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SCREEN - Synergic Circular Economy across European Regions

4th SCREEN INTERNATIONAL WORKSHOP: "Pamplona, 5th of September 2018

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This deliverable has been peer reviewed by:
Veltha (Carlo Polidori)

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1. Executive summary

SCREEN is an H2020 coordinating and supporting action participated by 17 European regions, aiming at the definition of a replicable systemic approach towards a transition to Circular Economy in EU regions within the context of the Smart Specialisation Strategy. The project also deals with the identification and implementation of operational synergies between investments in research and innovation under Horizon 2020, the Structural Funds and the European Investment Funds.

Besides developing a common agreed approach to support a transition to a circular economy and to enhance existing smart specialization strategies of the involved regions, the project intends to develop some policy support advisory services to enable regions to invest EU funds in transnational value chains.

Furthermore, the identification and implementation of operational synergies between investments in research and innovation under Horizon 2020, the Structural Funds and the European Investment Funds is also an important task of the project, addressed within the SCREEN Policy Lab.

The third SCREEN workshop was held in Pamplona (Spain) on 05-09-2018 with the objective of comparing regional examples of circular economy projects (session 1), in order to learn each other and better prepare the future programming period, also using the common agreed SCREEN methodology.

The second session was dedicated to the interregional cooperation approaches with examples from the Euroregion approach (Aquitaine, Basque Country and Navarra) and from the Vanguard Initiative.

37 Stakeholders attended the event (including two regional ministers from Navarra and the President of the Portuguese region of CENTRO, all composing the target group of regional officers dealing with circular economy and stakeholders working in the same field. At the end of the event , all expressed their interest in cross-regional cooperation and in the possibilities and advantages offered by the SCREEN methodology.

Due to the provenience of several speakers, the presentations were given in three different languages: English, Spanish and Basque. While the slides are reported in the annex in different languages, a resume in English is contained in the specific section of this document.

2. List of Participants

Nº	✓ NAME	PARTNERS ORGANIZATION	
1 ✓	Alakerttula, Johanna	Council of Tampere Region	Johanna Alakerttula
2	Caimi, Valentina	Regione Lombardia	Valentina Caimi
3 ✓	Caruccio, Filomena	Lazio Region	Filomena Caruccio
4 ✓	Chelariu, Bogdan Alexandru	Agentia pentru Dezvoltare Regionala Nord-Est / North-East Regional Development Agency	Bogdan Chelariu
5 ✓	De Vega Fernández, Isabel	Junta de Extremadura	Isabel De Vega Fernández
6	Franca, Margarida	CCDRC	Margarida Franca
7 ✓	Gallina, Giorgio	Regione Lombardia	Giorgio Gallina
8 ✓	GARCIA, Eva	Gobierno de Navarra	Eva Garcia
9 ✓	Giannisi, Silvia	VELTHA	Silvia Giannisi
10 ✓	Halonen, Nillo	Tampere University of Technology	Nillo Halonen
11 ✓	Hazenberg, Tjeerd	Province Fryslan	Tjeerd Hazenberg
12 ✓	IRUJO, Mikel	Gobierno de Navarra	Mikel Irujo
13 ✓	Jorge, Teresa	CCDRC	Teresa Jorge
14 ✓	KAROUSOU, Aliki	Region of Crete	Aliki Karousou
15 ✓	Lopez Piñero, Francisco	Junta de Extremadura	Francisco Lopez Piñero
16 ✓	Muñoz Barco, Pedro	Junta de Extremadura	Pedro Muñoz Barco
17 ✓	PELAYO, Esteban	EURADA	Esteban Pelayo
18 ✓	Podgórski, Marcin	Regional Office of the Lodzkie Region in Brussels	Marcin Podgórski
19 ✓	Polidori, Carlo	VELTHA	Carlo Polidori
20 ✓	Quintais, Ana	CCDRC	Ana Quintais
21 ✓	Rodrigues, Alexandra	CCDRC	Alexandra Rodrigues
22 ✓	Rossi, Ferdinando	Lazio Region	Ferdinando Rossi
23 ✓	Rotili, Emanuele	Lazio Region	Emanuele Rotili
24 ✓	SALANUEVA, Raúl	Gobierno de Navarra	Raul Salanueva
25 ✓	Seppänen, Marko	Tampere University of Technology	Marko Seppänen
26 ✓	Silva, Natália	FRCT - Açores	Natalia Silva
27 ✓	SOLA, Delia	Gobierno de Navarra	Delia Sola
28 ✓	Volkers, Bart	Province Fryslan	Bart Volkers
29 ✓	Vos, Eric	Province Fryslan	Eric Vos
30 ✓	ZUAZO, Pedro	Gobierno de Navarra	Pedro Zuazo
31	COLLEDANI PARCELLO	AFIL	Nicola Colledani
32	VILUAVA, SERGIO	SODENA	Sergio Viluava
33			
34			
35			



3. Agenda

(in English, Spanish and Basque language)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No750513.

PARTNERS

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Schedule

09:00 Registration

09:15 Opening

- **Isabel Elizalde**, regional minister of Rural Development, Environment and Local Administration

09:30 SCREEN project

- Presentation: **Carlo Polidori**, project manager; VELTHA, ivzw, BE

09:45 Good practices on circular economy strategies: regional examples

- The experience in Navarre:
Eva García, director of Environment Government of Navarra
- Regional good examples on circular Economy Strategy:
Tjeerd Hazenberg, representative of ERDF Northern Netherlands;
Johanna Alakerttula, Tampere; and **Ferdinando Rossi**, Lazio
- Local company experience on circular economy:
Pedro Mendarozketa, general manager Smurfit Kappa

11:00 Coffee Break

11:30 New interregional cooperation approaches: SCREEN MoU & Vanguard re & de-manufacturing demo case

- Euroregion approach (Aquitaine, Basque Country and Navarra):
Jesús Losada/Ignacio Quintana, Basque Environmental Management Agency, and **Izaskun Goñi**, director of Economic Policy of Government of Navarre
- Interregional Innovation Investments in the EU:
Marcelo Colledani, Intelligent Factory Lombardy Region Cluster

12:15 Next steps of the SCREEN project

- Policy Makers recommendation manual on circular economy

12:30 Closing

- **Ferran Tarradellas**, European Commission
- **Ana Olio**, regional minister for Citizens and Institutional Relations

Programa		ES	EUS
09:00	Acreditación		
09:15	Apertura	<ul style="list-style-type: none"> - Isabel Elizalde, consejera de Desarrollo Rural, Medio Ambiente y Administración Local 	<ul style="list-style-type: none"> - Isabel Elizalde, Landa Garapeneko, Ingurumeneko eta Toki Administrazioko kontseilaria
09:30	Proyecto SCREEN	<ul style="list-style-type: none"> - Presentación: Carlo Polidori, gestor del proyecto; VELTHA, ivzw, BE 	<ul style="list-style-type: none"> - Aurkezpena: Carlo Polidori, proiektuaren kudeatzailea; VELTHA, ivzw, BE
09:45	Buenas prácticas en estrategias de economía circular: ejemplos regionales	<ul style="list-style-type: none"> - La experiencia en Navarra: Eva García, directora de Medio Ambiente del Gobierno de Navarra - Ejemplos positivos regionales de estrategias de economía circular: Tjeerd Hazenberg, representante del FEDER en Fryslan; Johanna Alakerttula, Región de Tampere; y Ferdinando Rossi, región de Lacio - La experiencia sobre economía circular de una compañía local: Pedro Mendarozketa, director general de Smurfit Kappa 	<ul style="list-style-type: none"> - Nafarroako esperientzia: Eva García, Ingurumeneko zuzendaria, Nafarroako Gobernua - Ekonomia zirkularreko estrategien adibide positiboak erregio mailan: Tjeerd Hazenberg, EEGF-ko ordezkarria Fryslan; Johanna Alakerttula, Tampere erregioko kontseilukoa; eta Ferdinando Rossi, Lacio erregiokoa - Ekonomia zirkularreko esperientzia tokি mailako enpresa batean: Pedro Mendarozketa, Smurfit Kappa-ko zuzendari nagusia
11:00	Café		
11:30	Nuevos enfoques sobre cooperación interregional: SCREEN MoU & Vanguard re & de-manufacturing demo case	<ul style="list-style-type: none"> - Enfoque a nivel de Euroregion (Aquitania, País Vasco y Navarra): Jesús Losada/Ignacio Quintana, Sociedad Pública de Gestión Ambiental, e Izaskun Goñi, directora de Política Económica del Gobierno de Navarra - Inversiones de innovación interregional en la EU: Marcelo Colledani, Intelligent Factory Lombardy Region Cluster 	<ul style="list-style-type: none"> - Ikuspuntu berriak erregio arteko lankidetzari buruz: SCREEN MoU & Vanguard re & de-manufacturing demo case - Ikuspuntua euroerregion mailan (Akitania, Euskadi eta Nafarroa): Jesús Losada/Ignacio Quintana, Ingurumen Kudeaketako Sozietate Publikoa, eta Izaskun Goñi, Nafarroako Gobernuko Politika Ekonomikorako zuzendaria - Erregio arteko berrikuntza-inbertsioak EBean: Marcelo Colledani, Intelligent Factory Lombardy Region Cluster
12:15	Siguientes pasos del proyecto SCREEN	<ul style="list-style-type: none"> - Manual de recomendaciones sobre economía circular para legisladores 	<ul style="list-style-type: none"> - SCREEN proiektuaren hurrengo urratsak - Legegileentzako gomendio-eskuliburua ekonomia zirkularrari buruz
12:30	Clausura	<ul style="list-style-type: none"> - Ferran Tarradellas, Comisión Europea - Ana Ollo, consejera de Relaciones Ciudadanas e Institucionales 	<ul style="list-style-type: none"> - Ferran Tarradellas, Europar Batzordea - Ana Ollo, Herritarrekiko eta Erakundeekiko Harremanetako kontseilaria

4. Minutes

Opening - Isabel Elizalde, Regional Minister of Rural Development, Environment and Local Administration-

Ms. Elizalde welcomed all the participants and the speakers, then underlined the importance of circular economy for the regional development and explained the efforts already done in Navarra, that will be detailed by the other speakers. She particularly welcomed the initiative aimed to foster inter regional cooperation . A short video of her speech is available on the project dedicated web page www.screen-lab.eu/WS-Pamplona.htm

Project Presentation: Carlo Polidori, (Project Manager; VELTHA ivzw, BE)

The general objective of the project was the definition of a replicable systemic approach towards a transition to Circular Economy in EU regions within the context of the Smart Specialization Strategy. SCREEN also deals with the identification and implementation of operational synergies between investments in research and innovation under Horizon 2020, the Structural Funds and the European Investment Funds.

The project has developed a methodology and tools for:

- Analysis of existing regional capabilities.
- Identification of cross-regional potential synergies.
- Identification of research gaps to actually implement the above potential synergies into practical projects.
- A portfolio of regional financing instruments for the above identified projects.
- A methodology of funding synergies for cross-regional projects, agreed by all the 17 participating Regions , with a Memorandum of Understanding already signed by 10 Regions.
- A methodology to assess the circularity of one project respect another one, validated through a questionnaire filled in by 164 European stakeholders.

SCREEN is a project implemented by a group of Regions and targeted to all the European Regions, with a "bottom-up" approach, extremely practical, generated where the circular economy actually takes place and where the problems, barriers and research gaps that hinder sustainable development are generated. It is a project that, through a continuous comparison between the partners and several adjustments raising from the discussions carried out, has produced tools that can facilitate the planning and management of projects for the development of a circular economy in the regions.

Considering the results obtained, which went far beyond what was expected at the beginning thanks also to the enthusiasm and determination of the project partners, the end of the SCREEN project coincides with the start of a cooperation network between European regions in the circular economy, which has already gathered other adhesions and aims to deliver further valuable results also after the end of the project, thus paving the way to a replicable systemic approach towards a transition to Circular Economy in EU regions.

Session 1 - How to finance circular economy projects: regional examples

Experience in Navarra: Eva Garcia Balaguer, Director of Environment, Government of Navarra

Navarra is committed to sustainable development and to the battle against climate change, and works towards a new socioeconomic and energy model, with an economy based on a low carbon use and adapted to the climate effects.

Navarra aims at being a guide and role model of sustainable development, with a territory that is environmentally responsible and efficient in the use of resources, in line with its smart specialisation strategy (S3) and with its social and environmental policies and in the framework of the 2030 Agenda of the UN.

