Climate Smart Agriculture Booster
Collaboration with Eriaff

CSA team

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Climate Smart Agriculture Booster

ERIAFF Conference 2016
Badajoz / 27 y 28 de ABRIL

Objectives of the workshop

- Exploring climate change challenge in European agriculture
- Introducing the work of the CSA Booster
- Wrapping up results of our study on CSA and rural development plans
- Collaboration with Eriaff regions

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Ambition

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Agri & food sector faces 3 challenges with regards to long term sustainability of farming practices

reducing the impact on climate

seek opportunities to **mitigate** emissions of greenhouse gases and increase carbon sequestration

adapting to climate change

enhance people's **resilience** and increase the capacity of agricultural and food systems to **adapt** to climate change

achieving food security now and into the future

sustainably increase agricultural productivity and incomes to meet food security and development goals

Partners

No	Name	Logo	Country
1	Alterra-WUR	ALTERRA WAGENINGEN UR	Netherlands
2	Wageningen University	WAGENINGEN UNIVERSITY WAGENINGEN UR	Netherlands
3	French National Institute for Agriculture Research	INRA SCIENCE & IMPACT	France
4	Institute of Biometeorology of the National Research Council of Italy	National Research Council of Italy Institute of Biometeorology	Italy
5	South Pole Carbon	south pole group	Switzerland
6	University of Reading	University of Reading	United Kingdom

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The climate change challenge of our farmers

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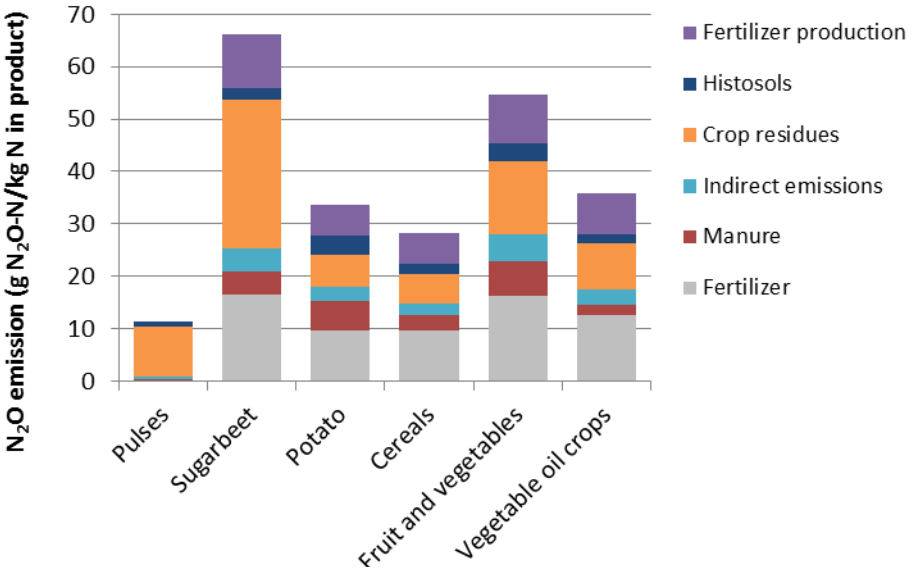
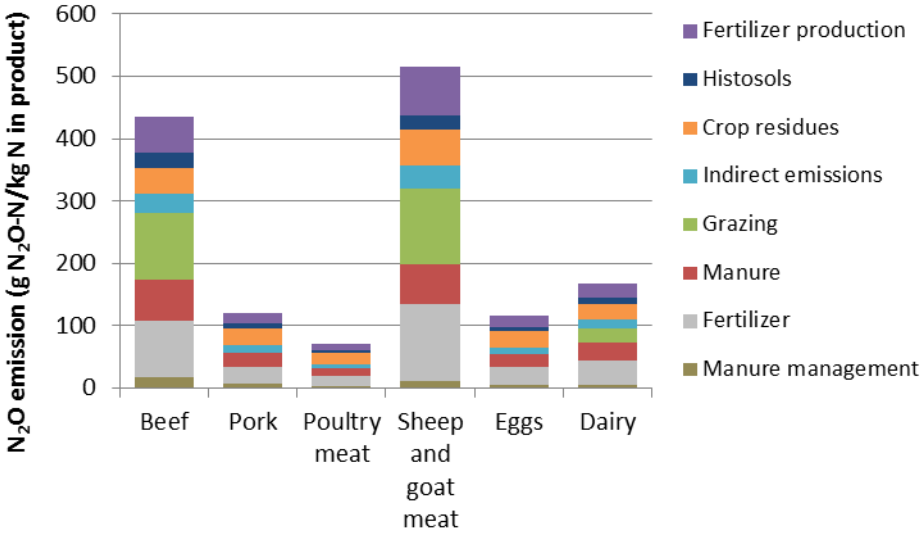
Agriculture accounts for 24 % of the greenhouse gas (GHG) emissions causing CC

Emissions per product: major differences!



