

OUTPUT FACT SHEET

Pilot actions (including investment, if applicable)

Version 2

Project index number and acronym	CE1125 CIRCE2020
Lead partner	ARPAV - Regional Agency for Environmental Protection and Prevention of Veneto
Output number and title	OT3.1 Pilot actions to test the business model and quality standards verifications
Investment number and title (if applicable)	-
Responsible partner (PP name and number)	PP4 IFKA Public Benefit Non-profit Ltd. for the Development of Industry
Project website	https://www.interreg-central.eu/Content.Node/CIRCE2020.html
Delivery date	12.2019

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

Waste stream (annual 1500 tonnes) consists of production rejects (55%) - qualitatively inappropriate vulcanized final products - and industrial waste residues (45%) - unvulcanized residues from the manufacturing process. The following alternative treatment processes had been identified and analysed:

- Incineration and energy recovery;
- Material recycling:
 - production of crumb rubber based products (e.g. shock absorbing surface, soundproofing material),
 - crumb rubber in road construction (e.g. rubber bitumen);
- Pyrolysis;
- Other R&D directions:
 - devulcanization,
 - production of injection moulding rubber products.

The main difference is the condition of the waste types that causes huge treatment problems: the unvulcanized waste stream is in various forms, inelastic, deformed by heat and able to form a large block with the materials in contact with it. Therefore, the transportation and also the waste processing and incineration are hard, it requires special treatment procedure that is not exists at this moment.

When IFKA identified this problematic waste flow the cooperating company gave some information about the treatment process which was in connection with the incineration and energy recovery. Tire producer company currently transport the waste flows together to Polgár incineration where it turned out that they are not able to incinerate the huge blocks because they do not have shredder what can do this process. So the waste amount has not been incinerated, just temporary stored.

The main results what IFKA would like to achieve is a separate collection of the vulcanized and un-vulcanized waste types at the donor company. In this case the shredded rubber, then granulate can be produced from the vulcanized residues and the amount of the landfilled waste could reduce.

To sum up:

- Separate collection of the vulcanized and unvulcanized waste flows;
- Reduce the waste amount that goes into storage at the moment;
- Material recycling (make granulate) of the vulcanized waste rubber residues instead of incineration & energy recovery;
- Less environmental impact

From 2020 Polgár incineration will no longer take over the waste from the producer company, so the company will be forced to use an alternative solution which hopefully will be environmentally friendly. IFKA made suggestions - based on technology researches and stakeholder, expert involvement - on this.

Max. 3.000 characters

NUTS region(s) concerned by the pilot action (relevant NUTS level)

The Hungarian pilot area, the Tatabánya Industrial Park is situated in the Central Transdanubia region. It is approximately 450 ha, out of which one third belongs to the public administration of Tatabánya and two thirds to Környe. Based on its area it is one of the largest industrial parks in Hungary. The area is characterized by the diverse variety of companies which are operating in the area, such as automotive, plastic industry, rubber industry, electronics, healthcare and logistic companies.

Max. 500 characters

Investment costs (EUR), if applicable

To split the huge block consists of vulcanized and unvulcanized rubber residues a special mechanical “guillotine scissors” is required. To procure of this tool, financial support or investment is necessary.

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Donor company	Alternative solution for their waste problems Vulcanized waste can be granulated that is marketable Cost reduction - transportation, treatment process More sustainable operation - increasing the reputation of the company
IFKA	Material recycling instead of incineration and temporary storage Lots of tire manufacturer operates in Hungary - can be presented as a good practice
Polgár incineration	Gets less waste which cannot be processed Avoids operating problems during incineration

Max. 2.000 characters

Sustainability of the pilot action results and transferability to other territories and stakeholders.

Hungary hosts the most outstanding tire manufacturers within its territory generating a huge sum of vulcanized and unvulcanized tire waste during production, so it would be more interested to have a special solution for tire manufacturers. Using rubber granulate into road construction is not just a waste handling method, but an alternative solution for improving the durability of asphalt pavements compared to roads made of conventional bitumen.

Max. 2.000 characters

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

- Partner of Austrian project partner would like to make experiments: they produce biochar in their processes that could be used in tire production - discussion about the possibilities is in progress
- ETRA offered a possible solution - namely devulcanization - which have been using by an Italian company. IFKA and donor company analyzed this solution, but unfortunately it turned out that this process cannot be used in case of this waste flow.

Max. 1000 characters

Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-discrimination

In Hungary there is a tendency to foster manufacturers diverting industrial waste from landfills. Landfilling could be applied only in some specific cases. For instance in 2018, the landfill tax was extended towards industrial waste as well with 20 euro/t value. However in many cases, incineration is the popular treatment method. The legislation is not so promoting to move up to the waste hierarchy, but still more and more companies decided to find alternative solutions. No further obligation so far in this sense.

Incineration of such a great quantity of tires and related rubber waste should be definitely avoided. Since Hungary hosts the most outstanding tire manufacturers within its territory generating a huge sum of vulcanized and unvulcanized tire waste during productions (Continental, Michelin, Hankook, Bridgestone and soon Apollo tires are produced in Hungary) this wastestream should be examined further deeply to identify possible long term solutions for the more sustainable treatment options - even together with some reuse and recycling alternatives.

Max. 2.000 characters

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

<https://www.circe2020-wiki.eu/>

https://ifka.hu/en/article/green_economy/projects/69

<https://ifka.hu/en/article/CIRCE2020-projekt-bemutatas>

<https://www.circe2020-wiki.eu/make-granulate-from-waste-tyre-residues>

Annex:



Max. 1.000 characters