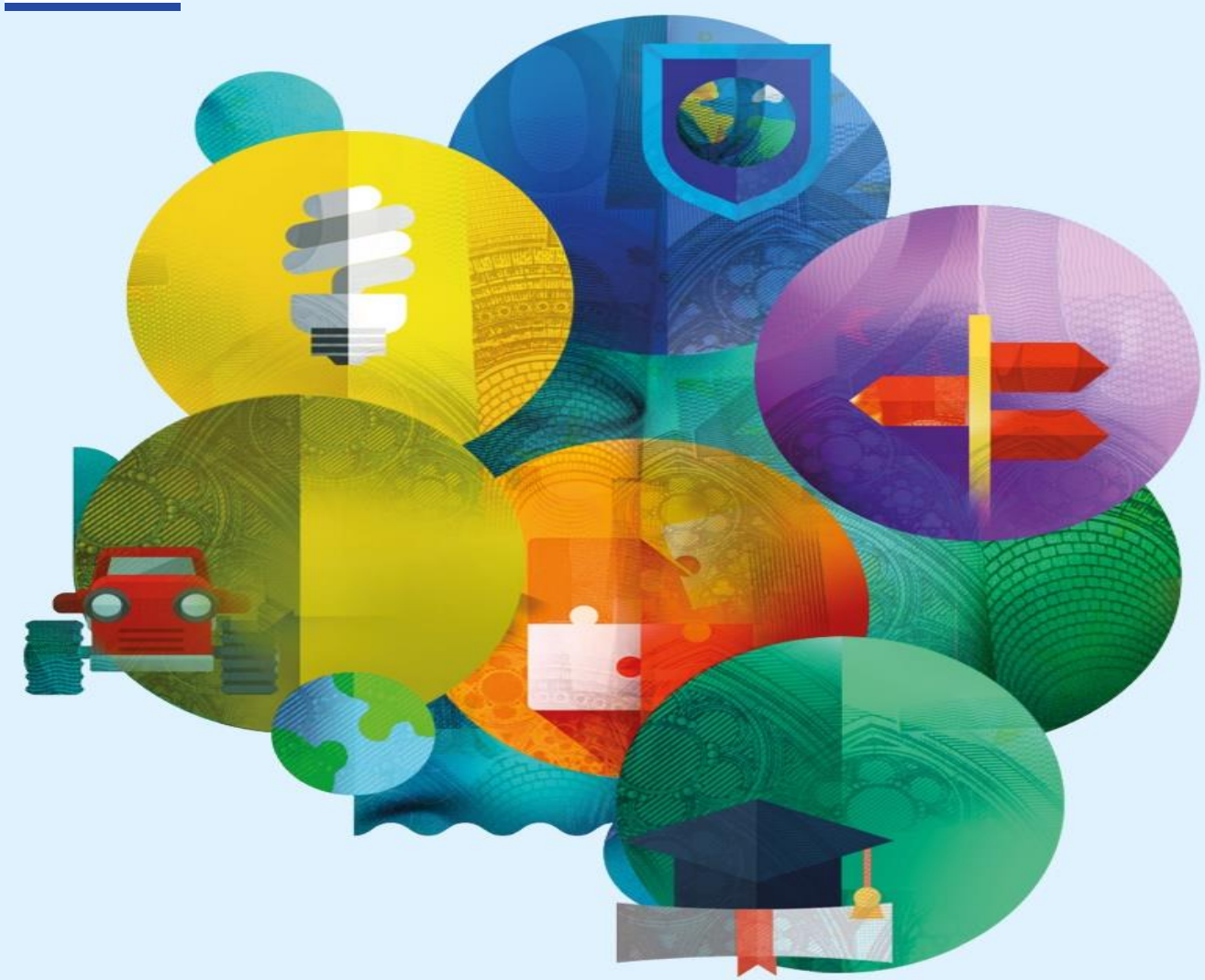
IMPROVED NUTRIENT USE AND MANURE MANAGEMENT TOWARDS SUSTAINABLE AND RESILIENT AGRICULTURAL SYSTEMS