Tampere (Johanna Alakerttula)

The region of Tampere has a low carbon circular economy, in the context of the Finnish roadmap to Circular Economy published in 2016.

There is circular economy teaching for all levels of education. It results from a national effort of 11 universities, 14 universities of applied sciences and 12 vocational colleges. In concrete, Tampere 3 provides altogether 114 CE related courses. In addition, TUT will launch a new study module on circular economy in 2018 and it will offer new open and free CE studies to SMEs.

An innovative, industrial-scale, multidisciplinary bio- and circular economy business area, ECO3, is being built on the excellently located Kolmenkulma EcoIndustrial Park in Nokia

Lazio (Ferdinando Rossi)

The region of Lazio is committed to having a more circular economy. It has several CE projects ongoing, which consist of investment projects of SMEs aimed to introduce the best available technologies in the following areas: production cycles, consumption cycles, waste cycles, and thermal insulation.

The RIUSA project, for instance provides 905.000€ to the reuse of waste production for the manufacturing of a series of "intelligent" packaging of compostable, thermostable, self-protected bioderivative plastic and suitable for prolonged contact with foodstuff.

The RINASCE project provides 321.000€ to study the best method for recycling cigarette butts in order to reuse the materials and produce new goods.

Fryslan (Tjeerd Hazenberg)

The region of Fryslan has a Circular Friesland Association, that is a collaboration between business, municipalities, knowledge institutes, social organisations and other organisations that want to actively commit to achieve a circular economy.



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At regional level, CE is present in different forms: circular schools / circularity as a criterium for the running ERDF-programme / the base for their new RIS3.

Local company experience on circular economy, Pedro Mendarozketa, General Manager Smurfit Kappa

Smurfit Kappa is active in the fight against plastic packaging. 29% of the produced plastic packaging is not collected by any waste management system. And More recycling will probably not solve plastic pollution.

The company suggests that *paper-based packaging* is in many applications the sustainable packaging of choice and considers that sustainable packaging should be no harm to our planet in any end of life scenario.

Session 2 - New interregional cooperation approaches: SCREEN MoU and Vanguard re & demanufacturing demo case

Euroregion approach (Aquitaine, Basque Country and Navarra): Jesus Losada/Ignacio Quintana, Basque Environmental Management Agency

Circular economy and the efficient use of materials can significantly improve the competitiveness, profitability and sustainability of companies.

The Basque Country has accumulated relevant knowledge in innovative solutions in the area of circular economy. The region also has a very developed culture of collaboration between the public and the private sectors. It has identified 5 CE priority areas.

Izaskun Goñi, Director of Economic Policy of Government of Navarra

Navarra presented two main lines of action. The first one is to enhance the innovation and the competitiveness, through the projects CYCLALG (to obtain biodiesel from seaweed) and ORHI (synergies in the area of agri-food products).

The second one is to reinforce the competencies and the inclusion, through the project REINSE (for the creation of new jobs in the frontier areas in the domain of recycling and waste management).

Interregional Innovation Investments in the EU: Prof. Marcelo Colledani, Intelligent Factory Lombardy Region Cluster

Marco Colledani presented the Vanguard Initiative, a network of more than 30 EU regions striving for stronger competitiveness, innovation and internationalisation of the European industry.

One of the pilot projects of Vanguard is the De- and Remanufacturing, that includes the set of technologies, tools and knowledge-based methods to recover, re-use and upgrade functions and

materials from industrial waste and post-consumer high-tech products, under a new producer-centric Circular Economy perspective.

Closing: Ana Oollo, Regional Minister for Citizens and Institutional Relations

Mrs. Ollo presented the activities of her ministry and its connections with the circular economy, emphasizing how all the interventions of the day demonstrated the importance of interregional cooperation in this field.

She then thanked the speakers and the participants and closed the event

5 Annexes

Presentations of:

- Carlo Polidori
- Eva Garcia,
- Johanna Alakerttula
- Ferdinando Rossi
- Tjeerd Hazenberg
- Pedro Mendarozketa
- Jesus Losada and Ignacio Quintana
- Izaskun Goni,
- Marcelo Colledani



Horizon 2020 Coordinating/Supporting Action

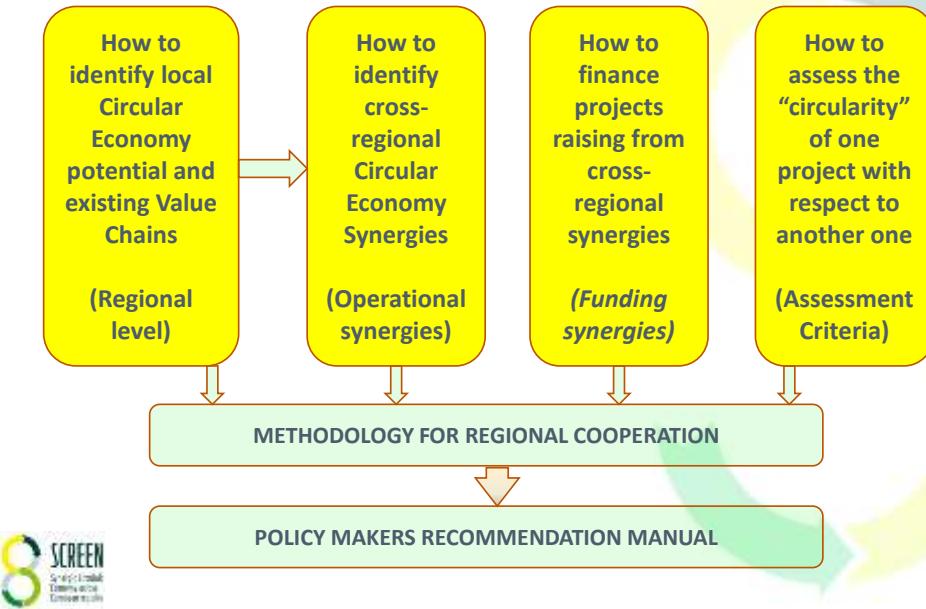
Duration: 24 months, started on 01/11/2016



The project objective is the definition of a common agreed and replicable systemic approach towards a transition to Circular Economy and the synergic application of different funds



The four steps of the SCREEN project



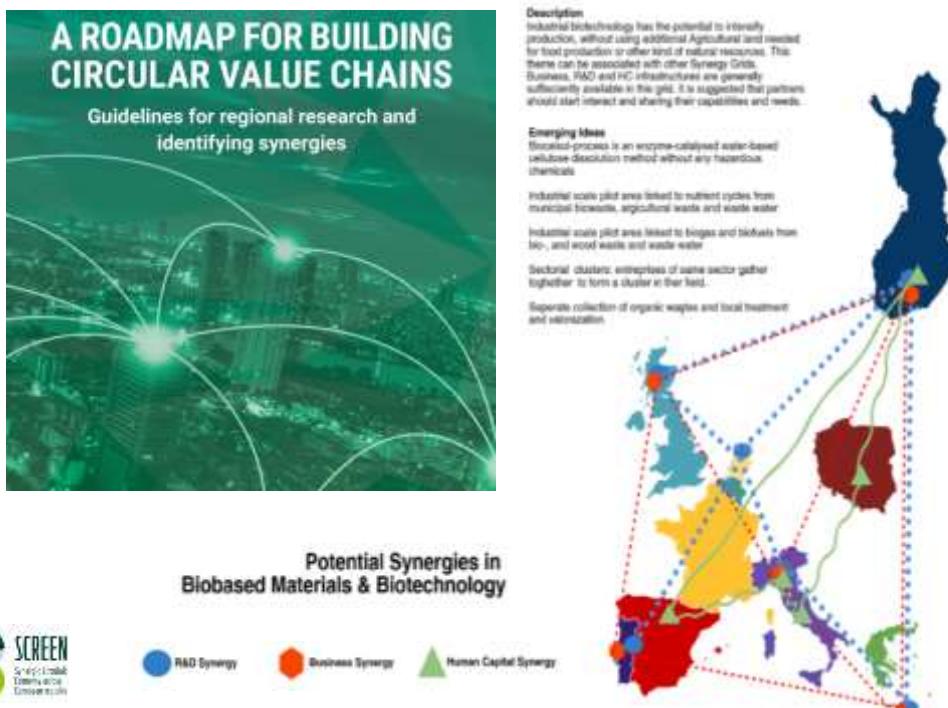
How to identify local Circular Economy potential and existing Value Chains (Regional level)

SCREEN TOOL



The SCREEN Mapping Tool





Result of a series of discussions within the Policy Lab

Designed to be a “Multi-partner Seal of Excellence” allowing actual financing

First signatures already achieved in the first quarter of 2018, further ones are coming

Open to all EU regions

Text, explanatory notes and already signed documents available at:
<http://www.screen-lab.eu/Step3.html>



<http://www.screen-lab.eu/Step3.html>



DRAFT TABLE OF ASSESS Policy Lab

		DRAFT TABLE OF ASSESS	
		Waste recycling or reduction should select one of the case studies projects (with no supporting actions) should only present data. For others	
		1	2
		Description	Explanation
1.	1.	Map of waste resources recovered and re-introduced in the post-production cycle. EE	Waste recovered is re-used in the same location as a secondary raw material
2.	2.	Industrial symbiosis: Map of waste resources recovered and re-introduced to another production cycle... EE	Waste recovered is re-used in another location as a secondary raw material
3.	3.	Increase in the recyclability of waste generated, or	Waste recovered is put on the market as a secondary raw material
4.	4.	Avoidance of waste generation	The new process generates less waste
5.	5.	"Net Energy balance in respect to the previous system" or "Amount of energy recovered"	The new process consumes less energy or same energy of the new process is recovered
6.	6.	Reduction of emissions	The new process has less impact respect to the old one
7.	7.	Social Criterion	Net balance of jobs
8.	8.	Business Criterion	Increase of economic value (life cycle)
9.	9.	Criteria for regional project	Project promoting waste recycling
10.	10.		Implementation of "green procurement" in the project
11.	11.		Inclusion of relevant stakeholders' education on circular economy

[2] In case of other penalties, a table of equivalence should be used to convert

Monitoring Framework -COM(2018) 29 final

No.	Name	Reference	EU Directives concerned
Production and consumption			
1	EU self-sufficiency for raw materials	The circular economy should help to achieve the supply risks for raw materials, in particular critical raw materials.	Raw Materials Initiative; Resource Efficiency Roadmap
2	Lower public procurement*	Public procurement accounts for a large share of consumption and can drive the circular economy.	PUBLIC Procurement Strategy; EU support schemes and voluntary criteria for green public procurement
3	Waste generation	In a circular economy waste generation is increased.	Waste Framework Directive; direction on specific waste streams; Strategy for Plastics
4	Food waste**	Discarding food has negative environmental, climate and economic impacts.	General Food Law Regulation; Waste Framework Directive; various initiatives (e.g. Platform on Food Losses and Food Waste)
Waste management			
5	Overall recycling rates	Increasing recycling is part of the transition to a circular economy.	Waste Framework Directive
6	Recycling rates for specific waste streams	This reflects the progress in recycling key waste streams.	Waste Framework Directive; Landfill Directive; direction on specific waste streams
Secondary raw materials			
7	Utilisation of recycled materials in new products	In a circular economy, secondary raw materials are commonly used to make new products.	Waste Framework Directive; Circular Economy Directive; EU REACH regulation; the environment, chemicals, products and waste policy; Strategy for Plastics; quality standards for secondary raw materials
8	Trade in recyclable raw materials	Trade in recyclables reflects the importance of the internal market and global participation in the circular economy.	Internal Market policy; Waste Disposal Regulation; Trade policy
Competitiveness and innovation			
9	Private investments, jobs and gross value added	This reflects the contribution of the circular economy to the creation of jobs and growth.	Investment Plan for Europe; Structural and Investment Funds; InvestEU; Circular Economy Finance Support Platform; Circular Economy Finance Initiative; Green Deal; Circular Economy Initiative; New Skills Agenda for Europe; Internal Market policy
10	Innovation	Innovative technologies related to the circular economy boost the EU's global competitiveness.	HORIZON 2020

165 Answers, 43 Comments



Your overall opinion about the table of the assessment criteria.

