



**Ministry of Environment  
and Food of Denmark**  
Environmental  
Protection Agency

# Organic waste - recycling and quality requirements

ICAW Webinar: Food Waste and  
the Circular Economy –  
Experience from Denmark  
6 May 2020  
Rasmus Eisted

# Denmark - Basic Numbers

- **Area: 16,600 mi<sup>2</sup>**
- **- 440 islands, 70 inhabited**
- **Population: 5.8 million**
- **Households: 2.5 million**
- **Registered businesses: >420,000**
- **5 regions**
- **98 municipalities**
- **5 largest cities**
- **- Copenhagen, Aarhus, Odense, Aalborg, Vejle**



# Danish waste plans and strategies



## Status and Goals

Table 1 The expected effects of the Resources Strategy						
SOURCE	EXPECTED EFFECTS Material type (fraction)	2018	2022 GOAL	THE CURRENT SITUATION (2011 FIGURES)		
		Min %	Min %	Recycled %	Incinerated %	Landfilled %
Households*	Recycling of organic waste, paper, cardboard, glass, wood, plastic and metal waste*		50	22	75	0
	Collection of waste electronic equipment	75		68**		
The service sector	Recycling of paper, cardboard, glass, metal and plastic packaging	70		53	47	0
	Recycling of organic waste	60		17	83	
Alle	Energy recovery from garden waste*	25		87	4	4
	Collection of waste electronic equipment	65				
	Collection of batteries	55		47		
	Recovery of shredder waste	70		0		
	Recycling of phosphorus in sewage sludge	80		-		

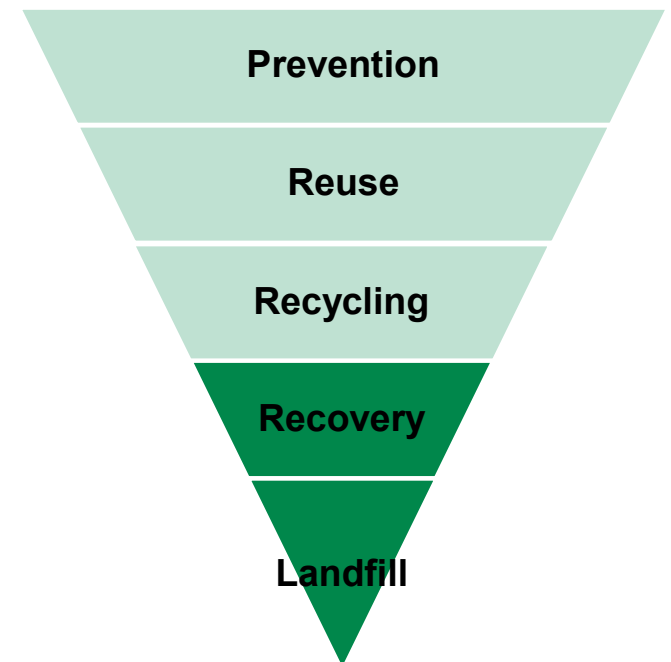
\* A smaller volume for temporary storage and special treatment is not shown in this table. Therefore the sum of the three treatment options shown is not 100%.

\*\* Average of amount placed on the market in the past 5 years.

