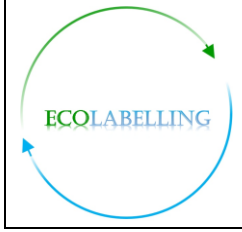

Visegrad+ Grant No. 21920002

ECOLABELLING

Innovations in circular economy

– environmental labels and declarations

Instruction for classes (exercises)
The model of circular economy – typology of circular strategies towards types of innovation

Guidelines for exercises

Complete the empty columns in worksheet with the circular strategies and types of innovation used throughout single strategies.

For this purpose use the typology based on the:

1. Circle Lab - presented in Chapter 1. (The model of circular economy) of the textbook *Innovations in circular economy – environmental labels and declarations*, B. Ziółkowski, B. Agarski, J. Sebo, (eds), Publishing House of the Rzeszów University of Technology, Rzeszów 2021.
2. Potting J., Hekkert M., Worrell E., i Hanemaaijer A., *Circular Economy: Measuring Innovation in the Product Chain - Policy Report*, PBL Netherlands Environ. Assess. Agency, Hague 2017, https://dspace.library.uu.nl/bitstream/handle/1874/358310/Circular.pdf?sequence=3&isAllowed=y.)
3. S. Clune, Sustainability Literacy for Industrial Designers through Action Research, presented at the International Conference on Engineering and Product Design Education Newcastle Upon Tyne 2007.
4. V. Lofthouse, Preparing the way for mainstream sustainable product design, „Form Akademisk - forskningstidsskrift for design og designdidaktikk", 2017, t.10.

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Worksheet 1. Types of circular strategies

No	Names of circular strategies	Benefits of circular strategies	Types of circular strategies at level III (acc. to Circle Lab)[1]	Circular strategies (acc. to Potting et al., 2017) [2]	Types of innovation (Brezet): – Product improvement – Product redesign – Function innovation – System innovation
1	Creating a global circular textiles network by making the essentials circular (easyessentials) Recycling textile waste into yarn Recycling cotton waste into fibers Open source co-creation online	textile waste reducing			
2	EcoScraps Transforming surplus food into restaurant dishes Misadventure Vodka - vodka made from unsold baked goods Reusing waste bread to make new bread	food waste recycling			
3	Veolia Circular Economy Partnership for E-Waste Recycling	waste electrical and electronic equipment recycling			
4	Resource efficient paper production	solid waste and water recycling			
5	Digital marketplace for waste materials	ecological footprint reducing			
6	Recycling metals from waste ash	non-ferrous products recovering			
7	Digital marketplace for parking space	parking space optimisation			
8	Repurposing waste plastics into tiles Recycling waste plastic into filament (Yanko Design) Recycling non-recyclable plastics Recycling plastic into diesel	plastic solid waste recycling			
9	Repurposing coffee grounds for road construction	coffee grounds use			
10	Earthquake Debris Management in Haiti: Data-driven Decision-Support	debris removal			

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11	Collection and recycling of mobile phones	waste electrical and electronic equipment recycling, additional income for residents			
12	Repurposing waste flower petals into pigment	tulip petals use			
13	Generating electricity and heat from cattle waste	generating energy from waste			
14	Recycling of wastewater Recycling of greywater	saving water consumption			
15	ZigZag: Redistributing Returns Optimally	reduction in the wastage, carbon footprint, cost and transit time of retail returns			
16	RWE and Slock.it – Electric cars using Ethereum wallets can recharge by induction at traffic lights	easier payments for charging cars at traffic lights			
17	Subscription-based razor blades	easier access to care products, saving time			
18	Recycled mono-materials	75% less water, 67% less chemicals, 39% less energy, 20% lower carbon footprint			
19	Digital marketplace to utilise wasted space as storage	optimization of real estate use			
20	Materials Marketplace	cost savings, energy savings, new jobs creating			

Source: Own work based on the Circle Lab, https://circle-lab.com/knowledge-hub (26.5.2020).

References: Bożydar Ziółkowski, Dariusz Wyrwa, The model of circular economy – typology of circular strategies towards types of innovation, Instruction for classes (exercises) for Pilot course on "Environmental labelling in circular economy", on-line event within the ECOLABELLING project (Innovations in circular economy – environmental labels and declarations), Visegrad+ Grant No. 21920002 (2019-2021), Poland, Rzeszów 05.02.2021. https://ecolabelling.prz.edu.pl/en/pilot-course-on-environmental-labelling-in-circular-economy

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