1=poor
9=very good

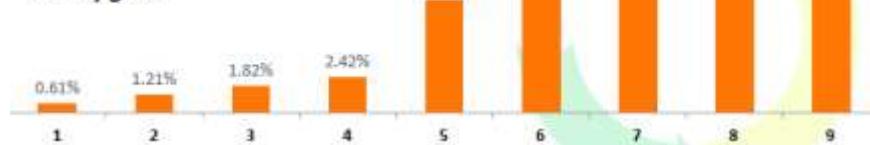


TABLE OF ASSESSMENT CRITERIA FOR CIRCULAR ECONOMY PROJECTS - REV. 3.0



These criteria are based on the definition given in the circular economy action plan (COM(2013)024), where circular economy is explained as an economy "where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised". The cost (€/year) is an intermediate indicator to measure the different metrics and to easily arrive at a coherent and transparent ranking tool.

	A	B	C	D	E	F
	Criterion	Description	Metric	Additional parameters	Assessment Indicator	Weight
PRODUCTION	1	ECO-Design	Redesigning the first stage of an industrial process (product design) in order to reduce the waste generated AND/OR increase the life of the final product.	kg/year of virgin material avoided through the new process AND/OR by the prolongation of the product's life	Economic value of the virgin material (€/kg)	Metrics as additional parameter (€/year)
	2	New production process extracting "secondary raw material"	Replacement, total or partial, of virgin material with "secondary raw material"	kg/year of virgin material avoided through the prolongation of the product's life	Economic value of the virgin material (€/kg)	Metrics as additional parameter (€/year)
CONSUMPTION	3	RR-Use, Re-Manufacturing, Rehabilitation	Improvement of the life of a certain product that otherwise will be disposed	kg/year of virgin material avoided by the prolongation of the product's life	Economic value of the virgin material (€/kg)	Metrics as additional parameter (€/year)
	4	Mass of waste resources recovered and re-introduced in a production cycle as secondary raw material	This new process generates waste that can be re-used in the same process or in another production process.	kg/year	Economic value of the secondary raw material (€/kg) + Cost of its transport to the production site (€/kg) (%)	Metrics as additional parameter (€/year)
DISPOSAL	5	Project promoting waste recycling	Recyclational campaign with a specific target producing a specific waste	Waste produced by the target kg/year	Cost of disposal (€/kg)	Metrics as additional parameter (€/year)
	6	"Net energy balance respect to the previous system" or "Amount of energy recovered"	Energy (kWh) saved in the old process per unit of product divided by energy used in the new process for the same unit of product	Number that can be lower or higher than 1	Metrics (the number in column (E))	1.00 The assessment indicator is "poor" if weight = 0
ENVIRONMENTAL CRITERIA	7	Reduction of emissions	Reduction of CO2 (%) generated by the old process per unit of product divided by emissions used in the new process for the same unit of product	Number that can be lower or higher than 1	Metrics (the number in column (E))	
	8	Net balance of jobs	Number of new jobs created by the circular economy project, minus the number of jobs lost in the previous linear process	N = Number of full time working units (can be positive or negative)	N = Number of full time working units in the old process	$1 + \frac{N}{P}$
SOCIAL CRITERION	9	Implementation of "CIRCULAR PROCUREMENT" in the project (not the use of relevant)			The weight of the related project is increased by 50%	
	10	Educational projects targeted to relevant stakeholders (not the use of relevant)			The weight of the related project is increased by 50%	

(*) In case the secondary raw material does not have a fixed valuation but is part "put on the market", the weight is reduced from 0 to 7

(**) In case of other pollutants, a ratio of responsibility should be used to convert them into CO2 equivalent emissions - <https://litterracegroup.com/circular-economy-project/>

Applicants should: 1) Select the item or which their project falls - **only one among the options from 1 to 10**; 2) clearly describe the project and its metrics as requested in column C; 3) Define **cost**, the economic value of the materials/loss of disposal by using current market prices, as requested in column D; 4) Provide the information related to the environmental and social criteria, as requested in rows 7, 8 and 9.

Circular procurement or educational projects should always enable to facilitate a project falling to one of the option from 1 to 6. Thus, the relevant box should be selected and the same prior verification should be conducted.

Assessors should: 1) Verify the compliance to the above instructions and the congruence of the metrics declared with respect to the project description. 2) Verify that the economic indicators are adequately proven. 3) Multiply the metric of the chosen criterion (with use among the options from 1 to 10) per its additional parameters, thus obtaining a value expressed in €/year. 4) Multiply each a value for the assessment indicator 7, then for the indicator 8 and finally for the indicator 9, obtaining a value in €/year that can be higher or lower than the previous one. 5) Verify if one of the boxes "circular procurement" or "educational project" and apply the related weight.

Thank you for your Attention! >>>

Carlo Polidori - polidori.carlo@telenet.be

All project documents and tools are available on our web site www.screen-lab.eu



SCREEN Project Final Conference

Within the Forum "CompraVerde" (Buy-Green) - ROME 18-19 OCTOBER 2018

Salone delle Fontane - Roma EUR

SCREEN (www.screen-lab.eu) is an H2020 coordinating and supporting action participated by 17 European Regions coordinated by Lazio Region, aiming at the definition of a replicable systemic approach towards a transition to Circular Economy in European regions. The outcomes of the project will be presented in the final conference, organized in two sessions in order to allow the attendees to participate at the other forum sessions and at the exhibition.

The Forum "CompraVerde" (BuyGreen) is the most important Italian and European event for public and private policies, projects and initiatives on green and sustainable procurement.
<https://www.forumcompraverde.it/en/>

Each registered participant at the SCREEN Final Conference will have a free badge valid for the two days:



ECONOMIA CIRCULAR EN NAVARRA

4th International Workshop. Pamplona

Eva Garcia Balaguer

Direccion General Medio Ambiente y Ordenacion del territorio



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programme grant agreement No 674701.



4th International Workshop – Pamplona



*"Los indicadores ambientales, económicos y sociales nos dicen que nuestro actual modelo de progreso es **insostenible**. El nuestro es un mundo de retos inminentes y **recursos** cada vez más **limitados**. El desarrollo sostenible ofrece la mejor oportunidad para redirigir nuestro rumbo".*

Secretario General de las Naciones Unidas, Ban Ki-Moon





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Otro crecimiento económico es posible y necesario,
una gestión de los **recursos** para hoy **y para mañana**

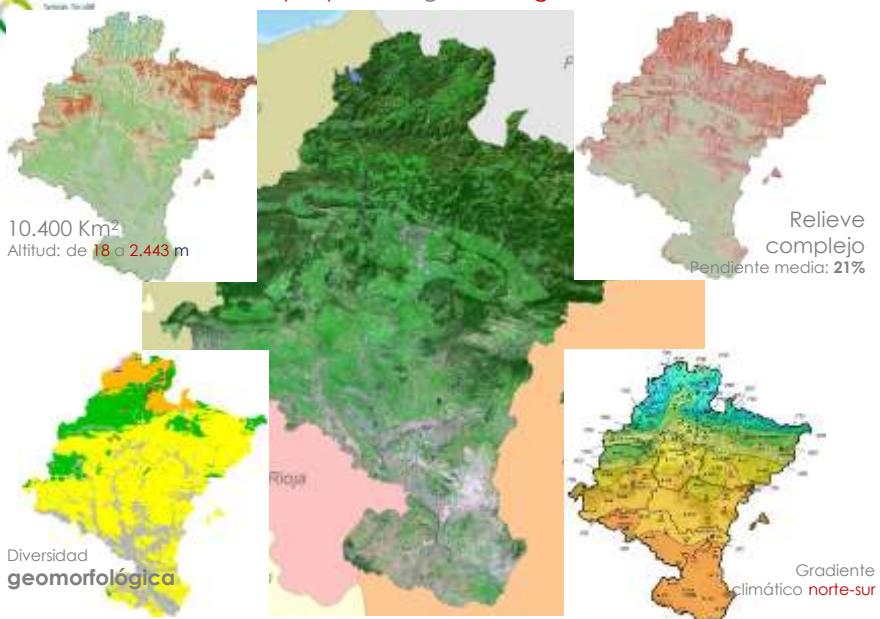


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Una **pequeña** región con **grandes contrastes**





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VISIÓN ESTRATÉGICA: Navarra **territorio culturalmente sostenible**



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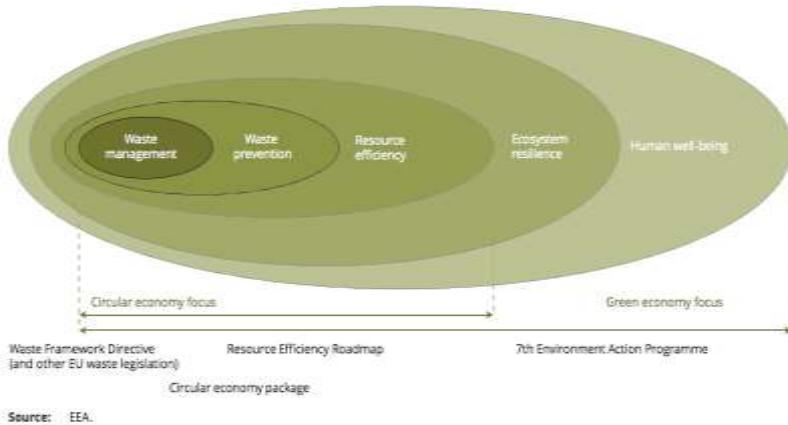
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Los conceptos de **economía circular** deben ser el motor de estos objetivos. (Parlamento de Navarra mociones por unanimidad Nov 2016 y Sept 2017)

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**Nuevos paradigmas: economía circular**

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La EC es reparadora y regenerativa
un nuevo modelo económico para la sostenibilidad con el
aprovechamiento máximo de recursos y la generación mínima
de residuos y reducción del impacto ambiental neto

- Diseña sin residuos
- Aumenta la resiliencia con la diversidad
- Hace uso de energías de fuentes renovables
- Piensa en un sistema, en las relaciones del todo con las partes, en la retroalimentación e interdependencia.

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- Principio 1: Preservar y mejorar el capital natural
- Principio 2: Optimizar el uso de los recursos
- Principio 3: Fomentar la eficacia del sistema 

Líderar desde la **política ambiental** integrando las políticas sectoriales

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Nuevas **herramientas** del Gobierno de Navarra en
Economía Circular

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Planes y leyes con principios de Economía Circular

Instrumento	Estado
Programa de Desarrollo Rural de Navarra 2014-2020	Aprobado en 2015
Plan de residuos de Navarra 2017-2027	Aprobado en 2016
Hoja de Ruta Lucha del Cambio Climático en Navarra	Aprobada en 2017
Plan de Ciencia, Tecnología e Innovación 2030	Aprobado en 2017
Plan de Economía Social 2017-2020	Aprobado en 2017
Plan Energético de Navarra Horizonte 2030	Aprobado en 2018
Plan Estratégico de Formación Profesional 2017-2020	Aprobado en 2018
Plan Director del Ciclo Integral del Agua de Uso Urbano 2019-2030	En fase final de aprobación
Plan Industrial de Navarra 2020	En fase final de aprobación

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Planes y leyes con principios de Economía Circular

Instrumento	Estado
Ley foral 14/2018, de 18 de junio, de residuos y su fiscalidad,	Aprobada en 2018
Ley de contratos Pùblicos de Navarra	Aprobada en 2018
Ley Reguladora de las Actividades con Incidencia Ambiental	Anteproyecto en elaboraciòn

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Estrategia de Especialización Inteligente de Navarra S3



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Plan de Residuos de Navarra 2017-2027

OBJETIVOS PRN
2017-2027

Residuos domésticos y comerciales

+MÁS

Recogido Selectivo Recogida de ferros valiosos al 65% de los residuos domésticos y comerciales.	Empiezo Creación de cerca de 300 empleos.	Traimiento Tratamiento al 100% de la fracción resto.
Desarrollo de la recogida selectiva obligatoria de residuos orgánicos al 100% de la población.	Creación de cerca de 300 empleos.	Tratamiento al 100% de la fracción resto.

