

# Smart Specialisation for Sustainable Blue Economy Workshop

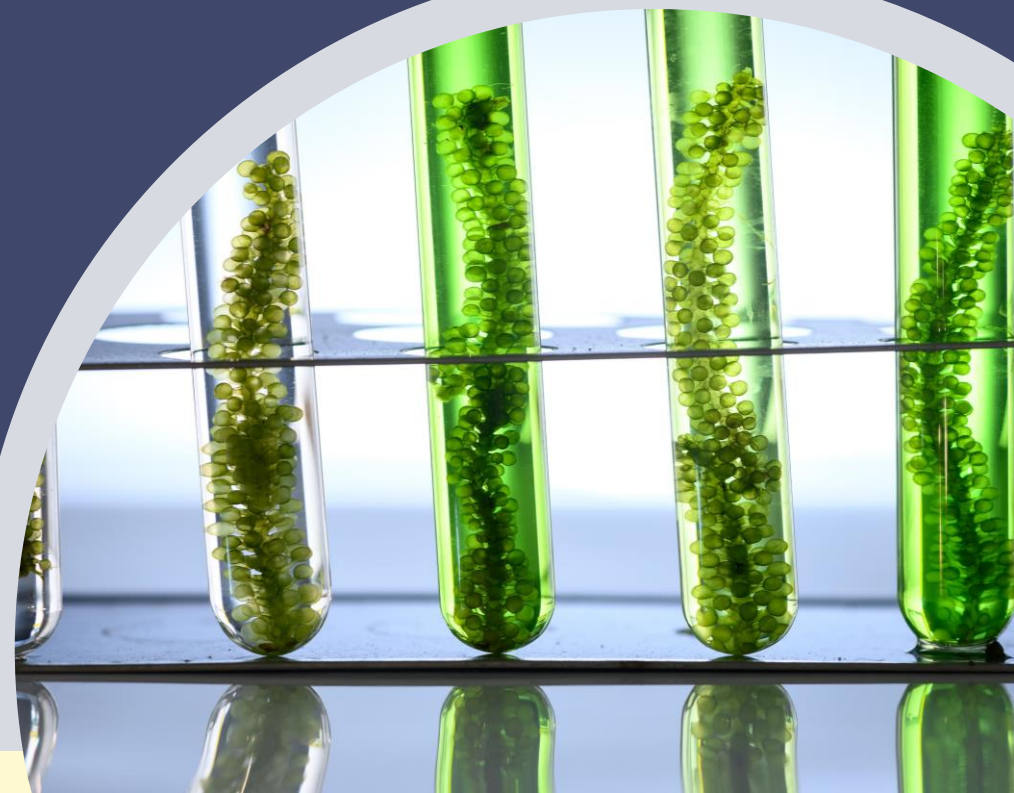
6 July 2021

09:00 – 12:45 CET

*Brokerage for S3 interregional partnerships  
for Sustainable Blue Economy – Part 2*

The Bioeconomy Pilot  
Interregional cooperation on innovative use of non-food biomass

Ilaria Re, Lombardy Green Chemistry Association



# The Bioeconomy partnership at a glance

Supported by Policy, driven by Industry



**VANGUARD INITIATIVE**  
New growth through smart specialisation

## Long term Goals



Support the creation of new **integral bio-based value chains** and connections between chemistry, agro-food, bioenergy, biofuels sectors



Promote **new business opportunities** through interregional cooperation and exchange of ideas\*



Encourage **projects** at the demonstration stage towards their upgrading and business exploitation (beyond TRL 5)

