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**COOPERATION**  
FORWARD

EGTC Via Carpatia 2020



## Interreg Central Europe - CITYCIRCLE PILOT IMPLEMENTATION, KOŠICE



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## Circular Economy Pilot Košice

- Setting-up value chains in agriculture and forestry industry on circular economy principles.
- New value chains (farmers, enterprises) supported by ICT tools to provide business model for organic cycle.



Source:  
<https://www.inyourpocket.com/kosice>



Within the pilot activities, the comprehensive analysis of the opportunities in the flow of the agri-food products throughout the food value chain, covering variety of actors, in Košice City Region Food System will be performed with the help of experts.

For the consumption level, the processes of the canteens in the responsibility of the Košice Self-governing Region, will be analyzed. The expected output is the in-depth map of the agri-food products flow, with possible loops and other channels, reducing and preventing the level of food waste generated.

For the most impactful areas, the opportunity study will be prepared covering the technical and financial analysis to prove the concept, captured in the interactive ICT based tool for other organizations and actors willing to replicate the pilot cases and to become the part of circular agri-food value chain.

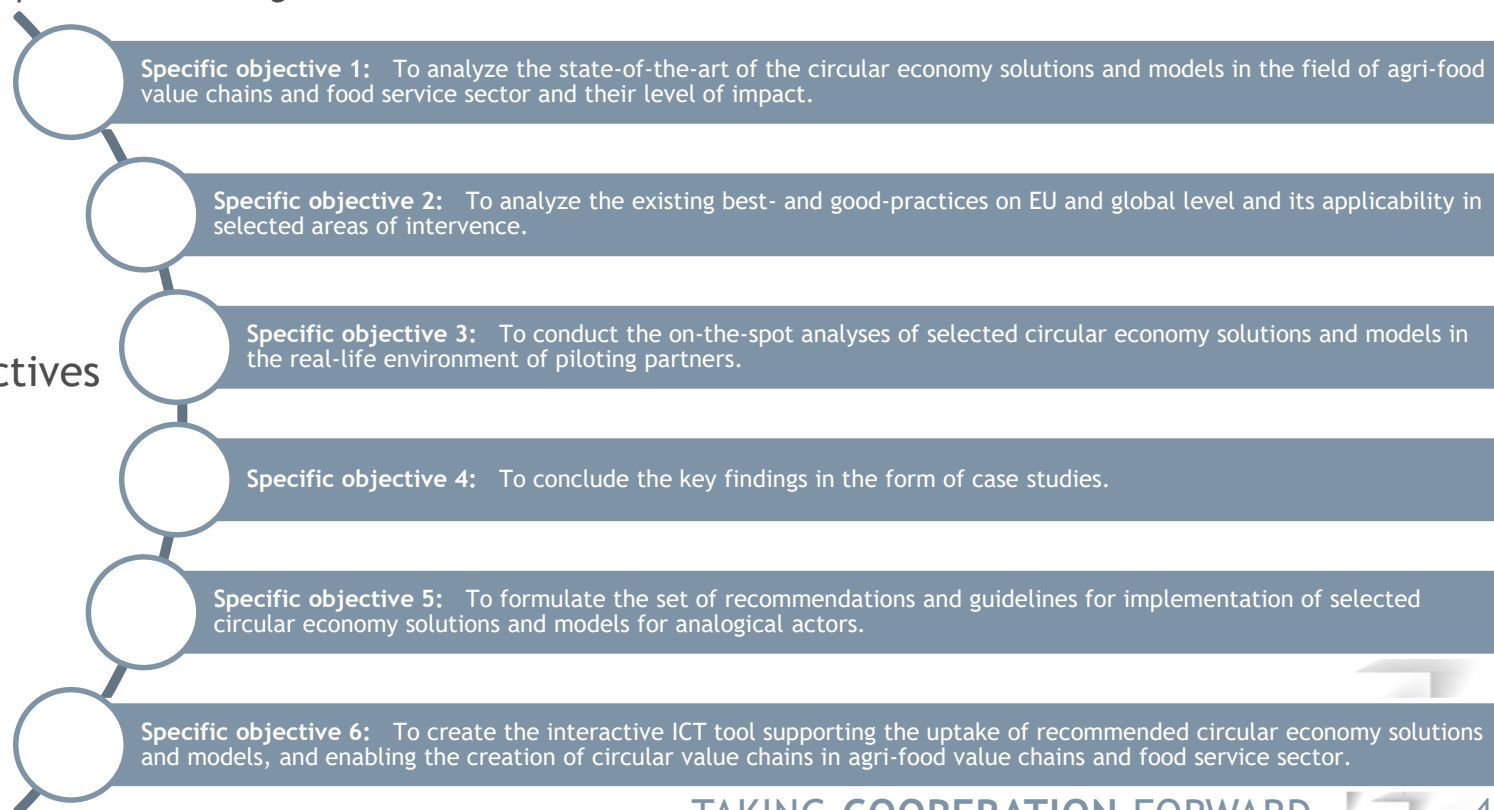


## Goals and objectives

Based on the indicated scope of the CITYCIRCLE pilot project, the overall goal was set as following:

**Main goal:** *To support the decision making processes of the actors of agri-food value chains and food service sector towards implementation of circular economy solutions and models, by providing them with the proper information, tools, and guidelines to implement the change.*

### Specific objectives



## Activities and results

The first activities in the pilot consisted of the

- a) analysis of the state-of-the-art of the circular economy solutions and models, taking into account the financial, social and environmental aspect,
- b) the analysis of existing best- and good-practices on EU and global level and its applicability in selected areas of interence, taking into account the technical setting and legal aspects.

### Activities conducted

The activities covered the search for current solutions and Good/best practices which could be replicated within the pilot, but also which might serve for other stakeholders as an inspiration and guidelines for their own needs.

The aim was to establish the live List of appropriate good- and best- practice CE solutions in the form of online database (Google Sheet Table) presenting the BPs not only from Europe, but from all over the world.

#### Sources of GP/BPs

- Publications in the field of green and circular economy
- Webpages of organizations specializing on Circular and Green
- Specialized pages on Social Medias (mainly Facebook)



## Activities and results

- As the founding activities of KSK (Košice self-governing region) include social, cultural and school facilities, we paid separate attention to the examples in these institutions and we reported the examples individually, according to these three categories. When looking for the BPs, we chose the ones that could be easily implemented (replicated) in our conditions and introduced into everyday practice.
- Up to date, the database of appropriate good- and best- practice CE solutions contains 330 records.

