



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY



Bioeconomy Innovation Week, 3-5 March 2021

Peter Canciani – Central European Initiative



FOR BOOSTING THE REGIONAL BIOECONOMY IN CEEC

This project has received funding from the European Union's  
Horizon 2020 research and innovation programme  
under grant agreement No 818351





# CELEBio

THE CENTRAL EUROPEAN LEADERS OF BIOECONOMY PROJECT CONTRIBUTED TO STRENGTHENING THE BIO-ECONOMY IN SIX COUNTRIES OF CENTRAL AND SOUTH-EAST EUROPE WITH QUANTITATIVE BIOMASS ASSESSMENTS, THE MAPPING OF STAKEHOLDERS ALONG BIO-BASED VALUE CHAINS, AND THE ELABORATION OF EVIDENCE-BASED GUIDELINES FOR NATIONAL BIOECONOMY ACTION PLANS. SIX MORE COUNTRIES HAVE BEEN STUDIED, AS WELL AS REGIONAL LEVEL IMPLICATIONS.



# CELEBio



## OBJECTIVES

- **RISE AWARENESS ON THE BENEFITS OF BIOECONOMY FOR LOCAL COMMUNITIES**
- **SUPPORT THE EXPANSION OF INDUSTRIAL BIO-BASED ACTIVITIES**
- **PROMOTE NETWORKING AND CLUSTERING**
- **SUPPORT FACT-BASED DECISION-MAKING**



