

Online information meeting and Q&A

Open calls 2023

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Content

Background

CP NL program

Open calls 2023

RVO: CPNL Research projects & showcases

NWO: CPNL Scientific research (Incubator)

Q & A

CPNL as part of National Growth Fund

Category: Research, development and innovation

Program	NGF round	Subsidy amount (M€)
Quantum Delta NL	1	615
Groenvermogen II	2	500
Photodelta	2	471
NXTGEN HIGHTECH	2	450
Luchtvaart in transitie	2	383
Groenvermogen	1	238
BioBased Circular	3	338
Oncode-PACT	2	325
AiNed	1	276
Biotech booster	2	246
Circular Plastics NL	2	220
Nieuwe warmte nu	2	200
Zelfdenkende systemen	2	97

Circular Plastics NL

The goal of the program is:

- to make plastics fully circular and use subsidies to accelerate the transition by realizing material and process innovations and focusing on bottlenecks in different value chains to close the cycles for existing plastics.
- The program runs for eight years and has eight program lines working towards 100% circularity in 2050 and offering the Dutch economy sustainable growth opportunities.
- New materials are being developed that can replace materials that are difficult to recycle in the future. Specific cycles can be closed in showcases.

The program is split into **3 phases**:

- 1st phase: 2023-2024, 2nd phase: 2025-2026, 3rd phase: 2027-2030. **Open calls 2023 are part of the 1st phase**

CPNL Program lines

Program lines

P1. System integration & Design (incl. microplastics)

P2. Characterization, sorting and washing

P3. Recycling of polyolefin packaging

P4. Recycling of styrenics

P5. Chemical depolymerization

P6. Thermochemical recycling

P7. Brightlands Circular Space

P8. Incubator

Open Call 2023: program lines in scope

Program lines

P1. System integration & Design (incl. microplastics)

P2. Characterization, sorting and washing

P3. Recycling of polyolefin packaging

P4. Recycling of styrenics

P5. Chemical depolymerization

P6. Thermochemical recycling

P7. Brightlands Circular Space

P8. Incubator

RVO: CPNL Tender

Research Projects & Showcases

NWO: scientific research (PPP*)

* Public Private Partnership instrument

RVO: CPNL Tender projects

Research Projects

- Scientific research into processes, methodologies or techniques aimed at improving the Design, Characterization/Sorting/Washing and Recycling of plastic waste streams in order to improve the efficiency of the recycling processes and the quality of the recyclate.
- Maximum 4 years

Showcase

- Projects that focus on a particular material and aim to remove bottlenecks in a specific value chain. This is done using the themes of Design, Characterization/Sorting/Washing and Recycling (technology). This creates an opportunity in the market to close this value chain, which can be used as a blueprint to close another value chain for the same material.
- Maximum 5 years

Consortium roles

Role	Definition
Polymer production	Producing polymer materials
Product design	Translating functional requirements of plastics products into polymer material specifications
Brand owner (OEM)	Specification of functional requirements of plastic product by brand owners (OEM)
Converting	Processing of polymer materials into plastic products
Waste collecting	Collecting post-consumer or industrial plastic waste
Waste processing	Sorting and (post)treatment of plastic waste streams or offering equipment for these activities
Recycling	Recycling of plastic waste via mechanical, physical or (thermo)chemical processes into feedstock for new polymer materials
Engineering	Design, engineering and installation of industrial process equipment and plants
Knowledge / research institution	Applied scientific research and development
Value chain management	Dedicated project management aimed at collaboration and integration of new/innovative activities across the value chain

RVO: Overview of research projects and showcases

	program line	RVO: CPNL open call program line items	M€
research projects	P2	Research project on characterization technologies to enhance recycling output quality	2,0
	P2	Research project on the development of a digital expert system in plastic waste sorting	1,2
	P2	Research project on the development of specific pre-treatment and sorting techniques for synthetic rubbers	1,5
		subtotal	4,7
show-cases	P3	Showcase HDPE /PP (rigid) packaging	7,8
	P3	Showcase (L)LDPE flexible packaging	8,8
	P4	Showcase styrenics	3,0
	P5	Showcase PET packaging	2,0
	P5	Showcase textiles	5,0
	P5	Showcase carpets	2,4
	P5	Showcase PU foams	1,5
	P5	Showcase including demo plant for chemical depolymerisation of PET, PA and/or PU	9,0
	P6	Showcase mixed wasted streams for thermo chemical recycling	3,0
	subtotal	42,5	
	GRAND TOTAL	47,2	

