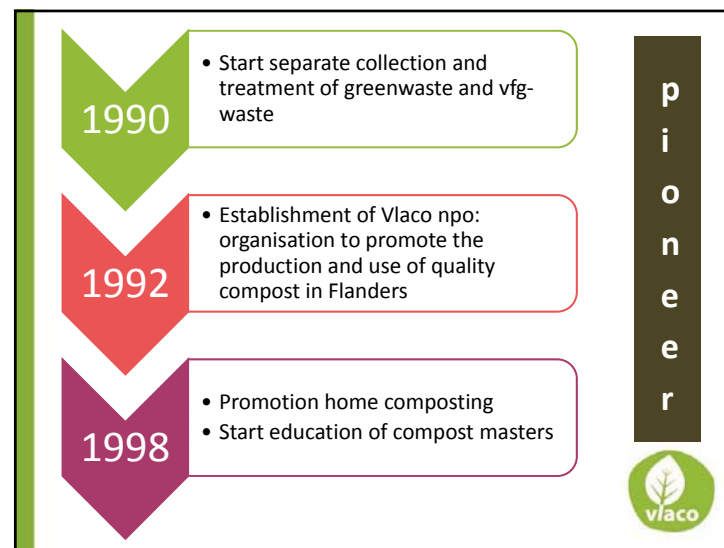


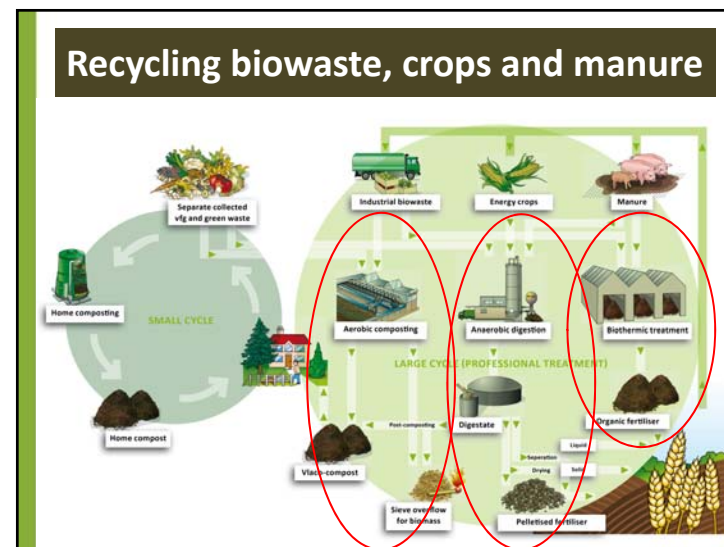
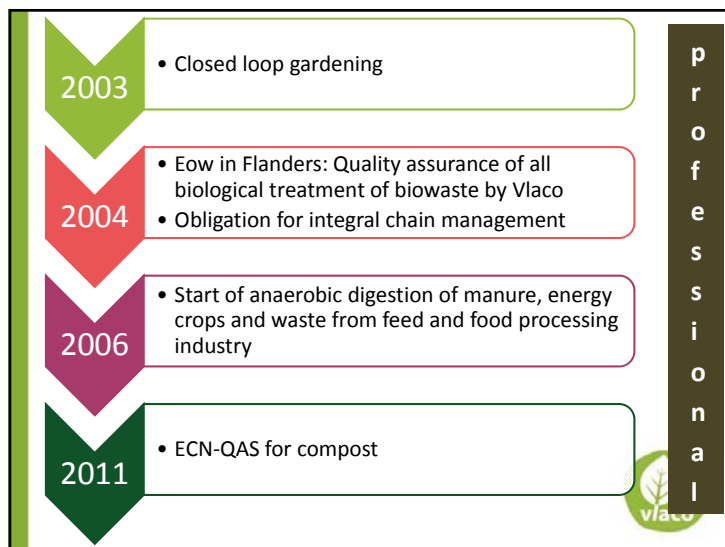


Vlaco npo

- ✓ Flemish Compost and Digestate Quality Organisation
- ✓ Established in 1992, non-profit, independent organisation
- ✓ Members
 - More than 90 members, with activities related to organic waste management
 - Prevention
 - Collection
 - Waste treatment
 - Representatives of the Flemish Government, together with public and private stakeholders:
 - OVAM (Public Waste Agency of Flanders)
 - Treatment plants (composting, anaerobic digestion)

Intercommunalities, some municipalities





Three pillar policy

- Promotion of home composting by master composters
- Separate collection of green waste
- Separate collection of biowaste (vegetable, fruit and garden) via composting bins