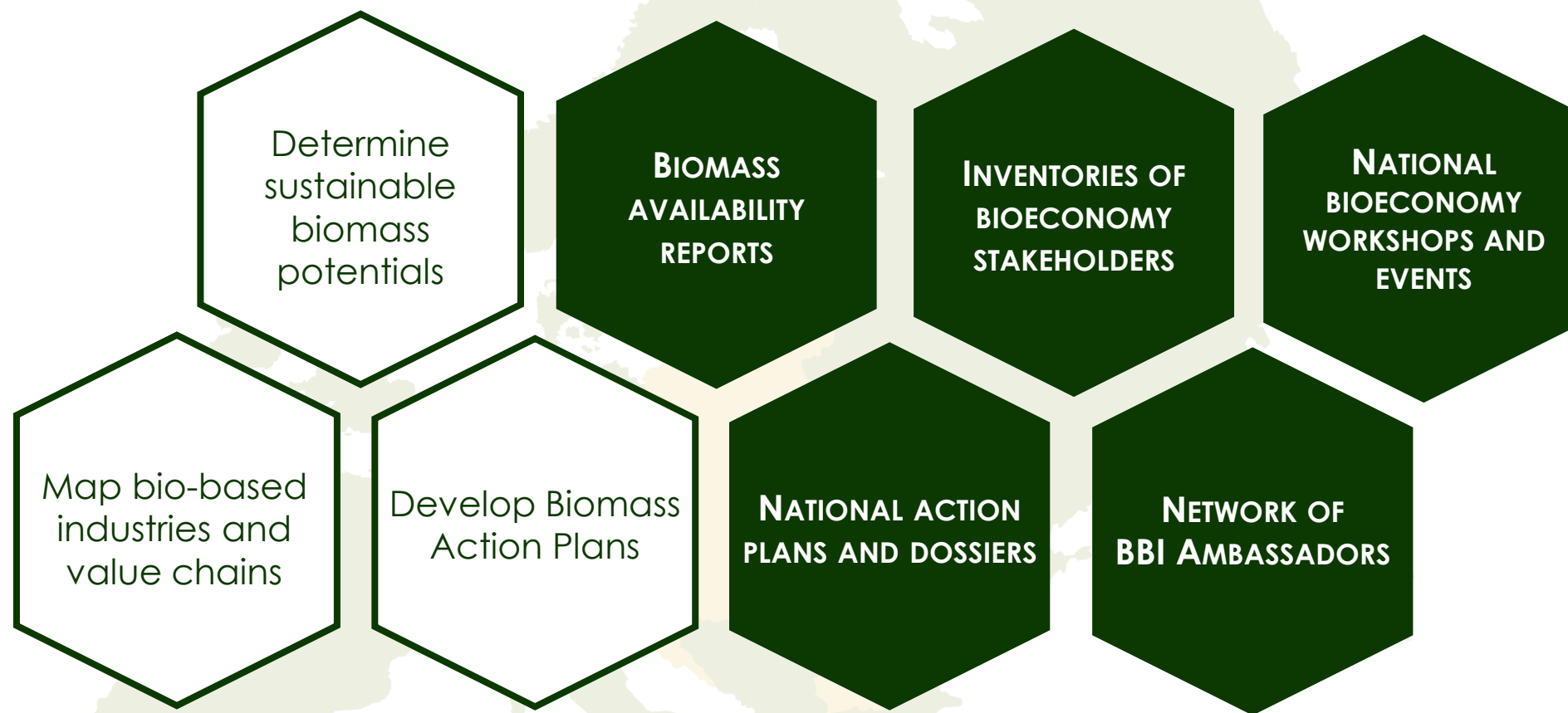
## TARGET COUNTRIES

- ✓ **BULGARIA**
- ✓ **CROATIA**
- ✓ **CZECH REPUBLIC**
- ✓ **HUNGARY**
- ✓ **SLOVAK REPUBLIC**
- ✓ **SLOVENIA**

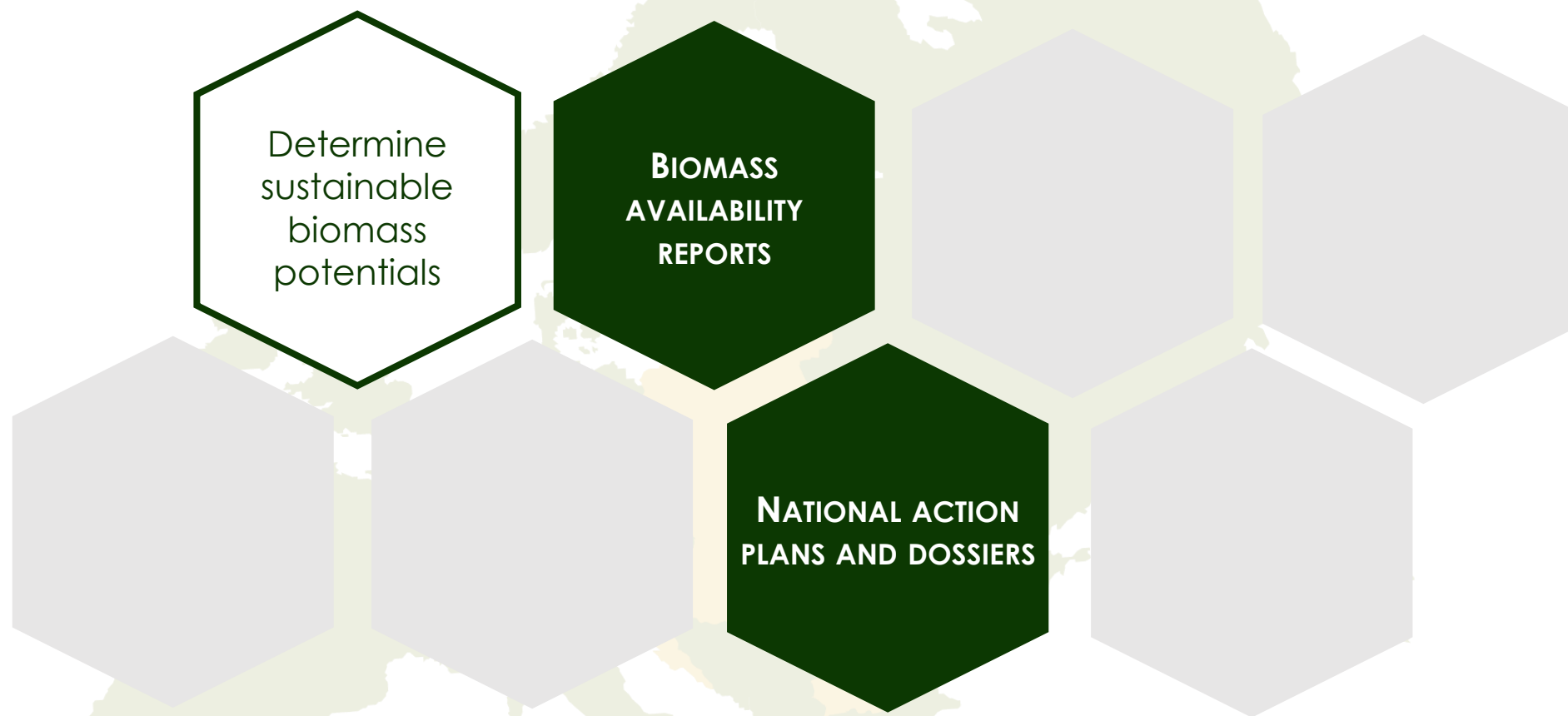