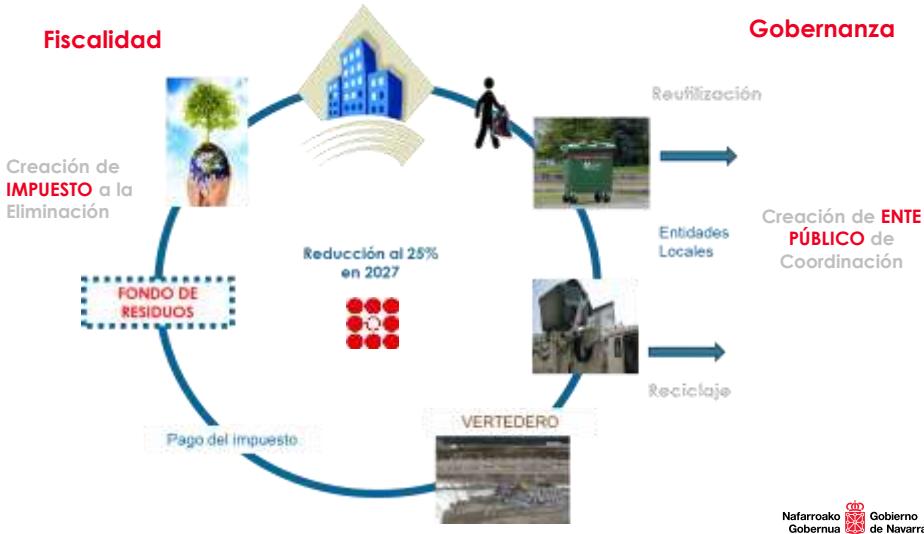
-MENOS

Residuos Un 10% menor en 2020 y un 15% menor en 2027.	FracCIÓN RESTO Distribución de la fracción resto que pasará al 40-35%.	Vértido Reducción del número vertidos por debajo del 65% al 25%.
Un 10% menor en 2020 y un 15% menor en 2027.	Distribución de la fracción resto que pasará al 40-35%.	Reducción del número vertidos por debajo del 65% al 25%.



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**Ley Foral 14/2018, de Residuos de Navarra y su fiscalidad**

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**Plan de Residuos de Navarra 2017-2027**
Programa prevención**Ley foral de residuos y su fiscalidad**

- 2018 Entrega gratuita de bolsas plástico
- 2020 Entrega de bolsas (solo embalajes con materiales compostables)
- 2020 Vajilla de usar y tirar no biodegradable
- 2020 Cápsulas de un solo uso (no biodegradables)
- 2022 Universalización de recogida selectiva de bio-residuos (100% población)



**Oficina de Prevención
de Residuos y de Impulso
a la Economía Circular**
**Hondakinak Prebenitzeko
eta Ekonomia Zirkularra
Bultzatzeko Bulegoa**

Nafarroako Gobierno de Navarra | Planificación, Desarrollo Sostenible y Cambio Climático | Servicio de Recogida y Eliminación de Residuos

Municipalidad Ayuntamiento | Servicio de Recogida y Eliminación de Residuos

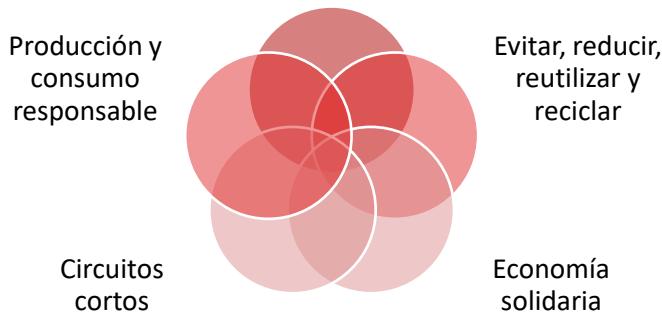
Administración de Aguares Nafarroako hondakinak

Nafarroako Gobierno de Navarra



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Establecer modos de consumo y producción sostenibles



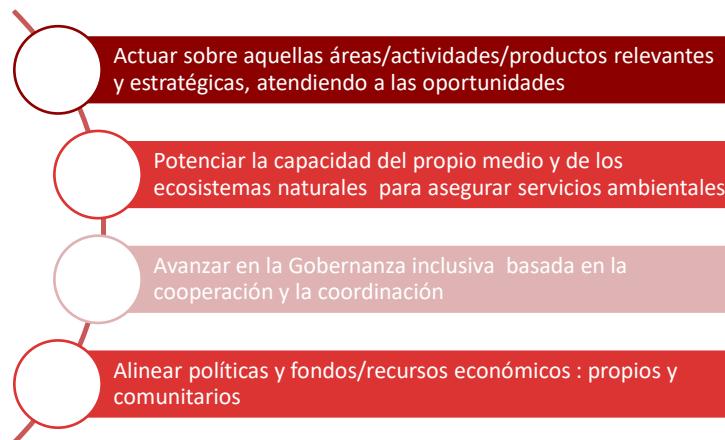
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**Hacia una agenda 2030 de economía circular en
Navarra:
marco conjunto de gestión**

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Metodología

DAFO a partir de herramientas de SCREEN con información de:

- Proyecto **SCREEN + Estadísticas regionales**
- **Planes** estratégicos de elaboración reciente
- **Entrevistas** a organismos gestores de acciones previstas y en marcha

- Temas incluidos
- **Contexto socio-económico y ambiental**
 - Análisis de **capacidades**
 - Necesidades y **potencial** de los **sectores estratégicos** de la S3

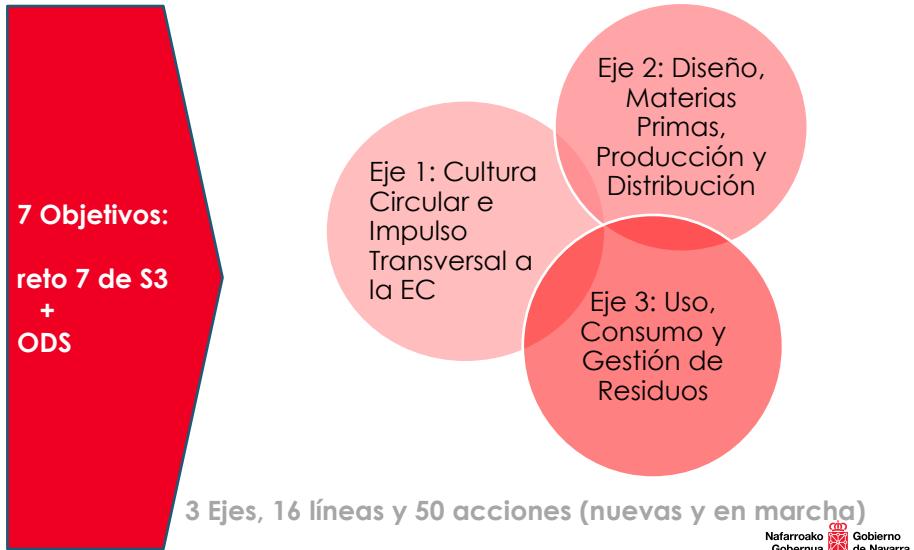
**Definición de objetivos
Diseño de Ejes y líneas estratégicas**

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Agenda Economía Circular 2030

Estructura



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Eje 1: Cultura Circular e Impulso Transversal a la Economía Circular

Líneas Estratégicas	Objetivo
Línea 1: Gobernanza y Cooperación para desarrollar la EC	Disponer de visión sistémica de la EC para la planificación integrada con foco en el territorio y de conocimientos para el desarrollo de la EC
Línea 2: Concienciación, Divulgación y Formación	Incorporar el concepto de economía circular en las acciones de los agentes socioeconómicos y potenciar patrones de consumo sostenibles y circulares en la ciudadanía.
Línea 3: Desarrollos Normativos hacia la Economía Circular	Incorporar cambios legislativos para facilitar el desarrollo de actividades y modelos de negocio circulares
Línea 4: Fomento de Empleo Verde y Circular y Capacitación	Introducir la EC en la formación continua, incentivar la generación de empleo verde
Línea 5: Incentivos y apoyo para la implementación de la EC	Orientar los instrumentos de apoyo del GN (ayudas) para incentivar proyectos de EC e impulsar la i+d+i

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**Eje 2: Diseño, Materias Primas, Producción y Distribución****Líneas Estratégicas****Línea 1: Desarrollo del Ecodiseño****Objetivo**

Fomentar la cultura y el conocimiento de Ecodiseño, su implementación y el desarrollo de proyectos de Ecodiseño,

Línea 2: Fomento de Suministros Circulares en Materiales Clave

Incrementar el uso de materiales renovables, reutilizables, biodegradables y reciclables en los procesos de producción

Línea 3: Eficiencia y sostenibilidad en el uso de Materiales, Recursos y Energía

Avanzar en la eficiencia en el uso de materiales, recursos (agua) y energía e impulsar la producción y uso de energías renovables



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**Eje 3: Uso / Consumo y Gestión de Residuos****Líneas Estratégicas****Línea 1: Prevención y Reducción de Residuos****Objetivo**

Cumplir los objetivos de reducción y de gestión del Plan de Residuos para los distintos flujos de residuos mediante las acciones específicas del PRN

Línea 2: Ciudades y Pueblos Circulares

Impulsar la circularidad desde el ámbito local en aspectos transversales como la movilidad, la construcción sostenible, la eficiencia energética, el consumo y la gestión de residuos

Línea 3: Movilidad Sostenible

Impulso a la movilidad sostenible de personas, materiales y bienes

Línea 4: Contratación Pública Verde

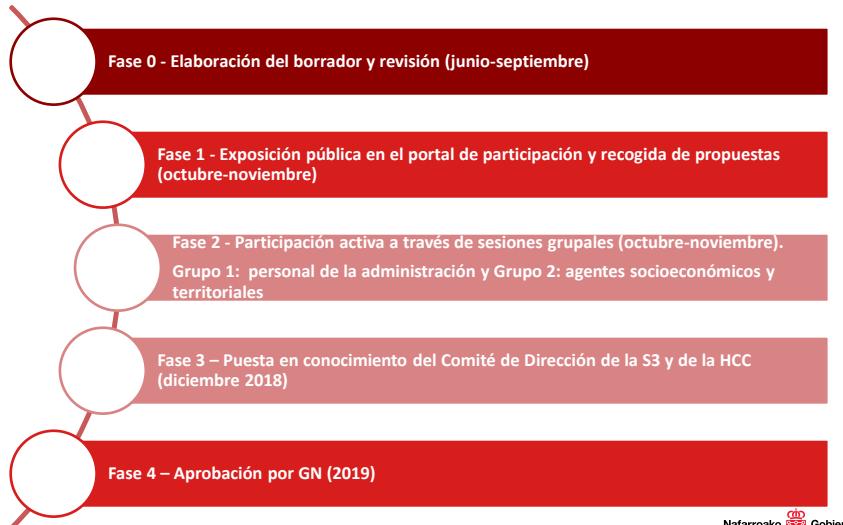
Fomentar y potenciar la subcontratación y compras públicas sostenibles



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Agenda Economía Circular 2030. **Calendario y proceso de participación**



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A modo de **conclusión:**

Navarra apuesta por el compromiso con la sostenibilidad y la lucha contra el cambio climático, en dirección hacia nuevo modelo socioeconómico y energético con una economía baja en carbono y adaptada a los efectos climáticos, para ser un referente del desarrollo sostenible, con un **territorio responsable ambientalmente y eficiente en el uso de recursos, con un equilibrio entre las personas, su actividad y el medio en que se sustentan**, en línea con la Estrategia de Especialización Inteligente y las políticas sociales y ambientales del Gobierno de Navarra. Todo ello en relación directa con la Agenda 2030 de Naciones Unidas (ODS).

