilled.

In order to minimise reliance on landfills right away, the mass, volume (and impact) loss through biological stabilisation should be complemented by further material recovery from residual waste, which is proving practicable and increasingly effective where kerbside programmes have been started.



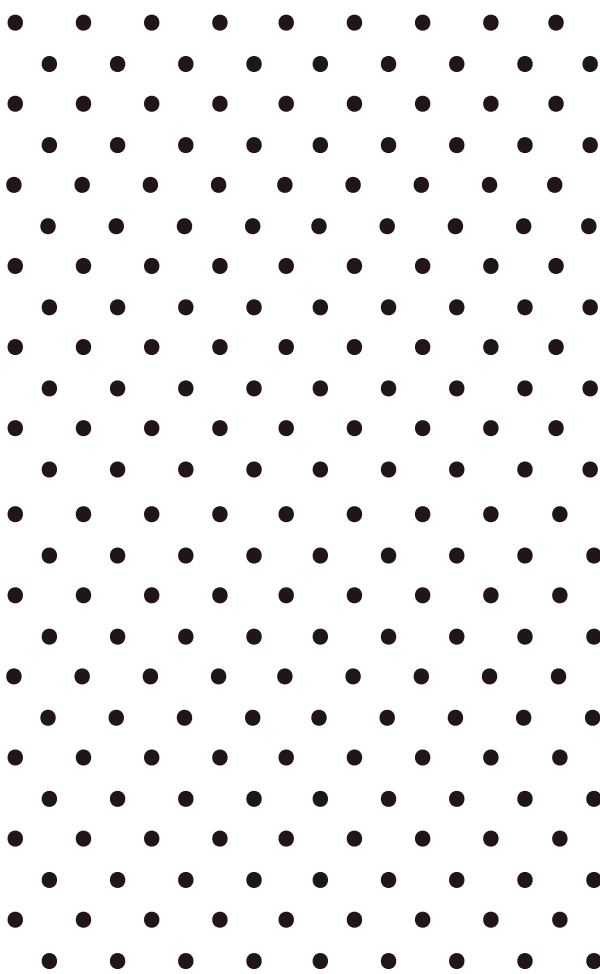
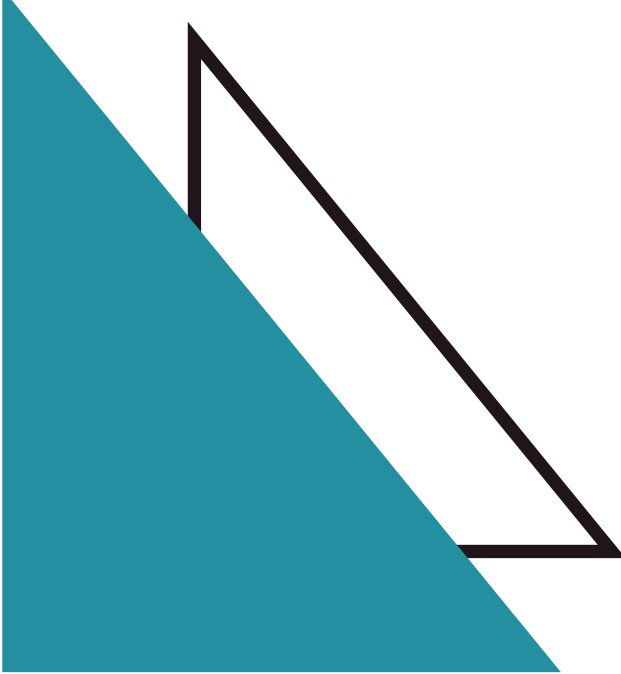
Creating a low-carbon, resource efficient, resilient and socially inclusive economy that respects the diversity of ecosystems and increases social cohesion is one of the main challenges faced by the EU today. The Zero Waste strategy is an essential precondition of this endeavour, as among other things it:

- will provide thousands of extra jobs,
- help close the material loop
- reduce European dependency on imports,
- bring nutrients back to the soils,
- reduce the environmental impact associated with waste disposal,
- drive innovation in product design and
- last but not least, involve citizens in designing a better Europe.

Finally – and importantly – a Circular Economy has the potential to create many more jobs and enterprises to deal with the reuse and recycling of these finitely available material resources and is, almost of itself, a precondition for a sustainable habitat for humans on this planet.

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WASTE PREVENTION IN PRACTICE

One example of a waste prevention measure:

Engaging companies in Industrial Responsibility is key in creating green jobs and phasing waste out of the system. Waste problems are best solved “at the source”: When producers take the responsibility of:

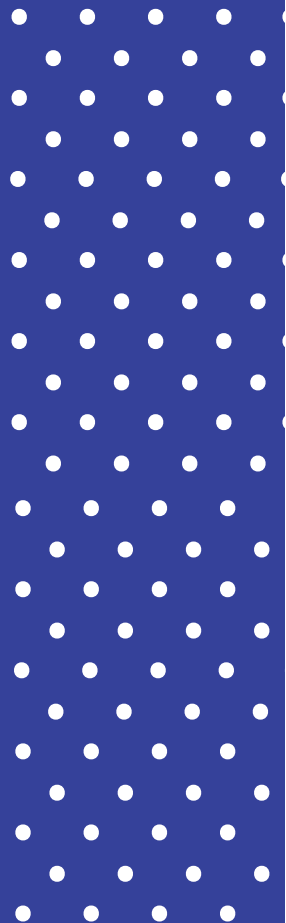
- designing long-lasting, easily maintainable and repairable products, reducing packaging redesigning products that cannot be safely reused, recycled or composted.
- Integrating reuse of parts and materials coming from discarded products. Every “waste” output of one process becomes an input for another in such way so the utility of the material is maximised.