	Názov príkladu dobrej praxe (v SJ)	Krátky popis príkladu dobrej praxe (v SJ)	Krajina	Mesto	Odkaz č.1	U.
2	Národný program - Od odpadu k zdrojom (VANG)	Holandská vláda na princípoch zásad cirkulárnej ekonomiky vytvorila program „From Waste To Resource programme“ (VANG), ktorý stimuluje prechod na obehové hospodárstvo bez odpadu. Zámerom VANG je prispôsobiť súčasnú politiku na prechod na cirkulárnu ekonomiku pomocou poskytovania informácií medzi obcami, rozvoja stimulov u spotrebiteľov, stimulácia samotnej recyklovace a pod. Holandská vláda sa týmto programom snaží o minimalizáciu využívania neobnoviteľných zdrojov.	Holandsko	-	<a href="http://www.govsprocircular.com/cases/vang-from-waste-to-resource/">http://www.govsprocircular.com/cases/vang-from-waste-to-resource/</a>	
3	Elektrické automobily - Car2go	Na podporu boja proti znečisteniu ovzdušia vydalo hlavné mesto Amsterdam osobitné 700 povolení na podporu zdieľaných elektronických vozidiel. Hlavnou spoločnosťou, ktorá tieto povolenia využíva a prevádzkuje elektrické automobily je Car2go. Vydané povolenia sa však týkajú iba tých elektrických vozidiel, ktoré nemajú pevné parkovacie miesto. Za toto privilégiu musia spoločnosti zaplatiť iba určený ročný poplatok. Miestna samospráva vykonala potrebné kroky, aby ostatní vodiči nevyužívali tieto parkovacie miesta. Táto politika zdieľaných elektrických automobilov má za následok zníženie potreby vlastných svojich auto, mesto je menej preplnené a zvyšuje kvalitu ovzdušia. Počet nabíjacích elektrických staníc sa stále zvyšuje, predovšetkým v núlných častiach mesta. Tieto stanice inštalujú dve hlavné energetické spoločnosti, ktoré majú zmluvu s mestom.	Holandsko	Amsterdam	<a href="http://www.govsprocircular.com/cases/urban-sharing-program-for-electric-vehicles/">http://www.govsprocircular.com/cases/urban-sharing-program-for-electric-vehicles/</a>	
4	Made in Moerwijk	Made in Moerwijk predstavuje iniciatívu z Haagu, ktorá sa snaží dať starým veciam nový život. Zo začiatku na projekte participovali miesta univerzity, technická škola a miestny fond. V súčasnosti je Made in Moerwijk nadšcom, ktorej zamestnancom finančne prispieva miestna správa. Nadšcia zohráva pomerne veľkú úlohu v oblasti, pomáha k sociálnej súdržnosti a zároveň vytvorila nové pracovné miesta. Do projektu sa zapojilo až 18 partnerov.	Holandsko	Haag	<a href="https://circulareconomy.europa.eu/platform/en/good-practices/circular-governance-hague-made-moerwijk">https://circulareconomy.europa.eu/platform/en/good-practices/circular-governance-hague-made-moerwijk</a>	
5	Nové recyklované bytovky spoločnosti Super Circular Estate	V regióne Parkstad Limburg (južné Holandsko) sa v dôsledku znižovania demografického vývoja rozhodli orientovať na nový typ bytových jednotiek. Región plánuje postaviť 3 pilotné bytové jednotky z recyklovaných materiálov, konkrétne sa využijú materiály zo zdemolovanej výškové budovy predtým slúžiacou na sociálne bývanie. Zámerom spoločnosti Super Circular Estate je revolúcia v oblasti sociálneho bývania s cieľom seľefektívne využívať všetky zdroje.	Holandsko	región Parkstad Limburg	<a href="https://circulareconomy.europa.eu/platform/en/good-practices/super-circular-estate-reusing-material-and-social-circularity-responsible-citizen-a-new-demographics-and-needs">https://circulareconomy.europa.eu/platform/en/good-practices/super-circular-estate-reusing-material-and-social-circularity-responsible-citizen-a-new-demographics-and-needs</a>	
