

OPTIMIZING THE CIRCLE FROM BIOWASTE AND BACK TO FOOD

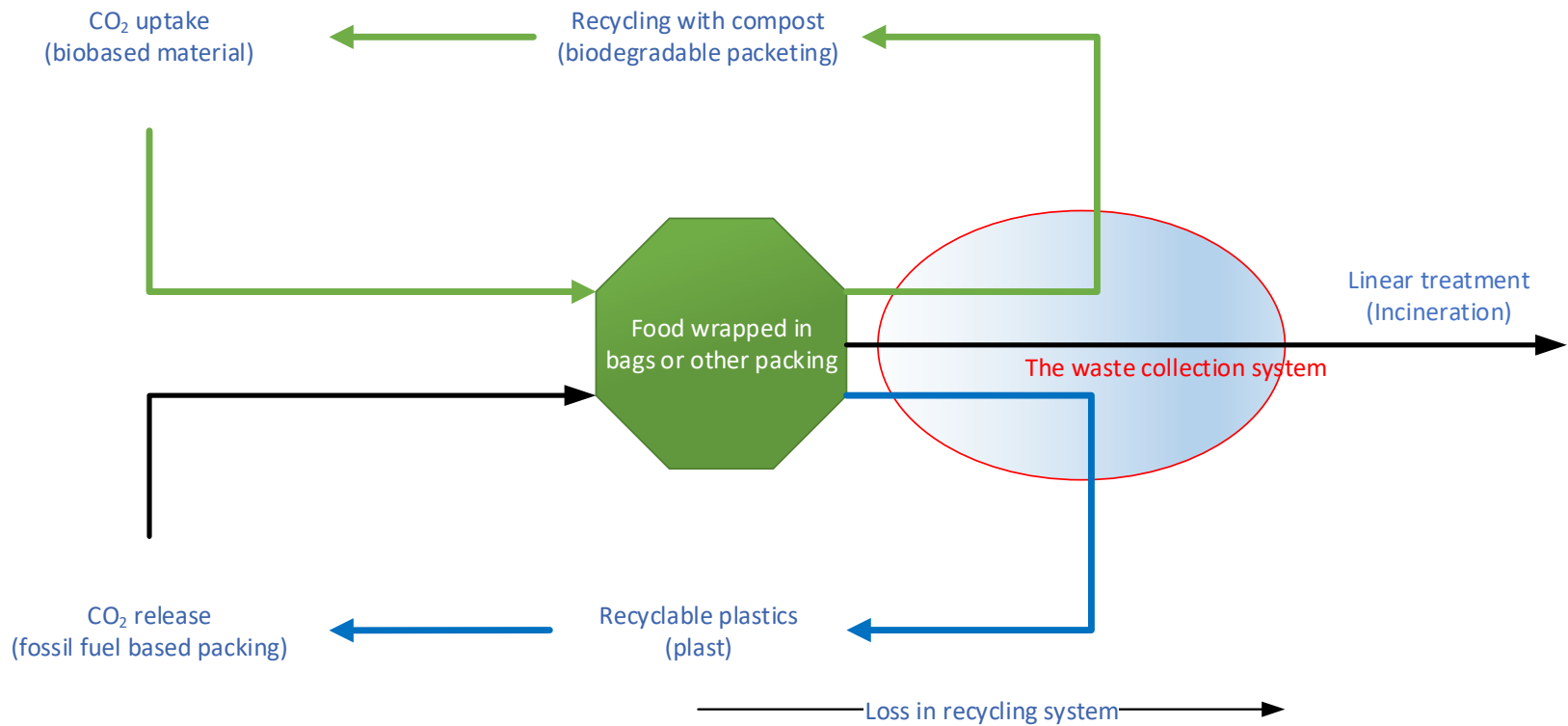


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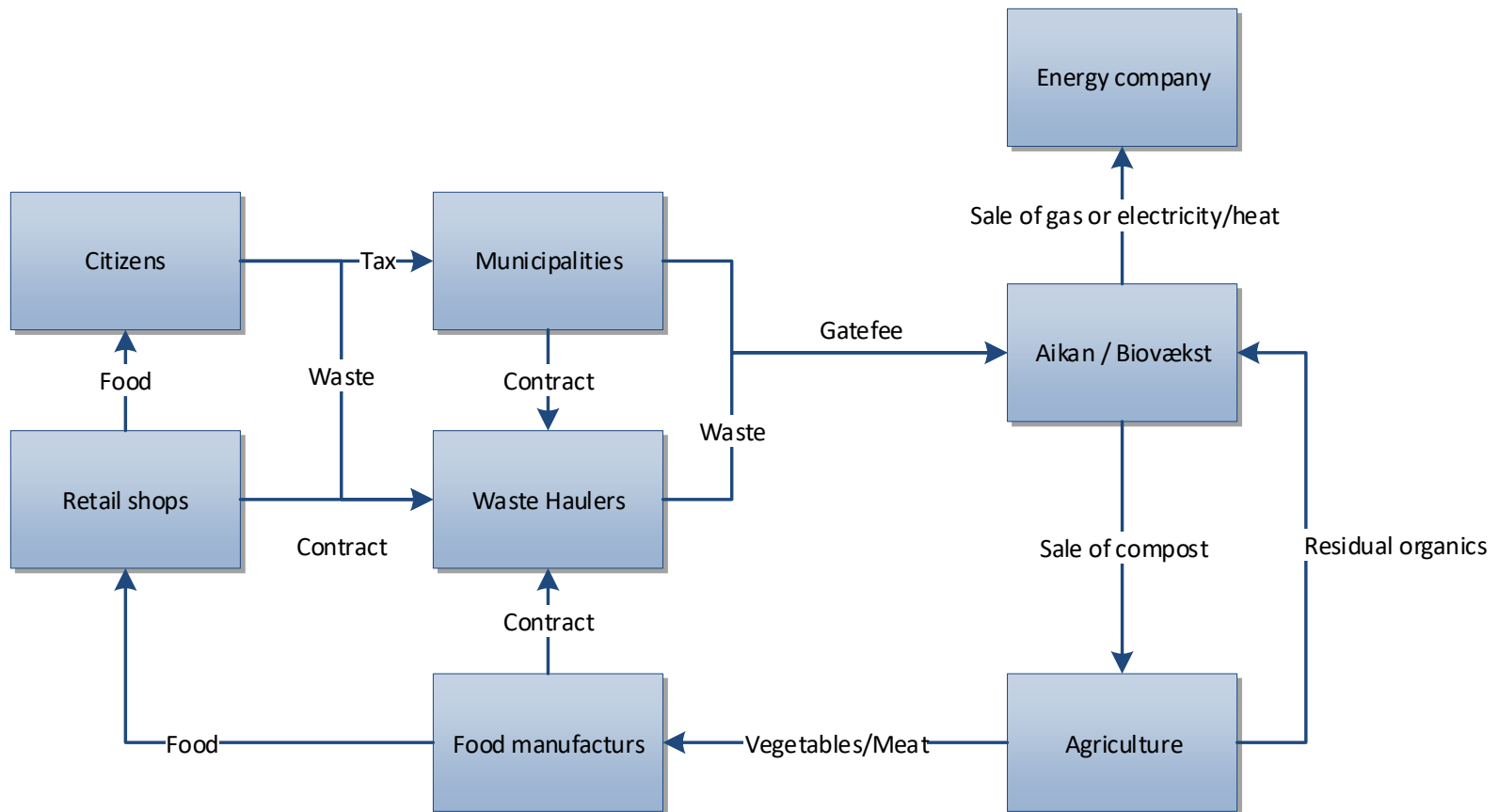
AGENDA

1. Circular packing and collection of food
2. A circular solution for food waste
3. How the Aikan technology works
4. Perspectives of food waste handling in Denmark

