WEBINAR

Dig Deep!

WEDNESDAY 27 MARCH 2024
10H - 11H30 AM CET

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www.europeanbiogas.eu

fer play

Understanding Digestate
Nutrient Cycle, Soil Quality, Energy Resilience

EBA
European Biogas Association

Giulia Cancian
Secretary General
EBA

Jeremy Pinte
Policy Officer, DG GROW
European Commission

Mieke Decorte
Technical Director
EBA

Lucile Sever
Policy Officer
EBA

Ildiko Varga
Expert Biostimulant,
CerTrust

Welcome

Giulia Cancian

Secretary General
European Biogas Association

EBA
European Biogas Association

Agenda

10:00	**Welcome** Giulia Cancian, Secretary General, EBA
10:05	**Fertilising Products Regulation** Jeremy Pinte, Policy Officer, DG GROW, European Commission
10:20	**Exploring Digestate's contribution to healthy soils** Mieke Decorte, Technical Director, EBA
10:35	**Mapping Digestate policy: Challenges and Opportunities** Lucile Sever, Policy Officer, EBA
10h55	**Experience with the FPR Certification for Biogas Residues** Ildiko Varga Expert Biostimulant Specialist, CerTrust
11h05	**Q&A session and wrap up** Giulia Cancian, Secretary General, EBA

Fertilising Products Regulation

Jeremy Pinte

Policy Officer, DG GROW
European Commission

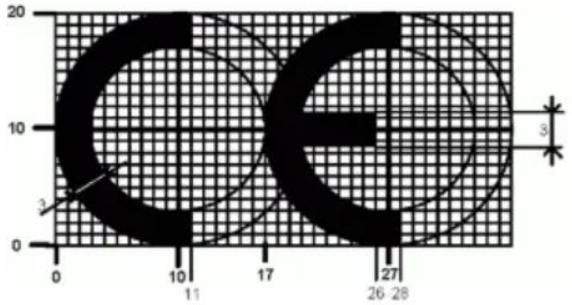
EBA
European Biogas Association

The Fertilising Product Regulation

On-going and upcoming developments

Jérémy Pinte, EC GROW.F.2

FPR and CE-marking



New Legislative Framework (*)

Harmonised rules set on making available of EU fertilising products on the market

CE-marking → Free movement in the EU market

Optional harmonisation

a product regulation; does not regulate use of products or mode of application

The Fertilising Products Regulation is fully applicable as of 16 July 2022

(amended already by 7 Commission delegated Regulations)

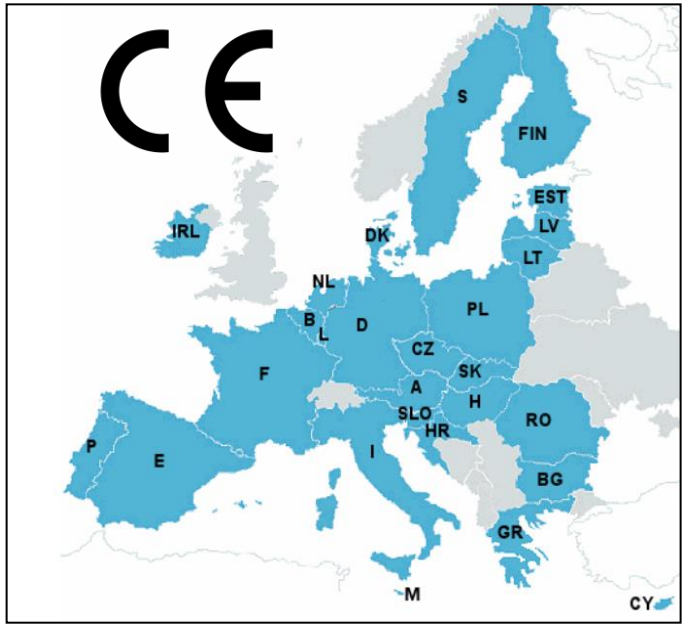
European Commission

* COMMISSION NOTICE - The 'Blue Guide' on the implementation of EU product rules 2022

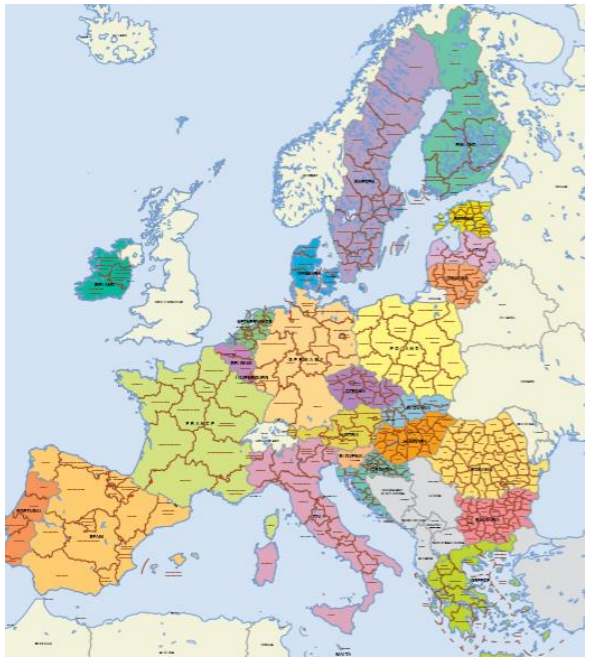
Optional harmonisation

The manufacturer can choose between placing products on the market based on

The FPR → free movement on the single market (incl. EEA)

