

P_{olicy}

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for

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A_{gricultural}

T_{echniques}

PICCMAT

Stakeholder Consultation Workshop

Brussels, 25 June 2008

Agriculture & Climate Change

Olivier Beucher

Baastel

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The Challenge

1. EU-wide, agriculture is responsible for 9% of all GHG emission
2. Agriculture is the main N₂O and CH₄ emissions contributor
3. Agriculture is exposed to CC and will have to adapt
4. But agriculture has also a demonstrated significant mitigation potential
5. PICCMAT aims to
 - Identify the most cost-efficient feasible mitigation options in land management practices, focusing on **'minor'** changes
 - Propose policy options to be introduced into the CAP
 - Raise awareness on CC mitigation in agriculture

Mitigation options

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	Mitt. code	CC mitigation option	Potential cost (No-low-high)	Probability of implementation	Mitigation potential T CO ₂ eq/ha/year
Cropland management	CC	Catch crops / green manure	Low	High	0,39 – 0,98
	RT	Reduced tillage	Low	Medium (low in some areas)	0,17 – 0,72
	RM	Residue management	Low	High	0,17 – 0,72
		Extensification	Medium	Low	3,93 – 5,36
	RS	Rotation species	No	Medium	0,39 – 0,98
	AL	Adding legumes	Low	High	0,33 – 0,62
Fertilisation	FA	Fertiliser application	No	Medium (already done in some areas)	0,33 – 0,62
	FT	Fertiliser type	Low	Medium (already done in some areas)	0,33 – 0,62
Grazing land mngt		Optimising grazing intensity	Low / Medium	Medium (already done in some areas)	0,13 – 0,81
		Length and timing of grazing	Medium	Medium	0,13 – 0,81
		Grassland renovation	Low	High	0,13 – 0,81
Manure mngt		Optimising manure storage	Medium / High	Medium	
		Application techniques	Medium	Medium	1,54 – 2,79
		Application to cropland vs grassland	Low	Medium	1,54 – 2,79
Other		Permanent crops	Variable	Low (reduces flexibility)	3,93 – 5,36
	AF	Agroforestry	Medium	Low (reduces flexibility)	0,17 – 0,72
	GG	Grass in orchards & vineyards	Medium / High	Low	3,93 – 5,36
		Peatland management	Medium / High	Medium	

Potential effect in Europe

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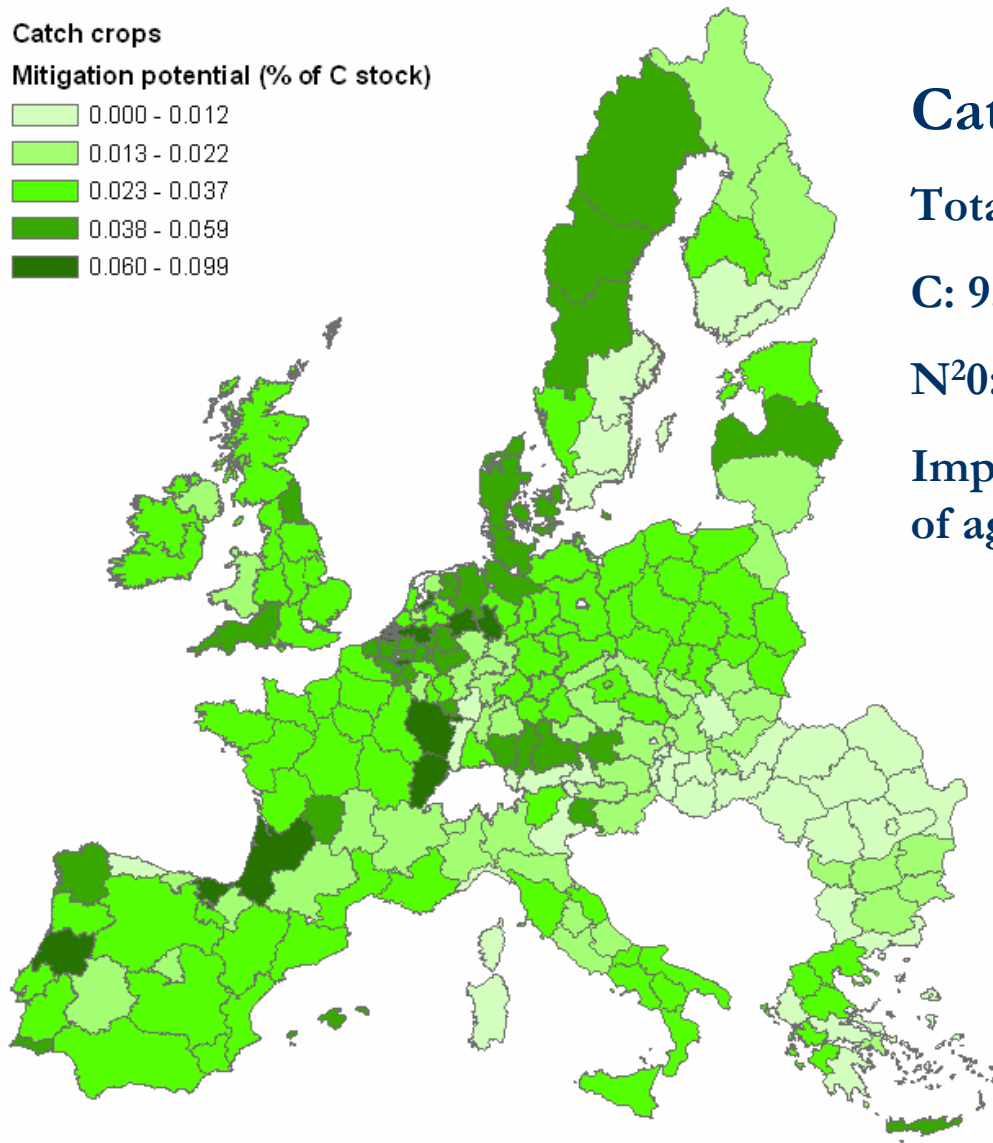
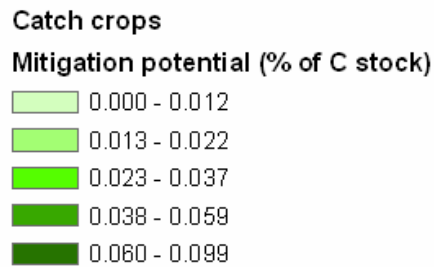
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Catch crops

