European Evaluation Network for Rural Development

Good Practice Workshop

"Climate change mitigation and adaptation in the RDPs:

assessing the scope and measuring the outcomes"

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Outline

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- **BACKGROUND & OBJECTIVES**
- **INCREASING CAPACITIES OF RDPs**
- **CASE STUDIES**
- **SURVEY RESULTS**
- **EVALUATION CHALLENGES**
- **EFFECTIVENESS OF 2014-2020 MEASURES**

BACKGROUND

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- The EU 2020 strategy for a smart, sustainable and inclusive growth aims to:
  - Reduce GHG emission by 20% compared to 1990 levels
  - Use 20% of renewable energy sources in the final energy consumption
  - a 20% increase in energy efficiency

2. Managing Authorities (MAs) are approaching
   - *Ex post* evaluation of 2007-2013 RDPs
   - Designing the 2014-2020 RDPs

OBJECTIVES

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- **Share good practice** with climate change adaptation and mitigation in agriculture and forestry
- **Identifying effective approaches** to assess the contribution of 2007-2013 RDPs to climate change
- **Review the main challenges and solutions adopted** to assess the contribution of climate change
- **Draw main lessons** to assess the effectiveness and efficiency of mitigation and adaptation related measures of the 2014-2020 RDPs

INCREASING CAPACITIES OF RDPs FOR CC

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- **Climate change mitigation and adaptation** in the rural sector must **be part of the RDPs**
- Need for commonly **agreed instruments to measure GHG emissions** to capture improvements

	MODEL (Total emissions CO2 eq)		
	CPLANv0	**CPLAN V2 standard**	**CALM**
Upland beef	-701,67	-164,6	-1110,48
Low land beef	477,26	587,32	-257,95
Veg/arable	1420,18	1871,83	1882,37
Dairy	1298,31	1473,13	774,38

INCREASING CAPACITIES OF RDPs FOR CC (2)

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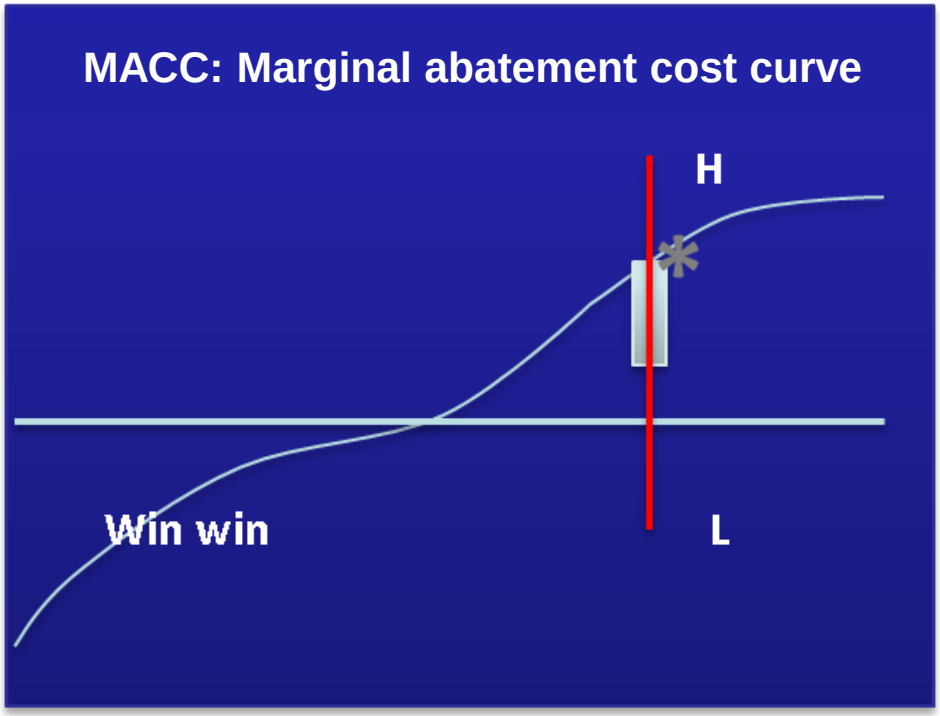
- Enhance the **understanding on the non-economic barriers** (e.g. institutional, societal, educational and logistical) that prevent cost effective GHG options being implemented in the agricultural sector*

