

# Circular Fertilisers: Perspectives within the Common Agricultural Policy (CAP)



*FER-PLAY Closing Event,  
“Opportunities and Challenges Ahead”  
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## **Food starts from soil nutrients**

Their role is **key for food security** within a growing population

**95% of our food nutrients comes from soils**

*Source: [FAO Knowledge Repository](#)*

**Healthy soils are the cornerstone** for a resilient agriculture

Beyond its historical role of providing food, **today's agriculture faces multiple challenges**

# AgriEnvironmental Challenges

## AIR (GHGs, NH3)

GHGs emissions were 18% lower in 2022 than 2005....with **agriculture (-5%) showing modest reductions**

NH<sub>3</sub> declined, but only by 16% (2005-2022); agriculture responsible for more than 93% of NH<sub>3</sub> emissions

*Source:* [Progress towards national greenhouse gas emissions targets in Europe | European Environment Agency's home page](#)

*Source:* [Emissions of the main air pollutants in Europe | European Environment Agency's home page](#)

## SOIL (degradation)

Over 60% of European soils are unhealthy and scientific evidence shows that soils are further degrading due to unsustainable management of the land, sealing, contamination and overexploitation, combined with the impact from climate change and extreme weather events.

*Source:* [Soil health - European Commission](#)

## WATER (NO3)

Despite legislation addressing nutrient pollution, the **average nitrate concentration in EU groundwaters did not change significantly from 2000 to 2022**

*Source:* [Groundwater nitrate 2000-2022 | European Environment Agency's home page](#)

# Cost Challenges

## Mineral Fertilisers



Brussels, 9.11.2022  
COM(2022) 590 final/2

Purchases of fertilisers represent up to **12% of input costs** for arable farmers

Source: [Ensuring availability and affordability of fertilisers - European Commission](#)

Russia's illegal and unjustified **invasion of Ukraine** exposed **EU weaknesses and dependencies** due to reliance on few global suppliers (e.g 88% of urea from 4 countries)

EU is dependent on **imports of fertilisers** and on the **volatility of prices of fertilisers** (market recovering after the turmoil 2021/2023)

**Soaring prices** of energy and fertilisers highlighted the need for greater autonomy and more efficient use of fertilisers

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Ensuring availability and affordability of fertilisers