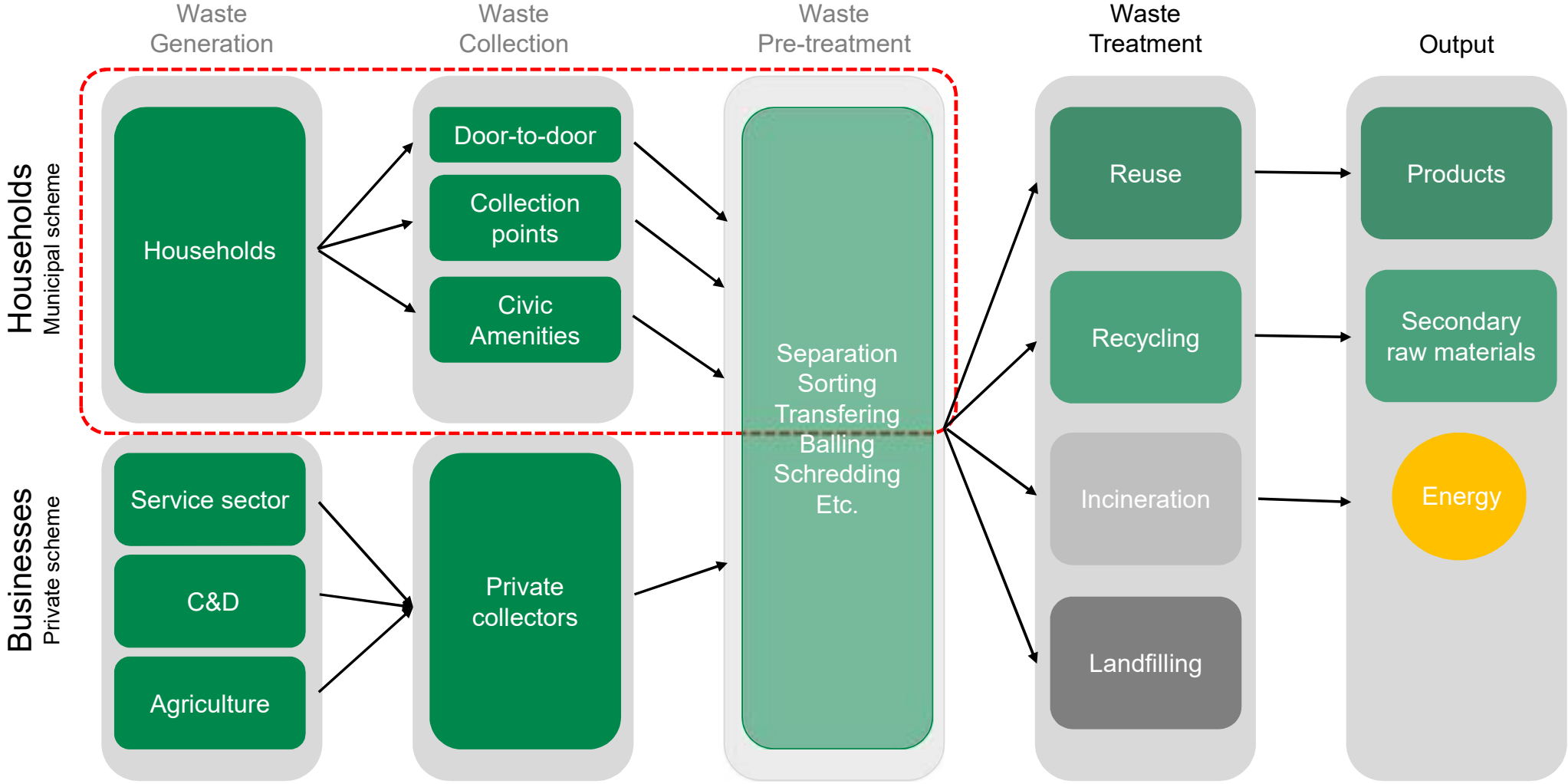


# The Danish waste model

- Following the principles in the waste hierarchy
- State tax on waste:
  - Tax on landfill: \$ 70 per tonne (2020)
  - Tax on incineration: \$ 49 per tonne (2020)
  - Tax on recycling: No tax
- A combination of administrative measures and regulations as well as economic measures such as taxes and duties.



