

The European Commission's science and knowledge service

Joint Research Centre



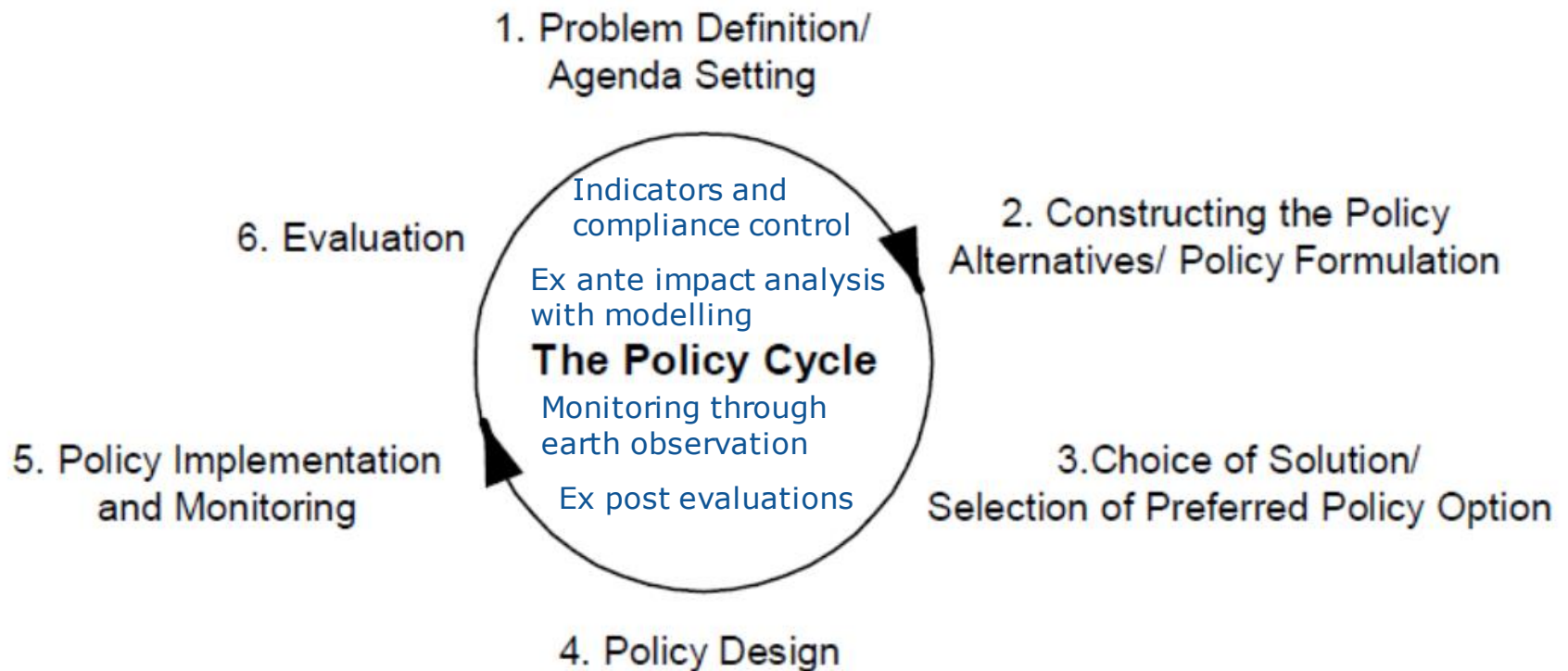
International experiences with agri-environmental policy design and application: the EU case

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The JRC: The Science and Knowledge Service of the Commission

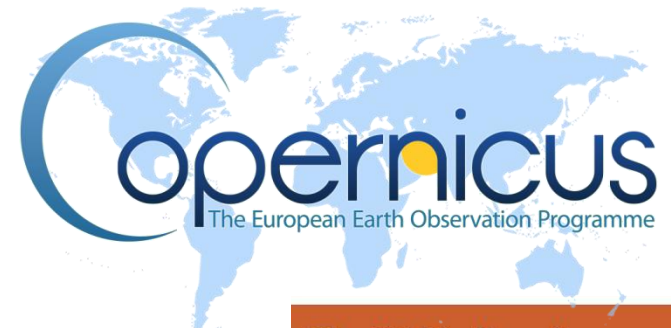
- The JRC mission is to provide scientific support to Commission's Policy DG
- The scientific support is given across the whole policy cycle, ranging from data gathering to scientific analysis