## ADDITIONAL COUNTRIES

- ✓ **ALBANIA**
- ✓ **BOSNIA AND HERZEGOVINA**
- ✓ **GREECE**
- ✓ **MONTENEGRO**
- ✓ **NORTH MACEDONIA**
- ✓ **SERBIA**









# CELEBio



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY

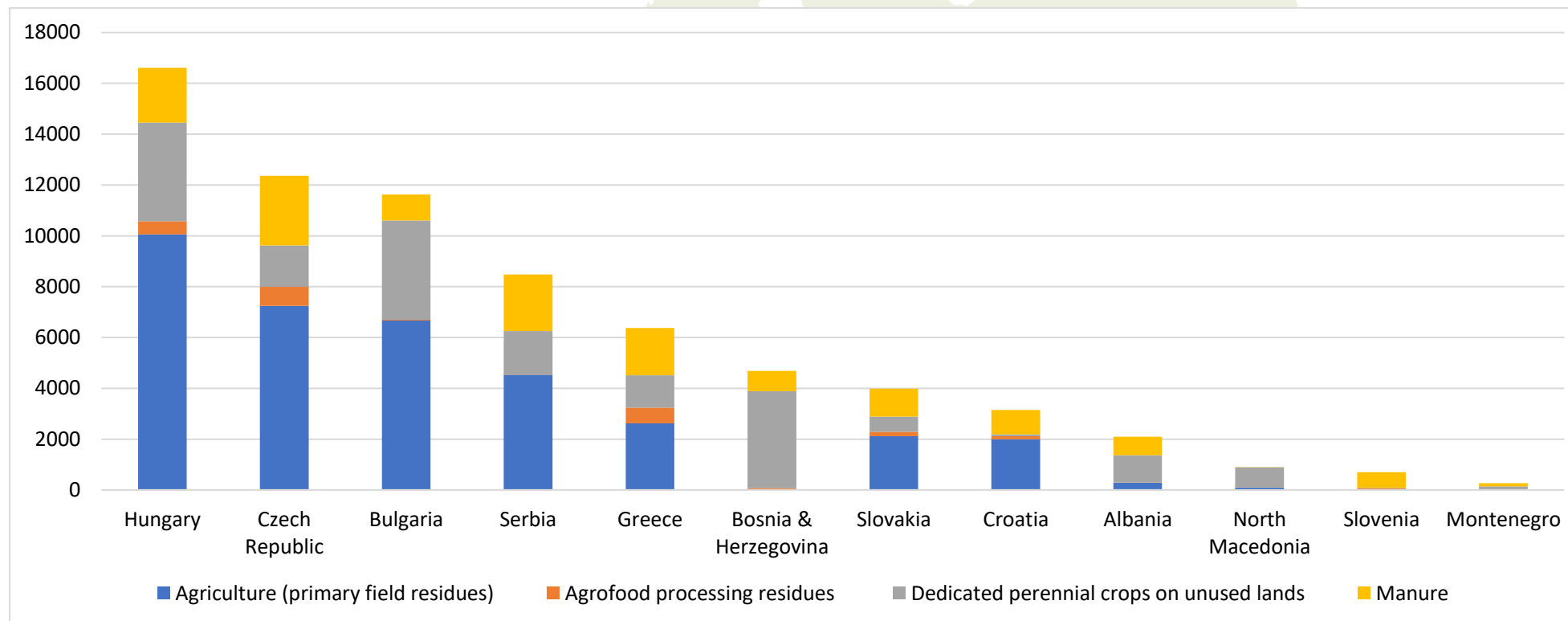
## BIOMASS AVAILABILITY



FOREST	45,015
AGRICULTURE	28,079
AGROFOOD PROCESSING RESIDUES	1,647
BIOWASTES & POST-CONSUMER WOOD	5,056
DEDICATED PERENNIAL CROPS ON UNUSED LANDS	10,119
MANURE	3,440
<b>TOTAL</b>	<b>95,376</b>



