

Flemming Viberg
June 2019

### **Welcome to 4PET**



### **Faerch Group**

#### Faerch has twelve production sites located in:

- Denmark
- **United Kingdom**
- **Spain**
- **Czech Republic**

Design & Innovation

- France
- The Netherlands four sites

#### with sales offices across Europe













Sutton United Kingdom





France





Netherlands

3





































# Sustainable packaging

Be the leader in "closing-theloop" and plastic recyclability









#### **Food safety**

Be the leader in methods and products, which protect food, extend shelf life and reduce food waste





# Responsible operations

To minimise CO2 emissions from own activities



# People and organisation

To secure workplace with focus on employee development



#### Business ethics<sup>1</sup>

To ensure orderly and responsible business practice









## Level of ambition **LEAD**

"To lead" means we will create competitive advantages and market differentiation through innovative and sustainable products.

## Level of ambition **DEVELOP**

"To develop" means we will strengthen and ensure our position and good practice by being a responsible producer and company.

# Level of ambition **COMPLY**

"To comply" means that we will adhere to legislation and applicable standards within responsible and ethical business practice.

<sup>&</sup>lt;sup>1</sup> The focus area "Business Ethics" is covered in section "Governance".

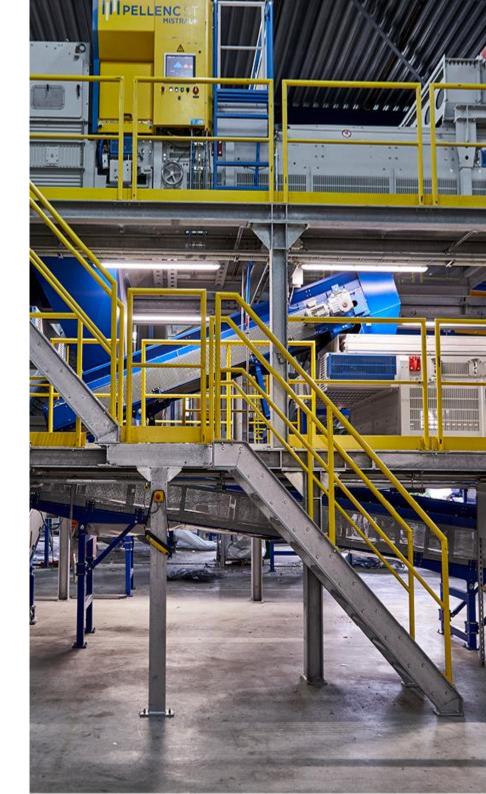
2025 Vision