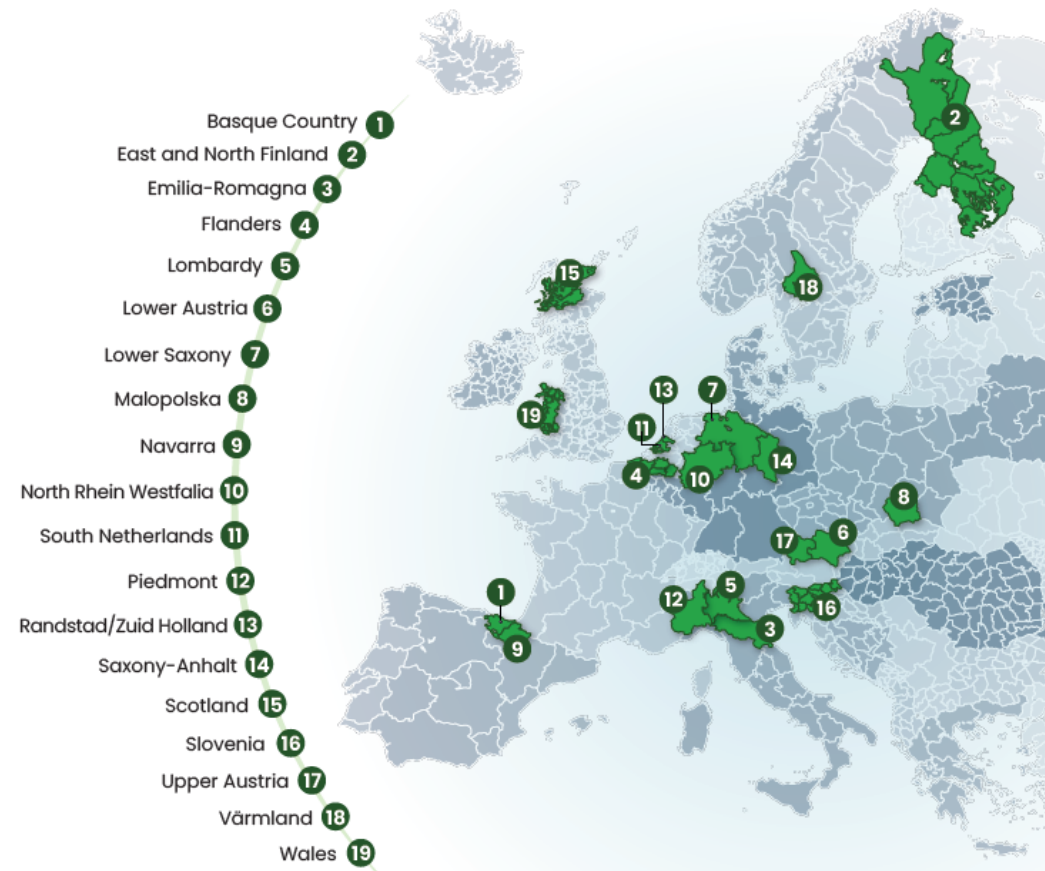


Support the **establishment of investment pipelines** based on industry-driven business cases coherent with the smart specialisation strategies of the participating regions



Promote the **political engagement** to position the Smart specialisation agenda at the centre of the EU's drive for a sustainable economy

## The Vanguard initiative regions participating in the Bioeconomy Pilot



## OUR COMMITMENT

- Co-led by **Lombardy (IT)** and **Randstad (NL)** Regions
- Technical coordination led by the **Lombardy Green Chemistry Cluster (IT)**
- **19 VI regions** involved
- Works for getting **better engaged** VI regions and increasing the number of **new members**
- **monthly matchmaking and investing forums, 1to1 meetings and new partnerships.**

# The Bioeconomy Pilot demo-cases



Bioaromatics demo-case	Lignocellulosic biorefinery demo-case	Liquified Bio-methane demo-case	Biopolymers demo-case
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Creating interregional value chains to produce lignin-based aromatic molecules and innovative sustainable materials



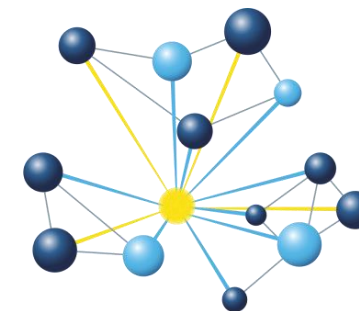
Set-up of European value chains from lignocellulose biomass to intermediate and end-products of bulk and fine chemicals.



Enhance wide diffusion of bio liquified natural gas for sustainable transport across Europe, by advancing the state of the art of biogas upgrading



Creating interregional value chains by matching polymer market applications and new biobased technologies



## VANGUARD INITIATIVE

New growth through smart specialisation

### RESULTS OBTAINED UNTIL NOW

- Mapping **over 50 PROMISING CIRCULAR BIOECONOMY BUSINESS MODELS** ACROSS EU
- Designing and implement **BUSINESS PLANS** Suitable for private and public funds
- **Open access** to EU companies to the best portfolio for biobased materials
- Commissioning of **10 pilot plants**
- Enhancing **12 USE-CASES** gathering over 50 public-private entities across EU
- Promoting over **20** matchmaking events annually involving **1.000+ people**