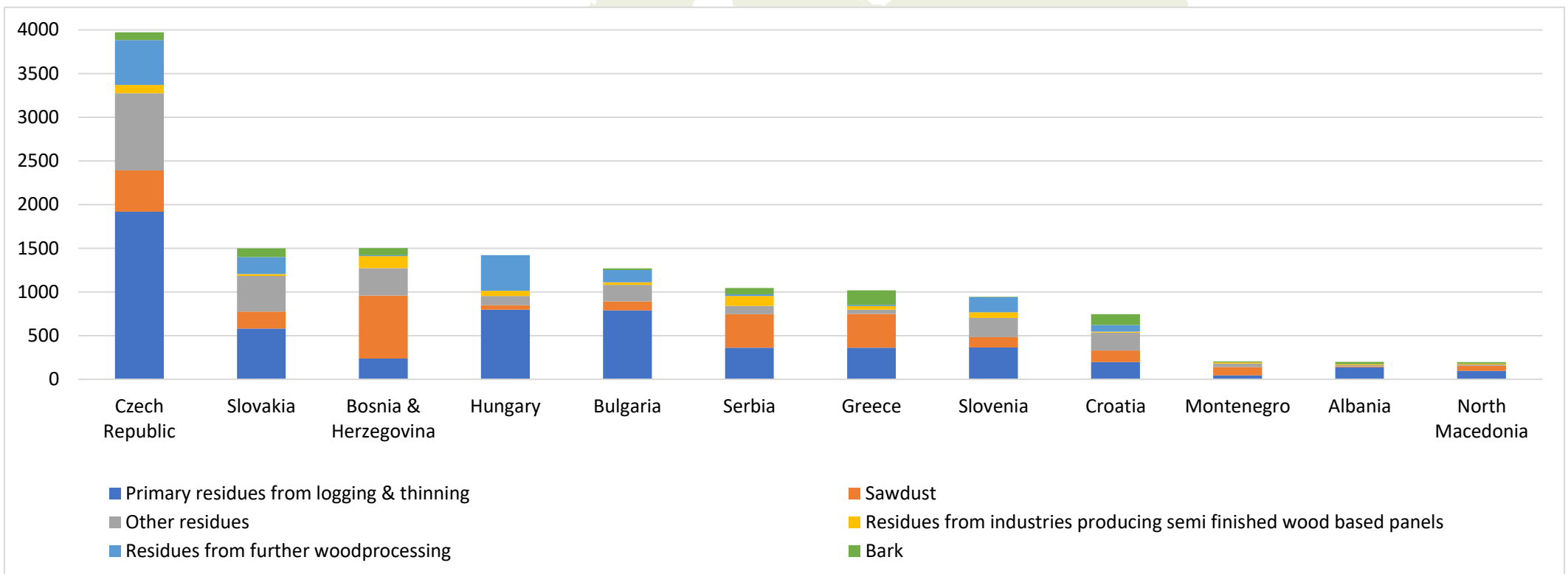
## RESIDUAL BIOMASS FROM AGRICULTURE





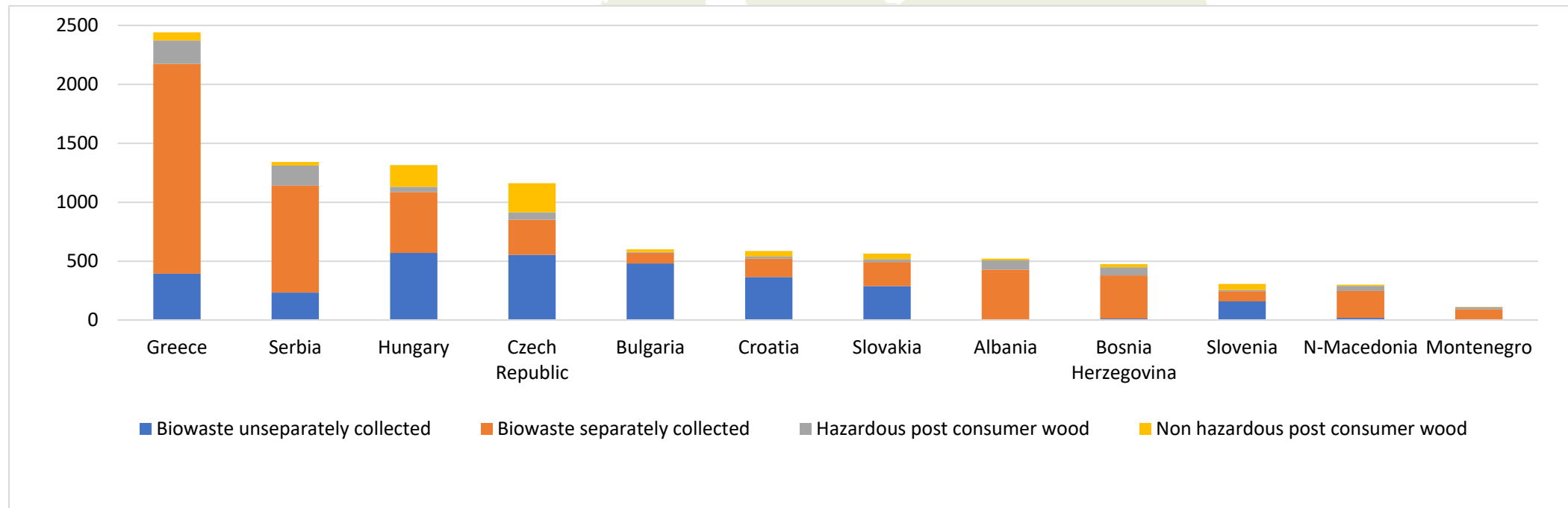


## RESIDUAL BIOMASS FROM FORESTRY



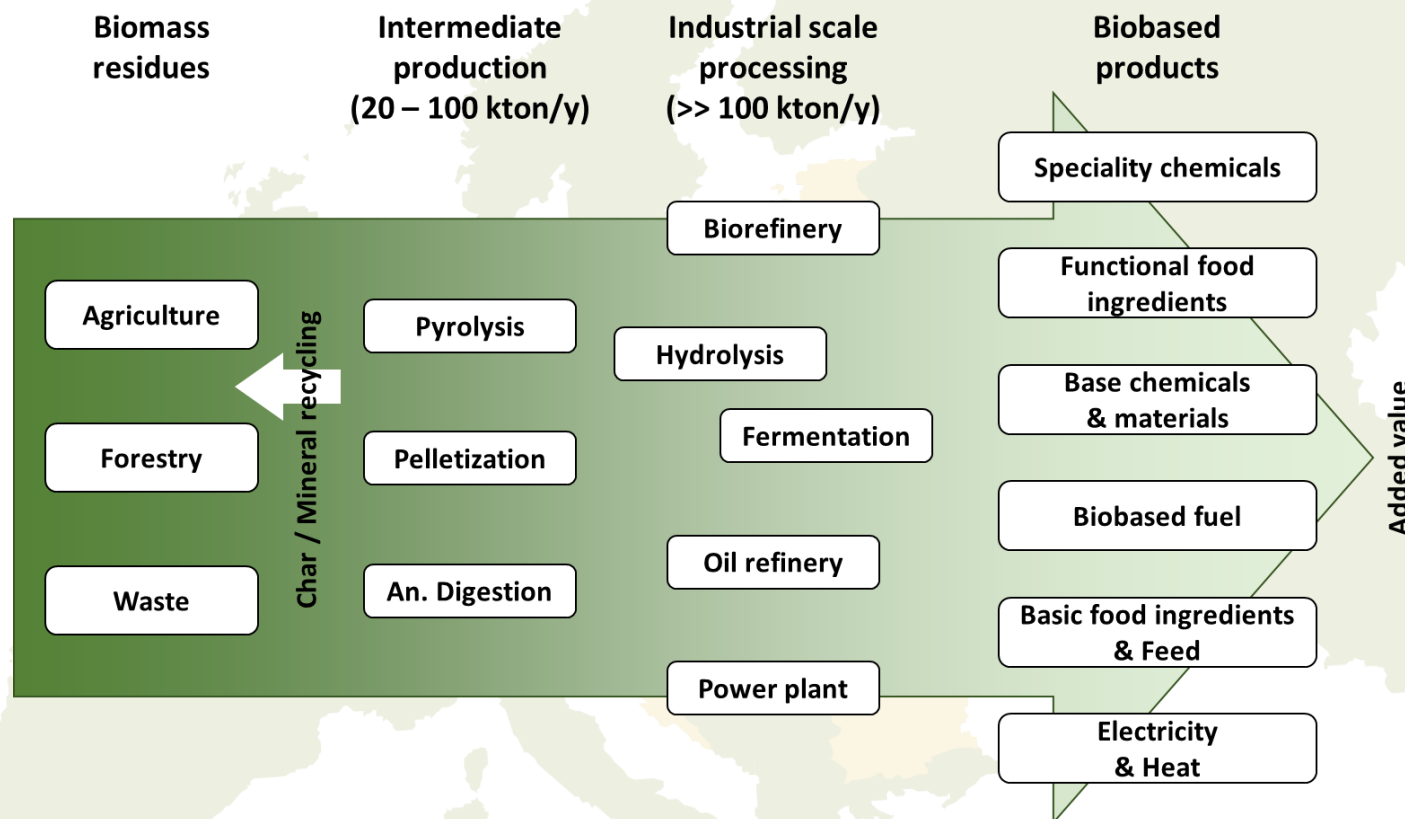


## BIOWASTE POTENTIALS





## VALUE CHAINS







## ❖ **Agriculture and Agro-industrial sector**

- *Primary agriculture*
- *Agro-industry*
- *Other actors related to agriculture and agro-processing chains*
- *Clusters and organizations*

## ❖ **Forestry and wood industry**

- *Primary forestry*
- *wood industry*
- *Clusters and organizations*

## ❖ **Waste**

- *Clusters and organizations*

## ❖ **Fisheries and aquaculture**

- *Fisheries and aquaculture*
- *Actors managing large areas of land & water*
- *Clusters and organizations*

## ❖ **Biobased industries and Markets**

- *Chemical and Petrochemical*
- *Textiles*
- *Pulp & Paper*
- *Herbal & Phytopharmaceuticals*
- *Pellet manufacturers*
- *Energy*
- *Clusters and organizations*

## ❖ **Knowledge and Innovation**

- *Campuses, Incubators, Technology parks & Hubs*
- *Research and Innovation Organizations*