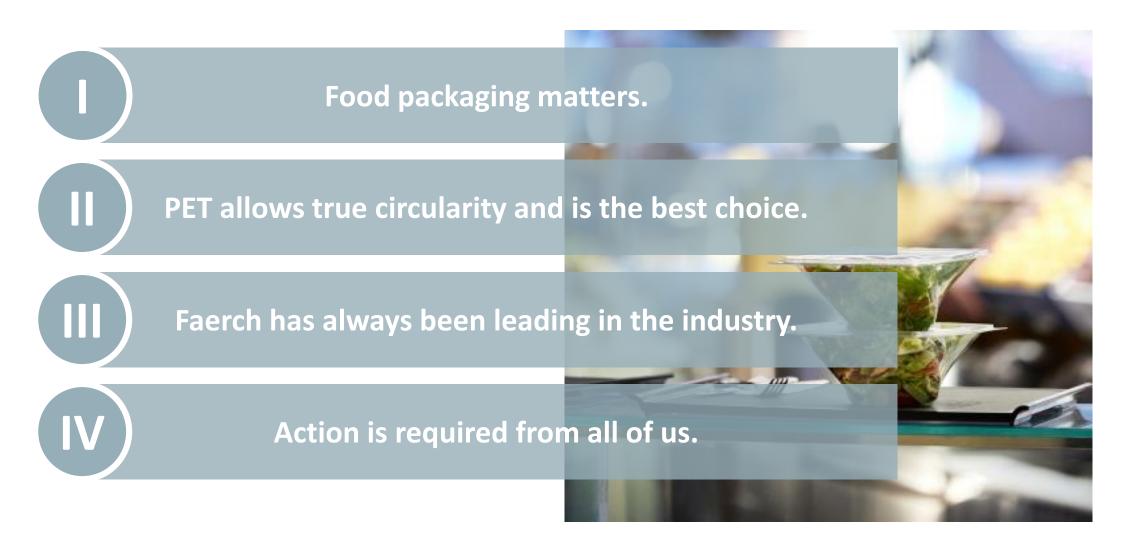
2025 Vision



2018 Action
4PET
Recycling integration
Tray-To-Tray



#### The way to true circularity for food packaging



#### Food waste still is a widely underestimated global challenge.





### **4PET Group**

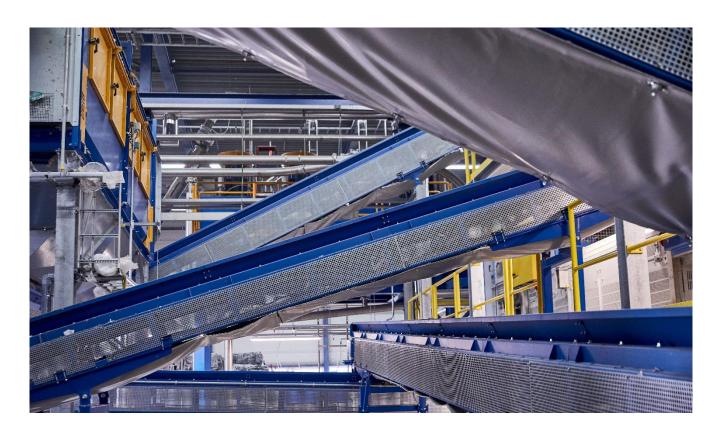










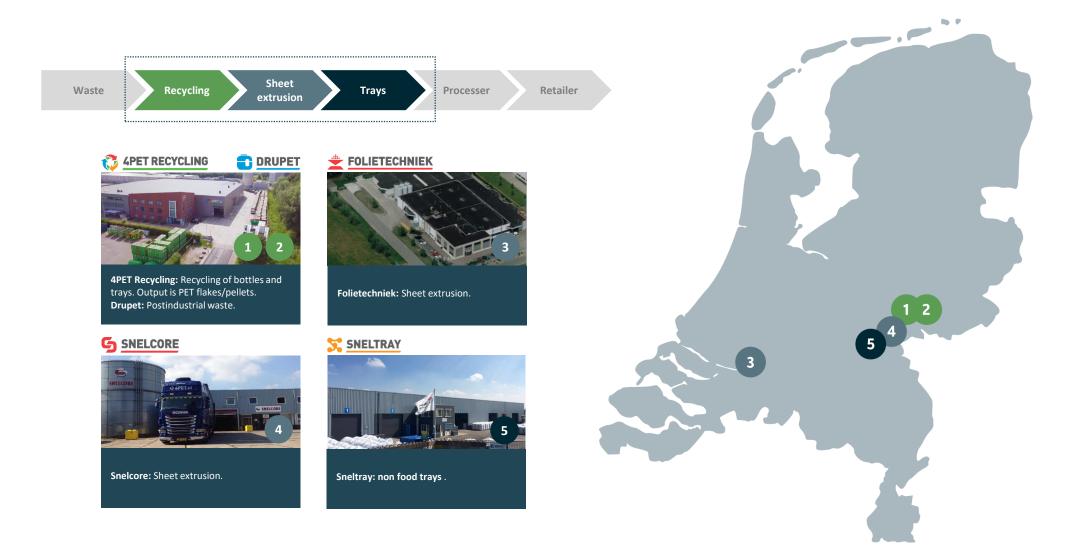








### 4 sites in the Netherlands specialised in different technologies



#### **4PET** at a glance

#### Leader in recycling and extrusion

Recycling

1 bottle line 1 tray line 1 post industrial recycling line

Sheets

+10 extruders at two sites

Travs

Thermoforming of trays for flowers

Leader in waste recycling of bottles and trays

**Leader in sheet extrusion** with two dedicated sites

Supplier to Europe's largest plastic thermoformers

Only recycler able to recycle plastic trays





**New tray line installed in 2018** as the first in Europe

Capacity of +30,000 tonnes p.a. when fully utilized

Agreement with waste management companies

4 sites in Netherlands with focus on circular economy

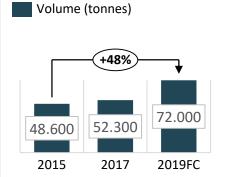


**4 sites located in the Netherlands** within a radius of 100 kilometers

**State of the art equipment** with 4PET site built in 2017/18

Circular economy with neighboring companies

Track record for growth

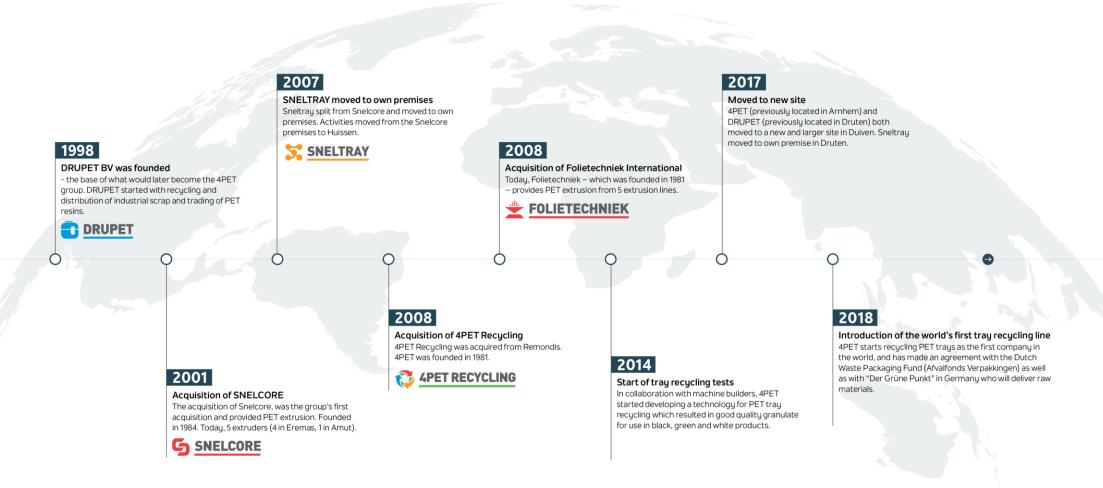


Strong volume growth expected from new tray line

**Entrepreneurial spirit** with company founded in 1998

Owned by Faerch Group since 2018