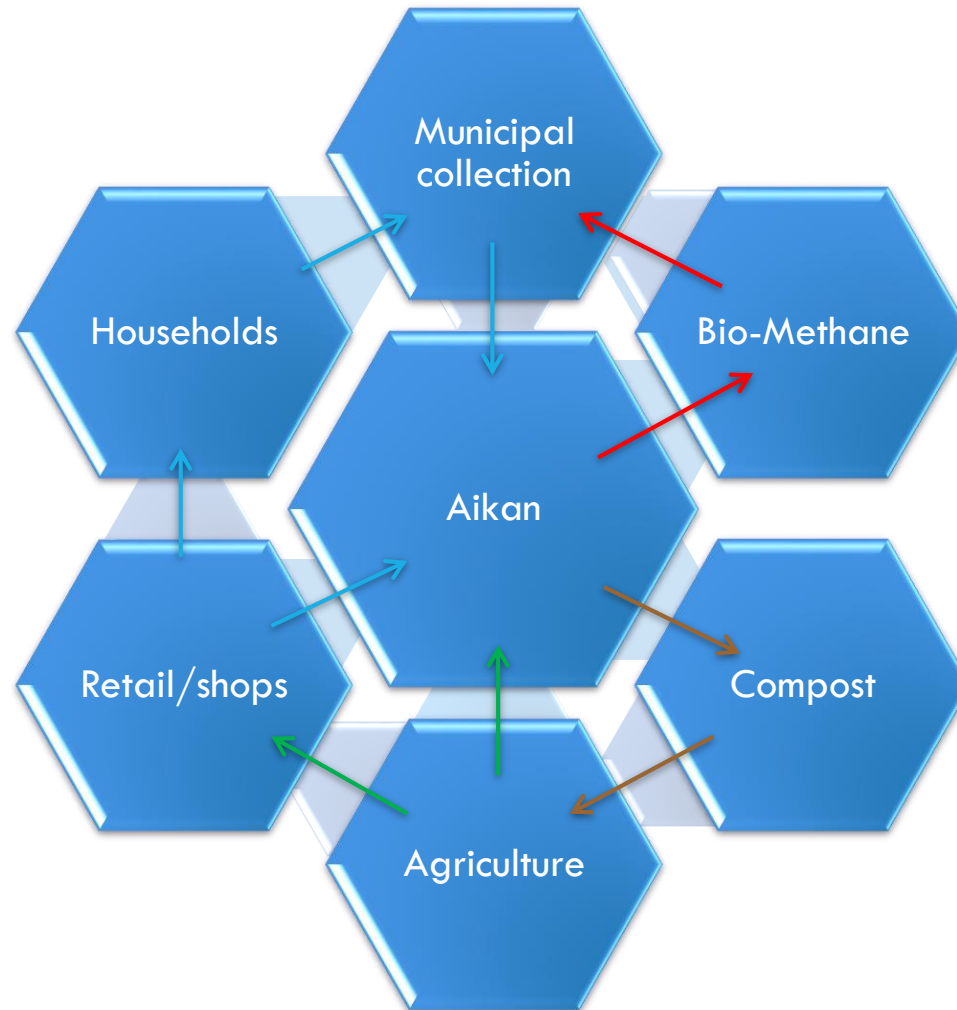
PACKING OF FOOD OR FOOD WASTE



THE GENERAL WASTE HANDLING REGIME



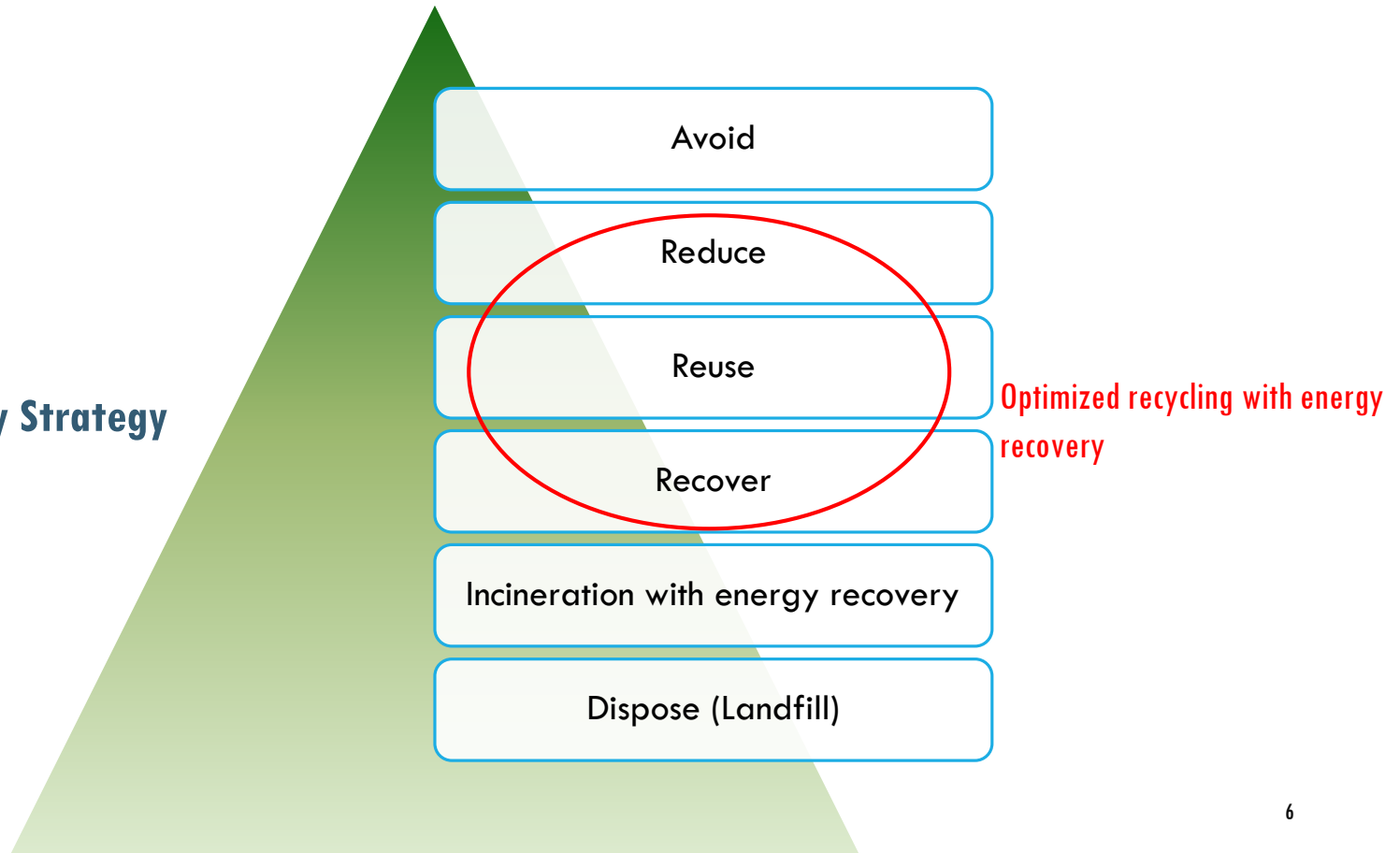
AIKAN IS A GOOD EXAMPLE OF CIRCULAR ECONOMY



Agriculture produce food, that retail shops sell. Surplus from farms and retail shops goes back to Aikan. Food is sold to households. Biowaste is collected by municipalities and go to Aikan. Methane from Aikan is used as fuel for waste trucks and compost is used in agriculture to produce food.

