



S3Chem
Interreg Europe



European Union
European Regional
Development Fund

ACTION PLAN ASTURIAS



GOBIERNO DEL
PRINCIPADO DE ASTURIAS



IDEPA
Instituto de Desarrollo Económico
del Principado de Asturias

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S3Chem – Action plan for the promotion of smart specialisation strategies in the chemistry and bioeconomy sector

General Information:

Project: S3Chem – Smart Chemistry Specialisation Strategies

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13 June 2019

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1. Introduction

From 2016 onwards the chemical regions Saxony-Anhalt, Limburg, Catalonia, Asturias, Lombardy, Wallonia and Masovia have cooperated in the Interreg Europe Project S3Chem to strengthen smart specialisation strategies in the chemical and bioeconomy sector. All regions have given special priority to this sector in their Regional Innovation Strategies (RIS) due to the economic importance of the chemical industry.

The RIS provides the basis for the regional innovation funding in the framework of the ERDF. In this context, the S3Chem project has looked at different dimensions for the improvement of these policy instruments: better involvement of regional stakeholders and governance, project generation, funding instruments and evaluation and monitoring. Based on good practices identified in several regions an interregional learning process has been initiated. After three years of intensive exchange of experience, the partners have developed an Action Plan, which describes further concrete actions to improve their policy instruments for the promotion of innovation in the chemical and bioeconomy sector. The Action Plan will ensure the impact and sustainability of project results for the implementation of measures in the ongoing structural funds period 2014-2020.

Asturias has focused its work on the improvement of the Regional Innovation Strategy (Asturias RIS3) with a focus on Sustainable Materials priority. In the course of S3Chem project, based on experiences from other partners it has elaborated through a participatory process a Roadmap identifying regional value chains of sustainable materials (waste-technologies-markets).

The pilot action plans to prototype the running of a comprehensive waste recovery pathway. This pilot action, in the context of the S3Chem, gives a main role of the chemical industry in the circular economy. Furthermore, in parallel, we also planned actions to improve the economic viability and social acceptance of ERDF financed industrial R&D projects for the recovery of waste.

The implementation of the Action Plan will be coordinated by IDEPA (Regional Ministry of Employment, Industry and Tourism), which is the owner of the Policy Instrument and holds the Technical Secretariat of Asturias RIS3, in cooperation with Regional Ministry of Environment, with the Chemical and Process Industries Cluster of Asturias (IQPA) and University and Technological Centres. COGERSA, the local public company in charge of urban waste management in Asturias will become a partner for the implementation of the pilot action.

2. Description of Regional Action Plan

Policy Context: ASTURIAS has the challenge of addressing the transition of the process industry by decreasing the impact of residues in the Natural Paradise.

Name of Policy Instrument addressed: Regional Research and Innovation Policy (Asturias RIS3 2014-2020) with focus on Sustainable Materials

2.1. Action 1: Testing an R&D infrastructure network for waste treatment at the service of process and chemical industry as part of a Circularity Hub (pilot action)

2.1.1. Relevance to the project

The pressure on the process and chemical industry to meet the concept of CIRCULARITY by reducing the consumption of raw materials has increased during the years of execution of the S3Chem project. IDEPA has approached the concept but we still are missing a model. We have seen two very interesting models: the open innovation programs in Limburg and the way project generation is promoted in Wallonia, that will help us to establish a framework for the operation of the infrastructure network

The approach is in line with the strategic objectives of Asturias RIS3, regarding the opportunity to strengthen industrial leadership through technology and establishes a new territorial model based on network collaboration, reinforcing an ecosystem that favours the exchange of knowledge.

The prototype to be tested in this pilot action will support the deployment of the thematic priority Sustainable Materials of the Asturias RIS3 strategy, facilitating the design of future programmes in the service of the circular economy, related to R&D infrastructures, public-private cooperation and industrial symbiosis in the chemical and process industry.

