



[Home](#)

[About](#)

[Technology](#)

[Progress & Resources](#)

[Partners](#)

[Contact](#)

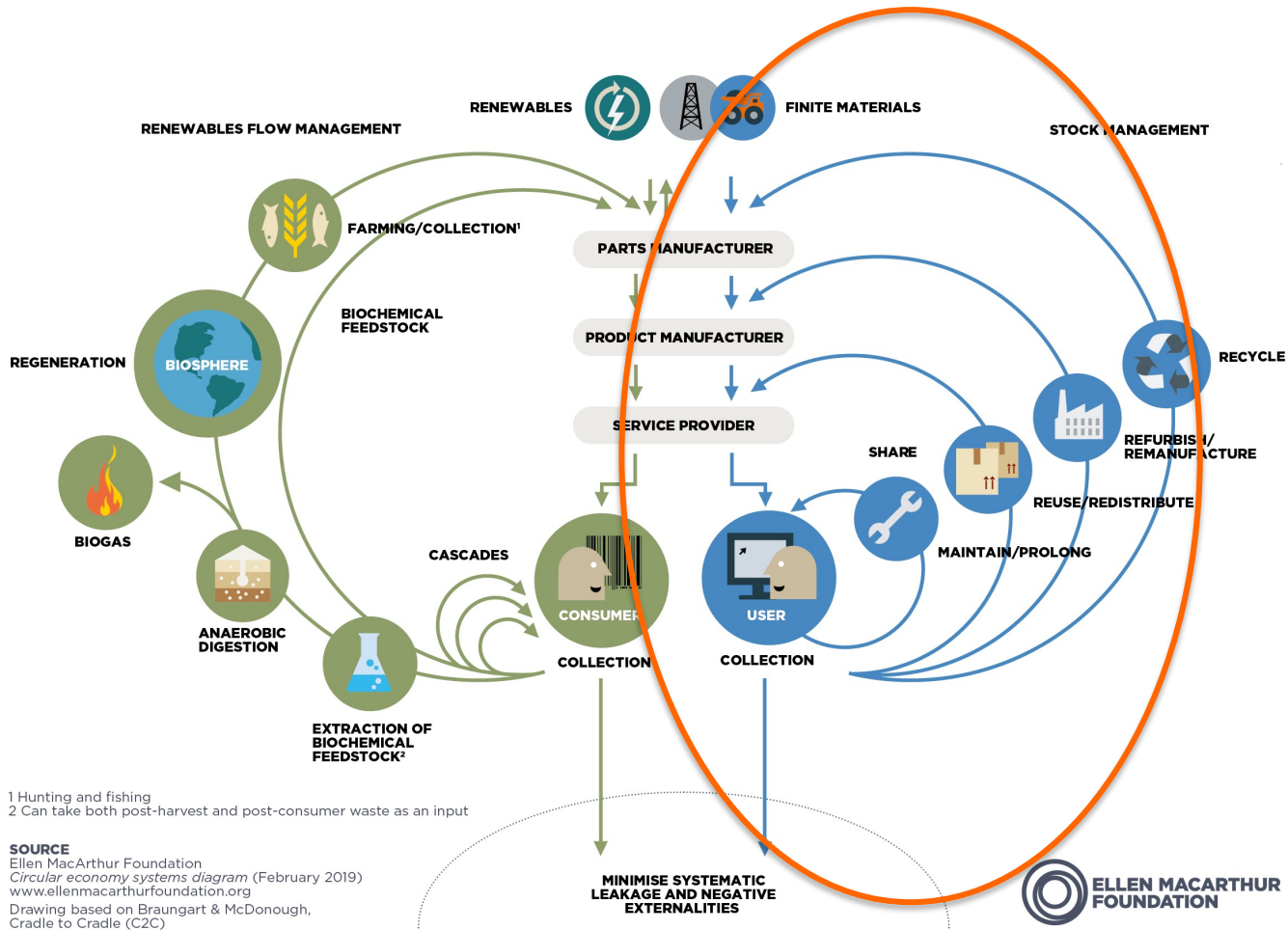


NONTOX Project

Removing hazardous substances to increase recycling rates of WEEE, ELV and CDW plastics



Aalto University



1 Hunting and fishing
 2 Can take both post-harvest and post-consumer waste as an input

SOURCE
 Ellen MacArthur Foundation
Circular economy systems diagram (February 2019)
www.ellenmacarthurfoundation.org
 Drawing based on Braungart & McDonough,
 Cradle to Cradle (C2C)



The Project

NONTOX project is a combination of multiple recycling technologies to recycle hazardous plastic waste generated from Waste Electrical and Electronics Equipment (WEEE), End of Life Vehicles (ELV) and Construction and Demolition Waste (CDW). The unique combination of mechanical and chemical recycling technologies imparts several techno-economic benefits over single conventional methods. The project has eight workpackages, each focusing on unique parts of the **NONTOX** value chain beginning right from gathering the reliable statistics to novel pretreatment steps and from challenging our recycling technologies with complex plastic waste to defining the innovative approaches to valorize the recycled plastics. **NONTOX** approach is critically assessed not only from the techno-economic perspective but also from the strict environmental boundaries.

Impact

Even though **NONTOX** project is still in its infancy, We foresee positive impacts in **NONTOX** concept.

