Policy and research needs on social and environmental farm performance

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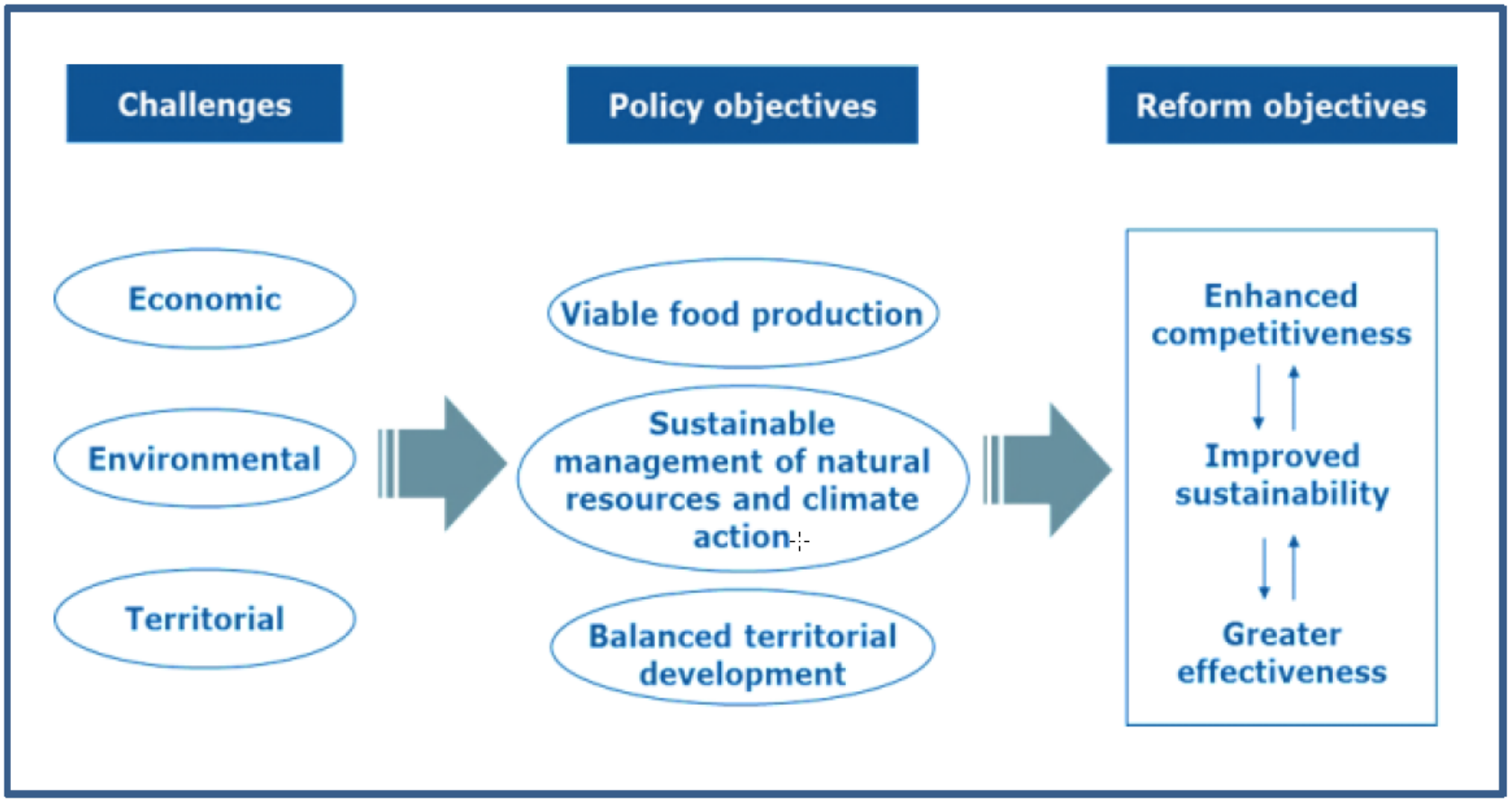
Background

- Challenges facing agriculture are changing: e.g. sustainability, climate, innovation
- In response - CAP has evolved
  - Income and productivity still important but also other sustainability issues
- When policy changes – information needs change – data must keep up