# The Danish Waste Model



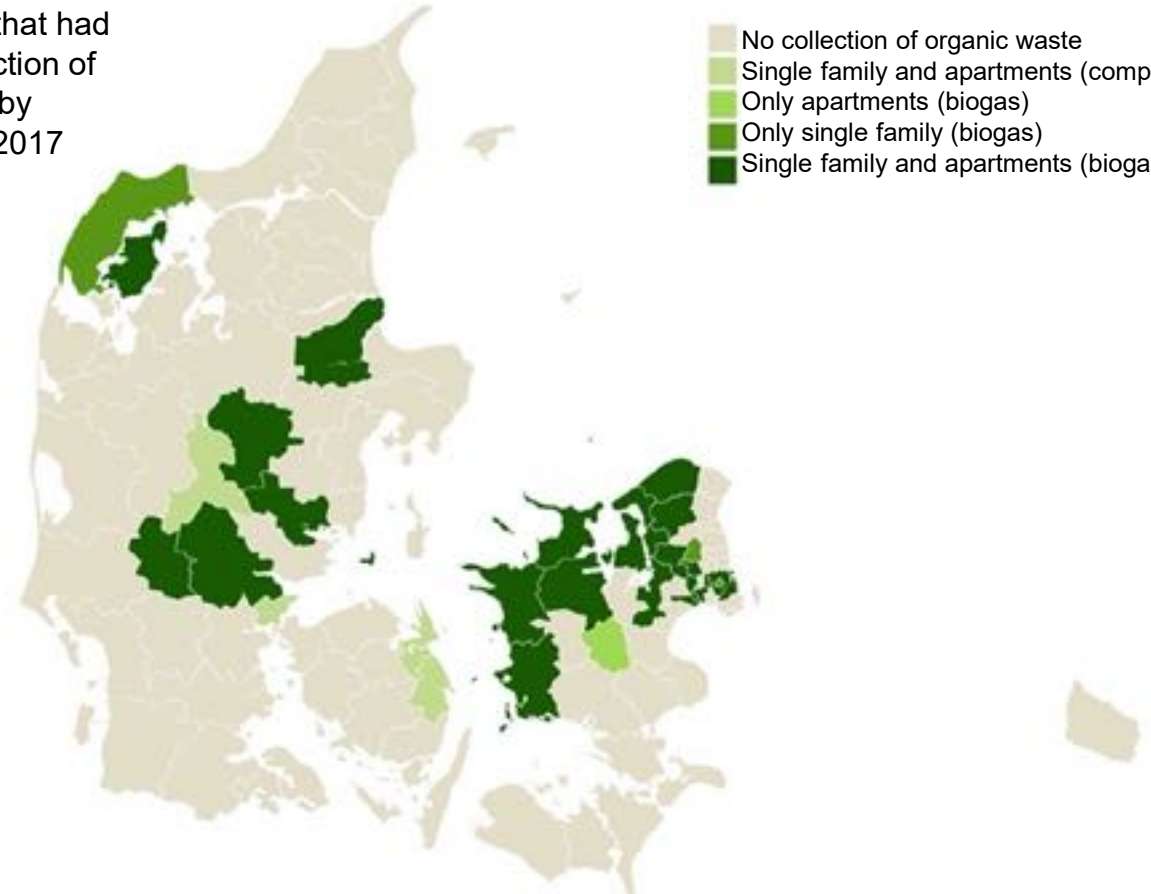
# Separate collection of organic waste (from kitchen)

**Mandatory municipal collection scheme for source separation and collection of organic waste from households by summer 2023.**