FOCUSED ON A STRATEGY FOR WASTE TO MOVE UPWARDS

Waste Hierarchy Strategy

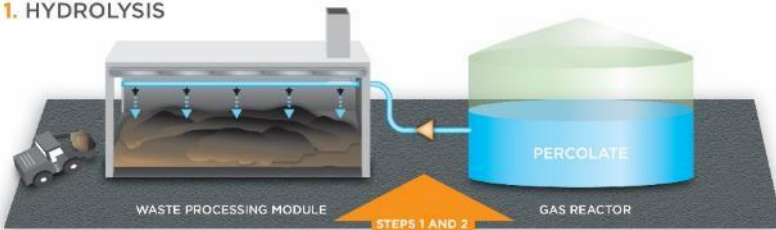


THE AIKAN PROCESS

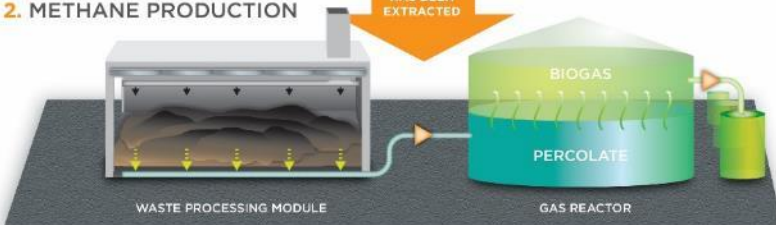
THE AIKAN 3-STEP PROCESS



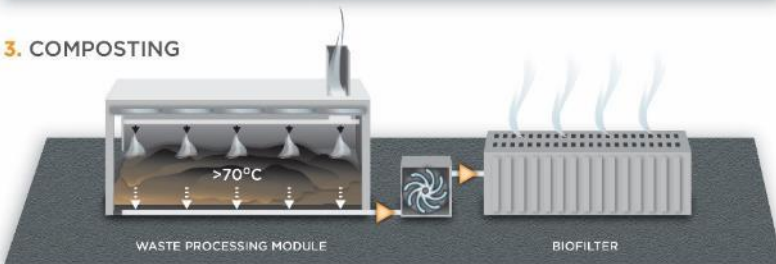
1. HYDROLYSIS



2. METHANE PRODUCTION



3. COMPOSTING



Solid organic matter is made soluble by microbial enzymatic degradation

Volatile organic matter is transformed to methane by bacteria

Resistant organic matter is sanitized and transformed into Compost

THE WASTE TREATMENT FLOW

Food waste received separately: either in plastic or in biodegradable materials

Plastic bags are screened out before processing. All other materials treated biological

Mixing with woody structure and opening biodegradable bags

Three weeks of biogas followed by four weeks of in vessel composting

One to three month of active aerated maturation

Screening of dry final compost on 10 mm screen

PLASTIC WRAPPED FOOD WASTE




DRIVE
Direct drive of the roller.

HOPPER PLATES
Robust construction for feeding by wheel loader or excavator.

ROLLER AND SHREDDING COMB
Roller teeth tear the material through the hydraulically controlled shredding comb. The comb opens automatically in case of large unshreddable containers in order to protect the machine and reduce the tool wear. All the wear parts are easily replaceable with a quick-changing device.

COMB SIEVE SYSTEM (OPTIONAL)
For the refined shredding of certain materials the DW 306 CERON and the DW 206 CERON is available with a comb sieve system.

LOWER DISCHARGE CONVEYOR
The conveyor can be replaced by other discharge and conveying equipments.

MAINTENANCE
Good access for optimal maintenance.

Explorations and Illustrations by the example of the DW 306.