6	The Cramerstraat cycle lane	V roku 2017 bola v meste Utrecht prebudovaná 900m dlhá tehlová cesta na cyklistov, čím sa mesto snaží reagovať na potrebné zmeny v oblasti cirkulárnej ekonomiky. Finálna cyklotrasa Cramerstraat má spojiť centrum mesta s jeho predmestiami. Mesto vyzvalo dodávateľov, aby predložili inovatívne efektívne cirkulárne riešenia pri budovaní tejto cesty. Vybraný dodávateľ priniesol riešenie v podobe použitia dvoch vrstiev asfaltu namiesto troch a takisto využije 100% recyklovaného spodného asfaltu, niekoľko vrstiev musia spĺňať určité štandardy. Podľa štandardov mesta bolo možné použiť max. 60% recyklovaného asfaltu na spodnú vrstvu, avšak celkovo si projekt vyžadoval o 60% menej nového asfaltu ako v prípade klasické výstavby.	Holandsko	Utrecht	<a href="https://circulareconomy.europa.eu/platform/en/good-practices/utrecht-lused-recycled-asphalt-cramerstraat-cycle-lane-reduce-resource-input">https://circulareconomy.europa.eu/platform/en/good-practices/utrecht-lused-recycled-asphalt-cramerstraat-cycle-lane-reduce-resource-input</a>	
7	100% recyklovaní cyklistochodník	Mesto Rotterdam využilo v časti Menwe-Vierhovens na cyklistický chodník 100% recyklovaný asfalt nielen ako podkladovú vrstvu, ale aj pre základnú a poslednú povrchovú. Tento prípad je prvýkrát, kedy sa úplne recyklovaný asfalt použije samostatne.	Holandsko	Rotterdam	<a href="https://circulareconomy.europa.eu/platform/en/good-practices/port-rotterdam-cyclists-can-enjoy-new-bike-lane-thanks-bio-based-rejuvenator-recycled-asphalt">https://circulareconomy.europa.eu/platform/en/good-practices/port-rotterdam-cyclists-can-enjoy-new-bike-lane-thanks-bio-based-rejuvenator-recycled-asphalt</a>	
8	Svetlo ako služba - Letisko Amsterdam	Letisko Schiphol v Amsterdam prišlo s inovatívnym riešením v oblasti svietenia. Letisko v tejto problematike spolupracuje so spoločnosťou Philips a Cofely. Light as a service znamená, že letisko platí za vyprodukované svetlo, zatiaľ čo spoločnosť Philips zostáva vlastníkom všetkých zariadení a inštalácií. Obe spoločnosti pritom zodpovedajú za výkon a životnosť celého systému. Žiarovky sú na konci svojej životnosti recyklované, čím sa minimalizuje odpad. Použitím energeticky účinných LED žiaroviek sa v porovnaní s inými žiarovkami dosiahne 50% zníženie spotreby elektrickej energie.	Holandsko	Amsterdam	<a href="https://www.philips.com/a-w/about/news/archive/standard/news/press-2015-20150419-Philips-provides-Light-as-a-Service-to-Schiphol-Airport.html">https://www.philips.com/a-w/about/news/archive/standard/news/press-2015-20150419-Philips-provides-Light-as-a-Service-to-Schiphol-Airport.html</a>	
9	Almere – vodná rastlina ako zdroj	Mesto Almere v spolupráci s miestnymi zainteresovanými stranami a spoločnosťou Milivision vytvorilo inovatívne partnerstvo v cirkulárnej ekonomike. Vzhľadom nato, že lokálne jazero Weerwater je domovom rýchlo rastúcich vodných rastlín, ktoré majú negatívny dopad na miestny biznis (vodné športy, stravovacie zariadenia), sa rozhodlo, že namiesto likvidácie týchto rastlín, ich využijú pri výrobe papiera. Načisto výroby, ktoré sú vyrábané z tejto biomasy sú preukázateľne bonnejšie ako výroby vyrábané štandardnou metódou, boli tieto vodné rastliny použité aj v iných recyklovaných produktoch – napr. v leteckých obedových boxoch.	Holandsko	Almere	<a href="https://circulareconomy.europa.eu/platform/en/good-practices/city-al-merz-innovative-waste-project-turns-water-plants-paper">https://circulareconomy.europa.eu/platform/en/good-practices/city-al-merz-innovative-waste-project-turns-water-plants-paper</a>	
10	Medzi projekty, ktoré už v Švédsku úspešne pôsobia v oblasti biopodporstva, patrí spoločnosť CelluComp. CelluComp pracuje na vývoji a komercializácii trvalo udržateľných materiálov. Ich hlavnou činnosťou je výroba a komercializácia nového typu materiálu (bioplastiku) z odpadových materiálov. Tento materiál je vyrobený z odpadových materiálov, ktoré by inak skončili na skládke. Tento materiál je vyrobený z odpadových materiálov, ktoré by inak skončili na skládke. Tento materiál je vyrobený z odpadových materiálov, ktoré by inak skončili na skládke.					


