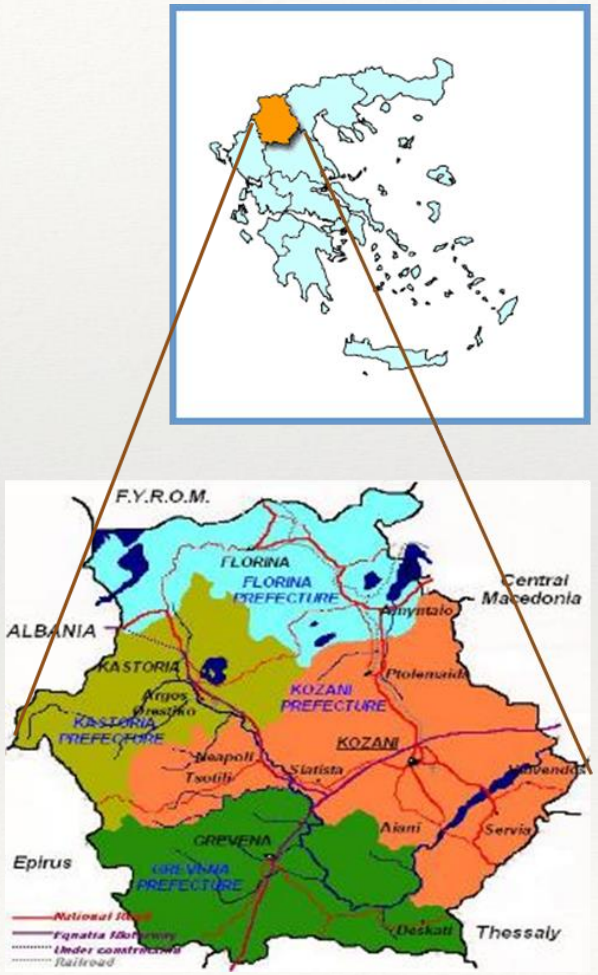
CluBE

Bioeconomy & Environmental Cluster
Western Makedonia

InnovaWood Virtual General Assembly Meeting
8 July 2020

The Region of Western Macedonia - Greece

- North Western Part of Greece
- The only Region in Greece without sea coast
- ~284.000 inh., 2,6% GR, 12 Municipalities
- PPP: 56% of EU-28 average
- Unemployment 27,1% (2019)
- Strong energy sector (lignite based): was >50% of GR total until 2019
- Energy sector March 2020 (lignite based): 12,47%
- 3 District Heating Networks (lignite)
- Agriculture and animal breeding
- Forest coverage
- Continental climate



The Region of Western Macedonia in a few photos

Pindos National Park “Valia Kalda”

Bridge over Aoos River

Kozani Central Square

Vasilitsa Ski Resort

Energy Sector in Western Macedonia – Public Power Corporation – District Heating

- 4 lignite mines 40 Mtns / yr
- ≈ 50% total GR Mwel until 2019
- ≈ 12,5% from lignite (March 2020)
- ≈ 20.000 jobs
- > 200 cooperating SME's

Challenge
Lignite plants
decommissioning....????

3 / 5 DH in the country

3 / 4 municipal DH

Biomass Availability – Agriculture – Animal breeding – Forest Coverage

Animal waste: >500.000tns/yr

Agricultural residues: >200.000tns/yr

Forest residues: ≈ 10.000tns/yr
Forest exploitation: > 50.000tns/yr
Artificial forests: >40.000 acres ≈ 80.000tns/yr (thinning)
Depleted coal mines: ≈ 150.000 acres

Western Macedonia, Greece

Bioeconomy and Environment Cluster – CluBE

- Formally established (2014)
- Not for profit company
- Bottom-up approach

https://clube.gr

Development of common business

and R&D

in Bioeconomy and Environment

Areas of Activity

Energetic exploitation of **biomass** for District Heating and industrial, commercial and domestic use, Development of the green hydrogen economy **Hydrogen** for storage and transport, **Co-firing** of biomass with lignite,

Increasing the share of **biofuels in the energy mix** of transportation fuels

Optimization of heating systems

Biomass development (energy **plantations**, certification schemes, etc)

Energy **efficiency** in business and commercial use, as well as households

Cooperation **models** (ESCO's, energy cooperatives, …), Optimization of **heating systems**, Promote the concepts of **smart cities and villages**

CluBE Members - More than 40 Quintuple Helix Members

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ΠΕΡΙΦΕΡΕΙΑ ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

Περιφερειακό Ταμείο Ανάπτυξης ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

