New recycling regulation in Flanders

Author: Filip Raymaekers (DLV)

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Recycling food leftovers. Optimo project

In Limburg, one of the five provinces of Flanders, the inter intermunicipal association Bionerga organises a weekly collection of organic vegetable and fruit leftovers (kitchen waste without garden waste).

This waste is transformed by Bionerga in an input mix for biogas plants. These biogas plants are obliged to have a composting unit after anaerobic digestion (hygienisation of weeds). The liquid fraction cannot be treated by nitrification.

Before this so called "Optimo project", the kitchen waste was collected with the regular "GFT" waste ("Vegetable – Fruit and Garden" waste), which is composted without energy recuperation, or even with the residual waste for incineration.

With the Optimo project Bionerga is focusing on the kitchen waste.

Kitchen waste

From the 1st of January 2021 all companies in Flanders that serve warm meals, will be obliged to sort their food leftovers separately and offer it for separate waste collection following the revised Waste Framework Directive and its Flemish implementation. As a result, the kitchen waste will not be dumped in a landfill or will not be incinerated but will be converted in green energy and compost. The nutrients and the carbon will be recycled as a fertiliser.

Companies falling under the scope of this amendment are restaurants and other food establishments, hospitals, retirement and nursing homes, schools, companies with a canteen, supermarkets etc. From the 1st of January 2024 onwards, this separate collection of kitchen waste, will be generalised for all companies in Flanders.

In 2017 the Flemish government performed a study on the residual waste of companies to evaluate its composition.[1] Following this study, up unto 8 percent of the residual waste in (moveable rental) containers contained organic biological waste. Furthermore, the study noted that this number is even an underestimation because the largest part of the organic-biological waste ends up in the sieve residue fraction. This sieve fraction is the fraction of the residual waste that can fit through the sieve holes of 10 cm diameter and is also not counted as recyclable. This sieve fraction was found to be the largest category with an average of 24,70 percent of the whole container. Besides this, the study also concluded that there is a clear connection to some sectors and the type of waste. For organic-biological waste, there was a clear connection with the trade sector and the catering industry.

The study clearly shows that an environmental benefit is to be expected from the implementation of this new measure of separate collection compared to the total amount of collected residual waste (see table below).

[1] OVAM, "Sorteeranalyse van bedrijfsrestafval ingezameld door private inzamelaars", 20th of March 2018, 20180320_Eindrapport_Sorteeranalyse_Bedrijfsrestafval (ovam.be).

	2013	2017	2018	2019*
The amount of post-consumer residual waste collected in Flanders (ton)	832.595	917.858	951.885	948.264

(*) provisional numbers

Following the previous study in 2013, the Flemish government already set out a general goal to reduce residual waste of companies with 15 percent by 2022, meaning that by then the residual waste has to decrease with 124.889 tons.[2]

In 2018, already 1 3777 370 tons of organic-biological waste from companies (industries) were collected separately and processed, either through composting or fermentation, see table below).[3] The Flemish government states that it is aware of the fact that the more waste will be collected separately, the more processing capacity will be necessary.

In tons	Selective collection	Vegetable-, fruit and garden waste composting	Vegetable, fruit and garden waste fermentation with post-composting	Organic-biological waste fermentation
Organic-biological waste	1.377.370	1370	8.500	1.367.500

For comparison, in 2019 the French government has set out specific goals for the collection of bio-waste from companies (see table below with the envisaged volumes in perspective). For Flanders, these kind of figures have not been published or set out yet.

	2010	2015	2020	2025	2031
Bio-waste from households (kT)	559	645	612	672	680
Bio-waste from companies (kT)	/	500	716	950	1050
Total (kT)	/	1095	1328	1622	1730

[2] OVAM, "Uitvoeringsplan huishoudelijk afval en gelijkaardig bedrijfsafval", September 2016 and amended in May 219, Uitvoeringsplan huishoudelijk afval en gelijkaardig bedrijfsafval_20200612.pdf (ovam.be).

[3] OVAM "Omgevingsanalyse voedsel- en biomassa(rest)stromen – beleids- en marktontwikkelingen in Vlaanderen en omringende regio's", December 2019, OVAM_Omgevingsanalyse_voedsel-_en_biomassa-rest-stromen_Beleids-_en_marktontwikkelingen.pdf.

Short preview of the possible impact of the SAFEMANURE study and its implementation in Flanders

At this moment the DG ENVI and JRC are finalising their SAFEMANURE study which is ought to lead to a revision of the Nitrates Directive. The objective is to define harmonised criteria that could allow N fertilisers, partially or entirely derived from manure, to be used in protected areas the same way as some chemical fertilisers are now permitted to be used above the threshold of 170 kg N per hectare. These organic fertilisers are referred to as RENURE materials: "Recovered Nitrogen from manURE". If this revision of the Nitrates Directive would take place, this would mean that a lot of processed manure could be reused/recycled as fertiliser and spread onto land. This could have a big impact on the agricultural sector in Flanders because of the amount of thick fraction digestate that is now exported every year on the one hand and the amount of thin fraction that now passes through biological treatment on the other hand.

The Flemish Coordination Centre for Manure Processing (VCM) keeps track of the manure processing industry with a yearly survey.[4] The survey for the year 2019 shows that Flanders exports 73.760 tons of thick fraction digestate, of which 67.220 tons (the largest amount) to France. This means a huge loss of C for Flanders which could, with the implementation of the RENURE conditions, be curved in a win-win for the Flemish soil.

In the same survey, the VCM conclude that 12,9 million kg of N is currently treated biologically (aerobic or anaerobic digestion). Also during this process of nitrification a lot of N is lost which could be reclaimed with the implementation of the RENURE conditions as well. For this processing line specifically, Flanders has proposed a project to the JRC. Currently, Flanders is looking forward to the outcome of the study and the possibilities for a more circular agricultural sector in the future.

[4] VCM, "VCM-enquete operationele stand van zaken mestverwerking in Vlaanderen 2019", VCM-enquete 2019.pdf.