# Pilot's activities for the coming 6 months of 2021



BIOECONOMY  
REGIONAL INVESTMENT FORUM  
MILAN, 14-15 September 2021  
VIRTUAL EDITION

## BIO-LNG partnership replicability plan for Slovenia

Implementation of the business plan of the SMBio-LNG use case as part of the support of the **Technical assistance facility (TAF) in Slovenia**



## Looking for SMEs to engage into BIOPOLYMERS demo-case



## Looking for SMEs to engage into BIOAROMATICS demo-case

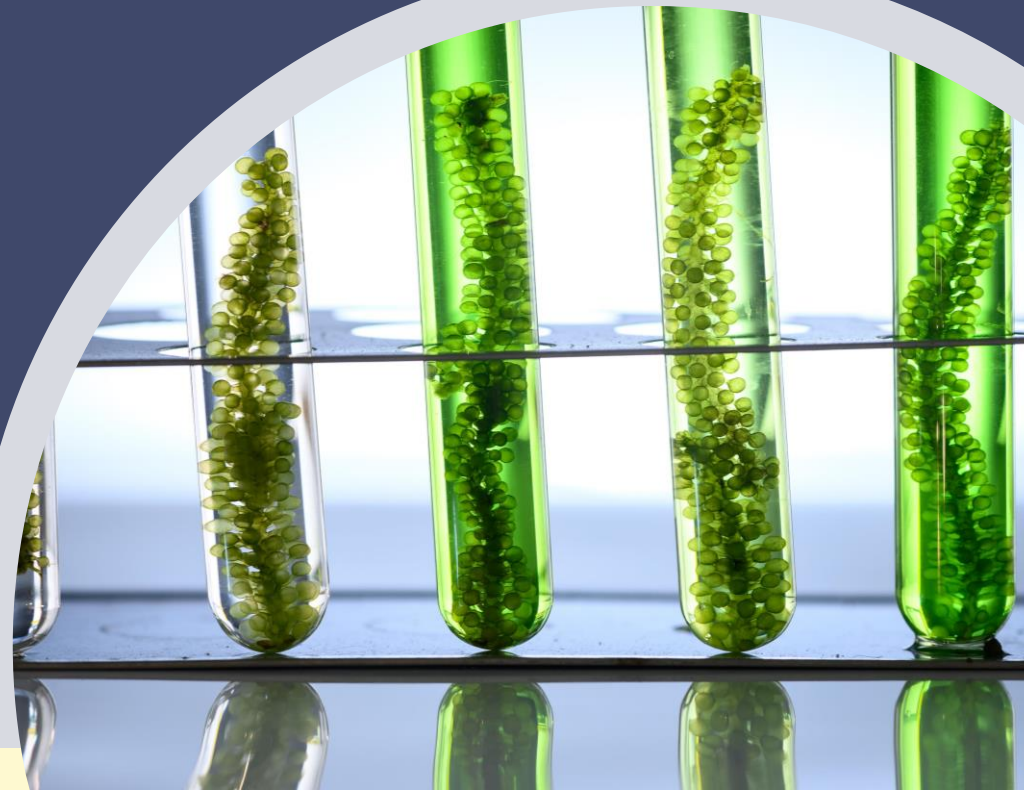
Horizons	Feedstock	Conversion Technology	Bio-Aromatics	Applications
Sugar to Bio-Aromatics	C5 Sugars/ Furfural	Diels-Alder	<chem>O=C1C=CC(=O)C=C1</chem>	
Lignin to Bio-Aromatics	Lignin	Catalytic Depolymerization	Specialty €€€	
Thermochemical Conversion of Biomass to Bio-Aromatics	Biomass residues & Recycle streams	Pyrolysis Gasification	<chem>C1=CC=CC=C1</chem> Bulk €	

The **lignin depolymerisation** pilot plant is producing functionalised renewable bio-aromatics used in different high added-value applications (polymers, adhesives, coatings, composites, etc.) and it will deliver about 200 kg/day of functional renewable bio-aromatics and be operational by 2021.