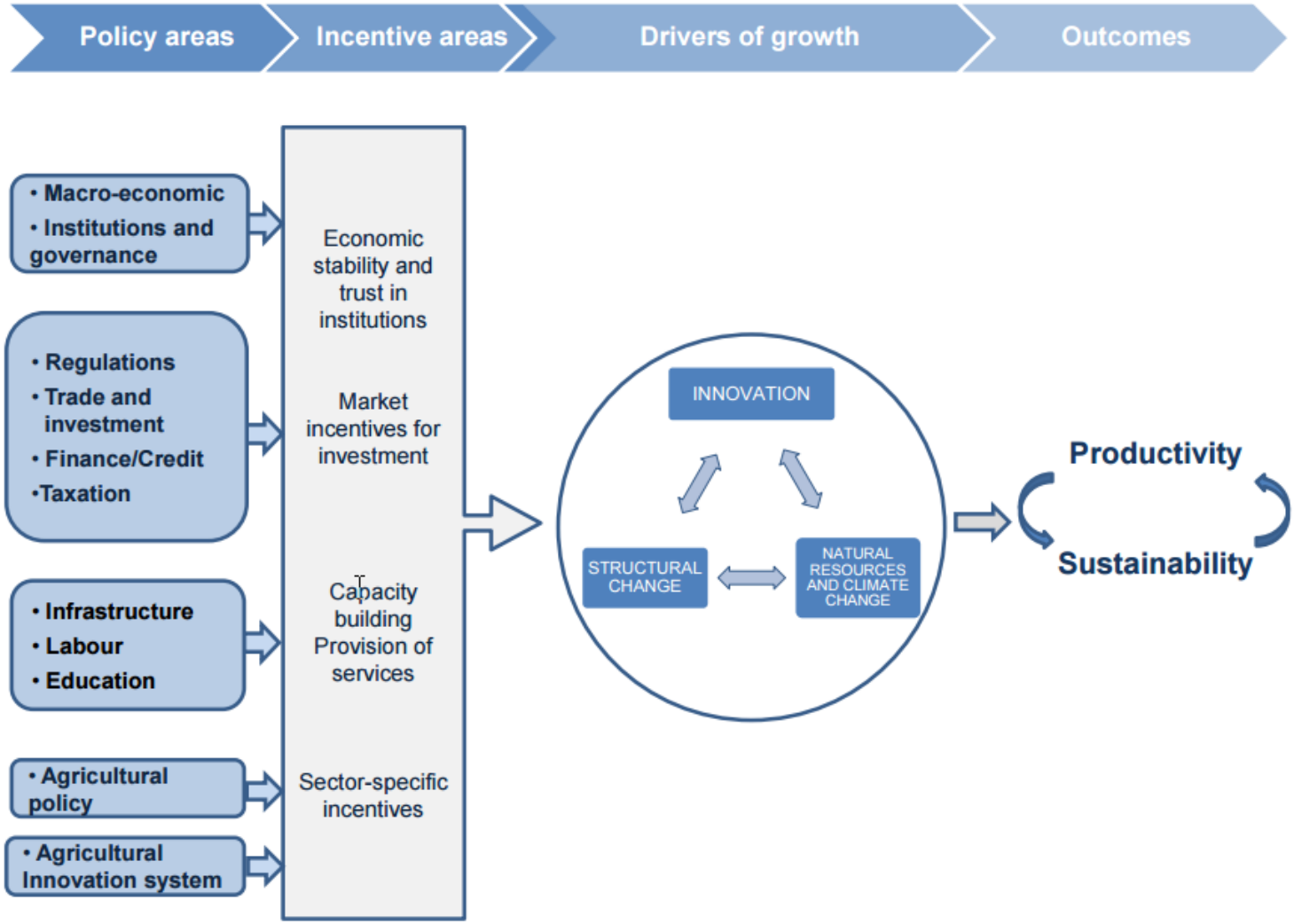
The CAP post 2013



Source: DG Agriculture and Rural Development.

OECD analytical framework

Figure 1. Policy drivers of innovation, productivity and sustainability in the agriculture and agri-food sector



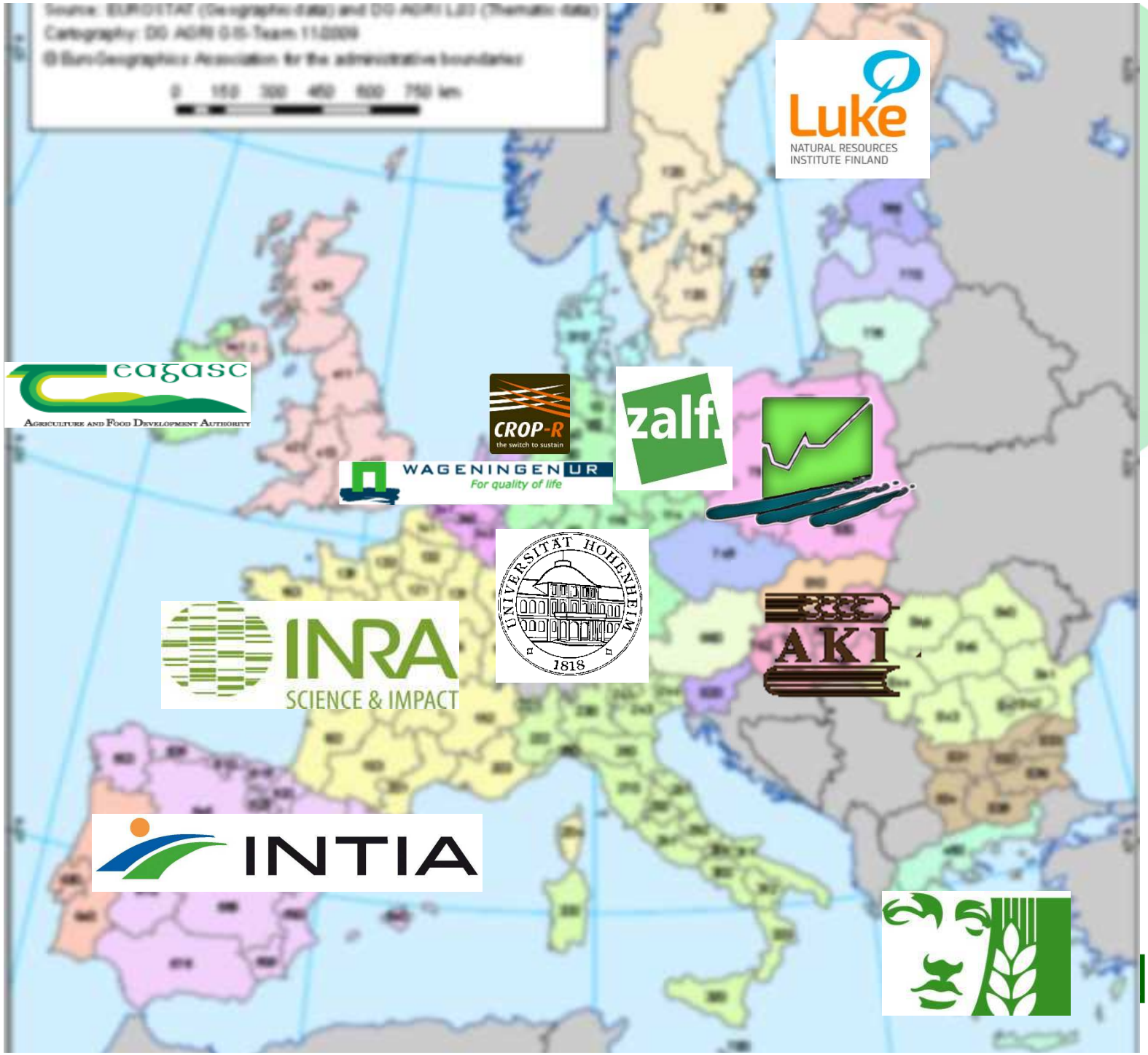
Indicator frameworks sustainability

- A wide range of international policy, economic and sustainability indicator frameworks exist:
  - Millennium development goals
  - FAO indicators of sustainable development
  - OECD Agri-environmental indicators
  - Eurostat environmental indicator framework
  - European Environment Agency indicators
  - IRENA project interactions between agriculture and environment
  - AE foodprint effectiveness of environmental schemes
- No agreement on what the future data infrastructure at EU level should look like.