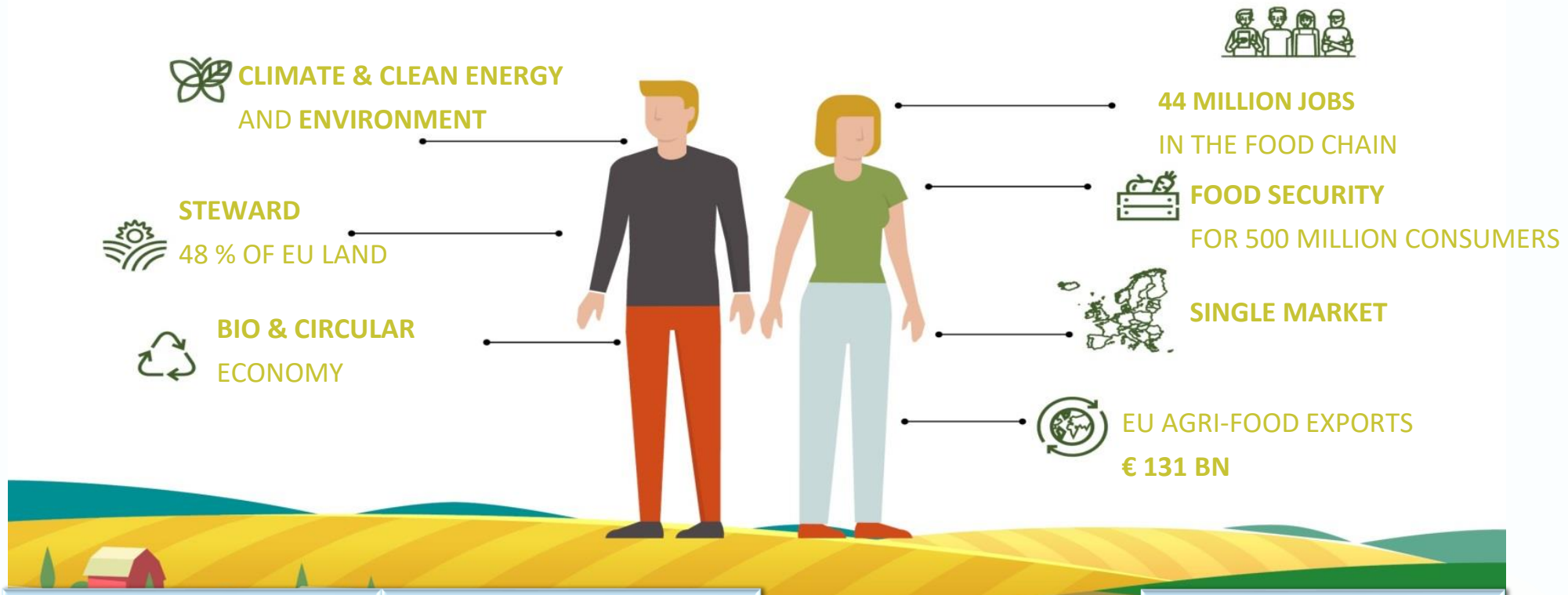
The EU Approach

#FutureofCAP



The EU Agriculture Policy

EU Agriculture



The CAP

Is a common policy framework at EU level allowing for adaptation to local conditions

Provides support for farm income and competitiveness, while fostering a sustainable agriculture

Supports the development of rural areas throughout the EU

Enables the functioning of the single market and to speak with one voice internationally