- **Robust evaluation** to assess the success in reducing emissions and adapting to climate change

- Enhance **accuracy of measurement** to enhance cost-effectives of the programmed actions *(problem of average and variations)*



* Royal Society Report: Reducing greenhouse gas emissions from agriculture: Meeting the challenges of food security and climate change (2011)

INCREASING CAPACITIES OF RDPs FOR CC (3)

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- Put in place **adequate instruments to monitor** and evaluate impacts
  - Define **appropriate programme-specific indicators** to capture climate change mitigation and adaptation
- Enhance the understanding of the **GHG impacts of all other Pillar 2 farm actions** (and Pillar 1)
- Develop a long **list of technical possibilities/actions**, well grounded in the land use systems of each country, refined by major types and styles of farming

CASE STUDIES

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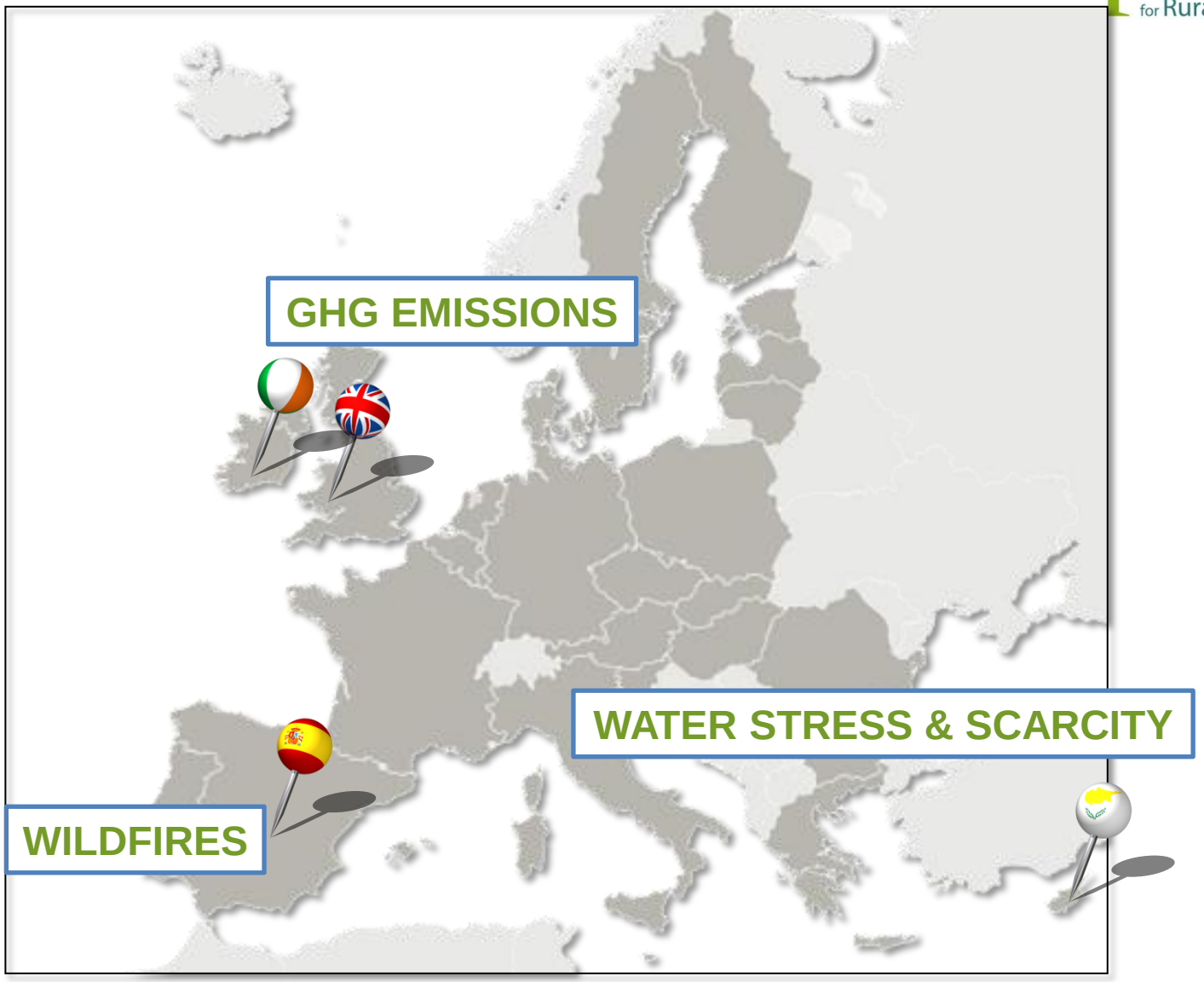

