

Good Practices Guide: Systemic Approaches for a Circular Economy

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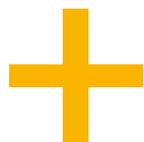
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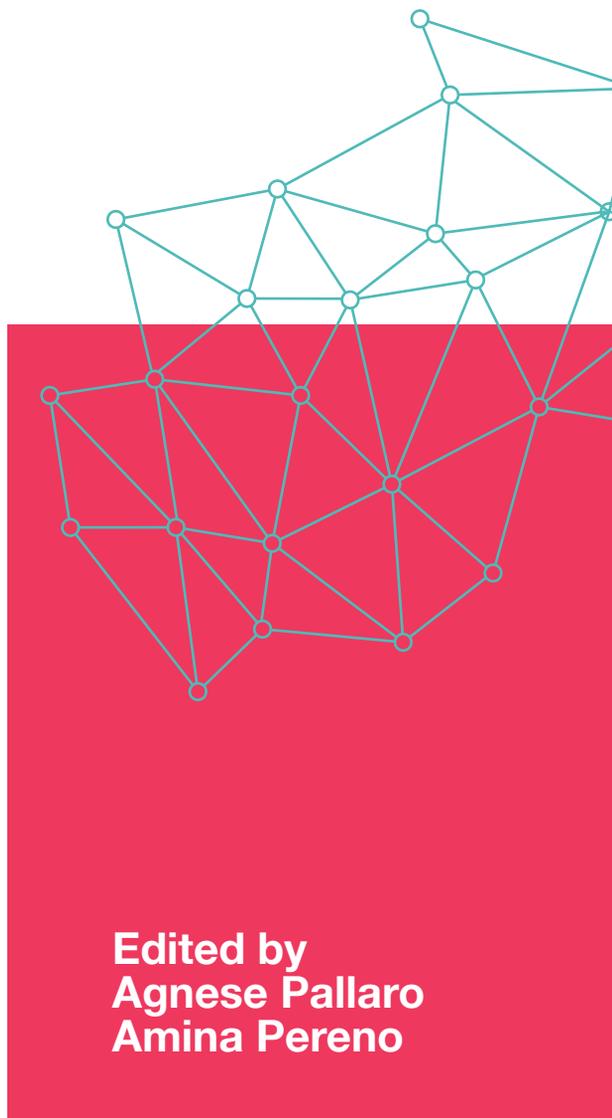
retrace



Good Practices Guide

Systemic Approaches
for a Circular Economy

volume 2



Edited by
Agnese Pallaro
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GOOD PRACTICES GUIDE:
SYSTEMIC APPROACHES
FOR A CIRCULAR ECONOMY

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List of Abbreviations

EC European Commission

CE Circular Economy

FV Field Visit

GP Good Practice

HD Holistic Diagnosis

LP Lead Partner - Politecnico di Torino

MA Managing Authority

PGT Policy Gap Thread

PLP Policy Learning Platform

PRR Peer Review Report

PRW Peer Review Workshop

RAP Regional Action Plan

SD Systemic Design

SME Small and Medium Enterprise

Table of Contents

7	1.	Introduction CAROLINA GIRALDO NOHRA
11	2.	Steps and Methods for Good Practices Selection AGNESE PALLARO
11	2.1	Good Practices Selection for Field Visits
15	2.2	Selection of the Best 30 Good Practices
16	2.3	Good Practices and Policy Gaps
17	2.4	Strengths and Weaknesses of the Methodology
19	3.	RETRACE Good Practices on Circular Economy TIZIANA DELL'OLMO AND AGNESE PALLARO
20	3.1	Support Collaboration between Sectors
32	3.2	Raising Involvement and Knowledge of Operators Concerning the Circular Economy
43	3.3	Policy Regulations on Circular Economy
48	3.4	Tailored Policy Measures on Circular Economy
60	3.5	Policy in Support to Business and Market Development for Circular Economy Activities
73	3.6	Policy Focused on SMEs and Micromanufacturing

84	4.	Sharing of Experiences through the Policy Learning Platform	EILISH O'LOUGHLIN
84	4.1	Description of the Policy Learning Platform: Structure, Functioning, Aims	
85	4.2	The Role of the Policy Learning Platform within Interreg Europe	
86	4.3	Preliminary Results from the Policy Learning Platform	
88	5.	Outcomes and Insights from the RETRACE Good Practices on Circular Economy	AMINA PERENO
88	5.1	Results Achieved through the Good Practice Collection Methodology	
89	5.2	Guidelines and Future Directions for Regional Transition towards Circular Economy	
92	5.3	The RETRACE Policy Road Map for a Systemic Approach on Circular Economy	
93		Glossary	
96		Authors' Biographies	

I. Introduction

CAROLINA GIRALDO NOHRA

Nowadays as the global economy has taken over Europe in an exponential way, it is vital to support governance actions to accomplish a sustainable future. To achieve such an ambitious goal, on 2 December 2015 the European Commission (EC) introduced the Circular Economy (CE) package which aims to facilitate a transition towards a more sustainable economic paradigm in the EU by incorporating legislative proposals on waste management, decreasing the use of landfills, and fostering recycling and reuse. An Action Plan has also been included to be implemented in each step of the value chain to close the loop of product life cycles. Implementing, repairing and remanufacturing will allow secondary raw materials to be reintroduced into the economy (European Commission, 2017). Some industries in the EU have already taken action as such Good Practices (GP) could support the creation of regional policies towards a CE.

According to such scenarios, policymaking has evolved in such a way that multidisciplinary teams are now vital. To promote these approaches, Interreg Europe helps regional and local governments across Europe to develop and deliver better policies. Supported by the European Regional Development Fund with 359 million EUR from 2014 to 2020, the programme fosters regional policymakers through cooperation projects and Policy Learning Platforms. In 2016 the RETRACE project, acronym of “A Systemic Approach for REgions TRAnstitioning towards a Circular Economy”, was launched. Funded by the Interreg Europe Programme, RETRACE aims at promoting Systemic Design as a method for local and regional policies to move towards a CE, according to which waste from one productive process becomes input in another, preventing waste to be released into the environment. The project coordinated by the Department of Architecture and Design (DAD) at the Politecnico di Torino, involves 8 private and public partners and more than 70 stakeholders from Italy, France, Spain, Slovenia, and Romania to foster the cooperation between regions of European countries.

This book, as a result of the RETRACE project, aims to clarify the influence of CE Good Practices (GPs) on the path towards sustainable development and how Policy Gaps can be tackled through the implementation of such examples. The main question is: how can correct dissemination of GPs help policy managers to define a clear path towards a CE in their regions?

To create an efficient CE policymaking requires the combination of numerous policy interventions, a sector-by-sector analysis to evaluate the different challenges and opportunities to transition into the CE (Simon Boas et al., 2015). At the same time, it is vital to encourage the cooperation between several actors and networks (Ruggieri et al., 2016). These diverse

relationships for each territory constitute the complexity of the policymaking process. A creative and structured innovative process is needed to approach such scenarios. Among the new methodologies, the Systemic Design method encourages the creation of new relations between different actors in a territory, providing specific tools to display the “sleeping” assets or hidden potentialities to have a broad and clear perspective of complex scenarios and to support active cooperation among local actors.

This book gives significant space to a selected range of GPs that address most common Policy Gaps on sustainable development; such examples help all the actors involved in policymaking processes to encourage more efficient ways towards the CE. Traditional policies are not the most effective in achieving this goal as they imply a top-down approach which does not include the participation of the final users: the citizenship. Nevertheless, nowadays participatory processes are essential to design effective policy strategies. Methods such as the Systemic Design Approach result quite effective for this process because they provide a design point of view including co-design processes and participatory design, which imply a bottom-up design approach. This method accentuates an active engagement of all actors in the designing process creating a new decision making dynamic; the end user thus becomes the center of the policy formulation system (Allio, 2014). This holistic approach encourages more effective policies and innovative solutions for policymaking in a CE. The outcome is the result of a process developed by different stakeholders and actors in which policymakers can cooperate with industries seeking a transition to a CE. In this case, sharing experiences of the ongoing GP becomes a vital part of the decision making process.

This publication entitled “RETRACE: Good Practices Guide: Systemic Approaches for a Circular Economy” is addressed to regional policymakers and policy managers and is the second of a three-book series that the RETRACE project will deliver across a four-year period (2016–2020). The first volume “RETRACE: Systemic Design Method Guide for Policymaking: A Circular Europe on the Way”, published in October 2017, aimed at clarifying the role of the CE based on sustainable development and how policymakers can address it in their activities. It is a method guide that introduces Systemic Design (SD) as a key methodology to establish sustainable regional action plans towards a CE (Barbero, 2017). The main purpose of this second volume is to illustrate to policymakers the best GPs of Circular Economy that have been collected along the project and the methodology implemented to select them. This publication collects the results of the first two years, including seven Field Visits (FV) in five partner countries (Italy, Spain, France, Slovenia, and Romania), and the two leading regions in CE, The Netherlands and Scotland. A total of 58 FV of CE and SD were exchanged, out of which 30 GP were selected by partner peer reviews. These can become an inspiration model for policymakers in other regions that have to deal with common Policy Gaps in the transition process to a CE. Following the priorities set up by the Europe 2020 Strategy and the EC Communication “Towards a Circular Economy: A Zero Waste Programme for Europe (European Commission, 2014),” the main challenge of RETRACE — and consequently of this book — is to offer concrete examples and valuable GPs to move towards a CE.

This book shows the synergy and cooperation that characterize the RETRACE Project, where all the consortium involved in the project (1) and the local stakeholder (about seventy entities) are actively engaging generating new strategies and plans. Each partner was involved in the selection of the featured GP based on their interests, experiences and Policy Gaps found in their regions. Moreover, other acknowledged experts in this field enjoyed the opportunity to share their knowledge providing a broad range of different points of view on each good practice presented.

The first part of the book is dedicated to the evolution methodology implemented for the selection of the 58 GPs on CE and Systemic Approach, with particular attention to the criteria applied before each FV. The following section focuses on the selecting process of the 30 GPs by the peer review after FV. The last part of this chapter describes the cataloguing of the 30 GPs according to the threads of the identified Policy Gaps.

The core of the book is dedicated to illustrating selected GPs preceded by an introduction which explains the categorization of the GPs based on the threads of the identified Policy Gaps. This part is followed by a description of the Policy Gap Threads and of each GP.

The fourth section curated by Eilish O'Loughlin, policy officer at Interreg Europe, describes the sharing of experience through Policy Learning Platforms (PLPs). It explains its aims, structure, and functioning followed by the role of such platforms within Interreg Europe and how they foster the exchange of experience across regions. The last part of this section will expose the preliminary results of the PLPs, showing the future impact of these platforms regarding policymaking in the European regions.

The last part of the book sums up all the results achieved through the implementation of the methodology and illustrates the experience starting from the research of the GPs to their impact on the region. Following, the outcome of sharing experiences based on GPs among regions: this represents the main ax that the project aims to promote to boost the exchange of tools for a better policymaking process.

This second publication of RETRACE aims to be a milestone towards a deeper understanding of the impact on sharing experiences on CE and the Systemic Design methodology. Its focus is to lead the efforts of policymakers and all actors involved in the decision-making process, who want to encourage sustainable development initiatives in their territories.

Policymakers are responsible for deciding the direction for a productive dialogue between public and private entities. Their crucial role in decision making offers them the opportunity to establish first impact measures as well as a long-term vision that includes transforming public procurement policy, supplying financial or technical support to systemic-design-oriented industries, and generating collaboration platforms. Eventually, these actions lead to a broader societal goal encouraging a transition to CE while creating synergies between the managing authorities, citizenship, and business.

This volume is the outcome of in-depth research and dialogue with many innovators and policymakers across Europe who are transforming their regions while contributing with different perspectives, with the aim to achieve common ground in the current scenarios of policymaking. This book is the result of an inspiring journey across different regions by all those contributors who shared their experiences to support the communities involved.

¹ Politecnico di Torino (IT), Regione Piemonte (IT), Azaro Foundation (ES), Beaz (ES), Higher School of Advanced industrial Technology ESTIA (FR), Association for Environment and Safety in Aquitaine

APESA (FR), The Slovenian Government Office for Development and European Cohesion Policy (SI), The Rumanian NorthEast Regional Development Agency (RO).

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2. Steps and Methods for a Good Practices Selection

AGNESE PALLARO

The RETRACE project is developed around two core activities: the analysis of Policy Gaps (PG) in each partner territory and the identification of Good Practices (GPs) to bridge these gaps. While the former has a local influence, the latter needs to be performed according to the identified case studies to be valuable and inspiring for all partners. This poses a significant challenge that can be tackled appropriately only by implementing a methodology able to lead to the selection of high-quality case studies.

In this chapter, the methodology applied within the RETRACE project is presented in all its phases and complemented by a critical analysis of its strengths and weaknesses.

2.1 GOOD PRACTICES SELECTION FOR FIELD VISITS

The identification of appropriate Good Practices (GP) requires partners to have background knowledge of Systemic Design (SD) and Circular Economy (CE), which was provided by the Lead Partner (LP), the Department of Architecture and Design at Politecnico di Torino, during the kick-off meeting and along the project. The activity of the GP selection falls within the broader objective of Interreg Europe:

As a ‘capitalisation’ programme, Interreg Europe is primarily targeted at local and regional public authorities and focuses on the identification, analysis, dissemination, and transfer of good practices and policy experiences, to improving the effectiveness of regional and local policies. (Interreg Europe, 2016)

This general aim has been translated into the RETRACE project starting from the core four terms used in the extract above *identification, analysis, dissemination, and transfer of Good Practices*.

Identification

THE FORMAT

The identification phase starts with the proposal of 15 GP from the partners hosting the Field Visit (FV) who fill in a format for each GP specifically designed by LP and submit them to the Lead Partner three months before the field visit. The Good Practices Format contains twenty-one questions to guide the analysis of partners in the selection process (i.e., GPs that do not provide enough information or provide insufficient or negative answers are not included) and help other partners to prepare for the FV.

The questions belong to three different categories:

1. TECHNICAL DETAILS (5 questions). This set of questions aims to gather technical information on the GP, rather than information on the content, to store the required references, compare GPs or use data to create statistics. Partners are asked to explain the territorial

influence of the GP, the number of financial resources used, the institutions involved, the location of the GP, the origin of the GP from an Interreg Europe project, and the contact details.

2. **CONTENT DETAILS** (11 questions). This set of questions is the most significant part of the Format and aims to collect information regarding the content of the GP, the background that generated it, the objective it aims to achieve, the following implementing actions and process, and the sectors involved. Instead of merely asking to describe the GP, it was decided to guide partners through the description, stimulating them to look for additional and meaningful information. The last four questions of this section require partners to think about the GP they are actively suggesting. If in the first case they were asked to collect existing information, here they are required to evaluate the GP. They should suggest how to improve it, why it is considered good, how is it possible to exploit it, and why this GP could be interesting for other regions.
3. **POLICY DETAILS** (5 questions). Since the aim of the RETRACE project is to promote the creation of Circular Economy-oriented policies, focusing on identifying GPs is essential. Besides describing the implementation of the project, partners are asked to describe the policy they employed to put it into practice; the kind of innovation offered by the GP (i.e., technical, environmental, social, and economic); the aspects improved by the policy compared to other existing policies; the aspects the policy supported the most (i.e., cooperation, process innovation, creation of jobs); tools that were employed. As this kind of information is often not easy to collect, FV become crucial moments for integrating missing information directly from the representatives of the GPs (Pallaro, 2017).

THE SELECTION CRITERIA

Once completed, the formats are shared and discussed with the LP; eight/ten of the most interesting GPs are selected to be later presented during the FV.

The selection follows three main criteria:

1. Degree of innovation related to the topics of Circular Economy and Systemic Design. The content of the GP should go beyond the mere activities of reuse and recycle and establish relations with the local social, environmental, and production context.
2. Relation between the GP and the local territory. The GP should expressly be related to the region, i.e., by addressing a relevant sector or a traditional activity;
3. Relevance of the GP for other partners.

GPs that address topics that can be interesting for other partners are preferred to those which imply specific characteristics related to a particular country, i.e., if a GP involves the sea and only one partner country faces it, it may not be considered useful for the project.

The selection forms the draft of the document that will be presented during the FV. It can be modified based on the availability of speakers and the willingness of companies to share information about their activities.

Analysis

This phase involves an in-depth analysis of the 8/10 selected GPs based on the Format, the FV, and the final peer review workshop.

Once the 8/10 GPs have been identified, partners hosting the FV further improve the details of the formats related to the GPs and share them with other partners one month before the FV. Sharing this document has a double purpose: it helps partners to prepare for the FV developing meaningful questions to gain more insights during the FV and supports partners in identifying the most appropriate stakeholders to involve in the FV.

The analysis of the GPs also includes the decision about which GPs should be visited and which just need to be explained through a presentation during the FV. Indeed, some GPs better express their potential through a visit. This is usually the case of GPs in which the environment assumes an additional role. For example, Api'Up (apiup40.wixsite.com/accueil), a GP presented during FV2 in France, includes all production phases in one place where the raw material is transformed into the finished product thus it is interesting to see how different phases are integrated with each other. The actual visit to a GP offers the opportunity to better understand it. Since time constraints do not enable to visit all the GPs on site, most of them are described through a presentation held by the promoters of the GPs. Since this is the best occasion to gather additional information about the project, a Q&A session is planned at the end of each presentation.

THE PEER REVIEW WORKSHOP

At the end of each FV, after having collected all details on the GPs, partners are asked to critically discuss and evaluate the GPs that have been presented during the Peer Review Workshop. This is a two-step analysis process:

1. The first step consists of an open discussion among partners to evaluate each GP base on its economic, social, and environmental sustainability. The discussion is led by the LP with the support of a specially designed format (Pallaro, 2017) provided to partners at the beginning of the FV. All comments from the discussion are collected in one shared document that is made available by the partner hosting the FV. This first step aims to clarify possible doubts and misunderstanding on the GPs and to discuss their content.
2. The second step is performed individually by each partner. It is a format (Pallaro, 2017) including three questions which aim to define, according to each partner, which are the most interesting GPs to transfer to their region. The format is completed within two weeks after the FV. The hosting partners then collect all the formats, identify the six most appreciated GPs, and write a closing report on the experience (Peer Review Report).

This phase leads to the identification of six GPs for each FV, for a total number of 42 GPs from which the best 30 GPs are identified and included in this publication.

Dissemination

To ensure the circulation of the GPs beyond the boundaries of the project, RETRACE diffuses the identified case studies through different channels.

PRESS AND SOCIAL MEDIA

During Field Visits, while case studies are being presented, partners share them through their institutional and social media accounts. Before, during and after each FV, partners also disseminate their experience through press releases, also to reach the targeted number of media appearances planned in the Application Form.

VIDEOS

After each FV, the hosting partners are in charge of creating a video describing the experience according to a standard scheme. The first part of the video provides a background on the RETRACE project, the Systemic Design, the Circular Economy, and the situation of the local territory about these topics. The second part shows through motion graphics the content of each GP, specifying not only the process but also the actors involved and the owner/s of the GP. The videos are uploaded to the RETRACE official YouTube channel (goo.gl/RVSt1e) and shared by all partners through their social media accounts on a regular basis.

WEBSITE

A specific section of the Library on the RETRACE website (www.interregeurope.eu/retrace/library) is dedicated to the collection of GPs which are presented with a slide presentation and a brief description.

EVENTS

Another channel that diffuses GPs outside the RETRACE project is represented by the events in which the project members take part as speakers. Among these, there are local events and international ones, such as the interview recorded during the European Week of Regions and Cities where a GP from FV 1 was presented (goo.gl/wmUBes).

Eventually, this very book is another tool for transferring GPs addressed to policy managers, companies, industries, NGOs, and society.

Transfer

There are two levels of information that can be transferred: one is the transfer of the GP, that is the process it implements; the other is the lesson of the GP which can be detached from the performed activity.

DIRECT TRANSFER

The former type of transfer is supported by establishing relations between stakeholders from different countries during the FVs, facilitated by social interactions such as coffee breaks or networking sessions during which stakeholders can exchange their experiences. There are several cases of collaborations that originated among stakeholders from different countries, who met during the RETRACE project.

INDIRECT TRANSFER

The latter type of transfer is supported by the creation of the RETRACE Matrix, a document which helps partners to move towards the definition of Regional Action Plans. This document was created by the Lead Partner to support the matching of Policy Gaps in each region and the GPs exchanged during the seven Field Visits, and identify the teaching that could be transferred to other regions.

The Matrix is structured in three columns:

1. Column 1. Partners report a brief description of the Policy Gaps they identified through the Holistic Diagnosis (Battistoni and Giraldo Nohra, 2017).
2. Column 2. Good Practices carrying a lesson related to the identified Policy Gap.

