

URBAN CIRCULAR BIOECONOMY PRACTICES AND THE CEE REGION

Bioeconomy initiatives in Slovenia

Scalibur, 13 May 2022

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Anteja

Change Agents
Sustainability
Award

ORACLE,
April 2022





90%

of biomass used in the EU is newly extracted¹
every year, while biomass extraction
contributes half of all GHG emissions
& 80% of biodiversity loss²!

PRESSURE ON FIRMS

VALUE CHAIN DISRUPTIONS – UKRAINE

MANY COMPANIES SUFFERING FROM BOTH INPUT
& MARKET LOSS

ENERGY PRICES

GREEN DEAL

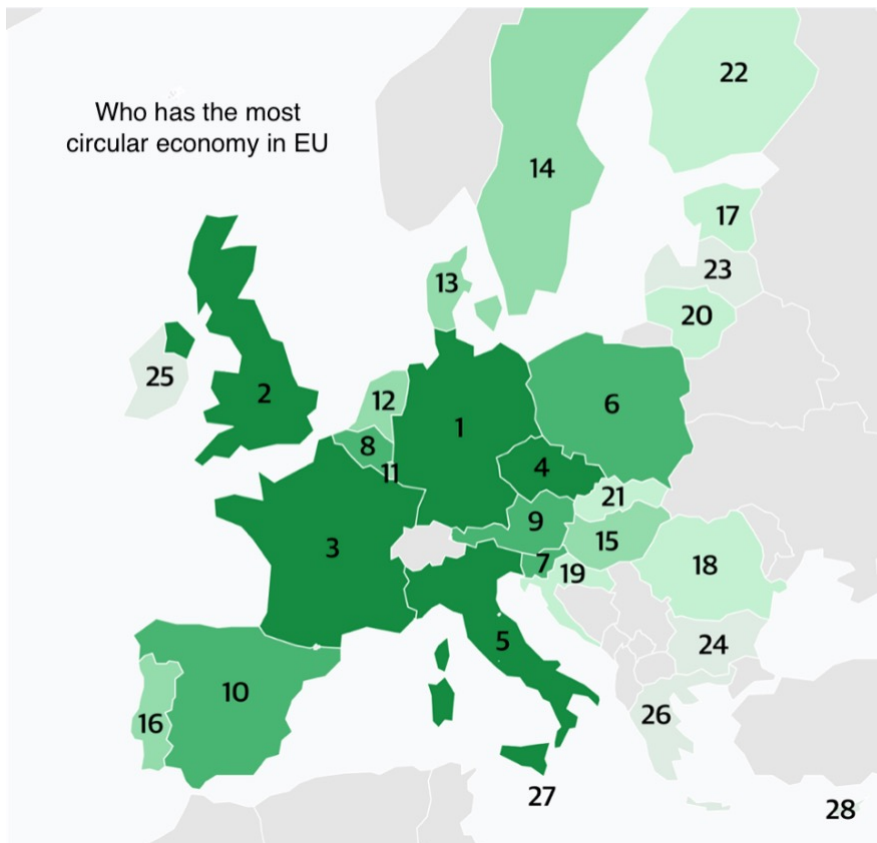
55% DECREASE GHGE BY 2030

CLIMATE NEUTRALITY BY 2050

REPORTING

SUPPLY CHAIN DUE DILIGENCE

CORPORATE SUSTAINABILITY
REPORTING DIRECTIVE (CSDR)