CONTENT OF CASE STUDIES

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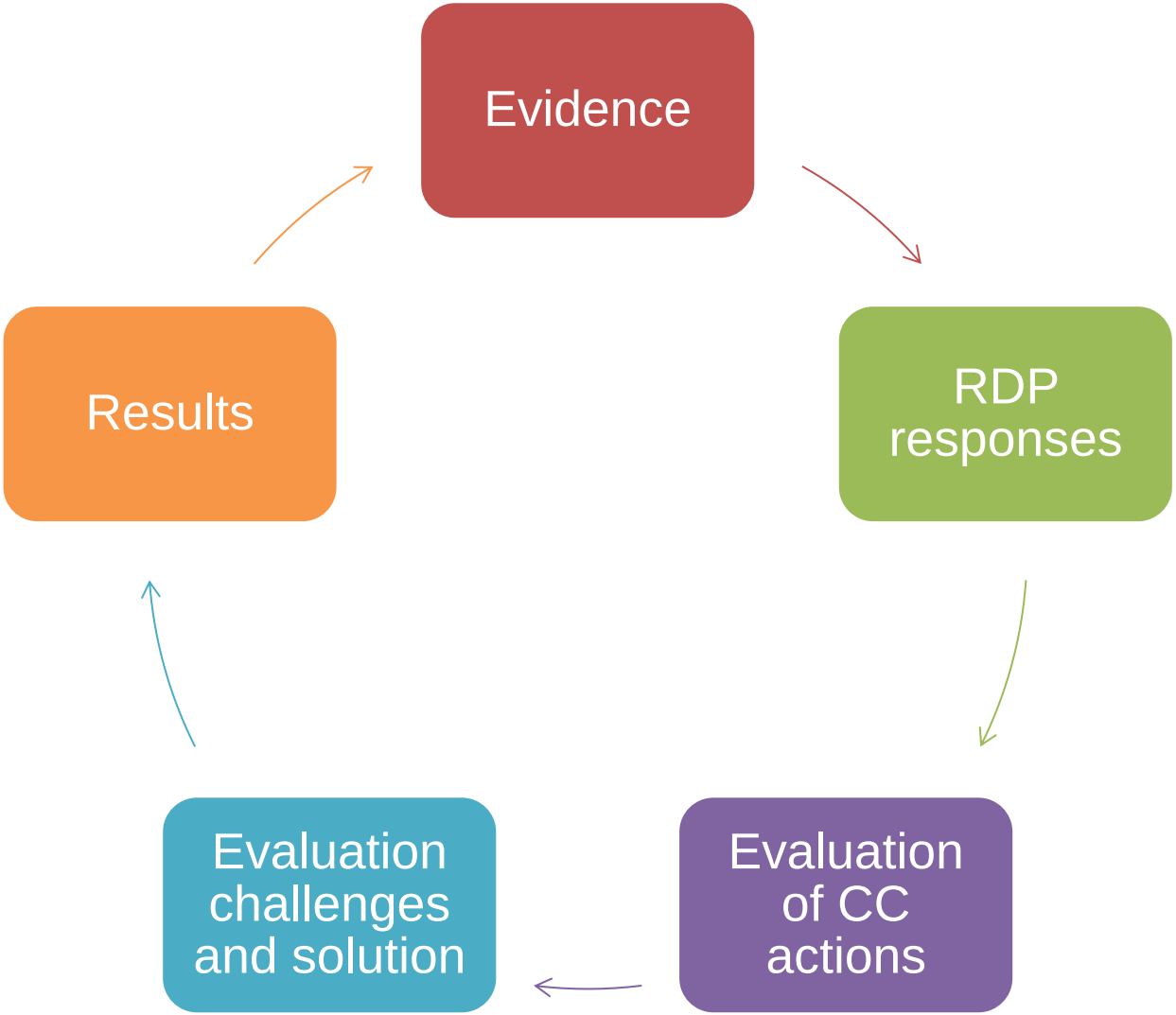

