

# Energy in Water: Resource Efficiency in Food Manufacturing Industry in the context of Smart Specialisation Strategies (EnW-REF-S3)

## Vision, ambition and objectives of the Partnership

### Introduction

Europe's food and drink industry is the largest manufacturing sector in terms of turnover, value added and employment. Its contribution to Europe's economy is crucial: 4.25 million employees throughout the EU, over €1 trillion turnover and a positive trade balance of €25 billion. The food and drink industry also accounts for more than 285,000 SMEs that generate almost 50% of the food and drink industry turnover and value added and provide 2/3 of the employment of the sector<sup>1</sup>.

Enhancing a resource-efficient, circular economy, is one of the most important priorities for this industry. It plays a key role in food and drink companies' long-term competitiveness and makes good environmental and business sense. It means preserving the value of resources (raw materials, water and energy) that go into producing food and drink products for as long as possible, while also paying attention to: prevention, resource efficiency, environmental performance, sustainable sourcing and consumer awareness<sup>2</sup>.

Water, energy and food are inextricably linked. Water is an input for producing agricultural goods in the fields and along the entire agro-food supply chain. Energy is required to produce and distribute water and food: to pump water from groundwater or surface water sources, to power tractors and irrigation machinery, and to process and transport agricultural goods. Agriculture is currently the largest user of water at the global level, accounting for 70% of total withdrawal. The food production and supply chain accounts for about 30% of total global energy consumption. There are many synergies and trade-offs between water and energy use and food production<sup>3</sup>.

Over the last two years, the European Strategic Cluster Partnership on Energy in Water (EnW) has been supporting and harnessing the growth and innovation potential of European SMEs operating across the energy-water 'Nexus'. The EnW partnership is aiming at generating opportunities for SMEs within the energy-water nexus through international partnerships and facilitation of cooperation on solutions.

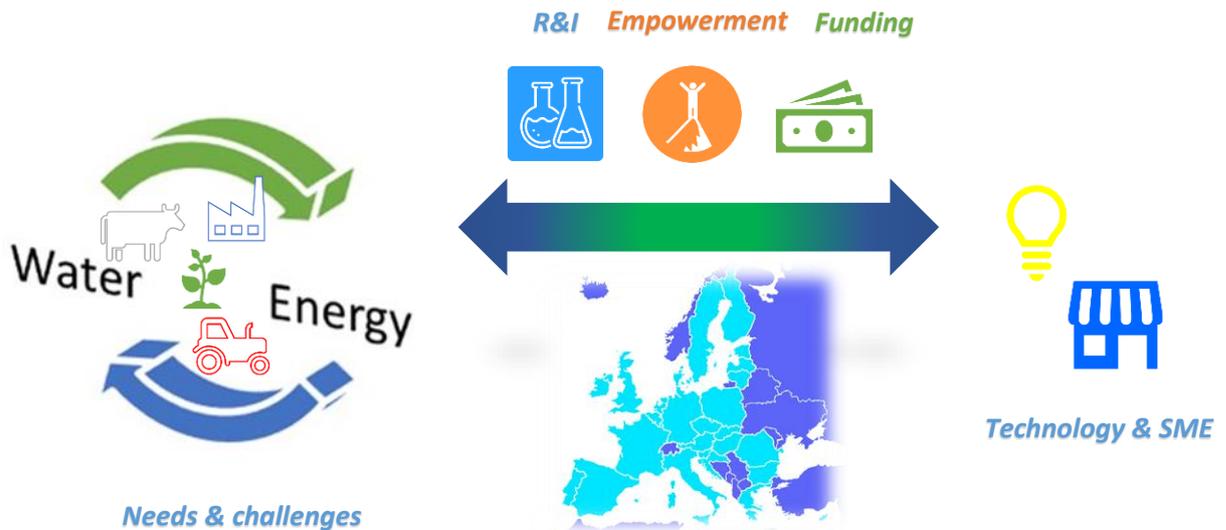
As a follow-up on the successful EnW European Strategic Cluster Partnership, the partnership will be working on identifying and classifying the challenges and needs in the food manufacturing industry and connecting and matching these with European SMEs/technologies. Based on a classification, the needs will also be matched to Knowledge Institutes, Capacity building/Empowerment and Regional ESRF-funding/Horizon2020-funding measures (figure 1).

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<sup>1</sup> FoodDrinkEurope, Data & Trends EU Food and Drink Industry 2016

<sup>2</sup> FoodDrinkEurope, <http://circulareconomy.fooddrinkeuropa.eu/>, 2016

<sup>3</sup> UN Water, The United Nations World Water Development Report 2014 – Water and Energy -



The needs and challenges will be the basis for further cooperation on regional, national and/or European levels. The connection to Smarts Specialisation Strategies, available structural funding and the private funding (from industries and SMEs) opportunities are some of the criteria to be applied in the selection of industries, challenges and needed solutions.

### Vision and ambition

The EnW partnership recognises the Food Manufacturing as one of the most attractive sectors for this. The vision of the partnership is to have a significant impact on the circular economy, by reducing waste, water and energy consumption, through resource efficiency technologies, processes and schemes in the Food manufacturing sector.

The ambition of the consortium is to enhance the regional innovation capacity by analysing and classifying the challenges and needs in the food manufacturing industry, and connecting these with European SMEs and Knowledge Institutes within the context of Smart Specialisation Strategies. Furthermore, regions will be mobilised to recruit and assess the regional capabilities and funding possibilities allowing for strong regional uptake of the initiatives and recommendations. National and European funding and policy making institutes will be invited to assess this initiative and come up with solutions to support its outcomes, aligning these with European and national policy and instruments.

The EnW partnership intends to focus on the following high priority areas within the European internal market:

- Generation and reuse of resources from organic waste and wastewater
- Energy and Water recovery and efficiency measures
- Resource recovery in process water
- Wastewater treatment solutions

Target areas within Europe are North-West Europe and South Europe (home countries of the partnership) and East Europe (Visegrád-group: Poland, Check Republic, Hungary, Slovakia and Romania).

## Objectives

- To improve the circular economy in the food processing industry in the context of the Smart Specialization Strategies
- To identify and classify needs and challenges in food manufacturing in North-West, South and East Europe.
- To connect and match the needs and challenges to SMEs and R&Ds by launching initiatives that support and strengthen European network building to enhance innovation, valorisation, technology transfer and knowledge transfer, as well as mutual learning between regional actors.
- To identify barriers and bottlenecks for innovation in food manufacturing in the context of Smart Specialisation, and to make recommendations for innovation capacity building aligning financial support of ESRF and Horizon funding instruments.
- To improve and enlarge the Energy in Water EU Clusterpartnership SME-network and connect these to the other successful EU Clusterpartnership networks.
- To inspire and mobilise other European regions with the 'innovation roadmaps', and launched initiatives;
- To disseminate knowledge and information about the partnership and the project, promoting its achievements, products and services.