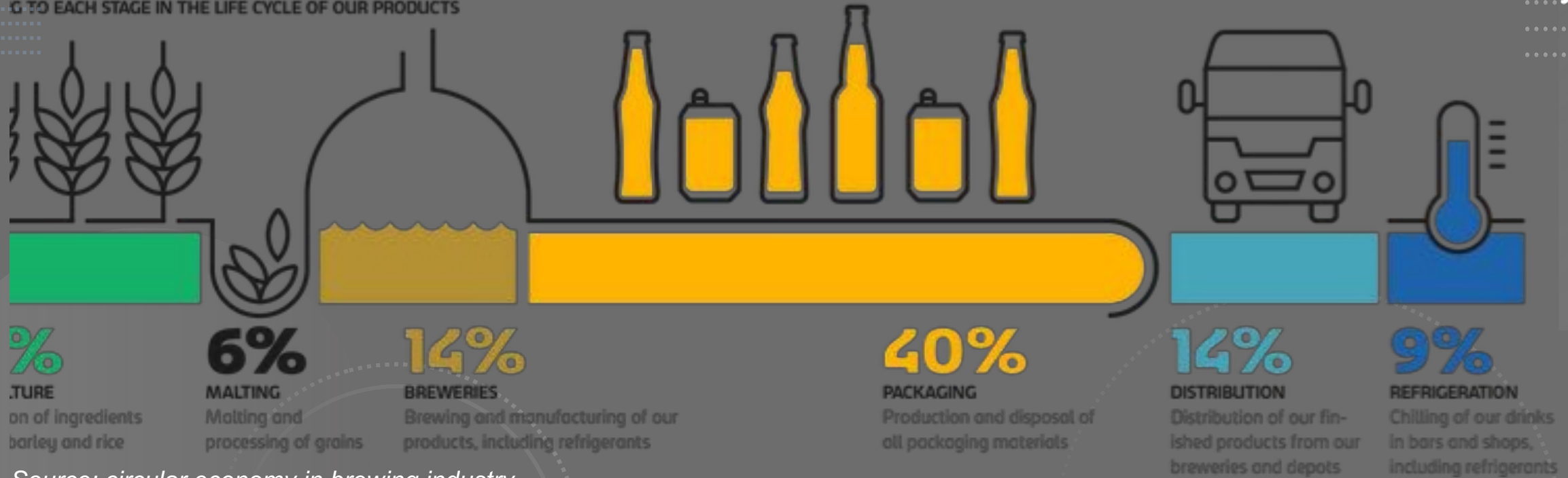


SOME INDICATORS OF CIRCULAR ECONOMY	2016	2017	2018	2019	EU
Municipal waste (kg per capita)	465	478	495	509	491 (2018)
All waste, excluding mineral waste per GDP unit (Kg per thousand euro, chain linked volumes (2010))	80	80	77	73	64 (2018)
Generation of waste excluding major mineral wastes per domestic material consumption (%)	11,5	11,8	10,8	11,1	13,5 (2018)
Food waste (in 1000 tonnes)	138	132	140	141	80.000 (2018)
Recycling rate of municipal waste (%)	55,5	57,8	58,8	59,2	46,8 (2018)
Recycling rate of all waste excluding major mineral waste (%)	79,8	83,9	87,5	84,5	57 (2016)
Circular material use rate (%) – secondary resources	9,1	10,3	10,8	10,9	12,4 (2019)

Circular Economy in Slovenia

Besides recycling, value chain alternatives for residuals and waste are rare

PROPORTION OF GREENHOUSE GAS EMISSIONS GOING TO EACH STAGE IN THE LIFE CYCLE OF OUR PRODUCTS



Source: circular economy in brewing industry

Circular business models are a fundamental challenge for SMEs

- Residuals like yeast and alcohol rarely enter new value chains
- Instead of new income streams, firms are dealing with costly proper disposal
- Circular business options are difficult for SMEs due to lack of knowledge, access to viable options and limited networks

Danube SMEs Clusters insights on Circular Bioeconomy transition

“Cross-sectoral matchmaking is key to profitability and increased efficiency.” Croatian wood cluster

“We don’t know where to start, we don’t have enough time and resources. We have a hard time communicating sustainability.”, foodnetz, Germany

“We would like that producers join forces to collect biomass.” Alma Mons, Serbia

“The business models need to change, the cost-focused, entrepreneurial culture needs to change. The management needs to be committed to it, not only imposed by administration.” Clustero, Romania



Source: Clusters and Sustainability, Anteja 2022

Resilience Challenges - COVID, Ukraine

CHALLENGES



Broken supply chains

- suppliers scattered worldwide
- very expensive and fragile
- challenges ensuring supply
- difficult to find alternative suppliers



Transport disruptions



laborers



Perishable inventory

SOLUTIONS



Strengthening VCs

- Strengthening relationships with supplies
- Multi-sourcing
- Reshoring closer to home
- Sourcing from more reliable (less JIT)
- Shortening VCs
- Supply chain mapping & stress testing
- Digital solutions for better transparency and traceability



