ZERO WASTE EUROPE

NOVEMBER 2015

POLICY PAPER

ZERO WASTE TO LANDFILL AND/OR LANDFILL BANS: false paths to a Circular Economy

In the framework of the negotiations on the Circular Economy it is often mentioned by a number of stakeholders that a way to close the loop is to ban landfilling.
Bans are a rather extreme tool that should be considered in cases where a strong justification for them exists, such as proven danger for human health.

This paper unveils the problems that are likely to arise from banning landfilling, as an "unwanted consequence" and that would go the opposite direction to the desired goal, and suggests other options which have proven to be more appropriate to achieve higher levels of reuse and recycling combined with lower levels of waste generation.

A Circular Economy is by its very nature a *zero waste* economy; the European Commission defined it is an "*economy that preserves the value added in products for as long as possible and virtually* ***eliminates waste****."* However experience shows that a landfill ban, if strictly applied, does little, on its own, to advance towards a zero waste circular economy. It can simply shift waste from one form of 'leakage' to another.

Problems with focusing on phasing out landfill:

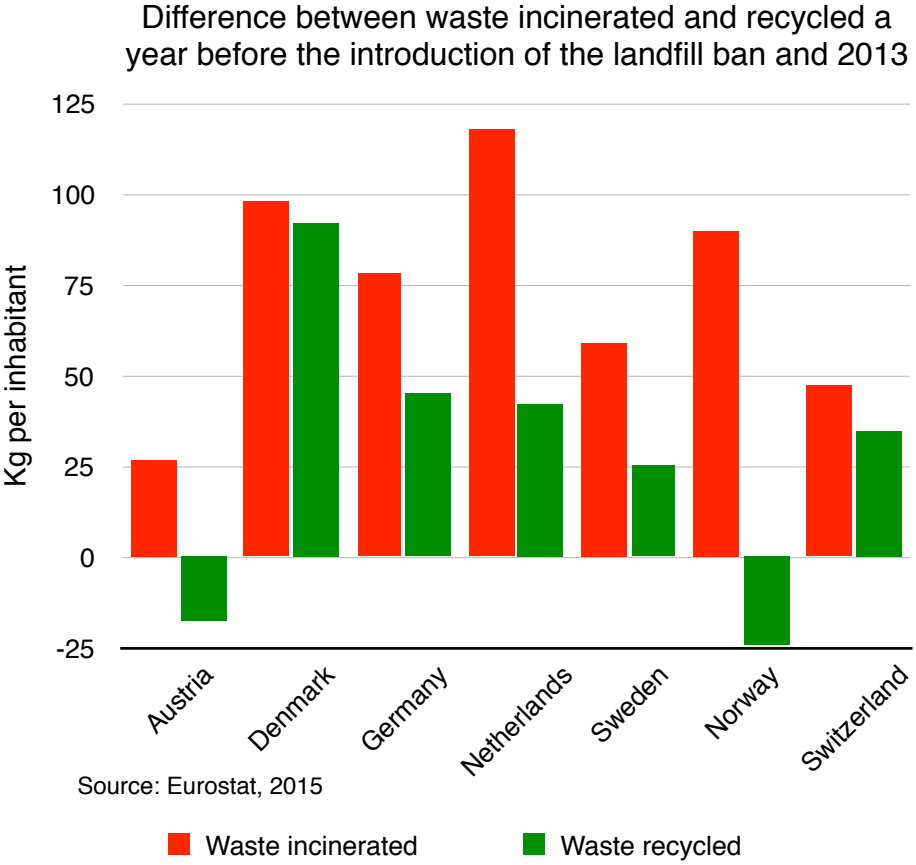
1. A landfill ban, in fact, drives incineration, and creates a "lock-in" effect

There is consistent evidence from countries where such a measure has been enacted that a landfill ban has driven and promoted waste-to-energy incineration. As a matter of fact, separate collection, while being continuously increased and optimised, may not get to 100% of any given waste fraction. Hence, unless the system is carefully designed the only way to comply with a landfill ban is by increasing incineration. So far, landfill bans have compelled national and local decision-makers to plan incinerators in order to abide by the "ban on landfilling", and this has created a "lock-in" effect, i.e. the need to use incineration at the planned tonnage so as to ensure its pay-back. The consequence is that in the end of the story, a landfill ban works against its originally intended goal, as it hinders the possibility in local systems to continuously improve reduction, reuse and material recovery.