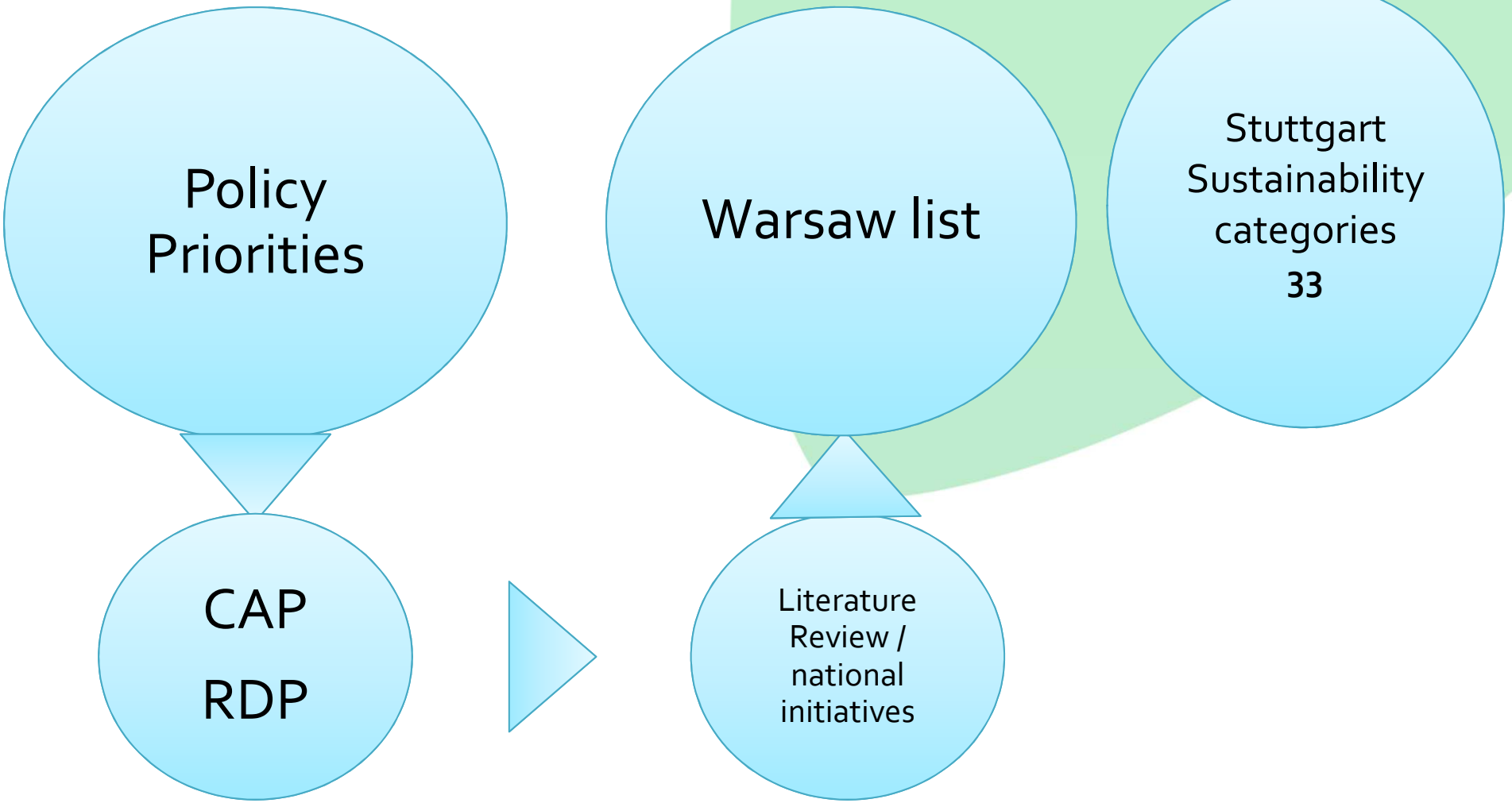
Objectives FP7 FLINT project

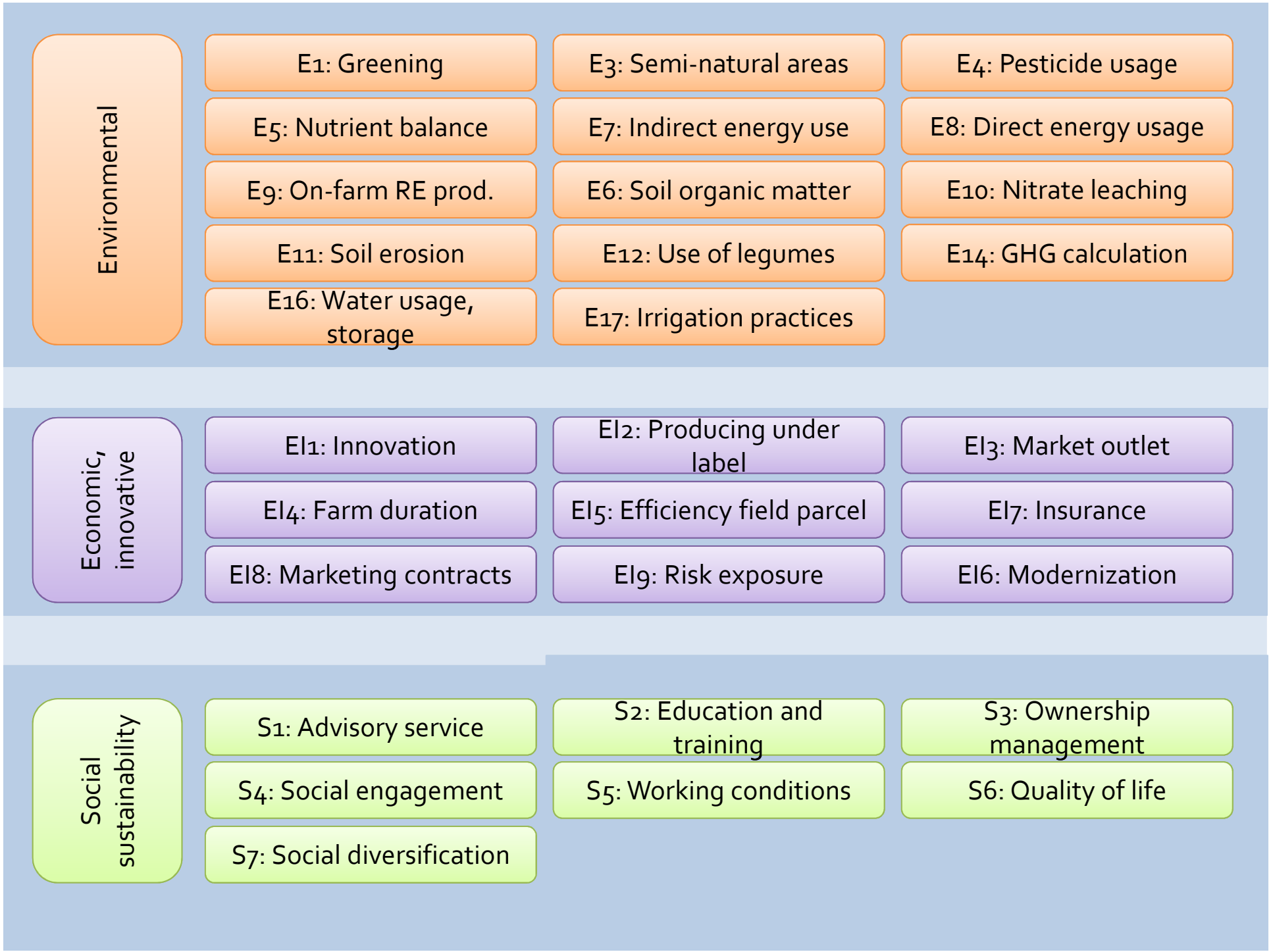
- FLINT – **F**arm **L**evel **I**ndicators for **N**ew **T**opics in policy evaluation

