

eCircular at Zero Plastic Waste Challenge at Climathon Graz 24-25/10/2019 in Graz, Austria

eCircular participated actively at Climathon Graz 2019 through the Montanuniversitaet Leoben by proposing a specific challenge on plastics waste prevention based on the line of actions of eCircular.



Image 1: eCircular was represented in the Committee for evaluating the start-up projects by Marinella Passarella (PhD Montanuniversitaet Leoben)

Climathon Graz

[Climathon](#) is a year-round programme with a powerful solutions-hackathon at its core, translating climate action solutions into tangible projects, supporting climate positive businesses & start-ups and addressing local policy changes.

Graz is commonly known for its big involvement in climate policy and is home to a lot of start-ups who focus on climate innovation. Also there are a lot of universities in and around Graz who do major activities regarding climate. Thus, Graz is the ideal location for a Climathon.

This year eCircular and Montanuniversitaet Leoben presented a challenge at the “solutions-hackathon” in Graz on October 24-25 2019 and supported three start-ups who participated in the challenge.

This year was primarily focused on students to attend the event and many participants came from Montanuniversitaet Leoben.

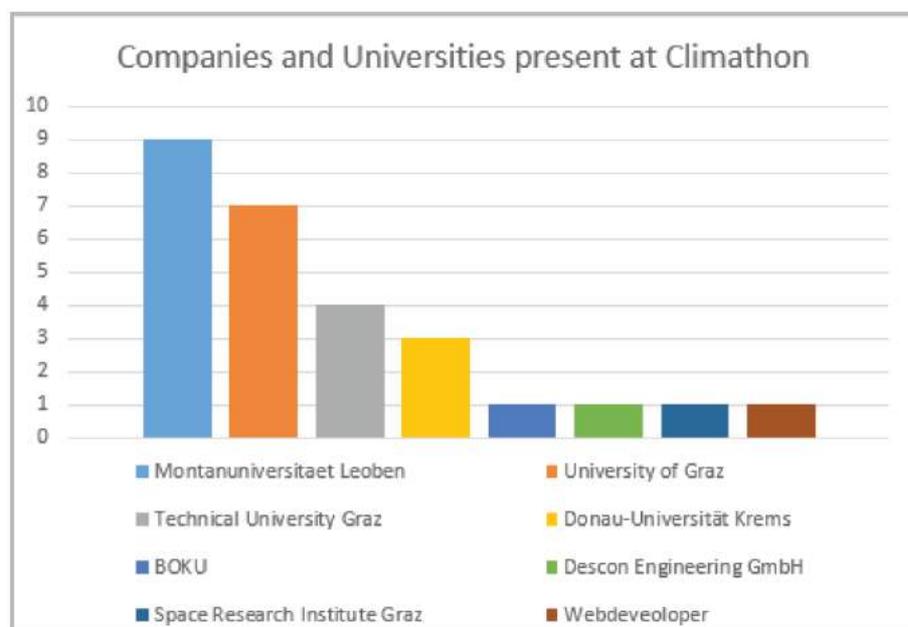


Image 2: Companies and Universities present at Climathon Graz

Zero Plastic Waste in Urban Areas

The usage of plastic should be reduced, optimized and its recyclable potential better exploited. Working groups should think about Graz as a study area where their solutions and ideas could be tested locally, to be later potentially replicated or scaled-up to a regional and national scale.

The challenge

High demand, production and consumption of plastics worldwide have a strong impact on climate change and environmental pollution. This is due to both, the production process, and disposal of plastics, which often is dispersed into the environment with consequent pollution of land, rivers and oceans.

Nevertheless, nowadays plastic remains an incredibly useful material, in some cases still essential at several levels of application in society. What seems to be crucial is to reduce the demand and production of single-use plastics products as well as to improve the collection, recycling and disposal. Furthermore, the circularity of plastic-based material systems should be accelerated through eco-design, smart manufactory and new business models.

In this framework, some key elements are the facilitation of alternative behaviour of consumers and the rise of awareness at all levels in the society. The social and human behavioural aspects should not be underestimated but rather be integrated with the other above-mentioned aspects.

Following the vision of a carbon-neutral material system in 2050, solutions for facing the issue of plastics waste prevention should be investigated focusing on five lines of actions:

1. Innovative strategies, procedures and technologies for effective waste collection and disposal
2. New design principles of modularity, disassembly, recycling
3. Digital innovations & smart manufacturing solutions; new business models to dematerialize demand
4. Behaviour change of citizens to reduce demand
5. New industry standards and new policies

Working groups can either focus on a single line of action or decide to integrate two or more lines of action for facing the problem with a systemic approach.



Image 3: Marinella Passarella (PhD Montanuniversitaet Leoben) and Irene Hofmeijer (Climate-KIC) from eCircular supporting and presenting the challenge at Climathon

The solutions

Three groups participated in the “Zero Plastic Waste In Urban Areas”-challenge. Following is a short summary of the solutions developed by those groups.



Image 4: Participants of Climathon Graz working on the ideation of their projects

Zero Plastic Waste in ZPW Application

Team: RE-FUTURE - Cun Zhang Yule Zhang Long Ding Aydan Kopan Marzieh Sereshti

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We built an expanded collection system with a ZPW Application to keep all plastic products in the economy and out of the environment.