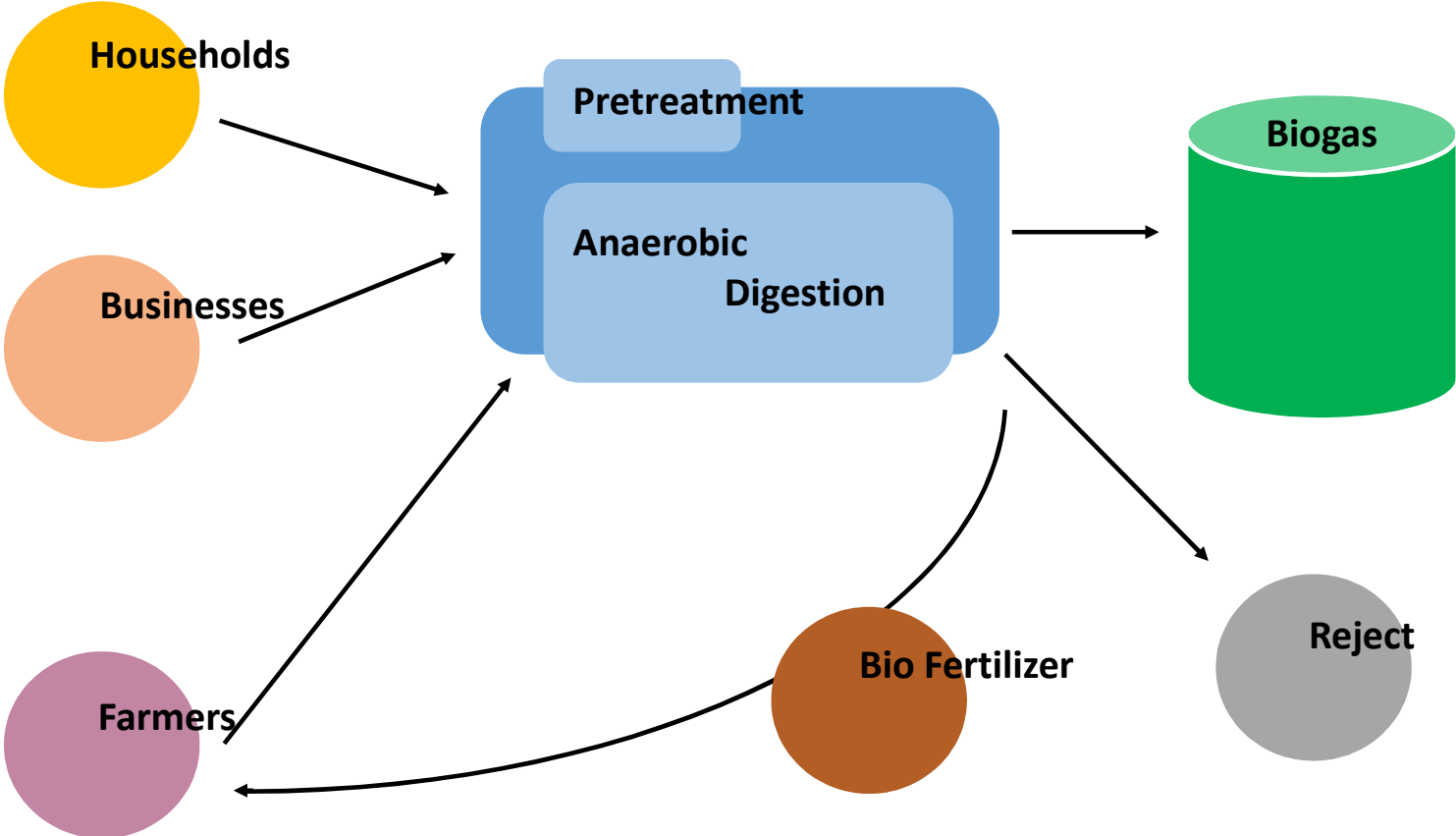
**App. 50 % of the municipalities have separate collection of organic waste.**

Municipalities that had separate collection of organic waste by November 1<sup>st</sup> 2017

- No collection of organic waste
- Single family and apartments (composting)
- Only apartments (biogas)
- Only single family (biogas)
- Single family and apartments (biogas)