Cooperation  
opportunities on  
**blu-bioeconomy**  
consistent with  
regional **S3 priorities**:

interregional alliances  
for sustainable  
development

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# European Maritime and Fisheries Fund 2014 - 2020

291

PARTNERS

91

COORDINATORS

38

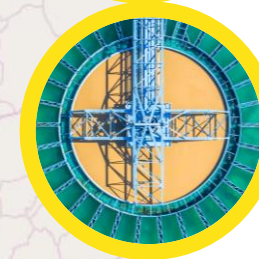
COUNTRIES

90

PROJECTS

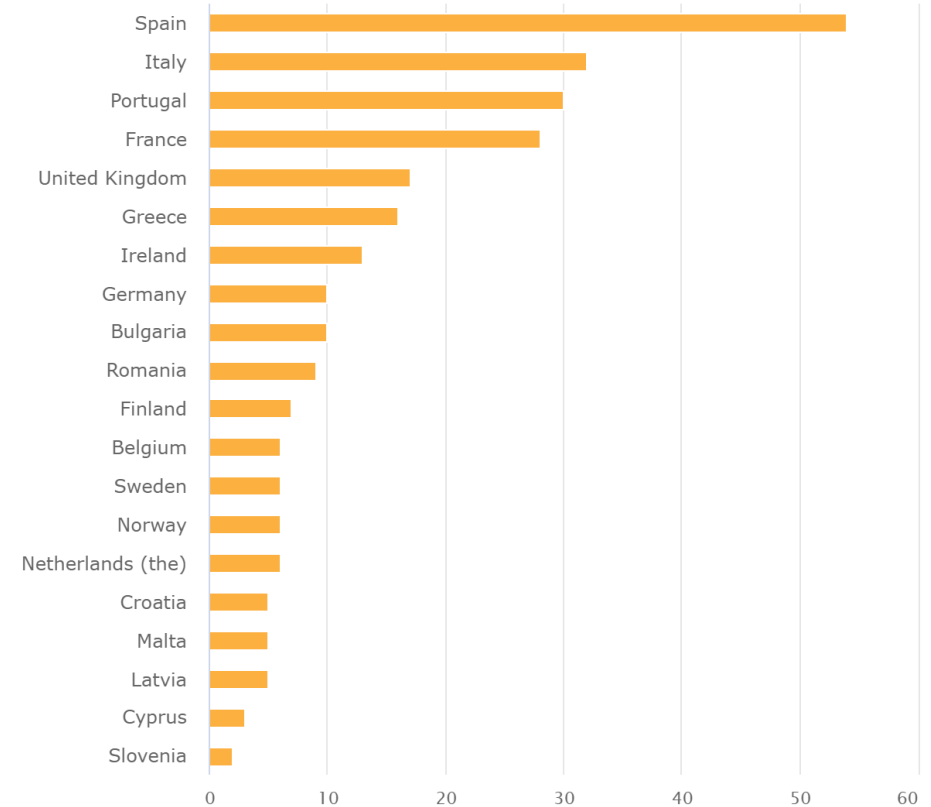
93M€

ALLOCATED



- Blue economy
- Blue Economy Window 2019
- Blue Labs
- Environmental Monitoring & Restoration
- Marine Litter
- Maritime Spatial Planning

### Number of participants

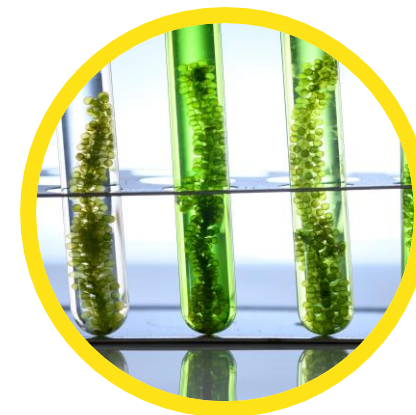


Interregional cooperation can support blue biotech approach to produce products ready to go to the market, adding value to marine resources and contributing to blue growth.

Microscopic marine organisms like cyanobacteria, microalgae and macroalgae are rich in bioactive ingredients that can be used to prevent and treat disease.

In the healthcare and pharmaceutical sectors, blue biotechnology has led to the discovery and development of advanced drugs, therapies, diagnostics, and vaccines.

blue biotechnology for  
healthcare and  
pharmaceuticals



**Is your region having plans to support the development of blue biotech to produce food, feed, bioactive compound and increase lab-to-market investments?**

**Can you give some examples or are you interested in learning more?**





Interregional cooperation plays a crucial role in achieving the green transition in maritime transport

- Greenhouse gas emissions reductions and air quality benefits
- Integrate the bio dimension of LNG in the revision in GHG reduction targets for shipping to stimulate a quick take off of the decarbonisation effect