European Commission

THE 9 CAP OBJECTIVES

INCREASE COMPETITIVENESS

REBALANCE POWER IN FOOD CHAIN

ENSURE FAIR INCOME

CLIMATE CHANGE **ACTION**

Innovation & Modernization

ENVIRONMENTAL **CARE**

PROTECT FOOD & HEALTH QUALITY

PRESERVE LANDSCAPES & BIODIVERSITY

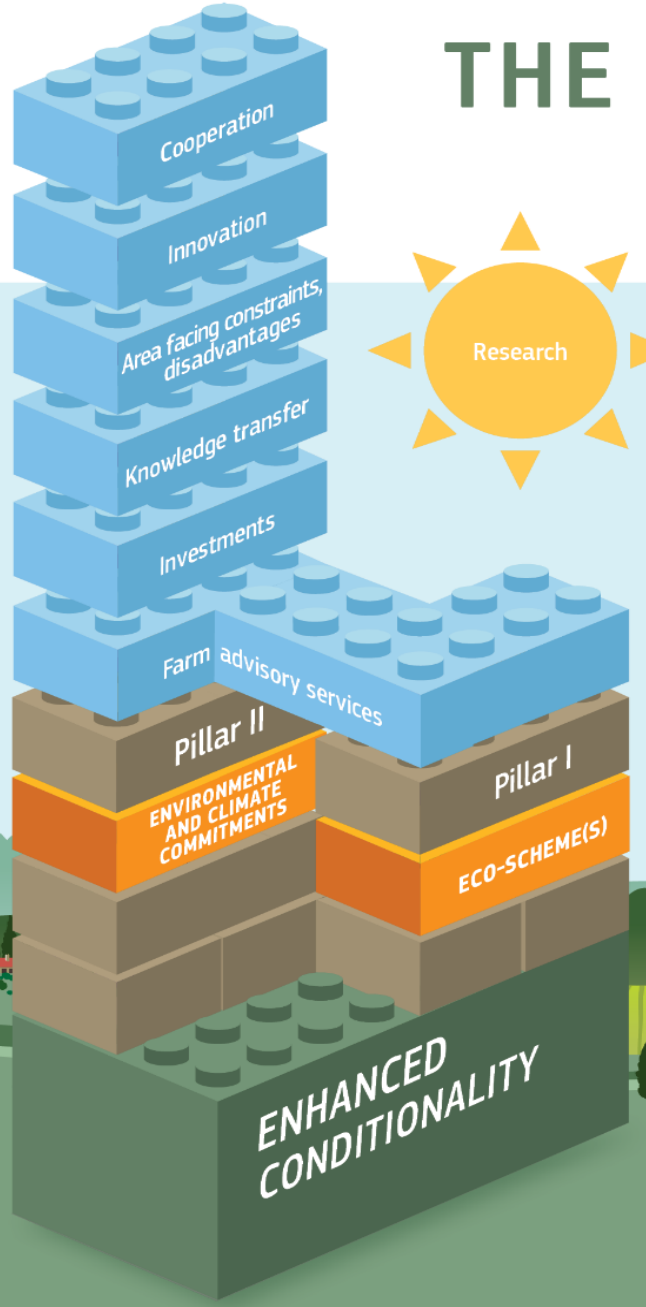
VIBRANT RURAL AREAS

SUPPORT GENERATIONAL RENEWAL

THE NEW GREEN ARCHITECTURE

Green architecture for reduction of emission of N2O from agricultural lands

Designed for answering to the specific need of reducing N2O emissions to the atmosphere, throught reducing the nitrification process of nitrogen in excess due to fertilization.



Research

Eco-schemes

- Maintenance of leguminous in cropping systems
- Perennial cover in orchards
- Catch crops beyond the sensitive period
- Maintenance of organic farming

CAP Pillar II

Result-based N2O schemes

- Conversion to organic farming
- Support for training, for the application of precision farming
- Investments for precision fertilization facilities and tools (hardware, software, services and data)
- Cost for soil sampling at sub parcel level to feed Farm Sustainability Toll (GAEC5)

Conditionality

Co-benefits for N2O reduction:
SMR2: Nitrate Directive
GAEC 5: Use of Farm Sustainability Tool for Nutrients. Refer to minimum requirements.
GAEC 7: No bare soil in most sensitive period(s). Define soil cover and sensitive period.

Baseline

CLIMATE
ANIMAL WELFARE

CAP specific objective:
Contribute to climate change MITIGATION and adaptation, as well as sustainable energy

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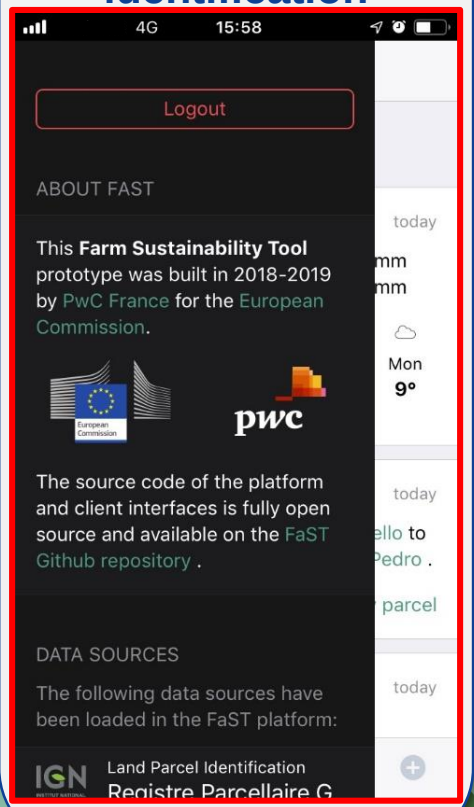
Farm Sustainability Tool for Nutrients – FaST

