

PlastLIFE leads the way towards a sustainable circular economy of plastics

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PlastLIFE seminar
24.4.2024 Karelia UAS, Joensuu



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What is PlastLIFE?

PlastLIFE – Re-thinking plastics in a sustainable circular economy

PlastLIFE is an extensive national cooperation project to promote the circular economy of plastics. The goal is a sustainable circular economy for plastics in Finland by 2035.

In 2022–2029, PlastLIFE promotes the implementation of the Plastics Roadmap for Finland aiming to reduce littering and unnecessary consumption of plastic, to increase recycling and to replace fossil raw material in plastic manufacturing.



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PlastLIFE is carried out by

Consortium partners:



Funding organisations:



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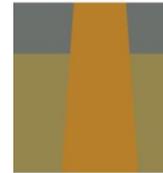
PlastLIFE-hanke saa EU:n LIFE-ohjelmasta rahoitusta, jolla hankkeen materiaalit on tuotettu. Materiaalien sisältö edustaa ainoastaan hankkeen omia näkemyksiä, joista CINEA/Euroopan komissio ei ole vastuussa.



Ympäristöministeriö
Miljöministeriet
Ministry of the Environment



MAA- JA METSÄTALOUSMINISTERIÖ



KESKITIEN
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Coordinator:



Suomen ympäristökeskus
Finlands miljöcentral
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Re-thinking plastics in a sustainable circular economy

PlastLIFE kick-off 15.-16.3.2023



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Co-operating and networking to reach all Finns

- Full implementation of the PRfF requires involvement of all stakeholders in various parts of the country
- Municipality networks (national and international)
- NGOs, social media influencers, youth organisations and schools
- Company networks
- The Plastics Roadmap for Finland co-operation network
- PlastLIFE Advisory group including complementary measures and stakeholders relevant for the PRfF



Photo: Adobestock



We strive for



Reducing unnecessary consumption of plastics



Combating littering



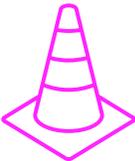
Recovering and recycling plastic waste



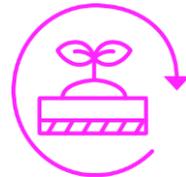
Replacing fossil raw materials



Managing harmful substances



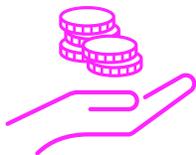
Managing plastics in construction and demolition



Managing plastics in agriculture and horticulture



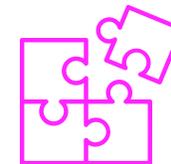
Collaborative solutions



Generating new business



Strengthening expertise



Expanding knowledge on plastic and its impacts



Impacts by 2035

Recycling of plastics packaging has increased from

42%  **55%**

Use of recycled materials has increased



Recycling of all plastic waste has doubled

2x

Knowledge on plastics has increased
(amounts, impacts, and risks)

Coastal littering has decreased by

50%

Amount of non-recycled plastic packaging waste has decreased to **60,000** tonnes per year

Amount of plastic waste has decreased

Results have been channelled into national policymaking and legislation

GHG emissions related to plastics waste treatment have decreased from

156,000



78,000
tons of CO₂e. per year

**Breakthrough
of sustainable
circular
economy of
plastics**



>15 reports and articles produced by today



AI Aalto-yLIOgisto
Aalto-universiteetti
Aalto University

PlastLIFE Project

Georakentamisen maisteriohjelma

Report on innovation challenges for sustainable construction

Helsingin katu- ja puistohankkeiden muovivirtaselvitys

Bo Telén



PlastLIFE:n ja täydentävien toimien vaikutukset kansallisen Muovitieman toimeenpanoon

Deliverable D1.5

Syyskuu 2023

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Valmistettu osana PlastLIFE SIP-hanketta

Petra Rinne, Jaana Sorvari & Helena Dahilo
SUOMEN YMPÄRISTÖKESKUS

LIFE21-IPE-FI-PlastLIFE
Deliverable No D73

Analysis of missing know-how implementation for each stakeholder group

Due date 31.1.2023
Deliverable submission date 20.3.2023

20.3.2023

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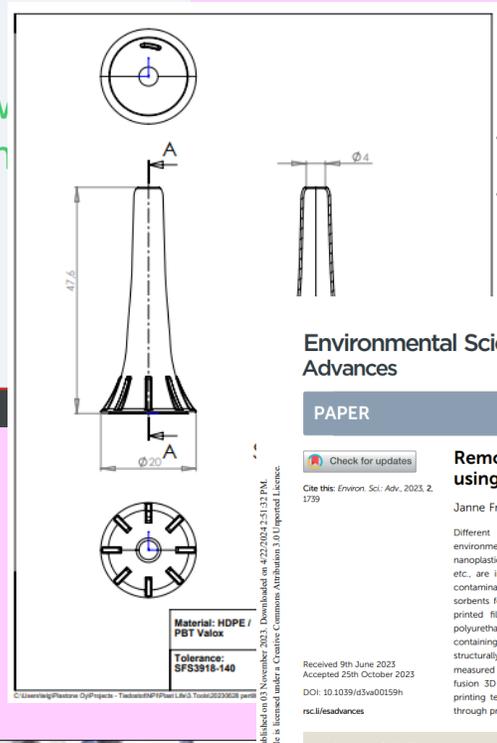
Sustainability and exploitation strategy