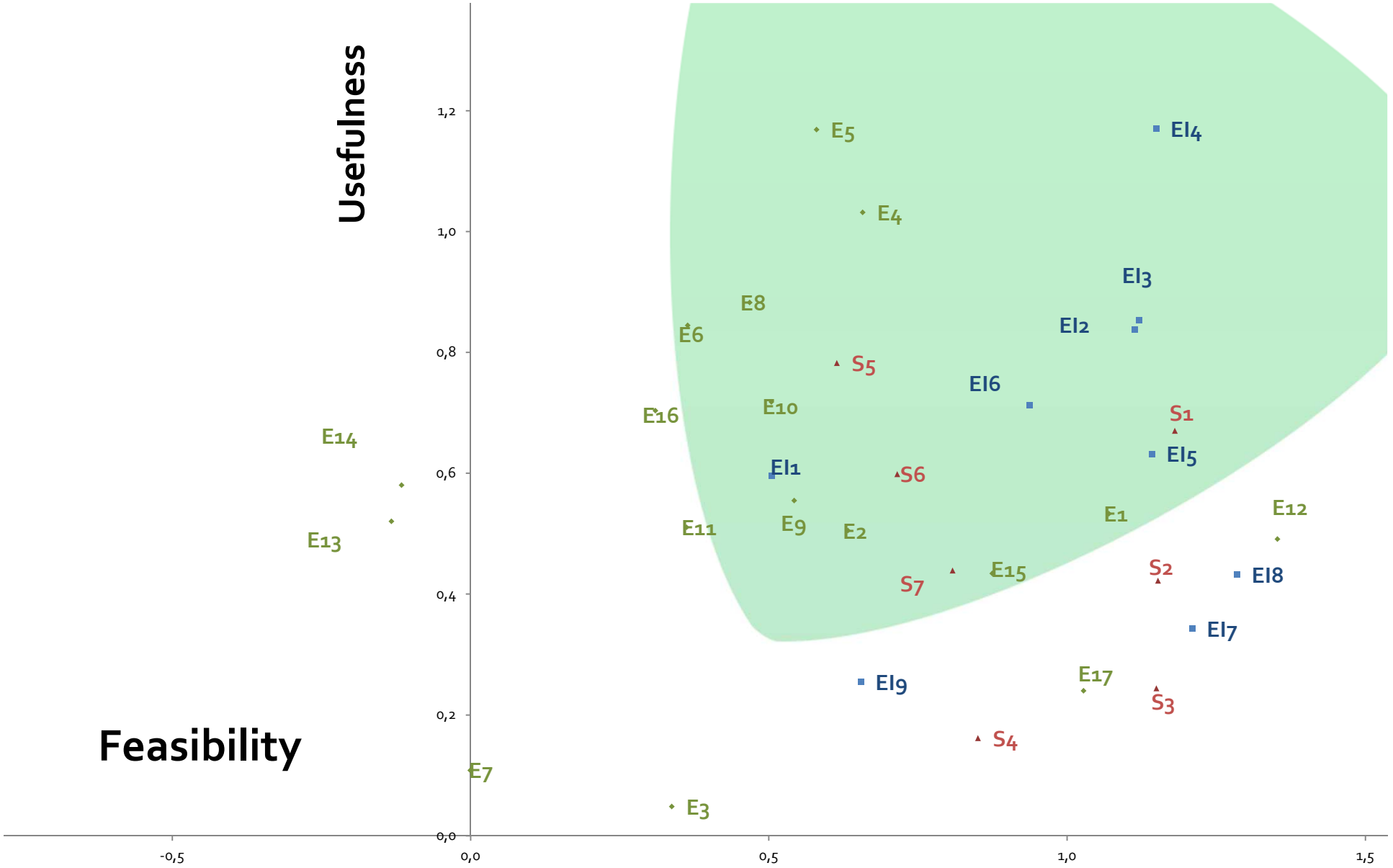
- To establish a **tested data infrastructure** with up to date **farm level indicators** for the **monitoring and evaluation of CAP** and to contribute to a **better targeting** of CAP and other policy measures


Luke
NATURAL RESOURCES
INSTITUTE FINLAND
teagasc
AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY
CROP-R
the switch to sustain
zalf
WAGENINGEN UR
For quality of life
UNIVERSITÄT HOHENHEIM
1818
INRA
SCIENCE & IMPACT
AKI
INTIA

FLINT: INDICATOR SELECTION




Environmental
E1: Greening
E3: Semi-natural areas
E4: Pesticide usage
E5: Nutrient balance
E7: Indirect energy use
E8: Direct energy usage
E9: On-farm RE prod.
E6: Soil organic matter
E10: Nitrate leaching
E11: Soil erosion
E12: Use of legumes
E14: GHG calculation
E16: Water usage, storage
E17: Irrigation practices
Economic, innovative
EI1: Innovation
EI2: Producing under label
EI3: Market outlet
EI4: Farm duration
EI5: Efficiency field parcel
EI7: Insurance
EI8: Marketing contracts
EI9: Risk exposure
EI6: Modernization
Social sustainability
S1: Advisory service
S2: Education and training
S3: Ownership management
S4: Social engagement
S5: Working conditions
S6: Quality of life
S7: Social diversification



Only an average…
Why do the stakeholders assess like that?