To this aim, IDEPA will launch one of the calls of its Leadership R&D projects funding programme, on this occasion specifically aimed at proposals of urban-industrial symbiosis projects, in which the services and technologies required for the comprehensive valorisation pathway involve the collaboration of more than one of the entities making up the circuit. The call would be financed by the current OP 2014-2020 by adapting our traditional instruments. In OP 2021-2027, new instruments will be incorporated as a new programme related to circular economy. Furthermore, this pilot action would be implemented in parallel of the Asturias RIS-3 mid-term evaluation, conducted by IDEPA, incorporating the lessons learned.

2.1.2. Nature of Action

This pilot action plans to prototype the running of a comprehensive waste recovery pathway focused in one value chain: biomass wastes-carbon conversion technologies-process industry markets.

The challenge is how to organise the offer of the services of the comprehensive waste recovery pathway, bearing in mind that the assets belong to different owners and with different formulas for exploiting them. For this purpose, we will count on the collaboration of COGERSA, the public company in charge of urban waste management in Asturias. COGERSA will join the partnership with the commitment of supplying waste inputs for valorisation by process industry. COGERSA will also acquire minor equipment required to facilitate linking dots in the selected value chain, since each individual infrastructure of the comprehensive waste recovery pathway was developed for other inputs different from the specific residues of COGERSA, and it is necessary to prepare them. COGERSA supplies will need, for example, to adapt the size of the grains to the existing pilot plants and facilitate a quick identification of composition. More specifically, the equipment will be like these: a multi-purpose shredder with a hopper of approx. 250 l, a cryogenic laboratory mill and a portable IR Detector.

COGERSA and the chemical industry (final users of the valorised waste) will promote collaborative R&D&i projects to analyze the feasibility of carbon conversion technologies to valorise urban solid waste and forest biomass using the services of our comprehensive pathway. Nowadays we are aware of which companies in the chemical sector in the region are in the process of searching for diversification routes from waste of different origin.

IDEPA will adapt its current subsidies to finance lead projects to the initiatives developed in this prototype, with the dual objective of favouring urban-industrial symbiosis and having examples to analyse how the offer of services is organised in a comprehensive pathway and the difficulties it encounters.

Planned activities:

1. Identification of stakeholders particularly associated to the value chain chosen: Urban waste – carbon conversion technologies – application in process industry. IDEPA
2. Select the collection of R&D resources from the inventory, in the family of carbon conversion technologies, to be part of the comprehensive recovery pathway. COGERSA+IDEPA
3. Acquisition of assets/equipment required to fit out the collection of R&D infrastructures selected as a node for the future Regional Hub of Circularity. COGERSA: a multi-purpose shredder with a hopper of approx. 250 l and, cryogenic laboratory mill and a portable IR Detector.
4. Inspiring in Brightlands Chemelot Campus Institutes and Competiveness Poles of Wallonie, IDEPA will draft a public-private collaboration programme to

support an R&D infrastructure Launch a call for proposals aimed at projects on the topic carbon conversion technology processes for urban waste valorisation to meet the process industry interest, R&D project implemented in the infrastructure network (comprehensive recovery pathway node). IDEPA

5. Check the efficiency of this public instrument to support public-private open innovation network of R&D infrastructure in the generation of project and refit the idea if necessary. IDEPA, COGERSA network as a comprehensive recovery pathway IDEPA.

The following indicators will be measured:

- I. Number of regional stakeholders involved in process (companies / science / public entities)
- II. Number of R&D projects tested
- III. Amount of regional residues/wastes envisaged/addressed
- IV. Amount of money dedicated to pilot call by sub-actions
- V. Number of new policy instruments

2.1.3. Players involved

Organisation	Role
IDEPA	Policy maker, subsidy programme owner and ASTURIAS RIS3 secretary
COGERSA	Supplying waste inputs for valorisation by process industry. Acquiring minor equipment required to facilitate linking dots in the selected value chain. Participate in R&D&i projects in collaboration with the chemical industry. (New partner)
TECHNOLOGICAL AND RESEARCH CENTRES AND UNIVERSITY	Technological researches. Owners of infrastructure and technological providers
PRIVATE COMPANIES	Process Industry, engineering companies. Owners of infrastructure and waste producers and waste end-users

2.1.4. Timeframe

The actions proposed are expected to have a one-year projection divided into 2 semesters as explained above.