Deliverable D9.11 of the PlastLIFE-project

28.6.2023

Suomen ympäristökeskus
Finlands miljökansli
Finland Environment Institute

PLASTLIFE



Product drawing for a vet specular for otoscope

Environmental Science Advances

PAPER

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Removal of estrogens from aqueous solutions using 3D-printed polymers†

Janne Frimodig and Matti Haukka

Received 9th June 2023
Accepted 25th October 2023
DOI: 10.1039/d3va00159h
rsc.li/esadvances

Environmental significance

Our environment struggles with ever-increasing amounts of pharmaceuticals, personal care products, cosmetic products, and microplastics. The harmfulness of polymer waste is not limited to only ingestion and bioaccumulation, as chemically functional materials can pose additional hazards. In this study, we have studied several common polymers and their ability to bind estrogen-group hormones, which are endocrine-disrupting chemicals, can pose serious health hazards to animals and humans. We found that functionally active polymers such as polyamide (PA, nylon) and thermoplastic polyurethane (TPU) adsorb these compounds at significant levels. We also manufactured functionally active 3D-printed adsorbents using these materials, which can be used to purify contaminated waters, highlighting recycling and reusability as a viable solution.

The Replication Strategy of the PlastLIFE SIP Project

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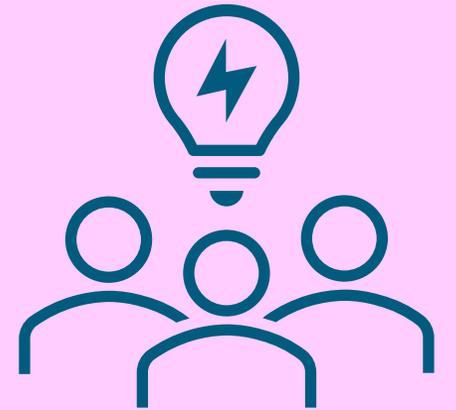
Activities in 2024 - Engaging citizens in promoting CE of plastics

- Citizen panel (140 participants signed up); First discussions (May 2024) on how to reduce the use of plastic carrier bags (Syke)
- Rosgis mobile application being tested (Syke)
 - Collecting information on litter
 - Involving citizens in making science
 - (<https://www.ymparisto.fi/citobs/rosgis/#>)
- Campaigns against littering: Siisti Biitsi, Mahanpuruja muovista (Pidä saaristo siistinä ry)



Activities in 2024 - Engaging experts in promoting CE of plastics

- Transition arena workshop discussions (Syke) to promote reuse of
 - plastic packaging (consumer and transport packaging) and
 - plastic consumer products
- Co-creation workshops to develop plastics circular economy indicators (Syke)
 - Environmental, economic, social indicators
- Service design workshop with the Residuum employees and designers (University of Lapland)
 - co-designing a new plastics collection and recycling area for consumers



Activities in 2024 – Promoting CE business models development

- Innovation toolkit developed and tested (Aalto University)
 - Facilitating companies in making the change towards circular economy business models
 - Workshops arranged for companies
- Regional clusters for companies (LAB UAS)
 - Lahti and Lappeenranta areas
 - Helping companies in CE of plastics related issues
 - Concept development in process



Activities in 2024 – Improving recycling of infrastructure plastics

Studies on artificial turfs

- National study and recycling pilots in Helsinki (City of Helsinki)
- Hazardous substances in the material (Syke)
- LCA on recycling alternatives for artificial turfs (LUT University)



Activities in 2024 – Reducing the health and environmental impacts of plastics

- Screening the adsorption properties of plastic to determine whether plastics in the environment collect and enrich contaminants (metals, hormones and drugs) (University of Jyväskylä)
- Biodegradation experiments results analysed. Tested materials were nylon, PLA, CA, PHB, bioska (maize starch), cellulose (positive control). (University of Jyväskylä)
- Ecotoxicological testings of plastic (University of Jyväskylä):
 - Acute and chronic toxicity test of HDPE, CA, PLA, bioska bag, PHB and chaolin with *Daphnia*.
 - Health effects of plastic using sperm test.