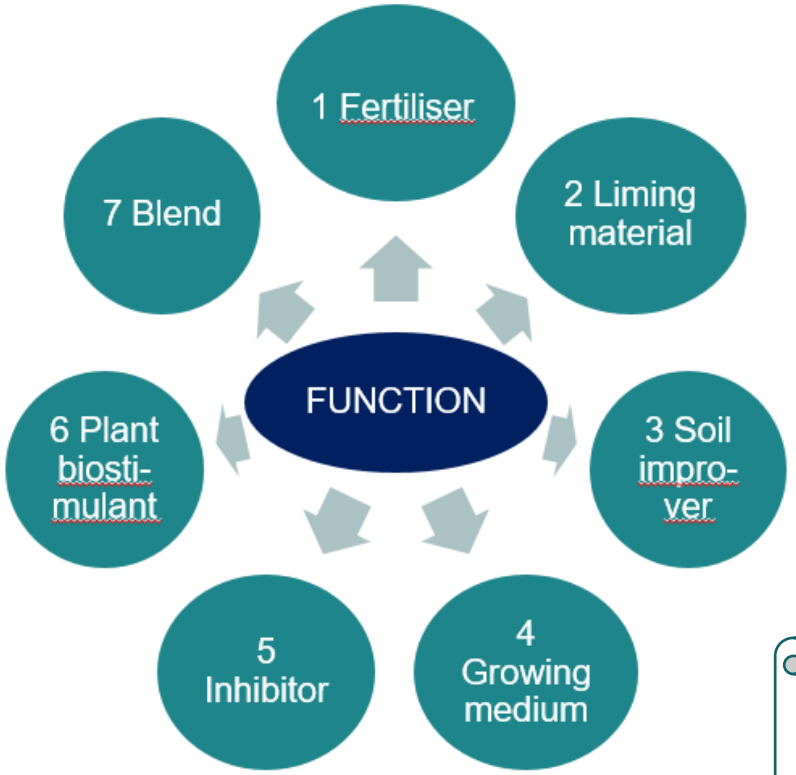


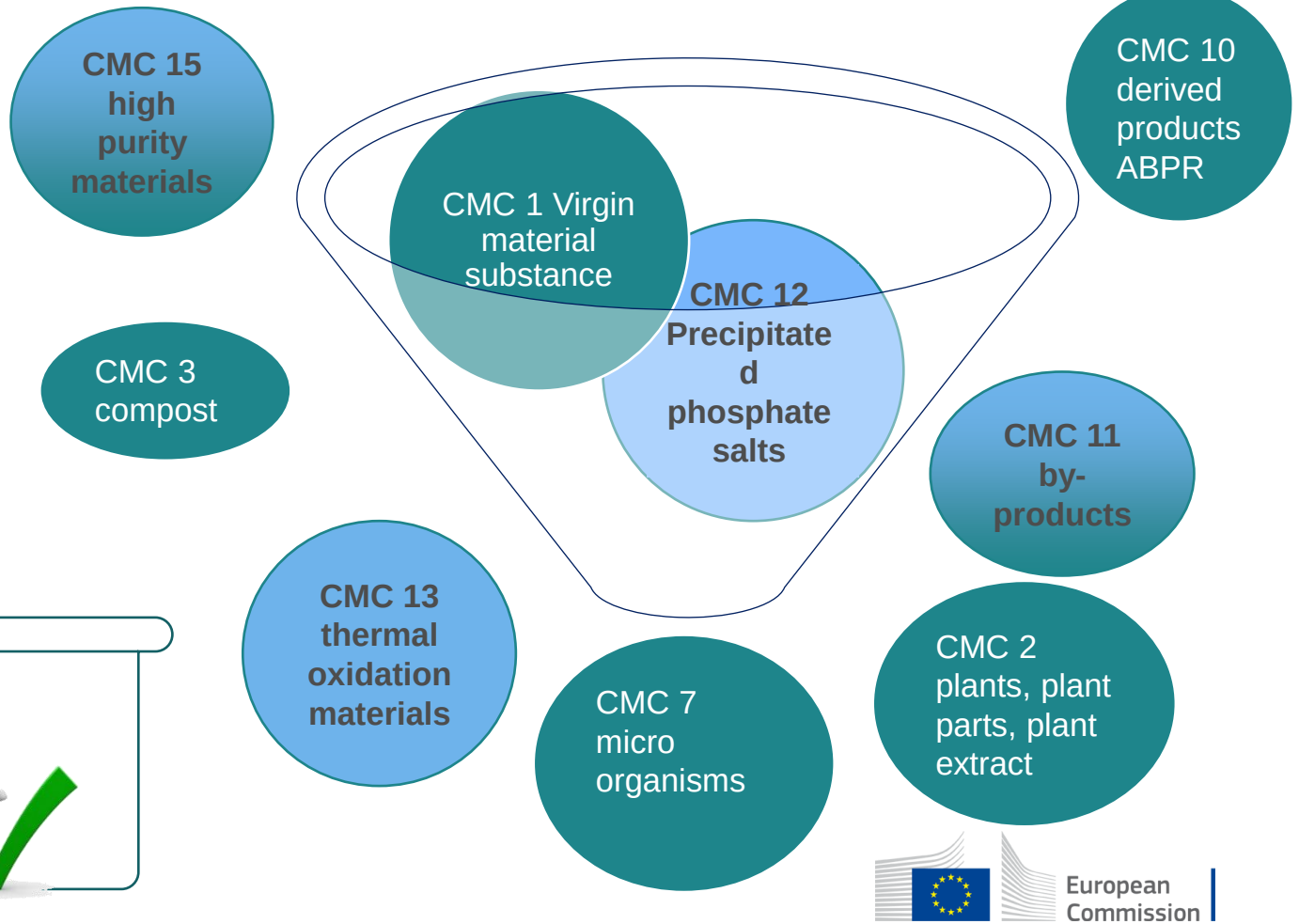
National rules and apply the mutual recognition



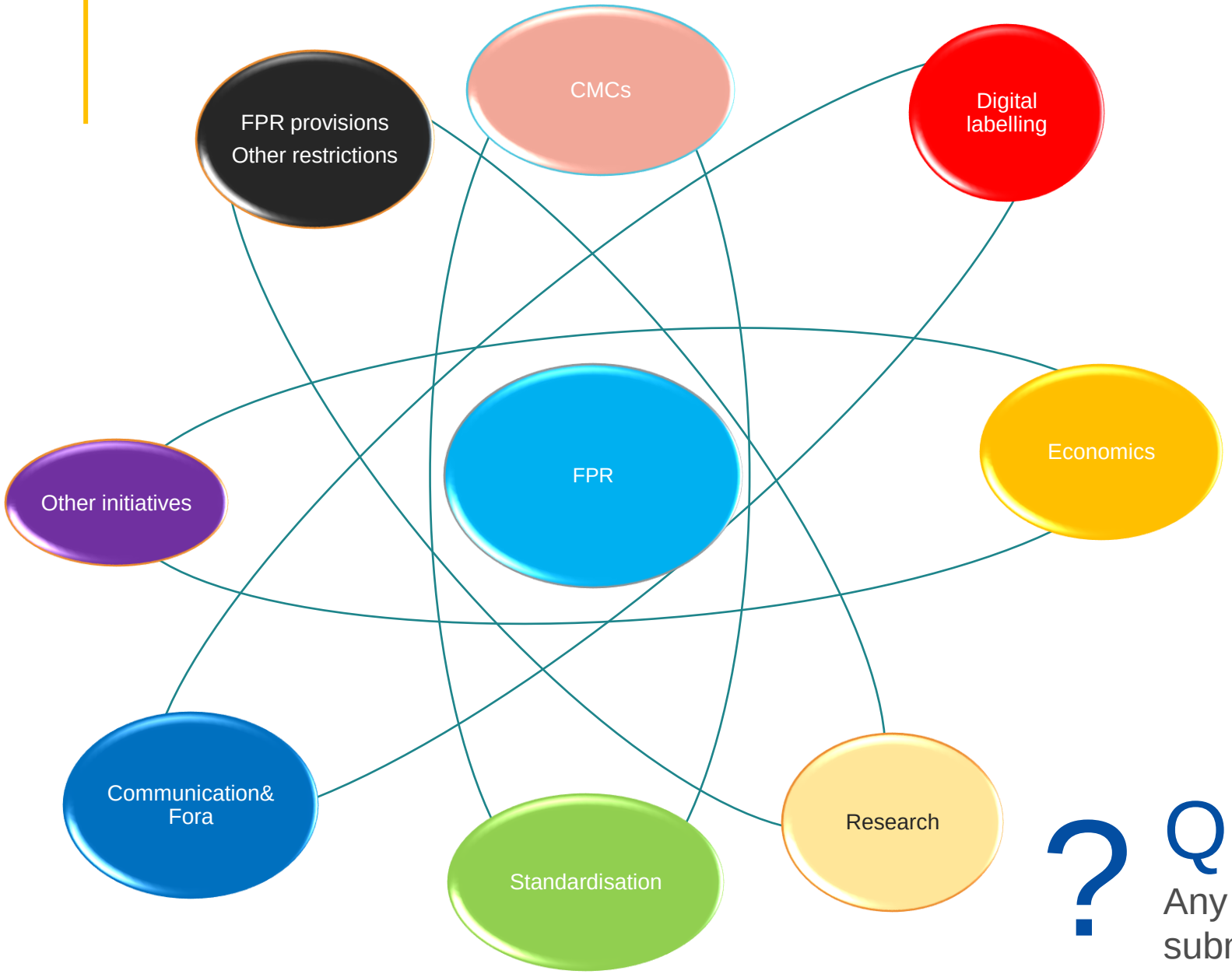
What are EU fertilising products?

1 function (7) + x components (15)





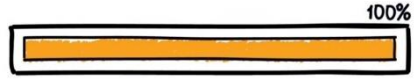
European Commission



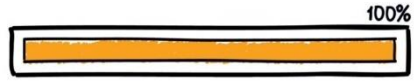
CMCs

- Animal by-products

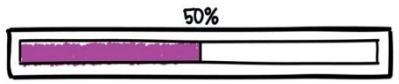
- By-products



- High purity materials



- Technical study on new CMCs



- On-going EU Survey

? Question

Any dossier submitted to EFSA for ABPs soon?