The JRC: The Science and Knowledge Service of the Commission

7th
Environme
nt
Action
Programm
e 

**Living well,
within the
limits of our
planet**



The JRC: Links with International and National Organisations



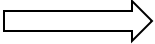
Agence européenne pour l'environnement



...other EU Agencies



The JRC: The Science and Knowledge Service of the Commission

- Future EU policies will be more and more integrated/crosscutting
  "policy coherence"
- The new CAP Proposal is a clear and key example of this
- CAP requires multi-disciplinary expertise on:
 - ✓ Socio-economic aspects
 - ✓ Water
 - ✓ Emissions
 - ✓ Soil/Land use
 - ✓ Health
 - ✓ Technologies
 - ✓ Earth Observation
 - ✓ Big data, Artificial Intelligence

Ex-ante impact assessment (IA): CAP through model integration



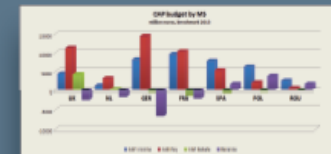
Published
18.12.2017

The modelling framework

The figures are for pure illustration purposes

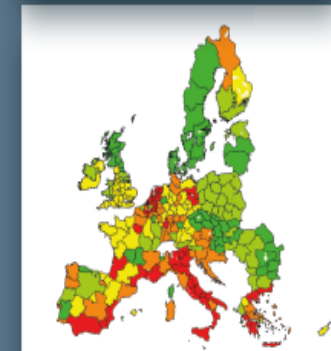
MAGNET (CGE model)

Trade & budget implications



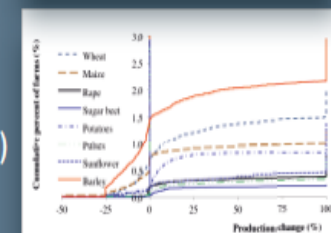
CAPRI (PE model)

EU production & environment



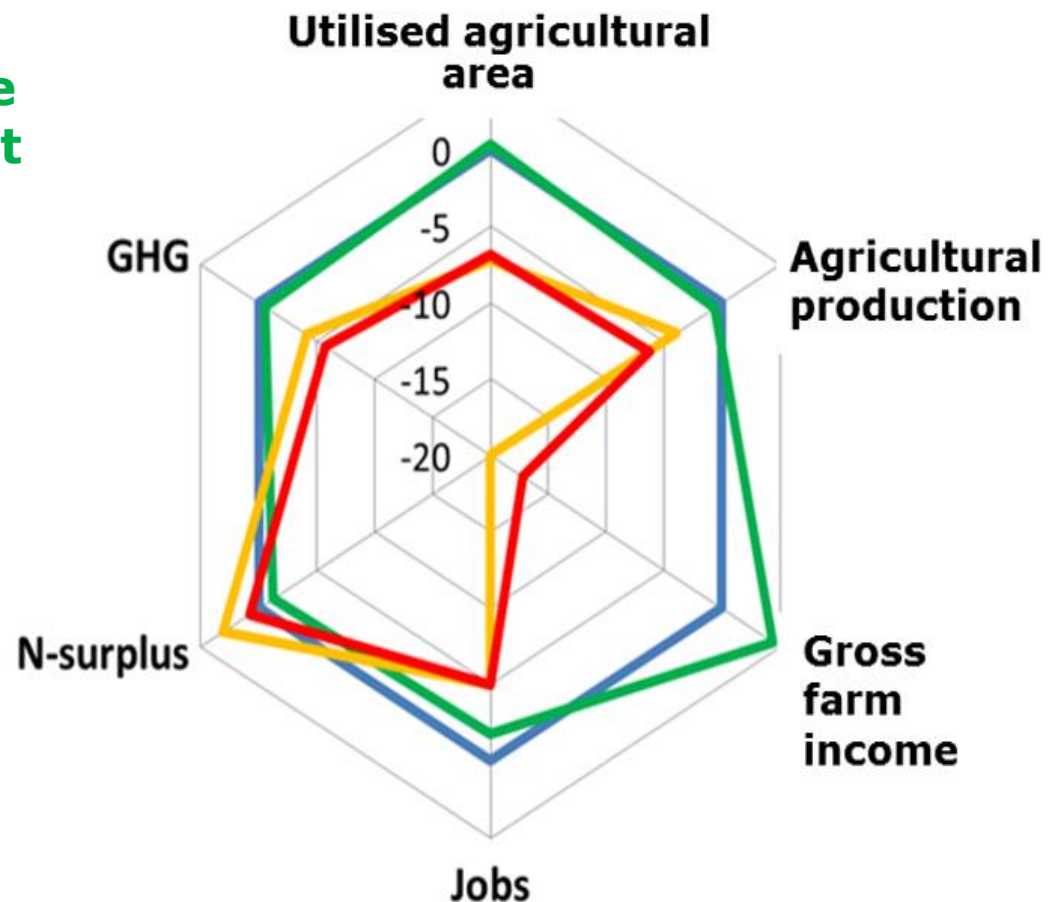
IFM-CAP (Farm level model)