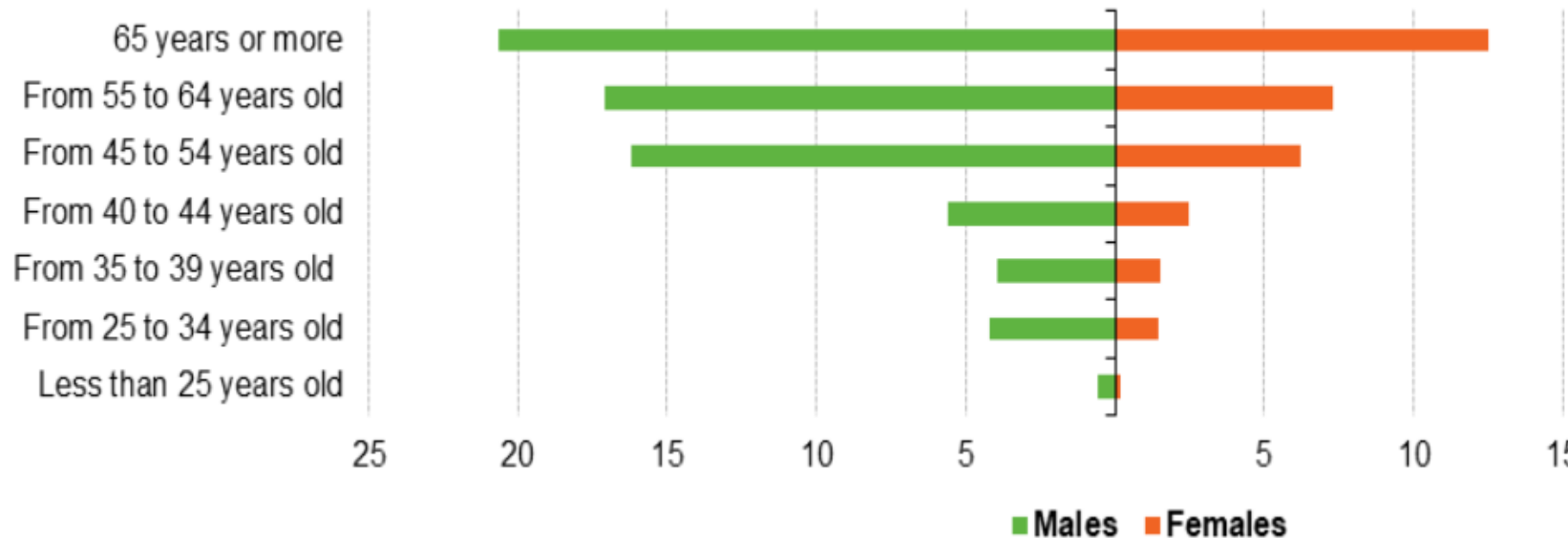


***"better access to organic fertilisers and nutrients from recycled waste-streams"***

***"more efficient use of nutrients"***

# Societal Challenges

**Age classes of farm managers, by gender**  
(% of all farm managers, EU, 2020)



Source: Eurostat (online data code: ef\_m\_farmang)

**There are few young farmers;** only 11.9 % of EU farm managers were under the age of 40 years old in 2020. Variations among MSs

**Lack of agricultural training,** 72.3% of farm managers in the EU only have practical experience in 2020. Only 10.2% have full agricultural training.

**Farming is a male dominated profession,** only 31.6 % of farmers being women in 2020

Source: [Farmers and the agricultural labour force - statistics - Statistics Explained](#)