CYPRUS – WATER SCARCITY

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Results

- ✓ **P.I.S. increased efficiency** compared to traditional irrigation methods up to 95%
- ✓ P.I.S and rain water harvesting has enhanced uniformity of water supply.
- ✓ **Reduce the carbon footprint of water collection** and distribution cycle

Key messages

- **Evidence is needed regarding the CC challenge** (at the specific territorial level) to get a comprehensive understanding
- To plan RDP responses to water scarcity is a complex task. Essential to avoid **ad hoc actions which are expensive and inefficient** (e.g. shipping water in tanks from other countries)

SPAIN – WILDFIRES

Results

- ✓ **Increased participation of farmers** is cheaper and yields more value added than administrative prevention actions
- ✓ **Farmers refused using fire** as vegetation control action
- ✓ **Reduction of forest fires:**
  - Region: 6% reduction
  - County: 39% reduction

- **Participation of farmers** is crucial to combat wildfires in an efficient and effective way
- **Need of programme-specific indicators** to assess the scope of prevention actions.
- **Data is needed at the municipality level** to allow an in-depth analysis (impact, efficiency, effectiveness) of the operations carried out by forest-prevention measures
- **Evaluation as a policy learning tool** (e.g. Regulation (EC) 1305/2013 mentions “grazing” animals promotion as a potential fire prevention measure)

IRELAND– GHG EMISSIONS

- ✓ Agriculture is the **largest contributor to national GHG emissions** (dairy and beef sector represents the bulk of it).
- ✓ EU 2020 Target **20% reduction of emissions**.
- ✓ Irish Food Harvest 2020 targets is **50% increase in dairy production.**

Key messages

- GHG emissions is an **environmental and consumer concern**
- Effective mitigation options are available that can **increase farmers profit and reduce emissions** (MACC of the agricultural sector)
- Carbon audit methodology allow to **demonstrate improvement in GHG emissions per kg beef**

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Key messages

- **Measurements should be more accurate** (need to move to Tier2-Tier3 emission factors)
- **Enhance data quality and availability** (also baselines) regarding Carbon sequestration, land-use and land management
- **Decision making at farm level for effective and efficient actions**: The Carbon Navigator tool designed to assist farmer in applying GHG mitigation actions

Year 2010		Current	Target	Chart	GHG change	€ benefit
Grazing season - suckler cows	Turnout Date	24/03/2010	10/03/2010	Grazing Season Suckler Cows	-2.5%	+€1509
	Housing Date	01/11/2010				
Grazing season - yearlings/followers	Turnout Date	24/03/2010			-1.9%	€0
	Housing Date	01/11/2010				
Age at first calving	Age at first calving (months)	34.5	22.0	Age At First Calving	-3.8%	+€4392
Calving Rate	Calving rate (calves/cow)	0.0	0.0	Calving Rate	0%	€0
Live weight performance	System	Steers & Heifers	Steers & Heifers	Live Weight Performance		
	Lifetime live weight per day of age (g)	860.00	946.0			
Nitrogen Efficiency	Total CAN used (t)	6.0	6.0			
	Total urea used (t)	0.0	0.0		0%	€0
	Output kg beef live / ha	473.8	473.8			
Slurry Spread Timing	% in Spring	100	100			
	% Summer following 1st cut	0	0		0%	+€325
	% Later in Summer	0	0			