Hoja de Ruta de Cambio Climático 2020-2030-2050
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Johanna Alakerttula
Council of Tampere Region

Tampere Region – high knowledge and technology



- Tampere Region has a population of 509,000 which makes it the **second largest region** in Finland just after Helsinki capital region
- The leading manufacturing industries in the region are mining construction and mobile machinery but also many other areas like food industry, packaging materials, mechanical engineering, energy and cleantech are represented
- For companies the key reasons to operate in Tampere Region are good availability of skilled employees, ideal geographical location and the close connections to universities
- **Nokia smartphone was born there in 1996**
- **Over 150 years of manufacturing industry heritage**

Picture: <https://investtampere.fi/>

Low carbon circular economy



FINNISH
GOVERNMENT

Government program's goal is to bring the Finnish economy onto a path of sustainable growth and higher employment

THIS IS HOW WE CREATE A
**Circular
economy**

The Finnish roadmap to Circular Economy published in 2016

Pirkanmaa's smart specialization

DEVELOPMENT OF A CIRCULAR ECONOMY

SMART TAMPERE

Smart industry, health, education, know-how

1 SKILLS

2 PLATFORMS

3 CIRCULAR BUSINESS

Skills

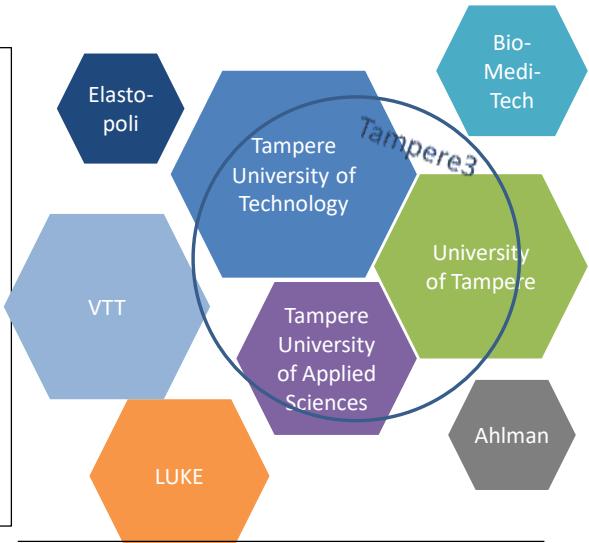
Circular economy teaching for all levels of education

Circular economy teaching is a national effort of 11 universities, 14 universities of applied sciences and 12 vocational colleges.

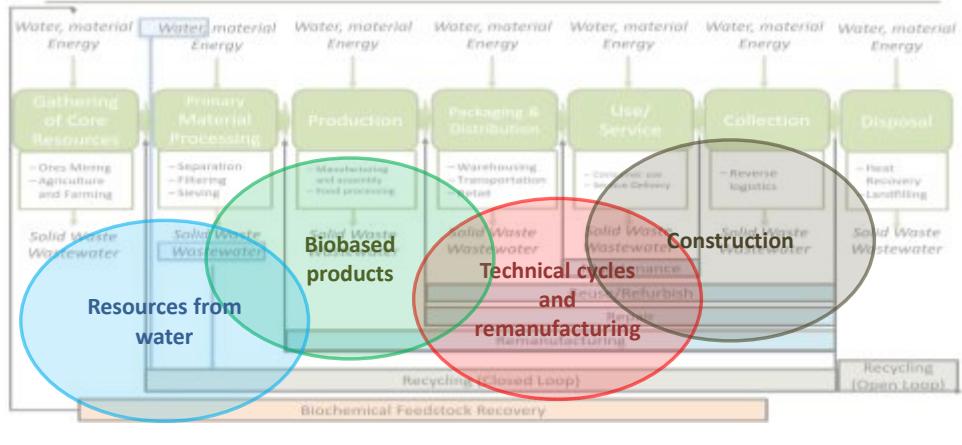
Tampere 3 provides altogether 114 CE related courses. In addition TUT will launch a new study module on circular economy in 2018 and it will offer new open and free CE studies to SMEs.

Top 3 research institutes (TUT, VTT, LUKE) are located in Tampere and they all have multiple research areas like business models, nutrient recycling, construction and technology commercialization.

In order to create a circular economy society, we need a new kind of expertise, co-operation, new kind of thinking and new designing, operational, management and recycling skills.



Circular economy R&D in Tampere Region Top 4



5



Platforms

PLANNING OF THE NEW CITY DISTRICT HIEDANRANTA



- New city district with a smart city ecosystem
- Approximately **20 000 - 25 000 inhabitants, 10 000 jobs**
- **Tram connection** to city center
- Diverse choices of living by the lake shore
- Transforming the old factory buildings into a hub of culture and other leisure events

ECO3

- An innovative, industrial-scale, multidisciplinary bio- and circular economy business area, ECO3, is being built on the excellently located Kolmenkulma Eco-Industrial Park in Nokia.
- 600 hectares
 - Essential service investments for the area currently around 60M EUR.
 - ECO3 competence centre works simultaneously as a **demonstration and pilot environment**.
 - Includes companies in following sectors: **nutrient cycles, wood, energy and material cycles**

ECO3

6

Circular business

Manufacturing industry

Designing – maintenance – repairing – reusing – leasing – remanufacturing - recycling

Agco Power: remanufactured engines

ZenRobotics: intelligent waste-sorting robot

Molok: waste containers

Linjateräs: painting of metal products

New raw materials

Packaging, textile and chemical industry are interested in new biobased and recycled materials

VTT and TUT: new biobased packaging materials and textiles

TouchPoint: textile and plastic waste into work clothes

Amerplast: transforming collected plastic into recycled plastic bags

Ecolan: organic fertilisers from meat and bonemeal

Construction

Wood is coming again.

High goals of replacing the untouched rock and gravel material sources with recovered materials (wastes, surplus ground etc.).

BioVirrat: wooden schools, kindergartens, etc.

City of Tampere has published UUMA -plan to enhance the use of recovered materials. **Hiedanranta** will be an pilot area and **Tarastenjärvi** will act as a material bank for recycled materials.



<https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No7300313

Lazio Region good examples on circular Economy Strategy

4th SCREEN INTERNATIONAL WORKSHOP

Pamplona, 4th and 5th of September 2018

Legal framework

Lazio Region ROP ERDF Fund 2014/2020

TO3 - Promotion of the competitiveness of SMEs, the agricultural and fisheries sectors

- Action 3.1.2 Support for the investments to reduce the environmental impact of productive systems

TO4 – Promotion of the transition toward a low carbon economy

- Action 4.2.1. Support for the reduction of energy costs and gas emissions from companies and productive areas

Guidelines for the development of the Ecologically Equipped Productive Areas - APEA (July 2015)

APEA - Area destined to industrial, artisanal, commercial, agricultural activity characterized by the integrated management of infrastructures, centralized services and resources aimed at guaranteeing the environmental sustainability and the local economic development

Keys steps for the support of the APEA Step I

17/07/2018
CALL to support the certification of APEAs

21/09/2018
Deadline to submit applications

5/11/2018
Publication of the results

Keys steps for the support of the APEA

Step 1



Keys steps for the support of the APEA

Step 2



Circular Economy projects to be financed

Investment projects of SMEs aimed to introduce the best available technologies in the following areas:

1. **Production cycles** (type of raw materials, consumption and emissions deriving from production and distribution processes)
2. **Consumption cycles** (consumption, emissions, waste deriving from the use of certain products)
3. **Waste cycles** (to support the reduction of the quantity of waste produced)
4. **Thermal insulation** of buildings where economic activities are realized

“Stop plastica nel mare” initiative

July 2018 – Formal agreement between



“Stop plastica nel mare” initiative

Pilot action – 1 year



Verify and measure the quantities and types of waste recovered by boats. A precise analysis will then be realised to evaluate the actual recyclability of waste and to transform an environmental threat into a real economic opportunity for the territory.

“Stop plastica nel mare” initiative

- Wide cooperation with port authorities and trade associations
- Inter-cooperation with coastal municipalities
- Involvement of educational institutes

Previous regional Calls



- 4 Calls for the Reindustrialisation of the productive fabric (150 M €)
- Call «Circular Economy and Energy»



Call «Circular Economy and Energy»

Published December 2017

Deadline April 2018

Budget 10.000.000 € ERDF Funds

Number of applications received: 74

Number of projects approved: 23



RIUSA Project

Reuse of waste production for the manufacturing of a series of "intelligent" packaging of compostable, thermostable, self-protected bio-derivative plastic and suitable for prolonged contact with foodstuff



RIUSA Project

Budget: 905.393,72 €€

Duration: 18 months

Partnership



Lead partner



RIUSA Project



Designs new formulations of PLA base using industrial and agricultural waste



Through its distribution network, it will be possible to recover the bottles produced in compostable material



Re-use of the material in the production process of its products



RINASCE Project

The RINASCE project aims to study the best method for recycling cigarette butts in order to reuse the materials and produce new goods



A detailed chemical structure diagram showing the molecular components of a cigarette butt, likely illustrating the breakdown or recycling process.





RINASCE Project

Budget: 321.417,09 €

Duration: 18 months

Partnership



Lead partner



AzzeroCO2 is an environmental and energy consulting company born in the 2004 thanks to two important environmental Italian NGOs, Legambiente e Kyoto Club.

CNR-IIA
(National Research Centre - Institute of the Environmental Pollution)



RINASCE Project

The environmental problem

- ✓ Around 5.6 trillion cigarettes are smoked in the world every day*;
- ✓ The butts make up about 30% (by volume) of the total waste collected on the beaches*;
- ✓ In Italy around 13,000 tons/year of butts are littered (ENEA, 2010)
- ✓ On the Adriatic and Ionian beaches the filters are in fifth place in the ranking of collected waste (about 6.6% of the total); even more alarming percentages on non-Italian Adriatic coasts (ISPRA 2017 report);
- ✓ The average life of a butt is about 5-12 years;
- ✓ The estimated cost for cleaning street from butts is between 3 and 16 million euros / year for major cities*;

*Thomas E. Novotny & Elli Slaughter in "Product Waste: An Environmental Approach to Reduce Tobacco Consumption" GLOBAL ENVIRONMENTAL HEALTH AND SUSTAINABILITY; 2014; 1:208–216



RINASCE Project

Expected results

The research activity will be devoted to **separate, purify and analyse** all the constituents of the filter:

- Paper
- Cellulose acetate
- Nicotine

This will lead to:

- ✓ "Prototype machinery" for easy separation
- ✓ "Prototype product": frame of glasses (cellulose acetate)
- ✓ Evaluation of the sustainability of the process



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No730013

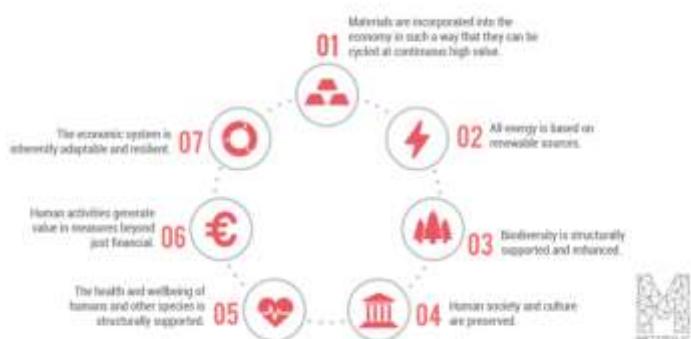
Thanks for your attention

*Ferdinando Rossi
Lazio Region
ferdinando.rossi@regione.lazio.it*



provinsje Fryslân
provincie Fryslân

A broad approach > waste



CFA is in the drivers seat in our region, not the government

- The Circular Friesland Association is a collaboration between business, municipalities, knowledge institutes, social organisations and other organisations that want to actively commit to achieve a circular economy. (funded by ERDF)
- Connecting stakeholders / making transition plans and regional analysis → base for a data-driven policy



The role of our regional government:

- CE not stand alone in our policy. Fits in to our spearheads (water, agriculture)
- Facilitate CFA
- Set a good example:
 - circular procurement
 - Be a launching customer for circular start-ups
 - Subsidy for SME's with circular ideas
- Act @ different levels: regional / national/ European.
It starts with regional issues
- *Connected / agile / iterative process*

A few examples

- Regional level: circular schools / Circularity as a criterium for the running ERDF-programme / the base for our new RIS3
- National level: green deal circular procurement / the acquisition of a national testcentrum for plastics
- European level: enlarge our network to share knowledge (SCREEN & member of ACR+) / looking for new projects



Contact:

- Tjeerd Hazenberg, policy advisor circular economy
- t.hazenberg@fryslan.frl
- +31655190774

Better Planet Packaging

The Smurfit Kappa Innovation Journey to Open the Future of Sustainable Packaging

4th SCREEN INTERNATIONAL WORKSHOP

Pedro Mendarozketa – General Manager Smurfit Kappa Navarra

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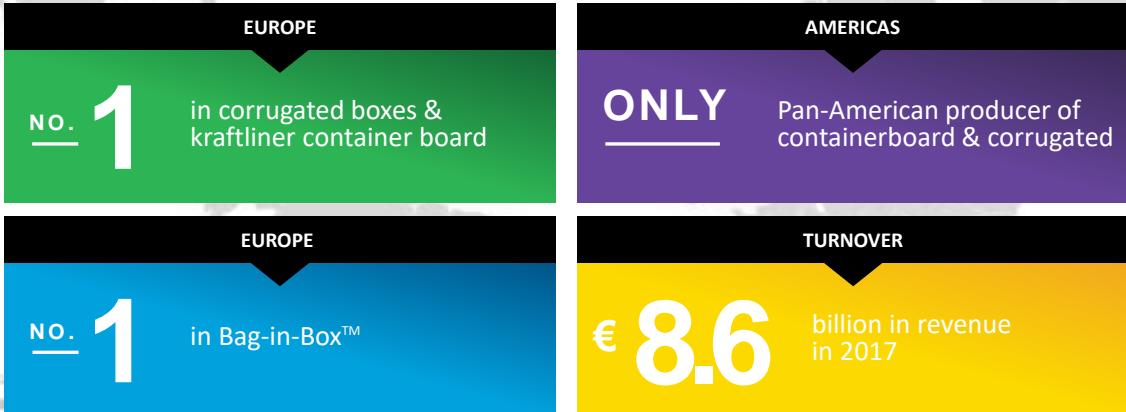