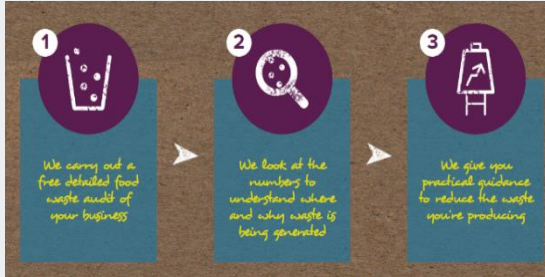
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## Activities and results

- Out of all identified Circular Economy BPs and GPs, the solutions with highest replicability potential were identified within the List of feasible CE solutions. Following circular economy initiatives from other countries were identified as the most impactful and inspirational especially for the next phases of the on the-spot analyses of food waste management in canteens.

Nr.	Good/Best Practice
1	<p><b><u>Food that doesn't cost the earth - A circular economy guide for the food service industry</u></b></p> <p>This guide give food businesses practical steps they can take to play their part in tackling climate change. It contains practical actions food business can take to reduce their impact on the environment and reduces the complexity of a circular food business to 5 principles: buy less, buy smart, use resources more efficiently, throw away less and throw away smarter. The average London food service business could save £6,000 a year by wasting less food - Equating to a £240m saving for the capital's restaurants. <a href="https://advancelondon.org/news-events/food-that-doesnt-cost-the-earth/">https://advancelondon.org/news-events/food-that-doesnt-cost-the-earth/</a></p> 
2	<p><b><u>FOODSAVE</u></b></p> <p>Foodsave project helps small and medium-sized food businesses in London reduce their food waste through processes such as composting or anaerobic digestion. Over the course of the project it aimed to divert over 1,000 tons of food waste from landfill, reduced food waste by over 150 tons and saved businesses over £350,000 in waste reduction and disposal. The Sustainable Restaurant Association (SRA) was involved and ran food waste audits in the food service and hospitality sector for 2-4 weeks. It was using a 3 step process including analysis and guidance regarding waste re-use. <a href="http://www.foodsave.org/about/">http://www.foodsave.org/about/</a></p> 