### **4PET Time-line – 20 years of growth and innovation**



#### **Recycling of post consumer PET trays**

#### The idea

The idea started in 2014...

... a new technology called tray-2-tray recycling was invented

#### Main differences to PET bottle recycling:

- Mechanical behavior is different
- Bottle recycling process does not fit trays
  - Brittleness of trays requires different process
  - Adaptations in input section and washing section
  - Extra process for flake washing
- Adapted sorting process for separation of colored / black trays

#### Issues to be solved

The main difference from bottle recycling is the lack of standardization of trays (regulation, material, glue etc.)

#### Issues to be solved can be divided into 3:

- 1. Input
- 2. Washing
- 3. General

#### Input section:

- Sorting quality required
- · Debaling and sorting technology
- Multilayer
- Lids sealed on the trays
- Adhering pollution / absorber pads

#### Washing section:

- Organic pollution
- Labels and adhesives

#### General:

- Large percentage of fines < 2 mm
- · Fines cleaning
- Lower IV of the end product

#### **Sourcing solutions**

Agreement with Afvalfonds
Verpakkingen (Dutch packaging
waste fund) on guaranteed monthly
volumes for the starting period

### 4PET Recycling cooperates with several sorting companies

- Improvements of sorting quality
- Adaptation of specifications
- Methods of baling
  - → Open discussion about how to continuously reach better and better results
  - → Focus to work with more waste companies to increase tray volume