The FLINT data collection in numbers

- 9 Member States
- 1000 pilot farms
- 33 topics
  - 7 social
  - 9 economic/innovative
  - 17 environmental
- 10 new tables
- 1060 new items
- Around 300-400 new data per farm

In the **pilot** stage! Reduction foreseen based on experiences!

Advantages of farm level data

- Detailed Farm level data: Distribution and differences
- Linking of all variables within database (planet – profit, organic <-> conventional, best 25% <-> worst 25%)
- Why do some farmers perform better than others?
  - Targeting measures and benchmarking
- Impact assessment
  - How are different farmers affected by policy measures?
  - How do different type of farmers respond to changes?
- Integrated measurement allows the analysis of the full chain from:
  - Policy objective -> policy measure -> pressure/incentive on farm
  - -> farm management decisions -> sustainability performance of farms

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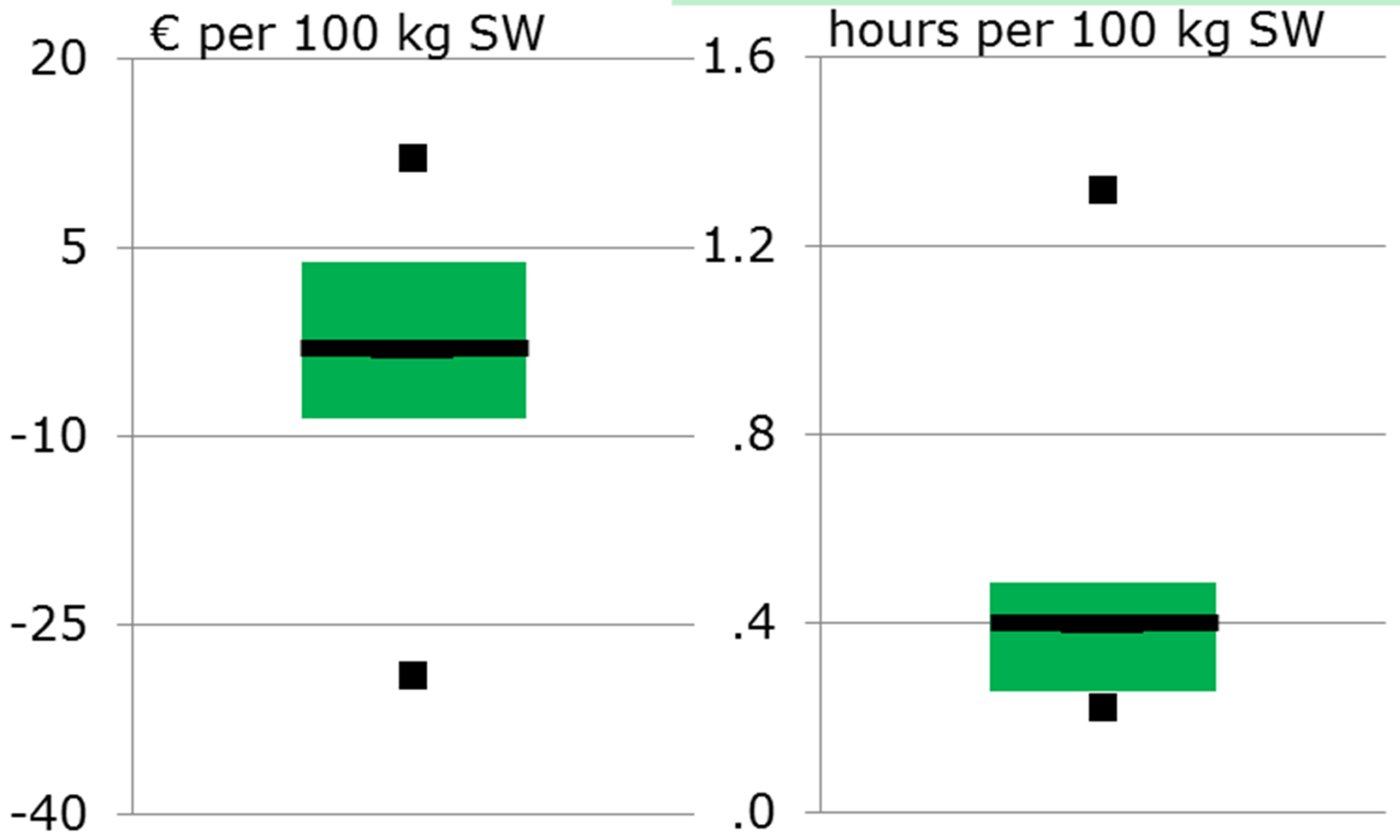
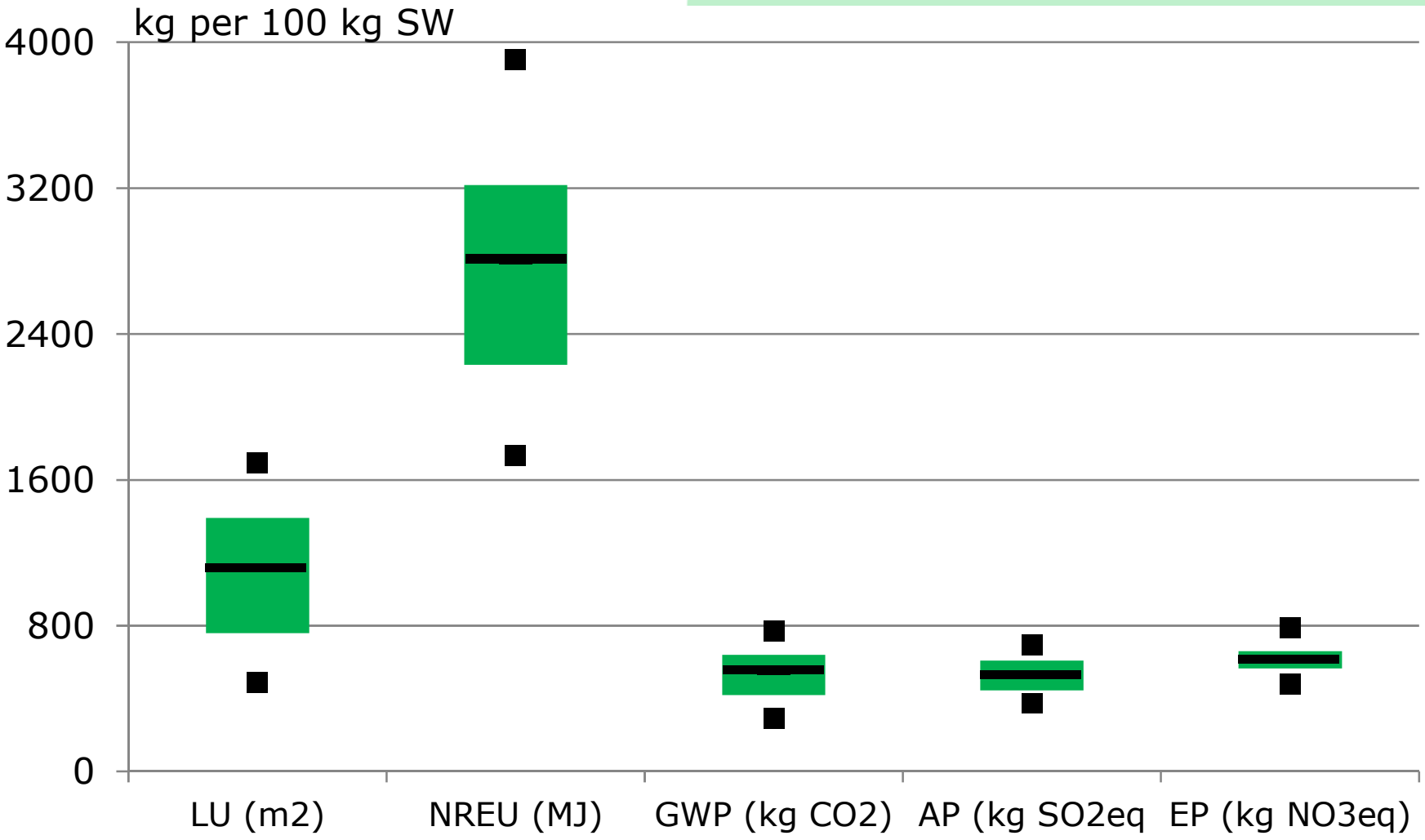
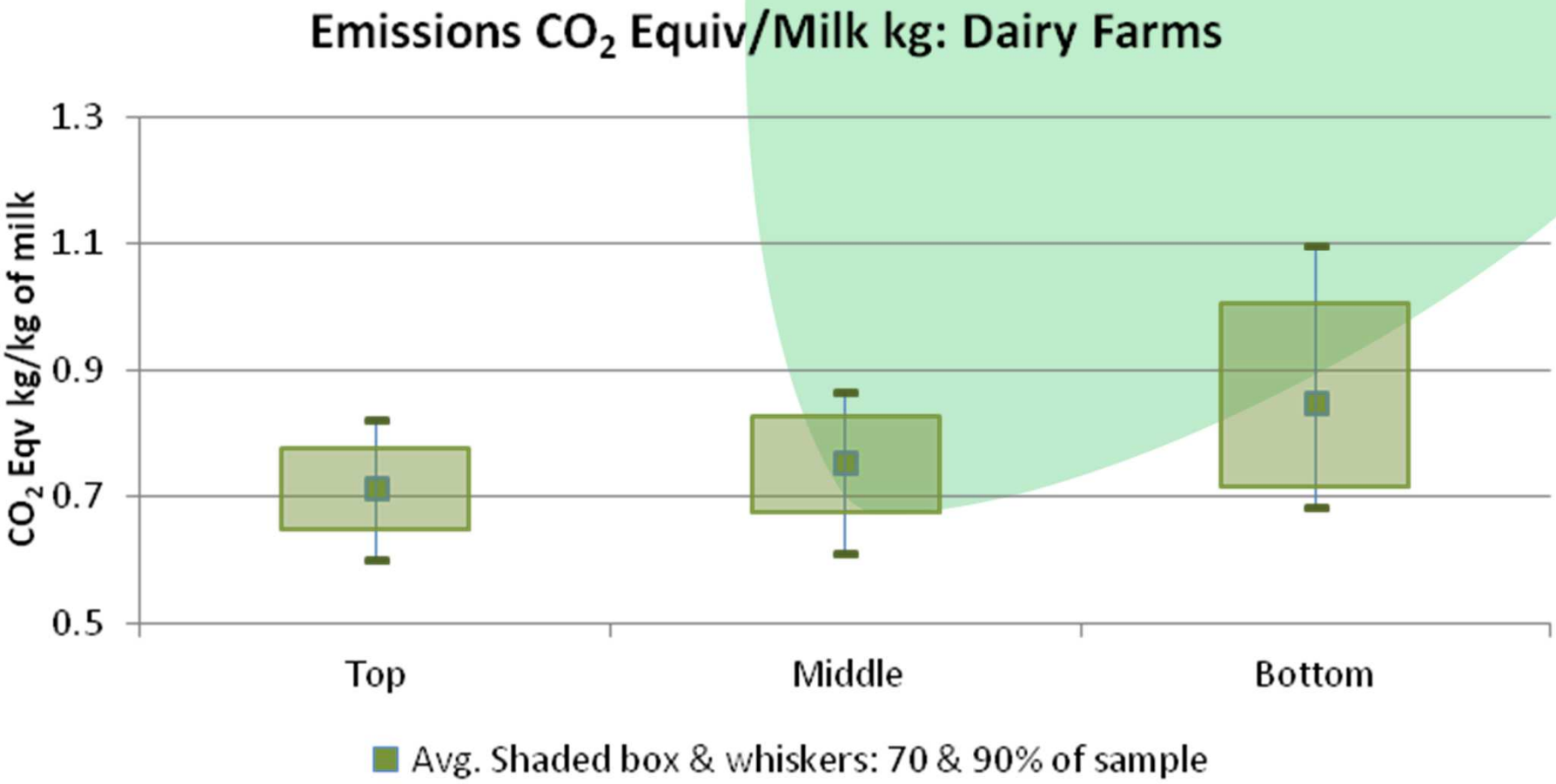
Spread in economic results