Plant food

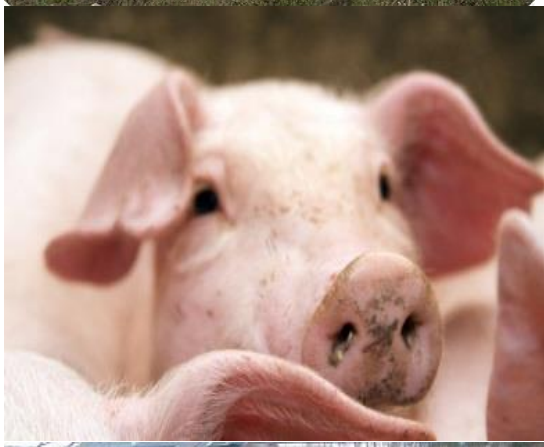


Animal food

Lesschen et al., 2013

Farmers and food companies are vulnerable to climate change

- Drought: causing yield and quality losses
- Heat: causing livestock problems
- Floods: causing yield and quality losses
- Vulnerability of nature – pest and diseases



From risks to opportunities: CSA Transformation of agro sector and regional practices

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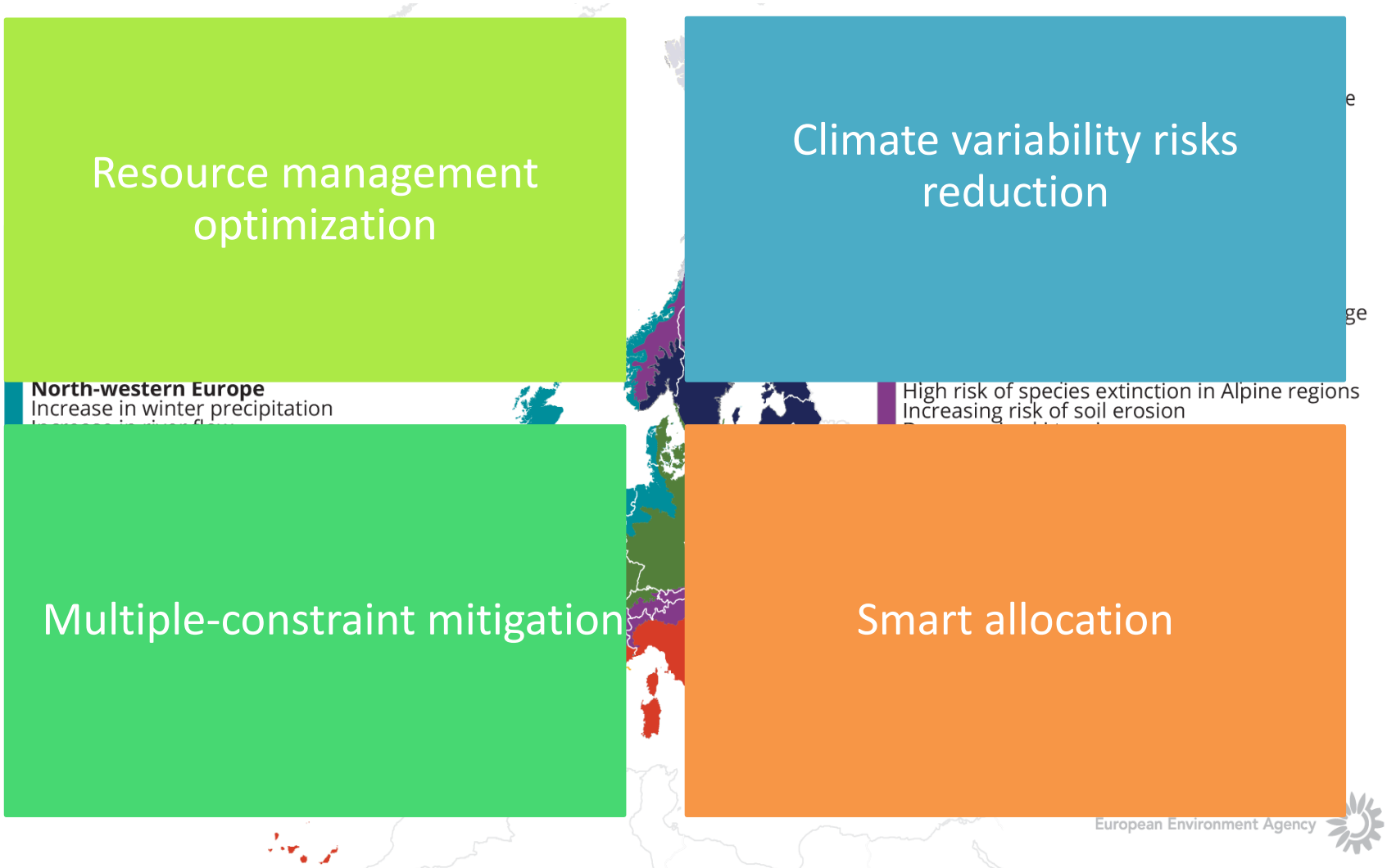
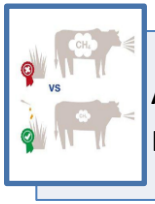
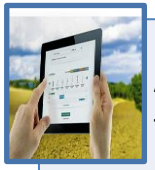