**Smurfit Kappa
Group**

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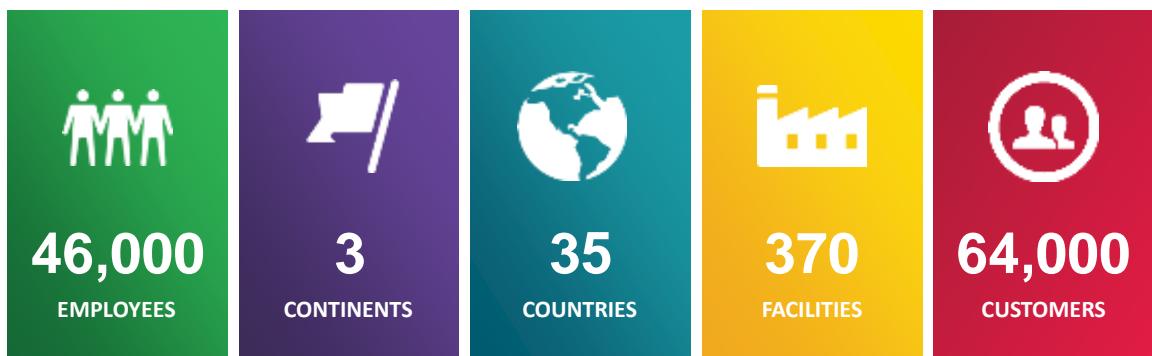
At a glance



3 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Geographic reach



4 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa



Sustainability



Innovation and expertise

- ▶ Collective expertise of 700 designers around the world
- ▶ 7200 design solutions available
- ▶ World's largest packaging Experience Centre in Schiphol, The Netherlands
- ▶ Supported by a global network of 23 Experience Centres



7 PAPER | PACKAGING | SOLUTIONS

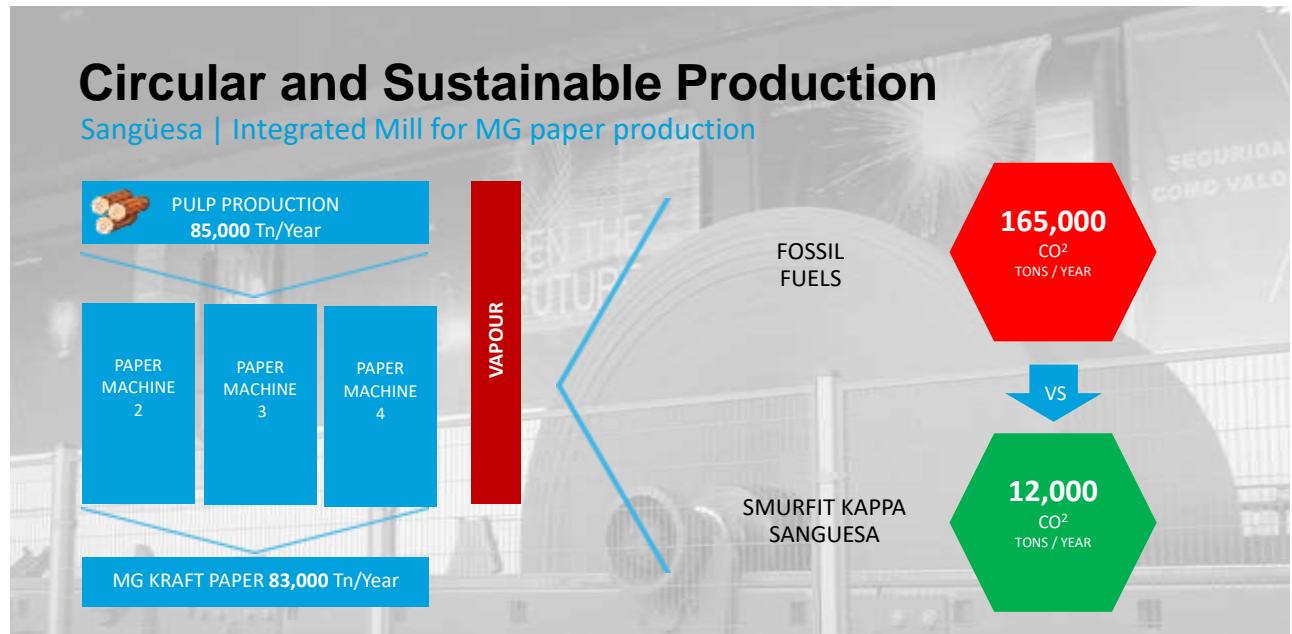
 Smurfit Kappa

Smurfit Kappa Navarra



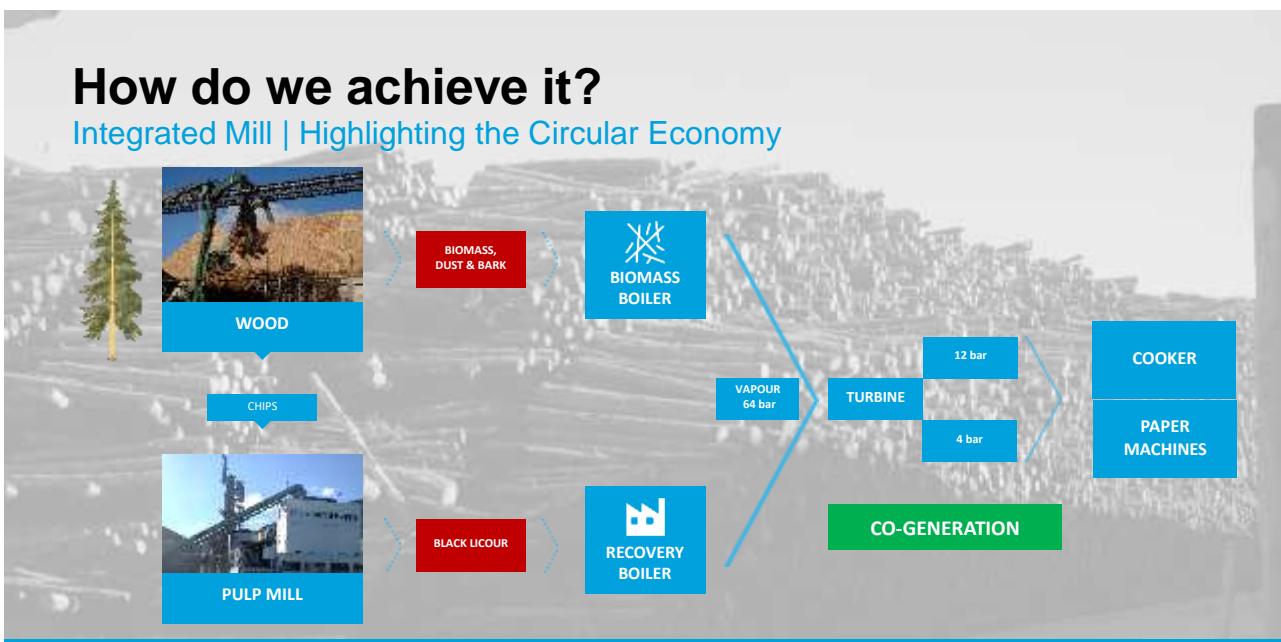
8 PAPER | PACKAGING | SOLUTIONS

 Smurfit Kappa



How do we achieve it?

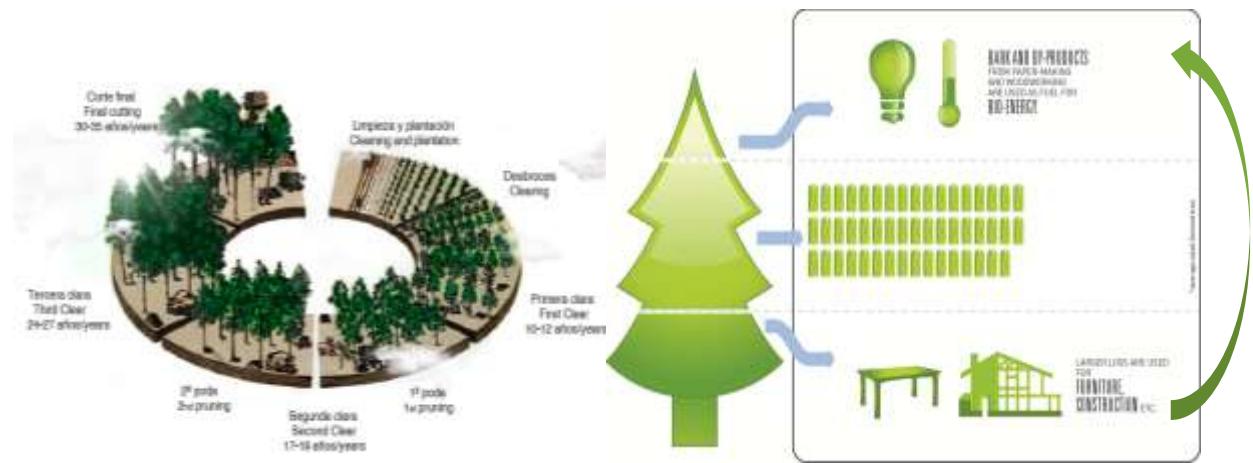
Integrated Mill | Highlighting the Circular Economy



11 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Circular economy in Forestry Management



12 PAPER | PACKAGING | SOLUTIONS

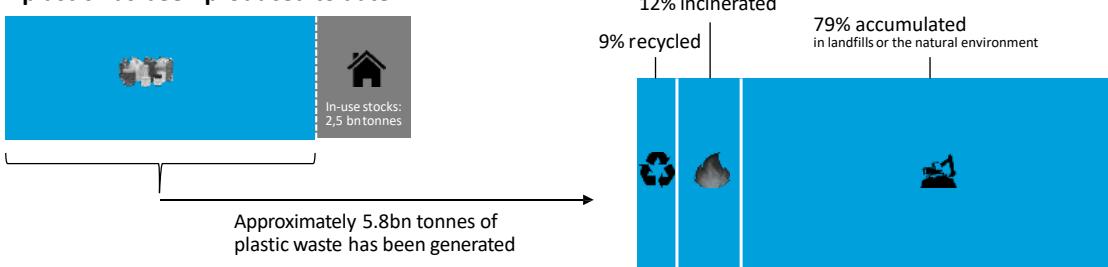
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Giving solutions Solving the problem

Some facts about plastic pollution

An estimated 8.3bn tonnes of virgin plastic has been produced to date



Source: Roland Geyer et al. Sci Adv 2017;3:e1700782

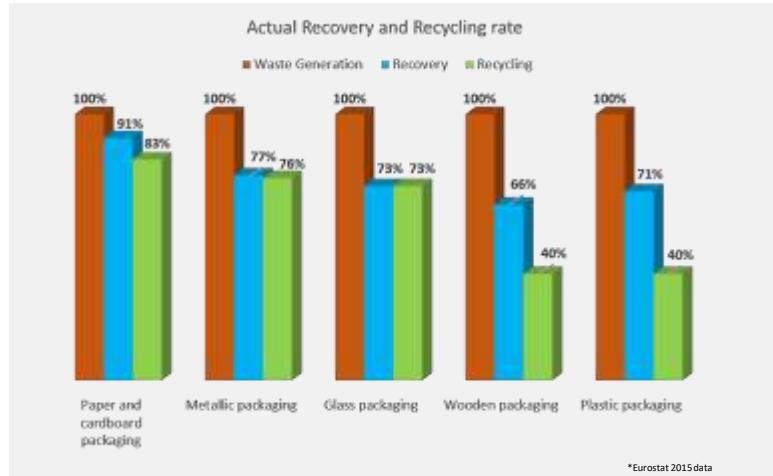
"This is a planetary crisis... we are ruining the ecosystem of the ocean,"

UN oceans chief, Lisa Svensson

The challenge is recovery

- ▶ 29% of the produced plastic packaging is not collected by any waste management system

- ▶ More recycling will probably not solve plastic pollution
 - Many plastic products have no economic value in today's recycling system (contamination, down cycling, etc.)
 - Can increase recycling keep pace with the increase in the use of plastic?