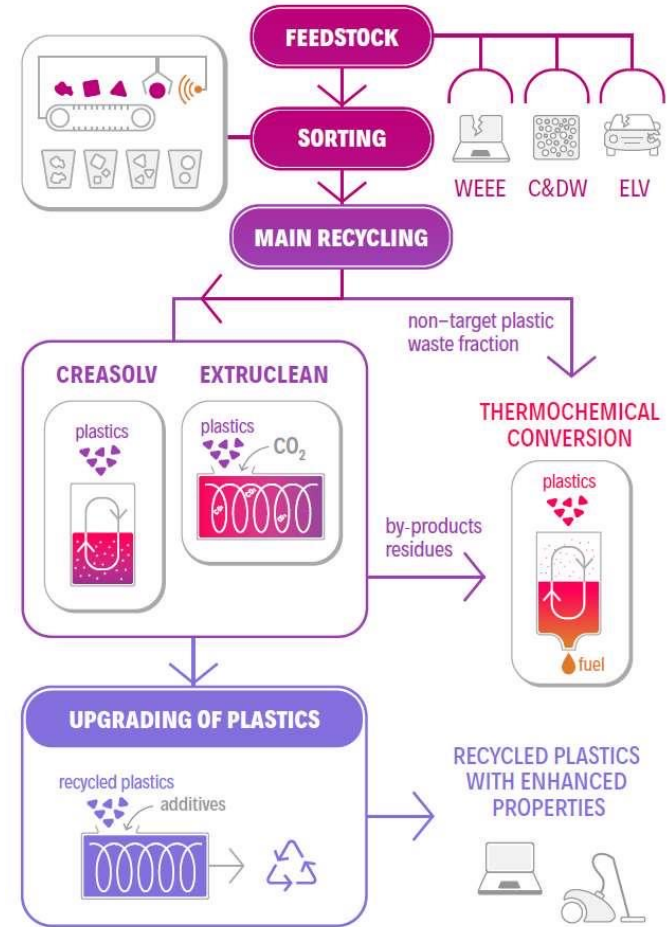
1. *Significant reduction in incineration of valuable plastic waste approximating over 5 Mt/yr*
2. *Reduction of almost 1 Mt CO₂ eq/yr*
3. *Job creations from increased recycling facilities.*
4. *Efficient use of raw materials in EU by implementing Eco-design concept*

NONTOX Project

Removing hazardous substances to increase recycling rates of WEEE, ELV and CDW plastics

<http://nontox-project.eu>

WEEE - Waste of Electrical and Electronic Equipment
ELV - End-of-Life Vehicles
C&DW - Construction & Demolition Waste



NONTOX Project

Removing hazardous substances to increase recycling rates of WEEE, ELV and CDW plastics



Materials & recycling

Partners:

VTT, Fraunhofer, UNIVAN, Relight, AIMPLAS, Norner, Galea polymers, ECODOM, Coolrec, Aalto University, IMDEA, Stena Recycling, Erion

Researchers at Aalto University (all part time):

Pirjo Kääriäinen (management)
Tatu Marttila (ecodesign guidelines)
Teppo Vienamo (prototyping)

1.6.2019- 31.5.2022, might continue to Dec 2022 due to Covid.

Aalto funding (total): 151 093,75 €

<http://nontox-project.eu>



Aalto University



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.820895

NONTOX Project

Removing hazardous substances to increase recycling rates of WEEE, ELV and CDW plastics



Materials & recycling

Group challenge:

Ideate and develop a design, service or communication concept to support recycling of waste streams researched in Nontox project.



How to do it?

Work as a design company

Make a plan and divide workload.
Recommended roles:

- Facilitator for the ideation process
- Reseracher(s) collecting information
- Coordinator for concept development
- Communication designer

Select a strategy, for example:

How to reduce use of these materials?

How to enhance recycling systems?

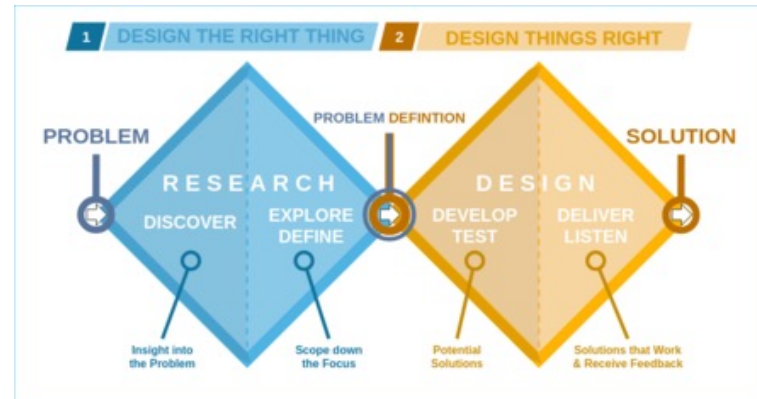
How to use recycled materials?

Select the waste stream

WEEE - Waste of Electrical and Electronic Equipment
ELV - End-of-Life Vehicles
C&DW - Construction & Demolition Waste

Plan your project and be systematic

For example, use double-diamond model



Sustainable Design – Next steps

17th May at campus (Otakaari 1, U 405a, U410b). Project work and tutoring , or if the whole team works remotely, a zoom tutoring can be arranged.

19th May NO SCHEDULED TEACHING Team work continues. Tutoring available only upon request, to be scheduled separately.

24th May ONLY in ZOOM: Interim presentations, focus on background research and ideation. Everyone is asked to join the session to share their research and preliminary ideas.

As a group, prepare a presentation (pdf, pp, max. size 50MB) including max. 5 slides. Each group will have 5 min to explain their project (max. 5 slides) and 5 min to get some feedback from tutors and peers.

31st May at campus (Otakaari 1, U119). Each team shares their results and receives feedback from peers and tutors.

Groups prepare a presentation of their design concept (pp, pdf), and present it (5 min. presentation + 5 min. discussion / group) in the joint event at the campus.