Review impact on GHG emissions per kg beef

Scoring chart

Indicator of improvement in profitability

WALES (UK) – GHG EMISSIONS

- ✓ Agriculture contributed **12% of Welsh total CO_2e**
- ✓ Target of **3% annual emission reduction** across all sectors
- ✓ CC strategy identified **600kt CO2 from agriculture by 2020**

Key messages

- **Spatial targeting of Agri environmental measures (AEM)** where the benefit will be greatest
- **Data collection of land in and out of scheme** is essential to assess impacts
- **Modelling impacts in a ensemble approach**: Multiple models across wide range of parameters; water quality, biodiversity, water quality and quantity and climate change mitigation
- Use **farm gate** as the boundary of the system to assess carbon footprint

WALES (UK) – GHG EMISSIONS

Results

- ✓ **National impact of 5,2% reduction of emissions**
- ✓ **12,2% increase in carbon sequestration**

Key messages

- **Evaluation serves to:**
  - Conduct predictive analytics to provide early policy feedback
  - Test potential measures / interventions
  - Assist in spatial targeting
- Incorporate **trade offs and synergies in modelling** in order to seek for optimal interventions
- **Address evidence gaps and assumptions** (e.g. IPCC emission factors)

SURVEY - Total of 13 responses -

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- **Provide background information** for the Good Practice Workshop
- **Explore the level of awareness of the stakeholders in the MS** in relation to climate change mitigation and adaptation to be addressed through RDPs;
- **Collect experiences** in the current RDPs;
- **Identify obstacles and potential challenges** faced to implement and assess climate change mitigation and adaptation activities in the new RDPs;

SURVEY RESULTS

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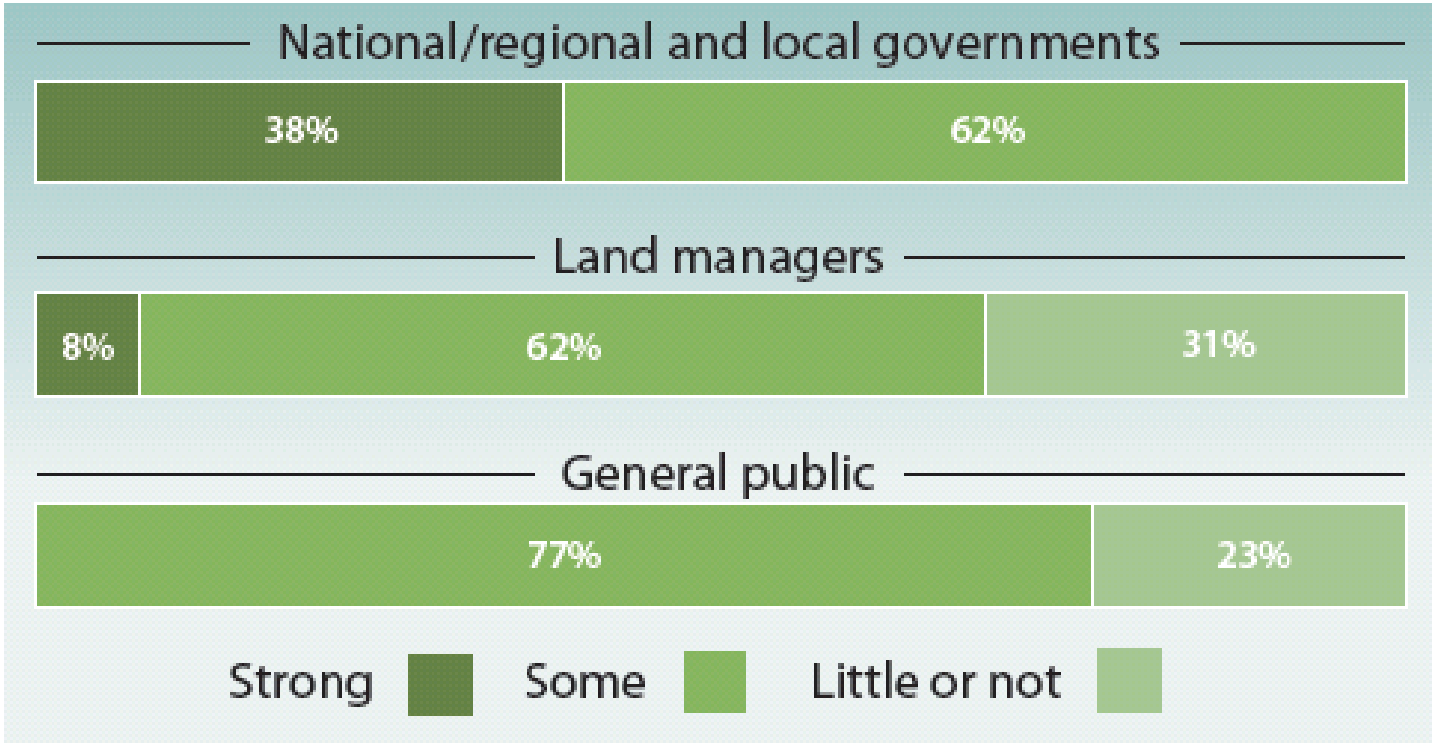
- **Level of awareness on the importance to address CC through the RDPs diminishes** as we move from the inner-circle of the RDP