ΠΕΔ ΠΕΡΙΦΕΡΕΙΑΚΗ ΕΝΩΣΗ ΔΗΜΩΝ ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

ANKO

ΔΕΤΕΠΑ ΔΗΜΟΤΙΚΗ ΕΠΙΧΕΙΡΗΣΗ ΤΗΛΕΘΕΡΜΑΝΣΗΣ ΕΥΡΥΤΕΡΗΣ ΠΕΡΙΟΧΗΣ ΑΜΥΝΤΑΙΟΥ

ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΙΑΣ ΕΤΟΣ ΙΔΡΥΣΗΣ 1984

CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

ΚΕΠΕ

ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ

ΔΕΥΑΚ ΔΗΜΟΤΙΚΗ ΕΠΙΧΕΙΡΗΣΗ ΥΔΡΕΥΣΗΣ ΑΠΟΧΕΤΕΥΣΗΣ ΚΟΖΑΝΗΣ

Αναγκαστικός Δασικός Συνεταιρισμός Πενταλόφου

διαδυμα DIADYMA S.A. WASTE MANAGEMENT of WESTERN MACEDONIA S.A.

ΑΕΤΗΠ

από το 1973 Kombi ΒΙΟΜΗΧΑΝΙΑ ΘΕΡΜΑΝΣΗΣ

ALFA WOOD GROUP

ΓΙΩΤΑΣ

ANTHIMIDIS agro

Ελαιόλαδο Ιμέρων ΑΓΡΟΤΙΚΟΣ ΣΥΝΕΤΑΙΡΙΣΜΟΣ ΕΛΙΑΣ ΙΜΕΡΩΝ ΚΟΖΑΝΗΣ

Βελβεντός Δήμητρα

Ζείδωρον

ΧΑΙΑΠΑΣ Α.Ε.

4G Greek Gaia's Global Gate

ΕΛΛΗΝΙΚΑ ΔΑΣΗ εταιρεία μελετών

Elpis company energy & construction solutions ΕΛΠΙΣ Μ.ΕΠΕ

ΤΥΡΟΚΟΜΕΙΟ ΦΚΙΑΡΑΣ ΤΥΡΟΚΟΜΙΚΑ ΠΡΟΪΟΝΤΑ Βελβεντού Φκιαράς Κ. Ιωάννης

MATESION MANAGEMENT TECHNOLOGY VISION

BIO2CHP ON-SITE ENERGY PRODUCTION

ΕΥΧΥΛΟΝ Ζωύγας Εκτίμηση Ξύλου

ΑΦΟΙ ΜΠΙΣΙΡΙΤΣΑ ΠΑΡΑΔΟΣΙΑΚΕΣ ΝΟΣΤΙΜΙΕΣ ΠΟΙΟΤΗΤΑΣ

ΦΑΡΜΑ ΛΕΥΚΑΡΟΝ

CANIBI

βιοενέργεια

ΜΠΑΓΚΑΤΖΟΥΝΗΣ Μπαχαρικά

Χέρι

est. 1975 Φάρμα Δεβκάτη Φρέσκο Βιολογικό Αγελαδινό Γάλα

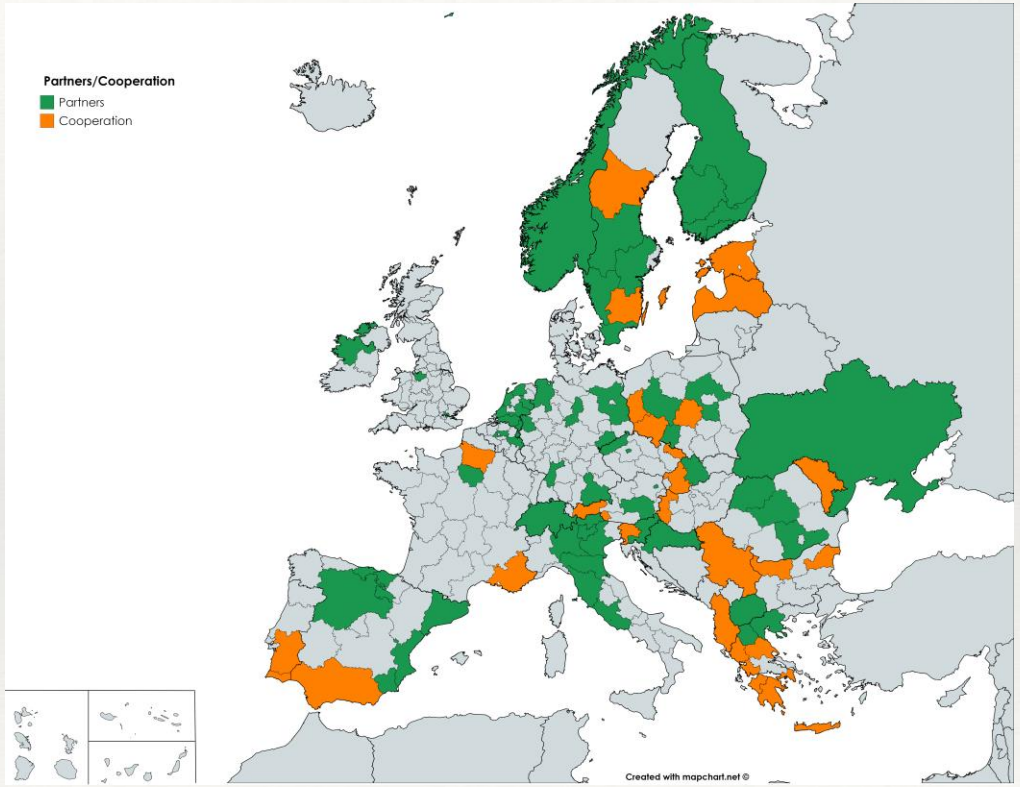
ΔΑΣΕ Αγ. Κυριακής, Παλαιογράτσα νου - Ελάτης

