

9 INNOVATIONS IN THE FIELD OF CIRCULAR ECONOMY THAT HAVE BEEN CHOSEN FOR CO-FUNDING:

Nektar d.o.o

Replacement of the old fuel oil heating boiler with a new gas and biomass boiler. The biomass will be obtained by drying fruit residues left after the production and mixing them with shredded wood remains. In this way, the fruit used in juice production will be 100% used.

DETO d.o.o. Pančevo

Production of decorative boxes from recycled paper leftovers.

Elixir Zorka - mineralna đubriva d.o.o. Šabac

Production of artificial fertiliser from hazardous waste (waste solutions of bases and acids), by utilising a technologically innovative process.

Bitgear Wireless Design Services d.o.o.

Use of IoT (Internet of Things) devices with low energy consumption for supervision of remote infrastructures, as well as for optimisation of waste transport, leading to lowered consumption of energy and fossil fuels.

Mivaka d.o.o Beograd

Innovative natural material litter for poultry farming, and its use, together with non-hazardous organic farming waste, as raw materials for high-quality organic fertiliser – also suitable for recultivation of tailings.

Public Utility Company of Osečina

Collection of bio-waste from agricultural producers, mainly from orchards, as well as waste from pruning of public trees and bushes, and use of such waste as biomass to obtain energy in the nearby biogas facilities in Osečina and Pecka.

Public Utility Company of Novi Pazar

Collection of textile waste from the industry (producers), storing in recycling centre and selling for further use.

Public Utility Company of Novi Sad

Use of green waste from parks and gardens for the production of compost which would be used by the Urban Greenery PUC for maintenance and planting.

Association for Persons with Developmental Problems “Naša kuća”

Making of new products from empty cigarette packs, paper and cardboard, using the labour by persons with developmental problems. The aim is to develop a solution for recyclable food containers made of recycled paper, by adding innovative biological additives.

12 INNOVATIONS IN THE FIELD OF CIRCULAR ECONOMY THAT HAVE BEEN AWARDED CIRCULAR VOUCHERS:

The Faculty of Technology and Metallurgy of the University of Belgrade and Melange d.o.o. Belgrade have created a new way to use egg-shell waste and used kitchen oil in the production of biodiesel and pellets.

Institute of Nuclear Sciences “Vinča” and Public Utility Company “Electric Power Industry of Serbia” would develop an A.I. model to forecast the emission of polluting particles from the thermal power plant of Kolubara. The developed software will be intended for engineers who would be able to use it to improve the emission monitoring and attainment of a more environmentally efficient operation of the thermal power plant, thus contributing to a decrease of air pollution of up to 20%.

The Faculty of Biology of the University of Belgrade and Biotech Engineering doo would make a composter and photobioreactor for open space, operating on solar energy. This “green composter” is made of two mutually connected parts – composter with organic waste and photobioreactor with algae. In the process of its degradation, organic waste emits methane and carbon-dioxide, in turn absorbed by the algae and turned into oxygen. The oxygen is then redirected into the part containing organic waste where it speeds the composting process up. Thus the organic fertiliser of compost is produced more quickly, and as the system is a closed one, there is no emission of harmful gases into the atmosphere.

The Faculty of Chemistry of the University of Belgrade and Aleksandra Rašović Entrepreneur Production of cosmetics AMELLES would use the raspberry seeds which are left after the production of fruit juices in producing cosmetic products: face serum, cream and soap.

The Institute of Molecular Genetics and Genetic Engineering of the University of Belgrade and JUB d.o.o would use different food-related waste as a raw material in producing bio-pigments with antibacterial and antifungal characteristics, used in the production of paint and varnish.

The Faculty of Agriculture in Čačak of the University in Kragujevac and Tetragon, Čačak would make ecological adhesives from agricultural and industrial waste.

The Faculty of Electrical Engineering of the University of Belgrade and METER&CONTROL d.o.o developed hardware and software solutions that can optimise consumption of electrical power in households and larger systems.

The Faculty of Mechanical Engineering of the University of Niš and ALFA KLIMA d.o.o. would develop a mobile system composed of parts that can be independently combined – “Energy Cube”, which would obtain energy from renewable resources. This solution would be composed of solar collectors and a heat pump and would be able to store electrical power and heat.

The Faculty of Forestry of the University of Belgrade and MICROTRI d.o.o. would utilise waste water from wood processing industry as a raw material in making innovative bio-products.

The Faculty of Technology of the University of Novi Sad and Poliplast-ambalaža would produce biodegradable and compostable bags of biodegradable polymer materials of natural origin, such as starch, that could be obtained from waste.

The Institute of Biological Research “Siniša Stanković” of the University of Belgrade and Belinda Animals d.o.o. are planning to instruct agricultural producers in the process of cultivating mealworm (Lat. *Tenebrio Molitor*), as a source of high-protein animal feed and high quality organic fertiliser. These larvae have the ability to decompose different types of waste including some types of plastic, such as Styrofoam, thus decreasing their amount in landfills.

The Faculty of Agriculture of the University of Belgrade and Suvobor Koop NN d.o.o. would crossbreed different swine to create varieties that can feed on agricultural production and food industry residues and waste, which would decrease emission of the greenhouse gases by 50%, and the costs of keeping these animals by 70% when compared to keeping standard swine varieties.