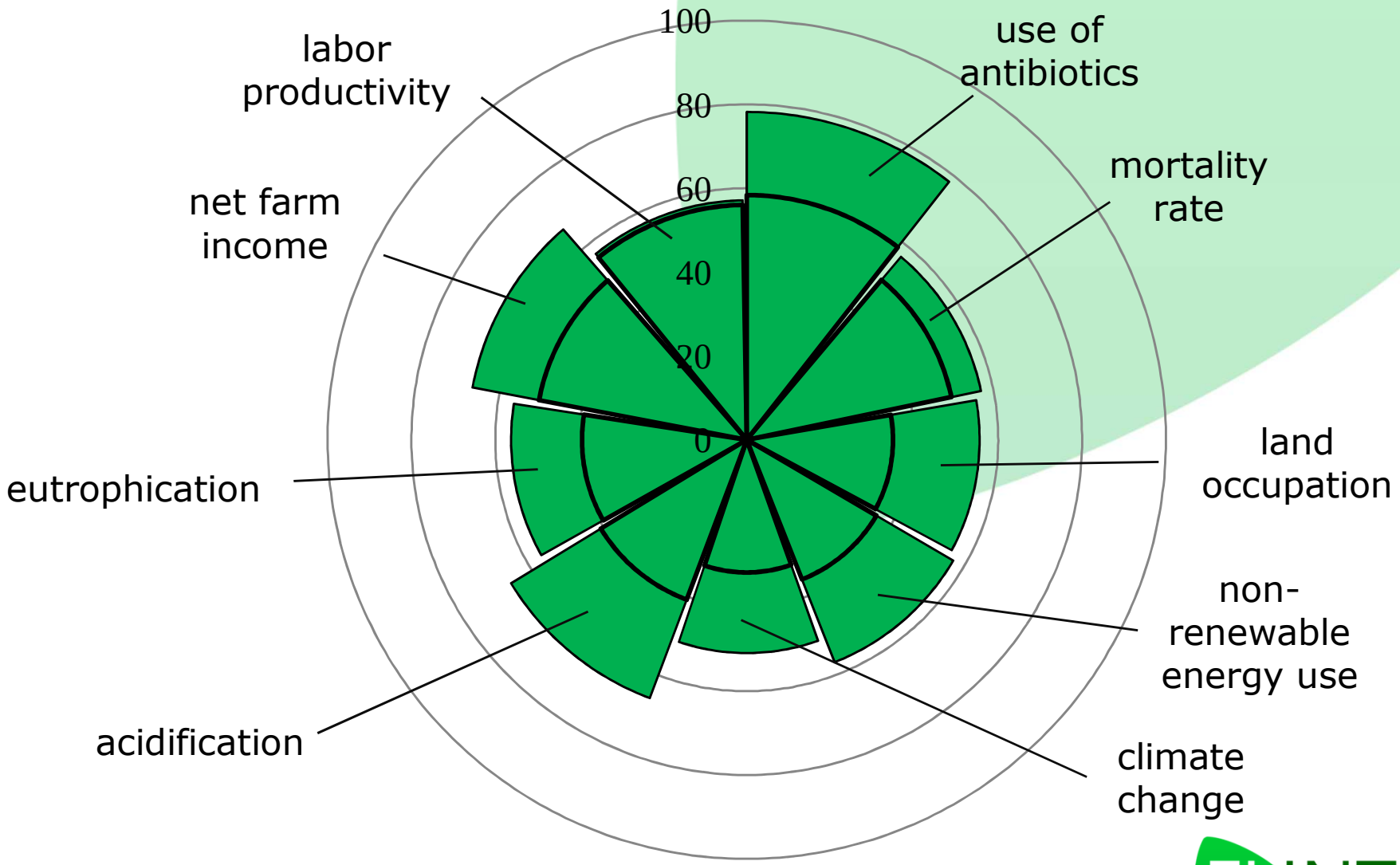
Spread in environmental results



Distribution in farm performance (Ireland)



Results (best practice)



Benchmarking: Green house gasses

	Green house gasses	group average	**farm nr**
	Emission (x 1.000 kg CO2-equivalents)	**991**	
Type	Methane (%)	51	
Type	NOx (%)	14	
Type	CO2 (%)	35	
Source	Manure (methane and NOx)	14	
Source	SOIL (Nox direct and indirect)	12	
Source	Energy use (CO2)	8	
Source	contract work and other (CO2)	1	
Source	Bought feeding stuff (CO2)	21	
Source	Bought artificial fertilizer (CO2 en NOx)	5	
Source	Other (CO2)	1	
Source	Intestine Fermentation	28	
	Emission per cow (kg CO2-equivalents)	11,982	