European Commission

Development of FPR related to CMCs

- delegated Regulation to include processed manure in CMC 10

  adopted on 4 March 2024; draft documents on CIRCA

- delegated Regulations on biodegradability criteria

a) for certain polymers covered by CMC 9 in EU fertilising products

b) for mulch films

[final supporting study circulated via CIRCA]

c), d) to align criteria for polymers in CMC 1 and CMC 11 to the ones included in REACH restriction

- delegated Regulations on other technical amendments

?

e) tolerance rules for inhibiting compounds in products with >2% content; tolerance rules for macro-and micro-nutrients fertilisers quantity; *Enterobacteriaceae*

➢ all drafts are on public consultation for feedback with ddl 5 April 2024

Progress on technical studies on CMCs

- *new* study related to CMC 10 - agronomic efficiency and safety criteria for ABPs with an end-point determined

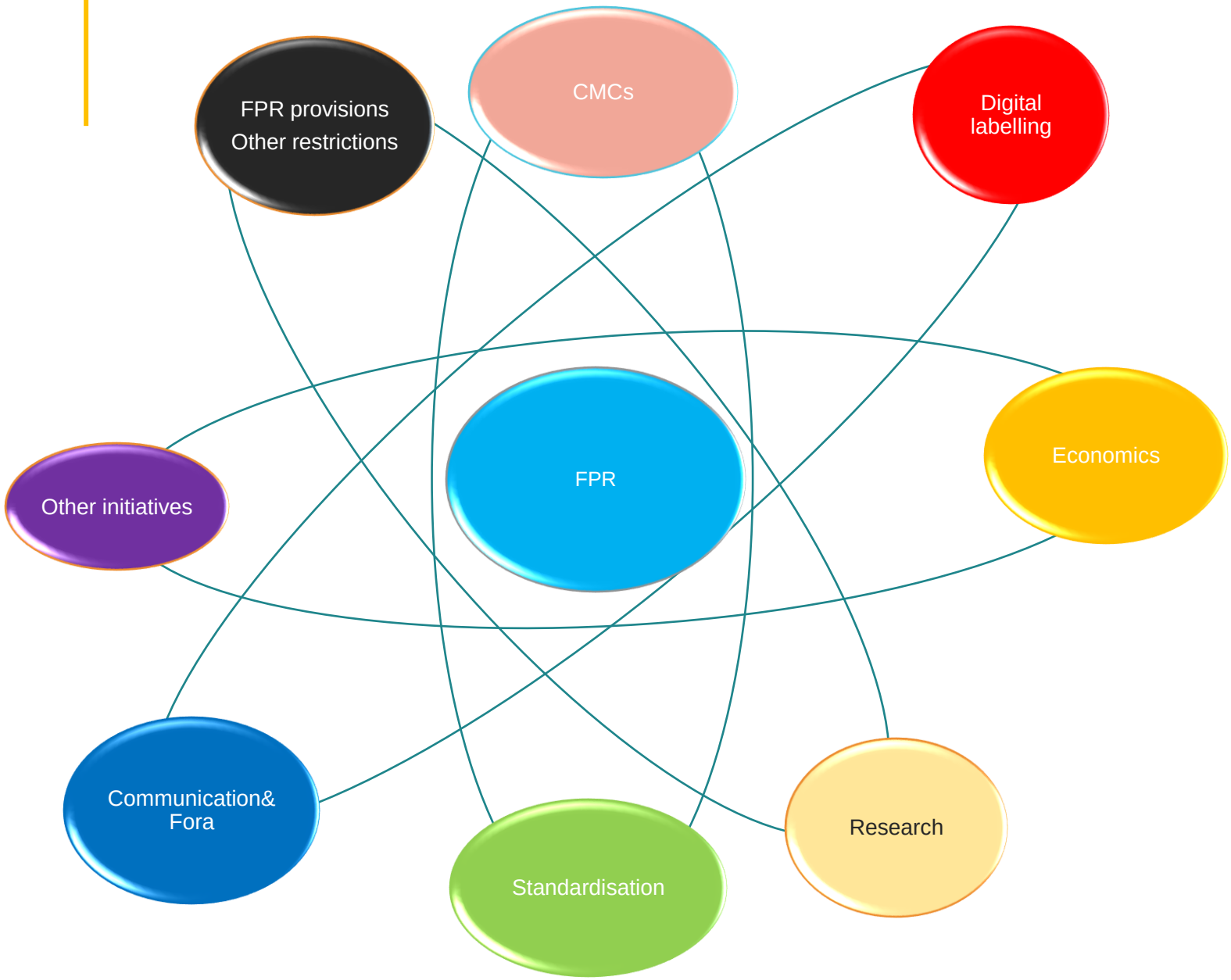
Qlab -"Research, Analytical and Quality Control Lab“, Thessaloniki, GR Email fertilizers@q-lab.gr

- *new* study for the inclusion of new microorganisms in CMC 7

NMI “Nutriënten Management Instituut” , Wageningen, NL Email: fertilising.products@nmi-agro.nl

- *new* study for the inclusion of new materials and processes

AIT “Austrian Institute of Technology GmbH”, Tulln, AT Email: AIT.FPR-Biostimulants@ait.ac.at



Digital labelling

- Legislative proposal 

- Link with other initiatives

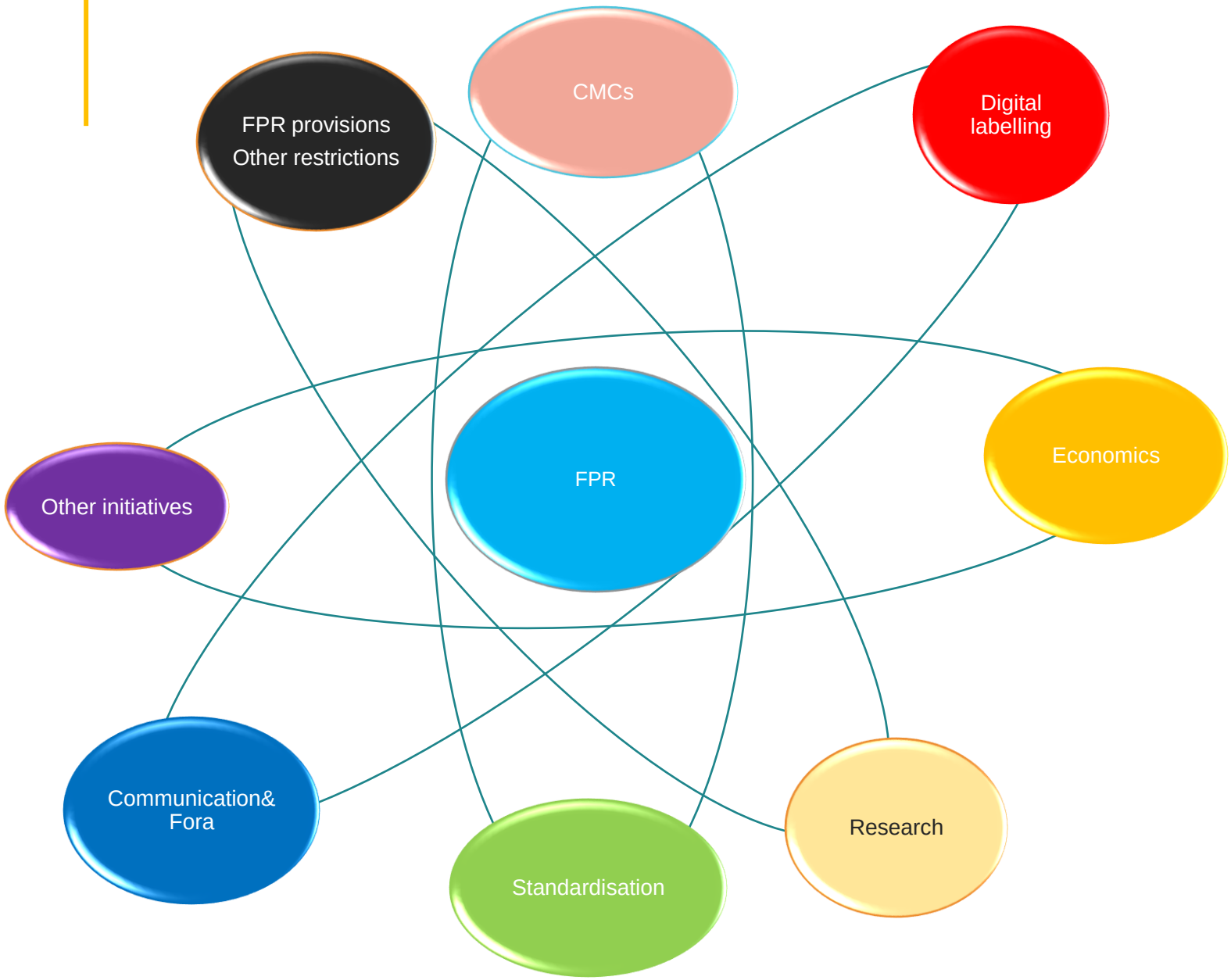
European Commission

Digital labelling for EU fertilising products

The provisions in short:

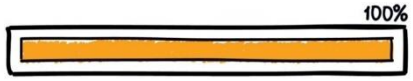
The provisions in a longer version

- *digital labelling is not mandatory*
- digital label **only** for products traded between economic operators
- digital label **only** for products sold to end users without a packaging (in bulk or in packaging above 1000 kg)
- digital label **also** for products sold to end users with a packaging
  - the digital label has full labelling information + obligation to post digital information at point of sales
  - the physical label has most labelling information (except the ones marked with an *)
- digital label needs to comply with general provisions; all complementing technical information will be set out via delegated acts



Economics

- Communication

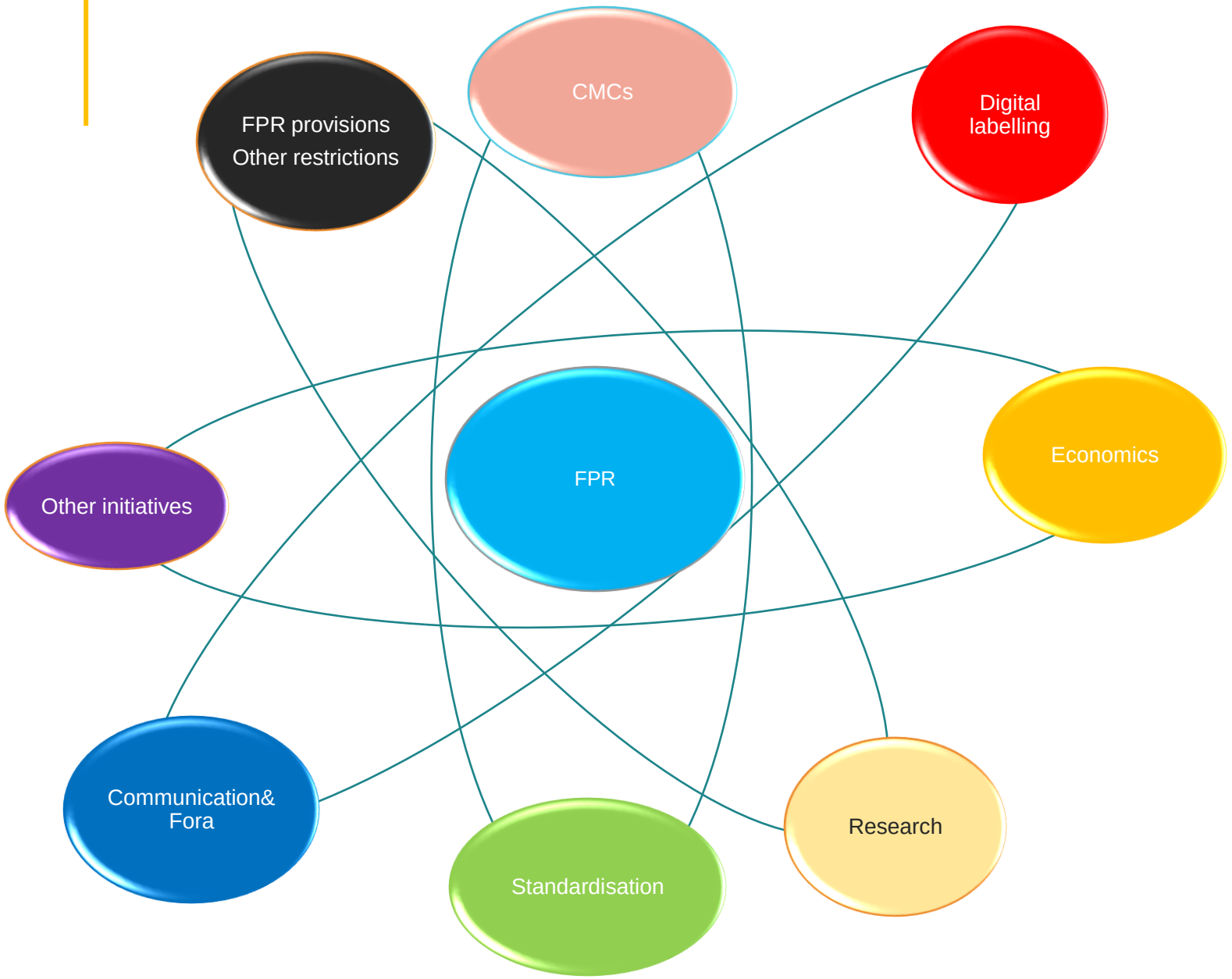


- Follow-up actions

? Question

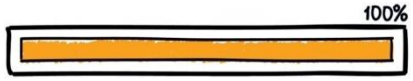
Any follow-up action on EBA side?

European Commission



R & D

- Horizon Europe

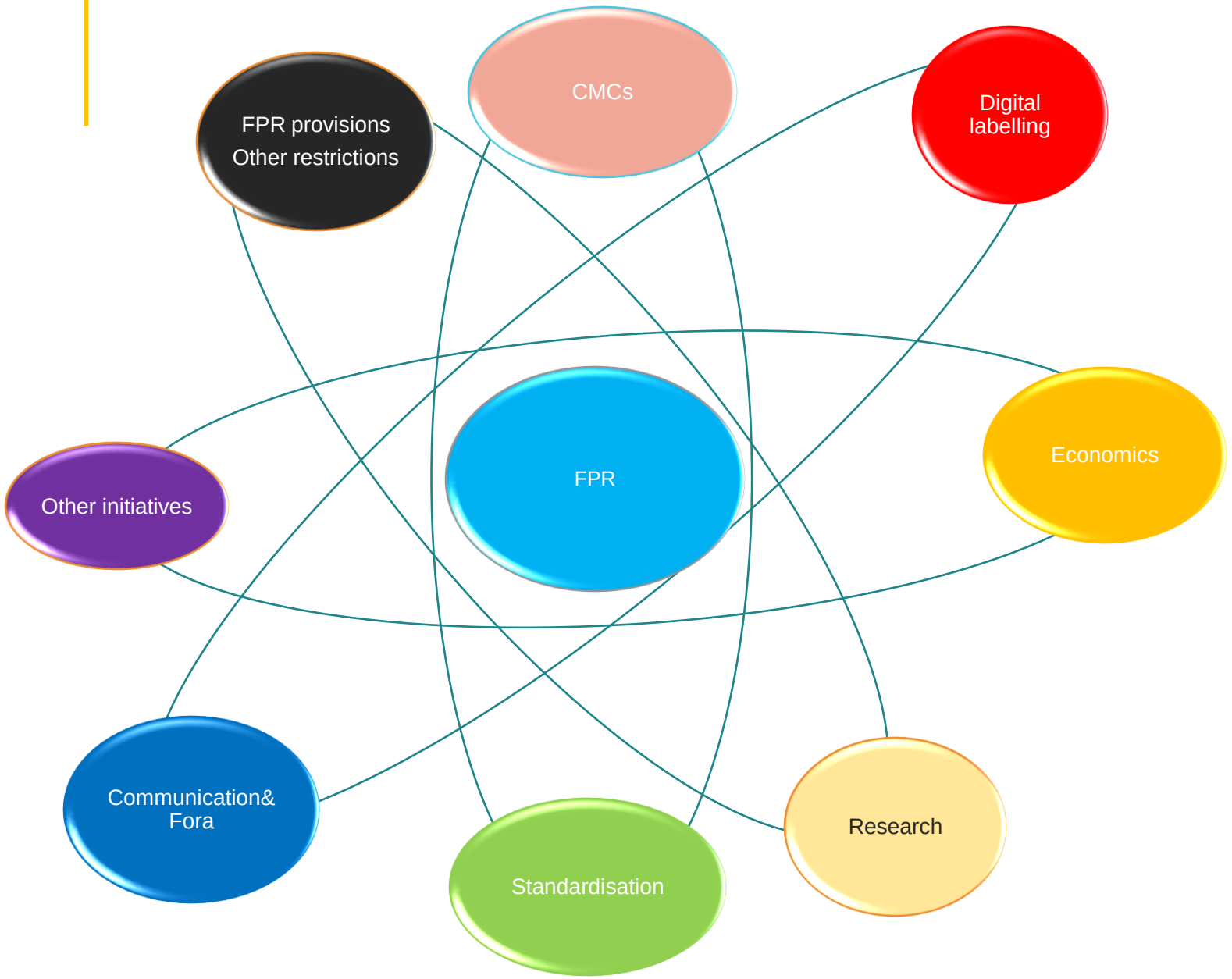


- On-going dossiers
- [Communication on biotech and biomanufacturing]

? Question

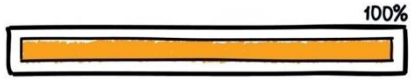
Is EBA in contact with some project leaders?