3. Column 3. Partners describe why the GPs are interesting for the mentioned Policy Gap and how to transfer the lessons to their region.

Each region filled in the Matrix that was reviewed by the LP. The results were collected for a cross analysis to identify the common threads of Policy Gaps among the regions. This process is described in paragraph 2.3.

Besides the completion of the Matrix, the selection of GPs and the identification of Policy Gaps Threads were performed during Semester 4, while the process of identifying and exchanging GPs was carried out during the first three semesters and the seven Field Visits.

THE FIELD VISITS

These have been organized in the five partner regions and in two countries that were not part of the project but were considered particularly compelling because they are at the forefront of the Circular Economy policy making: The Netherlands and Scotland.

In chronological order, the Field Visits took place in:

FV₁ · Piedmont Region (Italy)

FV₂ · Nouvelle-Aquitaine (France)

FV₃ · Bizkaia (Spain)

FV₄ · The Netherlands

FV₅ · Slovenia

FV₆ · North-East Region (Romania)

FV₇ · Scotland (UK)

The timing and location of each FV have been strategically planned. The first one took place in the Piedmont Region (Italy) where the Lead Partner is based. This enabled to include the FV in the kick-off meeting and to provide partners with the first example of how a FV should be organised (Pallaro, 2017). Another crucial decision was about when the FVs in the countries not included in the project should have been organised. These were planned in two topical moments: halfway of the FV process (the fourth FV was organised in The Netherlands) and at the end of it (the seventh FV took place in Scotland), to make them a reference point for partners along the way.

During the first three semesters, the project witnessed an improvement in the organisation of Field Visits regarding the focus of GPs on policies rather than on more traditional projects of Circular Economy. Indeed, the latter GPs were more inclined to enhance the potentialities of the local resources of a territory. This clearly emerges from the comparison between the kind of GPs presented during FV₁, more related to traditional reuse and recycling projects, and the ones identified in FV₇ which concerned more specific policies implemented to support the development of Circular Economy related activities. This progressive improvement of the content of FVs is due to an ongoing learning process by partners who have made an effort to offer each time a better experience to the RETRACE team concerning the quality of the presented GPs.

2.2 SELECTION OF THE BEST 30 GOOD PRACTICES

During the 7 Field Visits, 65 Good Practices were presented out of which 42 were selected through the Peer Review Workshop. The filling in of the Peer Review Report (PPR) step 2 enabled partners to critically evaluate the GPs presented based on their degree of transferability

to their region. The evaluation was however limited to one FV at a time. Hence the comparison could only be performed among the 8/10 GPs presented during the FV, and it was not linked to how these GPs could genuinely contribute to bridging the Policy Gaps identified in each region.

This further level of analysis was made possible by the Matrix, from which the selection of the best 30 GPs originated. In completing the format, partners could mention any GP that provided an inspiring perspective on how to fill the identified Policy Gaps without limiting the choice to the GPs selected through the Peer Review Report.

Each time a GP was mentioned, it counted as a vote. Then the results were collected in a table where the votes received by each GP were listed in a ranking. The GPs that obtained most votes proved to be the ones that best answered, according to the majority of partners, to the identified Policy Gaps. In some cases, the preferences expressed through the matrix showed interesting contrasts with the ones indicated in the Peer Review Report (PRR). In many cases, the GPs identified during the PRR received no votes or just one vote during the next level of analysis. This happened in 23 cases out of 42. On the other side, some GPs that gained many votes had not been mentioned in the PRR. For example, Zero Waste Scotland (GP2 of FV7) received 9 votes (the highest score) but was not selected in the Peer Review Report.

The results of the Peer Review Report and the Matrix should not be considered in contrast because of different factors. First of all, the questions asked to partners in the PRR and the Matrix were different, and so were the answers. Moreover, the Matrix was filled in when the Field Visits were concluded. Hence, partners were able to have an overall view of the exchange of experience which was inevitably missing before. Eventually, it is important to point out that in 20 cases out of 30 the GPs selected through the PRR and the Matrix coincided, therefore the two processes of analysis were aligned.

The Selection Criteria

The final selection was carried out according to two criteria. First, the number of received votes: GPs which obtained at least two votes were included. Starting from the one that received most votes to the ones that received at least 2 votes, for a total of 30 GPs. Nevertheless, this process left out some GPs that were considered particularly inspiring and valuable thus were included in this publication. A second criterion to evaluate the level of innovativeness and the ability to address topics that no other GP considered was introduced to make a further selection only among the GPs that had received two votes and the ones that were excluded from the ranking since the difference between them was considered minimal. This led to include other 6 GPs that had received 0 or 1 vote, of which half of them, had been highlighted in the Peer Review Report.

The final collection of GPs includes a set of 30 case studies from various sectors, ranging from agri-food to special waste treatment. Though at least two GPs have been voted for each country, the distribution among the seven visited regions is not homogeneous as it mirrors the level of development of each region based on Systemic Design and Circular Economy thus the leading countries (The Netherlands, Scotland, and Slovenia) have the most voted GPs.

2.3 GOOD PRACTICES AND POLICY GAPS

Six main threads of Policy Gaps emerged from the analysis of the Matrixes filled by each partner region. They highlight different aspects of policy actions that should be implemented to support the transition towards a Circular Economy, as it will be further explained in the following chapter. The 30 selected GPs have been classified according to these threads, choosing the one to which they refer the most. In many cases, the same GP has been linked to different Policy Gaps with no prevalence towards one in particular. The choice has thus been made by the Lead Partner based on which sector each GP has the most significant impact.

The GPs were analysed following the structure of the Format provided by Interreg Europe on how to select GPs to be included in the Policy Learning Platforms. It comprises two sections:

1. General information, including the title of the practice, the location, and the institutions involved.
2. Detailed description, including a short description of the practice, required resources, and the potential for learning or transfer.

This format is less detailed than the one that needed to be filled in before each FV, but it was preferred because more in line with the scope and the aim of this publication.

2.4 STRENGTHS AND WEAKNESSES OF THE METHODOLOGY

After the completion of the first phase of activity, it is possible to highlight the strengths and weaknesses of the methodology implemented by the RETRACE project for the identification, selection, and analysis of GPs.

Strengths

Many strengths emerged and enabled to perform the planned activities according to the schedule:

1. The timing scheduled for the procedure of the GP selection, which started three months before the FV, enabled a thorough analysis of them and provided enough time to partners for the confrontation with the Lead Partner.
2. The necessity to identify 15 GPs and fill in a detailed format for each of them, stimulated partners to research and suggest high-quality case studies. The format structure and the questions included pushed them to go beyond the surface and analyse the aspects of the practice related to the Circular Economy and Systemic Design. This proved to be particularly useful for the other partners taking part to the FV who had the opportunity to learn about the GPs a month before the Field Visit and prepare relevant questions to ask directly to the owner of the GP after its presentation.
3. The Peer Review Workshop has the structure of an open discussion among partners, and it takes place at the end of each Field Visit to develop a critical and impartial review of the presented GPs. Moreover, the format developed by the LP and built around the three pillars of economic, social, and environmental sustainability guided and stimulated a confrontation among partners which was never superficial. This enabled to analyse each GP from multiple perspectives, looking at it through the different lenses of sustainability.
4. Phase 2 of the Peer Review Workshop stimulated the creation of a link between the observed practices and the region of each partner, with the aim to encourage the transfer of the GPs and the lessons learned from them.

5. The continuous confrontation with the Lead Partner in the process of identification, selection, and analysis of GPs proved to be a particularly useful tool to increase the learning level of partners.

Weaknesses

The main weakness emerged from the format that is required to be filled in before the FV for each GP. Though it provided a valuable tool both for the organisers and the participating partners, it turned out to be very long and complicated to complete in all its parts with meaningful information before the FV. This was due to several causes, including the difficulty in reaching the owners of the GPs (especially in the case of FVs to countries that were not part of the project) or collecting information that not all people were willing to share. A shorter and more accessible format could be developed to provide required preliminary information which is at the same time easy to be filled in and shared with the owners of the GPs.

Another fundamental difficulty that emerged was the organisation of the FVs to non-partner countries which proved to be very difficult due to budget, time, and distance constraints. In this case, a more substantial budget would have allowed the organisers to make a short trip to the region of the FV to meet the speakers and visit the locations.

Eventually, a redundancy of activity between the selection of GPs during the Peer Review Report and the process established to identify the 30 best GPs arose. Indeed, the first selection of the 6 most interesting GPs within the FV was aimed at creating a pool of GPs from which to make a final selection. However, while proceeding with the project, it was considered more appropriate to select the GPs based on their relationship with the highlighted Policy Gaps, without restricting the pool to the ones already identified through the Peer Review Report. The two procedures are not in contrast. However, they partially overlap, a condition that should be avoided in the future.

Despite its weaknesses, the implemented methodology proved to be effective for obtaining high-quality results according to the planned schedule of the project. Moreover, the experience gained through RETRACE enabled to perform a critical review of the methodology, providing valuable insights on the aspects that need to be reinforced and on the criticalities to solve.

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3. RETRACE: Good Practices on Circular Economy

TIZIANA DELL'OLMO AND AGNESE PALLARO

Parallel to the exchange of experience and the sharing of Good Practices (GP), partners completed the Holistic Diagnosis which highlighted the main Policy Gaps (PGs) identified in each region. These are targeted by the RETRACE project with the aim to provide suggestions to overcome them and support the transition towards a Circular Economy (CE). The two core activities of the project — GPs sharing and PGs identification — were matched in the Matrix. This format, filled in by each region, represents one of the key deliverables of RETRACE. Indeed, it is the basis to develop the Regional Action Plans (RAPs), the official result of the project which will be implemented in Phase 2.

From the cross analysis of the PGs identified in each territory a set of six threads has been identified:

1. Support collaboration between sectors.
2. Raising involvement and knowledge of operators concerning the Circular Economy.
3. Policy regulations on Circular Economy.
4. Tailored policy measures on Circular Economy.
5. Policy in support to business and market development for Circular Economy activities.
6. Policy focused on Small and Medium Enterprises (SMEs) and micromanufacturing.

These categories highlight several aspects of the issue related to the transition towards a CE. They address the different areas of intervention that should be tackled to effectively support the change, ranging from the involvement of all operators to the creation of tailored policy measures. Thirty GPs were selected according to these PGs threads, though other types of categories could have been identified. GPs could have been grouped, for example, according to the country of provenience or their production sector. However, this would have provided secondary (or already known) information such as the countries that are already at an advanced stage in the process of promoting Circular Economy or sectors in which this approach is more common. The organisation of GPs according to the Policy Gap Thread (PGT) was thus preferred because more coherent with the RETRACE project, which aims at stimulating the development of Circular Economy-oriented policies starting from the analysis of the Policy Gaps that currently hamper this transition.

Some information is not consistent such as the number of times of each PGT reported by partners and the distribution of GPs in the six categories. Rather than being a difficulty, this gives additional information to the reader while highlighting which are the most common gaps and aspects that are already being addressed. From the comparison between these two data emerges that the most reported PGTs are also the least addressed by the GPs.

The following paragraph describes and presents the PGTs and GPs.

3.1 SUPPORT COLLABORATION BETWEEN SECTORS

This Policy Gap has been reported by 4 regions out of 5. It concerns the eligibility rules of the calls which enable stakeholders coming from different sectors to take part in projects leading to the creation of a local value chain following the output-input principle and boosting technology transfer between actors.

One of the ideas at the core of CE is that new and unforeseeable connections might link different production processes, overcoming traditional sector boundaries. To support this process, various conditions have to be fulfilled. From the public authorities side, policies and consequently policy tools should be shaped in order to foster two main goals:

support, strengthen and thicken already existing circular clusters and value chains;

support the creation of new value chains, thus establishing connections among different sectors.

To establish locally rooted value circular processes, public authorities have to pay special attention in analysing the context in which they operate, spotting out the sectors, enterprises and productive processes that could be usefully linked, supporting the organisation of an appropriate supply chain and filling possible gaps, while avoiding adverse environmental and market effects related to competition on the resources. In order to do so, flexible and responsive policies combining different funds and measures are a key factor.

RETRACE GPs are in this respect a valuable source of inspiration, both at policy/systemic level (top-down approach) by showing the role of public authorities in promoting networking and coordination among value chain actors and in providing systemic support through dedicated entities, and at single entrepreneurial level (bottom-up approach) through initiatives which aim at adding value to local resources, waste and by-products to create new products and value chains, that are or can be supported by public policies.

Good Practices

Agglolux | FV2

Schiphol Airport | FV4

Innorenw | FV5

Brikston construction solutions | FV6

Horizon Protein | FV7

Cellucomp | FV7

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Agglolux	 AGGLOLUX FABRICANT LIEGE DEPUIS 1929
KEYWORDS	Agri-food, cork products, recycling	
SPECIFIC OBJECTIVE	The GP aims to: <ol style="list-style-type: none"> 1. Recover a historical activity in Nouvelle-Aquitaine. 2. Valorise the cork waste of wine industry. 3. Preserve local know how and natural heritage. 4. Create marketable products from bark and used cork. 5. Create a local value chain. 6. Establish a network of activity in the territory that cooperate in the value chain. 	
OWNER OF THE PRACTICE	Agglolux	
LOCATION OF THE GOOD PRACTICE	Country	France
	Region	Nouvelle-Aquitaine
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Agglolux is a family company that has recovered an historical activity to create valuable products from the waste of cork local wine industry.	
DETAILED INFORMATION ON THE PRACTICE	<p>In the past, cork production was an important activity in the Landes and Lot-et-Garonne departments. However, the industry declined as a consequence of climate change, reforestation of many areas with maritime pine and high competition with Portuguese and Spanish industry. The cork industry is also extremely related to the Aquitaine region as this is very well known for wine production.</p> <p>After years in which the import of cork was preferred, since 2000, two associations for the re-development of the cork industry (Le Liege Gascon) and for the recycling of used corks (Recyc'liege) were created by local stakeholders, including Agglolux. The company produces different cork products for a wide range of clients and prices through the collaboration with designers, architects, distributors, exhibitors.</p> <p>The main target groups involved in the GP are: cork product customers, charities and citizens for collecting cork from wine bottles, private owners of forests that aim to maintain their trees and collaborating with industrial partners, other industrials for optimising the transformation of cork.</p>	
RESOURCES NEEDED	N.A.	
TIMESCALE	Start	1990s
	End	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	One of the main indicators of success of the GP is the collection and treating of 90 tons of used cork stoppers by Recyc'liege association. The company also continues to develop new models of interaction with private owner and organises training sessions to raise awareness on the historical activity of cork collection.	

<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>Besides being interesting to be transferred in regions where the same industry is established, the main learning that can be taken from the GP is related to the idea and the process behind it, that is the willingness and ability to recover an historical activity strongly related to a territory by creating a network of organizations that manage different steps of the value chain with the aim to reduce the amount of waste produced, to create valuable and marketable products. The recreation of this local value chain enables to revitalize a territory, ensuring also the preservation of local know how.</p>
<p>FURTHER INFORMATION</p>	<p>www.agglolux-cbl.com</p>

SCHIPHOL AIRPORT | FV4

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Schiphol Amsterdam Airport	
KEYWORDS	Transport infrastructure, eco-efficient building, waste management.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Develop circular supply chains and ensuring more careful use of resources. 2. Switch to sustainable energy and fuels. 3. Become a living lab to accelerate knowledge sharing on sustainable development. 4. Generate connection between the airport and the surrounding area. 5. Generate employment at and around the airport. 6. Encourage the aviation sector to switch to clean energy carriers. 	
OWNER OF THE PRACTICE	Schiphol Group	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	The Netherlands
	<i>Region</i>	Northern Holland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Schiphol is the first airport based on principles of sustainability with the goal to generate zero waste by 2030.	
DETAILED INFORMATION ON THE PRACTICE	<p>Due to economic globalisation, airplanes have become a regular way of transport, transforming airports into international hubs for logistics and transportation in general. Today airports are responsible for high CO₂ and fine particle emissions, and they also consume large quantities of energy, water, and raw materials. If they want to maintain their role as connectors and hubs for logistics, airports need to become sustainable, as most of the resources they are using are finite or harmful to the environment. In line with this approach, Schiphol airport has launched several initiatives: energy saving baggage conveyors made with recycled materials; a “waste-water to fertilisers” project; recycled concrete for internal lanes; using Philips’ “light as a service” in one of the lounge area; elephant grass used as a natural bird repellent and then used to make outdoor furniture; producing paint from flax waste; building a bio-digester to generate biogas to be used and in the airport.</p> <p>The first beneficiary is the airport itself, as it is getting ready for the future. Since multiple stakeholders are engaged in each project, we can describe it as an entire ecosystem of local stakeholders involved in the airport’s activity.</p>	
RESOURCES NEEDED	N.A.	
TIMESCALE	<i>Start</i>	2016
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>Following are some of the projects of Circular Economy that have been launched:</p> <ul style="list-style-type: none"> ✓ Replacing traditional lights with a lighting service provided by Philips. ✓ Cultivating a bird-repellent flax that grows on the fallow lands near the airport and producing a paint from the seeds of the same plant to be employed in the airport. ✓ Making outdoor furniture from bird-repellent flax, elephant grass, and bio-concrete. ✓ Installing an energy-efficient, recyclable baggage conveyor belt. ✓ Obtaining a fertiliser from wastewater. 	

POTENTIAL FOR LEARNING OR TRANSFER	More than the single projects (already interesting per se), this is a very interesting case which shows how to foster the Circular Economy based on a series of related activities with potential for gaining scale. It also includes public-private collaboration, from which it is possible to learn how to dynamize similar strategies.
FURTHER INFORMATION	www.schiphol.nl/en/

GENERAL INFORMATION		
TITLE OF THE PRACTICE	InnoRenew	
KEYWORDS	Research centre, building sector, renewable materials.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Establish an innovative and efficient use of renewable materials for building products and materials. 2. Develop new techniques for cascade use, reuse, and recycling of wood products, residues, and waste. 3. Create, improve, and communicate innovative products, processes, services, business models and systems for smart, sustainable and modern built environments. 4. Facilitate Slovenia's transformation into a society focused on sustainability, CE, and human well-being, able to exploit its renewable resources and assets. 5. Advance scientific excellence in Slovenia in a wide range of fields related to renewable materials. 6. Build and operate a Centre of Excellence (InnoRenew CoE), which will harness the scientific excellence and competencies of the Slovenian participants with the cooperation and support of the advanced partner (the Fraunhofer Institute for Wood Research Wilhelm-Klauditz-Institut). 	
OWNER OF THE PRACTICE	University of Primorska, Department of Technology at Andrej Marušič Institute	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Slovenia
	<i>Region</i>	Slovenia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The project established a living laboratory, the Living Lab InnoRenew, that addresses the use of renewable materials (wood in particular) and healthy living conditions for all generations.	
DETAILED INFORMATION ON THE PRACTICE	<p>In Slovenia, wood represents one of the main strategic resources as forests cover more than 60% of the national territory. The wood industry has been severely affected by the economic crisis thus the entire wood value chain needs to improve in generating higher value added. Another aspect is that the construction sector is quite strong and there are several companies involved in the wood construction business. Additionally, the wood used in the construction sector can help to improve the living conditions of all generations. The project established the Living Lab InnoRenew, an open platform to innovate, assess, and validate concepts for the operations, services, and research themes about renewable materials, with a particular focus on wood. Living Lab InnoRenew was very successful and quickly grew to include members from 22 countries. Since the InnoRenew CoE has launched its operations, the living lab continues to support the development of the institute and also serves to continually support the industry as it implements open innovation activities, participates in collaborative development projects, and seeks research partners.</p>	