RVO: CPNL tender **maximum subsidy %**

participant	IO: Industrial Research	EO: Experimental Development	Demo: Demonstration Plant	Knowledge Dissemination
Knowledge/research institution	80% if not economical	80% if not economical	n.a.	100%
Small company	70%	45%	60%	100%
Middle sized company	60%	35%	50%	100%
Large company	50%	25%	40%	100%
	Includes project management activities	Includes project management activities Includes pilot plant development	Subsidy applies on additional cost versus a reference investment, see AGVW 47	Max. 25k€ for a showcase and 50k€ for a research project For companies under the de-minimize ruling

RVO: CPNL tender ranking & criteria

Criteria	Showcase	Research project
Fit with the program	10%	10%
Contribution to the improvement of quality and quantity of recycling (impact)	20%	20%
Succes rate of the project	25%	15%
Quality of the plan and consortium	20%	20%
Degree of innovation	15%	15%
Quality of knowledge dissemination plan	10%	20%

Expected timelines: **PROVISIONAL**

- **Showcases & research projects (via RVO)**

- Matchmaking event @ Kunststoffenbeurs September 21st, 2023
- Expected publication Staatscourant October 2023
- Matchmaking event @ Utrecht October 12th, 2023
- Call closed December 2023

- **Scientific research / incubator (via NWO)**

- Information session @ Kunststoffenbeurs September 21st, 2023
- Expected publication Staatscourant October 2023
- Matchmaking event @ Utrecht October 12th, 2023
- Call closed December 2023

RVO-1: P2 Characterization Technologies (2 M€)

Goal

Develop in-line measuring and characterization techniques to enhance the output quality of the recycling process (recyclate, oligomer, monomer)

Material / Value Chain

Compatible with feedstock from packaging streams

Scope & Activities

Applied to min. 1 recycling technology
IO / EO

Consortia roles (minimum)

Waste processing
Recycling
Knowledge/research institution

RVO-2: P2 Digital Expert System for sorting (1,2 M€)

Goal

Development and demonstration of a digital expert system to predict recycle quality and optimize sorting and recycling routes.

Material / Value Chain

Detection of at least PE, PP, and PET from packaging streams

Scope & Activities

Charact. Sorting & Washing
Link with ≥ 1 recycling technology
IO / EO

Consortia roles (minimum)

Waste processing
Knowledge/research institution

RVO-3: P2 Pre-treatment & sorting of rubber (1,5 M€)

Goal

Develop methods for pre-treatment and sorting of synthetic rubbers in order to prepare for a devulcanization step

Material / Value Chain

Synthetic rubbers
Tyres

Scope & Activities

Charact. Sorting & Washing
IO / EO

Consortia roles (minimum)

Waste processing
Recycling

RVO-4: P3 Showcase (rigid) packaging (7,8 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of rigid polyolefine packaging

Material / Value chain

Rigid PP and/or (HD)PE from food or non-food packaging waste streams

Scope & Activities

Design
Charact. Sorting & Washing
Mechanical or Dissolution recycling
IO / EO / Demo

Consortia roles (minimum)

Product design
Waste processing
Recycling

RVO-5: P3 Showcase flexible packaging (8,8 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of flexible PE foils

Material / Value Chain

LDPE and LLDPE from domestic and industrial waste streams

Scope & Activities

Design
Charact. Sorting & Washing, Mechanical or Dissolution Recycling
IO / EO / Demo

Consortia roles (minimum)

Product design
Waste processing
Recycling

RVO-6: P4 Showcase styrenics (3 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of styrene-based materials

