PolyCE
POST-CONSUMER HIGH-TECH RECYCLED POLYMERS FOR A CIRCULAR ECONOMY

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News teleconference, 15:00h CEST, Thursday 10 October: Dial +1-408-740-7256, conf. ID: 4168788712 (or click: https://bluejeans.com/4168788712/browser)

Advance interviews are available.

Videos preview (to be made public Oct. 10): PolyCE project partners - experts comment: http://bit.ly/2oTM6Wb

E-products with recycled plastics - a social experiment: http://bit.ly/30JW1Lt

Photos: http://bit.ly/2l5WbxR

Reducing, Reusing Europe's 2.5 Million Tonnes of Plastic Components in Electronic Waste Each Year

European Commission-funded project with UN support urges consumers to favour products containing plastics recycled from electronic waste; Philips and Whirlpool among first firms offering support by designing products to use more recycled plastic, ease plastic reuse at product end-of-life; Most consumers see no difference in quality, appearance, performance

A European Commission-funded project supported by the United Nations is calling for consumers to demand electronic and electrical products made with recycled plastic, and for manufacturers to redesign products to both improve recyclability and integrate recycled plastics in new products.

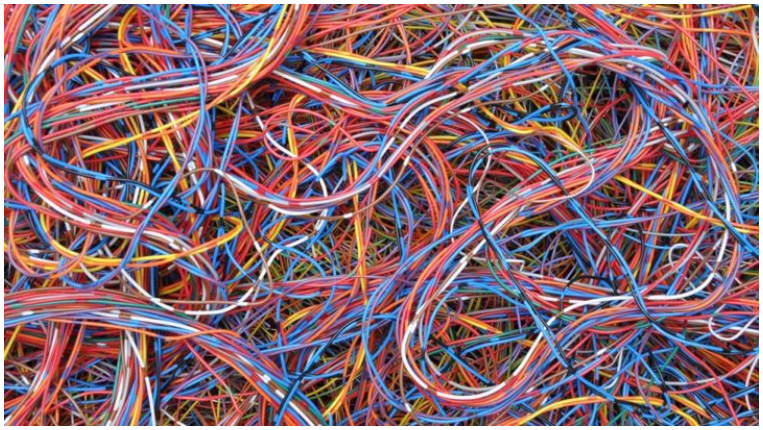
The call is made by PolyCE (for Post-Consumer High-tech Recycled Polymers for a Circular Economy), a multinational consortium led by Fraunhofer IZM and consisting of universities (UN University, Bonn; University of Ghent, Belgium; Technical University Berlin; and University of

Northampton, UK), civil society organisations (European Environmental Bureau), and numerous companies -- including Philips and Whirlpool. The 20 partners launching the two-year campaign are based or operate in nine countries: Belgium, The Netherlands, Italy, Germany, Austria, Spain, Finland, the USA and the UK.

According to the Nordic Council of Ministers, plastics account for about 20% of all materials in electronic and electrical equipment (EEE), most of it not designed for recovery and reuse.

The PolyCE consortium is launching a two-year campaign to raise awareness among consumers and manufacturers in order to change their attitudes towards recycled plastics and improve their market uptake.

Says project partner Kim Ragaret, University of Gent: "Plastics are a valuable resource with a great potential for circularity. Plastics themselves aren't the problem; our so-called plastics problems relate to attitudes and waste management."



Plastics are essential for making many different components of electronic and electrical products, including phones, computers, TVs, vacuum cleaners, hairdryers and household appliances.

According to PolyCE consortium experts products can be designed in ways that make material recovery of plastic components easier.

Of the more than 12 million tonnes of e-waste expected next year[1] in Europe (EU, Norway and Switzerland), an estimated 2.5 million tonnes (23 percent) will be plastics[2].

That's the weight equivalent of 62,500 fully-loaded 40-tonne trucks -- enough to form a line from Rome to Frankfurt -- and 2.5 times the 1 million tonnes of plastic landfilled as e-waste components in the year 2000.

The PolyCE consortium noted a report[3] from Sweden that, globally, just 10% of higher grade plastics from durable goods is recovered and recycled worldwide today, which compares poorly with average 50 to 90% recovery and recycling rates for metals and glass).

