TEMPLATE

Output factsheet: Tools

Version 1

Project index number and acronym	CE1125, CIRCE2020
Lead partner	ARPA VENETO (ARPAV)
Output number and title	OT2.3 - LCA & LCC tools to estimate industrial ecology benefits & economic-convenience of new industrial symbiosis
Responsible partner (PP name and number)	BZN (Bay Zoltán Nonprofit Ltd. for Applied Research), number 5
Project website	https://www.interreg-central.eu/Content.Node/CIRCE2020.html
Delivery date	15.09.2019

Summary description of the key features of the tool (developed and/or implemented)

The tool includes an introduction about the LCC approach selected for the project and a step by step guideline for its application. While the main challenge of the LCA/PEF guideline for the CIRCE2020 project has been the simplification and applicability of the existing rigid rules, the LCC guideline has been built up based on a more flexible and generic reference, a code of practice published by SETAC (as no generic standard exists). This LCC method is not suitable for financial accounting; instead it is a cost assessment and management method with the goal of estimating the costs associated with the existence of a life cycle system for comparing alternatives.
The tool gives advice clearly concerning the LCC steps: goal definition, functional unit, system boundaries, scenarios, time factor, data collection, allocation, externalities, software tool, interpretation, reporting. Where it is possible at the current status of the CIRCE2020 project, specific indications have been defined for project partners and follow up mentoring have been provided by BZN to the consortium and to the PPs.
After the development and sharing of the first versions of the LCC guideline a training event was organized for the CIRCE2020 project partners. The experiences of this training event helped to test and additionally improve the LCC guideline. The impressions and experiments of the partners – which is reachable via online video - help others to do a similar work.

NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

Considering that the LCC method needs to be applied to a wide range of waste streams and industry sectors, the guideline follows a generic approach with flexible adaptation possibilities. There were five selected industrial areas where the LCC methodology was tested and applied. These areas are in NUTS 2 region- if the waste streams were possible - and in NUTS1 in some cases (ITH3, Veneto, PL41, Wielkopolskie, HU10, Közép-Magyarország, AT33, Tirol, HR03, Jadranska Hrvatska, ITC4, Lombardia)

Expected impact and benefits of the tool for the concerned territories and target groups

With the application of the LCC method developed for the CIRCE2020 project, users can assess and compare the existing “business as usual” and new circular economy systems referring in both cases to the same functional unit. Separated cost and benefit breakdown of the actors whose perspective is considered can be calculated: these are usually the waste donor and potentially the waste recipient and other actors.
These results should support the identification of the most relevant costs within the analyzed systems and the decision about the most preferable solution from a cost perspective. As the functional unit applied in the LCA is the same, the results of the environmental assessment refer to the same waste quantities and they can be considered together when final decision is taken. Any inconsistencies between LCA and LCC due the potential differences in system boundaries or allocation procedures must be declared and considered for accurate interpretation of results.
The LCC tutorial and the related coaching and mentoring to PPs has been used to help the preparation of these national scenarios and to ensure their scientific quality.

Sustainability of the tool and its transferability to other territories and stakeholders

A circular solution developed in the CIRCE2020 project may potentially have a wider application in future, so an additional useful result can be the upscaling of its cost benefits to regional/national level. Such extrapolation has to be done with great care based on realistic and well documented quantities of the reference waste flow.
The tool has been prepared as part of a learning process. The tool includes LCC guidelines, a full LCC training presentation and a checklist. All PPs participated in this learning procedure and 5 PPs had the occasion and the task to use in on selected waste streams in their countries. This way, the contents of the tutorial have already been put to use and built in the everyday working on the PPs. The method can be used to analyze the economic scenarios related to other waste streams even after the project. The training package provides a solid basis for including new institutes or researchers in the LCC trainings.

Lessons learned from the development/implementation process of the tool and added

value of transnational cooperation

For the selection of the most suitable LCC approach, it was important to consider the different backgrounds and understandings of PPs concerning cost assessment. During the development phase it was extremely useful the continuous discussion with the PP responsible for the LCA-based tool (ETRA) and with their experts. Harmonization of the LCA and LCC approaches has been a crucial element for their parallel application by PPs. During the studies in the pilot areas, the main lessons learned by the PPs have been identified and summarized in the video tutorial. These include specific tasks related to data collection, data quality, application of different perspectives, etc. From the interviews with PPs it emerged that the application of the LCC tool was useful and its results offered fundamental elements for decision making. The transnational cooperation was important to cover a wide range of application possibilities of the LCC method. This helped to test its feasibility and applicability in different national circumstances.

References to relevant deliverables and web-links
If applicable, pictures or images to be provided as annex

The video tutorial is available on line at the following URL: https://youtu.be/EiF1SOYUOlU
The LCC guideline is described in DT2.3.1.