Higher stock levels



Moving operations in-house



Governmental compensation policies



Implementation of new technologies



vcb.ai
VALUE CHAIN GENERATOR

VCG.AI FOR RESILIENT BIO-BASED VALUE CHAINS

Initiative
Danube Alliance
2022

VCG finds cross-regional & cross-sectoral supply chain opportunities

- Identifies & assesses millions of possible bio circular options
- Detects the best market opportunities for the company's products, residuals & waste
- Finds sustainable input suppliers that companies are looking for
- Cheaper, faster, more accurate matches that currently possible



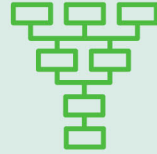
How it works



Step 1

Resource stream
mapping

| Data gathering from multiple sources



Step 2

Resource stream
matching

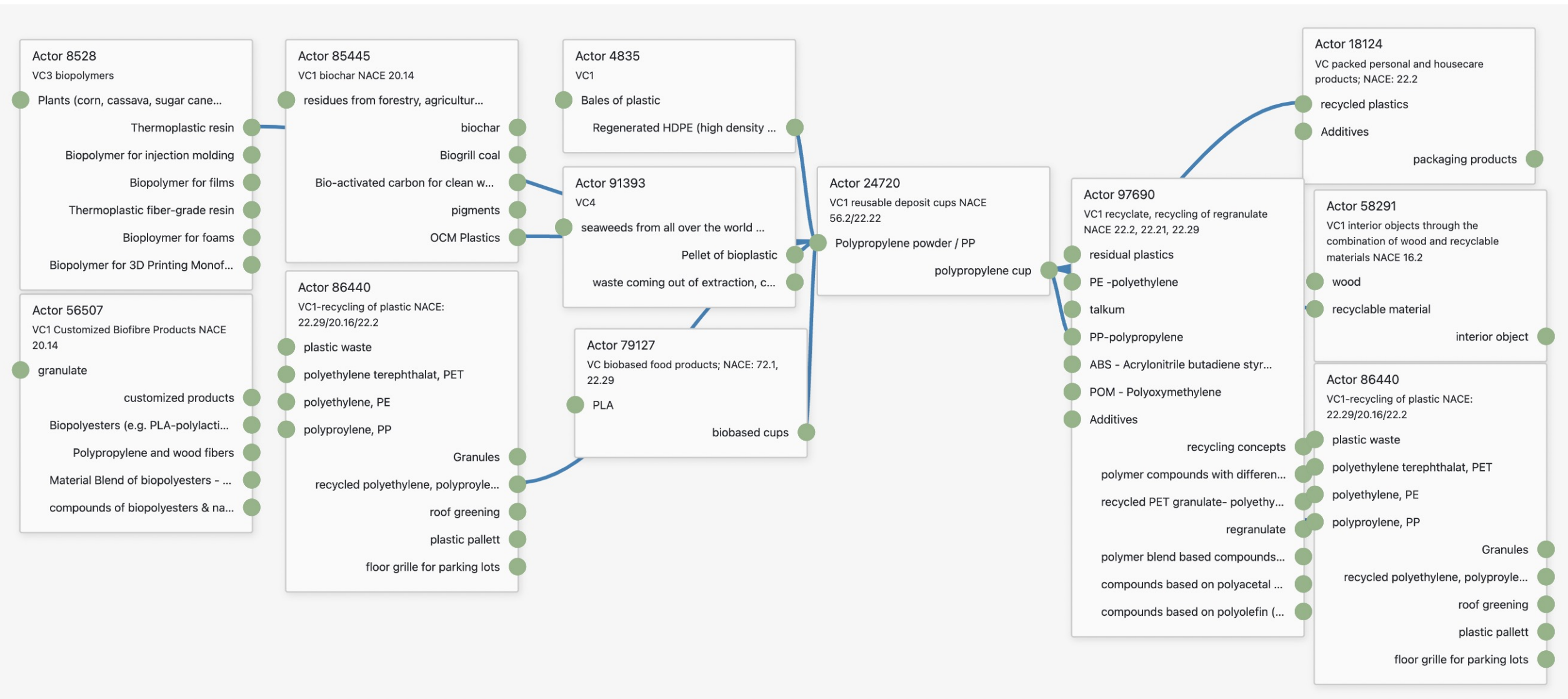
| Data processing & smart matching



Output

**The most resource
efficient upstream &
downstream circular
opportunities for
individual companies
and entire value chains
in seconds!**