European Commission

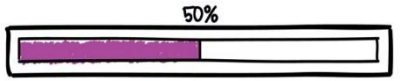


Standardisation

- Technical specifications



- On-going request
- Study of technical documentation



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Standardisation work

The current standardisation request: M/564
(C(2020)162 amended by C(2022)47 + 2nd Amd)

April 2022 – all expected CEN/Technical specifications were published as planned ✓

4th quarter 2024 - first harmonised standards for Plant biostimulants

July 2027 – first harmonised standards for Soil improvers, Growing media

July 2027 - first harmonised standards for Fertilisers, Liming materials, Inhibitors

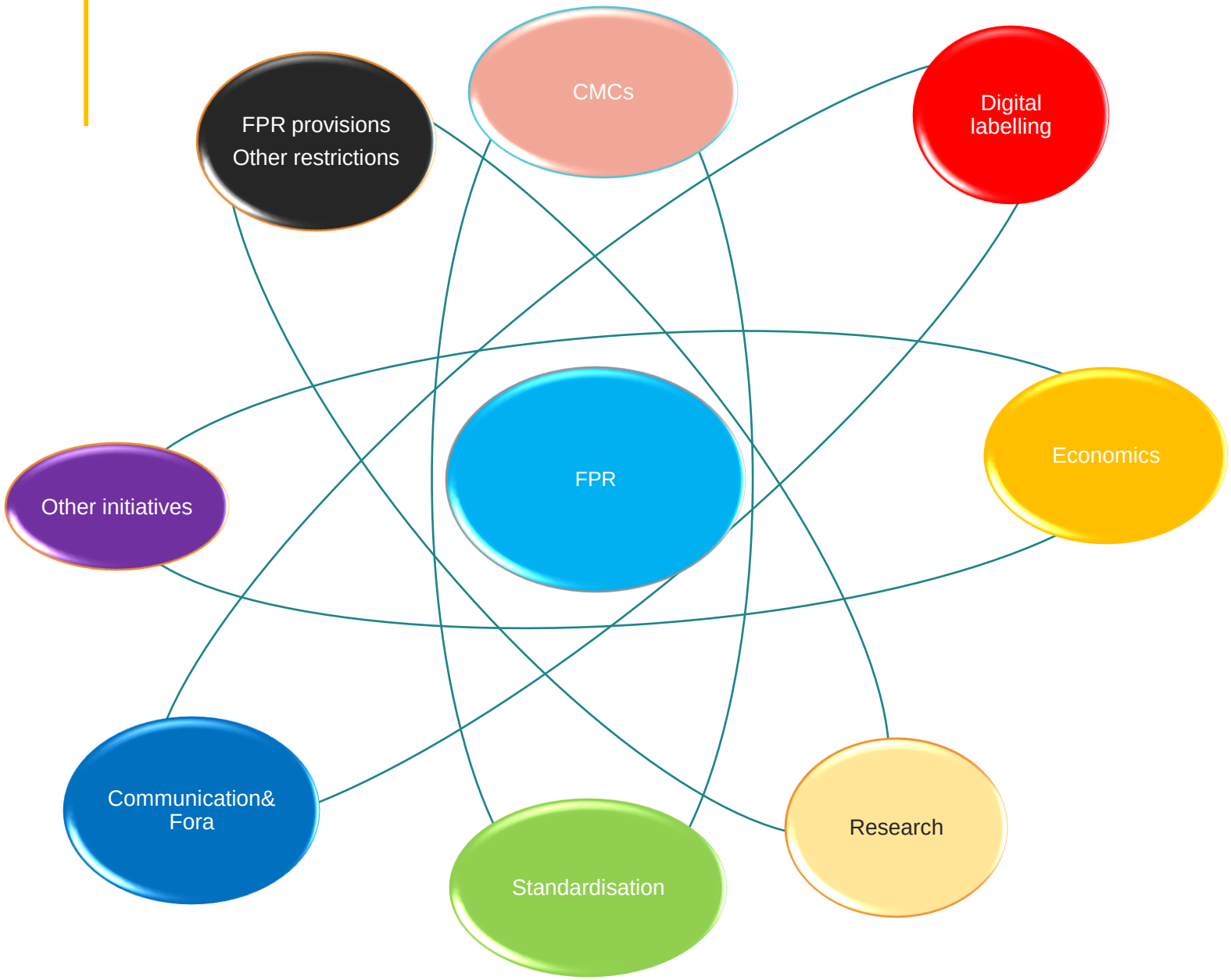
Need for new standardisation request to cover all requirements related to the amendments adopted (STRUBIAS, high purity, by products and technical amendments

Progress on technical studies…

- Study for the technical documentation for EU fertilising products

  Interim report circulated via CIRCA

NMI “Nutriënten Management Instituut” , Wageningen, N



Communication

- Expert group (15-16/4/24)
- Forum of notified bodies
- AdCo Fertilising products

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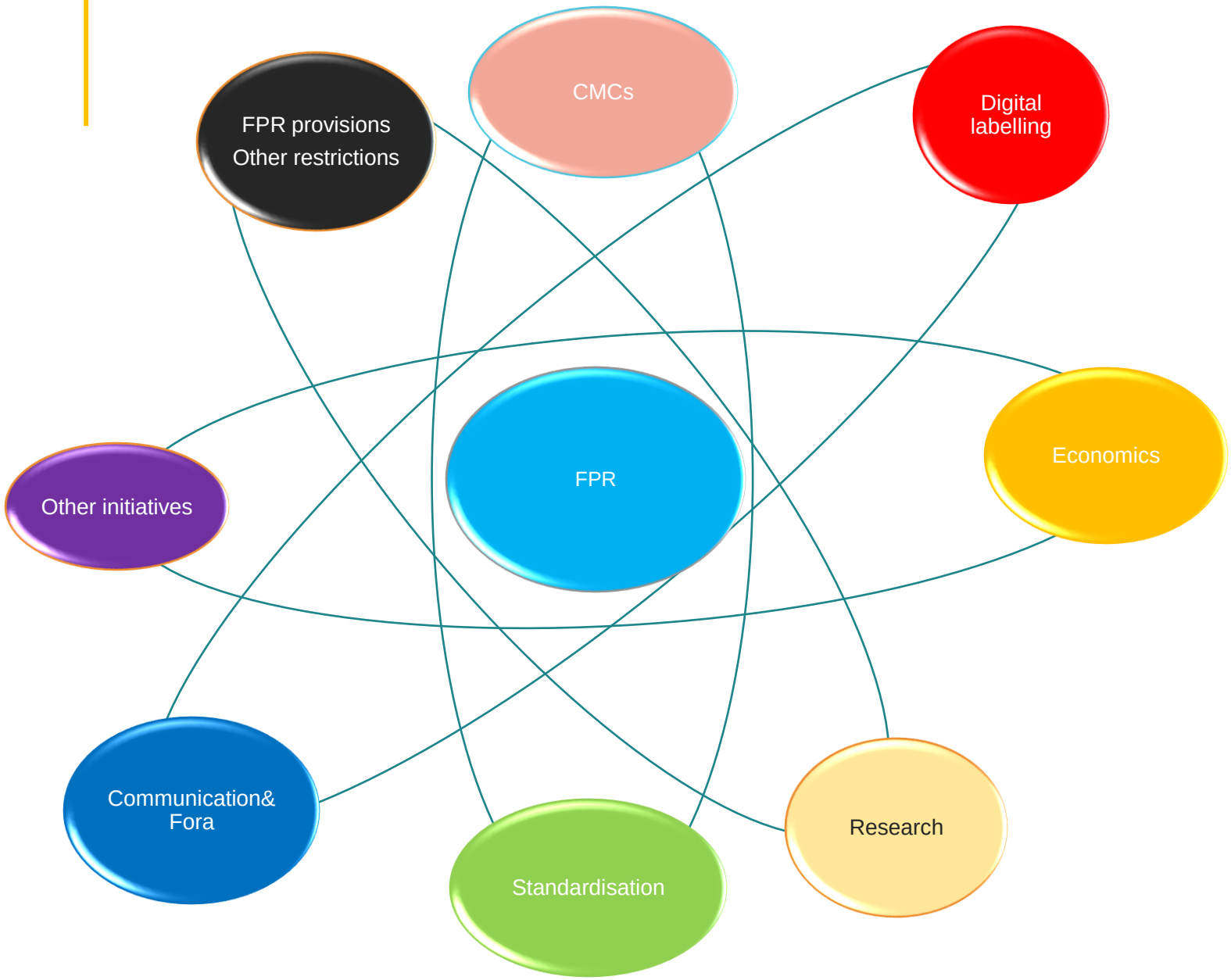
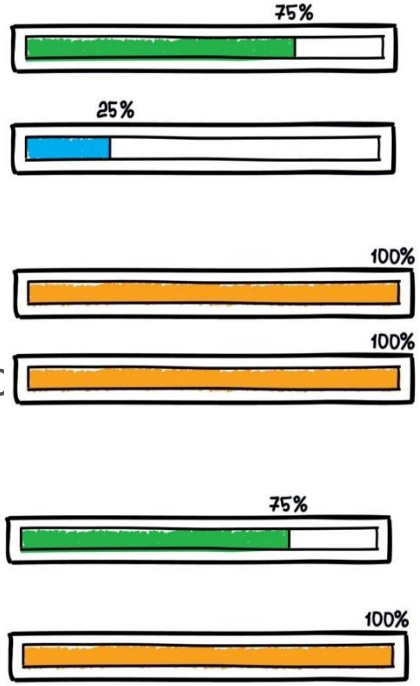