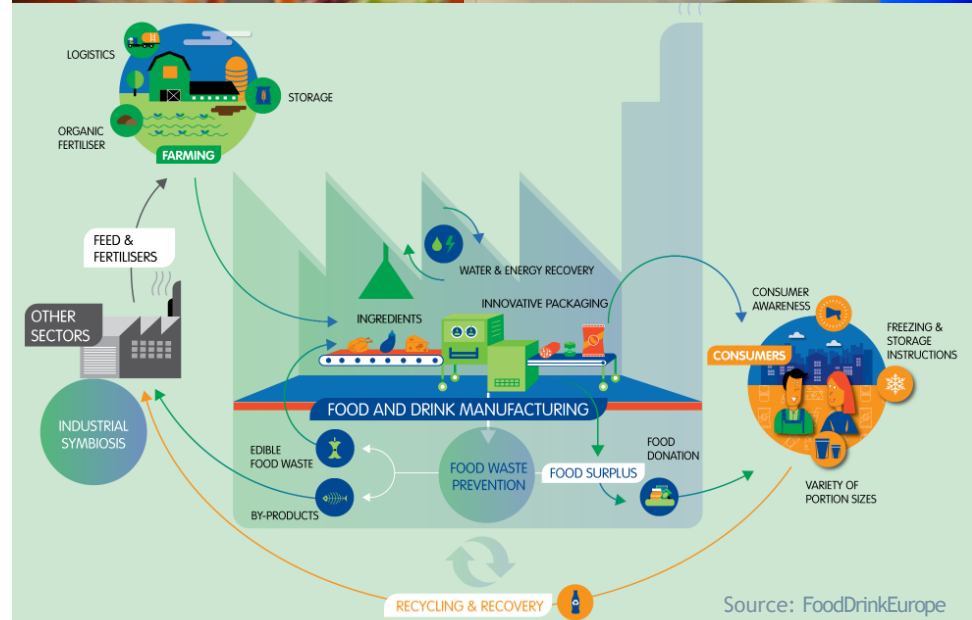
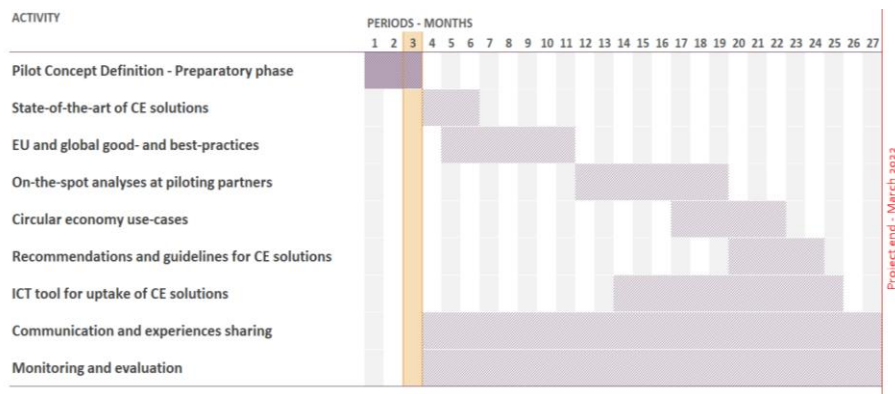
Nr.	Good/Best Practice
3	<p><b><u>HOTEL KITCHEN: FIGHTING FOOD WASTE IN HOTELS</u></b></p> <p>Hotels, which serve \$35 billion dollars in catering and banquets each year in the US, are an ideal test bed to learn, iterate, drive waste reduction, and help reshape the food service industry as leaders in food waste reduction. World Wildlife Fund (WWF) and the American Hotel and Lodging Association (AHLA), with support from The Rockefeller Foundation, created this toolkit to challenge the industry to prevent food waste, donate what cannot be prevented and divert what remains.</p> <p><a href="https://furtherwithfood.org/resources/hotel-kitchen-fighting-food-waste-hotels/">https://furtherwithfood.org/resources/hotel-kitchen-fighting-food-waste-hotels/</a></p>
4	<p><b><u>PROJECT REKUK</u></b></p> <p>This project trains chefs of large-scale kitchens in Waste Prevention, Energy Efficiency, Foods Use, Menu Design, and Marketing and Information. It is now available in the project countries Austria, the Czech Republic, Germany and Italy. The goal is to provide the trainees with the knowledge, competences and skills needed for the assessment of the situation of their own large-scale kitchen and the means towards its more resource-efficient operation.</p> <p><a href="http://rekuk.rma.at/project-rekuk">http://rekuk.rma.at/project-rekuk</a></p>
5	<p><b><u>THE LOCAL CANNERY</u></b></p> <p>This project trains chefs of large-scale kitchens in Waste Prevention, Energy Efficiency, Foods Use, Menu Design, and Marketing and Information. It is now available in the project countries Austria, the Czech Republic, Germany and Italy. The goal is to provide the trainees with the knowledge, competences and skills needed for the assessment of the situation of their own large-scale kitchen and the means towards its more resource-efficient operation.</p> <p><a href="https://laconserverielocale.fr/">https://laconserverielocale.fr/</a></p>