RESOURCES NEEDED	The European Commission awarded the project with a grant of almost 15 million Euros to establish the InnoRenew CoE. The Ministry of Education, Science and Sports contributed 30 million Euros of investment funding to boost the development of the new research centre.	
TIMESCALE	<i>Start</i>	2015
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>The main result of the 1st phase is the successful proposal to win funding for the 2nd phase of the project, which is the actual establishment of fully operational InnoRenew CoE that started to operate in January 2017.</p> <p>The expected impacts of the 2nd phase of the project are:</p> <p>Scientific / Fundamental research will target increased resource efficiency, extended product life, and their influence on human health and well-being.</p> <p>Economy / The InnoRenew CoE will lead the innovative transformation of the renewable resource (especially forest products) industry to a competitive knowledge-based industry.</p> <p>Societal / Creating an innovation encouraging and engaging environment (research and innovation culture) that will result in value-added products, processes and systems.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>After the first phase, the project was granted funds for the second phase to establish a fully operational InnoRenew CoE that started to operate in January 2017.</p> <p>The expected impacts of the 2nd phase of the project are:</p> <ul style="list-style-type: none"> ✓ Scientific / Fundamental research will target increased resource efficiency, extended product life, and their influence on human health and well-being. ✓ Economic / The InnoRenew CoE will lead the innovative transformation of the renewable resource industry (especially forest products) to a competitive knowledge-based industry. ✓ Societal / Creating innovation which encourages and engages the environment (research and innovation culture) that will result in value-added products, processes, and systems. 	
FURTHER INFORMATION	https://innorenew.eu/	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Brikston Construction Solutions	
KEYWORDS	Building sector, building material waste, by-product valorisation.	
SPECIFIC OBJECTIVE	This GP aims to: <ol style="list-style-type: none"> 1. Minimise the quantity of ash that results from thermal power through its use in building materials. 2. Reduce waste by recycling them into building materials, thus diverting from incineration (seed shells, sawdust). 3. Lower the costs of production and transport based on the introduction of power plant ash, husks and sawdust; (the materials are lighter products and do not impact on their quality). 4. Use smaller volumes of gas since organic materials combined in the composition are burnt. 5. Reduce CO₂ emissions. 	
OWNER OF THE PRACTICE	Brikston Construction Solutions	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Romania
	<i>Region</i>	North-East
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The company manufactures firing ceramic products, particularly tiles, brick, refractory bricks, tiles, stoneware, and porcelain. In their production process, they have introduced different waste materials in components products, and non-compliant products as raw materials.	
DETAILED INFORMATION ON THE PRACTICE	Brickston proposes various types of “waste” in the production of new material to diminish gas consumption, decrease the raw material cost of production and transport costs. This GP refers to the reduction of some types of waste, redirecting them from landfills or incineration. <p>The primary material for manufacturing ceramic products is clay. In the formulation, in different proportions, with the role of degreasing additives are used: fly ash (in the specific case the thermal power plant that supplies heat to the City of Iasi), sawdust, seed shells, and crushed fired ceramic material.</p>	
RESOURCES NEEDED	Commercial private entity funded through specific instruments.	
TIMESCALE	<i>Start</i>	2009
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The beneficiaries and targets of the organic waste value chain are: efficient production, recycling, systemic design, reducing transportation costs, less waste, and economic development.	
POTENTIAL FOR LEARNING OR TRANSFER	This GP has the potential to be transferred to other regions because it is the concrete example of how to reuse waste from other economic activities within the territory. <p>A new location allows access to the mentioned raw materials — clay, organic waste and thermal ash, sawdust, husks — so that it can be profitable while transportation costs of raw materials should not be too significant.</p>	
FURTHER INFORMATION	www.brikston.ro	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Horizon Proteins	
KEYWORDS	Agri-food, industrial symbiosis, valorisation of by-products.	
SPECIFIC OBJECTIVE	This GP aims to: <ol style="list-style-type: none"> 1. Develop processes for the recovery and re-use of protein and energy from fermentation and distillery by-products. 2. Apply a patented technology to obtain underutilised proteins captured in distillery by-products for use as a sustainable and nutritionally suitable source of protein for fish feed. 3. Contribute to combined solutions that add value, increase energy efficiency and reduce carbon emissions associated with by-product processing (within the food and drink industries). 	
OWNER OF THE PRACTICE	Horizon Proteins	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	This company is based at Heriot-Watt University and involves branches from the School of Engineering and Physical Sciences and School of Life Sciences. Horizon Proteins aims to transform under-used resources from food and drink industries, into higher value, sustainable, high-quality protein products.	
DETAILED INFORMATION ON THE PRACTICE	<p>In the past, whiskey by-products have always been used as animal feed. Nevertheless, as the population grows and the demand for food increases, the protein markets has raised too. In this context, Horizon Proteins developed an innovative method of utilising pot ale to produce a sustainable protein to be used in fish farming.</p> <p>This process was reached by adapting techniques usually employed in high-value pharmaceutical products. It developed and patented a cost-effective process, which is easily scalable and enables to recover protein nutritionally suited for fish. This procedure combines essential value to a traditionally underutilised by-product when integrated into a distillery.</p> <p>The process of this GP consists of removing the yeast and protein from the pot ale stream as feed products leaving a protein-reduced, carbohydrate-rich stream that can also offer an improved downstream anaerobic digestion performance.</p> <p>This product is an alternative to the several proteins used in fish food, like soya bean meal. Furthermore, Horizon Proteins integrated into salmon feed could result in a 30% reduction in CO₂ emissions in the feed manufacturing process.</p>	
RESOURCES NEEDED	This project has received financial assistance from the High Growth Spinout Programme, managed by Scottish Enterprise, supports the pre-commercialisation of leading-edge technologies emerging from Scotland's Universities, Research Institutes and NHS Trusts. <p>This company also has been funded by Zero Waste Scotland which supports the development of Circular Economy systems, models and products.</p>	

TIMESCALE	<i>Start</i>	2011
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>This procedure requires low energy consumption and is being developed as a low-cost solution. The technology is distinguished for being able to produce proteins at adequately high concentration levels (>80%) to be of value in aquaculture feed. The process is being developed in diverse configurations to be fitting for different scales, including for building the technology on-site at single distilleries.</p> <p>In 2016, Horizon Proteins commenced operation at Scottish distilleries with the potential to offer viable alternatives to the fish meal and soya bean meal currently used in salmon feed.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>This GP has a high degree of transferability not only among other distilleries in the UK but also around Europe. This GP shows how by-products can turn into a very profitable industry while stimulating the CE. It also fosters the mapping of bioresources, investigating the potential for local bio proteins hubs, and how best to support investment in research, development, and innovation to address technical barriers for the use of biological waste.</p>	
FURTHER INFORMATION	www.horizonproteins.com	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	CelluComp	
KEYWORDS	Agri-food, paint & coating, valorisation of by-products.	
SPECIFIC OBJECTIVE	<p>This GP aims to:</p> <ol style="list-style-type: none"> 1. Produce Curran[®], a nano-fibre product made from agri-food waste streams from root crop. 2. Scale up the production of Curran[®] and its manufacturing facility in Scotland. 3. Deliver Curran[®] into EU paints, coatings, and concrete market(s). 4. Verify environmental benefits through LCA analysis for process and product, (i.e., no VOC, reduction in chemical use). 	
OWNER OF THE PRACTICE	CelluComp	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	CelluComp is a material science company producing Curran [®] , a nano-fibre product made from agri-food waste streams from root crop. As a mechanical enhancer with thickening properties, this product can be used to improve properties in many different products, such as paints, coatings, and concrete.	
DETAILED INFORMATION ON THE PRACTICE	The principal activity is to develop and commercialise Curran [®] , a material derived from the extraction of nano-cellulose fibres of root vegetables. Curran [®] offers exceptional rheological and mechanical properties for numerous applications, such as paints and coatings, personal care, home care, cosmetics, concrete, drilling fluids, composites and other potential uses.	
RESOURCES NEEDED	Partly funded by Zero Waste Scotland who supports the delivery of a Circular Economy strategy and other low carbon and resource efficiency policy priorities. The organisation supports initiatives which aim at improving the use of resources. It promotes progress towards Scotland’s ambitious zero waste targets.	
TIMESCALE	<i>Start</i>	2015
	<i>End</i>	Ongoing

<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>CelluComp has completed cradle-to-gate analysis for Curran® in compliance with the data quality requirements defined in ISO 14040:2006 and ISO 14044:2006. This effort reflects CelluComp’s ambitions to improve and facilitate environmental impact assessments and decision-making for companies using Curran®. The results include:</p> <ul style="list-style-type: none"> ✓ The creation of new jobs. Over the course of the project, the team at CelluComp went from 5 to 16 members. Areas of increased personnel were in business development, Research and Development, and manufacturing. CelluComp now has staff in two locations in Scotland and France. ✓ The lifecycle analysis was completed. EANA was able to complete a lifecycle analysis regarding the manufacturing of Curran® and the positive impact it has on painting. In particular, by adding a small dose of Curran® to paint, manufacturers can eliminate other substances that have a negative impact on sustainability. ✓ Water Recycling proved possible. Since the process of producing Curran® requires a considerable amount of water, the team discovered efficient and cost-effective means to recycle it. Also, it is likely that if a bigger manufacturing facility is built in the future, wastewater runoff from other manufacturing processes could be used to produce Curran®, thus creating a water-friendly process. ✓ Creation of enzymes to produce Curran® Though Curran® is mostly produced through a chemical process, during the project, the team successfully proved that it was possible to produce Curran® through an efficient enzyme process, an encouraging achievement for future developments of Curran®.
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>This GP should interest other regions because it constitutes a role model for recovering value from biological resources and turning them into innovative products aligned with the local resources and Circular Economy dynamics. Supporting research centers and industries in using local organic resources reinforces the construction sector.</p> <p>CelluComp is thus introducing a new and profitable use of a bio-based material and has the potential to offer further opportunities based on its processing residues. By transforming the wastes from Curran® manufacturing into high-value materials or animal feeds, CelluComp becomes a successful example of the use of bio-based resources which further enhances economic value and embeds the circular approach.</p>
<p>FURTHER INFORMATION</p>	<p>www.cellucomp.com</p>

3.2 RAISING INVOLVEMENT AND KNOWLEDGE OF OPERATORS CONCERNING THE CIRCULAR ECONOMY

This Policy Gap has been reported by 5 regions out of 5.

The lack of activities dedicated to raising the involvement, awareness, and knowledge through the training of operators emerges as one of the key issues hampering the development and success of CE related projects.

The full deployment of the Circular Economy largely depends on the active involvement of economic actors. Though in many cases the potential economic advantages that will come from the drastic reduction of wastes or the use of by-products instead of raw materials seem evident, there is still a significant cultural gap that prevents a large number of economic actors from acknowledging them. Other reasons can be found in the legislative panorama and market conditions, such as higher prices of secondary materials compared to raw ones and regulations discouraging the use of by-products due to the complexity of required procedures to be followed as well as unclear or conflicting rules.

Most partners of the RETRACE project agree that trying to fill this kind of gap is, and will be, one of the main tasks. Public authorities can take a wide range of actions in this direction:

1. organise or support specific training courses on the Circular Economy for private operators;
2. cooperate with entrepreneurs associations to ensure a multiplier effect in raising awareness on the Circular Economy;
3. promote communication campaigns for spreading knowledge on the Circular Economy potentials and GPs;
4. establish favourable rules and standards by introducing incentives to promote the use of secondary raw materials. This is a key issue that requires coordination between different legislative and regulatory levels;
5. lead by example through the procurement policy by largely introducing environmental requirements including the use of recycled materials.

Some RETRACE GPs directly address this issue, and by putting them in practice, they show the advantages of reusing waste and by-products and spreading a reuse culture.

Good Practices

Koopera | FV₃

Japanese Knotweed | FV₅

Slovenian Network of Reuse Centers | FV₅

Nico Less Chair | FV₅

The Edinburgh Remakery | FV₇

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Koopera	
KEYWORDS	Social enterprise, social innovation, recycling.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Reduce the amount of waste that ends up in landfill. 2. Offer training and job placement for people at risk of social exclusion. 3. Promote awareness of consumption. 4. Create a local network of companies for job placement. 	
OWNER OF THE PRACTICE	Koopera, Caritas	
LOCATION OF THE GOOD PRACTICE	Country	Spain
	Region	Basque Country
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Koopera promotes the social and professional integration of socially excluded people, through activities related to environmental issues and social care services.	
DETAILED INFORMATION ON THE PRACTICE	<p>Founded in 1990, Koopera aims to address two issues that characterise many territories: the need to improve the management of waste reducing its production, and the willingness to find appropriate and decent jobs for social workers. Koopera pursues to improve the conditions of people at risk of social exclusion by involving them in jobs related to environmental and social sustainability such as reuse and recycling, sustainable consumption, education, and caring. To facilitate successful integration with these companies, they are offered activities that encourage the development of social and work skills and are included as partners in cooperatives in which participation and entrepreneurialism are facilitated.</p> <p>The activity of Koopera focuses around three main threads:</p> <ul style="list-style-type: none"> ✓ Social services: training people in situations of social exclusion, integration of immigrants, entry of unemployed in the labor market. ✓ Environmental services: sustainable construction, sustainable agriculture, sustainable urban mobility, environmental education. ✓ Reuse and recycling: preparation for reuse, research and development of waste from textile, building and automotive industry. <p>The infrastructures of Koopera include collecting and recycling centres for different types of waste as well as 33 shops in Spain that sell products.</p>	
RESOURCES NEEDED	The implementation of Koopera has been supported by Caritas and EU Social Funds (EI FSE).	
TIMESCALE	Start	1990
	End	Ongoing

<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>Evidence of Koopera’s activities are provided by the following numbers :</p> <ul style="list-style-type: none"> ✓ upcycled products sold at 33 stores in Spain. Sales helped more than 9,000 people in need, in collaboration with Caritas and Social Services municipalities; ✓ 265 people involved as staff: 40% from collectives or at risk of exclusion; ✓ 255 volunteers collaborated with Koopera. ✓ 15,802,198 kg annual waste managed: paper and cardboard, furniture and appliances, clothing.
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>The core element of the GPs, which proves to be particularly valuable to transfer, is the creation of a system of people, infrastructures, and connections that enables to effectively tackle two problems at the same time: waste reduction and job placement of people at risk of social exclusion.</p> <p>The degree of transferability to other regions and countries is very high because:</p> <ol style="list-style-type: none"> 1. Complex technical skills are not required, and there are not such high barriers to entry. 2. Territories share similar conditions: people at risk of social exclusion and environmental problems to solve.
<p>FURTHER INFORMATION</p>	<p>www.koopera.org</p>

JAPANESE KNOTWEED | FV5

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Japanese Knotweed	
KEYWORDS	Invasive plants, paper production, environmental awareness.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Exploit local vegetable resources to create numerous products. 2. Establish new beneficial ways of using local invasive plant (in particular the Japanese knotweed). 3. Support the revival of hand-made paper production craft through the use of sustainable technologies. 4. Promote education activities and awareness raising initiatives around the topics of CE and sustainable development. 	
OWNER OF THE PRACTICE	Re-generacija	
LOCATION OF THE GOOD PRACTICE	Country	Slovenia
	Region	Slovenia

DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The GP focuses on researching the potential value of the Japanese knotweed (<i>fallopia japonica</i>), an invasive plant used as an alternative source of cellulose fibres and cellulose-based products.	
DETAILED INFORMATION ON THE PRACTICE	<p>Japanese knotweed is a plant included in the category of the world's 100 most invasive plants. It arrived in Europe from Asia as an ornamental plant in the 19th century. The plant spreads like a weed mostly on waste ground, less on cultivated land. The fast spreading of this plant reduces biodiversity, can destroy infrastructures and in the winter, due to the die-off of its upper parts, causes the soil erosion of river banks. Currently, the Ljubljana Municipality together with Snaga Public Waste Management company is encouraging inhabitants to remove these plants and bring them to collection sites. Eventually, the waste is sent to incineration plants.</p> <p>"The Knotweed Games" was the first project to be carried out in 2015. It included three workshops focusing on the biology, the correct removal and creative usage of the plant such as testing food recipes, preparing a homeopathic remedy, paper making and creating natural dye from the rhizomes of the plant, as well as community building and group work. During the second phase, a collaboration with the Paper and Pulp Institute was developed to verify if the knotweed was suitable for producing paper-based products. Eventually, 1,520 kg of Japanese knotweed has been transformed into 415 kg of paper through a semi-industrial process with the creation of notebooks and paper bags, designed by the Re-generacija collective.</p>	
RESOURCES NEEDED	The GP was supported through non-repayable financing for research & development by the Museum of Architecture and Design (Biennial of Design BIO50).	
TIMESCALE	Start	2013
	End	Ongoing

EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The project shows that unwanted (invasive) plants can represent a source of value creation for local communities. While these species are usually considered as waste with no potential value in a classical linear system, with an innovative approach, they can be potentially valuable resources generating added value for society: production of high-quality artisan paper products with higher added value, community building through an organised collection of problematic plant, culinary.
POTENTIAL FOR LEARNING OR TRANSFER	This GP has the potential for implementation. On the conceptual level, it shows that invasive plants can be removed from the environment and once employed in creative production processes they can contribute positive value. The urban harvesting of potentially invasive species can mobilise individuals and help to build more cohesive communities. On a practical level, since many European communities are facing the problem of the Japanese knotweed (or other invasive plants) they could start treating these plants as a source of cellulose through sustainable technologies already efficiently applied to the craft or semi industry production of paper.
FURTHER INFORMATION	www.re-generacija.si

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Slovenian Network / Centers of Reuse (CPU)	
		
KEYWORDS	Repair centres, reuse, environmental awareness.	
SPECIFIC OBJECTIVE	<p>This GP aims to:</p> <ol style="list-style-type: none"> 1. Manage waste through the preparation for reuse, repairs, upcycling and art restoration, vintage processing. 2. Develop awareness about recycling, up-cycling, and reuse 3. Operate in a local environment. 4. Maximize material and energy efficiency. 5. Create value from waste. 6. Develop social entrepreneurship. 	
OWNER OF THE PRACTICE	Center ponovne uporabe	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Slovenia
	<i>Region</i>	Slovenia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>The USE/REUSE network runs centres across the country which take in unwanted, though still viable, products before selling them on as second-hand goods. The project was launched in 2010 and lasted until 2014. In the framework of the project, a network of 9 Reuse centres was set up in nine locations: Ormož, Ljubljana, Rogaška Slatina, Vojnik, Tepanje, Slovenske Konjice, Trebnje, Miklavž na Dravskem polju and Kočevje.</p>	
DETAILED INFORMATION ON THE PRACTICE	<p>The Reuse centres carry out the following tasks:</p> <ul style="list-style-type: none"> ✓ Environmental management for implementing principles of reuse and recycling. ✓ Developing awareness about environmental services. ✓ Providing work for hard-to-employ and disadvantaged people. ✓ Selling second-hand goods. ✓ Increasing awareness about waste generation, reusing old goods and sustainable consumption. <p>They also encourage and promote the re-use of discarded products and the production of upcycling products. The centres are members of the international RREUSE net.</p> <p>Reuse centres encourage activities of environmental services, reuse and recycling, sustainable consumption, awareness and education, care services for people and the environment. They are qualified as a social enterprise.</p>	
RESOURCES NEEDED	<p>The project started in 2009 with the financial support of the Ministry of Labour, Family, Social Affairs and Equal Opportunities through the European Social Fund (total value: 299,863 EUR). It also received financial support through different programmes to promote the employment of vulnerable groups (50,542 EUR in public works).</p> <p>Since 2014 the centres have received only some financial support through public works (3 public works in 2014 and 2015). All funds were non-repayable grants.</p>	

TIMESCALE	<i>Start</i>	2009
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>All activities provide social and solidarity economy, environmental protection, recycling and upcycling. The nine reuse centres cooperate with the local environment on issues related to solidarity economy and environmental protection and with educational institutions to increase awareness about waste management.</p> <p>They employed 11 people of which 3 representatives of vulnerable groups were supported by the ESS fund. 62 disadvantaged people were trained and later employed in workshops and shops (10 of these training programmes were supported by the ESS fund). As a result, landfill waste decreased by over 34 tonnes.</p> <p>Following results:</p> <ul style="list-style-type: none"> ✓ 135 tonnes of products were processed in 2016. ✓ 191,587 different products were sold. ✓ CO₂ was reduced by 162,000 kg. ✓ 181 kg of oil was saved. ✓ 135 tonnes of methane was reduced. 	
POTENTIAL FOR LEARNING OR TRANSFER	<p>This GP can potentially be applied to other regions because waste management is one of the key topics in EU environmental policies. Reuse, recycling and upcycling are at the top of the EU waste management hierarchy. Therefore, all EU regions should be interested in establishing similar networks of reuse centres in order to contribute to waste reduction, generate added value and preserve the local environment. Combining waste reuse centres with social entrepreneurship can be a good business model while engaging different local stakeholders can improve relationships in local communities and contribute to their well-being.</p>	
FURTHER INFORMATION	www.cpu-reuse.com	

NICO LESS CHAIR | FV5

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Nico Less Chair	
KEYWORDS	Sustainable design, furniture design, secondary raw materials.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Create new quality products from waste materials, in particular by recycling PET bottles. 2. Offer innovative products with an emphasis on design and excellent user experience; 3. Use waste material in furniture manufacturing. 4. Provide and promote environmental sustainability and social value for customers. 	
OWNER OF THE PRACTICE	Donar d.o.o.	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Slovenia
	<i>Region</i>	Slovenia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The GP focuses on the design of an innovative chair made from recycled felt: 60% from PP bottles and 40% from non-woven textile materials.	
DETAILED INFORMATION ON THE PRACTICE	<p>It is possible to recycle the increasing amount of used PET bottles in several types of material. Waste as future industrial materials is a valuable asset to reduce the CO₂ emissions produced by industrial processes.</p> <p>Donar is implementing a new approach in the production of furniture. By applying a technique used in the car industry, they have designed and produced two sustainable products made from waste materials.</p> <p>The is the Chat Loop, a product designed and made to offer a better user experience in open spaces by providing a retreat for 'loud' phone calls. The goal was to use recycled materials such as the felt made from recycled plastic bottles.</p> <p>The most important product is the Nico Less chair, that aims at being a response to the need to reduce our carbon imprint on the planet and to rediscover waste as an industrial material of the future. By re-thinking a new philosophy of socially responsible and sustainable design, Primož Jeza Studio has created a chair made of recycled felt (60% from re-cycled PP bottles and 40% from non-woven textile). Donor adapted the seating to the shape of the human body by just using heat and pressure. The chair base is made of metal or wood and is linked to the seat with straps. The Nico Less Chairs can be combined in compositions of various lengths or stored in vertical stacks. In 2016 the chair was awarded the Red Dot Award in the Product Design category.</p>	
RESOURCES NEEDED	Donor was supported by the Ministry of Economic Development and Technology within the EU fund for Research and Development (147,447 EUR which represents approximately 54 % of the total investment).	
TIMESCALE	<i>Start</i>	2016
	<i>End</i>	Ongoing