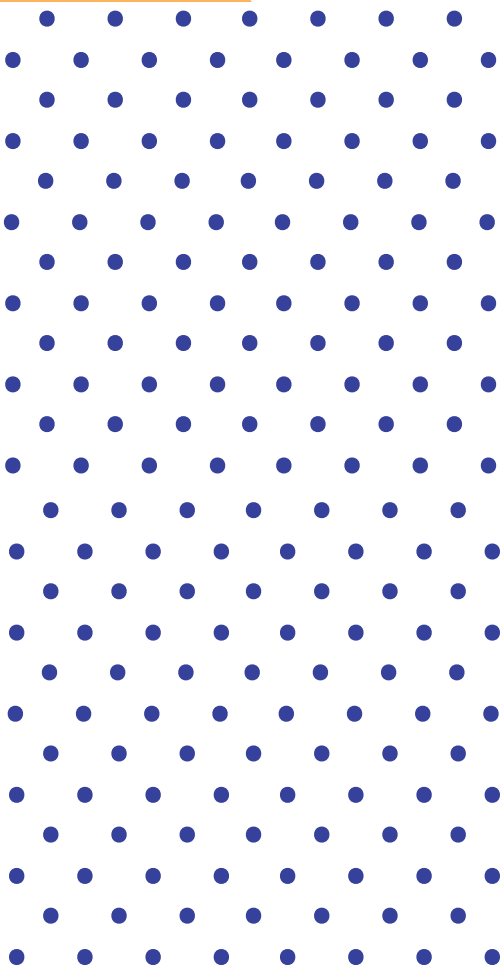
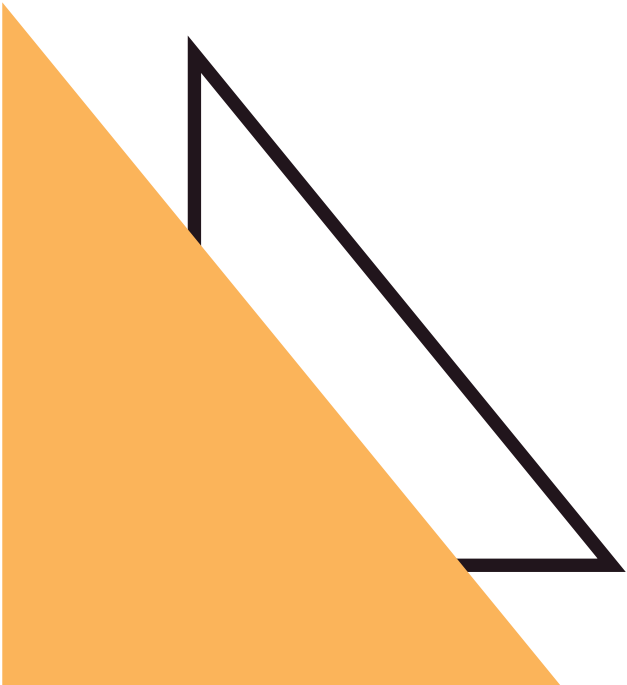
This is important for local governments to consider because they represent significant purchasing power, both via their population & their staff. They can leverage this purchasing power to put pressure on brands and empower them to design better products, also via open innovation programs that engage consumers from the region.

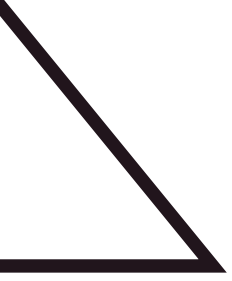


More models are being developed at the European level to engage producers at the regulatory level, with schemes such as Extended Producer Responsibility. You can find out more about this on www.zerowasteeurope.eu

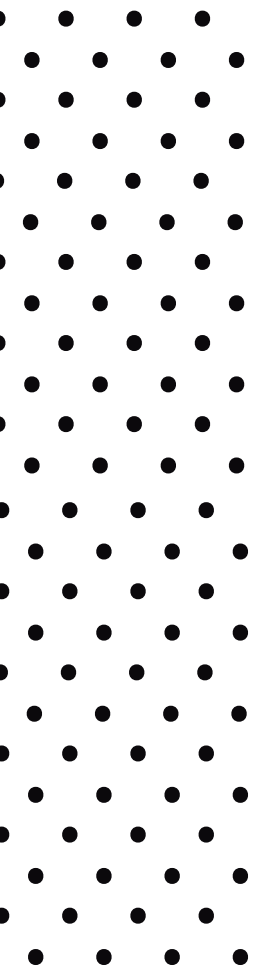
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ENERGY & WASTE



Zero Waste has an important impact on the management of energy flows in the economy. In the life cycle of most products the most energy intensive moments are in the extraction, production and use phase; hence from an energy point of view Zero Waste reduces emissions associated to extraction and production thanks to feeding most nutrients and resources back into the natural cycle –soils, or technical cycle -reuse and recycling. The emissions associated to the use phase are reduced with better product design and eco-innovation.

Therefore, Zero Waste offers great potential in energy savings and preservation of embodied energy. LCA studies have given evidence that the quantity of energy saved through reuse or recycling greatly outweighs the energy which may be obtained through incineration (be it conventional or non-conventional).

As far as energy generation is concerned Zero Waste supports systems that operate at biological temperature and pressure, such as anaerobic digestion to produce biogas followed by composting of digestate in order to maximise benefits of turning organic matter back to soils.