1. The ZPW application connects the government, customers, plastic production and recycling companies (plastic trash machine) and markets into a closed plastic recycling system that can achieve zero plastic waste in city.
2. The government helps plastic production and recycling companies to establish closed plastic recycling systems and make policies. Government and plastic production and recycling companies put plastic trash machine in various areas of the city. The main function of this plastic trash machine is scoring for the users who collect the plastic waste (maybe 10g per point). Users can log on their application to get the points when they put the plastic waste into plastic trash machine.
3. The customers can book the goods on the application and take goods from local markets or an environmentally friendly delivery system (online market).
4. When the plastic trash machine is full of plastic waste, it can inform the plastic recycling company by our application. Then the recycling company recycles the plastic from the trash machine to dispose and reuse them.
5. How can we encourage the customers to use the application?
 - a. Shopping discounts (happy points) for machine using. Government awards for top 5 % user. Government can find the rank list in our application and know who the most environmentally friendly citizens are.
 - b. Give welfare to citizens according to their happy points (bus or train tickets, tickets for scenic spots or others).
6. How can this application realize revenue?
 - a. First, this application is used to reduce the plastic waste; it can get support from the government.
 - b. Second, with the above encourage ways, the users of our application can be increased rapidly. When the users of our application reach a certain amount, we can charge the company (who want to use our app to promote his products) for advertising.
 - c. Third, our app is connected to the market, we can benefit through cooperation with markets

Efficient Plastic Recycling in Graz

Team: REDDD - Thomas Hocking, Valentina Rossi, Felix Platzer

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Our proposal introduces an extensive deposit scheme for plastic packaging in Graz.

The EU parliament has set a goal of recycling 50% of the produced plastic waste starting from 2025. In Austria 28% of the annually produced plastic waste is currently recycled. That is because there are some issues with the waste separation carried out by the consumer and not all of the plastic waste from the recycling bin is actually recycled.

That's why we came up with a new waste collection/ sorting system based on the deposit scheme already in use for glass bottles. The relevant collection machine works by scanning the barcode of the plastic packaging, looking up in a database if the product is recyclable, sorting the waste in a designated container and storing the information about which product was collected for further use. By bringing back recyclable plastic waste to the stores and recycling it the consumer is not only rewarded with discounts but also informed of their consumer behavior (e.g. how much of the purchased packaging is recyclable).

The project would be realized in cooperation with the city of Graz, Interspar and Saubermacher. While the city of Graz would reach the recycling goals set by the EU, Interspar would not only increase the company's image but also gain a loyal customer base.

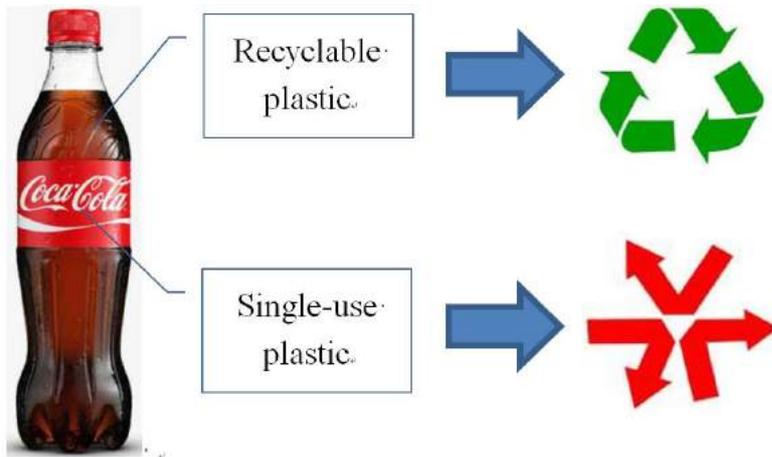
How To Reduce Plastic Packaging?

Team: Club EcoSmart - Ada Josefina Ordaz Torres, Diana Helena Reyes Godoy, Josue Abraham Rivas Carrillo

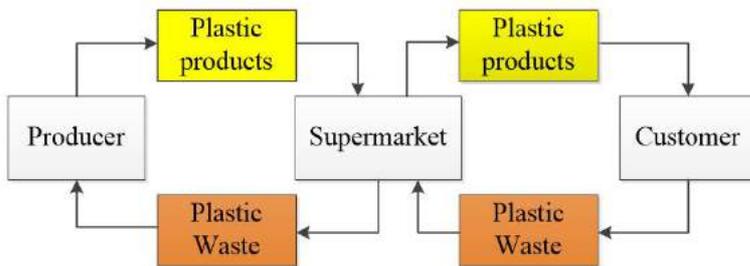
Contact details: 43 681 8482 9097

Zero packaging markets already exist. The question is, why aren't they bigger yet? Our proposal is introducing it to the market in an innovative and casual way. We can't just tell people to stop buying plastic packaged products. The change has to be gradual.

We will start with contacting the bigger market chains in the country and markets. The intended start is having one item of one product that is offered in bulk sale. The customer will take a standard container provided (sold) by the store and take the desired amount. Then, the cashier will weigh the product and generate a QR Code, which the customer will scan and save on his phone.



Single product mixture of two plastics.



Plastic recycling linked by supermarkets.