<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>In 2016 the Nico Less Chair was awarded the Red Dot Award in the Product Design category. Currently, the Donar company is developing new products based on the needs and the requirements coming from customers of different markets in the world. As sustainable, eco-friendly products become more valuable in the furniture production business, they set the trend for changing business policies and value systems. Using new materials connected with a fresh and light design made Nico Less very attractive, and market demand has exceeded expectations.</p>
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>This GP has a high potential for use since the furniture production industry is mostly traditional. At Donar company, they are aware of this new opportunity as they are developing and preparing new products made from recycled materials. As the number of waste PET bottles increases, so do new materials produced from them in different industries. New materials combined with new design seems to be an excellent way to provide sustainability, more value, and environment protection. This GP is replicable and transferable. Cooperation between designers, developers and producers can lead to new solutions and new products. The approach used with this GP suits various waste stream sectors as well as different manufacturing sectors. This GP is characterised by the combination of a conscious environmental production with high-quality design, achieving higher added value.</p>
<p>FURTHER INFORMATION</p>	<p>www.donar.si</p>

THE EDINBURGH REMAKERY | FV7

GENERAL INFORMATION		
TITLE OF THE PRACTICE	The Edinburgh Remakery	
KEYWORDS	Social enterprise, repair, environmental awareness.	
SPECIFIC OBJECTIVE	<p>This GP aims to offer to its customers, retail and workspace areas, with a focus on quality products and services, where they can:</p> <ol style="list-style-type: none"> 1. Buy refurbished computers and second-hand furniture. 2. Donate second-hand technology, textiles, and furniture. 3. Learn to fix textiles, computers, mobile phones, and furniture. 4. Participate in skill-learning workshops and courses. 	
OWNER OF THE PRACTICE	The Edinburgh Remakery	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>This GP delivers strategic directions with clear and targeted awareness programmes to satisfy the needs of the communities, businesses, local authorities, and the resource management industry. It also fosters local and national awareness campaigns with messages to promote participation in reuse, recycling at home and public spaces. It encourages measures to influence waste behaviours, to inspire households and businesses to take responsibility for reducing their waste and utilising resources efficiently.</p>	
DETAILED INFORMATION ON THE PRACTICE	<p>This GP is Edinburgh's first 're-use hub', supported by Zero Waste Scotland to change the scale and economic influence of re-use shopping in Scotland and empower citizens to learn repair skills. Fostering 'reuse and repair hubs' is a starting point for this approach to be spread across the region as part of the Circular Economy strategy, 'Making Thing Last' promoted by the Scottish Government.</p> <p>The Remakery is at the forefront of re-use as a key player of Scotland's economy and environment, encouraging to get better products by shifting from the model of buying products and throwing them away after use. The GP also influences the building sector in Scotland which is essential to prevent usable materials from going to landfill, alleviating the issue on scarce raw materials, while promoting local jobs.</p>	
RESOURCES NEEDED	<p>Working in partnership with the University of Edinburgh and CHAI, The Edinburgh Remakery is one of five RE-use and Repair Hubs located throughout Scotland, which has been made possible with funding granted by Zero Waste Scotland.</p> <p>Half of the funding to start the activity was delivered by Zero Waste Scotland and the Edinburgh Council, while the other 50% of funding comes from business activities, and are on track to increase this to 80% by 2018.</p>	
TIMESCALE	<i>Start</i>	2011
	<i>End</i>	Ongoing

<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>Over the last year, the Edinburgh Remakery coached over 1,000 people on repair skills from woodworks to computer repair. This GP develops several activities from:</p> <ul style="list-style-type: none"> ✓ Offering a free weekly repair lecture to the public. ✓ Charging businesses for delivering them a repair training. <p>In the last year, they've tripled their diversion of waste from 70 tonnes to 250. This was possible through the partnership with local charity CHAI, which was provided with furniture in return. The organisation has also helped them sustain two jobs while providing free furniture to vulnerable people across Scotland.</p>
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>This GP is also interesting for other regions because it approaches re-use and repair hubs as education centres among the Scottish community and fosters research centres, universities, and communities in a transition towards a CE. It is an approach that can reinforce research centres by giving them to communities to manage and providing them with tools for becoming part of the Circular Economy. The hubs plan to increase the scale of re-use for buyers, maintaining the value of these articles in local economies, generating local jobs, and preventing useful items from ending up in a landfill.</p>
<p>FURTHER INFORMATION</p>	<p>www.edinburghremakery.org.uk</p>

3.3 POLICY REGULATIONS ON CIRCULAR ECONOMY

This Policy Gap has been reported by 4 regions out of 5.

The picture emerging from the matrixes provides an image of unclear, incomplete, inconsistent, and disharmony among policy regulations on different aspects of CE, especially concerning the definitions of waste and by-products, at different levels (local, regional, national, and European).

Legal frameworks play a crucial role in allowing the full development of circular economies. Major problems are due to the overlapping of many legislative frameworks (waste management, the definition of by-products, etc.) and of different governing levels (European, national, and in some cases also regional and local). This convergence of different rules can easily generate inconsistencies or conflicts, which in turn can become major obstacles for the development or strengthening of circular value chains.

Overcoming the problems generated by unclear, incomplete, inconsistent, and disharmony among regulations is usually a long-term process that involves a huge number of different actors at various governing levels, which cause a high degree of uncertainty. However, the analysis has highlighted a general need for coherent and updated norms in order to implement EU directives on Circular Economy at a local scale.

Public authorities responsible for promoting and supporting Circular Economy have therefore to move towards two directions at the same time:

- ✓ trying to make the best out of the existing legal frameworks and defining possible adjustments and/or ploys to overcome difficulties;
- ✓ identifying major legal obstacles for the development of circular economies, promoting and supporting a subsequent change in the legal framework at the appropriate level.

Circular-friendly legislation can also be a powerful policy instrument to boost the Circular Economy, by setting for example rules and standards that increase durability, reparability, reuse and recycling and use of biomaterials, or by establishing targeted incentives and tax reductions to compensate higher production costs in circular processes.

This issue is quite over the scope of RETRACE GPs, but some of them demonstrate that favourable regulatory conditions established at a local level can generate positive processes.

Good Practices

Strategic Research and Innovation Partnership – SRIP | FV5

Scottish Environment Protection Agency – SEPA | FV7

STRATEGIC RESEARCH AND INNOVATION PARTNERSHIP – SRIP | FV5

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Strategic Research and Innovation Partnerships (SRIP)	 REPUBLIC OF SLOVENIA GOVERNMENT OFFICE FOR DEVELOPMENT AND EUROPEAN COHESION POLICY
KEYWORDS	Smart specialisation strategy, innovation research, sustainable development.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Increase the exchange of high-tech products in the export sector (from 22.3% to EU-15 average of 26.5%). 2. Increase the exchange of export knowledge-intensive services in total export (from 21.4% to 33%, which will reduce Slovenia's below-EU-average rate by half). 3. Increase the overall entrepreneurial activity (from current 11% to at least EU average of 12.8%). 4. Define its own objectives. For priority areas, networks for a transition into the CE have as objectives by 2023: <ul style="list-style-type: none"> ✓ Raise the material efficiency index of 1.07 (2011) to 1.50 (2020). ✓ Establish 5 new value chains with closed material cycles. 5. Boost the value added per worker in Slovenia. 	
OWNER OF THE PRACTICE	Ministry for Economic Development and Technology Slovenia, Government Office for Development and European Cohesion Policy	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Slovenia
	<i>Region</i>	Slovenia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Slovenian Smart Specialisation Strategy – Strategic Research & Innovation Partnerships (SRIP) is an institution included in the Smart Specialisation Strategy. This is a platform for coordinating development investments in areas which already host a critical mass of knowledge and skills and thus can make Slovenia enter global markets.	
DETAILED INFORMATION ON THE PRACTICE	<p>The resources productivity in Slovenia is under the EU standard. By improving this sector, several other economic areas will be able to develop their competitiveness while diminishing their detrimental effects on the environment. The Operational programme for the implementation of European Cohesion Policy recognises that: “Resource and energy efficiency are crucial for enhancing the competitiveness of the economy and reducing environmental pressures. Priority axes 1 and 3 will support actions to improve the material and energy efficiency of enterprises and their ability to exploit the potentials which exist within the national and foreign markets in the field of green products and services.”</p> <p>This strategic direction has provided a general framework when preparing Smart Specialisation Strategy, like all other EU countries eligible for the use of ESI Funds.</p>	

	<p>This GP is a platform for focusing the development investments in areas where Slovenia has a critical mass of knowledge and skills, and there is innovation potential for introducing Slovenia into global markets. Smart specialisation is a strategy aiming to:</p> <ul style="list-style-type: none"> ✓ Strengthen the competitiveness of the economy by enhancing its innovation capacity. ✓ Diversify existing industries and service activities boosts the growth of new and fast-growing industries and enterprises. 	
RESOURCES NEEDED	<p>SRIP is a central institutional form included in the Smart Specialisation Strategy. The total budget for its activities in the period 2017–2022 is approximately 10 million EUR. The GP has an influence at a national level.</p>	
TIMESCALE	<i>Start</i>	2016
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>The GP will be in the priority area for the transition to a Circular Economy focusing on the following areas and technologies:</p> <ul style="list-style-type: none"> ✓ Technologies for sustainable biomass and transformation of new bio-based materials. ✓ Technologies for the use of secondary and raw materials and reuse of waste. ✓ Production of energy based on alternative sources. <p>The purpose is to strengthen the local economy by boosting its innovative and economic potential. At this stage, it is too early to determine the impact of the implementation as the action plans are not yet in place.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>This GP can be easily transferred to other regions as the Smart Specialisation Strategy is a document that has been developed in every region. However, this GP concerns implementing adopted strategic documents in Slovenia, among which the following have the highest relevance:</p> <ul style="list-style-type: none"> ✓ Slovenia’s Development Strategy for the 2006-2013 period established an “innovative knowledge society” based on which Slovenia has already identified three key field-specific strategies: <ol style="list-style-type: none"> 1. Research and Innovation Strategy of Slovenia 2011-2020 (RISS). 2. Slovenian Industry Policy (SIP) which includes a 3. Digital Agenda 4. Other specific and relevant strategies in the field of nature protection, energy, education, etc. ✓ The Smart Specialisation Strategy itself is an innovative policy instrument which supports cooperation among actors who have not yet formed partnerships. ✓ It supports innovations helping Slovenian companies in the transition process towards circular economic models. Companies, along with research institutions, must introduce innovations aiming at reducing environmental impact. 	
FURTHER INFORMATION	<p>www.svrk.gov.si/en/areas_of_work/slovenian_smart_specialisation_strategy_s4/strategic_research_and_innovation_partnerships_srip_in_detail/</p>	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Scottish Environment Protection Agency (SEPA)	
KEYWORDS	Environmental agency, sustainable governance, waste management.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Preserve, manage and improve Scotland’s water environment, air quality, and waste management. 2. Implement policy and operational advice to government, industry and the citizenship on pollution control and other environmental problems. 3. Work in partnerships to understand and improve air quality. 4. Present data on emissions from regulated industries through the Scottish Pollutant Release Inventory (SPRI). 5. Work to accomplish Scottish, UK, and EU targets to address air pollution and contribute to measures to tackle climate change. 6. Preserve the world’s natural resources is vital and effective waste management is an important step in reducing the amount of waste they produce. 	
OWNER OF THE PRACTICE	SEPA / Scottish Environment Protection Agency	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>The Scottish Environment Protection Agency is Scotland’s environmental regulator and national flood forecasting. Its primary role is to protect and improve Scotland’s environment. SEPA aims at advising business and industry to comprehend their environmental responsibilities, allowing citizenship to comply with policies and GP and to promote awareness of the economic advantages of the good environmental practice. At the same time, this agency protects communities by controlling activities that can create harmful pollution and by observing the quality of Scotland’s air, land, and water. SEPA is an executive non-departmental public body.</p>	

<p>DETAILED INFORMATION ON THE PRACTICE</p>	<p>Regarding water management, SEPA leads the Flood Risk Management Planning for Scotland. It controls the water environment by evaluating water quality and quantity. Also preserving and enhancing Scotland’s water environment is also key to safeguarding biodiversity, securing that the unique aquatic wildlife is protected. It fosters partnerships with the Scottish Water, the hydro-electric sector, local authorities, non-governmental organisations, and the agricultural and aquaculture sectors.</p> <p>Concerning air quality management, SEPA regulates and controls emissions from industrial activities that produce air pollution. It implements policy and operational advice to government, industry, and the public on pollution control and other environmental issues. It presents information on emissions from industries through the Scottish Pollutant Release Inventory (SPRI).</p> <p>Regarding climate change management, SEPA leads a four-year plan, the Climate Challenge, which sets out the vision for tackling climate in 2018 by generating new, clean, energy-efficient technologies. It also fosters measures to enhance the resilience to the inevitable impacts of climate change.</p> <p>Regarding land quality management, SEPA controls the good state of land as a whole to preserve and maintain this fundamental part of the economy and the environment.</p> <p>Concerning waste management, SEPA leads the delivery of the Scottish Government’s Zero Waste Plan, which sets out the vision of a zero waste society. It collects and processes information, and supports projects that aim at turning waste into a valuable resource.</p>	
<p>RESOURCES NEEDED</p>	<p>The projected income for 2017-2018 is £82 million, which will be used to fund an operating expenditure of £80 million. For 2017-2018, the Scottish Government has contributed a grant of £36.8 million.</p>	
<p>TIMESCALE</p>	<p><i>Start</i></p>	<p>N.A.</p>
	<p><i>End</i></p>	<p>Ongoing</p>
<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>Outcomes of this GP:</p> <ul style="list-style-type: none"> ✓ Making Scotland thrive in a low carbon world. ✓ Encourage Scottish businesses to help them prosper from a better environmental performance. ✓ Reducing the impact of flooding. ✓ Reporting on the quality of Scotland’s environment. ✓ Increase the number of sector plans. ✓ Increase the number of sustainable growth agreements. ✓ Increase the number of properties covered by flood warning schemes. ✓ Reduction of greenhouse gas emissions. 	
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>This GP could interest other regions because it approaches the waste management sector with a role model database, the Waste Data Strategy for Scotland, which improves the quality of information available on waste. SEPA developed this strategy in conjunction with Zero Waste Scotland and a wide range of stakeholders to support a transition towards a Circular Economy. This GP strengthens the bonds between research and new business areas facilitating local outputs.</p>	
<p>FURTHER INFORMATION</p>	<p>www.sepa.org.uk</p>	

3.4 TAILORED POLICY MEASURES ON CIRCULAR ECONOMY

This Policy Gap has been reported by 4 regions out of 5.

Even though the Circular Economy is a transversal topic in many funding schemes throughout Europe, the analysis shows that there is a need to create tailored policy measures and calls.

Public authorities have begun examining the issue of a CE with the political and financial tools available, adapting them to pursue new strategies. A Circular Economy is by its nature transversal and cross-sectorial and requires a wide range of tools to be implanted. It also calls for a responsive policy framework, able to quickly adopt a set of instruments and administrative rules to face emerging needs. A clear example is supporting the generation of circular value chains, which requires policy measures of combined actions, the cooperation between different actors from different sectors, and in some cases, the integration of various funds.

Therefore, many RETRACE project partners have highlighted the need for more specific policy measures and tools for a Circular Economy.

The definition of customised measures for the promotion of a Circular Economy could help overcome at least three major obstacles:

1. it can allow better identification and targeting of R&I demands of a Circular Economy;
2. it can help to define better possible connections among different sectors;
3. it can support the rising of a “Circular Economy culture” among private actors, who will more clearly identify this issue as a real economic opportunity.

RETRACE GPs offer good examples of policies explicitly tailored on promoting Circular Economy and can be a valuable source of inspiration for designing further circular-friendly actions, within current, or future, policy frameworks.

Good Practices

Blue City 010 | FV4

Better Future Factory | FV4

Circular Valley | FV4

Amsterdam Smart City | FV4

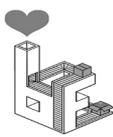
Zero Waste Scotland | FV7

IBioIC | FV7

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Blue City 010	
KEYWORDS	Sustainable entrepreneurship, innovation hub, blue economy.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Create an incubator focused on Blue Economy related activities. 2. Establish relations and synergies between start-ups. 3. Help start-ups finding investors and partnerships. 4. Develop sustainable solutions for the local challenges faced by the city of Rotterdam. 5. Avoid waste generation by transforming the output of an activity into the input for other ones. 6. Offer knowledge, business support, sustainability consultancy and space to start-ups. 	
OWNER OF THE PRACTICE	Blue City 010	
LOCATION OF THE GOOD PRACTICE	Country	The Netherlands
	Region	South Holland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Blue City 010 is an incubator for Blue Economy related start-ups.	
DETAILED INFORMATION ON THE PRACTICE	<p>Incubators are usually full of start-ups related to the Circular Economy and sustainability projects, though they are not their primary focus. Blue City 010 hosts Blue Economy related start-ups in a multidisciplinary environment where the cross-fertilisation between activities is promoted so that synergies between start-ups are generated.</p> <p>The site of the incubator is coherent with its mission since it is located in a refurbished abandoned water park and it hosts almost 50 activities. Though the GP is relatively young (it was first funded in 2015), today Blue City 010 hosts 13 start-ups. Start-ups must go through a selection process to take part in the project. GP's main stakeholders are the direct actors involved, the start-ups hosted by Blue City 010, and, on a wider scale, the whole city of Rotterdam, as one of the main activities of Blue City 010 is to boost solutions for local challenges and connect the start-ups with activities outside the incubator.</p>	
RESOURCES NEEDED	The central team of Blue City 010 has 16 people. The GP received economic support from the municipality for the refurbishing of the building.	
TIMESCALE	Start	2015
	End	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	After only two years of activity, Blue City 010 already hosts 13 start-ups and has become a reference point at a local and international level and a case study for incubators focusing on Circular and Blue Economy. It hosts several events and delegations coming from many different countries.	