Example

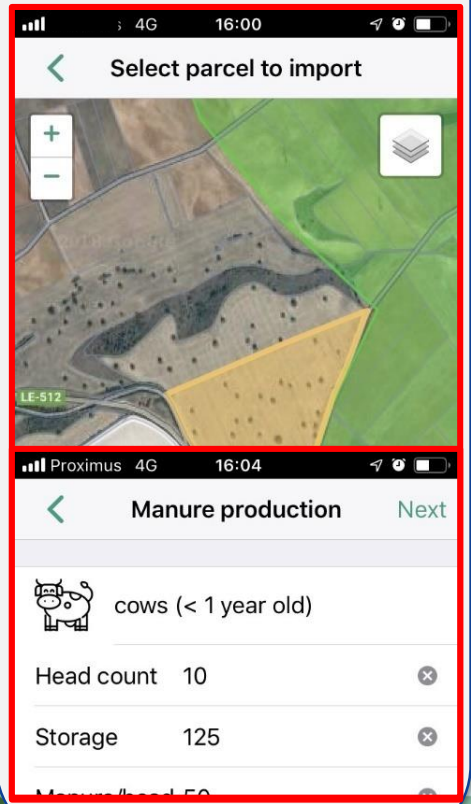
1

Access to the APP or **web browser using unique identification**



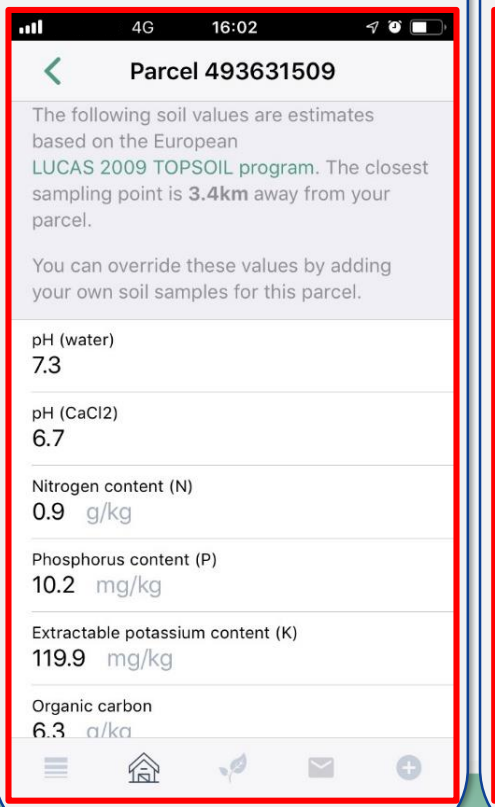
2

Confirmation of the parcels based on the LPIS limits



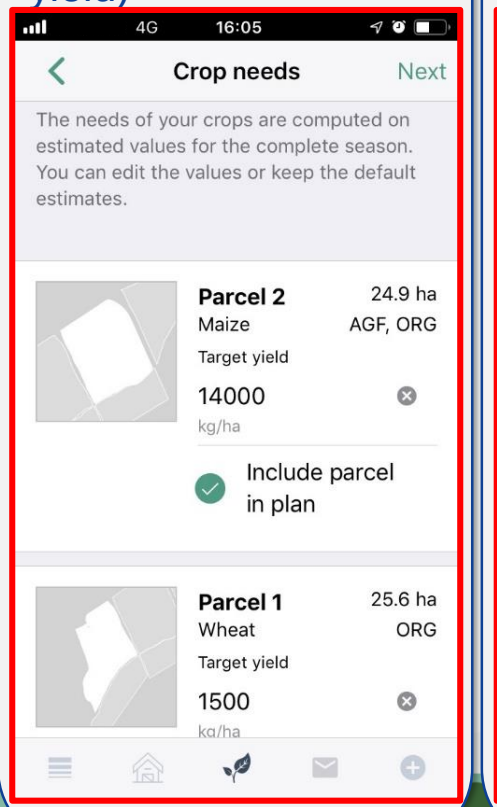
3

Integration of data sources:
Soil data, Natura2000



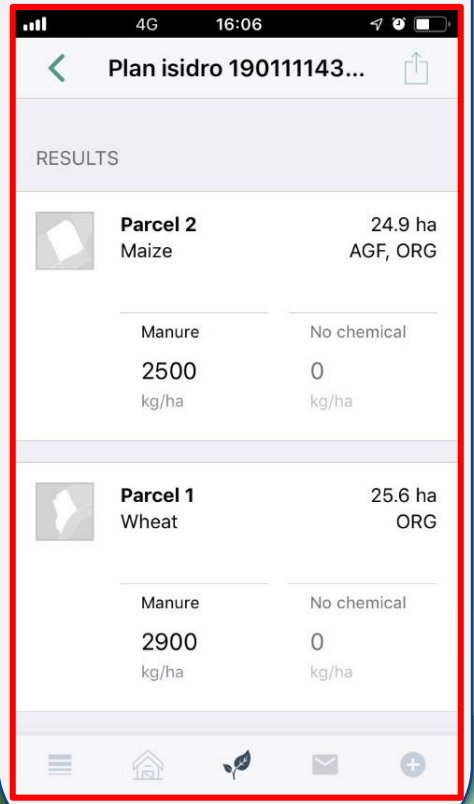
4

Data entry and confirmation
(Crop and expected yield)