Fight against plastic packaging

The big problem

1

Packaging is a **major contributor** to the problem



Source: Plastics – the Facts 2016 – An analysis of European plastics production, demand and waste data

The world is changing

Everybody is talking about the plastic problem

- 1 Packaging is a major contributor to the problem
- 2 Focus has shifted to some typical **single-use plastic** products



Current situation and outlook call for immediate action!

“

National Geographic has launched **PLANET OR PLASTIC?** a multi-year initiative to raise awareness of the global plastic crisis and encourage its community to take a pledge to reduce consumption of single-use plastic.

Learn more at natgeo.com/planetorplastic.

TRASHING THE PLANET

Source: National Geographic

Reduce, Reuse, Replace, Recycle

How Major Brands are Committing to Sustainable Packaging

	<ul style="list-style-type: none"> 100% of packaging will come from renewable, recycled or certified sources by 2025. 		<ul style="list-style-type: none"> Recover and recycle bottles and cans equivalent to 75% of those that Coca-Cola introduces into developed markets.
	<ul style="list-style-type: none"> Eliminate 65,000 metric tons of packaging. 		<ul style="list-style-type: none"> Reducing packaging by 20% per consumer use. Ensuring 90% of packaging is recyclable.
	<ul style="list-style-type: none"> 100% of packaging is recyclable or reusable by 2025. Reduce the amount of packaging we use by 140,000 tons by 2020. 		<ul style="list-style-type: none"> Ensure all plastic packaging is designed to be reusable, recyclable or compostable by 2025. Reduce the weight of the packaging it uses this decade by one third by 2020.

<https://www.simplifypackaging.com/home/2018/6/5/reduce-reuse-recycle-how-major-brands-are-committing-to-packaging-sustainability>

Smurfit Kappa

What can we do?

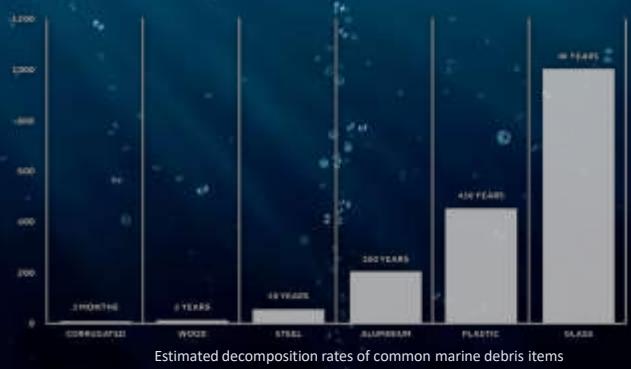
Better Planet Packaging

The world has opened up to the opportunity of paper based packaging

Being biodegradable is a material property Biodegrading in the ocean is sustainable

Paper-based packaging is in many applications the sustainable packaging of choice

Sustainable packaging should be no harm to our planet in any end of life scenario



Future success depends on what you're made of

Short term opportunities to replace plastic by a material that is adaptable, could biodegrade within a period of months and cause no harm to our planet



SHRINK WRAP



PUNNETS



EPS FOAM



PLASTIC PALLET



↓



↓



↓



↓

Smurfit Kappa

This year...

5.0 TRILLION

Plastic bags are consumed.

That means 160,000 per second.

Less than 1% are recycled

Source: <http://www.worldwatch.org/system/files/Plastic%20Bags.pdf>

23

Future success depends on what you're made of

Paper-based packaging is in many applications
the sustainable packaging of choice

Biodegradable

Paper always biodegrades quickly, be it in controlled
or uncontrolled end of life scenarios.

Renewable

Paper is 100% renewable in a sustainable way
(environmentally, economically and socially).

Recyclable

High paper recycling rates give a low chance
of used packaging becoming litter.



24

We have the solution: the paper bag...

What do consumers think?



25 PAPER | PACKAGING | SOLUTIONS

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Paper Bag

Leading the change in the world and in Navarra



Small Bag



Boutique



Carrier Bag

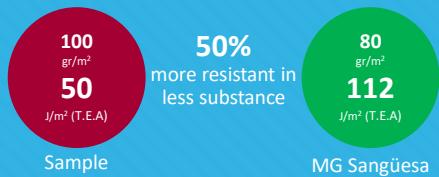
26 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Paper Bag

Not all the papers give the right solution

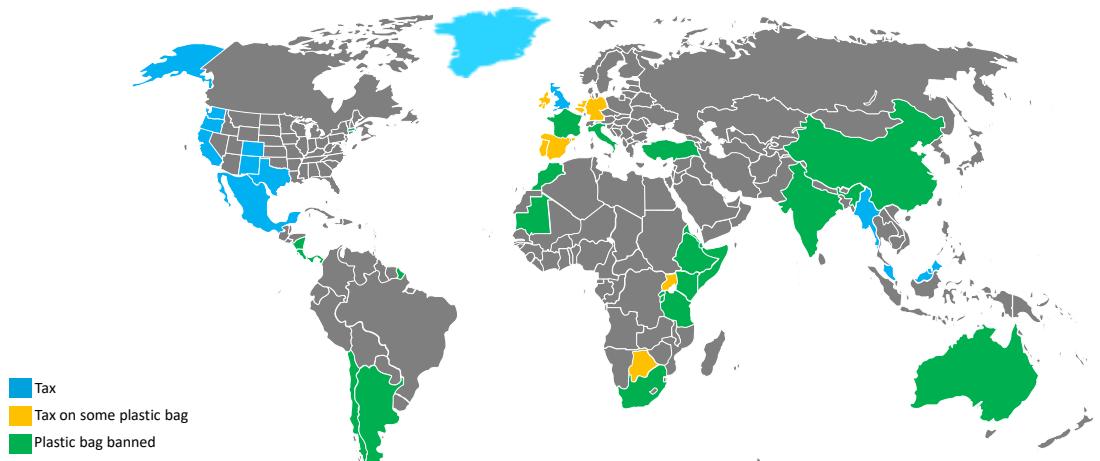
- ▶ Long fibre.
 - ▶ 100 % virgin.
 - ▶ Good formation.
 - ▶ Substance optimization.
 - ▶ High tensile strength properties.



27 PAPER | PACKAGING | SOLUTIONS

 Smurfit Kappa

Acting against plastic bag pollution



JULY 2018

28 PAPER | PACKAGING | SOLUTIONS

 Smurfit Kappa

Paper Bag Day in Europe

Navarra is leading that day in South Europe

October 18,
2018



Why to celebrate the European Paper Bag Day?

- ▶ Paper bags are the packaging of the future. They are strong and reliable shopping companions for all occasions. They carry almost anything – from food, fashion, luxury and decorative items to pharmaceuticals and electronics – and can hold up to 12 kg. Furthermore, they are also pleasant to handle and touch.
- ▶ But paper bags do a lot more. Paper bags are reusable, recyclable, biodegradable and made from renewable resources – they are environmentally-friendly. In a world facing changing requirements due to globalization, climate change and scarcity of raw materials, consumers engage in living a healthy and sustainable lifestyle. By using paper bags, they do. By reusing and recycling them, they do even more so. Taking responsibility for the environment can be that simple – and it is one of the megatrends in our society.
- ▶ By celebrating the European Paper Bag Day, we want to convince more people to be trendy and use paper bags. We invite them to combine the happiness from a great shopping experience with a good conscience for the environment.



The paper based solution that ends up smelling of roses



Agriculture

Waste generation in Navarra



- ▶ ¿Waste management or avoid it?



Mulching project

Real problem to solve



Mulching project



33 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Mulching project

Testing our paper-based solution



Key Drivers vs Plastic solution

- > Special paper based solution made from virgin fibres.
- > Better weed control.
- > Storable without losing properties.
- > Sustainable and Eco-Friendly.
- > Biodegradable as Compost.



34 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Mulching project

Highlighting Circular Economy



- ▶ It's not necessary to remove the paper.
- ▶ The farmer could plough the land with the paper.
- ▶ The paper will act as compost for the land, improving its quality.



35 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa

Banana project

Replacing the plastic...



- > Price reduction vs PE solution.
- > Transport costs optimization.
- > Waste fee reduction.
- > Environmentally friendly.



36 PAPER | PACKAGING | SOLUTIONS

Smurfit Kappa



**Non-biodegradable
packaging's days
are numbered**

 Smurfit Kappa



Smurfit Kappa believes the best way to open
the future of sustainable packaging is **to create it**



4th SCREEN INTERNATIONAL WORKSHOP
Pamplona, 5th September 2018



Izaskun Goñi Razquin
Directora General de Política Económica y Empresarial y Trabajo

Economía circular POCTEFA 2014-2020



Eje 1 : Dinamizar la innovación y la competitividad

CYCLALG

(1^a convocatoria 2015)

ORHI

(2^a convocatoria 2017)



Eje 5: Reforzar las competencias y la inclusión
en los territorios

REINSE

(1^a convocatoria 2015
no programado)

ORHI: tecnologías innovadoras de Economía Circular para valorizar flujos de materia orgánica y plásticos en la cadena de valor agroalimentaria.



- **ORHI**, pretende aportar valor a la Industria Agro-alimentaria del territorio a través del desarrollo de sinergias entre empresas de los 2 países, así como de la identificación transfronteriza e internacional de Tecnologías Innovadoras y nuevos Modelos de Negocio, que contribuyen a generar nuevas oportunidades para creación de valor a partir de la utilización eficiente de los flujos de materias orgánicas y plásticos de los procesos de las empresas del sector. Todo ello según las Rs de la Economía Circular (Reducir, Reutilizar, Reciclar).
- Duración prevista: 36 meses (01/01/2018-31/12/2020)
- Presupuesto: 1.992.538,00 Euros



-2-

ORHI: tecnologías innovadoras de Economía Circular para valorizar flujos de materia orgánica y plásticos en la cadena de valor agroalimentaria.



SOCIOS:

- SAIOLAN, S.A. (País Vasco)
- AZARO FUNDAZIOA (País Vasco)
- Asociación Clúster de Industrias de Medio Ambiente del País Vasco
- Agencia de desarrollo económico de La Rioja
- Asociación de Industria Navarra
- Association pour l'environnement et la sécurité en Aquitaine
- École Supérieure des Technologies Industrielles Avancées – ESTIA
- Chambre de Commerce et de l'Industrie Bayonne Pays Basque
- Coop. de France Midi- Pyrénées



-3-

ORHI: tecnologías innovadoras de Economía Circular para valorizar flujos de materia orgánica y plásticos en la cadena de valor agroalimentaria.



Principales acciones:

- Impulsar y facilitar la identificación de Sinergias Inter-Empresas que permitan, a empresas del sector agroalimentario de los territorios participantes, generar valor a las empresas; así como mejorar el impacto ambiental de sus acciones y/o preservar el uso de los recursos naturales.
- Búsqueda e identificación de nuevos modelos de negocio (economía circular) y tecnologías innovadoras de mejora ambiental para el sector agroalimentario del territorio.
- Implementación en el territorio de las soluciones identificadas: tecnologías innovadoras y nuevos modelos de negocio (economía circular).

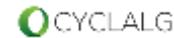


- 4 -

CYCLALG



- **CYCLALG** tiene como objetivo desarrollar y validar procesos tecnológicos dirigidos a implementar la obtención de biodiesel vía cultivo de microalgas planteando un esquema basado en Economía Circular, donde los residuos generados se aprovechan como inputs nutricionales en el mismo, y un modelo de Biorefinería que persigue el aprovechamiento integral de la biomasa y la diversificación de productos de valor añadido en la industria química, energética y agropecuaria.
- Duración prevista: 36 meses (01/06/2016 al 01/06/2019)
- Presupuesto: 1.421.851,00 Euros.