Total potential :

C: 9.7 Mton CO₂-eq year⁻¹

N²O: -2.4 Mton CO₂-eq year⁻¹

Implementation: 2.7% → 21%
of agricultural land

Potential effect in Europe

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Adding legumes

Mitigation potential (% of C stock)

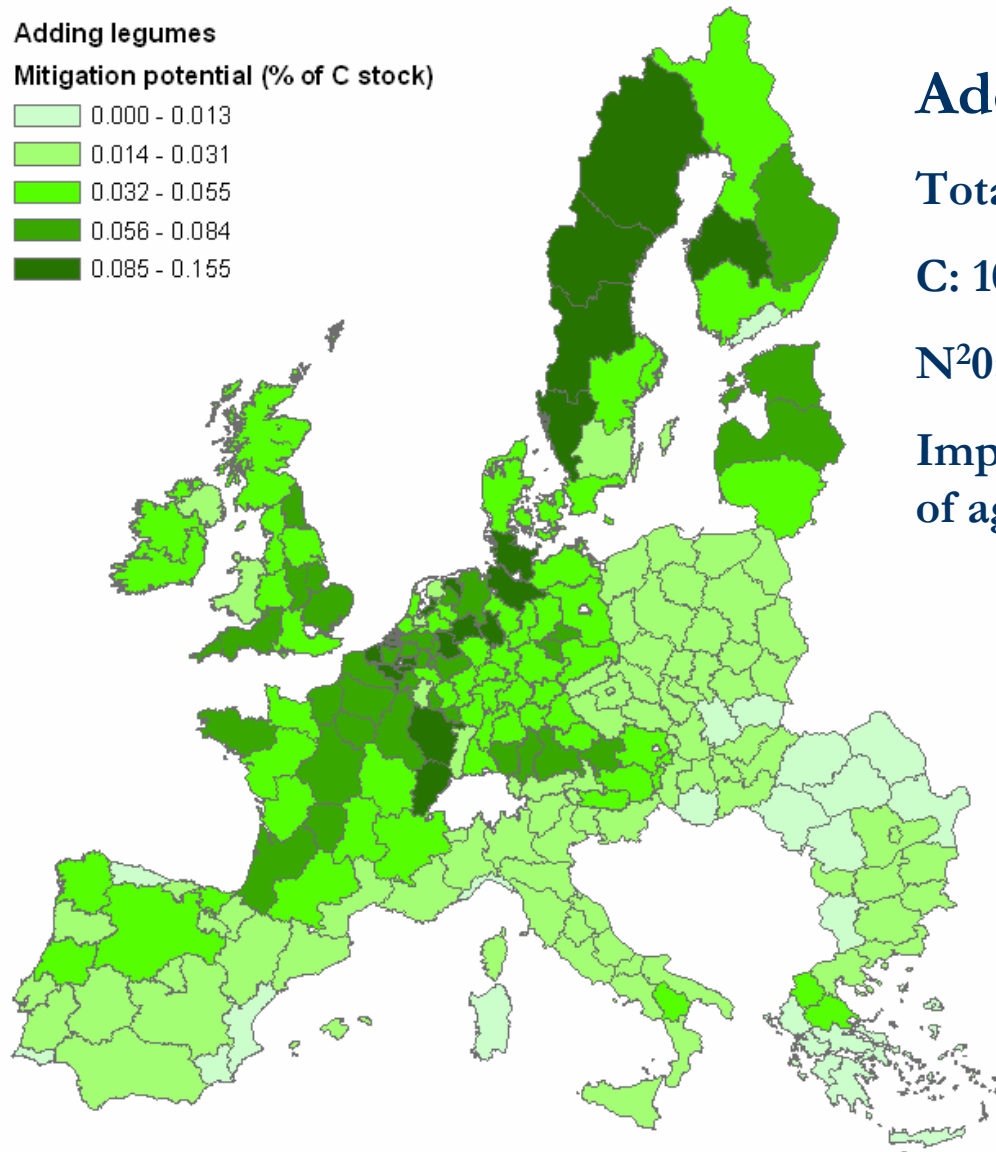
0.000 - 0.013

0.014 - 0.031

0.032 - 0.055

0.056 - 0.084

0.085 - 0.155



Adding legumes

Total potential :

C: 10.6 Mton CO₂-eq year⁻¹

N²O: 0.13 Mton CO₂-eq year⁻¹

Implementation: 11% → 28%
of agricultural land

25 June 2008, Brussels

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Conclusion

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- EU-wide, the most cost-efficient feasible practices are:
 - Zero and reduced tillage,
 - Adding legumes,
 - Residue management,
 - Rotation of species,
 - Catch crops.
- Fertiliser application and fertiliser type must also be considered for their effect on N₂O emissions
- Manure storage and management can have a high potential, but need a careful choice of techniques, and cost can be high.
- There are large regional differences in mitigation potential → mitigation measures need to be targeted at regional level

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Thank you for your attention