## Testing of circular approaches

- Analyses of **waste flows** and possibilities for **closing the loop/circle** incorporating the other stakeholders (transport, composting, final usage, etc.)
- **Design of new processes, opportunity studies** for different alternatives (technological and process)



## The usage of the BP

- The best practices will be presented via online database enabling the regional to search for interesting CE solutions suitable for their needs
- This database at the digital platform will therefore play an essential role in awareness raising and supporting the decision-making processes of the stakeholders
- In future, the categorization of GPs/BPs will be introduced to enable efficient searching
- In order to increase the attractiveness, the graphical elements like pictures will be added, and the GPs/BPs from the *List of feasible CE solutions* will be prepared in the form of use cases and infographics.



- State-of-the-art solutions in circular economy and models in the field of agriculture, food production and food service sector and their level of impact were analysed



- Best practices on the global and EU level and its applicability in selected areas of intervention was studied
- Valuable data was gathered from projects across the globe showing creative approach to implementing various circular economy practices

- Activities in social, cultural and school facilities were paid special attention to as they were identified as the most useful for contributing to the future phases of the project
- The available implementation guidelines were identified, saving a lot of efforts and reducing the implementation risks



## Next steps

### Recommendations and new decisions for next periods

- For the upcoming pilot period, the activities will utilize the existing knowledge, especially indentified within the List of feasible CE solutions with circular economy initiatives from other countries, that were identified as the most impactful and inspirational especially for the next phases of the on the-spot analyses of food waste management in canteens.
- At this stage, as the On-the-spot analyses be implemented, the crucial point is to establish the contact and linkages with piloting canteens (school/social facilities) in the organizations controlled by Košice Self-governing Region, and with other identified stakeholders (like Safety Control bodies, Waste Management actors).



# THANK YOU!



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