- 5 -

CYCLALG



SOCIOS

- NEIKER-Instituto Vasco de Investigación y Desarrollo Agrario
- APESA- Association pour l'environnement et la sécurité en Aquitaine
- CATAR-CRITT Agroressources (Midi Pyrénées)
- CENER- Centro de Energías Renovables (Navarra)
- TECNALIA Research & Innovation- Centro de investigación aplicada y desarrollo tecnológico (País Vasco)
- AIN. Asociación de la Industria Navarra



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CYCLALG



Principales acciones:

- Desarrollo de tecnologías innovadoras y sostenibles para la obtención de biodiesel a partir de microalgas heterotróficas.
- Valorización de productos y coproductos procedentes del cultivo de microalgas para su transferencia a empresas de distintos sectores productivos (energético, farmacéutico, cosmética, agroalimentario.)
- Análisis del ciclo de vida de productos y residuos valorizados, y transferencia a empresas del sector.



-7-

REINSE



- **REINSE** pretendía la creación de una Red Transfronteriza para el Desarrollo de Equipamientos y la Creación de Servicios Sociales de Inclusión por el Empleo, ligados a la Recuperación y Reciclaje de los residuos.

Aspecto fundamental del proyecto REINSE era favorecer la inclusión social del territorio transfronterizo, centrándose en las nuevas oportunidades generadas por el sector de los residuos.

- Duración prevista: 36 meses (01/12/2015 al 30/11/2018)
 - Presupuesto: 2.800.035,30 Euros.
-

- 8 -

REINSE



SOCIOS

- Fundación Traperos de Emaús, Navarra
 - Servicios de la Comarca de Pamplona S.A.
 - Ville d'Hendaye
 - Groupement d'intérêt public en Développement social urbain de l'Agglomération Bayonnaise.
-

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REINSE



Principales acciones:

- Creación de Empleo e Inserción Profesional: identificación de buenas prácticas y oportunidades en el sector de los residuos
- Organización y Modelos: intercambio de experiencias y aprendizaje mutuo (en materia de empleo e inserción) en el ámbito de la gestión y tratamiento de los residuos.
- Nuevos oficios: identificación de nuevas profesiones (accesible a colectivos desfavorecidos) y desarrollo de una nueva oferta de formación.
- Experimentación: Iniciativas Locales de generación de Empleo e Inserción, ligadas a la Recuperación y Reciclaje de los residuos.

- 10 -

¡Muchas gracias!

Mila esker!



Izaskun Goñi Razquin
Directora General de Política Económica y Empresarial y Trabajo



Interregional Innovation Investment in the EU: “De- and Remanufacturing” for Circular Economy Pilot Network

Regions: Lombardy, Scotland, Saxony, Tampere, Flanders, Basque Country, Norte, Emilia Romagna

Technical Coordinator: Marcello Colledani

Presenter: Marcello Colledani, Politecnico di Milano, Lombardy
AFIL: Intelligent Factory Lombardy Region Cluster

Pamplona, September 5th, 2018

Highlight 1: Example of Lombardy Region infrastructure



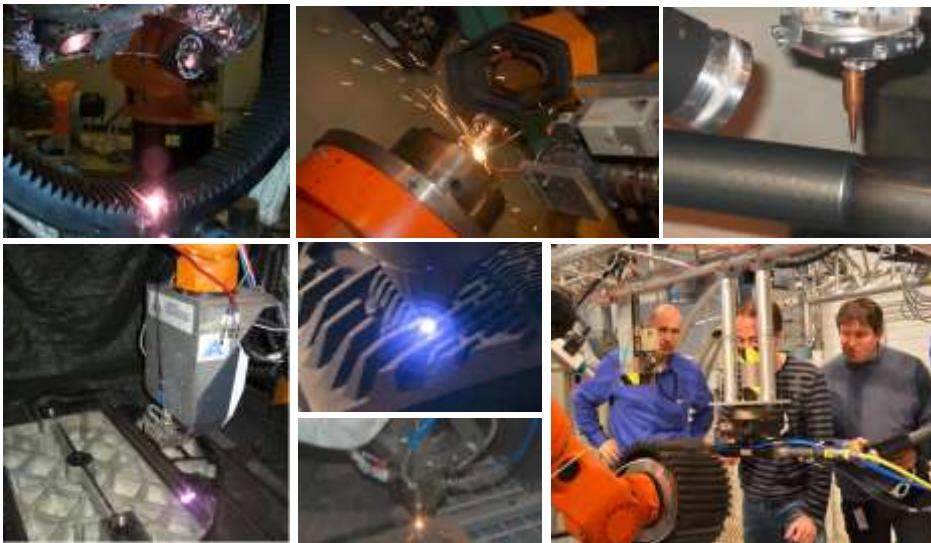
Lombardy Infrastructure: new infrastructure: 400m2 ca.; 12,5M€

- Integration of advanced and innovative technologies and digital innovations (**TRL7-8**)
- **Modular** and **reconfigurable** Pilot Plant for different use-case.
- High degree of **integration, automation and control**.

Remanufacturing	ICT tools & Simulation	Inspection, Materials Analysis, Certification	Business Model, Reverse Logistic and LCA
Smart Disassembly		Mechanical Processes	
Manual	Semi-automated		

De- and Remanufacturing Pilot Network

Highlight 2: Tampere



De- and Remanufacturing Pilot Network

Industrial Participants and investors.



More than 60 European companies, with a cumulative **turnover of 32 B€** and with some **175,000 employees**, and 69 universities and RTOs distributed among the involved regions are involved.



The stakeholders have signed ***Letters of Intent*** to participate to the definition of this Pilot Network and, in the case of future end-users, to access the pilot network and to carry on industrial take-up, in case of positive evaluation of the developed solution.

De- and Remanufacturing Pilot Network

Highlight 1: Relight s.r.l., Hydro WEEE.



RELIGHT

"The Vanguard De-and Remanufacturing pilot network is a new way to share innovation."

"Relight as a member of this pilot, aims at opening new markets by establishing a sustainable cooperation within the pilot to attract new industrial users of Relight technologies and to pave the way for new recycling services."

Bibiana Ferrari, CEO of Relight s.r.l.



De- and Remanufacturing Pilot Network

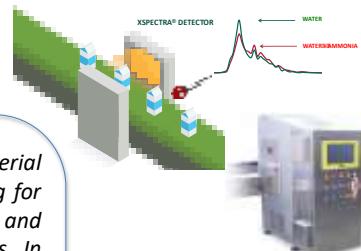
Highlight 2: Xnext – In line X-ray technologies.



"Xnext developed the most advanced real time material scanner that will revolutionize the quality control testing for manufacturing and will make possible to identify and separate the materials in circular economy applications. In perspective, the 30% of Xnext sales 2020 budget will be generated by revenues from circular economy applications".

"The De-and Remanufacturing pilot will represent a fundamental installation for show-casing the potentiality of our technology in an integrated pre-industrial environment, thus supporting Xnext in gaining market shares in many different sectors"

Bruno Garavelli, Founder of Xnext



XNEXT
ADVANCED INSPECTION TECHNOLOGY

De- and Remanufacturing Pilot Network

Industry-led use cases and related business cases



A detailed analysis of identified **sectorial Use Cases**, with industrial partners associated, has been performed, where more regions are involved. For each Use Case, a business case has been detailed including a **business plan** for the industrial take-up of the solutions.

Regional/Cross-Regional Use Case	Involved Regions
Composite Recovery from Wind Energy System	Basque Countries , Saxony, Lombardy, Tampere, Scotland
Heavy machinery components remanufacturing	Tampere , Basque Countries, Lombardy, Saxony
Automotive parts remanufacturing	Scotland , Lombardy, Saxony, Norte
High-value TLC systems and Electronics Recovery	Lombardy , Tampere
Metal components reprocessing	Saxony , Tampere, Lombardy
Remanufacturing of e-motors	Saxony , Lombardy, Norte
Plastics recycling from WEEE	Flanders , Lombardy
E- mobility batteries remanufacturing for re-use	Lombardy , Saxony
Photovoltaic panels de-manufacturing	Flanders , Lombardy
Remanufacturing and retrofit of machine tools	Emilia Romagna , Lombardy

De- and Remanufacturing Pilot Network

FiberEUse Project



Large scale demonstration of new circular economy value-chains based on the reuse of end-of-life fiber reinforced composites.

Topic: Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects (CIRC-1-2016)

The FiberEUse project aims at integrating in a holistic approach different innovation actions aimed at enhancing the profitability of **composite recycling and reuse in value-added products**.



Duration: 48 months, starting on June 2017.

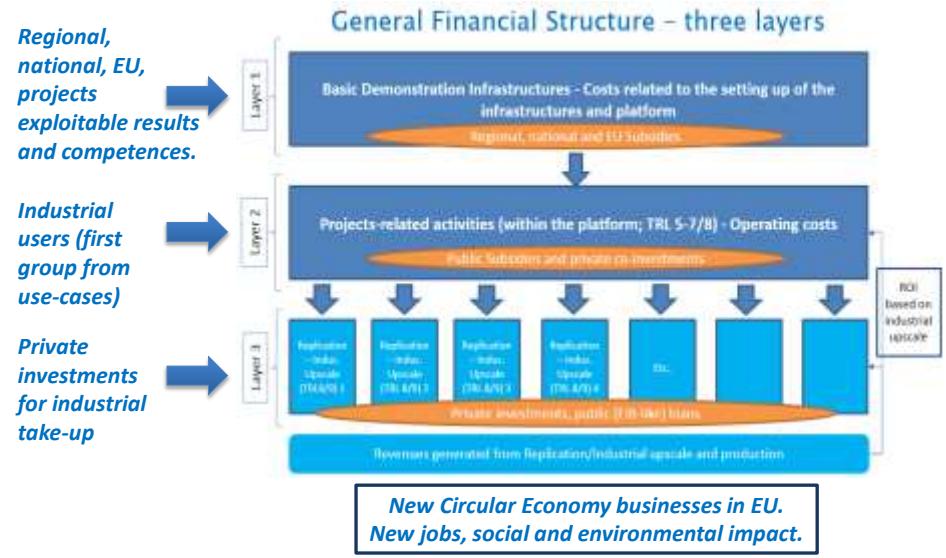
Consortium: 21 partners, from 7 EU countries.

Coordinator partner: Politecnico di Milano

EC Funding: ca. 10 mln €.



Operational and Business Model of the Pilot Network

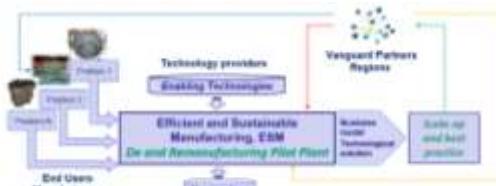


De- and Remanufacturing Pilot Network

Business Model of the Pilot Network



This pilot network is designed to be a “**generator**” of new **industrial plants** for European circular economy solutions.



Pilot Network Revenues:

- The User will pay a **daily fee** for each access.
- The User will share with the pilot network **a portion** of the **revenues** obtained by **selling the product/service** demonstrated by the business case developed by the platform (IPR exploitation).
- The core partners of the pilot (companies, universities and RTOs) will pay a **yearly fee** to be part of the pilot network and to access the generated knowledge and best practices.

Pilot Network Costs:

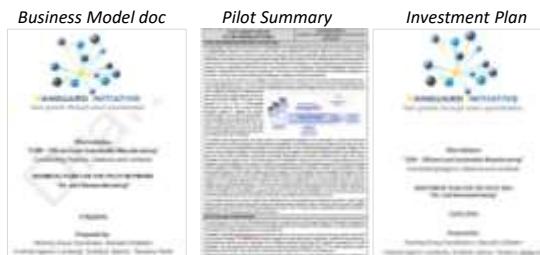
- Each demonstration project will have a **specific duration** and will require a group of full-time **dedicated persons** (hired and paid by the pilot network).
- Maintenance** and **upgrade costs** of the pilot network facilities will be covered yearly by the pilot.
- A cost of **customization** of the platform for each new project will be incurred (paid by the pilot).

De- and Remanufacturing Pilot Network

SCREEN Synergic Circular Economy Across European Regions

SCREEN H2020 aims at the **definition** of a **replicable and scalable approach**, to support **European Regions** in the transition to new **Circular Economy cross-regional value-chains**. This will be done through the identification and implementation of **operative synergies** between R&I investments of H2020 program and EU structural funds.

The methodology developed within the project will be replicable in all the European Union, thus creating an interregional framework for financing Circular Economy value chains.



Thank you for attention

63 pages

4 pages

34 pages

“De- and Remanufacturing” Pilot Network

Region	Technical contact	Organization	Email
Lombardy	Marcello Colledani	Politecnico di Milano	marcello.colledani@polimi.it
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