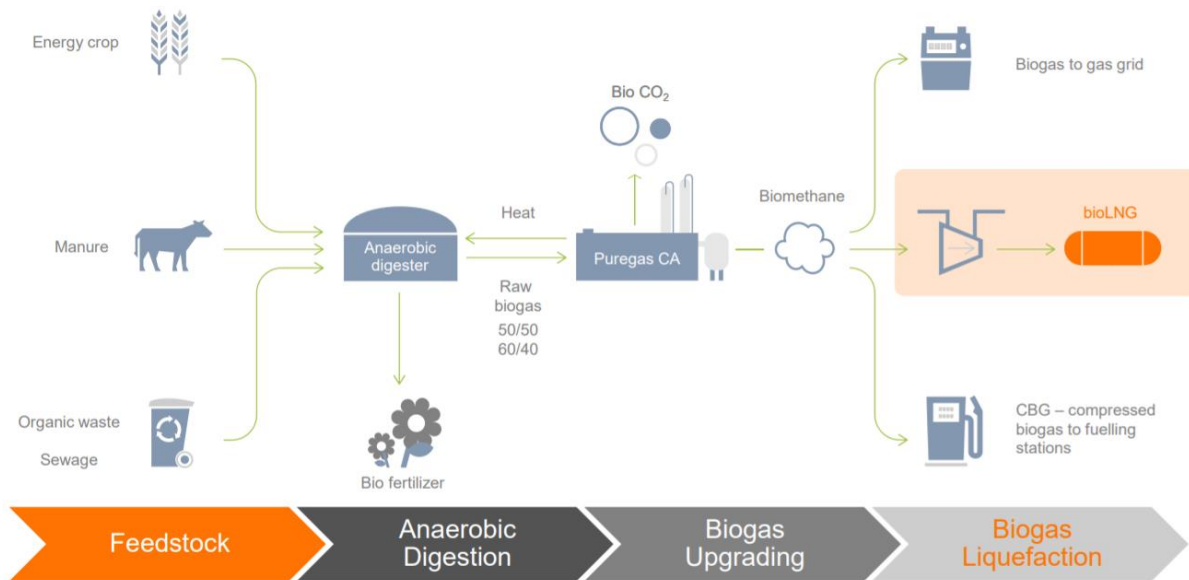
Is your region having plans to support the development of bio-LNG for a greener mobility?

Can you give some examples or are you interested in learning more?

Bio-LNG for transport, including shipping industry



**BIOGAS LIQUEFACTION**



**BIOGAS UPGRADING AND LIQUEFACTION PLANT, TRONDHEIM NORWAY**

**Biokraft LBG**

<b>Owner</b>	Biokraft AS, Norway
<b>Type</b>	bioLNG plant
<b>Tank net volume</b>	350 m <sup>3</sup>
<b>Capacity</b>	25 TPD / 9,125 TPA
<b>Size of upgrading liquefaction unit</b>	20 m x 30 m 12 m x 20 m
<b>Gas source</b>	Biogas from fish industry and paper mill waste
<b>Details</b>	Biogas to be used on city buses in Trondheim
<b>Scope of supply</b>	Liquefaction plant, incl. • Puregas CA biogas upgrading • Cooling system • MR liquefaction process • Storage tank • Electrical and control systems • Service agreement • Installation of plant Excl. Civil works
<b>Delivery method</b>	EPC
<b>Delivered</b>	2017

<https://www.Biokraft.no/biokraft-skoon>



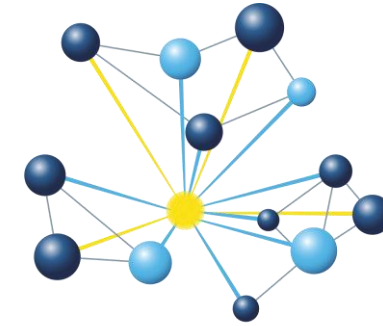
Skogn 21. august 2017



"We expect strong demand for liquefied biogas as fuel. Wärtsilä's biogas upgrading and liquefaction solution represents an important step forward in realising this potential."







**VANGUARD INITIATIVE**

New growth through smart specialisation

**Many thanks for your attention!**

## **The Bioeconomy Pilot of the Vanguard Initiative**

**Interregional cooperation on innovative use of non-food biomass**

**Ilaria Re, Lombardy Green Chemistry Association**

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**Regione  
Lombardia**  
Cluster Tecnologici Lombardi