OPENING OF BIODEGRADABLE BAGS, MIXING WITH STRUCTURE AND FEEDING TO PROCESS MODULES



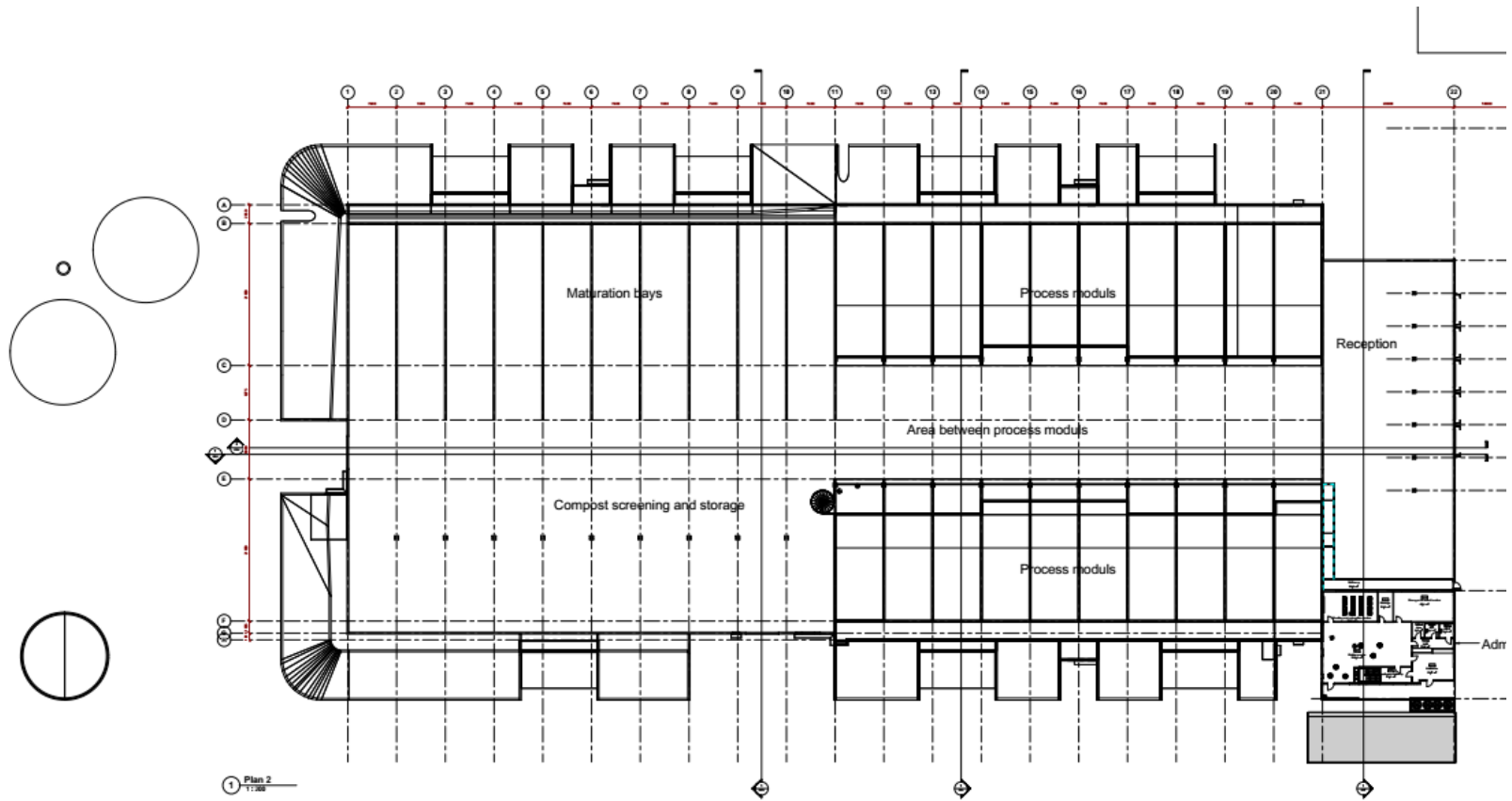
From BioVækst in Holbæk



COMPOST SCREENING

10 mm screen, wind sifter and magnetic separator secure a high quality compost product with no plastics due to gentle pretreatment