CSA solutions

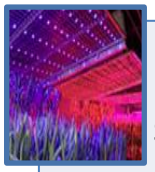


Agolin:Methane-reducing feed additive

SMARTSHELL Services water quality tool for coastal areas

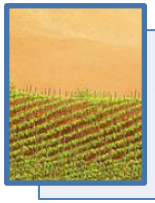


AgriCircle precision farming tool

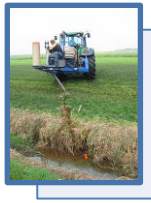


LED based cultivation systems

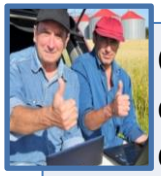
IRRINET alert system for irrigation



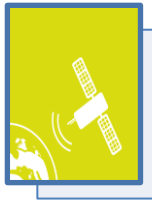
Carbon Cerification Protocol for farms



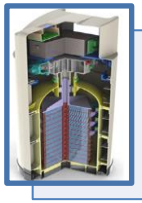
Submerged drainage



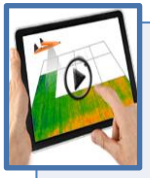
Cool Farm Tool: an online greenhouse gas calculator



Precision farming: Green Spin



FOURCE Standalone Farm Water Salinity Reducer



Airinov aerial cartography system for farms

HAPPY FISH DSS for fish health

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Transition is not easy

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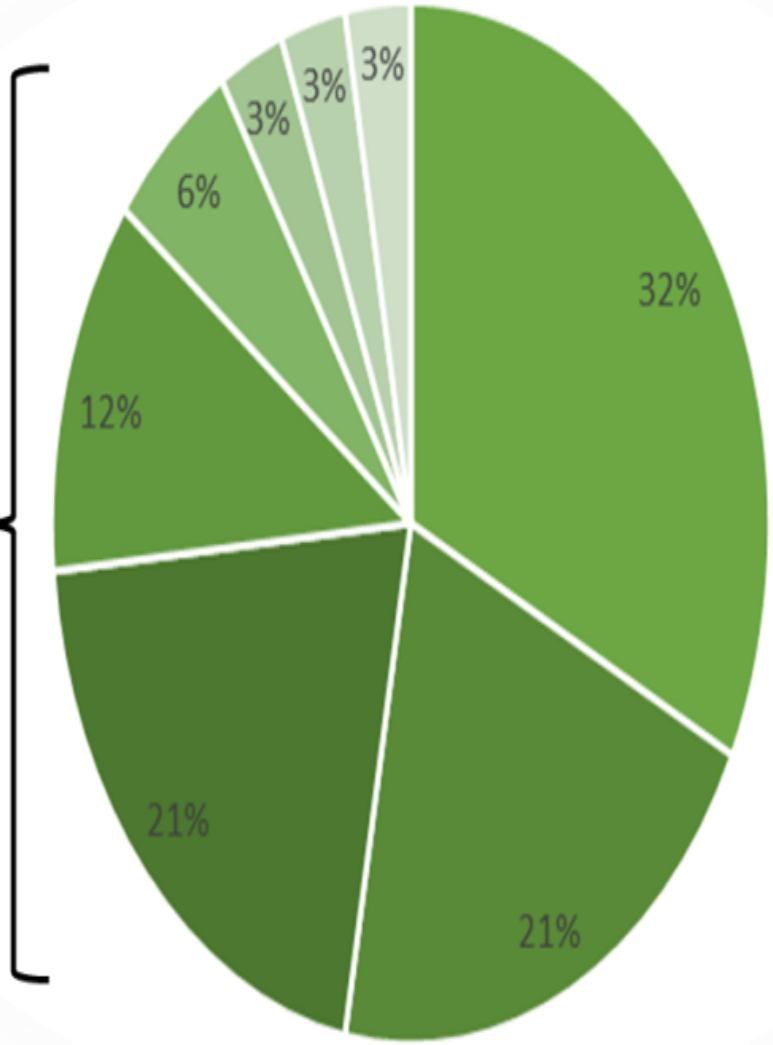
Barriers Experience by Technology Users	%	Tally
1. Low awareness of CSA/inaccessible language	32%	11
2. High costs & long ROI periods	21%	7
3. Lack of verified impact of technologies	21%	7
4. Regulatory and policy issues	12%	4
5. Hard to reach and train farmers	6%	2
6. R&D and policies not match to 'on-the-ground' reality	3%	1
7. Low consumer demand	3%	1
8. Unequal distribution of costs/benefits across supply chains	3%	1