Other initiatives

- INMAP
  Soil health law
- Nitrate Directive
- UWWTD
- ESPR
  (incl. digital produc
- CAP and NAPs
- CLP revisions



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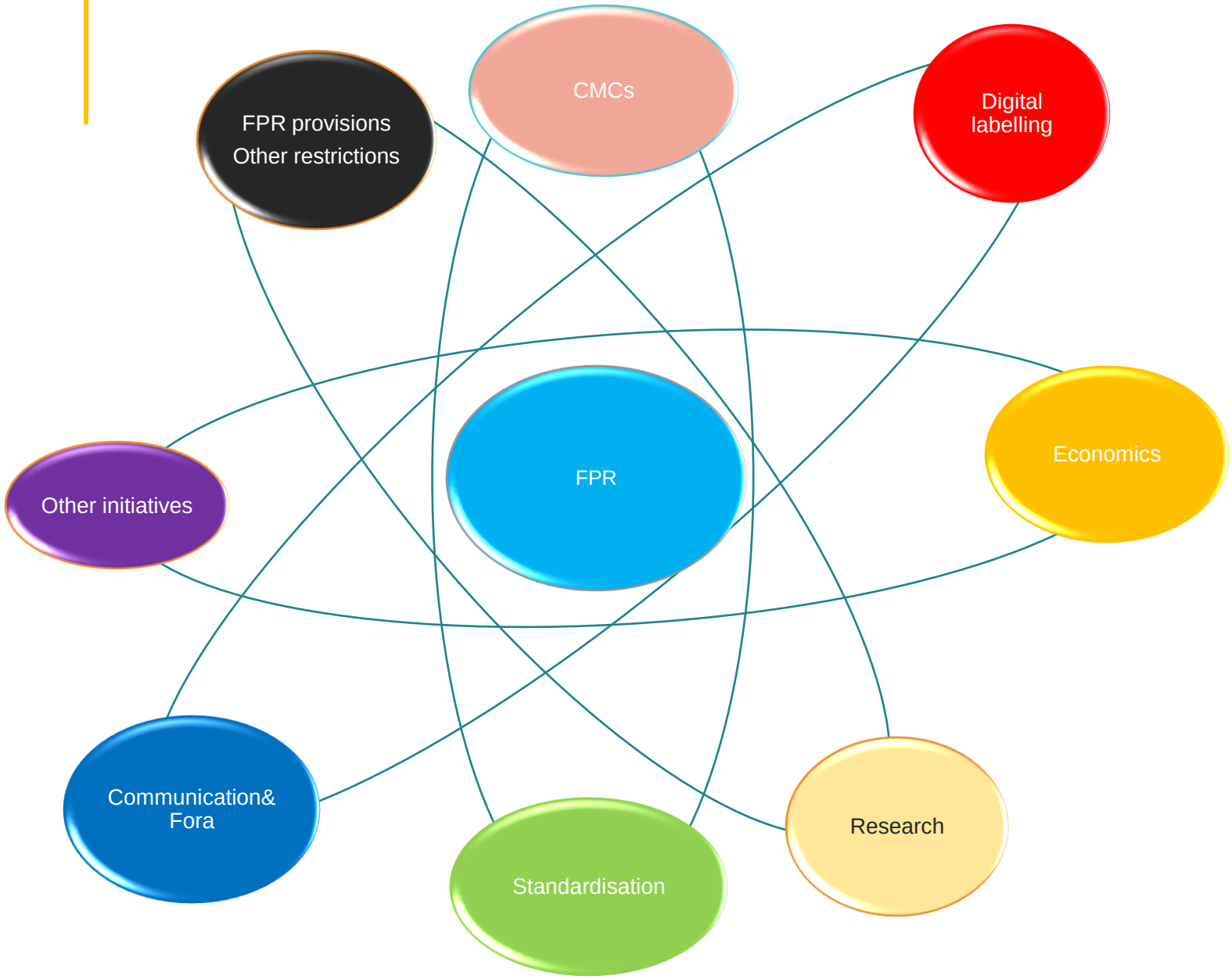
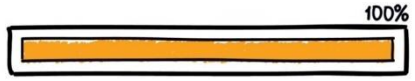


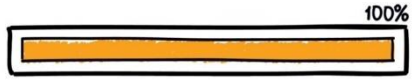
FPR provisions

- FAQs
- Evaluation (to start)



Restrictions

- Microplastics



European Commission

Future evaluation of FPR…

According to Article 49 of FPR, COM to report to EP and Council on functioning of rules etc by July 2026

GROW to launch a technical study on the evaluation of FPR

Available resources

DG GROW website

CE-marking of EU fertilising products (DG GROW)

Info session organised by DG GROW - How to CE mark your fertilising product ; 23 May 2022; recording available here

Guidance Document on the labelling of EU Fertilising Products; available here

FAQs document on Fertilising Products Regulation; available here

Commission Expert Group on fertilising products (documents available on CIRCA BC here)