BioLink examples Usage of biobased polymers for reusable cups



Current network

70+ Company networks

2,000+ companies

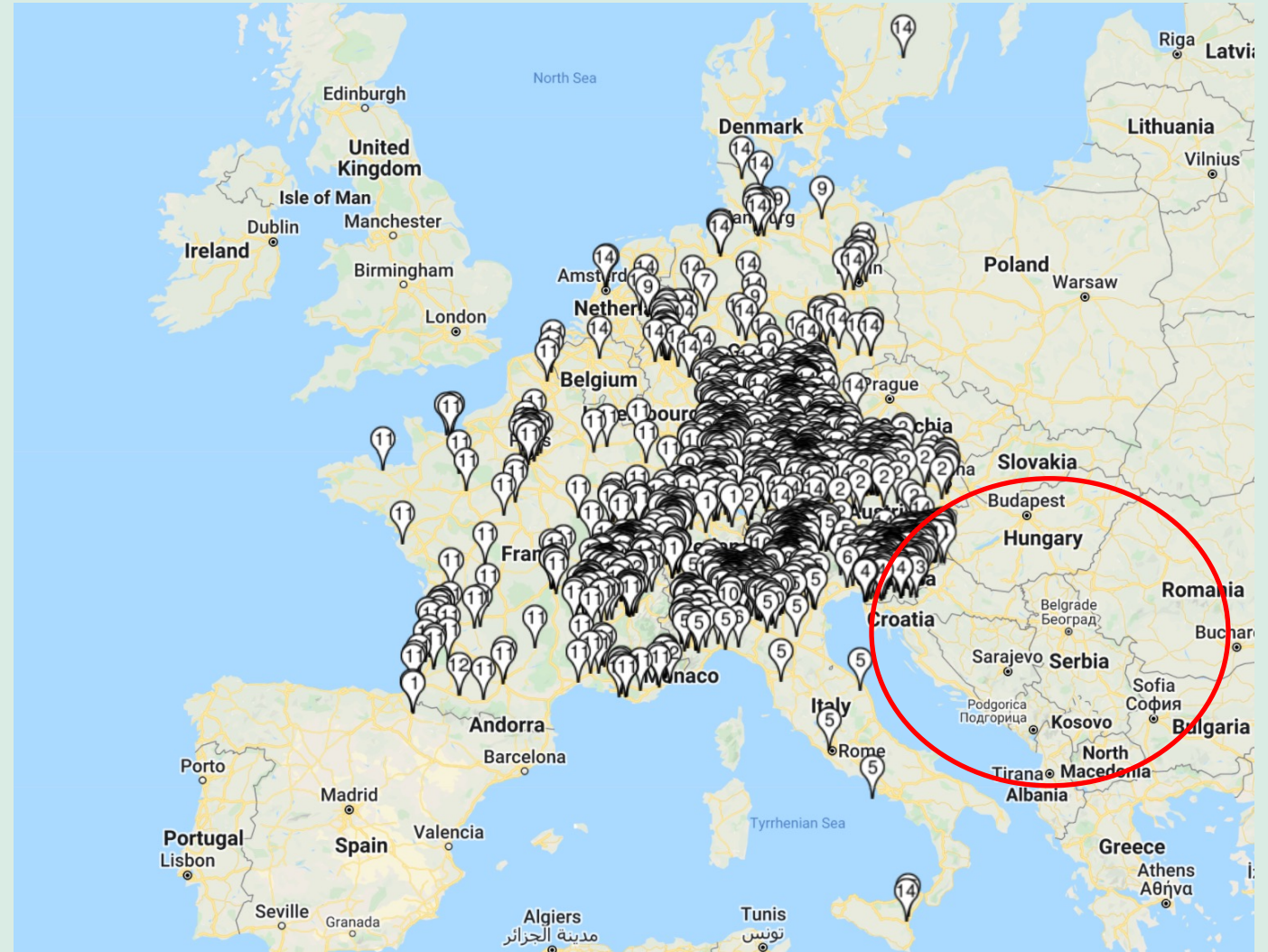
Network growth

BESTROCAL

Funded project in Germany: 10 networks

Danube Alliance

30+ networks across Danube region



Impacts



Engage
100.000
firms in sustainable,
and circular networks




Carbon Neutral Value
Chains
30%
Reduction by 2030



Sustainable resources
in production
100%
By 2025

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