5

Nutrients Management Plan
(Field/Farm scale)



Examples of the demo version from the Feasibility study.

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Farm Sustainability Tool for Nutrients – FaST: Benefits

- Agronomic, environmental and climatic benefits
  - Optimization in the use of nutrients
  - Valorisation of sources of nutrients
  - Legal limits & requirements (simplification)

- Digitalization, modernisation & digital skills
  - Electronic tool in the hands of the Farmer
  - Support other initiatives for a more modern CAP

- Level-Playing-Field
  - Data and knowledge based advice
  - Data and information access

Farm Sustainability Tool for Nutrients – FaST

Summary

- To reach the necessary scale for a meaningful impact (GAEC→First Pillar)
- Benefits:
  - agricultural, economic, environmental and climate change mitigation
  - provides a real level-playing field for all farmers across EU
  - accessibility to data & knowledge-based advice
  - digitalization
- Able to integrate further modules/apps/widgets/services (opening and reuse principles).
- Certain level of technical detail will be necessary:
  - facilitates the implementation and roll-out of the FaST
  - ensures a real level-playing field for all farmers across EU
  - the elements proposed are really minimum

A Green Deal for Europe - General

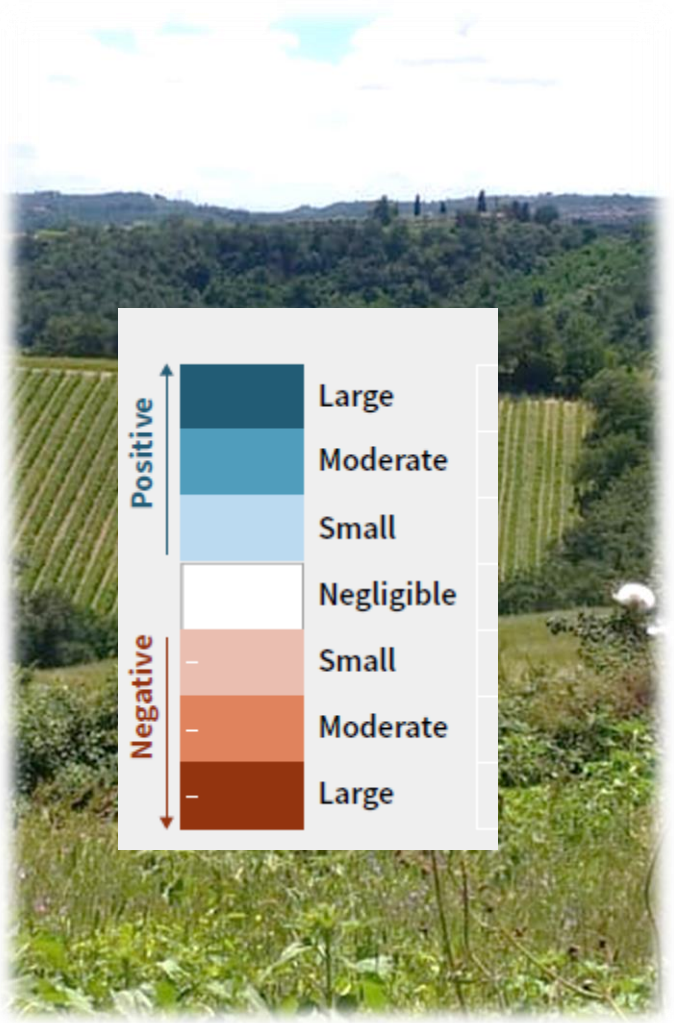
- Europe will strive becoming the world's first climate neutral continent
- More ambitious climate target for 2030
- Sustainable Europe Investment Plan (1 trillion €/10y)
- European Climate Pact (including regions, local communities, civil society, industry and schools)
- Biodiversity Strategy for 2030
- New Circular Economy Action Plan