# The biowaste value chain





# Feedstock Quality

Farming manure – no physical impurities

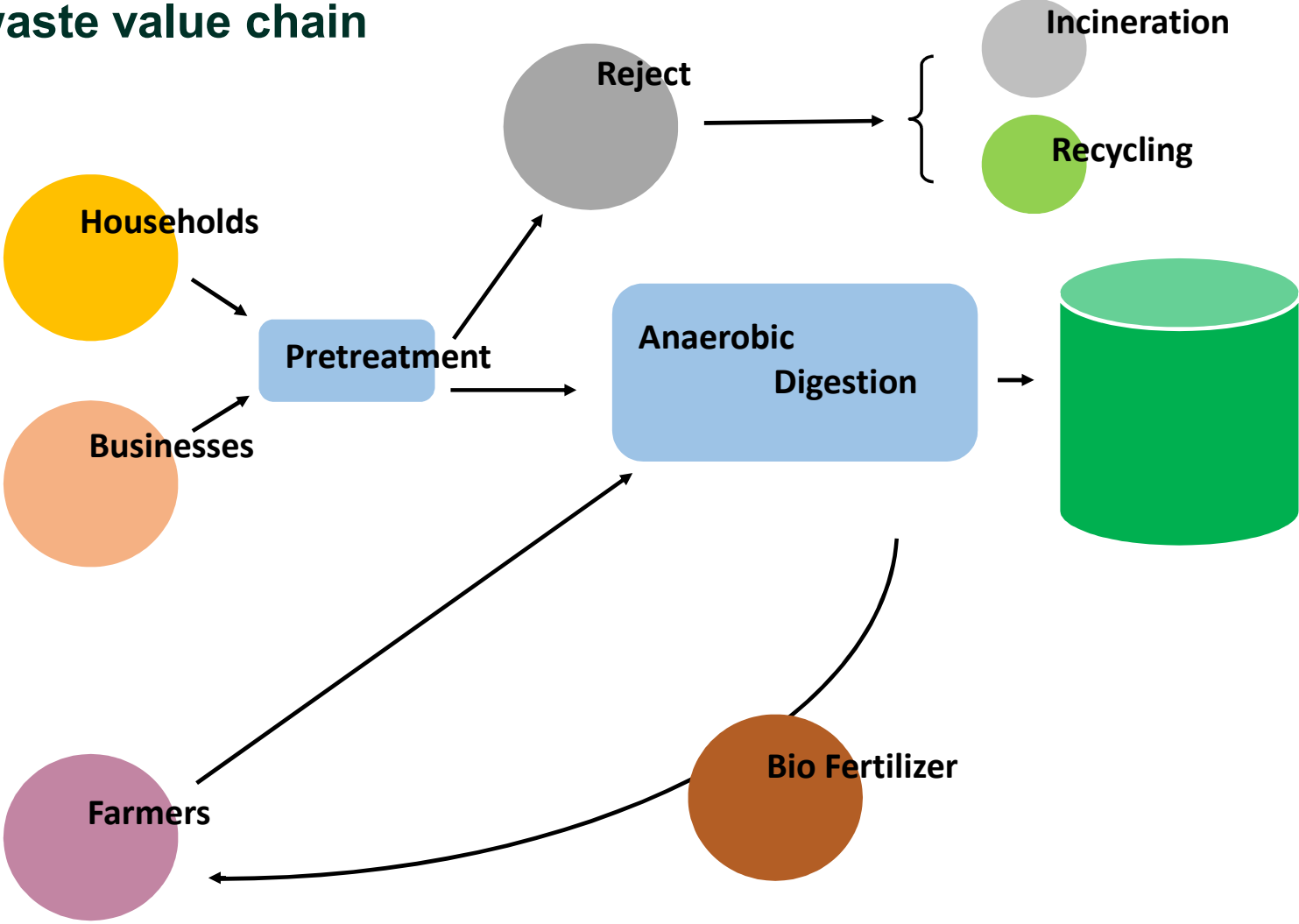
Food waste from service sector – some physical impurities

Industrial food waste – few physical impurities

Households – the challenge.....



# The biowaste value chain



## Quality Control

**Regulation on monitoring biopulp from organic household waste and food waste from service sector and industry. *Statutory Order on use of waste on farmland, no. 1001, 27<sup>th</sup> June 2018.***

