Circular Plastics NL

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Bijeenkomst Plastic Pact
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The NGF Circular Plastics NL program:

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- Make plastics fully circular: 50% in 2030 and towards 100% in 2050
- Use subsidies to accelerate the transition by realizing material and process innovations
- Focuses on bottlenecks in different value chains to close the cycles for existing plastics
- Program in 3 phases: 2 + 2 + 4 = 8 years
- In total € 220 M available, of which € 124 M for the first phase
- Covering a wide array of TRL levels
- Research projects, show cases and pilot / demonstration facilities
- Strengthen the NL Eco system on circular plastics!

The challenge: 1 million tonnes of waste

< 15%

67 %

Courtesy of NTCP

Overview of the program

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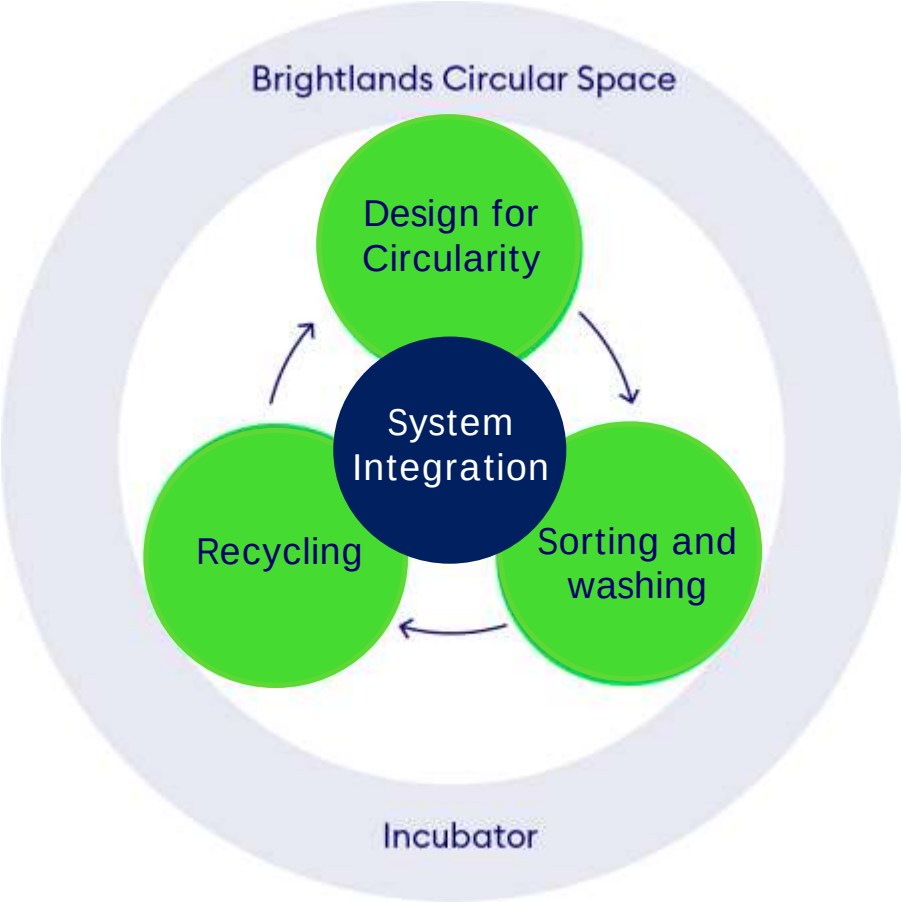

PROGRAMS	Show Case
P1a. System Integration	
P1b. Design	
P1c. Microplastics	
P2. Characterization, sorting and washing	
P3. Mechanical recycling of polyolefin packaging	(L)DPE, HDPE/PP
P4. Recycling of styrenics	PS, ABS, HIPS
P5. Chemical depolymerization	PET, Textile, PU, tyres
P6. Thermochemical recycling	From waste streams
P7. Brightlands Circular Space	
P8. Incubator	

P1. Modules, Tools and Infrastructure

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Modules

- Reduce, re-use, recycle strategies
- Policy, legislation, standardization, legal aspects
- Design for circular economy
- Technology
- Behavior
- Business models
- Recyclate quality
- Microplastics mitigation

Tools

- Multi criteria decission Support Tool
- Product Design Tool
- Material Selector

Infrastructure

- Microplastics laboratory
- Focus on measuring, design and mitigation

P2. Characterization, sorting and washing

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Challenges

- Increase recyclate quality by sorting and washing
- Increase amount of recycled materials
- Residual stream and recycle statistics

Approach

- Collection methods (pre-separation, after-separation)
- Cleaning: removal of glues, inks, labels, coatings and (food) residue
- Limit formation of microplastics
- Characterization: recognition of material species and quality
- Sorting: correct materials and volumes (food packaging, polymers from construction, textile)