Farm income (average & distribution)



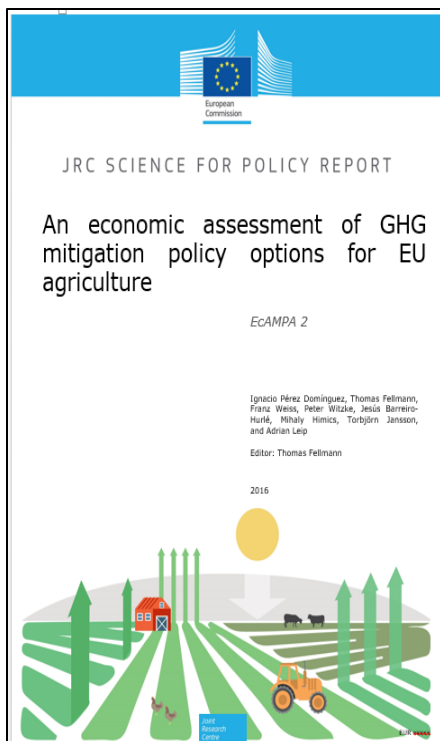
Ex-ante IA.: CAP Scenar 2030 results

- **Reference scenario same CAP**
(baseline)
- **Scenario of a CAP with same Income & more Environment**
(no budget change, environmental focus)
- **Scenario with a CAP with more Liberalisation & Productivity**
(Pillar 2 only, trade liberalisation)
- **NoCAP**
(no CAP payments, trade liberalisation)