Success thanks to mix of instruments

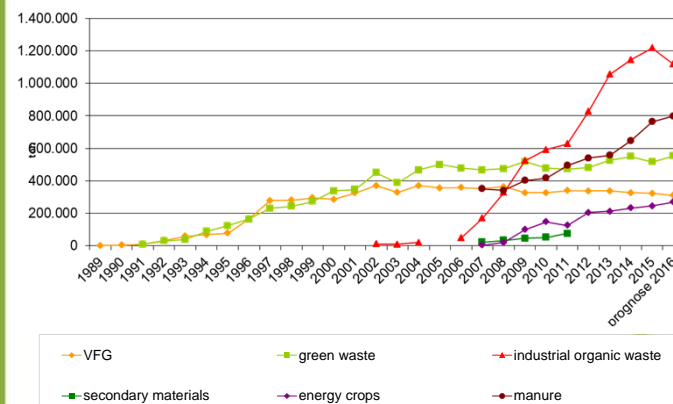
- Policy instruments
 - Landfill and incineration bans for separately collected waste streams
 - Subsidies of composting installations, composting bins, ...
 - Waste management plans
 - Environmental agreements between municipalities and the Flemish authorities to stimulate home composting and the use of compost

Success thanks to mix of instruments

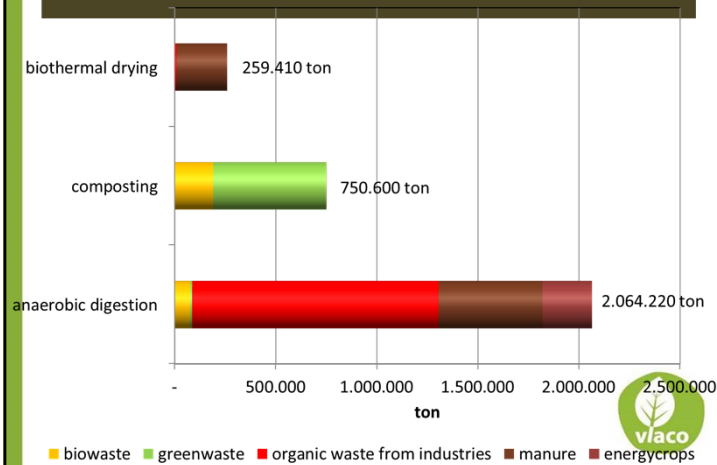
- Financial instruments
 - DIFTAR: polluter pays principle
 - Levies, taxes
- Sensibilisation & information
 - brochures on: composting in vessels, chickens, closed loop gardening, compost use, ...
 - websites: www.vlaco.be;
www.ovam.be;
- Quality Assurance of compost and digestate products



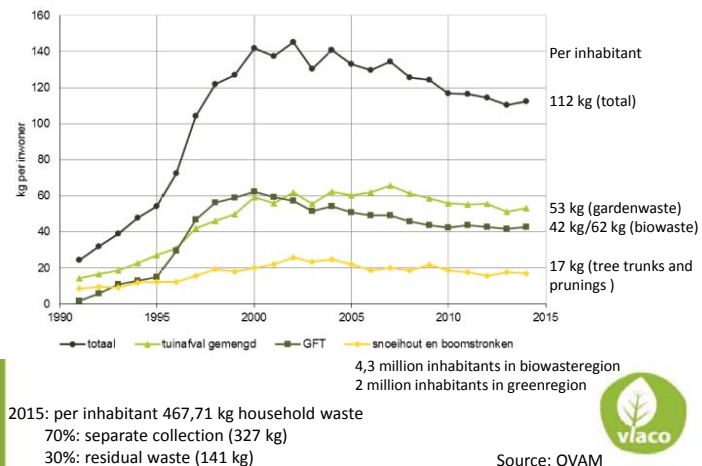
Separate collection and treatment



Amounts treated in 2015



Separate collection by households



Amounts of municipal solid (bio) waste

915.000 tonnes municipal solid waste → 23 % is organic

→ 210.000 tonnes biowaste in municipal solid waste

+

715.000 tonnes composted (biowaste + greenwaste)

Recycling rate = 77 %

Potential of biowaste = 925.000 tonnes (142 kg/inh.year)

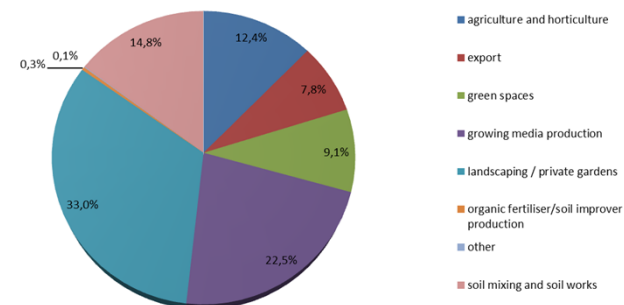
100.000 tonnes is prevented (closing biological cycle at home)