P3. Mechanical recycling

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Challenges

- Plastics degrades after a number of cycles of mechanical recycling
- Recyclate cannot be used in food contact applications
- Contamination by labels, inks, adhesives etc.
- Flexibles are difficult to process

Approach

- Work out two show cases:
    - **HDPE/PP packaging**
    - **(L)LDPE foils**
- Optimize the entire value chain for design, characterization, sorting, washing and recycling

P3-6. Recycling Techniques

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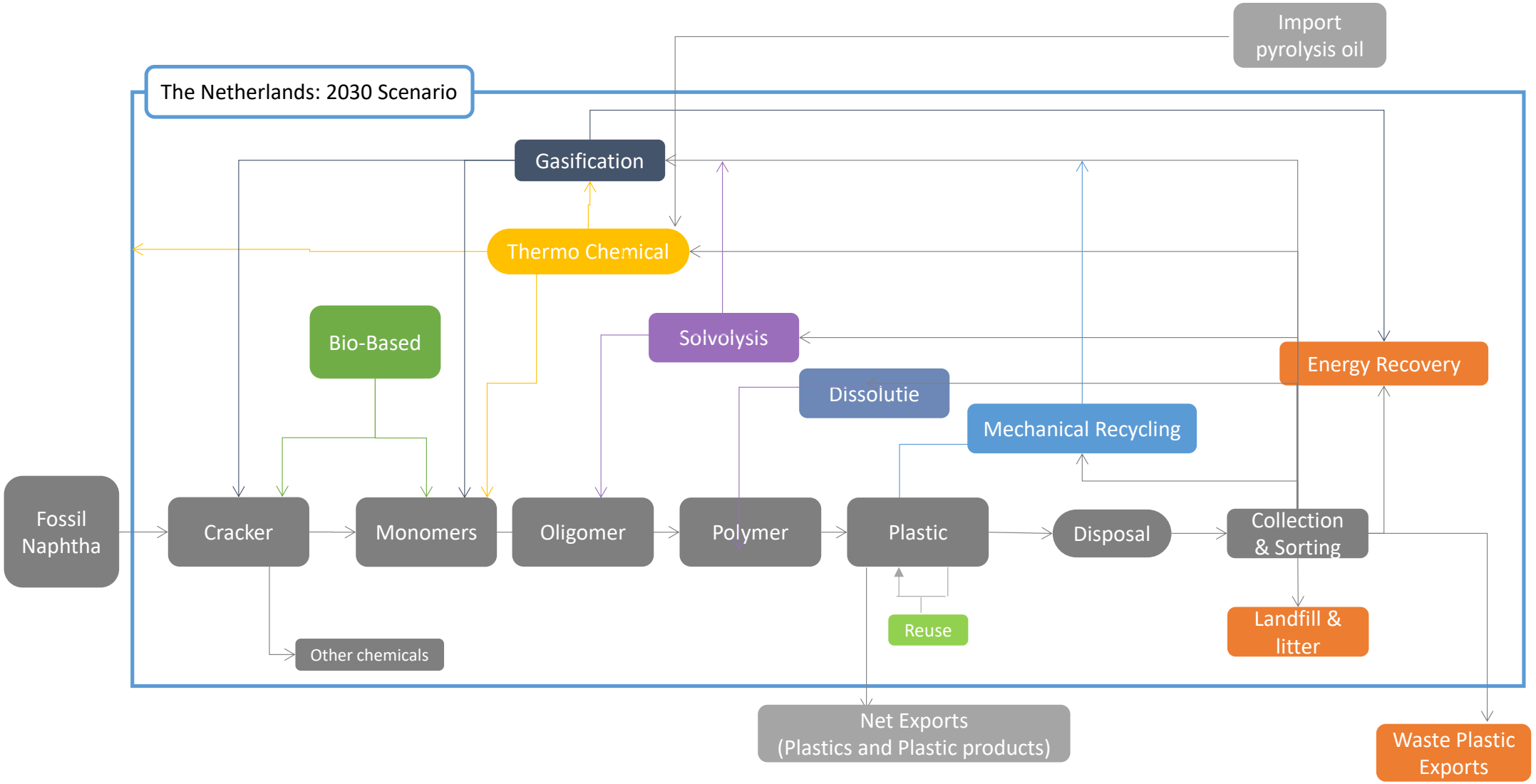

P8. Incubator

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Challenge

- New disruptive technology is needed to increase circularity to 100% and prevent formation of microplastics/SVHC

Approach

- Strengthen low TRL research by providing academic funding
  - Develop new polymers (based on renewable feedstock)
  - Develop new characterization methods
  - Develop new innovative recycling methods

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Thank you!

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