# Circular Fertilisers

## *Opportunities*

Key for **soil health**

Improved **nutrients use efficiency**

Reduced use of **mineral fertilisers**

Improvement in **water quality**

Important input for **organic farming**

Valorisation of **waste streams**

Reduced dependency from **imports of fertilisers**

**Keep young farmers in fields** (new technology, new know-how), new jobs....

# Circular Fertilisers

## *Challenges*



Farmers hesitate using them – **trust issue**

**Release rate, variability, uncertainty** issues

**Compatibility** with existing equipment

**Low awareness** of innovative nutrient recovery technologies and products (ageing farmers)

**High Prices** for average farmer?

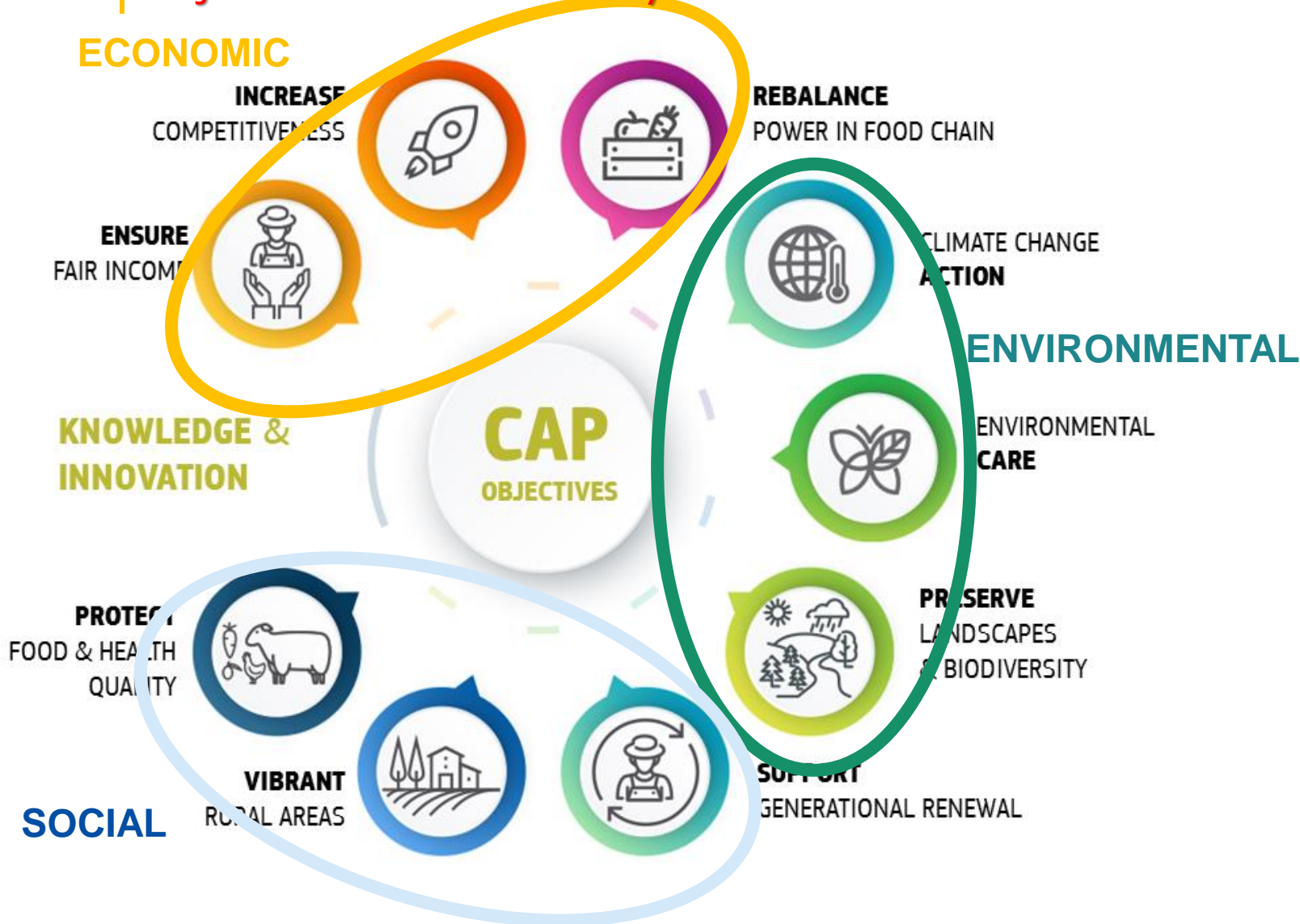
**High investment cost?**

**More R&I funding needed** - further development

**Raw Material** can be expensive (e.g. sheep wool)

# CAP 2023-2027

## Objectives & Sustainability dimensions



*Circular, bio-based fertilisers can fit in multiple objectives*

*e.g. **S05**: Foster sustainable development, **efficient management of natural resources** and **reducing chemical dependency***

- ❑ Basis for **Member States to design their CAP Strategic Plans (CSPs)**
- ❑ **Member States select their interventions after assessing their needs**





# Expected Contribution of CSPs for nutrients management - Targets of selected **Results Indicators (2027)**

- ❑ **R.21 Protecting Water Quality** on **21.8%** of EU farmland
- ❑ **R.22 Support for improving nutrient management and for improving soils** on **15.5%** of EU farmland
- ❑ **R.19 Soil health support** (with rotation, tillage practice, soil cover etc) on **47.7%** of EU farmland
- ❑ **R.14 Carbon storage** supported on **47.3%** of EU farmland
- ❑ **R.29 CAP support for organic farming** in 2027, **10.1%** of EU farmland, will almost double compared to previous period
- ❑ **R.31 Biodiversity conservation or restoration** planned to be supported on **31.2%** of EU farmland

Source:

[https://agridata.ec.europa.eu/extensions/DashboardCapPlan/result\\_indicators.html#](https://agridata.ec.europa.eu/extensions/DashboardCapPlan/result_indicators.html#)