<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>One of the main problems concerning start-ups is to overcome the initial phases dominated by difficulties and ensure their sustainability in the long run. However, already during the incubator phase, the survival rate of start-ups is quite low. This is partly because newly born start-ups are very focused on a specific topic and are therefore less resilient to changes. The creation of interconnections between start-ups can generate new synergies and support them mutually in the delicate initial phases, in a way that traditional business cannot. Since almost all incubators encounter this difficulty, the degree of transferability of the GP is very high.</p>
<p>FURTHER INFORMATION</p>	<p>www.bluecity.nl</p>

BETTER FUTURE FACTORY | FV4

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Better Future Factory	 BETTER FUTURE FACTORY
KEYWORDS	Sustainable entrepreneurship, plastic recycling, environmental awareness.	
SPECIFIC OBJECTIVE	The GP aims to: <ol style="list-style-type: none"> 1. Find small-scale sustainable solutions for waste recycling end enhancement. 2. Promote a Circular Economy approach to design. 3. Raise awareness on waste related problems. 4. Promote co-creation and learning by doing in consumers. 	
OWNER OF THE PRACTICE	Better Future Factory	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	The Netherlands
	<i>Region</i>	South Holland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	BFF is a design and engineering studio focused on transforming waste streams, especially plastics, into valuable products and systems.	
DETAILED INFORMATION ON THE PRACTICE	<p>Better Future Factory is an organisation and incubator born from a group of engineers and designers to support collaborative innovation, social design, and sustainable start-ups. It involves entrepreneurs with high technical knowledge with the aim to redesign waste streams and transform it into a resource, applying a Circular Economy approach. BFF manages a wide range of projects, ranging from food waste recycling to education, that share the common feature of being decentralised, small in scale and focus on market niches.</p> <p>BFF focuses on turning plastic into innovative, valuable solutions such as marble-like product, 3D printer filament from old car dashboards, and energy. In particular, the GP of Perpetual Plastic originates from the willingness to find a sustainable solution to the vast amount of plastic waste that is produced daily, which in most cases is thrown away after a single use. Therefore, Better Future Factory designed a mobile recycling station that enables to 3D-print several objects using as a raw material a plastic filament extruded from the waste plastic that can be easily moved and installed during events. The peculiarity of the GP is not only related to the recycling of waste itself but also, and more importantly, to the education of users through the learning by doing method. The station is divided in four sections in which the material is cleaned and shredded, the filament is extruded, and the product is printed.</p> <p>The main stakeholders of the GPs are people involved in the waste plastic recycling sector and, more in general, everyone who benefits from a reduced amount of plastic waste.</p>	
RESOURCES NEEDED	N.A.	
TIMESCALE	<i>Start</i>	2012
	<i>End</i>	Ongoing

EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	Since 2012, BFF has realised more than 15 projects. The Perpetual Plastic project alone took part in 28 events involving about 255,000 people and 490,866,000 shredded cups. Besides, this initiative proves to be particularly interesting for its educational content: through learning by doing, users become genuinely aware not only of the problem but also of the possible solutions that can be adopted thanks to recent advances in technology.
POTENTIAL FOR LEARNING OR TRANSFER	The whole activity of BFF is interesting to be transferred to the creation of a studio which combines engineering and design competencies to develop sustainable projects focused on supporting Circular Economy on a small scale, applying a multidisciplinary, and an unconventional approach to the topic. Perpetual Plastics (PP) is an excellent case study as improper disposal of plastics is a problem that affects all countries. In spite of the numerous initiatives that have been organised to limit this phenomenon, it remains an unsolved issue. PP has proven to be successful and has already been presented in many different occasions and contexts. Another way of transferring the practice could involve replicating the same idea with other types of waste through the creation of a moving station for learning by doing initiatives.
FURTHER INFORMATION	www.betterfuturefactory.com

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Circular Valley	
KEYWORDS	Sustainable entrepreneurship, circular hub, incubator.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Create an environment to support Circular Economy related businesses. 2. Build synergies among stakeholders involved in a Circular Economy. 3. Contribute to The Netherland's strategy of becoming a Circular Hotspot. 	
OWNER OF THE PRACTICE	Circular Valley, Delta Development Group, Volker Wessels, Reggeborgh Groep.	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	The Netherlands
	<i>Region</i>	North Holland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Circular Valley is an innovation hub for the development of businesses that ease the transition to a Circular Economy.	
DETAILED INFORMATION ON THE PRACTICE	<p>The GP Circular Valley is part of The Netherlands' strategy to become an international Circular Hotspot. One of its main goals is to foster the dialogue between different stakeholders involved in the transition towards a Circular Economy. The core aim of Circular Valley is to offer an innovation hub with an environment specifically designed to boost and support Circular Economy-related activities and bring together stakeholders ranging from designers to NGOs, start-ups, SMEs, corporate and governmental organisations.</p> <p>The support is given not only regarding space but also business guidance. Hubs and co-working services usually offer working space and indirect access to one type of organisation (mostly start-ups), but rarely provide full-spectrum access to all stakeholders of an economic system such as capital, tools, and methods. Since circular processes require cross-sector collaboration, Circular Valley provides a range of services that include working spaces with innovation labs, proven circular tools and methods, and access to capital.</p>	
RESOURCES NEEDED	The GP was funded with 90 million EUR by a group of stakeholders including Reggeborgh, Volker Wessels and Delta Development.	
TIMESCALE	<i>Start</i>	2016
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The success of the initiative is proven by the number of organisations (6) that have been hosted and supported so far.	
POTENTIAL FOR LEARNING OR TRANSFER	The key feature of this GP is the project's capability of bringing together and building synergies between different stakeholders involved at different levels in the transition towards a Circular Economy. This aspect is the most valuable and interesting to be transferred to other regions, as the dialogue between the actors is always extremely important and difficult to establish and manage.	
FURTHER INFORMATION	www.circularvalley.com	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Amsterdam Smart City	
KEYWORDS	Smart cities, circular business development, sustainable governance.	
SPECIFIC OBJECTIVE	<p>This GP aims to achieve by 2025:</p> <ol style="list-style-type: none"> 1. Leadership in the field of Circular Economy. 2. Become the most important location in Europe for data-driven innovation. 3. Improve the health of the area's inhabitants. 4. Reach emission-free mobility. 5. Create one of the most adaptive and appealing labour markets in Europe. 6. Part of the goal also lays in the methodology to achieve these results. Thus the project aims to embrace a bottom-up approach based on smart growth, start-ups, livability, and digital social innovation by creating the most inclusive "city as a platform". 	
OWNER OF THE PRACTICE	City of Amsterdam	
LOCATION OF THE GOOD PRACTICE	Country	The Netherlands
	Region	Amsterdam region
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Amsterdam Smart City is a partnership between companies, governments, knowledge institutions, and citizens to offer a common ground for cooperation towards a sustainable and efficient urban model.	
DETAILED INFORMATION ON THE PRACTICE	<p>Cities are growing. Between now and 2050, the global population is expected to increase from 7.2 billion to more than 9 billion, with 98% of this growth taking place in cities. This brings opportunities as well as challenges: a growing population, but also other issues such as climate or waste streams are driving demand for smart ideas and solutions to keep the city a pleasant place to live, work and visit. And the city of Amsterdam is no exception.</p> <p>The first step of the implementation process was the creation of Amsterdam Smart City. This programme aimed to create an innovation platform where government, private organisations, and knowledge institutions could work together to achieve one common goal: create a more liveable and sustainable city by making smart use of each other's knowledge and resources. The ASC project and platform focus on two primary objectives in the implementation of the programme: facilitate the creation of new ecosystems and provide the access point and network to those organisations and stakeholders that want to add value to the city.</p>	

	<p>ASC works as:</p> <ul style="list-style-type: none"> ✓ A facilitator. It connects relevant parties, defines common goals, monitors processes and results. ✓ An open platform in the form of an independent organisation, which can connect citizens, businesses, government, and knowledge institutes. ✓ A living lab to test solutions in a real setting. <p>The stakeholders and beneficiaries are the same participants in the platform and range from governmental institutions to citizens.</p>	
RESOURCES NEEDED	N.A.	
TIMESCALE	<i>Start</i>	2009
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>The main results achieved by ASC concern projects that have been implemented in the urban area of Amsterdam. Having connected different private/public organisations, partners, and stakeholders is also a remarkable result.</p> <p>Currently, the number of projects developed so far is 132 units and involves a broad variety of macro-categories such as infrastructure and technology, energy, water and waste, mobility, circular city, governance and education, citizens and living.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>The ASC is considered a GP because the smart city programme has become a reference point on how to implement in an urban area a sustainable development based on the principles of Circular Economy and innovation. As previously mentioned, the challenge to become sustainable, smart urban centres concerns most European cities. Thus, ASC represents a relevant case study, a lab where this challenge is being tackled.</p>	
FURTHER INFORMATION	www.amsterdamsmartcity.com	

ZERO WASTE SCOTLAND | FV7

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Zero Waste Scotland	
KEYWORDS	Sustainable Governance, waste management, innovation funds.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Facilitate the gathering of environmental, economic, and social advantages by rendering more efficient territorial natural resources. 2. Promote and develop activities which acknowledge as a priority the creation of environmental, economic and social advantages. 3. Spend less primary resources. This should be reflected in decreasing the demand for energy use or reducing the consumption of virgin raw materials. 4. Increase efficiency where resources are consumed by extending their lifetime and productive use. 5. Seek the greatest value of re-use and remanufacturing, where waste cannot be eliminated. 	
OWNER OF THE PRACTICE	Zero Waste Scotland, The Scottish Government	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>The main goal is to facilitate the collecting of environmental, economic, and social advantages that render more efficient territorial natural resources. Zero Waste Scotland's mission is to impact and enable change from the collection of resources data and the dissemination of policy to encourage behaviour change among population and organisations through programmes and brands.</p>	
DETAILED INFORMATION ON THE PRACTICE	<p>The role of Zero Waste Scotland is determined by the targets of the Scottish Government to reduce by 2020 Scotland's greenhouse gas emissions by 42%. The organisation has focused its efforts on encouraging Circular Economy opportunities for companies and citizenship, and elaborating solutions to tackle everyday challenges and obstacles towards a Circular Economy model. Another objective has been researching innovative ways to keep materials in a longer loop and making products cycle more efficient by introducing them back into supply chains.</p> <p>This GP also provides companies with advice on practical, technical, and financial support and encourages them to develop and implement their Circular Economy strategy. Eventually, this will foster the market towards rewarding companies that do business based on a Circular Economy approach. Zero Waste Scotland aims to tackle the main challenges for implementing Circular Economy in Scotland through partnerships.</p>	

	<p>At the same time, the organisation seeks to accelerate economy, committing with manufacturers and encouraging the resource management sector to work in partnership to establish re-use and repair as a social norm.</p> <p>More specifically, Zero Waste Scotland supports the following Scottish Government strategic objectives:</p> <ul style="list-style-type: none"> ✓ A Greener Scotland: “Improving Scotland’s natural and built environment and the sustainable use and enjoyment of it.” ✓ A Wealthier and Fairer Scotland: “Enabling businesses and people to increase their wealth and more people to share fairly in that wealth.” 	
RESOURCES NEEDED	<p>The organisation depends on grants of the Scottish Government with additional funding from the European Regional Development Fund (ERDF). The Scottish Government Grant is awarded annually to Zero Waste Scotland to support the delivery of Scottish Government’s Circular Economy strategy and other resource efficiency policies.</p>	
TIMESCALE	<i>Start</i>	2012
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>One of the main results of the organisation has been the “Making Things Last” programme supported by the Scottish Government to develop a Circular Economy. The programme promoted the development of a Manufacturing Action Plan for Scotland and delivered the #makethingslast campaign to illustrate the Circular Economy to the citizenship. It supported companies to explore Circular Economy options and launched the Economy Investment Fund to foster related businesses. It organised training courses for over 200 professionals teaching them about the Circular Economy and how to foster it through sustainable procurement.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>According to the programme supported by the European Union Directives, Member States are required to accomplish a certain number of targets to do a transition from landfills to recover value and resources from all waste. To achieve these objectives at European level and the local ones set by Scottish Government, has required long and short-term actions such as planning a system to identify enough land sites for more sustainable waste management infrastructure for all wastes.</p> <p>The potential transfer of this GP is possible according to the revised EU Waste Framework Directive (WFD) [Directive 2008/98/EC] which establishes the legislative framework for the handling of waste in the European Union. The regulation sets out specific requirements for waste management and planning. Article 16 (1) states “Member States shall take appropriate measures, in cooperation with other Member States where this is necessary or advisable, to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques.”</p>	
FURTHER INFORMATION	<p>www.zerowastescotland.org.uk</p>	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Industrial Biotechnology Innovation Centre (IBioIC)	
KEYWORDS	Innovation centre, biotechnology, technology transfer.	
SPECIFIC OBJECTIVE	<p>This GP aims to perform a leading role in encouraging the innovation-led growth of the Industrial Biotechnology sector in Scotland. IBioIC gives expert assistance and generates an environment for networking, builds academic and industrial cooperation, and assists mentor organisations in emerging ideas from the first concept through to industry appropriation. Its mission is to:</p> <ol style="list-style-type: none"> 1. Understand where biological processes can help industries and be combined into operation. 2. Develop abilities to innovate and generate new products, methods, and technical capacities. 3. Decrease carbon footprint by entirely employing any waste streams/co-products. 4. Support the expansion of bio-refineries, linked bio-processes, and supply chain. 5. Generate new pilot tools to support demonstration of new processes at scale. 	
OWNER OF THE PRACTICE	Industrial Biotechnology Innovation Centre (IBioIC)	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	United Kingdom
	<i>Region</i>	Scotland
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Industrial biotechnology (IB) is a technology that utilises biological substances, systems, and methods to generate materials, chemicals, and energy. The Industrial Biotechnology Innovation Centre (IBioIC), operates from the industry, academia, and government to foster Scotland’s competitiveness and capacities through the performance of IB.	
DETAILED INFORMATION ON THE PRACTICE	<p>Scotland has a considerable number of companies and research centres which have created viable products, processes, or sustainable feedstocks that are commercialised solutions for high-value manufacturing. This GP brings all together, delivering a more natural collaboration between industrial and academic partners.</p> <p>This centre is focused on projects that generate solutions for the manufacturing of the high-value products: developing shorter industrial cycles through industrial biotechnology, making the companies competitive. The IB fosters the efficient performance of the resources like water, energy, raw material, and waste. It also emphasises on bioprocessing, applying process-ready organisms to add value to sustainable feedstocks. To support this research, there will be an intellectual input of 13 Higher Education Institutions. Consequently, this centre provides funding and opportunities for academic institutions that want to develop an IB project from a low to high technology level.</p>	

RESOURCES NEEDED	Funded by the Scottish Funding Council and supported by Scottish Enterprise and Highlands & Islands Enterprise, IBioIC will be hosted at Strathclyde University. It is a key element of the National Plan for Industrial Biotechnology “Towards a Greener, Cleaner 2025”.	
TIMESCALE	<i>Start</i>	2014
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>This GP transcends the targets set by Scotland’s National Plan for Industrial Biotechnology by increasing the expected turnover of industrial biotechnology linked to products from £190 million today to between £2 billion and £3 billion by 2030.</p> <p>The centre represents a key sector of Scotland’s economy, since it plans to create over 1,500 new jobs in the expanding biotechnology industry. The chemical industry is the country’s second top exporter and one of the largest and fastest growing in Europe.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>This GP is quite relevant because it facilitates the transfer of innovation and research from the academia to the industry. This type of innovation centres is key to provide funding and advisory to facilitate the exchange of expertise.</p> <p>This GP is funded by the Scottish Funding Council with the support of the Scottish Enterprise and Highlands and Islands Enterprise, and included in the Innovation Centre Programme. Since the launch of the programme, £120m (2013-2018) have been distributed to 8 Innovation Centres linked to different important sectors.</p> <p>The main aim of these centres across Scotland is to encourage large and small industries to accelerate their speed of innovation and economic growth.</p>	
FURTHER INFORMATION	www.ibioic.com	

3.5 POLICY IN SUPPORT TO BUSINESS AND MARKET DEVELOPMENT FOR CIRCULAR ECONOMY ACTIVITIES

This Policy Gap has been reported by 5 regions out of 5.

Besides the development of CE related projects, the necessity to support the creation of an appropriate business model for CE activities and the need to stimulate the market towards the reuse of by-products and waste has been highlighted as a core issue for the success of CE.

The success of the Circular Economy paradigm largely depends on the development of a market requiring secondary materials and products deriving from circular processes; this includes final private consumers, companies using raw materials, and public administrations in their procurer role.

Environmental considerations play a growing role on consumers choices. Nevertheless, mistrust towards products made by recycled materials or wastes is still present, and quality and safety of products and affordable prices need to be ensured to attract all segments of consumers.

A significant use of secondary raw materials in production processes is a key factor in expanding the market. However, the demand of companies is often still weak, especially in some sectors. Reasons are to be found in the lack of awareness and information and, often, in higher prices of secondary materials compared to raw ones. Policy responses can include setting favourable rules and standards, simplifying the legislative framework, and introducing incentives to promote the use of secondary raw materials. Moreover, support to R&I targeted measures may help in developing advanced technological solutions for lower costs and increase the quality of secondary raw materials and products made by recycled materials.

Public authorities can also use their procurer role to boost the demand, and employ more innovation and pre-commercial public procurement complementing traditional R&I measures while fostering the development of new and more performing products.

This gap has an evident transversal character thus it can be faced through a wide range of different policy responses as RETRACE has proven by offering some good and inspiring examples.

Good Practices

Lanzi | FV1

Green WoolF | FV1

Black Bear Carbon | FV4

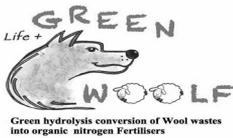
Fairmeter | FV5

Econyl® regeneration system | FV5

Katty Fashion | FV6

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Lanzi	
KEYWORDS	Personal protective equipment, product regeneration, product-service system.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Offer a full service for safety products, based on the traceability of the product and the regeneration of used products. 2. Extend the life-cycle of working gloves, which are considered special waste. 3. Develop a virtuous circle in which products improve their quality, their protection and comfort performances for the users, and last longer. 4. Create new economic relationships between different local companies. 5. Tackle global competition by providing high-quality products and services. 6. Create new products, according to the same philosophy, to meet the growing new needs of the market. 	
OWNER OF THE PRACTICE	Lanzi	
LOCATION OF THE GOOD PRACTICE	Country	Italy
	Region	Piedmont
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Lanzi Srl is an SME that moved its business from selling disposable Personal Protective Equipment (PPE) to offering a service system including product regeneration and automatised distribution systems.	
DETAILED INFORMATION ON THE PRACTICE	<p>PPE is considered special waste. This implies high management costs and a considerable amount of waste every day which ends up in a landfill, causing a significant environmental impact.</p> <p>Lanzi Srl has created an innovative product-service system based on the redesign and regeneration of working gloves, offering new distribution systems for ensuring their effective management, reuse, and disposal.</p> <p>The project included different phases:</p> <ul style="list-style-type: none"> ✓ The design and production of ad-hoc versions of working gloves for each type of use, creating new high-quality and long-lasting products that better fit the safety needs of different workers. ✓ The design of a particular automatic dispenser of gloves (based on the idea of vending machines). A special software (ARGO Pro) has been designed to track how many times a pair of gloves can be regenerated and reused by each worker through the use of personal badges. ✓ The development of a service for collecting, cleaning, and reconditioning used gloves in cooperation with local laundries. ✓ The regenerated gloves are tested to meet the EN UNI requirements and reintroduced in the distribution system. <p>This new product-service system enables to adopt gloves with higher protection performances, avoiding the number of injuries from cuts, thanks to the favourable economic balance deriving from the adoption of the automatic distribution and the regeneration.</p>	

RESOURCES NEEDED	The project has been entirely funded by the company.	
TIMESCALE	<i>Start</i>	N.A.
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	Based on the company's experience of applying the GP combined with the automatic distribution and collection systems, the final users gain economic benefits regarding the reduction of consumption up to 50%. The development of the income in the industrial washing process and the management of the automatic distribution system lead to an increase in the number of jobs in the area where the production plants are located.	
POTENTIAL FOR LEARNING OR TRANSFER	The building of an integrated chain requires close cooperation between the glove designers and producers, the people who regenerate them and manage the automatization of the process. The ability of integration of the stakeholders is thus fundamental to develop the GP. In this case, the company is favoured since it produces both the gloves and the automatic distribution systems. To transfer this GP, it is necessary to establish a network of local actors around the glove company.	
FURTHER INFORMATION	www.lanzisafety.com	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Life+ GreenWoOLF	
KEYWORDS	Sheep farming, sustainable fertilisers, special waste valorisation.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Reduce wool waste discarded in landfills where it does not readily degrade and can cause environmental threats or infection risks. 2. Exploit renewable resources by recycling organic waste into value-added fertilisers. 3. Develop a chemical-free treatment of raw wool to be carried out with an easy-to-manage, small-sized transportable plant. 4. Improve the quality of pasture lands with harmless and valuable fertiliser reducing the use of synthetic fertilisers. 5. Reduce transport costs of both fertilisers and wool waste which are subjected to the restrictions of the Commission Regulation (EU) No 142/2011 for Class 3 Materials. 6. Increase the employment and profit of sheep farming in the EU. 	
OWNER OF THE PRACTICE	CNR-ISMAC (Institute for Macromolecular Studies of the Italian National Research Council)	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Italy
	<i>Region</i>	Piedmont
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The GP focuses on the use of waste biomasses from sheep farming to obtain biological fertilisers and amendments.	
DETAILED INFORMATION ON THE PRACTICE	<p>Coarse wool from EU sheep farming and butchery industry is mostly a worth nothing by-product which is unserviceable for textile application. Nevertheless, annual shearing, which is necessary for the well being of the animals, produces 1.5–3 kg head of coarse wool (that is more than 200 thousand tons in EU of which 18-20 thousand tons in Italy).</p> <p>Poor quality wool produces large volumes of waste which represent an environmental problem. To burn it as fuel is inefficient due to its self-extinguishing and co-firing character and it is highly polluting because of its high sulphur content.</p> <p>Moreover, since the EU Regulation allows sheep farmers to carry out the scouring process themselves, the pollutant effluents from wool scouring cannot be easily controlled resulting in an additional environmental problem.</p> <p>The GreenWoOLF project, financed under the EU Life+ programme, involved two organisations and a factory: the proposed approach for green hydrolysis of wool wastes is a complementary step towards the establishment of an environment-friendly and less expensive technology for the treatment of wastes from sheep farming and butchery.</p>	