SURVEY RESULTS

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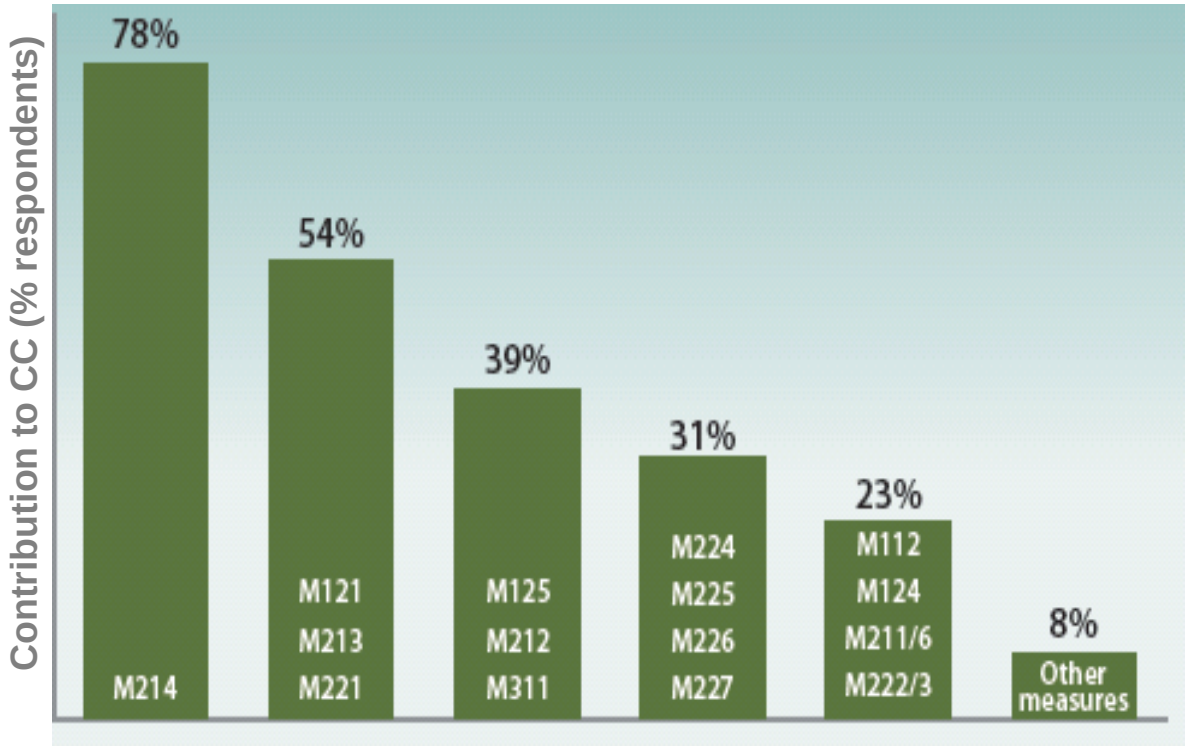
- **Mitigation aspects are well established** in RDPs
- RDP strategies **focus on GHG emissions,** especially CO2 emission reductions
- **Contribution of single RDP measures focus mainly on mitigation.** It is not case for adaptation