Material / Value Chain

Focus on PS / EPS / ABS, other materials can also be taken into account
Construction, electronics and/or automotive industries

Scope & Activities

Charact. Sorting & Washing, Dissolution, chemical or thermochemical Recycling
IO / EO / Demo

Consortia roles (minimum)

Product design
Waste processing
Recycling

RVO-7: P5 Showcase PET packaging (2 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of PET materials that are not part of a deposit scheme (like bottles)

Material / Value Chain

PET packaging (e.g. trays for meat) not part of a deposit scheme (like bottles)

Scope & Activities

Design
Charact. Sorting & Washing, for chemical recycling*
IO / EO

Consortia (minimum)

Product design
Waste processing
Recycling

* Development of chemical recycling has a separate budget in RVO-11

RVO-8: P5 Showcase Textiles (5 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of textile materials

Material / Value Chain

Focus on polyester from textiles, other materials like cotton and elastane can also be taken into account
Domestic and industrial textiles

Scope & Activities

Charact. Sorting & Washing, for chemical recycling*
IO / EO / Demo

Consortia (minimum)

Waste collecting
Waste processing
Recycling

* Development of chemical recycling has a separate budget in RVO-11

RVO-9: P5 Showcase Carpets (2,4 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of carpets

Material / Value Chain

PA, PET or PP carpets

Scope & Activities

Design
Charact. Sorting & Washing, for chemical recycling (PET/PA)* or mechanical recycling (PP)
IO / EO

Consortia (minimum)

Product design
Waste collecting
Waste processing

* Development of chemical recycling has a separate budget in RVO-11

RVO-10: P5 Showcase PU Foams (1,5 M€)

Goal

Optimize the value chain and improve recycle quality & quantity of soft PU foams

Material / Value Chain

Soft PU foams used in furniture and automotive

Scope & Activities

Design
Charact. Sorting & Washing
Chemical recycling
IO / EO

Consortia roles (minimum)

Product design
Waste processing
Recycling

RVO-11: P5 Demoplant Chem. Depolymerization (9 M€)

Goal

Demonstration of chemical depolymerization of PET, PA and/or PU on a large pre-commercial scale

Material / Value Chain

PET, PA and/or PU

Scope & Activities

Chemical recycling

Consortia roles (minimum)

Waste processing
Recycling
Engineering

RVO-12: P6 Showcase mixed waste streams (3 M€)

Goal

The development and demonstration on pilot scale of a scalable process to use mixed waste streams in thermochemical recycling for synthesis of monomers.

Material / Value Chain

Mixed waste streams that are not suitable for mechanical, dissolution recycling.
Production of syngas is out of scope

Scope & Activities

Charact. Sorting & Washing
Thermochemical recycling
IO / EO

Consortia roles (minimum)

Waste processing
Recycling

NWO: CPNL Incubator (PPP)

Public Private Partnerships with a minimum 10% co-finance contribution

Scientific research by universities, universities of applied sciences (hbo), and TO2 institutes

Themes

Design of circular plastics

Material development for better recyclable products and materials

Characterization, sorting & washing techniques

Higher quality and quantity of sorting output, quality monitoring in recycling processes, microplastics mitigation

Recycling techniques

Recycling techniques with higher efficiency and yields

Budget

Total budget: 6 M€ / 10 projects

Project budget: max. 600 k€ (excluding 10% co-finance contribution)

More information: CPNL program managers

Contact details <https://circularplasticsnl.org/organisatie>



Roland ten Klooster P1. Design

Louis Jetten P2. Characterization, sorting and washing



Mark Demuyndt P3. Mechanical recycling of polyolefin packaging

**Tom Claessen P4. Recycling styrenics
P5. Textile**



Jan Willem Slijkoord P5. Chemical depolymerization (excl. Textile)



Joop Groen P6. Thermochemical recycling



Maurits Boeije P8. Incubator

Marc Spekreijse Managing Director





Thank you !
Questions?

Next events:

Regio Oost Sept 7th, 2023

Matchmaking Kunststoffenbeurs Sept 21st, 2023

Matchmaking Utrecht, Oct 12th, 2023

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