FONTE DI VITA

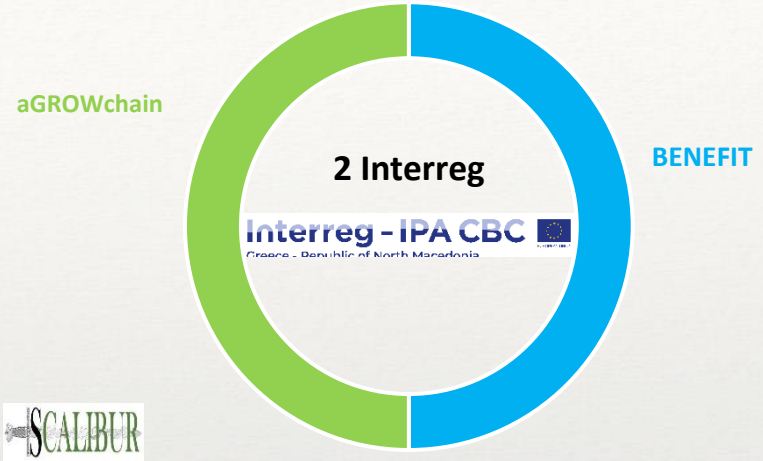
1. Public sector
2. R&D
3. SMEs
4. Environment
5. Social

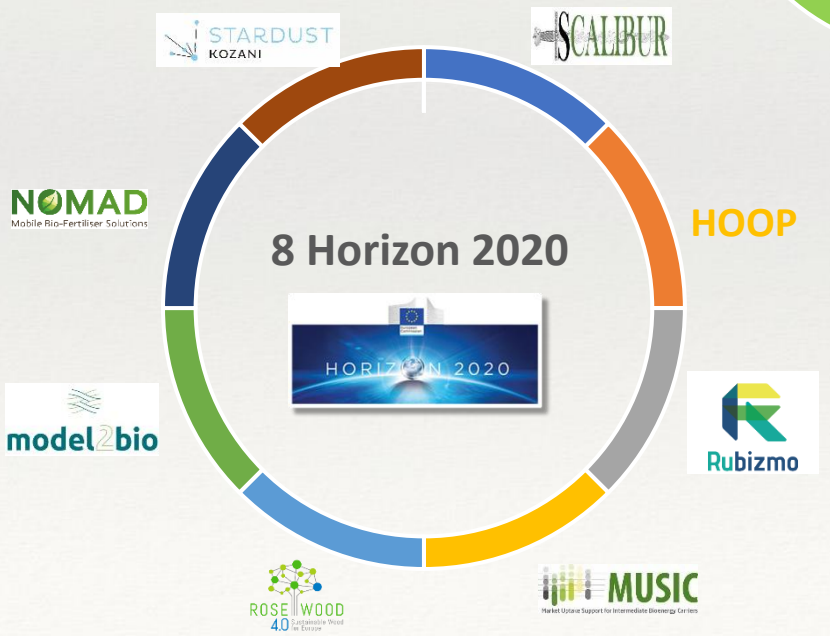
CluBE European Networks and Partnerships