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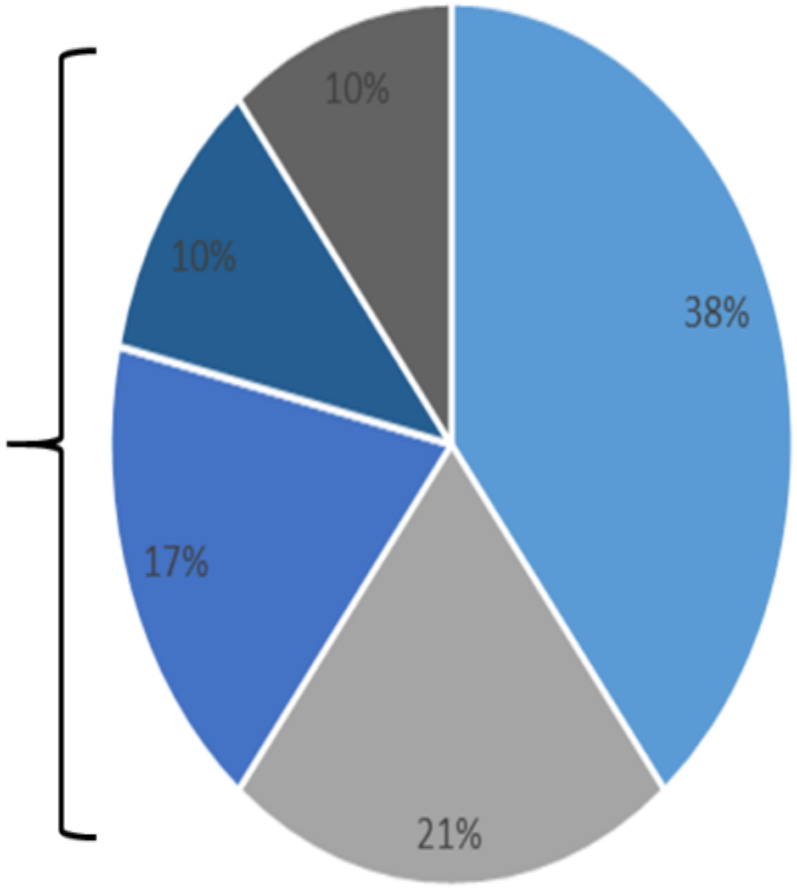
Barriers Experienced by Technology Providers	%	Tally
1. Proving value of the product/demonstrating impact	38%	11
2. Lack of knowledge of, and access to capital/investment	21%	6
3. Unsympathetic regulatory landscape	17%	5
4. Product is too expensive/ ROI periods to long for customers	10%	3
5. Access to, and reaching customers	10%	4



The CSA booster services

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Open innovation platform to:

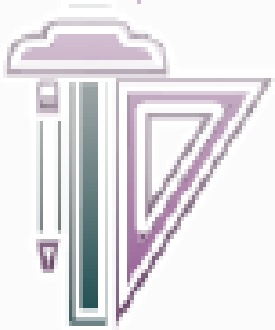
Collect and make available the knowledge on CSA solutions with assessed climate relevance

Develop a European community of practice (solution providers and governmental organizations)

What?

Impact

How?



Toolkit of solutions

Who?