Member States competent authorities list

Market Surveillance authorities responsible for controls of products list

Do you have questions?
GROW-FERTILISING-PRODUCTS@ec.europa.eu

European Commission

Thank you

European Commission

Exploring digestate's contribution to healthy soils

Mieke Decorte

Technical Director

European Biogas Association

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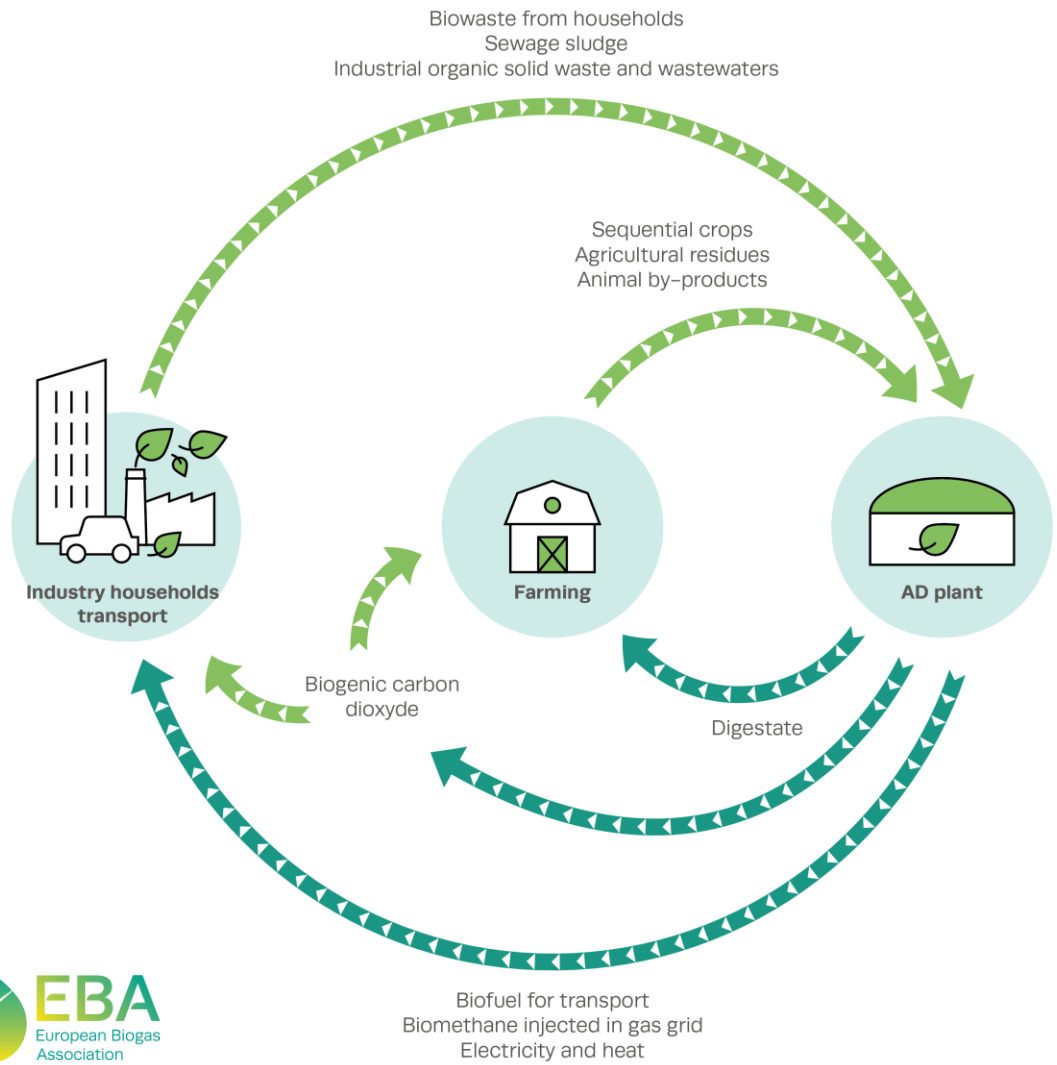
What is digestate?

Schematic overview of the inputs and outputs of the bio-gases production process



During the AD process, biogas is produced along with digestate.

Part of the organics from the feedstock is converted into biogas.

The mineral fraction remains largely intact.

➔ Digestate is an appealing organic-mineral fertiliser.

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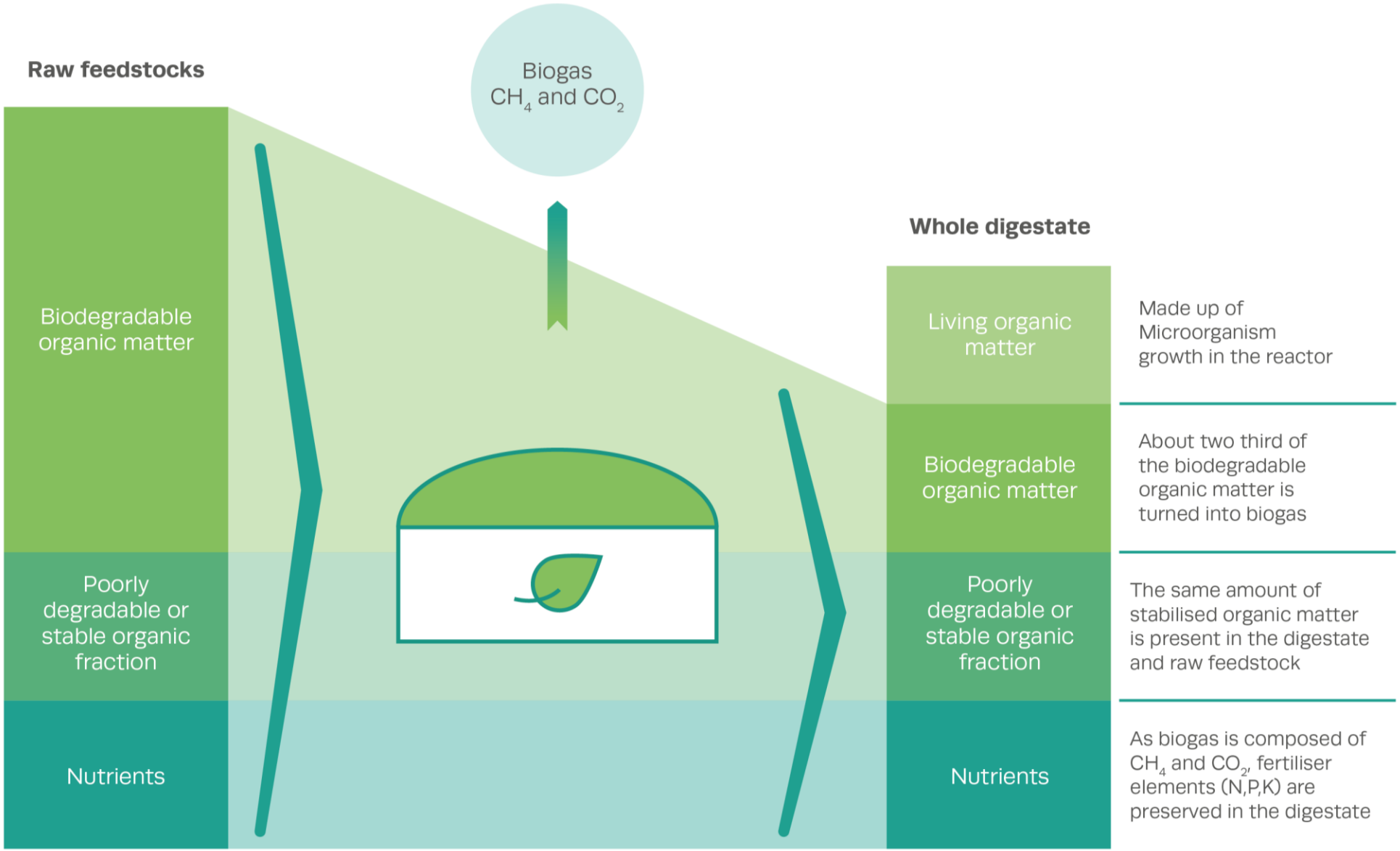
What happens in the digester?



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What happens in the digester?

Digestate contains three forms of organic matter

The poorly degradable, or stable, organic fraction

- Consisting of lignin and cellulose
- Precursor of humus material, improving the clay-humus complex of soils

The biodegradable fraction

- Consisting of soluble sugars and hemicellulose
- Energy and nutrient source for soil bacteria and earthworms

The living organic matter

- Composed of micro-organism
- Transforms organic elements into mineral elements, accessible to plants

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What happens in the digester?