OBSTACLES FOR 2014-2020

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- **Knowledge gaps** in relation to climate change mitigation and adaptation
- **Difficulties to monitor and evaluate the exact impact** of the different measures (methodological gaps)
- **Complex and in many cases unclear relationships** (intervention logic)
- **Low participation of farmers in RDP** in relation to CC

MAIN EVALUATION CHALLENGES

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Behaviour:

- **Assessment of the human factor** that influences the implementation of measures – *Increased involvement of farmers in assessing the outcomes of CC-related actions*

Data and indicators:

- **Data availability and quality**
- Need to enhance the CMEF **to assess the scope of climate change –** *Develop programme-specific indicators*

MAIN EVALUATION CHALLENGES

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Methodologies:

- Standardised **data collection and methodology** at EU level, national level or according to climatic zones
- Assess **cost effectiveness** of actions - *Develop country specific ranking of cost effective mitigation and adaptation measures for the ex ante assessment*
- Assess the **synergies and trade offs** between CC & other issues (competitiveness of agricultural sector) *– Optimize existing tools and methods*
- Isolate **Pillar II effects** from Pillar I
- **Conduct a global assessment of the mitigation measures impacting production** (e.g. carbon leakage, indirect land use change) – *Enhance the cooperation among MS (especially academic research institutes)*

EFFECTIVENESS OF 2014-2020 MEASURES

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- **Key aspects** to consider when assessing and programming:
  - Climate change as a cross cutting element (multiple choices for interventions)
  - Human dimension of climate change action
  - Setting up the boundaries for the assessment
  - Cost effectiveness of measures
  - Long vs short term impacts (adaptation measures)
  - Trade-off and synergies
  - Net out impacts (conflict with other policies)

EFFECTIVENESS OF 2014-2020 MEASURES

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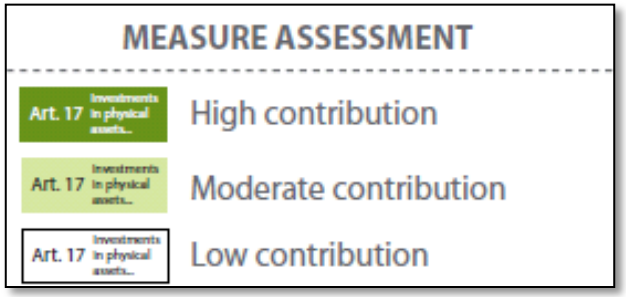
Overview table on the effectiveness of measures



	Art. 14	Art. 15	Art. 16	Art. 17	Art. 18	Art. 19	Art. 20	Art. 22	Art. 23	Art. 24	Art. 25	Art. 26	Art. 27	Art. 28	Art. 29	Art. 30	Art. 31	Art. 33	Art. 34	Art. 35	Art. 36
West and Atlantic Areas																					
South and S.-East Regions																					
Northern Areas																					
Central Europe																					