Photo: Adobestock

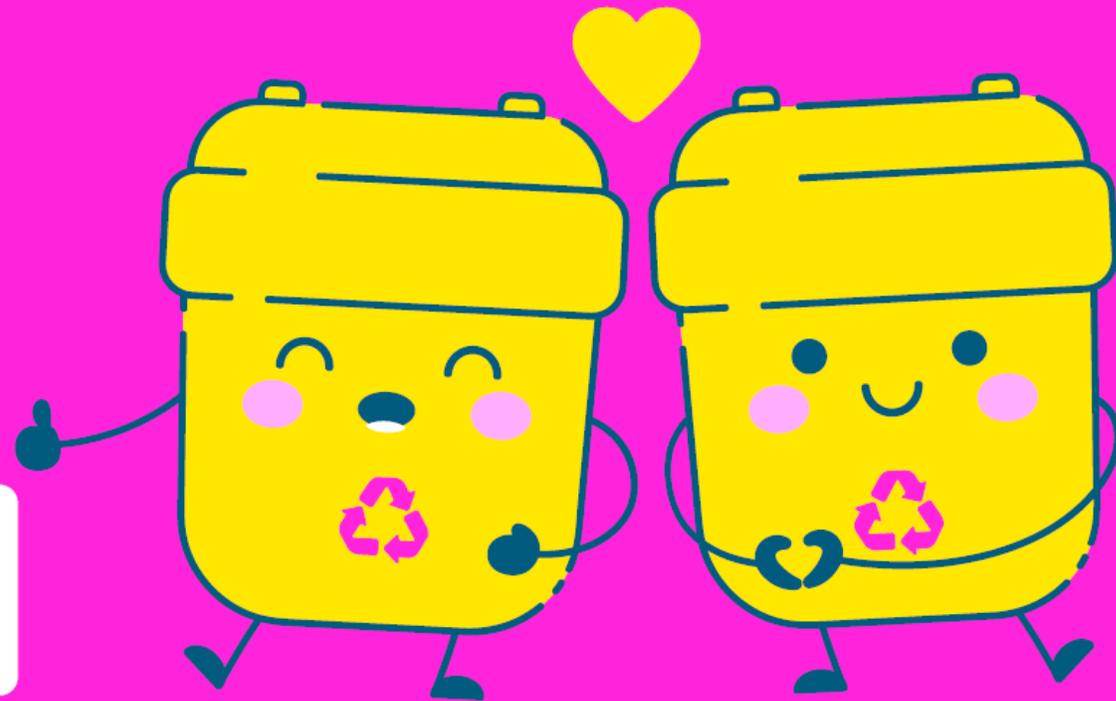


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Joining the Yle campaign against littering:

Älä anna muovin karata käsistä!
Luo #KestäväMuovisuhde

#plastlife
#kestävämuovisuhde
#miljoonaroskapussia



**MILJOONA
ROSKAPUSSIA**

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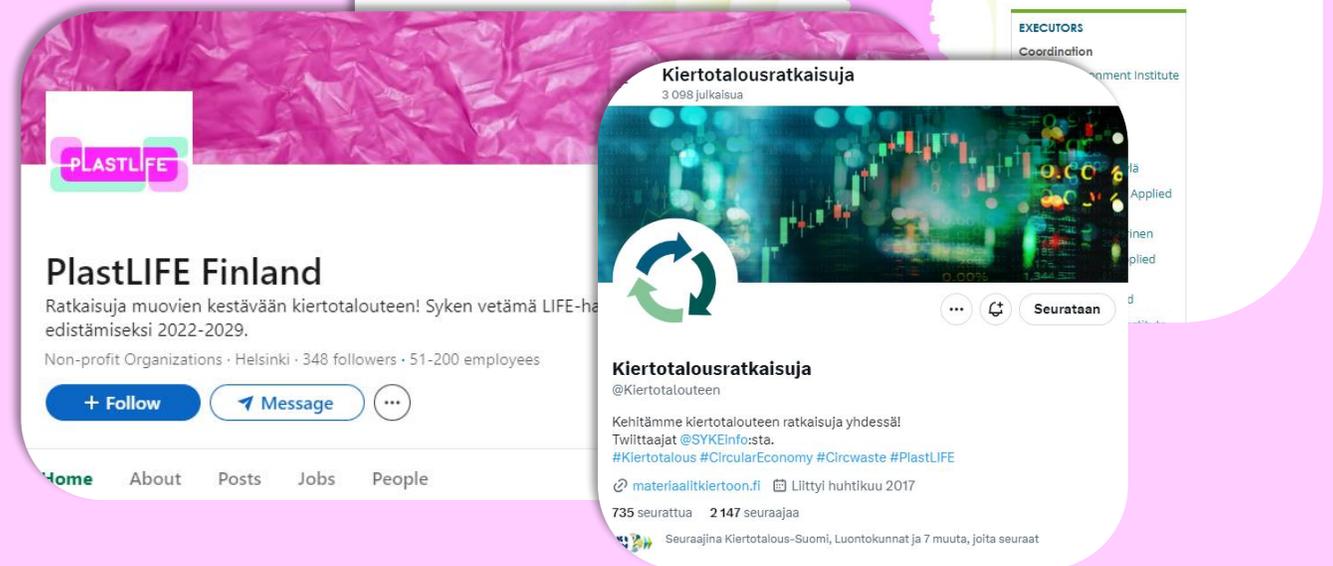
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Thank you!

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