## ❖ **Institutional actors & NGOs**

## ❖ **Financial organizations & Banks**

## ❖ **Market actors (brands owners and consumer groups)**



# CELEBio



**$\geq 400$  PRIMARY OR SECONDARY FEEDSTOCK PRODUCERS**

**$\geq 230$  INDUSTRIES AND OTHER ACTORS ALONG VALUE CHAINS**

**$\geq 85$  KNOWLEDGE HUBS AND R&I**

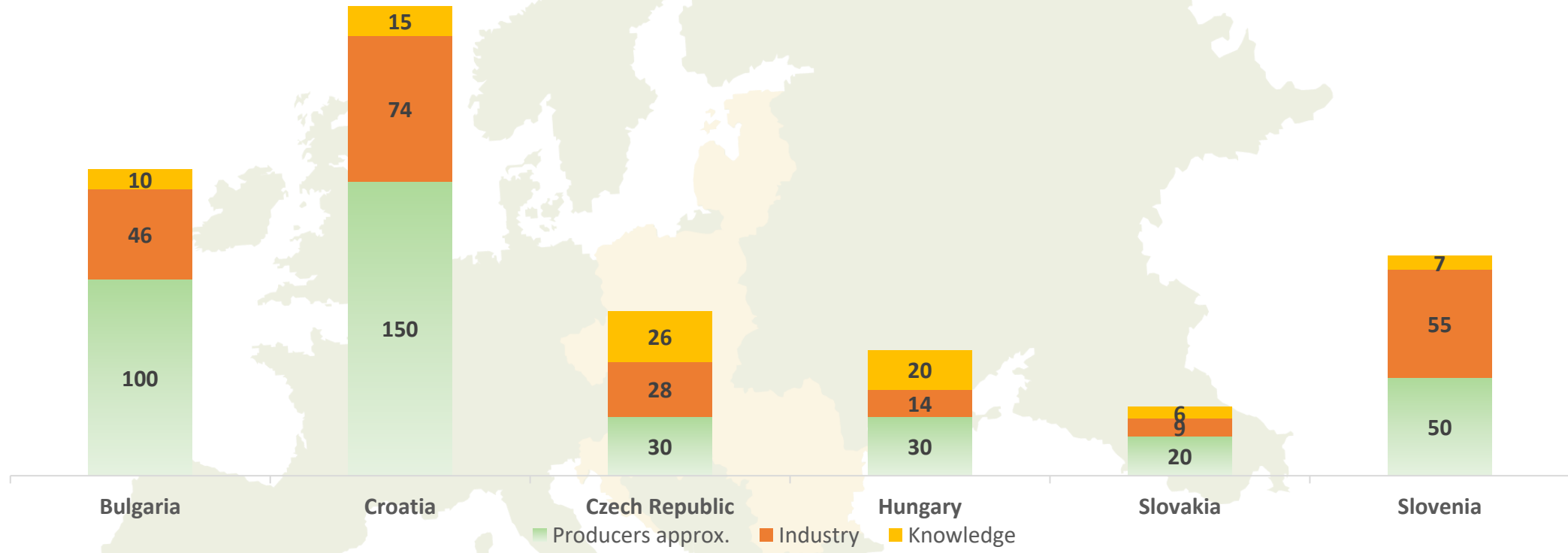




# CELEBio



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY





# CELEBio



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY





# CELEBio



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY

## ROLE OF BIOECONOMY

Number of people employed in the bioeconomy

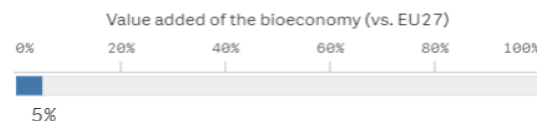
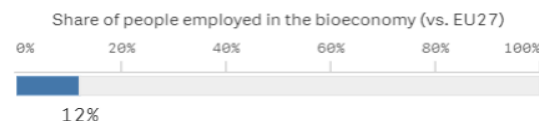
**2.11M**

Value added of the bioeconomy (Billion €)

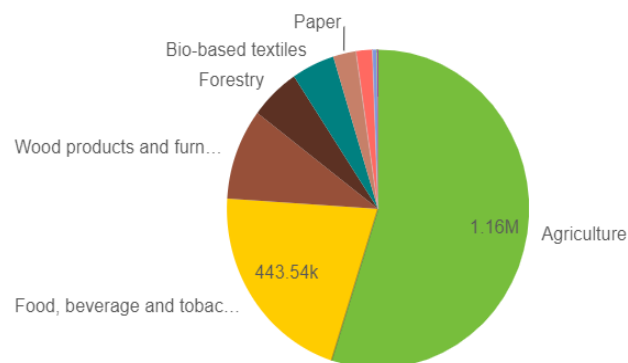
**€32**

Value added per person employed in the bioeconomy

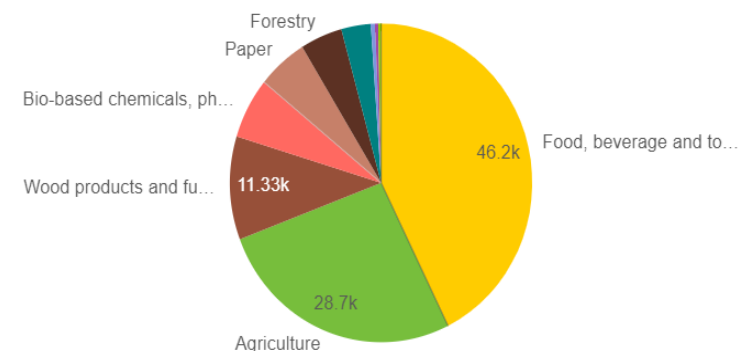
**15 k€** vs **35 k**  
EU27



**Employment in the bioeconomy by sectors in selected countries (2017)**  
(number of people employed)



**Turnover in the bioeconomy by sectors in selected countries (2017)**  
(million €)





## STRENGTHS

- ❖ Growing awareness of the economic potential of biobased prospects for agriculture and forestry
- ❖ Growing awareness that structural changes in policies are required for the development of the bio-based economy
- ❖ Strong policy framework for biodiversity conservation and sustainable use
- ❖ Strong agri-food sector
- ❖ Development of energy and climate action plans