	<p>Controlled treatment with superheated water converts wool keratin (the wool protein) into simpler compounds and allows tailoring the release speed of nutrients to plants. Nevertheless, raw wool contains elements such as carbon, nitrogen and other nutrients, which play an essential role in plant nutrition. Moreover, hydrolysed wool absorbs and retains moisture very effectively; this property can be a benefit when applied to soils where it can reduce runoff of contaminants such as pesticides, and can aid in water conservation.</p> <p>The project aims to demonstrate the viability of converting waste wool into amendment fertilisers using small-scale, local hydrolysis plants, thus reducing transportation costs of both fertilisers and wool wastes, and eliminating scouring and disposal of coarse wools. Unserviceable grease wool can be converted into a useful soil conditioner fertiliser, with a demonstration unit able to manage 1/3 of Piedmont's annual wool clip (1 ton/day).</p> <p>The project involved two research centres and a manufacturing company, though the final beneficiaries will be local and European sheep farmers, as well as companies producing organic fertilisers and soil and plant amendments.</p>	
RESOURCES NEEDED	The project was founded by the EU Life+ programme. The total budget of the project was € 1,995,265.00 and received an EU contribution of € 997,632.00.	
TIMESCALE	<i>Start</i>	2013
	<i>End</i>	2016
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The project has achieved two main results. First, it demonstrates that wool waste could be 100% recycled into organic fertiliser using a "green hydrolysis process" with no use of dangerous chemicals. Second, it promotes the development of an economically-sustainable management model that takes into account the sheep population and density distribution in the Piedmont region by optimising the plant size and the added value of the fertiliser produced.	
POTENTIAL FOR LEARNING OR TRANSFER	<p>The model developed by Piedmont can be proposed to other EU regions where sheep breeding and the related production of coarse wools represents an economic and environmental problem. Organic fertilisers and industrial machinery for the production were obtained.</p> <p>The innovative process of GreenWoolF can reduce transportation costs and eliminate the need of scouring and discarding coarse wool which can lead to important benefits for other EU regions, thus increasing employment and profit from sheep farming.</p>	
FURTHER INFORMATION	www.life-greenwoolf.eu	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Fair Meter	ISKRAEMECO 
KEYWORDS	Smart grids, smart meters, supply chain sustainability.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Develop an innovative smart meter that ensures full traceability of materials and components. 2. Create a full-energy and CO₂ neutral meter chain with a minimal amount of CO₂ compensation. 3. Ensure fair working conditions for employees throughout the value chain. 4. Avoid using conflict metals or raw materials as well as hazardous substances. 5. Keep the fair meter energy neutral in the use phase. 6. Provide extra services on the meter opt-in for end users. 	
OWNER OF THE PRACTICE	Iskraemeco	
LOCATION OF THE GOOD PRACTICE	Country	Slovenia
	Region	Slovenia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The fair meter is a sustainable smart meter, which offers full traceability of the materials and components while promoting fair working conditions throughout the supply chain.	
DETAILED INFORMATION ON THE PRACTICE	<p>Energy efficiency is an important vehicle to transition to a circular, low carbon economy. An essential element of energy efficiency is the development and use of smart metres. However, the production of smart metres is not environment-friendly, because it involves the use of toxic chemicals, scarce resources, and raw materials from conflict areas.</p> <p>In 2013, the ‘Green Deal Fair Meter’ initiative was launched by the social enterprise Waag, Amsterdam Smart City, and the Dutch government. Four Dutch utilities for the development of a standard sustainability strategy in smart metering (Liander, Stedin, Enduris and Westland Infra) manage 70% of the Dutch electricity market and aim to install up to 2,5 million smart metres in their networks by 2020. The initiative seeks to ensure that these meters will be not only smart but also fair, based on their environmental and social aspects. The action of Green Public Procurement led to a 12-month tender process that selected Iskraemeco as one of the developers of the Fair Meter.</p> <p>The Fair Meter project addresses all major issues that the electronic industry is facing today: energy intensity, labour standards, use of conflict materials (3TG), material scarcity and E-waste. The goal of the GP is to tackle the above issues by implementing transparency throughout the supply chain, developing higher standards in the industry and diminishing exposure to risks in volatile material markets globally. As part of the project, Iskraemeco is developing a Transparency Tool, an application that aims at teaching, educating, and raising awareness in communities, consumers, industries and the general public.</p>	

	<p>The main stakeholders involved in this project are the Dutch customers and the companies that are part of the Iskraemeco supply chain. Local and foreign employees will benefit from fairer working conditions while the countries involved in the whole supply chain will be included in the promotion and development of more sustainable mining and production processes. Final users will have the opportunity to use energy efficient meters.</p>	
RESOURCES NEEDED	<p>The Fair Meter project started in 2013 thanks to the unique initiative called ‘Green Deal Fair Meter’, promoted by Waag, Amsterdam Smart City, and the Dutch government. The total project is worth about € 470 million.</p>	
TIMESCALE	<i>Start</i>	2013
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>Since the first prototype was developed only at the end of 2016, it is not possible to describe fully fledged results of the GP. However, at the end of the project, 2.5 millions of Fair Meters will be produced. The results are expected to be significant both regarding a reduced environmental burden during the production phase and improved social fairness along the production line, as well as reduced energy use thanks to the employ of the Fair Meters.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>It is possible to transfer the “concept” and the logic of the GP. The main vehicle which makes this transfer possible is the Sustainable public procurement concept which, in addition to the environmental criteria encompasses also the social criteria. Even the two tools Fair Ladder and Transparency Tool could be used by the interested actors.</p> <p>The area where Iskraemeco works is relatively rigid in terms of changing and adjusting legal framework. Majority of their work is obtained through public procurement and the introduction of the circularity into the criteria is a lengthy procedure. One of the challenges is also the dissemination of the awareness among all the stakeholders on the market (regulating institutions, electro distributors, suppliers, producers, end users, experts) and their networking, which is essential in this case. As producers, Iskraemeco is very much dependent on their suppliers and their readiness to share the information about the origin of certain materials. Also here, the education is very important.</p>	
FURTHER INFORMATION	<p>www.iskraemeco.com</p>	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Black Bear Carbon	
KEYWORDS	Automotive, tires recovery, carbon black.	
SPECIFIC OBJECTIVE	The GP aims to: <ol style="list-style-type: none"> 1. Enable the production of valuable raw materials (carbon black) from end-of-life tires for re-use in tires, technical rubber products, plastics, paint, and ink. 2. Reduce the waste of tires. 3. Reduce the resulting CO₂ emissions. 4. Provide technology, product development and marketing and sales expertise of carbon black products. 5. Improve local economy by creating an innovative and sustainable manufacturing business. 	
OWNER OF THE PRACTICE	Black Bear Carbon	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	The Netherlands
	<i>Region</i>	South Netherlands
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Black Bears technology aims to upcycle tires into valuable materials without damaging the environment and saving CO ₂ emissions.	
DETAILED INFORMATION ON THE PRACTICE	<p>Every year, more than 1.5 billion tires are removed from vehicles creating around 13.5 million tons of solid waste. More than half of these tires are burned or land-filled, often in parts of the world where environmental controls are inadequate or non-existent. 2.4 billion tires are manufactured each year requiring around 7.2 million tons of 'furnace' carbon black produced from fossil fuels. In 2010, the founders of Black Bear Carbon began thinking of the enormous unexplored potential of used tires. The team started developing an innovative technology to extract carbon black from end-of-life tires to the highest possible quality. In the following years, this technology was brought up to an industrial scale, and the company established the first partnership with a major Dutch tire collector. Many European, Dutch, and regional subsidies have supported the GP in the earlier phase of building the company, and private investors have also financed the business activities. Black Bear's process uses end-of-life tires as a feedstock to produce consistent, high-quality carbon blacks. This CE approach not only solves a vital waste management problem but also massively reduces CO₂ emissions. The production of carbon black also yields a critical by-product and green energy in the form of high calorific gas and oil, which can be converted to heat, electricity or steam and provides an additional income stream within the business model. The main stakeholders involved in the GP are the tire collectors and the tire and rubber industry, which can use high quality and sustainable carbon black. The business also brings significant benefits to the local economy, creating new jobs and an interesting model of CE.</p>	

RESOURCES NEEDED	Several European, national, and regional subsidies have supported Black Bear in the earlier phase of building the company. Support from EU and the Dutch government served as a prime example in the world of CE. Loans with low interest rates from social funds were acquired because of employing people out of the labor market.	
TIMESCALE	<i>Start</i>	2016
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The success regarding technical and environmental innovation is remarkable. First, the GP has demonstrated that it is possible to create a more sustainable and high-quality carbon black that highly improves the ecological footprint of products, as well as lowering the content of polluting emissions, such as PAH (Polycyclic Aromatic Hydrocarbon). Typically, replacing virgin carbon black with green carbon black from Black Bear saves 5 to 7 tons of CO ₂ for each ton of substituted material. Moreover, applying this Circular Economy business model has significant advantages for companies active in tire processing and rubber manufacturing by reducing waste processing costs, use of and expenditure on resources and by drastically reducing negative environmental impacts.	
POTENTIAL FOR LEARNING OR TRANSFER	The waste tires and related environmental problems exist in every country of the world. Therefore, the Circular Economy approach implemented by Black Bear Carbon could be applied to different regions involving local partners and governments to maximise the positive environmental impact. However, there are several challenges in implementing a circular business model for creating green carbon black. First, although many potential customers are keen on adopting a green alternative, it takes dedication and perseverance to move through the lengthy approval procedures in large and established organisations. Building a trusted brand and sharing independent test results have been key drivers for success. Second, many circular business models, as opposed to pure digital plays, require significant funding. In this case, moving to the commercial scale requires a €10m investment in plant construction. The process of attracting investors is rewarding, yet very time intensive. A key takeaway is to present an excellent business case, which also offers an innovative example of CE. Finally, Black Bear sees constraints in the current regulation. Many of these regulations are still based on a Linear Economy thinking, thus governments should seek for creating a more favourable regulatory climate.	
FURTHER INFORMATION	www.blackbearcarbon.com	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	ECONYL® Regeneration System	
KEYWORDS	Green chemistry, synthetic fibres, plastic waste recover.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Reduce the amount of nylon waste while producing quality products from that waste material. 2. Decrease the environmental impact due to the consumption of natural resources. 3. Create value for all the stakeholders involved in the system. 4. Reduce negative impact on the environment. 5. Turn pre- and post-consumption waste in secondary raw material. 6. Increase sustainability in all aspects of production cooperation. 	
OWNER OF THE PRACTICE	AquafilSLO	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Slovenia
	<i>Region</i>	Slovenia

DETAILED DESCRIPTION	
SHORT SUMMARY OF THE PRACTICE	<p>The GP recovers the nylon contained in waste (such as carpets, fabrics scraps, fishing nets) by transforming back into the raw material without any loss of quality.</p>
DETAILED INFORMATION ON THE PRACTICE	<p>The environmental footprint of the textile sector is increasing every year: it is estimated that in the period 2010-2020 the fibre consumption will grow by 20 million tons (to 96,4 million tons). Besides the impact of production, the dispose of old clothing implies high economic and environmental costs, especially synthetic clothing represents a considerable problem, since they may take hundreds of years to decompose in a land fill.</p> <p>The innovative ECONYL® Regeneration System is based on sustainable chemistry. With this industrial process, the nylon contained in waste, such as carpets, fabrics scraps, fishing nets and others, is transformed back into raw material without any loss of quality.</p> <p>At the moment, two main waste streams are relevant for the production of ECONYL® fibre: pre-consumption waste (among which are industrial oligomers, industrial plastic waste, yarn discards and fabric scraps) and post-consumption waste as upper part of carpets (i.e., fluff) and fishing nets. In addition to reducing the pressure on the removal of natural resources, the removal of fishing nets from the environment has a positive effect on the biodiversity.</p> <p>With the aim of improving the ECONYL® production chain, in 2015 Aquafil launched the first phase of the “ECONYL® Qualified” project in collaboration with its suppliers. The project developed a qualification protocol to award the excellence of companies that supply Aquafil with goods or services for the manufacturing of ECONYL® yarn. The qualification process is based on specific guidelines aimed at encouraging excellence and bringing innovation into the supply chain.</p> <p>The main stakeholders of the GP are suppliers, clients, local communities, and non-governmental organisations. Besides the direct beneficiaries (clients and local suppliers), domestic and foreign communities that benefit from the removal of old waste from natural environment can be considered the indirect beneficiaries of the GP.</p>

RESOURCES NEEDED	The ECONYL® system/product was launched in 2011, one year after Aquafil SLO started the investment worth € 15,7 million of which 3,62 million EUR funded by the Ministry of Economic Development and Technology. Altogether the company spent over € 28 million on the project.	
TIMESCALE	<i>Start</i>	2011
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>In 2017, the production of ECONYL® caprolactam saved more than 150,000 tons of CO2 emissions and almost 2,8 million GJ of energy.</p> <p>The creation of ECONYL® products is “waste positive” which means that the amount of waste removed from the Earth is higher than the amount of waste resulting from production.</p> <p>In 2013 Aquafil launched the initiative “Healthy Seas, a Journey from Waste to Wear”, with the Land & Sea group of the ECNC-European Centre for Nature Conservation and Star Stock. Besides collecting discharged fishing nets in collaboration with volunteer divers, the initiative seeks to inform people about the importance of ending sea and ocean pollution.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>ECONYL® and ECONYL® Regeneration System as a business model and example can also be implemented in other industry sectors and territories. Recycling as a process to provide input raw material is necessary mainly for the chemical and plastics industry. This business model is replicable, though the complexity of the technical requirements depends on the character of the company and the product.</p> <p>This GP has a vast global potential for implementation in different industries. It is an example of how to turn basic business processes and exploit the potential of already discarded materials. Plastic and other raw materials made from oil have great potential for reuse. Hence this GP shows that innovative vision, systematic development, and investments can turn waste material in new quality products. This GP is suitable for bigger production systems based on broader geographical cooperation. It has a significant potential impact on the global level.</p>	
FURTHER INFORMATION	www.econyl.com	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Katty Fashion	
KEYWORDS	Textile, natural fibres, hemp.	
SPECIFIC OBJECTIVE	<p>This GP aims to offer to:</p> <ol style="list-style-type: none"> 1. Generate and keep long-term, reciprocally beneficial relationships. 2. Generate an eco-friendly and ethical project: the concept of Eco-Chic Ethical Ladies Wear and Home Textiles. 3. Design highly fashionable collections by using eco-innovative and recyclable materials. 4. Link social responsibility of preserving the local ecosystem. 5. Ensure fair working conditions and supply community support by offering beautiful and healthy clothing and beneficial home textiles. 	
OWNER OF THE PRACTICE	Katty Fashion	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Romania
	<i>Region</i>	Nord Est
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>This GP is concerned with the sustainable development of the textile and clothing industry. It is an experienced manufacturer of the entire range of women garments, specialised in short series and customised clothing.</p>	
DETAILED INFORMATION ON THE PRACTICE	<p>SC KATTY FASHION SRL is a creative Romanian company founded in 2003. It is a member of the Romanian Textile Concept Cluster Bucharest and, also, of the European Technology Platform for the Future of Textiles and Clothing.</p> <p>Moreover, Katty Fashion is an active member of the Ethical Fashion Forum, the industry body for sustainable fashion, representing over 10,000 members in more than 100 countries.</p> <p>This company is aware of the enormous environmental impact of the processing and consumption of textile and clothing. Katty Fashion has adopted the new European approach of a sustainable, eco-friendly development of the textile and clothing industry. At the same time, the company joins the strategic vision of North-East RDA fostering the competitiveness, innovation, and specialisation of the regional textile and clothing sector. This company is determined to respond to the needs of eco-friendly consumers that want to acquire sustainable, natural garments and textiles.</p> <p>Also, it is a well-known supplier on a CMT basis for more than 50 mid- and high fashion labels in the EU. It is located in the most important economic centre of the NE Region.</p>	
RESOURCES NEEDED	<p>The SME developed several projects in order to gain financing for the operationalisation of the value chain. Programmes envisaged: Danube, Interreg Europe, H2020, ROP 2014-2020.</p>	
TIMESCALE	<i>Start</i>	2003
	<i>End</i>	Ongoing

<p>EVIDENCE OF SUCCESS (RESULTS ACHIEVED)</p>	<p>Some of the results of this GP are presented by the agricultural research and development station Secuieni, the NE Region R&D unit in agriculture producing, processing, and marketing of hemp seeds of superior biological categories.</p> <p>Success factors: promoting cooperation between regional actors. However, a critical mass still needs to be generated as not all textile sector actors agree with this initiative.</p> <p>Another successful factor is that European stakeholders acting in natural fibres and textiles have been contacted and several transnational project proposals have been submitted to support this initiative.</p>
<p>POTENTIAL FOR LEARNING OR TRANSFER</p>	<p>The initiative found out that, at European level, the textile sector needs to move from a highly polluting to a more sustainable and eco-friendly production. 25% of the pesticides used worldwide are employed in cotton cultures, while hemp does not need complicated chemical treatments, enriches the soil and prepares it for other cultures.</p> <p>Therefore, the model can be transferred to other regions as KF already is a part of the Regiotex European Textiles Platform and all members are working together on a replicable model.</p>
<p>FURTHER INFORMATION</p>	<p>www.katty-fashion.com</p>

3.6 POLICY FOCUSED ON SMEs AND MICROMANUFACTURING

This Policy Gap has been reported by 2 regions out of 5.

It involves two main aspects: the lack of tailored support to SME for their transition to CE and the lack of support for the creation micro-manufacturing processes sized on a local context.

Micro, small, and medium enterprises (MSMEs) play a key role in the regional economic and innovation ecosystems. However, they often lack awareness, competences, and resources to fully grasp the opportunities of Circular Economy and develop environmentally-friendly businesses. Tailored support for their transition to a Circular Economy is crucial, and can take the form of incentives, training, awareness campaign, and technology transfer schemes.

On the other side, there are some dynamic and innovative MSMEs (often start-ups) that undertake intense R&D activities to develop new products with a circular approach. These activities need to be supported in order to let the most promising ideas emerge, fill the gap between scientific feasibility and industrial application, reach a critical mass, and find a place in the market. In this respect, a key role can be played by incubators, circulating ideas and experiences and supporting startups and new businesses.

Eventually, successful stories do not necessarily need large scale applications; for example, small initiatives built around local needs or problems, as well as small entrepreneurial initiatives developing high quality products for small market niches. In these cases, supporting the replicability and scalability of successful initiatives can be an effective policy response.

Good Practices

Lavazza | FV1

Agrindustria | FV1

Api'Up | FV2

Produkt On | FV3

Gaxure | FV3

GENERAL INFORMATION		
TITLE OF THE PRACTICE	The Flavours of Coffee Grounds	  POLITECNICO DI TORINO Department of Architecture and Design
KEYWORDS	Food, spent coffee grounds, waste valorisation.	
SPECIFIC OBJECTIVE	The GP aims to: <ol style="list-style-type: none"> 1. Define a new business model based on the reuse of coffee waste to make new products and saving other raw materials. 2. Create new value from waste by producing edible mushrooms and other products. 3. Provide high-level reuse of a qualitative waste as an alternative to landfilling. 4. Reduce the high environmental impacts of production and transport of coffee grounds. 5. Generate a network of local start-ups with the aim to collect and process waste produced by HORECA (Hotel/Restaurant/Café) activities. 	
OWNER OF THE PRACTICE	Lavazza, Politecnico di Torino	
LOCATION OF THE GOOD PRACTICE	Country	Italy
	Region	Piedmont
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The GP focuses on the recovery and reuse of post-consumption Spent Coffee Grounds (SCG) collecting them from restaurants and cafes to make new valuable products.	
DETAILED INFORMATION ON THE PRACTICE	<p>Coffee is one of the most widely consumed beverages in the world, from which the beverage and SCG are extracted. Besides caffeine and some oil, the rest of the value is still contained in the SCG and is currently unexploited.</p> <p>The GP focuses on recovering and reusing post consumption SCGs, collecting them from HORECA activities to make new valuable products. Many experiments have been carried out to make the SCG recovery feasible. Since 2007, first tests on growing mushrooms have been carried out with the support of Lavazza. In 2013 the project set new goals as the implementation of a business model: the research activity started by considering all SCG possible uses and it was carried out through a literature review, taking into account all the activities developed worldwide, as well as investigating specific case studies, and start-ups aimed to recycle this waste. From this overview, it was decided to make specific experiments on:</p> <ul style="list-style-type: none"> ✓ The recovery of the oil fraction waste in collaboration with the Department of Drug Science and Technology of the Università degli Studi di Torino by experiencing extraction with microwave technology. ✓ The production of ink for screen printing with the company Quasar ink and tested with the company Sericraft. ✓ The production of paper with the company Favini. ✓ The production of edible mushrooms. 	
RESOURCES NEEDED	The project was funded by Lavazza SpA. It involved a team of four researchers from the Politecnico di Torino who collaborated with Lavazza and other stakeholders.	