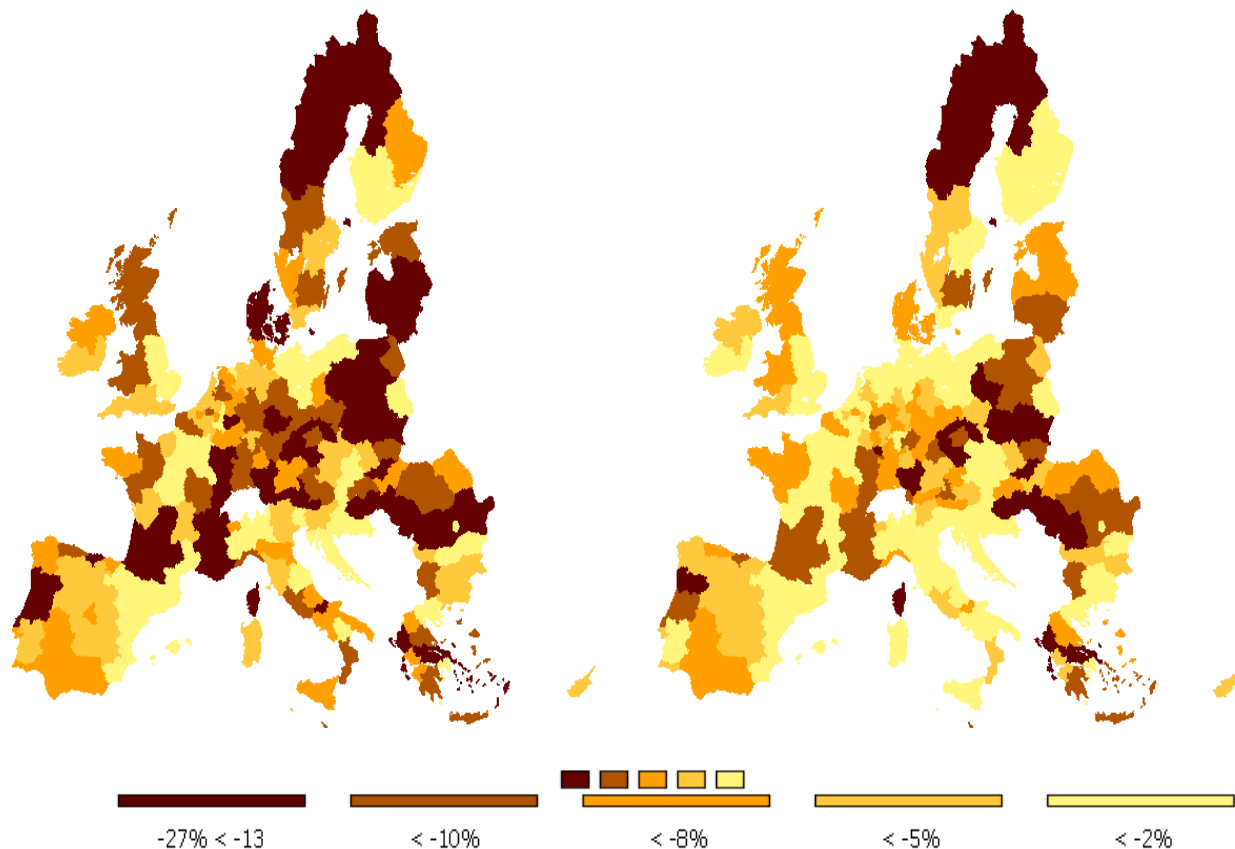
Ex-ante impact assessment: Climate Change and CAP (EcAMPA)

Domestic production Effects, Beef Supply, % change versus 2030 baseline



20% emission target,
no subsidies

20% emission target,
80% subsidies



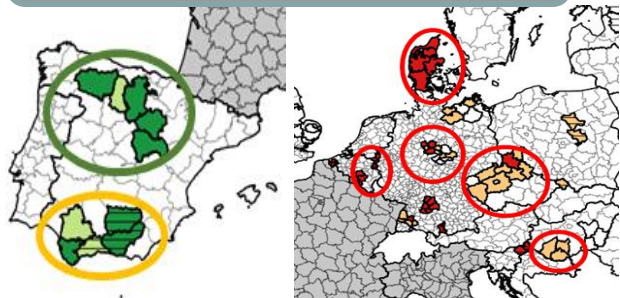
Evaluation: regional impact assessment and decision support tools for farmers




The JRC has developed the Ecological Focus Area (EFA) calculator and the SOSTARE decision support tools for farmers: they operate at different scales

Regional impact assessment

The EFA calculator computes potential impacts of EFA features on ecosystem services, biodiversity and management, based on MS declaration