3.000.000 tonnes of municipal solid waste (468 kg/inh.year)



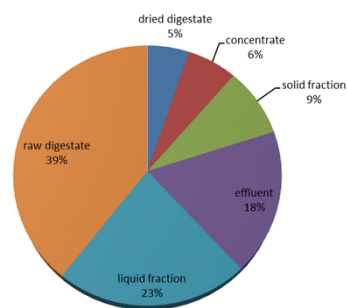
compost market in Flanders

compost market in 2015
bulk and bags: 380.000 tonnes



digestate products

digestate production in 2015
total: 1.300.000 tonnes



Digestate market:

>99,99% in agriculture

Options for dried digestate as or in commercial organic fertilisers

Quality Assurance: the Vlaco QAS

- Legal obligation
- Compost and digestate products
- Clear end-of-waste criteria included
- Input / process / output / reasoned use
- Sampling and analysis under recognition
- Benchmarked with ECN-QAS
- Extra quality: label



Professional treatment: Quality Assurance

✓ 'Good practice'

✓ Based on self control

by treatment plant

- Internal quality system
- Protocol of acceptance for input
- Process control
- Quality control of the end-products
- Reasoned use of the end-products

✓ Independant control

by VLACO npo on the self control of the company

- Sample taking
- Analysis
- Audits + admin. controls

➔ VLACO-certificate

- Agricultural value, proces value
- Input requirements (impurities, Vlarema)
- No dilution
- Registration and traceability
- Risk Assessment through sampling + analysis protocol (recognised labs)
- Screening of suppliers of biowaste

- Optimising of the process
- Minimal process time, tracing
- Critical process factors
- Monitoring and steering

- Recognised labs (external control)

- Product information document
- Composition + application

5. Professional treatment: Quality Assurance

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Het onderstaand van het proces (thermische vergisting) wordt ondergebracht in de categorie 'Thermisch getrapte afval fractie afgevoerd van mest, energiegraan en organische afvalstoffen' en valt onder de product- en procesvoorwaarden zoals beschreven in de certificatievoorwaarden:

- Algemeenovereenkomst**
 - algemene acceptatievoorwaarden
 - door Vlaac npo geïmplementeerd acceptatieprotocol
 - naamtoelating van de houder/leverancier
- Minimum procesvoorwaarden Landbouwk**
 - aanwijzing van de procesvoorwaarden
 - procesaanwijzing van minimum temperatuur en tijd
 - zorgen voor voldoende herkomstgegevens (herkomst)
 - aanwijzing van een voldoende hoge hydraulische verduistering
 - opdrachtgever van het proces o.a. via opspieging van de organische belasting
- Productievoorwaarden**
 - Wanneer de afval fractie afgevoerd wordt met een watergehalte van maximaal 50% (v/w) is de Europese Verordening 'Wat voor overvloedige voedselresiduen' van toepassing. In dat geval is een verklaring aangetekend te worden bij de leverancier over de samenstelling van het water, in de afval fractie, met de afval fractie. Daarnaast is de Vlaac npo voor een voldoende getrapte afval fractie afgevoerd moeten de procesvoorwaarden worden nagevolgd die in het acceptatieprotocol zijn opgenomen.
- Productievoorwaarden**
 - minimum temperatuur
 - minimum afval fractie hoeveelheid als volgt: analyse grondstoffen 50 mg/ml (v/w)
 - algemene afval fractie minimum 40% van het droge stofgehalte
 - pH, EC, droge stofgehalte: moet gemiddeld worden van de afval fractie
 - vochtgehalte > 2 mm (v/w) 50%
 - energiegraan > 2 mm (v/w) 20%
 - minimum droge stof (v/w) 10%
 - vochtgehalte: maximaal: maximum waarde van maximum N, P₂O₅, K₂O, MgO, afhankelijk van de afval fractie

Certification in 2015

	# plants	# audits	# samplings	# certificates
Composting green waste	39	38	103	55
Composting biowaste	8	8	38	8
Anaerobic digestion	39	30	282	133
Other treatment of biowaste	5	5	11	5
Others	17	15	49	27

One size fits all?



Visit of the ECOWERF composting plant



Visit of the ECOWERF composting plant

- Quality Assurance Vlaco from 2006
- Biowaste from recycling parks and door to door collection
- 2016
 - Input: 52,362 tons of biowaste
 - Output:
 - Compost 18,428 tonnes
 - Overflow screening post-treatment (16-40 mm): 19,920 tonnes (reuse)
 - Overflow screening pre-treatment: 392 tonnes
 - Overflow screening post-treatment (>40 mm): 1861 tonnes
 - only 4,3% of input is not recycled (max 2% impurities + sticking organic matter)



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