- Greenovate! Europe – Full member
- European Bioeconomy Stakeholders Panel – DG RTD European Commission – member
- Biobased Industries Consortium (BIC) – Associate Member
- Innovawood – Full member
- Hellabiom – Full member
- Fuel Cells and Hydrogen Joint Undertaking (FCH JU) – Hydrogen Valleys Partnership – member
- ENRD Mainstreaming the Bioeconomy Thematic Group – member
- S3 Bioenergy Partnership – member
- Greek Bioeconomy Forum – founding member

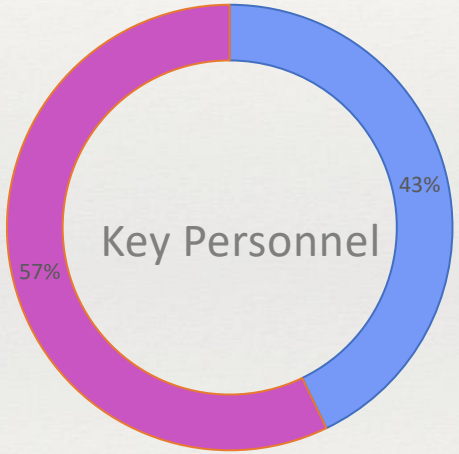


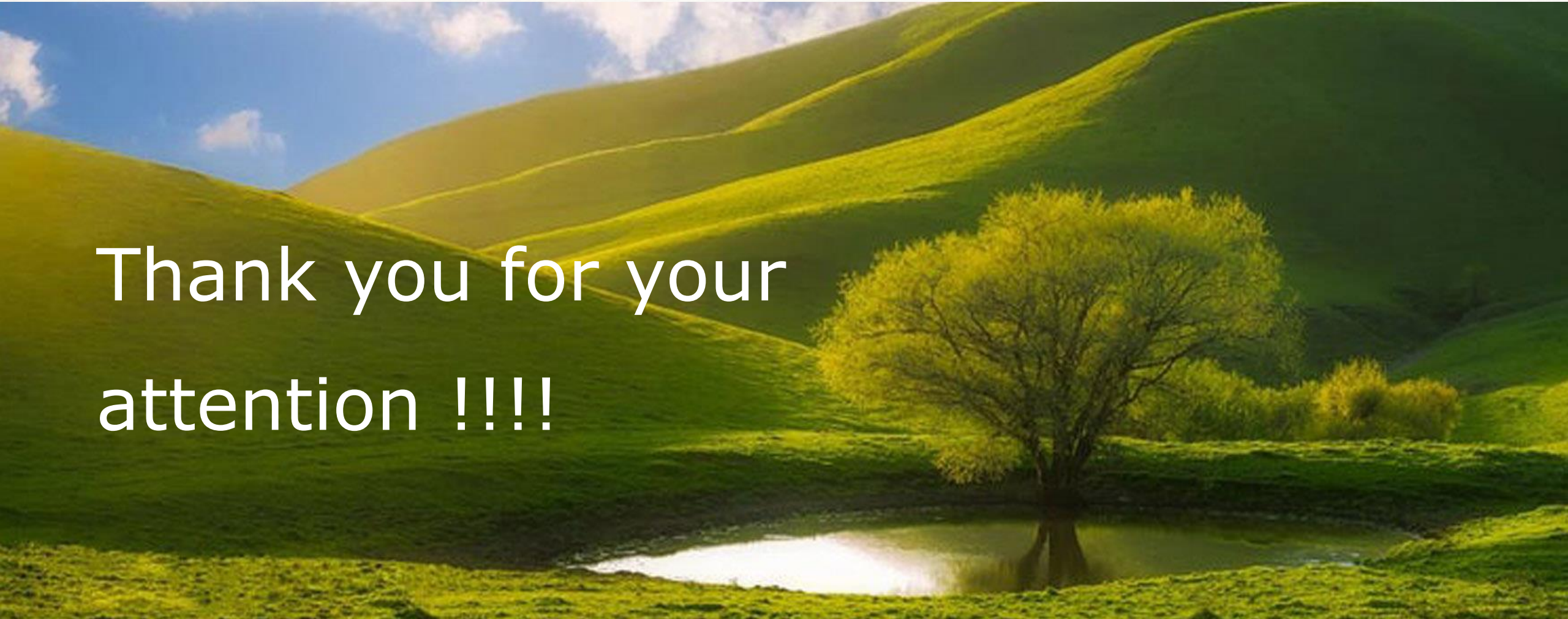
CluBE - Project Portfolio





CluBE - Key Personnel





Thank you for your attention !!!!

CluBE

Bioeconomy & Environmental Cluster
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Cluster of Bioeconomy and Environment of Western Macedonia

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