Jan2025

**(beyond  
conditionality)**

# Examples

Spain	Denmark	Portugal	Ireland
<ul style="list-style-type: none"> <li>■ R.22: 5,6%</li> <li>■ <b>GAEC 4</b>: 5 m buffer strips</li> <li>■ <b>GAEC 10</b>: sustainable fertilization (nutrient management plans, manure/slurry application)</li> <li>■ <b>ES</b>: soil practices (rotation)</li> <li>■ <b>AECC</b> : ban synthetic fertilization pastures, organic fertilisation</li> <li>■ <b>INVEST</b> : equipment precision farming, manure storage, machinery for fertilizer application</li> </ul>	<ul style="list-style-type: none"> <li>■ R.22: 36,6%</li> <li>■ <b>GAEC 4</b>: 3 m buffer strips</li> <li>■ <b>ES</b> : extensification of grassland (ban synthetic fertilisers), precision agriculture</li> <li>■ <b>WFD payments</b>: restrictions fertilisers, protein crops</li> <li>■ <b>INVEST</b>: precision farming, promote circular economy of nutrients</li> </ul>	<ul style="list-style-type: none"> <li>■ R.22: 13%</li> <li>■ <b>GAEC 4</b>: 5-15 m (slope factors)</li> <li>■ <b>ES</b> support to organic fertilisation replacing synthetic fertilisers</li> <li>■ <b>AECC</b>: integrated production including balanced fertilisation</li> <li>■ <b>INVEST</b> : improve environmental performance: farms, buildings, storage of effluents, precision farming equipment</li> </ul>	<ul style="list-style-type: none"> <li>■ R.22: 42,4%</li> <li>■ <b>GAEC 4</b>: 3 m.</li> <li>■ <b>ES</b>: limiting chemical N use, precision farming</li> <li>■ <b>AECC</b> : broader intervention (reduction fertiliser use, improve soil fertility), cooperation</li> <li>■ <b>INVEST</b>: low-emission slurry spreading equipment, manure storage</li> </ul>



# Key Developments

*Relevant for Circular Fertilisers in the CAP and beyond*

**Vision for Agriculture and Food** (19Feb2025)

**Water Resilience Strategy** (Q2 2025)

**Nitrates Directive** Evaluation (H2 2025)

**Multiannual Financial Framework 2028-2034**

**CAP post-2027** Negotiations, IA, PC

Implementation & performance of **current CAP**



# Key Developments

*Relevant for Circular Fertilisers in the CAP and beyond*

## European Commission WP 2025

Source: [Commission work programme 2025](#)  
- [European Commission](#)

- The **Clean Industrial Deal** will outline strategies [...] to **boost demand and supply of circular materials**
- The **Bioeconomy Strategy** will **promote the more circular** and sustainable production, use and consumption of biological resources for food, materials, energy and services



# Key Developments

*Relevant for Circular Fertilisers in the CAP and beyond*

**Strategic Orientation of the European Council**, towards making a success of the green and digital transitions, including developing a more circular and resource-efficient economy

Source: [Strategic agenda 2024-2029 - Consilium](#)

**Draghi Report** indicates **decarbonization and shift to circular economy** as a necessary transformation towards improving competitiveness in Europe

## **Strategic Dialogue for the Future of Agriculture R7) Enhancing Sustainable Farming Practices**

- ✓ **Integrated Nutrient Management**
- ✓ Framework for the development of **nutrient recovery technologies**
- ✓ **Reduce external inputs**, eg mineral fertilisers

# Perspectives



The EU needs to move to **sustainable management of nutrients and domestic production of fertilisers to ensure food security and a resilient agricultural sector**

**Circularity of nutrient flows and efficient use of nutrients** can help towards this direction.

The **CAP already provides support to farmers** for circular use of nutrients and balanced fertilization practices via **EcoS and AEECs**.

**Wide scale use of circular fertilisers** from farmers needs to **overcome challenges (e.g. trust, prices)**

**Several policy developments** will shape up further use of circular fertilisers

# Thank you



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