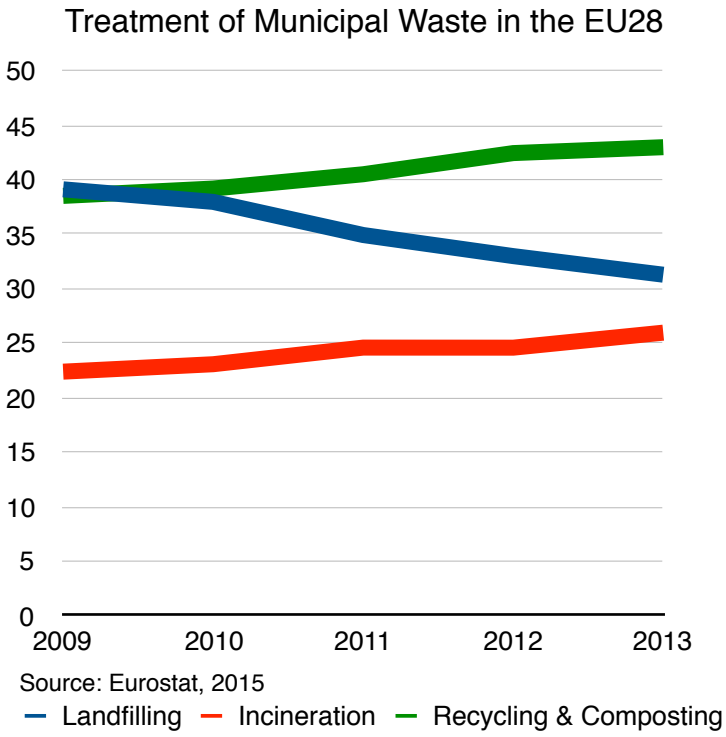
As the table and the graph below show, all 7 of the European countries with national landfill bans have experienced, since the introduction of the ban, an increase of the waste going to incineration well over the increase in recycling. In Denmark the increase in waste incineration has come along with an increase of waste generation of 37.5%. Germany and the Netherlands experienced increases in incineration close to twice and three times the increases of recycling, respectively. In Austria and Norway, the landfill ban even brought a decrease in recycling.

This effect was already observed after adoption e.g. of the German TASi (Technical Guidelines on Household Waste) which required a threshold on Volatile Solids included in waste going to landfills (i.e. only ashes from incinerators were accepted at

landfills). This was the primary reason for the current overcapacity of incinerators in Germany. Similar regulatory conditions have caused the overcapacity in Denmark, the Netherlands and Sweden. In many districts, the overcapacity has been the fundamental reason for weaker efforts on separate collection, and lower recycling rates[1] or a plateau in the recycling rates, with no effort on having them increased further. This is consistent with a desire not to make further efforts to reduce residual waste, an approach which contravenes the principles of Circular Economy.



2. A landfill ban doesn't mean that more waste will be prevented, reused or recycled.



The effect of the Landfill Directive – which pushed biodegradable waste out of landfills without specifying where it should go, combined with the Waste Framework Directive –which opened a European market for incineration where facilities met the R1 criterion without an implementable waste hierarchy– resulted in a fever for building new incinerators without any noticeable increase in prevention or recycling figures.

From 2009 to 2013, landfilling has decreased by 8 points. However, only half of this waste has been diverted towards recycling, composting or preparation for reuse. The other half has gone to incineration.