Individual data hidden because of confidentiality

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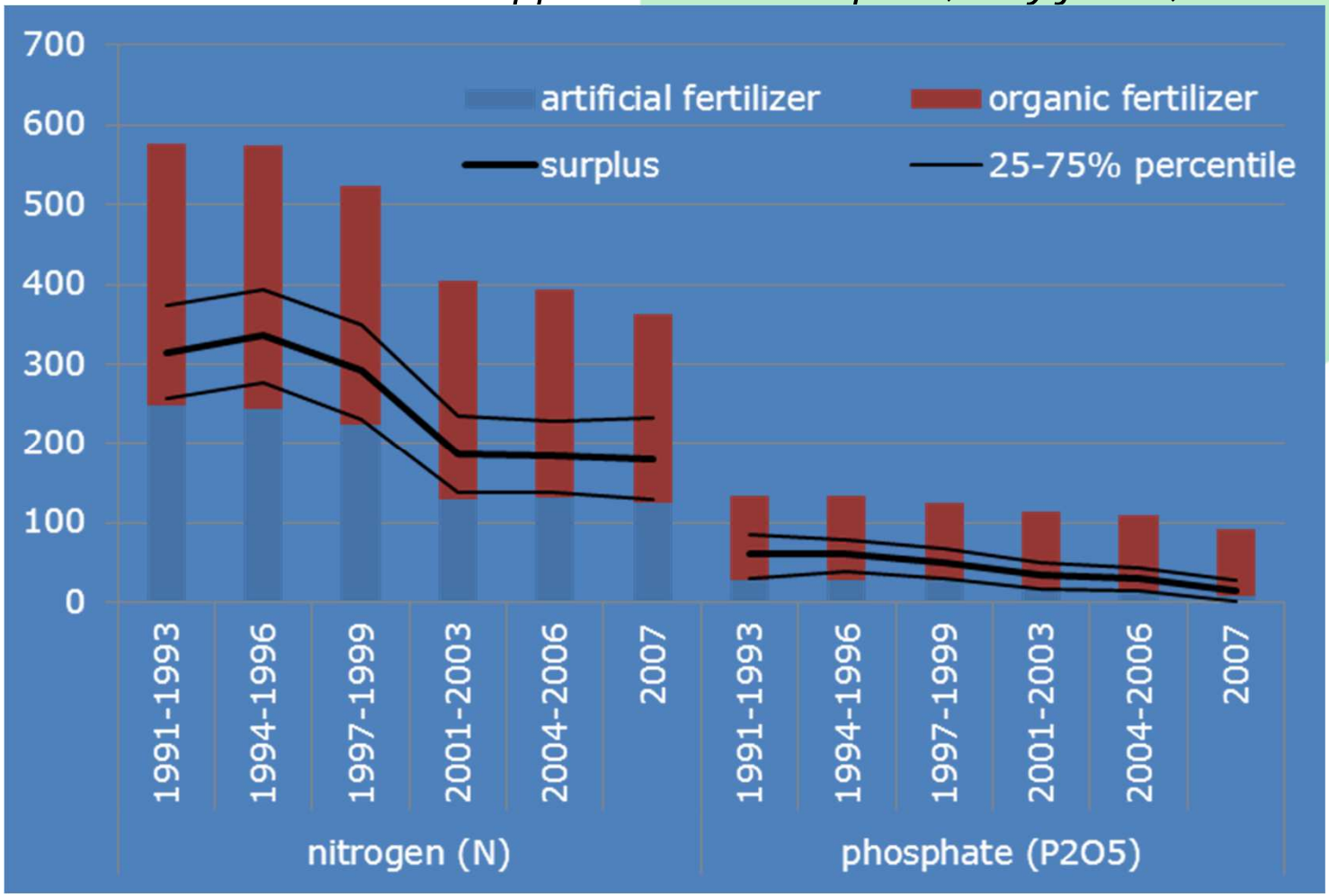
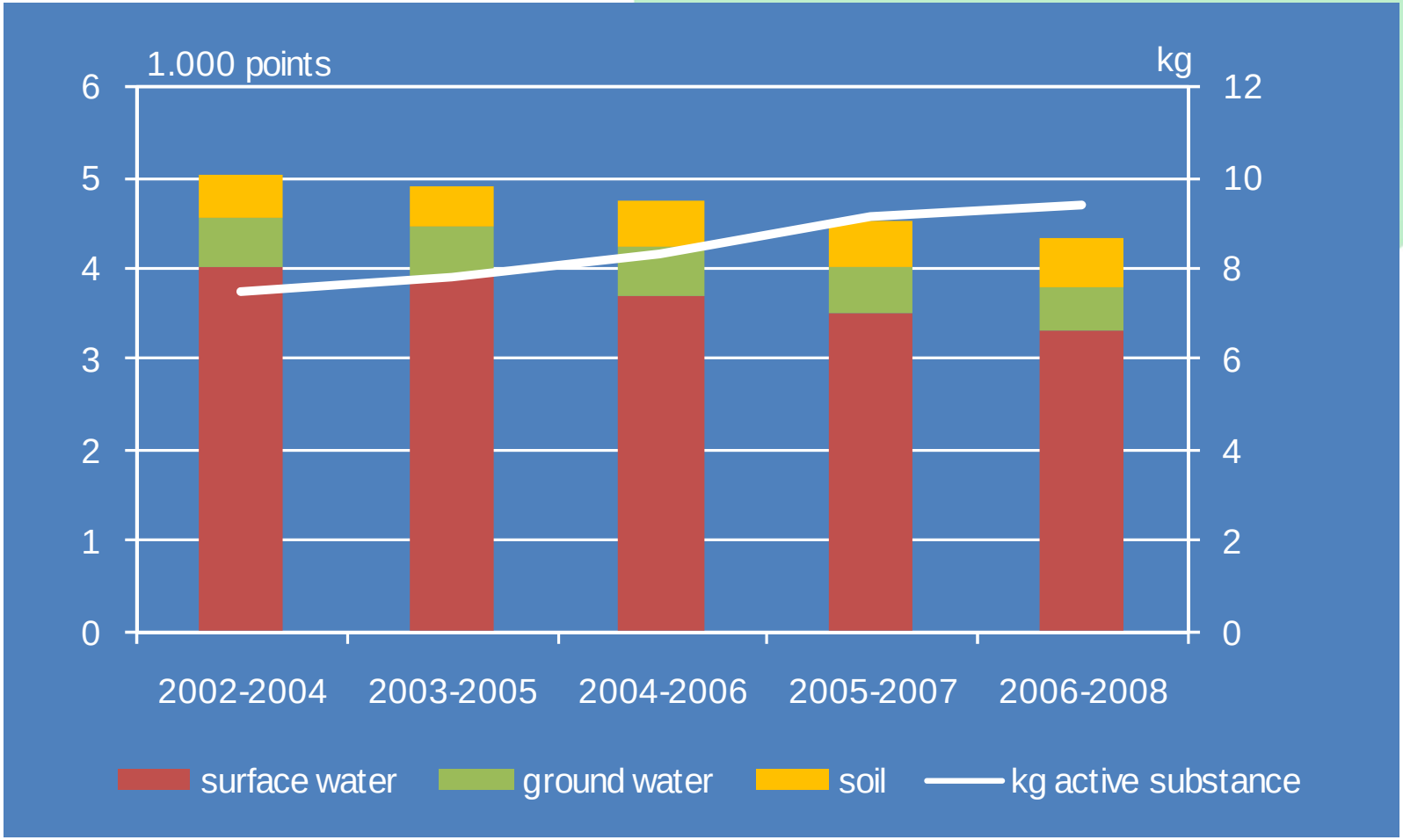
Theme: Nutrients

indicator: mineral application and surplus (dairy farms)



Theme: Crop protection

indicator: pesticides use and environmental impact points for arable farms



Conclusion: Farm level data and sustainability

- Increased demand for not only economic performance measures but also performance on planet and people indicators
- Integrated data assembling on micro level has large advantages for policy analysis and research
- Reporting sustainability performance to farmers allows increased understanding and identification of options for improvement
- A harmonised way will facilitate international comparison

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