A Green Deal for Europe - Agriculture

The Farm to Fork Strategy:

- Covering the whole value chain
- Ensuring a decent living for farmers
- Providing Europeans with nutritious, affordable and safe food
- Preserving rural areas and investing in their future
- Action plan under development

Assessment



Response options based on land management		Mitigation	Adaptation	Desertification	Land Degradation	Food Security	Cost
Agriculture	Increased food productivity	L	M	L	M	H	—
	Agro-forestry	M	M	M	M	L	●
	Improved cropland management	M	L	L	L	L	●●
	Improved livestock management	M	L	L	L	L	●●●
	Agricultural diversification	L	L	L	M	L	●
	Improved grazing land management	M	L	L	L	L	—
	Integrated water management	L	L	L	L	L	●●
	Reduced grassland conversion to cropland	L	—	L	L	– L	●
Forests	Forest management	M	L	L	L	L	●●
	Reduced deforestation and forest degradation	H	L	L	L	L	●●
Soils	Increased soil organic carbon content	H	L	M	M	L	●●
	Reduced soil erosion	↔ L	L	M	M	L	●●
	Reduced soil salinization	—	L	L	L	L	●●
	Reduced soil compaction	—	L	—	L	L	●
Other ecosystems	Fire management	M	M	M	M	L	●
	Reduced landslides and natural hazards	L	L	L	L	L	—
	Reduced pollution including acidification	↔ M	M	L	L	L	—
	Restoration & reduced conversion of coastal wetlands	M	L	M	M	↔ L	—
	Restoration & reduced conversion of peatlands	M	—	na	M	– L	●
Response options based on value chain management							
Demand	Reduced post-harvest losses	H	M	L	L	H	—
	Dietary change	H	—	L	H	H	—
	Reduced food waste (consumer or retailer)	H	—	L	M	M	—
Supply	Sustainable sourcing	—	L	—	L	L	—
	Improved food processing and retailing	L	L	—	—	L	—
	Improved energy use in food systems	L	L	—	—	L	—
Response options based on risk management							
Risk	Livelihood diversification	—	L	—	L	L	—
	Management of urban sprawl	—	L	L	M	L	—
	Risk sharing instruments	↔ L	L	—	↔ L	L	●●

AGRICULTURE MANAGEMENT

Context 11% of global emissions: CH_4 (enteric fermentation); N_2O (fertilizer)
CO_2 emissions from soil disturbances

Response options based on land management		Mitigation	Adaptation	Desertification	Land Degradation	Food Security	Cost	Potential GtCO2 yr^{-1}
Agriculture	Increased food productivity	L	M	L	M	H	—	>13
	Agro-forestry	M	M	M	M	L	●	0.1 - 5.7
	Improved cropland management	M	L	L	L	L	●●	1.4 - 2.3
	Improved livestock management	M	L	L	L	L	●●●	
	Agricultural diversification	L	L	L	M	L	●	
	Improved grazing land management	M	L	L	L	L	—	
	Integrated water management	L	L	L	L	L	●●	
	Reduced grassland conversion to cropland	L	—	L	L	– L	●	

Improved cropland management (1.4-2.3 GtCO2e year)
a) *management of the crop* (crop rotation, use of cover crops, perennial cropping systems)
b) *nutrient management*: including optimized fertiliser application rate, fertiliser type
c) *reduced tillage intensity and residue retention*
d) *improved water management*
e) *improved rice management*: including water management such as mid-season drainage
f) *biochar application*.

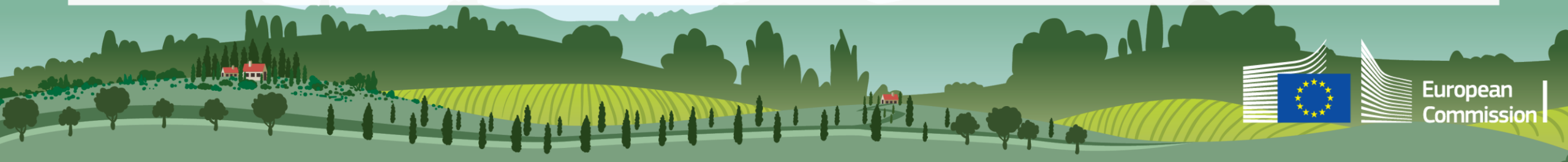
Thank you for your attention!

Further information will be available at:

https://ec.europa.eu/agriculture/future-cap_en

https://tinyurl.com/EUsubmission

https://tinyurl.com/EU-agriculture-brochure



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