EFFECTIVENESS OF 2014-2020 MEASURES

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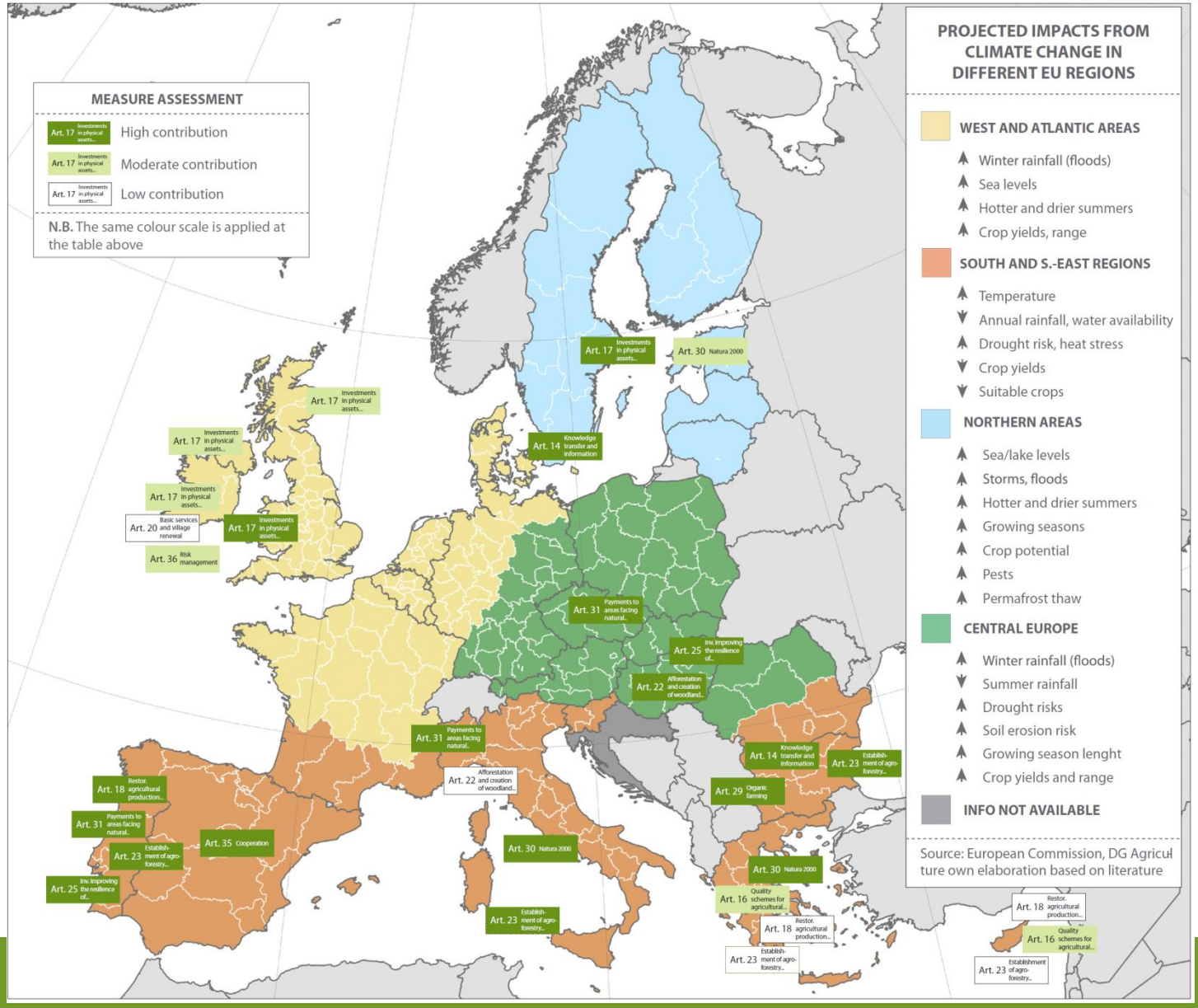

FURTHER INFORMATION

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1. Good Practice Workshop (GPW) Newsletter

2. Webpage of the Good Practice Workshop
   http://enrd.ec.europa.eu/evaluation/good-practices-workshops/climate-change-mitigation-adaptation/en/climate-change-mitigation-adaptation_en.cfm

3. Outcome document of the GPW (shortly available in the GPW Webpage)

4. Working document “Survey results” (shortly available in the GPW Webpage)

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Thank you for your attention!

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