***Guidance on sampling for physical impurities in the pretreated biopulp of 24<sup>th</sup> July 2018.***

- **Daily sampling mixed to monthly sample.**

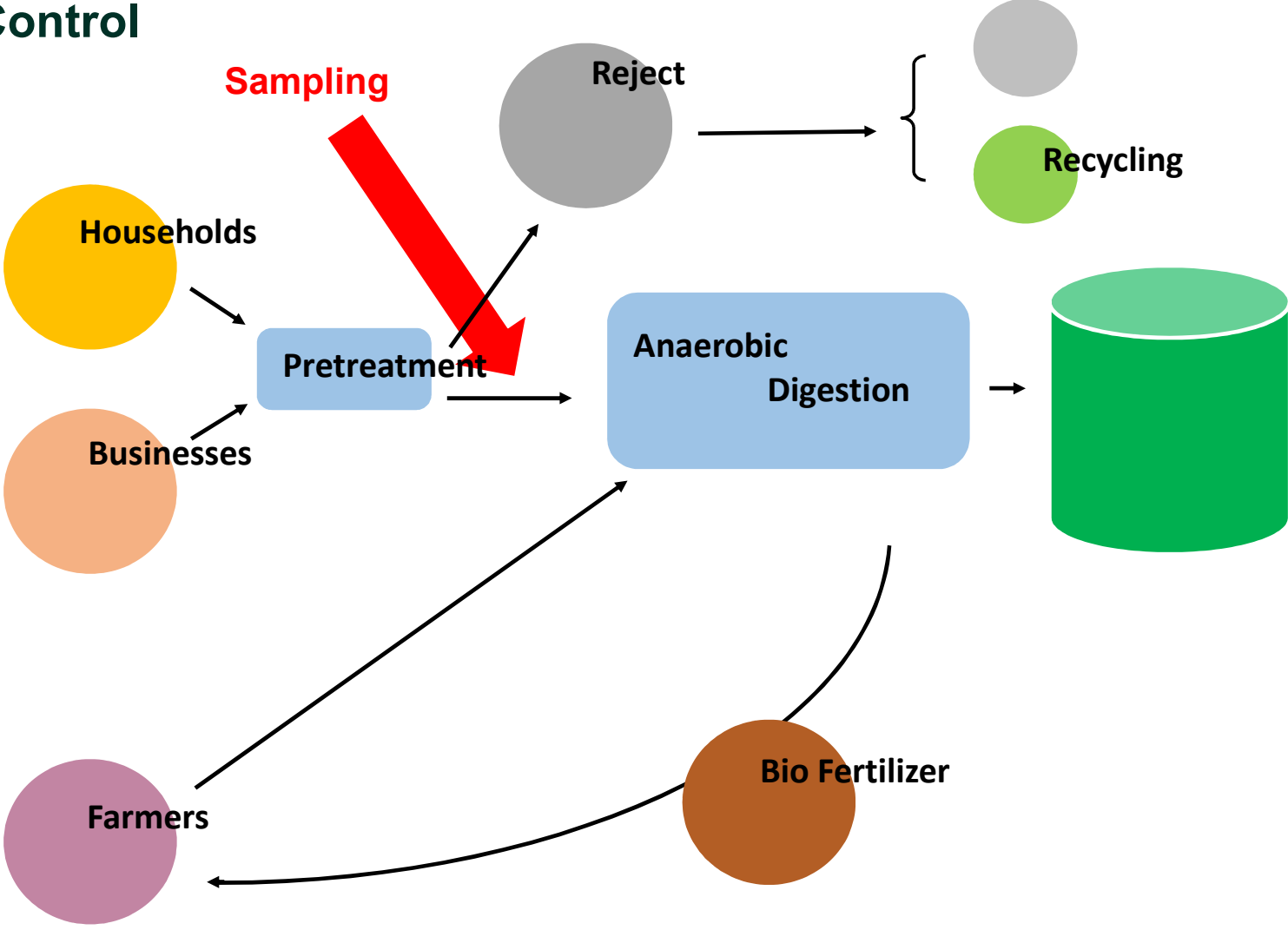
**Content limits:**

***Plastic, glass og composit materials, > 2 mm:  
0,5 weight % of dry matter***

**Plastic, > 2 mm:  
0,15 weight % of dry matter & 1 cm<sup>2</sup> / % dry matter in 1 liter biopulp.**



# Quality Control



# Thank you

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