TIMESCALE	<i>Start</i>	2012
	<i>End</i>	2014
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	The GP designs a new business model for companies aimed to enhance local waste and build new supply chains involving different stakeholders. Moreover, this process involves a cascade-use of waste, through the extraction of oils and the exploitation of what remains for other activities.	
POTENTIAL FOR LEARNING OR TRANSFER	<p>Coffee production generates negative environmental impacts due to the strong delocalisation of production areas (mainly Africa and Latin America) and consumption areas (mainly Europe and North America), and the waste derived from the production and extraction processes. The project aims to generate new value from waste by producing edible mushrooms and many other products. It provides a new business model and opens new future scenarios designed to make new products saving other raw materials. This kind of GP is a perfect example of how to integrate in a sustainable way new outputs introduced in the system by imported products.</p> <p>The possibility of transferability of the GP is very high: the business model can be easily implemented at low scale, as well as at a municipal level by involving cities and regions. Possible difficulties of cross-region implementation may concern the management of this type of waste, that is affected by specific local and national regulations.</p>	
FURTHER INFORMATION	www.areweb.polito.it/designstories	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Agrindustria	 AGRINDUSTRIA
KEYWORDS	Agri-food, vegetal by-products, waste valorisation.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Recycle the local agro-industrial and agricultural waste to create new sustainable products for different industrial sectors and applications. 2. Enhance the existing domestic waste and by-products, starting from their specific characteristics. 3. Give agriculture a more significant role in the local economy, creating sustainable supply chains that provide economic and environmental benefits to local stakeholders. 4. Open new market opportunities in new industrial sectors. 5. Collaborate with new national and international stakeholders and customers interested in sustainable products. 6. Create new products, according to the same philosophy, to meet the growing and new needs of the market. 	
OWNER OF THE PRACTICE	Agrindustria Tecco	
LOCATION OF THE GOOD PRACTICE	<i>Country</i>	Italy
	<i>Region</i>	Piedmont
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	Agrindustria is an SME based in Cuneo (Piedmont) which offers particular vegetable products and services, starting from agro-industrial waste.	
DETAILED INFORMATION ON THE PRACTICE	<p>Agrindustria was created more than 30 years ago starting from the recognition of a problem that was so far unexplored: several local agricultural and agro-industrial enterprises produced tons of sub-products that were considered waste and treated as such, representing a cost both for companies and for the environment. From corn cobs to walnut and nut shells, from pruning and wood-working remains to other different kinds of by-products processing. Agrindustria understood the productive and commercial value of agro-industrial waste, anticipating the trends that nowadays CE is addressing. The company started reusing local waste to produce new sustainable vegetable products, moving from the agro-industrial sector to other industrial areas of application.</p> <p>Today, Agrindustria produces several different products, such as food flour, soft vegetable abrasives, bases for cosmetics, supports for the pharmaceutical and animal feed industries, materials and vegetable additives for many other uses. It also offers innovative services for other companies, such as grinding, micronisation, roasting, pre-cooking, drying, and cryogenic grinding. In recent years, the company has invested, expanding the processing cycle and making it automatic (including customised packaging and integrated logistics) to respond quickly to market demands.</p>	

	<p>Agrindustria has always been interested in new applications in many different sectors. In the last years, it has grown continually introducing new products and addressing innovative sectors, such as automotive, clean tech, cosmetics, and animal husbandry. This has also been possible thanks to the access to regional and international policy instruments that allowed the company to invest in sustainable products and process innovation, despite its limited size and the lack of human and financial resources to create an internal R&D department. In particular, Agrindustria has carried out (first as a partner and then as a coordinator) several research projects at regional and EU level.</p> <p>The primary beneficiaries are the local stakeholders (farmers and agro-industrial companies) that deliver their by-products to Agrindustria, selling and giving value to something that was previously considered waste. Overall, the Cuneo environment is a beneficiary of the GP thanks to the development of a business that has created new jobs and brought sustainable innovations to the local economy.</p>	
RESOURCES NEEDED	<p>The main supports given by the ERDF Regional Operational Programme and the MANUNET ERA-Net are non-repayable financing and subsidised financing.</p> <p>Also, the training courses promoted by the Regional Innovation Clusters have provided valuable support to Agrindustria regarding competences and staff training.</p>	
TIMESCALE	<i>Start</i>	1985
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>The main result is the development of a local enterprise in the field of Circular Economy. This also includes other relevant sub-results:</p> <ul style="list-style-type: none"> ✓ The presence of a growing business at a local level, based on environmental sustainability and local cooperation. ✓ The creation of new expertise and skills that can also enhance the employability of people trained in Agrindustria. ✓ The solidity of Agrindustria's market reputation and business. ✓ The implementation of research projects in case the company is too small to create its research and development department. 	
POTENTIAL FOR LEARNING OR TRANSFER	<p>The main factors that can be transferred to other contexts depend on the degree of attention addressed to the territory:</p> <ul style="list-style-type: none"> ✓ Mapping and analysis of local companies and by-products to define the territorial potentials for waste enhancing and possible suppliers for new businesses. ✓ Create a network of potential partners within the territory/region environment, taking part in existing organisation such as the Regional Innovation Clusters and participating in the networking events. ✓ Be updated on process innovation and new clean technologies that can support the creation of new products and businesses. ✓ Expand one's sustainable business by looking at international level for customers as well as competitors; understand problems and solutions already experienced by other enterprises. <p>Among the key factors of this GP, the personal skills and aptitude of the CEO and/or other key people in the company towards innovation and entrepreneurship are essential but difficult to replicate as well as the resourcefulness in contacting new customers and partners at international level despite the problems with communication due to a language barrier.</p>	
FURTHER INFORMATION	<p>www.agrind.it</p>	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Api'Up	
KEYWORDS	Social enterprise, furniture design, upcycling.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Create valuable and marketable products from waste. 2. Reduce the amount of waste from used furniture. 3. Increase the inclusion of socially fragile people by employing and training them. 4. Raise awareness of sustainable production and consumption habits as an alternative to traditional ones guided by fashion. 5. Complement and improve services that collect waste at a local level. 6. Establish a network of interaction and cooperation with local activities. 	
OWNER OF THE PRACTICE	Api'Up Association	
LOCATION OF THE GOOD PRACTICE	Country	France
	Region	Nouvelle-Aquitaine
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	<p>Api'Up produces a series of newly designed furniture from waste and abandoned materials, collected in the territory by employing socially-fragile workers.</p>	
DETAILED INFORMATION ON THE PRACTICE	<p>The GP was born with the aim to find a sustainable answer to the complex problem of waste production. The amount of waste generated increases every year; recycling centres and dump sites are overwhelmed; a great quantity of materials is still not resold in recycling centres and charities; the industry of textile and furniture are guided by fashion which causes the acceleration of the obsolescence of their production and growing consumption.</p> <p>In this context, the Association Api'Up produces a series of new furniture from waste and abandoned materials which are collected in the territory thanks to several economic actors, following an upcycling logic. The material is collected in the local area, sorted and transformed into wooden panels that are used to create a collection of furniture. Api'Up is also involved in social inclusion projects and advocates for the rehabilitation and apprenticeship of useful and traditional know-how (carpentry, sewing).</p> <p>The beginning of the association can be traced back to 2012 when the interest towards upcycling processes started. After a feasibility study and the approval of the social inclusion project, the first workshop "from waste to design" was held in 2014. From that moment on, the activity of Api'Up became stabilised. Nowadays, the association works primarily with wood. However, it is performing several tests to use textiles and leather thus widening the range of recovered and used materials.</p> <p>The main stakeholders are, first of all, the employed social workers. On a wider level of analysis, as the waste stream is reduced, beneficiaries include the territory and its inhabitants.</p>	

RESOURCES NEEDED	<p>Api'Up was supported by European funds, national funds, the Region of Aquitaine Limousin Poitou-Charentes, Landes department, urban centres, Aquitaine Active, and banks. Funds consisted in both public and private subventions for a total amount of €130,000 in three years.</p>	
TIMESCALE	<i>Start</i>	2012
	<i>End</i>	Ongoing
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	<p>The project enabled the recruitment of 19 employees: 12 social work jobs, 1 administrative job and 6 permanent jobs.</p> <p>In 2014, 66 tons of waste were collected. The following year, the number grew to 148 tons; half was treated towards a more environmentally responsible recycling, and the other half was upcycled or reused. In 2015, customers who bought an upcycled product were 45% individuals and 55% companies.</p>	
POTENTIAL FOR LEARNING OR TRANSFER	<p>The GP proves to be interesting for two aspects, one related to the products created and the other to the philosophy behind it.</p> <p>Many other recycling and upcycling activities exist. However, they consist mainly in reassembling old pieces of furniture to create new ones that declare their history and are targeted to a specific range of customers. New furnishings are created according to a style that reflects Api'Up values and can be appreciated by a more significant number of people.</p> <p>The willingness to create an activity closely connected to the local territory (both regarding material used and networks established) which involves social workers, are added values.</p> <p>Both elements can be interesting to be transferred to other regions as the issue is shared by many areas.</p>	
FURTHER INFORMATION	<p>www.dudechetaudesign.com</p>	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Produkt On	
KEYWORDS	Agri-food, systemic buying group, local economic development.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Support local economic development. 2. Promote interactions among local actors. 3. Boost the re-discovery of local agri-food heritage not only as a source of nourishment but also as a form of tourism. 4. Promote a healthier diet for people. 5. Support SMEs. 6. Match local demand and offer. 	
OWNER OF THE PRACTICE	Produkt On, Oiz Egin, Azaro Fundazioa, Politecnico di Torino	
LOCATION OF THE GOOD PRACTICE	Country	Spain
	Region	Bizkaia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	A Systemic Buying group linking local producers to a local industrial company through Produkt On to promote sustainable and healthy food consumption and support local economic development.	
DETAILED INFORMATION ON THE PRACTICE	<p>Lea-Artibai is a co-brand of the Spanish Basque country whose economy has been traditionally linked to forestry and fishery two sectors that are currently experiencing a long-lasting crisis. Despite the richness of cultural and resource heritage of the agri-food field, this is mainly related to the fish industry, whereas breeding and especially agriculture are not valorised. The land is mostly used for forestry, and the competition with imported products is very high. Given this context, the GP aims to promote local economic development enhancing the undervalued agricultural sector.</p> <p>Oiz Egin, an association of local farmers, was formed thanks to the support of the Rural Development Agency of Lea-Artibai. The products of the association were sold in the Produkt On shop which managed all sales on behalf of farmers. However, the diffusion of local products remained an issue, as the shop had limited working hours and the activities performed to attract customers were inefficient. Besides, the analysis of the territory revealed a general tendency towards low-quality food and unhealthy diet. Through the implementation of a Systemic Design approach to the context, a system to overcome these problems was created. A Systemic Buying group was formed linking local producers to local consumers identified in the employees of a large local industrial company, Eika S. Coop, and their families. The management of contacts, orders, and deliveries is organised by Produkt On. The main stakeholders of the GP are primarily the actors involved and secondly their families as well as the whole comarca which benefits from local economic development.</p>	
RESOURCES NEEDED	The GP was launched with an initial investment of about € 3,000.	

TIMESCALE	<i>Start</i>	2015
	<i>End</i>	2017
EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	15 families of Eika S. Coop employees were involved in the Systemic Buying Group. To meet the demand, local producers have increased their activity as well as Produkt On.	
POTENTIAL FOR LEARNING OR TRANSFER	<p>The GP addresses a topic that is very common in different areas around Europe, especially in low demographic density areas: the exploitation of territories focused on one or two production activities — in this case forestry and fishery. Hence, when market conditions change, they leave the area in a situation of economic and social crisis.</p> <p>Though buying groups are nowadays quite common, the peculiarity of this project lays in its systemic dimension which gathers different actors aiming at creating a driving force for the further development of the project and the local economic environment.</p>	
FURTHER INFORMATION	www.oizegin.com/es	

GENERAL INFORMATION		
TITLE OF THE PRACTICE	Gaxure	
KEYWORDS	Agri-food, whey-derived product, by-product valorisation.	
SPECIFIC OBJECTIVE	<p>The GP aims to:</p> <ol style="list-style-type: none"> 1. Valorise a by-product of the cheese making industry (whey). 2. Create a value-added, marketable product for human consumption. 3. Reduce the environmental impact of whey disposal. 4. Find an alternative use of whey to the ones already in place which does not fully enhance its properties. 5. Find an alternative way to use whey feasible at a local level. 6. Create a relation between SMEs of the cheesemaking sector, very much developed at a local level, and a local research centre. 	
OWNER OF THE PRACTICE	Saskagoin Kooperatiben Elkarte, Leartiker Technological Centre	
LOCATION OF THE GOOD PRACTICE	Country	Spain
	Region	Bizkaia
DETAILED DESCRIPTION		
SHORT SUMMARY OF THE PRACTICE	The GP focuses on the creation of high value, marketable, craft products for human consumption using whey resulting as a by-product of the cheese-making industry.	
DETAILED INFORMATION ON THE PRACTICE	<p>Environmental regulations do not permit the dumping of whey due to its great environmental impact derived from high Chemical Oxygen Demand. Cheese factories are required to manage the serum treating or reusing it in their facilities or delivering it to another company for use or processing.</p> <p>Due to the orography of Lea-Artibai territory, the collection, transformation, and use of whey for highly valuable uses are extremely difficult, so it is mainly used to feed animals. Besides, whey has a chemical composition that allows its use for many relevant technological properties. Currently, approximately 13 million litres of whey per year are used in the production of the sheep cheese with Denomination Origin of Idiazabal (typical of the Basque country). The GP addresses both aspects, aiming to exploit the properties of whey to create high value, marketable, craft products for human consumption. Based on the cooperation between local SMEs and the Leartiker technological centre, a food product, Gaxure, was developed which uses 100% of whey and can be employed in the culinary field, especially in the gourmet sector.</p>	
RESOURCES NEEDED	N.A.	
TIMESCALE	Start	2008
	End	Ongoing

EVIDENCE OF SUCCESS (RESULTS ACHIEVED)	A new product for human consumption with a high nutritional and market value, Gaxure, has been created and is still in production. Since it is an edible product, its appearance is also important. In this sense, one additional evidence of success is the ability to create a product which is appealing not only for its nutritional values but also for its visual appearance and taste.
POTENTIAL FOR LEARNING OR TRANSFER	The cheesemaking industry is very well developed and diffused in Europe. As a consequence, the problem of sustainable whey disposal is common to many areas. Thus GP has a high level of transferability. This GP is also particularly valuable for its capacity to create a new product which appeals to the luxury market of gourmet food, starting from a matter with very low perceived quality.
FURTHER INFORMATION	www.gaxure.com/en/zer-da-gaxure/

4. Sharing of Experiences Through the Policy Learning Platform

EILISH O'LOUGHLIN

Through the Interreg Europe programme, the sharing of experience is performed at two different levels. First of all, it takes place within the project thanks to the exchange of Good Practices among project partners, as described in chapters 2 and 3. Secondly, a sharing of knowledge among a wider audience of stakeholders is promoted and enabled through the Policy Learning Platforms; the topic is addressed in this chapter.

4.1 DESCRIPTION OF THE POLICY LEARNING PLATFORM: STRUCTURE, FUNCTIONING, AIMS

Interreg Europe helps regional and local governments across Europe to develop and deliver better policy. By creating an environment and opportunities for sharing solutions, we aim to ensure that government investment, innovation, and implementation efforts lead to integrated and sustainable impact for people and place. The programme facilitates the exchange of experience activities to improve the design and implementation of public policies, in particular, Structural Funds programmes in the following four topics:

- ✓ Strengthening research, technological development, and innovation.
- ✓ Enhancing the competitiveness of SMEs.
- ✓ Supporting the shift towards a low-carbon economy in all sectors.
- ✓ Protecting the environment and promoting resource efficiency.

Through interregional cooperation projects, the programme brings together policy organisations from different European countries to tackle a shared challenge for 3-5 years and improve specific policy instruments. With 130 projects approved in the first two calls, and more than 30 projects reaching the end of their learning phase in 2018, a growing bank of knowledge and GPs is available which could benefit other regions aside from those directly involved in the projects. Against this background, Interreg Europe has developed the Policy Learning Platform which aims to capitalise on the project results, open up the knowledge programme to new regions, and offer thematic learning opportunities for any policymaker in Europe.

In practice, the Platform is an interactive web portal facilitated by a team of thematic and communication experts which offers the following set of services:

1. *Expert support via an online helpdesk* – Community members may contact the Platform experts directly via the helpdesk for advice on their specific needs. For instance, experts can share GPs or contacts from other regions that have implemented solutions for a similar challenge. Support is also provided in the form of online discussion hours and thematic webinars. As the experts become more familiar with the needs of community members, the services can be adapted and tailored accordingly.

In addition, managing authorities can request a personalised peer review. Selected peers from across Europe are invited to the host region for a comprehensive onsite visit. Peers examine the territorial context and provide policy recommendations based on their experience and expertise. The Platform experts support the peers in analysing the regional situation, discussing approaches, solutions, and recommendations, drafting an action plan and providing immediate feedback.

2. *Community* – Policy learning and networking is enabled among community members through the organisation of online and in-person events. Thematic workshops bring together Interreg Europe projects to exchange their results, their GPs and explore possible synergies. In addition, networking events open up the programme’s knowledge to the widest possible audience and forge links with other relevant EU initiatives and thematic platforms. The common thread throughout all Platform events is the fact that community members themselves are the drivers that add value to the event by creating a peer learning experience. We count on each community member to reap the benefits of the Platform services and contribute to the activities.
3. *Knowledge Hub* – Platform experts track the latest policy trends and prepare different analyses on the four programme topics to develop a one-stop-shop for policymakers working on regional development. Community members are invited to log in regularly to discover the latest published news articles and policy briefs as well as reports on activities such as peer reviews and discussion hours. Among future improvements to the Platform services, community members can expect new features which enable them to upload their publications and further enrich the knowledge hub.
4. *Good Practice Database* – All community members may submit their GPs for expert validation using the dedicated Platform web tool. The submission form captures detailed information about how the practice was implemented, including insights into any challenges encountered and resources needed to set up the initiative. The Platform experts screen submissions on an ongoing basis and validate the most interesting GPs which have the potential to inspire learning in other European regions. Validated GPs are published on the GP Database along with an expert opinion which highlights an interesting feature of the practice or a potential link to other EU initiatives. Since each GP is ideally submitted by and connected to the individual with first-hand experience implementing it, the Platform offers a quick and easy means to obtain any further information needed for learning and transfer.

4.2 THE ROLE OF THE POLICY LEARNING PLATFORM WITHIN INTERREG EUROPE

As outlined in the Interreg Europe Cooperation Programme, there is a need for more continuous policy learning to capitalise on regional policy GPs, and to actively bring the results of interregional cooperation projects to all regional stakeholders in a given policy field. The regional diversity in the EU, where regions have vastly different characteristics, opportunities, and needs, necessitates going beyond a ‘one-size-fits-all’ approach to policymaking. It calls for a place-based approach that gives regions the means to deliver policies that meet their specific needs. If European regions can tap into GP examples, knowledge and expertise tailored to their specific policy needs, in the moment when this need arises, this would help boost the reach and impact of the Interreg Europe Programme.

Therefore, the role of the Policy Learning Platform is to provide these services to European regions by developing a high-quality source of regional policy expertise that can be used directly in the development of policies and strategies that support the Europe 2020 goals. While the Policy Learning Platform represents only a small part of the overall Programme budget (less than 5%), it is expected to leverage the Programme's impact significantly.

4.3 PRELIMINARY RESULTS FROM THE POLICY LEARNING PLATFORM

After the first full year of implementation, the Policy Learning Platform has reached a number of important milestones.

Concerning outreach to the target group, approximately 20% of the registered users are managing authorities and implementation bodies of Structural Funds programmes. Around 40% of registered community members are public authorities, and more than half have a role in the policymaking process. The fact that almost two-thirds of community members are not Interreg Europe project partners highlights the significant role of the Platform in attracting regional development stakeholders who are not yet engaged in the programme.

Following a user survey to determine the needs and expectations of European regions, the online services have been set up allowing community members to access tailored information and expert support at the touch of a button. The GP Database went live in January 2018. This key development paved the way for Interreg Europe projects and others to submit their most interesting GPs to the database for expert validation and publication. Alongside the GPs, over 65 news articles and 27 policy briefs and counting are now accessible online through the Knowledge Hub.

In order to build the community offline as well as online, six physical events were organised in 2017. The Committee of the Regions hosted four thematic workshops in Brussels, bringing together a total of 113 participants from Interreg Europe projects to exchange experience and identify actions for future co-operation. The topics covered were 'Investing in health and wellbeing', 'SME internationalisation', 'Sustainable urban mobility planning', and 'Circular Economy'. Participants appreciated the group discussions and the participatory approach. The opportunity to meet other projects was considered very useful, as was the chance to better understand the Platform services. Building on this, the aim is for future workshops to offer more concrete examples and to go deeper in understanding the projects.