#### **Technology solutions**

4PET Recycling cooperates with Sorema and Erema to install and ramp-up the first tray recycling process

### 4PET Recycling has performed trials with trays, starting ultimo 2014

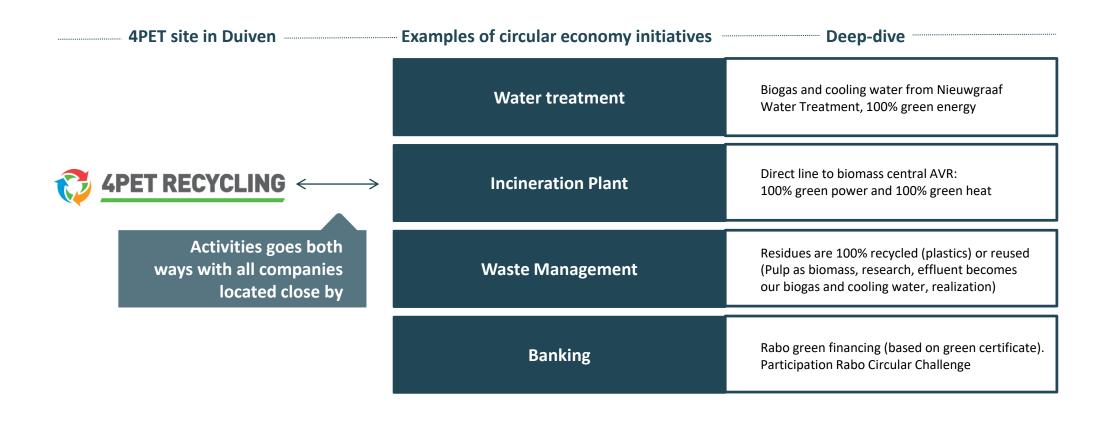
- Feasibility has been proven
- · Sorema washing technology
- Specially developed washing process for trays
- PET fines washing line
- Erema Vacurema technology
- Extrusion from fines to food grade pellets
  - IV is restored
  - Food approval is guaranteed





Technology is proven and ramp-up is on-going

#### Circular economy with neighbours and stakeholder

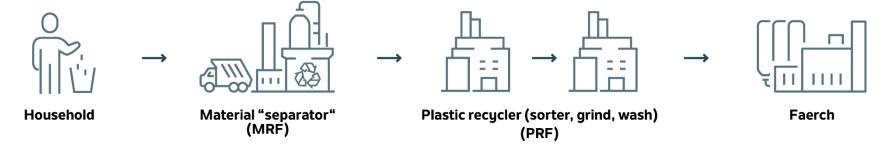


### **Description of the tray line**



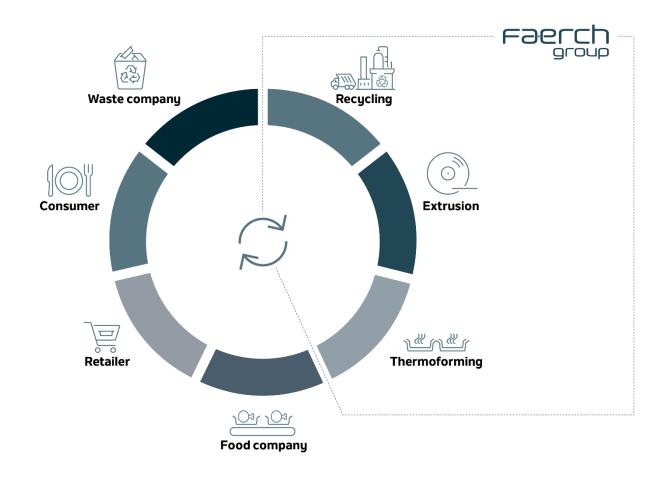


### The set-up





### Cradle to cradle solution is now possible within the Faerch Group



### Circularity vs downcycling

#### **PET Circular recycling**

Tray to Tray



#### **PP Spiral recycling**

Downgrade recycling example