## OPPORTUNITIES

- ❖ Established committees for the development of bio-based economy strategies
- ❖ Policies for improved biomass managing and increasing use of biomass residues
- ❖ Stimulation of the use of recognized certificates
- ❖ Removing exhaustive administrative regulations
- ❖ Development of national bioeconomy strategies and action plans



## TRENDS AND PROSPECTS

- ✓ **BIOMASS IS ABUNDANT IN ALL COUNTRIES**
- ✓ **SIGNIFICANT BARRIERS IN INFRASTRUCTURE, ACCESS TO CAPITAL AND KNOWLEDGE TRANSFER FOR INNOVATIVE BIOBASED VALUE CHAINS**
- ✓ **ENGAGEMENT IN DEMO & FLAGSHIP ACTIVITIES STARTED SLOW BUT IS GROWING**
- ✓ **DEMAND FOR BIOBASED PRODUCTS IS LOW BUT GROWING ESP. AMONG THE YOUNG**
- ✓ **POLICY MECHANISMS MOSTLY RESPONSIVE TO EU REGULATIONS AND COMMITMENTS**
- ✓ **NEED FOR IMMEDIATE STRATEGIC ACTIONS TAILORED TO LOCAL CAPACITIES, ECONOMIC AND ECOLOGICAL SPECIFICITIES**



# CELEBio



**POWER4BIO**  
REGIONS FOR  
BIOECONOMY







**TAJANA RADIĆ, HEAD OF DEPARTMENT FOR REGIONAL DEVELOPMENT, CHAMBER OF AGRICULTURE CROATIA**  
**CONTACT: [TAJANA.RADIC@KOMORA.HR](mailto:TAJANA.RADIC@KOMORA.HR)**

**GEORGES SAKELLARIS, PHD, SENIOR CONSULTANT FOR BIOECONOMY, UNIVERSITY OF SOUTH BOHEMIA**  
**CONTACT: [G.SAKELLARIS@GMAIL.COM](mailto:G.SAKELLARIS@GMAIL.COM)**

**ADRIENN SOMOSNÉ-NAGY, PHD, MANAGING DIRECTOR FOR TECHNOLOGY AND DEVELOPMENT, PILZE-NAGY LTD**  
**CONTACT: [A.NAGY@PLEUROTUS.HU](mailto:A.NAGY@PLEUROTUS.HU)**

**ALENKA DOVČ, SENIOR CONSULTANT, CHAMBER OF COMMERCE AND INDUSTRY OF SLOVENIA**  
**CONTACT: [ALENKA.DOVČ@GZS.SI](mailto:ALENKA.DOVČ@GZS.SI); [ZKI@GZS.SI](mailto:ZKI@GZS.SI)**

**STEFAN BOHÁČEK, PHD, GENERAL DIRECTOR, PULP AND PAPER RESEARCH INSTITUTE**  
**CONTACT: [BOHACEK@VUPC.SK](mailto:BOHACEK@VUPC.SK)**

**STOYAN DIMITROV & PETAR KISYOV, GREEN SYNERGY CLUSTER, BULGARIA**  
**CONTACT: [MANAGER@GREENSYNERGYCLUSTER.EU](mailto:MANAGER@GREENSYNERGYCLUSTER.EU); [PETAR@GREENSYNERGYCLUSTER.EU](mailto:PETAR@GREENSYNERGYCLUSTER.EU)**



**TO LEARN MORE ABOUT CELEBio  
AND SEE ALL OUR COUNTRY REPORTS,  
PLEASE VISIT:**

**[WWW.CELEBIO.EU](http://WWW.CELEBIO.EU)**

# Thank you for your attention!



Peter Canciani

[canciani@cei.int](mailto:canciani@cei.int)



## POWER4BIO

REGIONS FOR  
BIOECONOMY

This project has received funding from the European Union's  
Horizon 2020 research and innovation programme  
under grant agreement No 818351