[1] For example: Denmark has adopted the narrower definition of the calculation for the material recovery targets stipulated by article 14 of the WFD, i.e. they only consider paper, glass, plastics and metals (which are already covered by the more ambitious targets ofthe Packaging Directive), therefore leaving organics out of the calculation

3. Zero Waste to landfill is a misleading definition

Incineration is a technology which generates output streams which are wastes. There is a requirement for further treatment of the fly ash and bottom ash from the combustion process, as well as any metals which may be recovered from the bottom ash –these amount to 20 to 30% in weight of what is burned–. Some European countries such as Germany or Sweden claim to have *zero waste to landfill* policies but this is a misleading claim for what they actually have are *zero direct landfilling of untreated residual waste* because they send their waste to waste-to-energy incineration (and, to a lesser extent, to MBT sites with production of RDF). As a result the ashes, or MBT rejects are no longer classed as MSW but in the majority of cases they remain waste (and are subsequently landfilled).

This accounting trick, which has already been disputed also by sectoral associations (e.g. FNADE, France), does little to help understand EU statistics and it also poses a serious threat if this approach is enshrined in the Circular Economy package.

4. Zero Waste to landfill is a measure that is "blind" to waste reduction

One of the main objections one can raise against the concept of "zero waste to landfill" or landfill ban is the fact that one can continue to run a perfect linear economy with it.

Indeed a landfill ban is "blind" to waste generation, and even, preparation for reuse and recycling: in other words, it is possible for a country to increase waste generation and waste incineration without any regard to declining waste recycling and still be a zero waste to landfill country.

Unless all the treatment options which "break the loop" are considered, the consequence of banning or phasing out one of them will result in a transfer of waste to another. This will create unnecessary tensions which in no way help to move towards a circular economy.

A practical example: Zero Waste to landfill vs a real Zero Waste strategy

In the table below we compare two well-performing entities; the (genuine) Zero Waste best practice from the province of Treviso, Italy[2], with the "Zero Waste to landfill" example of Copenhagen.

	Copenhagen Denmark	**Treviso province** Italy
MSW generation per person/year	425kg	350kg
Separate collection rate	33%	85%
Residual waste per person/year	289kg	50kg

Sources: Copenhagen: City of Copenhagen, Technical and Environmental Administration, Statistics Denmark, 2012; Treviso: Contarina Spa, 2014

Because of the infrastructure built to incinerate waste with energy recovery in Copenhagen, there has been no incentive to reduce waste generation or increase recycling, yet it can claim to have a ban on landfilling.

On the other hand, a strategy focused on reducing residual waste –be it sent to incineration or landfill– implemented in Contarina provides a better driver to advance towards a Circular Economy since, paradoxically, the final waste to landfill is an amount smaller than what a "zero waste to landfill strategy" can bring. Also, in a context where no incinerator has been sited, it avoids any lock-in effect, and it may thus keep working towards further minimisation of residuals (next target has been set at 10 kgs/ person/year by 2023).

[2] http://www.zerowasteeurope.eu/downloads/case-study-4-the-story-of-contarina/

Conclusion

A zero waste to incineration policy, provided it is complemented with other components such as prevention policies, products and process redesign, optimised source separation, pay as you throw, etc, brings us closer to zero waste to landfill than a landfill ban, whilst simultaneously generating more jobs, less waste and a lower cost.

Recommendations

- A compulsory and sufficiently high tax on landfill and waste to energy incineration combined with a lower tax on the landfilling of stabilised waste is more effective in diverting waste towards prevention, preparation for re-use and recycling than a landfill ban.
- If the aim is to ***eliminate waste*** a better approach for closing the loop is focusing on the constant reduction of residual waste via product and process redesign, flexible waste treatment facilities and optimisation of separate collection schemes – all of which is the operational translation of the overarching principles of the Circular Economy.

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

Zero Waste Europe is an umbrella organisation empowering communities to rethink their relationship with resources. It brings together local Zero Waste groups and municipalities present in 20 EU countries. Beyond recycling, the Zero Waste network aims at reducing waste generation, close the material loop whilst increasing employment and designing waste out of the system.

www.zerowasteeurope.eu
www.zerowastecities.eu
news.zerowasteeurope.eu
Facebook.com/zerowasteeurope
@zerowasteeurope

ZERO WASTE EUROPE
Rue de la Pépinière 1
Brussels 1000
Belgium