The project illustrates through a number of demonstrators that making EEE containing high-quality recycled plastics is economically feasible for manufacturers, and the products are

[1] https://ec.europa.eu/environment/waste/weee/index_en.htm
[2] http://bit.ly/2mZGMjM
[3] http://bit.ly/2mo1fhO

just as long-lasting and durable as those containing virgin plastics. In addition, buying EEE containing recycled plastics offers many other benefits for the environment.

Recycling plastic would not only take pressure off waste systems (in Europe, some 31% of plastic waste still enters landfills while 39% is incinerated[4]) every tonne recycled would also help avoid up to 3 tonnes of CO2 emissions created making new plastic[5].

A recent consumer survey, carried out by the PolyCE project (link), found that half of respondents didn't know if they'd ever bought a tech product that included recycled plastic. Of the 25% who said yes to the question, 86% noticed no difference in quality, appearance or performance.

Informed about the health and environmental benefits of recycled plastic components in EEE, 95% of those surveyed confirmed that they'd buy products with that feature.

According to the survey, consumers show high willingness to act in line with the circular economy, but actual engagement is still pretty low, unfortunately. But communication is key.

[4] EU Plastics Strategy; http://bit.ly/2nYqHut
[5] TCO Development, Stockholm, Sweden, April 2014. Backgrounder: Post-Consumer Recycled Plastics in IT Products; http://bit.ly/2mo1fhO

"The consumer has absolutely vital roles in a sustainable, circular economy and manufacturing system," says UN University e-waste expert Ruediger Kuehr. "The first is to postpone replacing electronic and electrical products by repairing old ones. And when these products are discarded, recycle them properly -- help turn refuse into resources for the sake of the planet's health and our own. Finally, consumers should favour products made with recycled plastic and use their individual purchasing power to support products that have designed out waste and designed in reused materials."

Manufacturers, meanwhile, need to improve designs so that a product's plastic components are more easily recovered for recycling, use recycled plastic in their products, and advertise that feature to consumers.

"Major environmental and financial savings could be achieved simply through better design," adds Dr. Kuehr. "For some products, such as tablet computers and smartphones, a majority of their manufacturing costs and environmental consequences are the results of decisions made at the product design stage."

"In the end, realization of a circular economy will be a joint effort between product designers, manufacturers and material recyclers, as well as consumers."

As part of the two-year public awareness campaign, short videos featuring both consumers and experts will highlight the benefits of choosing recycled over virgin plastics. The first videos are available for preview here:
PolyCE project partners - experts comment: http://bit.ly/2oTM6Wb
E-products with recycled plastics - a social experiment: http://bit.ly/30JW1Lt

The success of the initiative is relevant to several of the UN's Sustainable Development Goals, especially SDG12 (responsible consumption and production), SDG 11 (Sustainable cities and communities) and SDG 12 (climate action).

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By the numbers

Plastics, EEE (electronic and electrical equipment) and e-waste

Global

322 million tonnes: global plastic production, 2015

20-fold: increase in global plastic production since the 1960s (expected to double again over the next 20 years)

20%: approximate percentage of plastic components in electronic and electrical equipment (EEE)

20%: proportion of e-waste recycled globally through appropriate channels, 2016

10%: average global rates of recovery and recycling for higher grade plastics from durable goods (compared to **50 to 90%** average recovery and recycling rates for metals and glass)

Europe (EU, Norway, Switzerland)

49 million tonnes: consumption of plastics in Europe, 2015 (comprised of packaging ~ 40%, building and construction 19.7%, automotive components 8.9%, electronics 5.8%)

25.8 million tonnes: plastic waste generated in Europe every year

59%: Share of plastic waste in the EU attributed to packaging, 2015 (compared with e-waste 8%, automotive 5%, agriculture, 5%, construction and demolition 5%, household waste other than packaging 4%, other waste, 14%

Under 30%: plastic waste collected for recycling, of which a significant share leaves the EU to be treated in third countries, where different environmental standards may apply

12.3 million tonnes: total e-waste generation, Europe, 2016 (with a growth rate of **3–5 %** expected by 2020)

2.7 million tonnes: amount of plastic in electronic products put on the European market, 2015 (rising to an expected **3 million tonnes** by 2020)