Impact on biodiversity of EFA implementation in regions



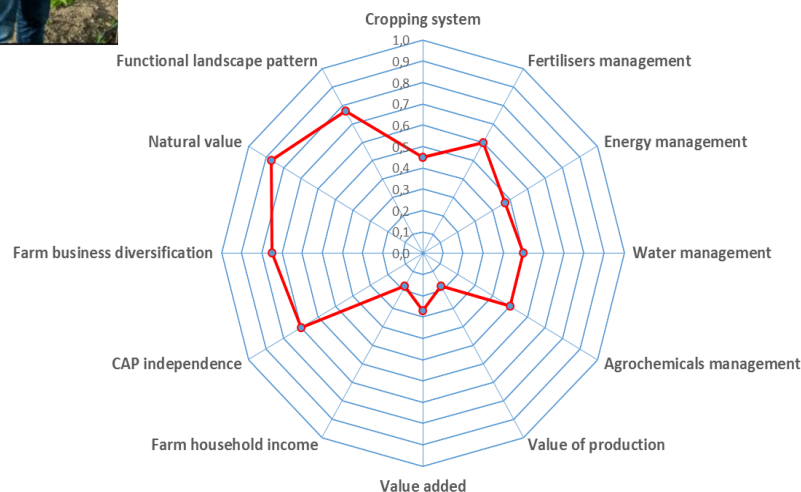
-  Efficient measures for biodiversity, well targeted
-  Relevant measures, moderate impact
-  Low scoring, measures not addressing the issue

Commission evaluation report on EFA implementation, COM (2017) 152 final

Farmers' decision support tools



SOSTARE calculates synthetic indicators, from data collected in farm surveys

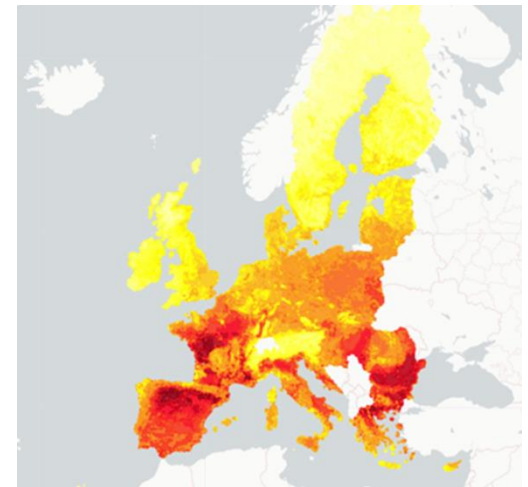


Monitoring: agri-environmental indicators

- The JRC is engaging in the methodological development of new and improved agri-environmental indicators
- For instance, there is an ongoing discussion with DG AGRI and the European Environmental Agency (EEA) to formulate a **Landscape features impact indicator** for the CAP



- Additionally the JRC is:
 - ✓ developing **pan-European datasets** to support the evaluation of MS Strategic Evaluation (e.g. mapping farmland bird data)
 - ✓ identifying hotspots of species **richness of farmland birds** in Europe
 - ✓ targeting **priority intervention areas**

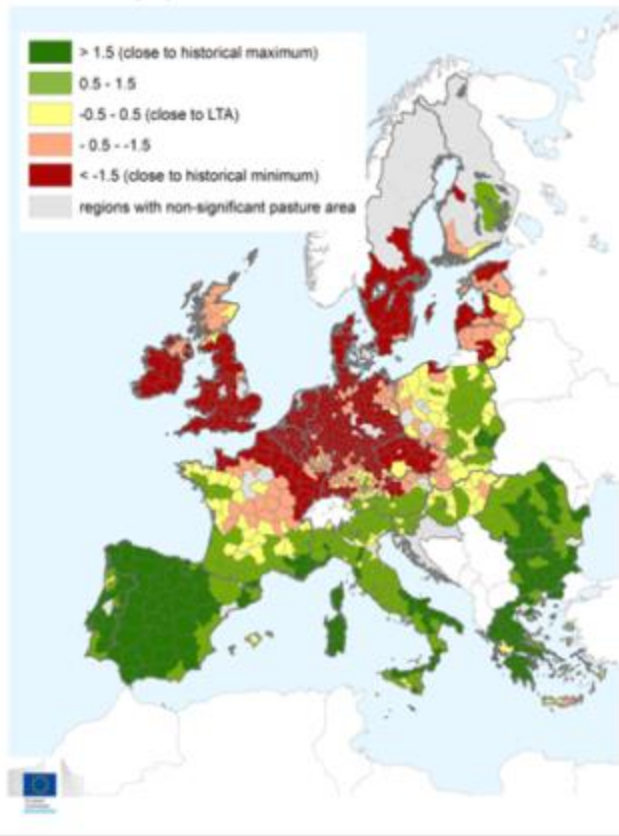


Number of farmland bird species per 10 km square (from 0: white to 34: dark red)

Monitoring: Helping EU farmers cope with extreme drought conditions

Relative index of pasture productivity

Period of analysis: 1 July - 20 August 2018
Index based on Copernicus GEOV2 fAPAR 10-day product.
Historical archive (LTA) from 1999 to 2017



European Commission - Press release

Commission offers further support to European farmers dealing with droughts

Brussels, 2 August 2018

The European Commission is standing by Europe's farmers this summer, as they grapple with the difficulties of extreme droughts.