Network of partners

Growing network

2015 > 2016 > 2017 > 2018 > 2019 > 2020

Corporates/ Farmers cooperatives

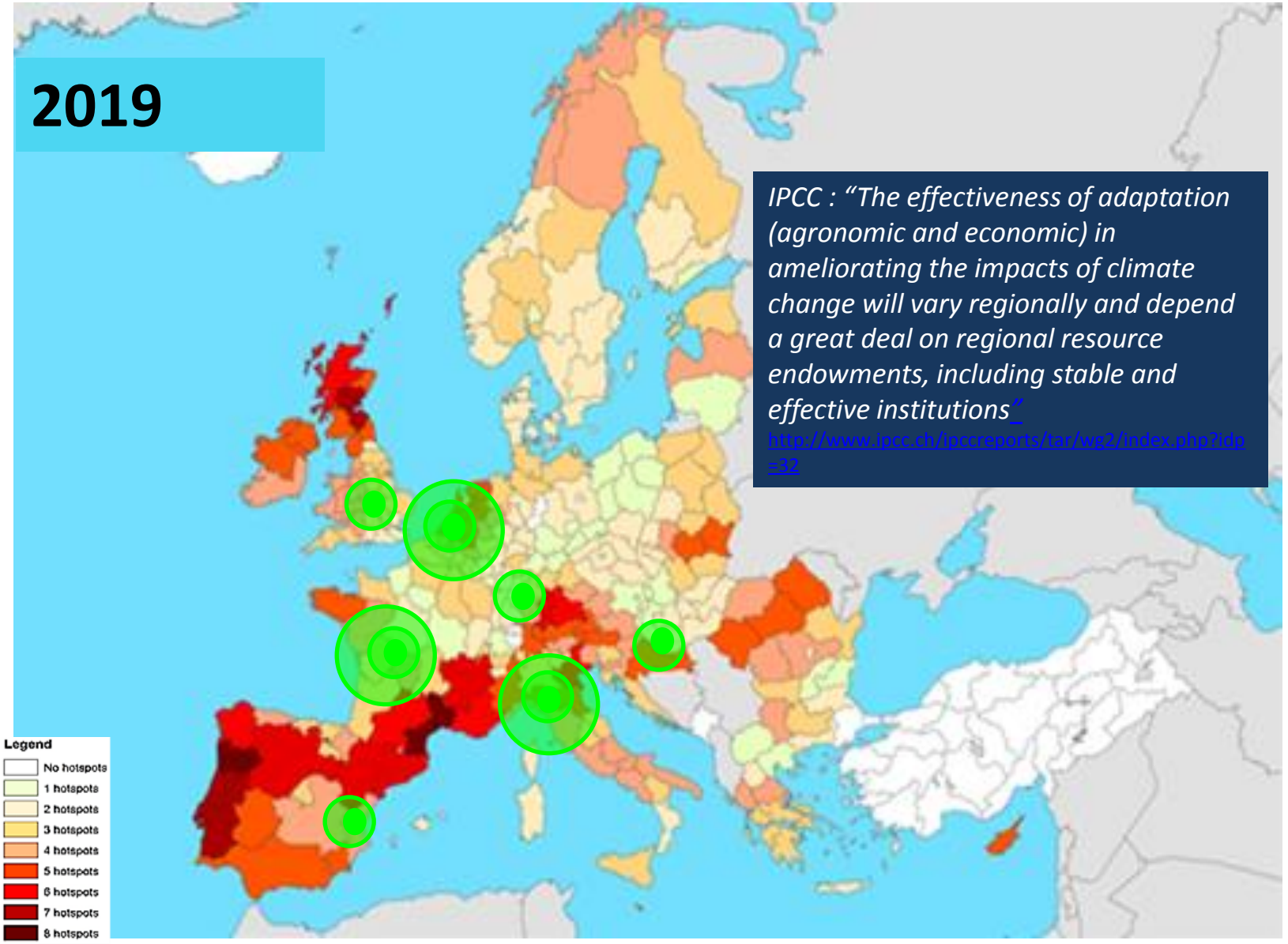
Solution providers

Academia

Governments & NGOs

Donors

Local Booster Roll-out Impacts 2016-2019



The CSA booster services

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Matchmaking and brokering

Actor education and training

Finance and de-risking

Solution and technology assessment

Policy analysis and regional support

Rural Development Program and its role in boosting CSA Solution

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Pillar II of the CAP - Support for Rural Development:

The EU's rural development policy is funded through the European Agricultural Fund for Rural Development (EAFRD) worth €100 billion from 2014-2020, with each EU country receiving a financial allocation for the 7-year period.

There are 118 different rural development programmes (RDP) in the 28 Member States for this period, with 20 single national programmes and 8 Member States opting to have two or more (regional) programmes.

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The RDP Regulation for the period 2014-2020 addresses six economic, environmental and social priorities

P1
Knowledge
Innovation

P2
Competitive
farming

P3
Food chain,
Risk
management

P4
Restoring,
Preserving,
enhancing
ecosystems

P5
Resource
efficiency,
low carbon,
resilient
economy

P6
Social
inclusion,
development

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Policy Transform #1:
Do the rural development plans help to make agrifood sector Climate Smart?

18 November 2015, 2 pm
Climate-KIC office
22-28 Avenue D'Auderghem
Brussels

Policy Transform #1 has been a pilot to explore opportunities and barriers for CSA in the new Rural Development Programmes, the Pillar II of the new Common Agriculture Policy.

- How Rural Development Programmes are integrating adaptation and mitigation strategies
- Gaining information on financial instruments that support CSA technologies (opportunities)
- Identification of gaps/bottlenecks in CAP related to Climate Smart Agriculture (mitigation and adaptation)
- Which actions are implemented

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Programme

2:00 - 2:20 pm	The CSA booster and getting to know each other by Nicola Di Virgilio
2:20 - 3:00 pm	Mainstreaming climate concerns in agricultural policies. Climate Adaptation and Mitigation for Agriculture in Europe? Prof. Ana Iglesias – Universidad Politécnica de Madrid RDPs 2014-2020 Supporting Sustainable Innovation in Agriculture. The experience of Emilia-Romagna region (Italy) Valentina Marconi – University of Bologna
3:00 – 3:30 pm	Assessing Rural Development Programmes of 4 regions on their CSA potential: presentation of results • Valencia, Spain • Emilia – Romagna, Italy, • The Netherlands • Switzerland By Professor Jose Maria Garcia Alvarez-Coque (University Politechnique of Valencia)
3:30 - 3:50 pm	Break
3:50 – 4:45 pm	Discussion: findings and sharing experiences on CSA in rural development plans: opportunities and bottlenecks
4:45 – 5:00 pm	Conclusions