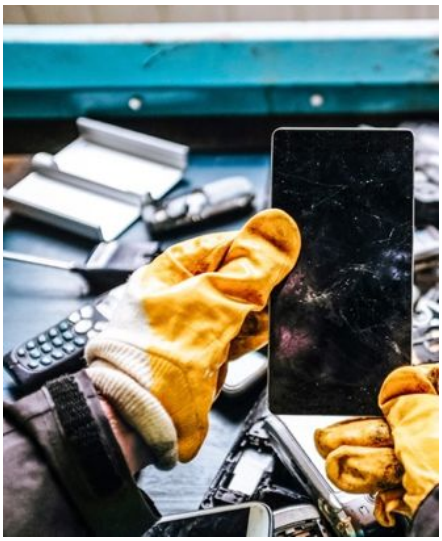
2.5 million tonnes: expected amount of plastic in European e-waste, 2020 (up 2.5 times from the **1 million tonnes** of plastic in e-waste, year 2000)

16.6 kg: current average per capita e-waste generation, Europe

31% (falling over the past decade): proportion of Europe's plastic waste that enters landfills

39% (rising): proportion of Europe's plastic waste that is incinerated

Up to 3 tonnes: estimated amount of CO2 emissions avoided per tonne of plastic recycled



80%: energy saved when plastic is recycled rather than manufacturing plastics from virgin materials

20%: reduction of an EEE product's environmental impact if manufactured with recycled rather than virgin plastic

80%: the degree to which product design decisions affect its environmental impact

90%: the degree to which product design decisions affect its manufacturing cost

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About PolyCE

PolyCE, a European Commission-funded project is dedicated to finding solutions to the hurdles in the implementation of the Circular Economy, specifically for the EEE sector. The upcoming results of the project will highlight incentives for consumers as well as produce policy recommendations for lawmakers and technical guidelines for plastics recyclers in order to support the development of a circular economy of WEEE plastics.

PolyCE (or Post-Consumer High-tech Recycled Polymers for a Circular Economy), a European Commission funded Horizon 2020 project that has created a consortium of 20 expert

organisations to take on the challenge of e-waste plastics, promoting a circular economy, and building a future-oriented knowledge transfer base.

By reducing the use of virgin plastics and raising the use of recycled plastics in new electronics products and applications, PolyCE will:

- Demonstrate the feasibility of a circular model for the plastics supply and value chain.
- Develop a grading system for recycled plastics, which will ultimately serve to provide guidelines for designing new electronic products.
- Involve green public procurement initiatives and consumer awareness raising campaigns across the EU (with a focus on Germany, Poland, Italy and France).
- Establish a feedback loop from research activities that provides policy input regarding technical feasibilities and conflicts from a technical perspective.

Partners

Project coordinator:
Fraunhofer Institute For Reliability And Microintegration (IZM), www.izm.fraunhofer.de/en.html

Circular Devices Oy, www.puzzlephone.com

Ecodom, www.ecodom-consorzio.it/en

European Environmental Bureau (EEB), www.eeb.org

Ghent University, www.match.ugent.be

Imagination Factory, www.imaginationfactory.co.uk

KU Leuven, www.mech.kuleuven.be/en/research/lce

Kunststoffweb, www.kunststoffweb.de

MGG Polymers, www.mgg-polymers.com

ONA Products, www.ona.es

Pezy Group, www.pezygroup.com

Philips, www.philips.nl

Prolabin & Tefarm, www.prolabintefarm.com

Sitraplas Gmbh, www.sitraplas.com

Tecnalia, www.tecnalia.com

TU Berlin, www.tmp.tu-berlin.de

UL Environment, www.ul.com/environment

University of Northampton) www.northampton.ac.uk

Whirlpool, www.whirlpoolcorp.com

United Nations University - Vice-Rectorate in Europe, Scycle, www.unu.edu

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PolyCE project information

- *Website: https://www.polyce-project.eu/*
- *Blog: https://medium.com/@PolyCE_EU*
- *Expert network subscription: https://www.polyce-project.eu/contact/expert-network-subscription/*
- *Twitter: https://twitter.com/PolyCE_EU*
- *Newsletter: https://mailchi.mp/55eef0c66ee4/polyce-newsletter-january-2019 (to subscribe: http://bit.ly/30lSh3e*