In October, the Platform organised two networking events in Milan (research and innovation and SME competitiveness) and Seville (energy and resource efficiency) offering the chance for community members to meet each other and representatives from other EU initiatives and organisations. The back-to-back format of the events facilitated interactions among policymakers working in different yet complementary fields. The speed dating, peer-to-peer discussions and the collaborative and lively atmosphere were particularly appreciated. The events were seen as useful for developing interpersonal connections, accessing expertise and information and testing out the various Platform services. For the future, the community members would like to see more connections facilitated with other projects along with additional opportunities to explore GPs. As the second year of implementation has now kicked off, community members can look forward to more opportunities for policy learning both online and offline facilitated by the experts. In 2018, the Platform team will launch the peer review services and reinforce the of-

fine thematic events with online discussions. Together with the Joint Secretariat, the experts will continue to strengthen links with relevant EU initiatives such as the Smart Specialisation Platform in Seville and the Committee of the Regions, in addition to thematic platforms related to the programme¹.

¹ See: www.interregeurope.eu/policylearning.

5. Outcomes and Insights from the RETRACE Good Practices on Circular Economy

AMINA PERENO

The selection methodology and the final collection of Good Practices (GPs), outlined in the previous chapters, make a significant contribution to the body of knowledge concerning the main political needs to enhance the ongoing transition towards a Circular Economy (CE). The GPs provide an overview of the existing private and public bodies that are contributing in different fields to the implementation of circular business models, as well as to the knowledge creation and inter-stakeholder cooperation in the area of a CE.

The selection included 30 GPs that have been mapped and analysed during the seven Field Visits planned in the RETRACE Interreg Europe project. However, the developed methodology has defined a repeatable and adaptable model that could be effectively applied to other regions, to share and spread the achieved results. Furthermore, the GP collection allowed to establish critical emerging needs that European and regional policies should address to boost circular innovation both at local and international level. Five policy guidelines emerged from the selection (cf. par. 5.2), based on practical challenges that private enterprises and public institutions are facing in putting in place business and services related to a CE.

5.1 RESULTS ACHIEVED THROUGH THE GOOD PRACTICES COLLECTION METHODOLOGY

The RETRACE research methodology described in the publication “Systemic Design Method Guide for Policymaking: A Circular Europe on the Way” (Barbero, 2017) is based on the Systemic Design approach, which starts from the Holistic Diagnosis (HD) tool (Bistagnino, 2011) to define the state-of-the-art of a complex system. In the RETRACE project, the HD was crucial to analyse the regional framework (step 1), the current policies (step 2), and the primary economic and industrial sectors (step 3) of each of the five regions involved in the project. The identification of GPs and the personal knowledge and exchange of experiences during the FVs have been core activities of RETRACE, in line with the goals of the Interreg Europe Programme. However, the two processes have operated in complete synergy: while the HD has allowed to draw up a comprehensive overview of each regional context, the GP selection enabled each partner to map the existing public and private realities on its territory, to integrate its vision on the state-of-the-art. Overall, the HD and the GP selection played a complementary role in fully understanding the potentials and criticalities of the regions involved.

Another important outcome of the GP selection derives from the two-level structure of the applied methodology. The first level of the GP selection was carried out by each partner to define a shortlist of 15 local GPs that could be suitable for the FV. This process enabled a critical reading of the practices existing in the regional framework, allowing partners to distinguish the case studies that could be interesting, but still bound to the idea of a Linear Economy, from those that represent cutting-edge practices in the field of a CE. The second level of selection focused on the identification of the best 8 GPs which may serve as outstanding examples of circular innovation and could give a practical answer to the Policy Gaps highlighted in the project, thus supporting the definition of the Regional Action Plans (RAPs).

The third result concerns the sharing of experience among project partners and stakeholders from different countries. The sharing of local GPs during the FVs improved the personal knowledge of partners, encouraging cross-fertilisation of ideas, giving mutual support and providing important keys for reading the specific gaps and potentials of each region. The regional stakeholders took part in the FVs or received direct feedback during the Stakeholder Group Meetings: this offered them the opportunity to share their perspectives with other international stakeholders, gaining significant insights to improve their businesses and activities. The sharing of knowledge, after each FV, with other national stakeholders allowed for the amplification and acceleration of the exchange of ideas and insights coming from the presented GPs.

The RETRACE Matrix (Pallaro, 2017) has been a valuable tool to match the lessons learned from GPs and the issues emerged from the HD. The Matrix is another helpful instrument to select the best GPs presented in this book since it allows to create a collection based on the utility of the GPs related to regional strategies. The GPs have been divided into six areas according to the Policy Gaps Threads which emerged from the Matrix. This categorisation gives a practical value for those who are approaching a CE and are looking for European practices able to provide useful inputs for policy and regional transition.

Lastly, the applied methodology proposed a direct connection between the GPs and the Policy Gaps (PGs) (cf. chapter 3), aiming at fostering a pro-active role of GPs to provide an overview of the current weaknesses of regional policies and existing solutions when facing regional innovation towards a CE. This link is essential to enhance the transfer of the knowledge acquired within the project to other countries and stakeholders that are involved in policymaking and interested in promoting a CE at regional and European level.

5.2 GUIDELINES AND FUTURE DIRECTIONS FOR REGIONAL TRANSITION TOWARDS CIRCULAR ECONOMY

The GPs Collection illustrated in chapter 3 highlighted some significant gaps that need to be addressed to promote a circular innovation in European regions. Many of the presented GPs were born to start solving these gaps or, conversely, they experienced and stressed some severe obstacles. Overall, five key issues emerged from the selection of the GPs. From them, it is possible to outline five general guidelines that combine five primary Policy Gap Threads with the potential solutions provided by the GPs. In particular, the guidelines relate to:

- ✓ Guideline 1 > Support collaboration between sectors.
- ✓ Guideline 2 > Tailored policy measures on CE + Policy regulations on CE.
- ✓ Guideline 3 > Policy in support to business and market development for CE activities.
- ✓ Guideline 4 > Policy focused on SMEs and micromanufacturing.
- ✓ Guideline 5 > Raising involvement and knowledge of operators concerning the CE.

Guideline 2 brings together two Policy Gap Threads because the selected GPs concerning them offer similar solutions that provide helpful insights on policy regulations about the CE.

The overall goal of the following guidelines is to help regional policymakers to define future directions of actions promoting a CE both at a local and international level.

Guideline 1: Promote Inter-Sectoral Cooperation

A multi-disciplinary and multi-sectoral approach is the cornerstone of a Circular Economy. Industrial systems can reach the zero-waste goal only if they apply a cross-cutting approach to their business models. Looking beyond the current vertical approach, circular innovators are thinking in terms of value chains, proposing a new horizontal approach that combines several activities involving different industrial areas and disciplines.

For example, Horizon Proteins in Scotland is carrying out a new business based on patented technology to obtain under-utilised proteins captured in distillery by-products to create high-quality fish feeding. The collaboration of different stakeholders was essential to develop this technology which combines biology, engineering, and management. Furthermore, the cooperation of diverse sectors (universities, whiskey distilleries, biochemical companies, and fish farmers) is the core business of Horizon Proteins.

Regional policies should support this cooperation between different sectors, promoting Industrial Symbiosis and acting to remove the potential regulatory barriers that may hamper the collaboration of diverse stakeholders.

Guideline 2: Enhance Policies Focused on Circular Economy

Circular activities show unique and disruptive features that often face the lack of tailored policies able to promote this innovative vision of regional development. The interdisciplinary and inter-sectoral approach of the CE requires a large number of heterogeneous stakeholders to manage the input-output flows between different supply chains and industrial areas. All this is based on the new concept of waste (both pre- and post-consumption) as key local resources that should be exploited.

New tools are needed to promote this new vision. The Circular Valley is an innovation hub in The Netherlands that aims at boosting CE-related activities by bringing together different stakeholders that receive practical support regarding space and business guidance. This environment enhances the creation of new synergies among stakeholders, ranging from designers to NGOs, start-ups, SMEs, corporates and governmental organisations.

This kind of regional instruments, as well as tailored policies on this topic, are essential to support sustainable development and encourage the new perspective promoted by a CE. To make new policies efficient, the multiplicity of the actors involved should be taken into careful account, thus supporting a horizontal dialogue between stakeholders to help them collaborate on an equal basis.

Guideline 3: Boost Business Activities around Circular Economy

Many of the selected GPs are playing an essential role in raising awareness of the CE, supporting research and innovation in this area, and creating new ways of making connections between different actors and sectors. In addition to these GPs, it is essential to support entrepreneurial realities and businesses, since they can bring the innovative approach of the CE to market, while providing real benefits for regional development, first by contributing to job creation. A circular innovation should be promoted at all levels, including start-ups and innovative SMEs as well as large enterprises that are seeking to expand their businesses or significantly change their strategies and business models towards a CE.

For example, in Slovenia, the company Iskraemeco is carrying out the Fair Meter Project,

which aims at producing electronic smart metres by taking into account the environmental and social sustainability of the whole supply chain. The company has won a contract of about 470 million EUR to supply the Dutch government with 2.5 million of Fair Meters. Besides the economic benefit to the company and its local and international supply chain, this business project will promote on the market a new circular approach to electronic products.

Specific policy instruments are required to support economic activities related to a CE: public tendering procedures are particularly valuable tools for companies, though entrepreneurial realities also need special support in finding investors, venture capitalists, and managing the start-up phase of their businesses.

Guideline 4: Support the Role of SMEs in Circular Innovation

If attention must be paid to all business activities promoting a CE, policymakers should place particular stress on developing supporting tools for SMEs and micromanufacturing, which are a central part of the European economic fabric. SMEs represent key elements to stimulate the transition towards a CE since they have a high degree of flexibility and the ability to respond promptly to new market needs. However, they need strong support to supply their limited availability of economic resources to invest in research and development of new circular activities and the reduced capability of creating national and trans-national cooperation networks with other stakeholders.

Agrindustria is an Italian SME founded in 1985 with the idea of exploiting the unused value of local agro-industrial and agricultural waste by creating sustainable products for different industrial applications. The company has expanded continuously introducing new products and addressing new sectors, such as automotive, clean tech, cosmetics, and animal husbandry. This has also been possible thanks to the access to regional and international policy instruments that have allowed the company to invest in sustainable products and process innovation, despite its limited size and the lack of human and financial resources to create an internal R&D department. However, the experience of Agrindustria shows how some significant tools, such as the European SME instrument, are still difficult to access and regional policies are fundamental to help small enterprises in bringing forward innovative projects and products related to a CE.

Guideline 5: Raise the Involvement and Training of People Involved in Circular Economy Activities

The transition towards Circular Economy requires, first of all, a radical change of paradigm in the current vision of regional territories and production systems. This revolution is summarised by Bompan (2016) in three key points: rediscover discarded matter as sources of material; end the unused value of products and stop the premature death of materials. Many GPs are promoting initiatives with the objective of consolidating and spreading knowledge and awareness about Circular Economy and sustainable development.

In some cases, GPs are acting at a local level to increase awareness of a CE among citizens and regional actors. There are innovative centres that have been founded with the aim of raising awareness among citizens and other stakeholders. The Edinburgh Remakery for example, presents affordable and creative programmes to satisfy the needs of the communities, businesses, local authorities, and the resource management industry.

In other cases, GPs are aimed at raising worldwide involvement and awareness of issues related to existing problems and a CE. For example, many companies are promoting awareness cam-

paigns concerning some topics related to their business: AquafilSLO, a Slovenian company that created the ECONYL® technology to recover the nylon contained in waste, launched an initiative to collect the discharged fishing nets and inform people about the importance of ending sea and ocean pollution.

Both kinds of initiatives are significant as they involve citizenships and industrial operators raising general awareness of the importance of a CE. In a highly Linear Economy, there is still work to be done to promote a new culture of sustainable production, responsible consumption, and circular innovation.

5.3 THE RETRACE POLICY ROAD MAP FOR A SYSTEMIC APPROACH ON CIRCULAR ECONOMY

The selection of GPs from the RETRACE project provided an overview of the possible strategies to start implementing circular businesses, creating knowledge about the CE and supporting inter-stakeholder cooperation in this area. As explained in chapter 3, the GPs have been matched to the PGs in the RETRACE Matrix. This cross analysis has enabled to identify a set of six threads in Policy Gaps, highlighting the main issues related to the transition towards a CE. These common threads, together with the guidelines presented in the previous paragraph, are the basis for the definition of Regional Action Plans, that will represent the final and most significant outcome of the RETRACE Project.

The goal of this book is to give an overall picture of the state-of-the-art towards a CE emerging from the first phase of the project, thus presenting the current problems that still need to be faced and the existing solutions that are seeking to answer these needs (the GPs Collection). The next publication will provide a comprehensive vision of the methodology and the outcomes obtained through its application. The “RETRACE Policy Road Map for a Systemic Approach on Circular Economy” will include the results achieved by RETRACE with the aim to make visible the benefits of adopting systemic approaches to support the transition towards a CE. It will also provide guidelines including policy recommendations for the update of regional and national RIS3 strategies.

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Glossary

CIRCULAR ECONOMY

According to the definition provided by the Ellen MacArthur Foundation, a Circular Economy is “restorative and regenerative by design. In a circular economy, there are two kinds of material cycles: biological, capable of being reintegrated into the biosphere, and technical, destined to be re-valourised without entering the biosphere. As envisioned by the originators, a circular economy is a continuous positive development cycle that preserves and enhances natural capital, optimises resource yields, and minimises system risks by managing finite stocks and renewable flows. It works effectively at every scale.” In a Circular Economy, the use of resources (input) is optimised, and the production of by-products or waste (output) is minimised through different kinds of actions that include design for long-lasting products, maintenance, reuse, recycling, repair, remanufacturing and refurbishing. This approach is opposed to the Linear Economy, guided by the “take, make, dispose” production model.

See: <http://www.c2cproducts.com/detail.aspx?linkid=1&sublink=6>

See: <https://www.ellenmacarthurfoundation.org/circular-economy>

See: https://en.wikipedia.org/wiki/Circular_economy

FIELD VISIT

Field Visits involve both partners and stakeholders. Each FV lasts one day and a half, including the presentation of Good Practices (GPs) and the visit of at least one GP. Besides collecting extra information on specific topics directly from the representatives of the GPs, FVs also offer the opportunity to see partner regions and the context in which the GPs take place, providing an additional level of understanding of the GP. Moreover, these events promote the networking activity among stakeholders, partners, and representatives of local good practices and offer an occasion for partners to spend time together and work in a team.

See: Pallaro, A. (2017). Good Practices and Field Visits. In S. Barbero (ed.), *Systemic Design Method Guide for Policymaking: A Circular Europe on the Way*. Turin, Italy: Allemandi, pp. 125–126.

GOOD PRACTICE

A Good Practice is defined as an initiative (e.g., a project, a process, a technique) undertaken in one of the programme’s priority axes, which has proved to be successful in a region and is of potential interest to other regions. A Good Practice is “proved successful” when it has provided tangible and measurable results in achieving a specific objective.

See: *The Interreg Europe Programme Manual*, p. 36.

HOLISTIC DIAGNOSIS

Placed in the foreground of the Systemic Design Approach methodology, the Holistic Diagnosis (HD) is a tool that evaluates the context of a project through different levels of analysis to define the current state-of-the-art.

The HD aims at highlighting the connections between system components and provides accessible support for the interpretation of data. This tool is executed through different means of investigation at economic, socio-cultural, and environmental level. It develops through different phases, which enable

the collection of qualitative and quantitative data, followed by the analysis of interactions between them. The HD is carried out in three phases: desk research (phase 1) and field research (phase 2) are dedicated to the collection of quantitative and qualitative information through different methods while the research synthesis (phase 3) is dedicated to the analysis of the collected data.

See: Battistoni, C., and Giraldo Nohra, C. (2017). The RETRACE Holistic Diagnosis. In S. Barbero (ed.), *Systemic Design Method Guide for Policymaking: A Circular Europe on the Way*. Turin, Italy: Allemandi, pp. 112–120.

INDUSTRIAL SYMBIOSIS

The Industrial Symbiosis represents one of the subsets of Industrial Ecology. Industrial Symbiosis traditionally separates entities in a collective approach to competitive advantage involving physical exchanges of materials, energy, water, and by-products (Chertow, 2000). Different industries collaborate to gain mutual economic and environmental benefit, even if partners should be independent (“across the fence”) as someone’s waste is the raw material for someone else, in a way that is economically and environmentally profitable. The Industrial Symbiosis is the development of an improved performance industrial system since exchanges based on collaborative, synergistic connections have the potential to improve resource use efficiencies, thus contributing to the reduction of resource throughput and pollutant emissions.

See: Chertow, M. R. (2000). Industrial Symbiosis: Literature and Taxonomy. *Annual Review of Energy and Environment*, vol. 25, pp. 313–337.

POLICY LEARNING PLATFORM

A Policy Learning Platform is a service addressed to project partners and other organisations involved in regional policy around Europe to promote continuous policy learning and the capitalisation of good regional policy practices. To ensure clear communication and visibility, there is one Policy Learning Platform per thematic objective (research and innovation, competitiveness of SMEs, low-carbon economy, environment and resource efficiency). Each Platform consists of two elements: an international team of experts, specialised in the thematic policy field addressed by the programme investment priorities, which include organising activities and providing information and support to the European regions for improving the planning and implementation of their policies. The second element is an interactive web interface designed to facilitate networking, information sharing, knowledge management and exchange. Actors dealing with regional development policies in Europe can find information, reports, publications on the thematic policy fields as well as a database of the relevant good practices and results from the interregional cooperation projects.

See: *The Interreg Europe Programme Manual*, p. 29.

REGIONAL ACTION PLAN

The Action Plan is a document produced by each region providing details on how the lessons learned from the cooperation will be implemented to improve policy instruments addressed to their region. It describes the actions that need to be implemented, their timeframe, the players involved, and the possible related costs and funding sources.

See: *The Interreg Europe Programme Manual*, p. 38.

SYSTEMIC DESIGN

Systemic Design is a recent approach in design that integrates systems thinking and human-centred design, with the intention of helping designers cope with complex design projects. The current challenges to design coming from the increased complexity caused by globalisation, migration, and sustainability make traditional design methods insufficient. Designers need better ways to plan responsibly and avoid unintended side-effects. Systemic Design intends to develop methodologies and approaches that help to

integrate systems thinking with a design towards sustainability at environmental, social, and economic level. It is a pluralistic initiative where many different approaches are encouraged to thrive and a dialogue and organic development of new practices are central. In this publication, we refer to the methodology described by Professor Luigi Bistagnino, which is built around the key principle that by taking inspiration from nature, the material and energy output of a system (waste) can become the input for another system (resource) (Bistagnino, 2011). These relationships generate an autopoietic system of interconnected processes in which waste is reduced and tends to produce zero emissions. This system is strictly connected to the local territory where the process operates and built around the needs of its inhabitants.

See: https://en.wikipedia.org/wiki/Systemic_design

See: Bistagnino, L. (2011). *Systemic Design. Designing the Productive and Environmental Sustainability*. Bra, Italy: Slow Food Editore.

Authors' Biographies

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Tiziana Dell'Olmo has been working for the regional government of the Piedmont Region since 2001. As regional coordinator of the Interreg Programmes she developed broad expertise in regional and European programming and development policies. Currently, at the University, Research and Innovation Unit, she supports the implementation of regional innovation policies and the strengthening of regional innovation systems at national, European and international level.

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EILISH O'LOUGHLIN

Eilish O'Loughlin works for the Interreg Europe Joint Secretariat since 2016. As a Policy Officer within the Projects and Platform Unit, she is responsible for the assessment and monitoring of interregional cooperation projects, and offers assistance for potential project applicants. Eilish also works on the Policy Learning Platform, cooperating with thematic experts in the field of environment and resource efficiency to deliver learning and networking activities for policymakers, in addition to supporting the overall coordination and implementation of the Platform services. Eilish holds a bachelor's degree in Geography, Planning and Environmental Policy from University College Dublin and a master's degree in Urban and Rural Design from Queens' University Belfast. Previously, she worked in the non-profit sector for an international sustainability network for local and regional governments.

AGNESE PALLARO

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This volume aims at clarifying the role of Systemic Design and Circular Economy Good Practices in the transition towards a sustainable development and how policy gaps can be addressed through the implementation of such examples. It is a guide to a selected range of Good Practices that address the most common policy gaps hampering the sustainable development; fostering all actors involved in policy making processes to encourage more effective paths towards the Circular Economy. This publication is addressed to regional policymakers and policy managers and is the second of a three book series published across a four-year period (2016–2020) as part of the RETRACE Project funded by the Interreg Europe Programme.

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volume 2

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