Jose Maria Garcia Alvarez-Coque[1*],
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Ingrid Coninx[3],
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Madlaina Zegg[4],
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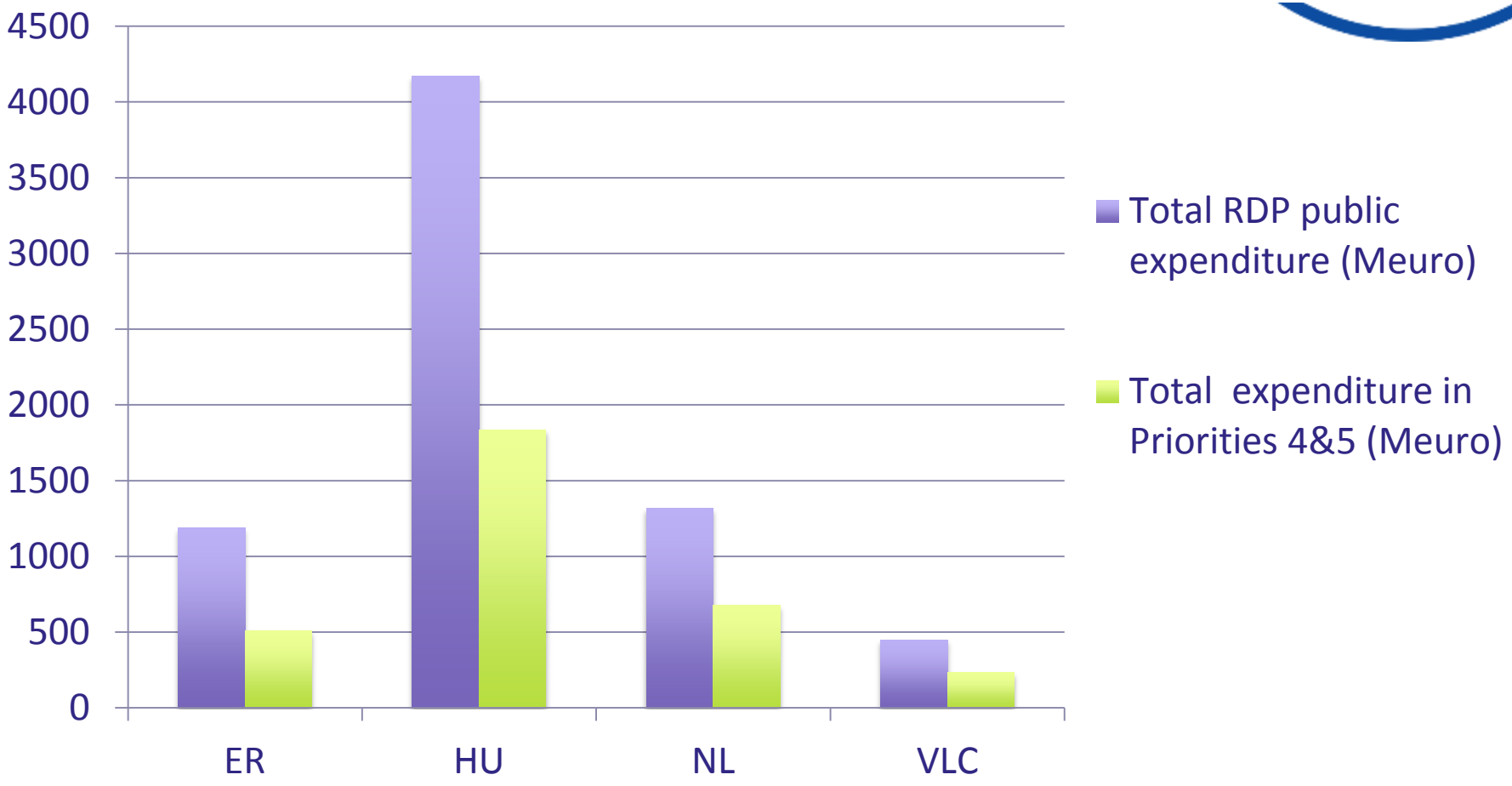
[3]Alterra Wageningen UR, The Netherlands
[4]South Pole Group, Zürich, Switzerland
[5]Trinity Enviro, Budapest, Hungary

RDP and climate budget

Budget allocation for facing climate change related risk in agriculture:

1893 Meuro in HU; 676 Meuro in NL; 509 Meuro in ER Region; 232 Meuro in VLC



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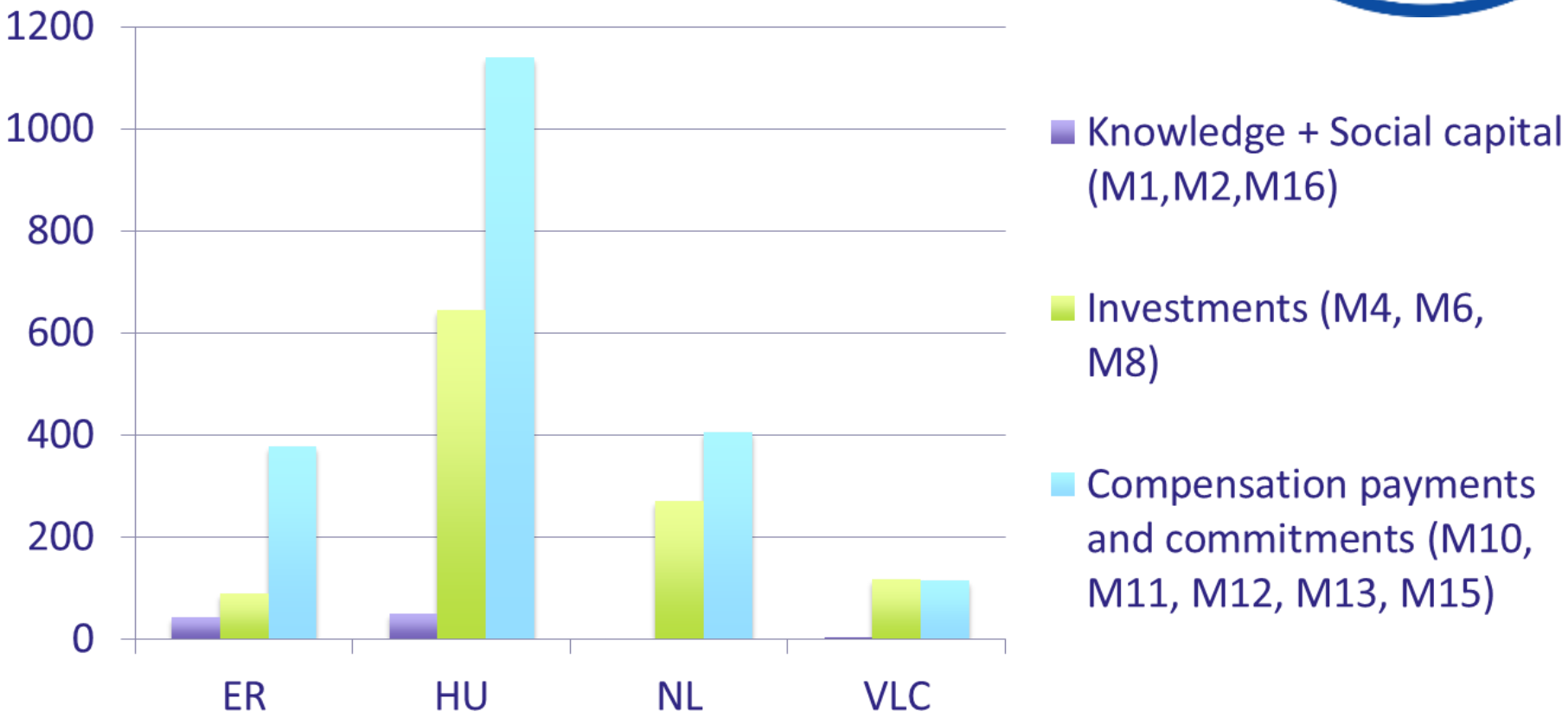
Concerns (focus areas in the RDP) linked with mitigation and adaptation mentioned in the RDP

- Increasing **efficiency in water use** by agriculture to face extreme weather events and the occurrence of frequent water crises in seasons most critical to production processes
- Increasing **efficiency in energy use** in agriculture and food processing
- Facilitating the supply and **use of renewable sources** of energy, of by products, wastes, residues and other non-food raw material for purposes of the bio-economy to contribute to climate change mitigation by developing low pollutants emission bio-energy

Concerns (focus areas in the RDP) linked with mitigation and adaptation mentioned in the RDP

- **Reducing** GHG and ammonia **emissions** from agriculture
- Fostering **carbon sequestration** in agriculture and forestry to combat climate change by increasing carbon storage
- **Better management** of water resources, including the management of fertilizers and pesticides
- Preventing soil erosion and improving **soil management**

Three approaches for climate public expenditure in RDP (Meuro) for CSA



Source: Adopted Rural Development Programmes

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Some specific actions and budget of the RDP linked with CSA foreseen in the RDPs

	ER	HU	NL	VL	SW
Organic farming	100.6	207.6		21.9	
Water distribution and irrigation investments/ Improving water management	18	40.1			
EIP, operational groups and joint actions for climate adaptation and mitigation	17.4				
Investment for reducing GHG and ammonia	13.6			5.3	
Training and information for efficient water use	8.8				
Afforestation, fire prevention, forest management, restauration and ecosystems		146.2			
Reduce soil erosion		76.2			
Livestock facilities		17.9			
Afforestation, fire prevention, forest management, restauration and ecosystems		14.6			
Payments for agro-environmental comittments: birds, wildlife, flora, landscape			405.6		
Rice, permanent crops in vulnerable areas, wetlands, indigenous livestock				81.4	
for public irrigation infrastructure, wetlands				53	
prevention)				26.6	
					202