- **Higher advanced payments:** farmers will be able to receive up to 70% of their direct payment and 85% of payments under rural development already as of mid-October 2018 instead of waiting until December to improve their cash flow situation;
- **Derogations from specific greening requirements** namely crop diversification and ecological focus area rules on land lying fallow, to allow such land to be used for the production of animal feed. Consideration is also being given to the adoption of further derogations to greening to allow farmers more flexibility to produce fodder. These measures will be of particular benefit to livestock farmers.



Source: Agrarfoto.com

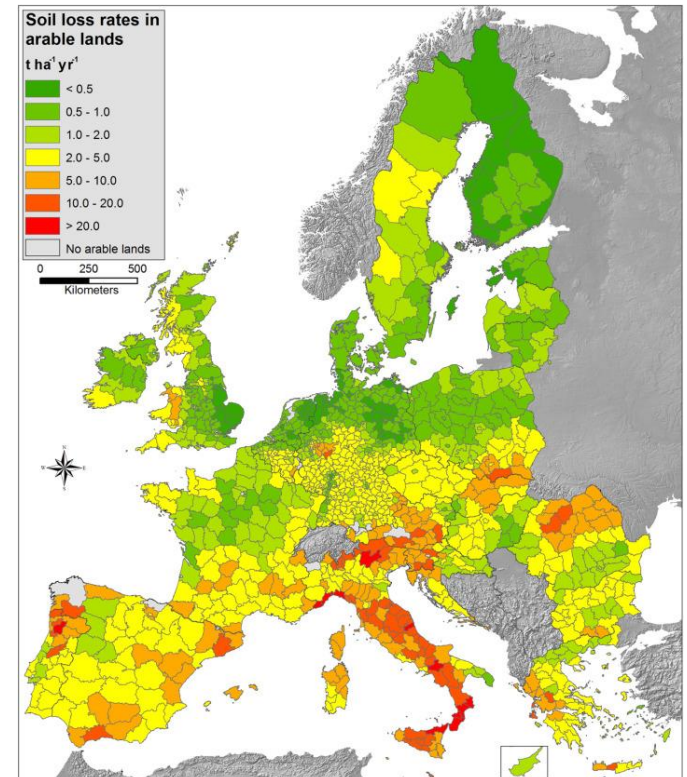


For more information

Monitoring Agricultural ResourceS (MARS) Bulletins

Evaluation: measures improving soil condition

- Reduction in soil erosion
 - ✓ JRC shows that CAP interventions reduced overall soil loss by 9.5% during last decade.
 - ✓ But 13% of arable lands have soil loss >5 t/ha annually requiring protection.
 - ✓ Soil erosion costing farmers €1.25 billion a year.
- Increase soil carbon sequestration
 - ✓ JRC assessing soil carbon dynamics in relation to land management
 - ✓ High resolution biogeochemical model for UAA
 - ✓ Coupled to harmonised ground observations from LUCAS Soil
 - ✓ Arable mineral soils show lowest soil carbon levels
- Soil quality
 - ✓ Ambiguous concept
 - ✓ JRC developing quantified assessments of soil functions
 - ✓ Use of metagenomics to quantify quality through functional DNA



Conclusions

- Since years the JRC is within the critical path of the CAP
- The new CAP proposal requires strong collaboration among JRC and Member States to support the implementation, monitoring and evaluation.
- Good Science and Analysis require good Data which means improved collaboration with International organizations (FAO, OECD, IIASA, IFPRI...) with EU Agencies (ESA, EEA, EFSA...), the Academic world (Univ, Academic Associations, Research Organisations....) and Member States.



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THANK YOU ! ✈