BACHWISE TREATMENT FOR STABILITY AND FLEXIBILITY





FROM CONSTRUCTION SITE JUNE 2019 PLANT STARTING APRIL 2020



PERSPECTIVES OF FOOD WASTE HANDLING IN DENMARK

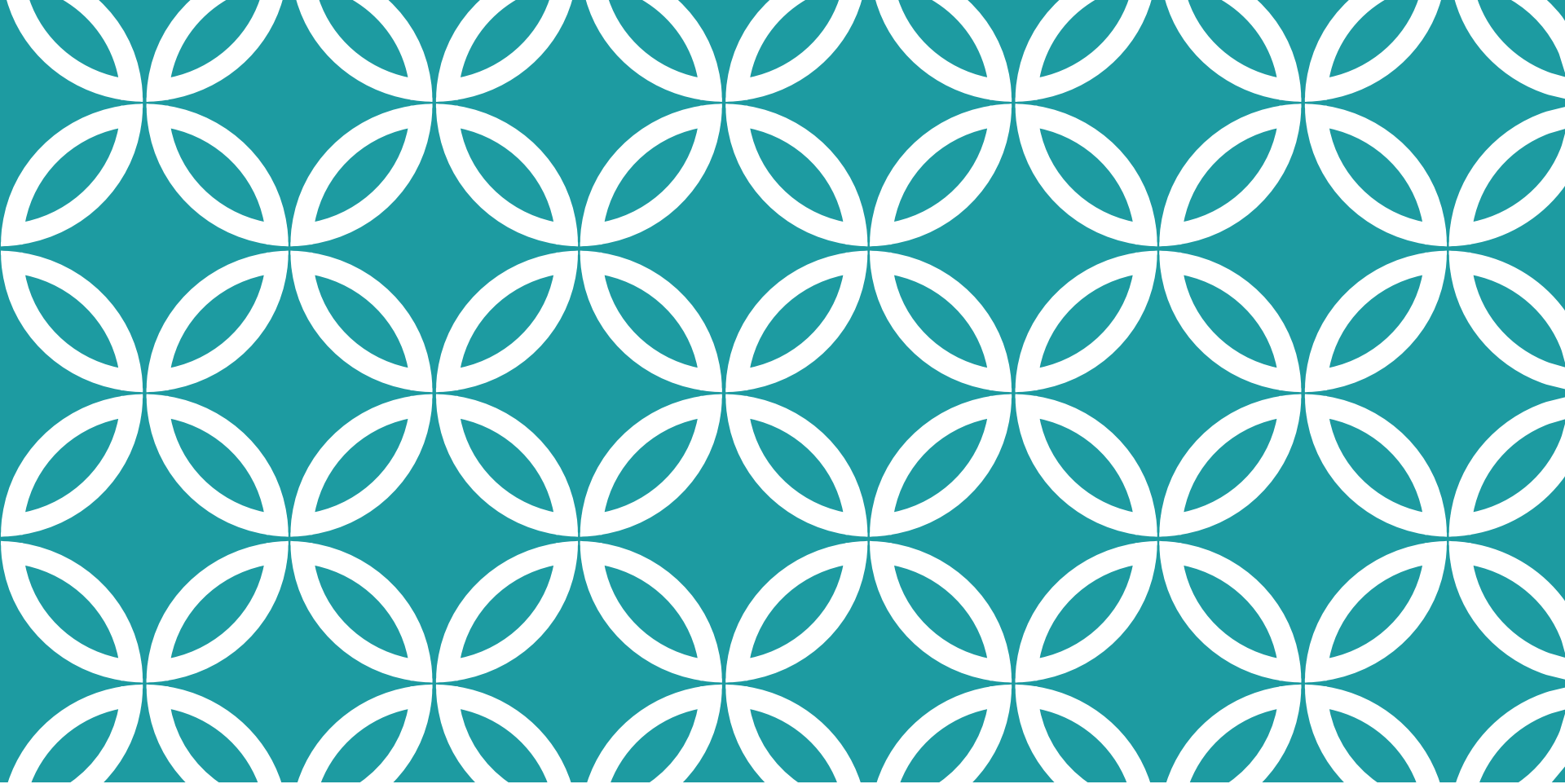
Mainly controlled by pig farming and short time tenders from public incineration companies

- Thus wet anaerobic digestion systems and burning of reject

Biodegradable wrapping fits with food waste since

- plastic from food waste is greasy and it comes last when talking recycling
- Communication to the public is easy: *you shall not throw your plastic with your food since it is collected in special bags*

Compost from food waste makes very good sense for organic farmers, who are in lack of nutrients and wants a clean and circular fertilizer



**THANK YOU FOR THE
ATTENTION**

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