2.1.5. Costs

The costs for the pilot action is budgeted in 32.500 Euros being part of the pilot action distributed as shown below. Moreover, IDEPA will support R&D pilot projects running in the infrastructure network with a planned budget of 100.000 €-200.000 €.

PILOT ACTION BUDGET					
Partner	Staff costs	Office and administration	External expertise and services	Equipment	Total
IDEPA	10.000,00 €	1.500,00 €			11.500,00 €
COGERSA			1.000,00 €	20.000,00 €	21.000,00 €
Total	10.000,00 €	1.500,00 €	1.000,00 €	20.000,00 €	32.500,00 €

2.1.6. Funding Sources

The call cost will be financed by IDEPA's own sources (subsidies programs). For the rest, we have applied for a pilot action.

2.2. Action 2: Tools to facilitate success of R&D projects by Pre-empting the R&D phase with the socio-economic viability of the projects.

2.2.1. Relevance to the project

The challenge of the transition towards a circular economy approached with the recovery of industrial and urban waste has Socio-economic aspects to take into account during the early R&D phases.

Besides the technological risk that accompanies any R&D project, waste recovery projects have certain circumstances that also determine their viability, among others the social distrust that generates its immediate impact on the environment or its subsequent implementation at industrial scale. The communication of the R&D projects, is presented as an opportunity to guarantee its execution and social acceptance. The MANIFESTO referred in the General recommendations of the Final brochure of S3Chem suggests for companies to agree with stakeholders a communication protocol to show in advanced the environmental aspects of R&D proposals.

Besides, Fraunhofer CEM Halle (stakeholder involved in project meetings) has been established as a work group of the IMWS in Halle to evaluate material chains from an economic, ecological and social viewpoint. Their methods are very interesting for the actions below described.

2.2.2. Nature of Action

IDEPA will work on the draft of an abridged protocol to industrial R&D trials which involves informing society about the measures that are carried out and the benefits this entails for Asturias, giving citizens a leading role in the transition towards the circular economy. The envisaged protocol will help R&D environmental projects funded by public funds (through competitive calls from OP ERDF) to success by ensuring their societal viability. The protocol will include tips about how, when and what and it is planned to be incorporated in obligations of the beneficiary of IDEPA subsidies programmes

On the other hand, IDEPA will work on prototyping a quick economic impact assessment tool which will be used by its internal evaluators. This tool would take into account a life cycle analysis (LCA), best available techniques, available technological improvements (ATI), and productivity and market criteria.

2.2.3. Players involved

Organisation	Role
REGIONAL MINISTRY OF ENVIRONMENT	Policy makers (adoption and implementation of environmental law and dialogue with stakeholders)
IDEPA	Policy maker (innovation policy and funding instruments)
UNIVERSITY OF OVIEDO, RESEARCH BODIES	Socio Economic researches that will help to better communicate R&D projects
AIQPA	Cluster grouping industries

2.2.4. Timeframe

6 months

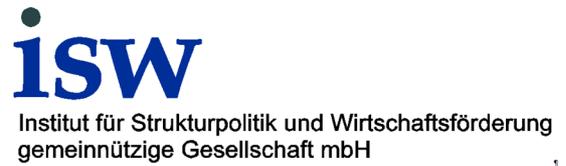
2.2.5. Costs

The costs for the elaboration of the protocol are estimated to be one half man-month of employees working in IDEPA for four months, which amounts to a total of 10.000 Euro.

2.2.6. Funding Sources

Funding comes from own resources of IDEPA.

Thanks to all project partners



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