Example of relevance of RDP in boosting specific CSA Technologies

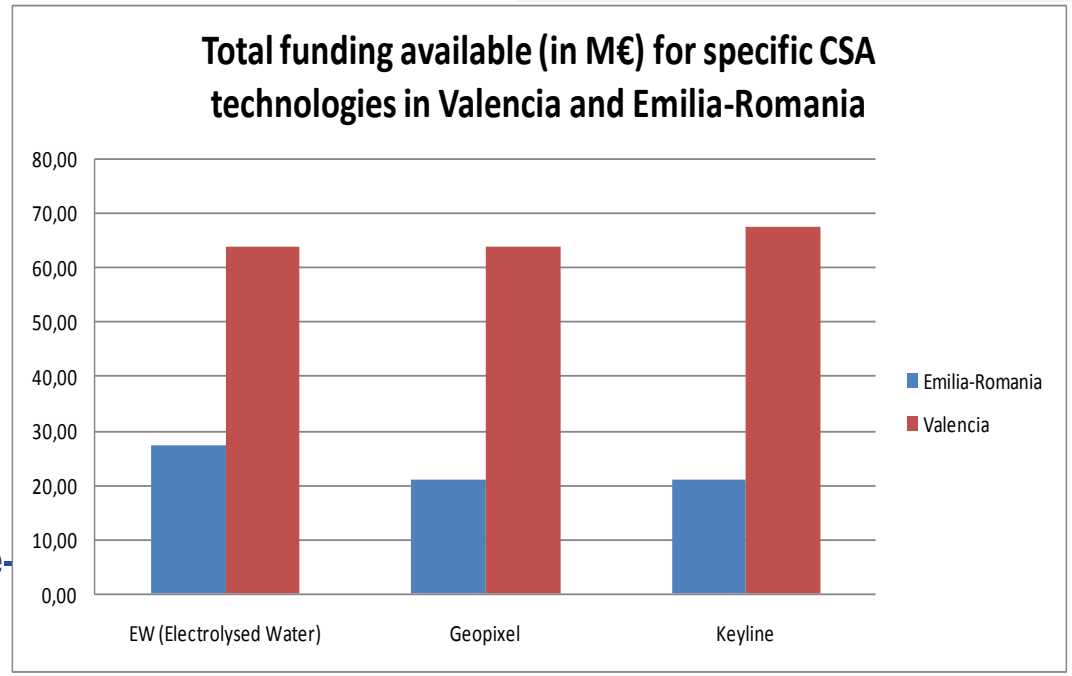
3 common threats (methane emissions from enteric fermentation of ruminants, ammonia emission from soil due to fertilization, fresh water scarcity and/or quality)

RDP measures can be classified on the base of which kind of mitigation and adaptation threat they solve. The same is done for technologies. Matching these 2 information will results in the budget available for each technology.
LINKING SOLUTION with MEASURES

EW (Electrolysed Water) - in-situ production of an highly effective and ecological biocide
Treat wastewater
increase yields and health of livestock
improve feed assimilation of animals
increase crops yields and health, reduce water demand and phytosanitary treatments

Geopixel - system of satellite observation and monetarization to improve land management)
efficient water use for irrigation, decrease demand
controlled use of fertilizers
Crop adaptacion to hidrological stress

Keyline - technique for maximizing beneficial use of water resources of a piece of land
Retain water into soil, avoid erosion, decrease water usage for irrigation
increase soil fertility and agricultural yields
improve carbon sequestration



Findings so far

- A **significant amount of money is available** to limit greenhouse gas emissions and enhancing carbon sequestration in land use and forestry, while increasing resilience. Policy can help entrepreneurs

- The policy situation is **very complex and fragmented** in EU, differences in measures, time schedule, budgets.

- The complexity of the CAP is an **impediment** for transition, and mainly to **the involvement of private stakeholders.**

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Findings so far

- RDP **misses budget on raising awareness**

- Major link between knowledge (scientific studies) and practice (what can be done and accepted in practice) is required to be explicitly mentioned in the RDP. **Mention CS technologies**, **solutions and practices** in the RDP would help their implementation.

- The **Climate Smart Agriculture concept is not mentioned** in the RDP. Climate evaluation of RDPs is relevant for future CAP reforms, where the EU can move towards a greener Pillar I or integrating Pillar I with Pillar II into a common climate framework

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CSA Booster: policy and subsidy support

- Help corporates and CSA solutions users to access financial opportunities for implementing CSA solutions (lower the cost of adoption).
- Advice policy makers to get the highest policy impact by connecting CSA solutions to policy objectives.
- Help to put CSA on the policy agendas and to foster regional dialogue
- Supports policymakers in designing CSA relevant policies and programmes and enable policy coherences in order to create enabling environments for the adoption of the CSA solutions
- Share good practices on regional transitions in CSA

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Dialogue on climate change challenges

- What are climate change challenges in your region?
- What barriers are experienced in your region?

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Dialogue on policy instruments

- What policy instruments are available in your region to boost CSA? Does that work well?
- In what way would you like to collaborate with the CSA booster?
- Are you willing to commit to put CSA in your region on the table and to strengthen your policies to support farmers/food companies?

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Last but not least

- Do you already know good initiatives on csa in your region?
- Please leave your contact details when you want to collaborate with the CSA Booster.

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