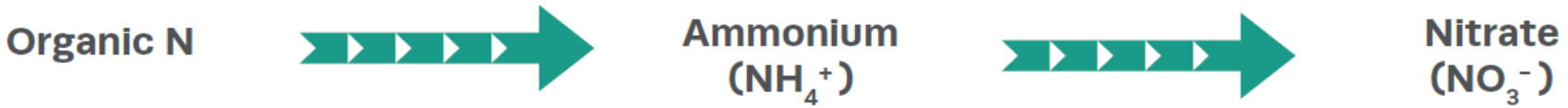
Nutrients are preserved during digestion

Biogas is mainly composed of CH_4 and CO_2

- Fertilising elements N, P, K are preserved

Some elements are transformed during AD

- Organic nitrogen in the substrate is partly mineralised
- Ammonium/organic nitrogen ratio in digestate is higher compared to the raw feedstock



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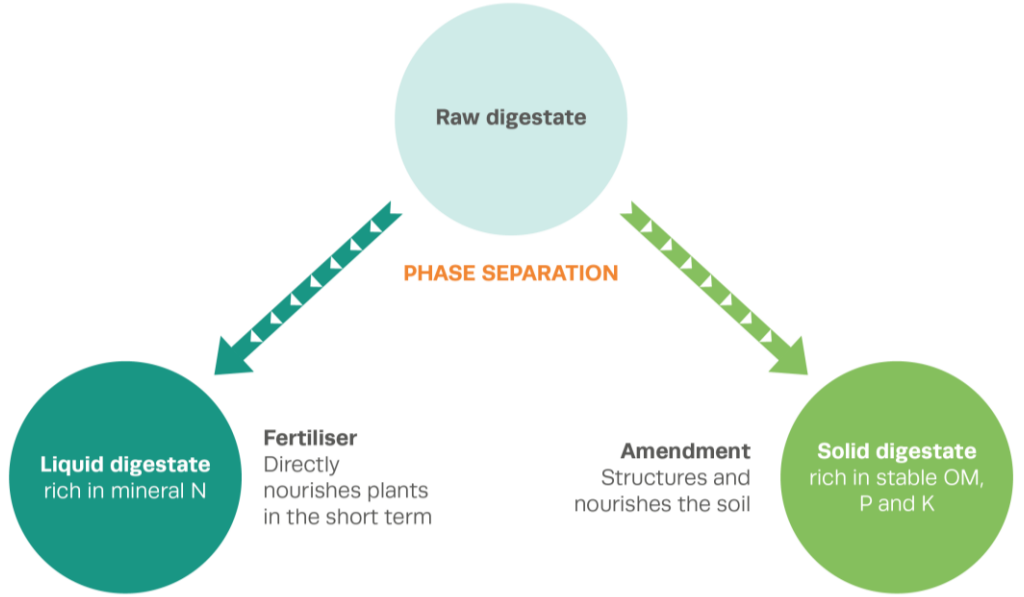
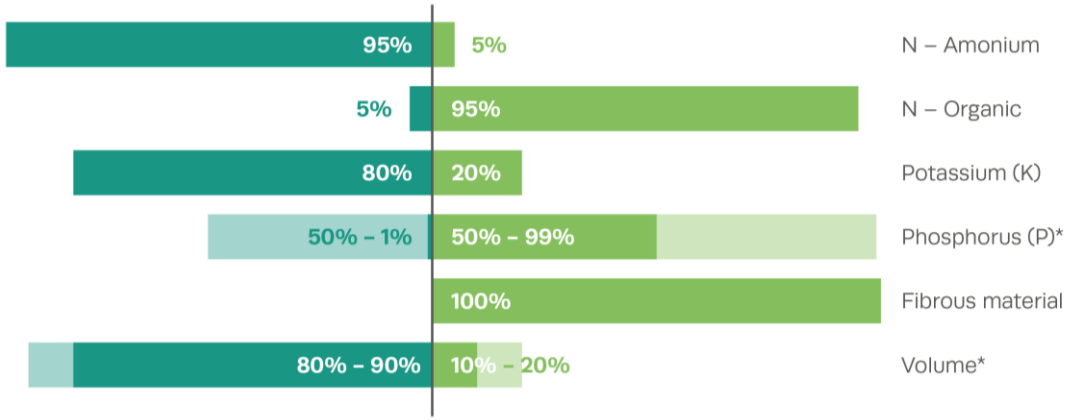
Types of digestate

Raw digestate is the direct output from digesters.

Nutrients are not distributed equally between liquid and solid fractions.

Digestate separation into a liquid and solid fraction
(source: reworked from "l'Utilisation des digestats en agriculture" and Guilayn et al. 2018)





* Depend on the use of coagulants / flocculants for solid phase separation
** Depend on the technique used

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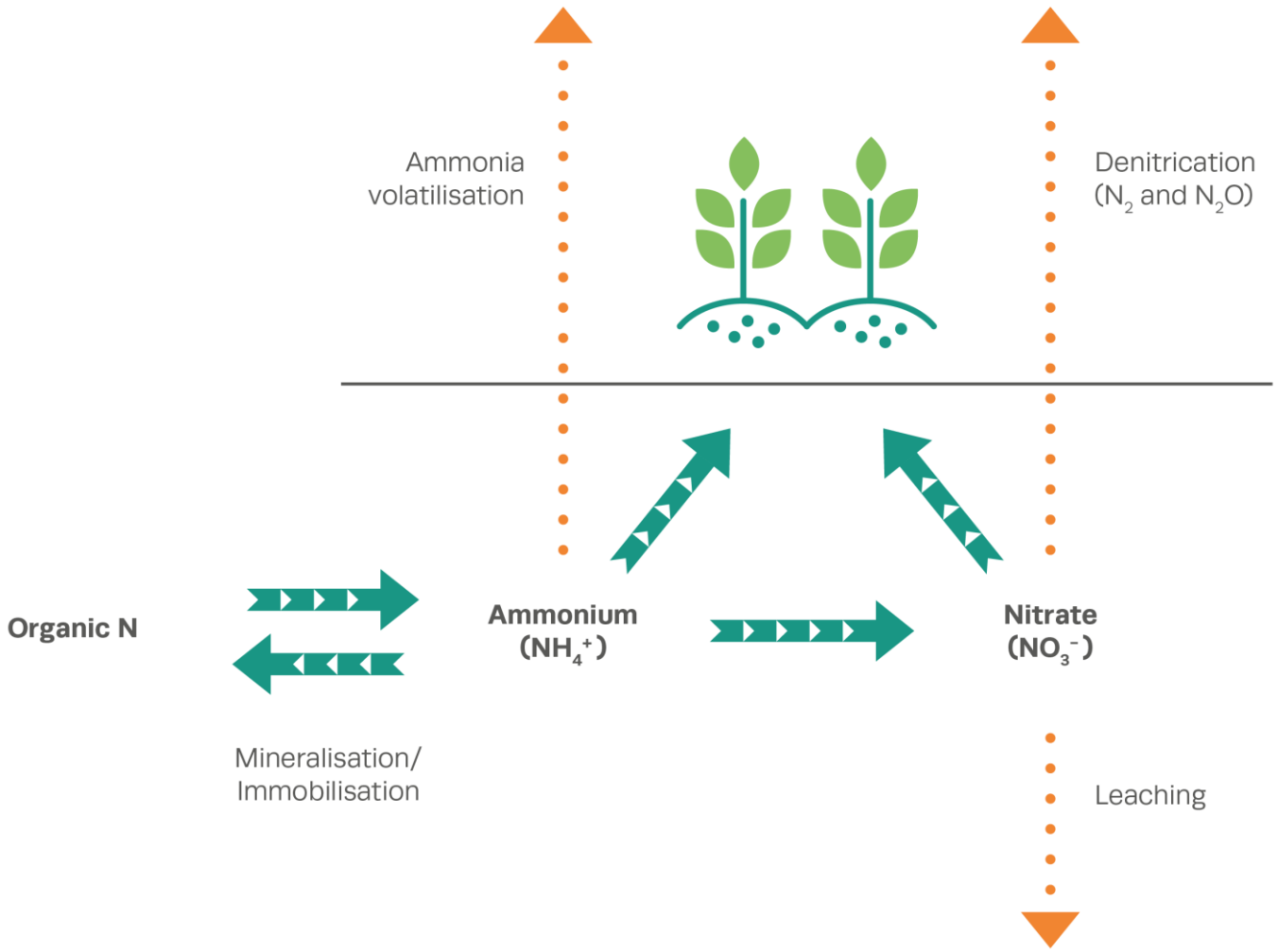
Sustainable agronomic practices for digestate application

Digestate application must be adjusted to specific time periods and growth states on the field.

Organic nitrogen in digestate continues to mineralise over time and must be controlled.

Digestate application can be coupled with **catch crops**, able to retain nitrogen and other nutrients.

Illustration of nitrates leaching



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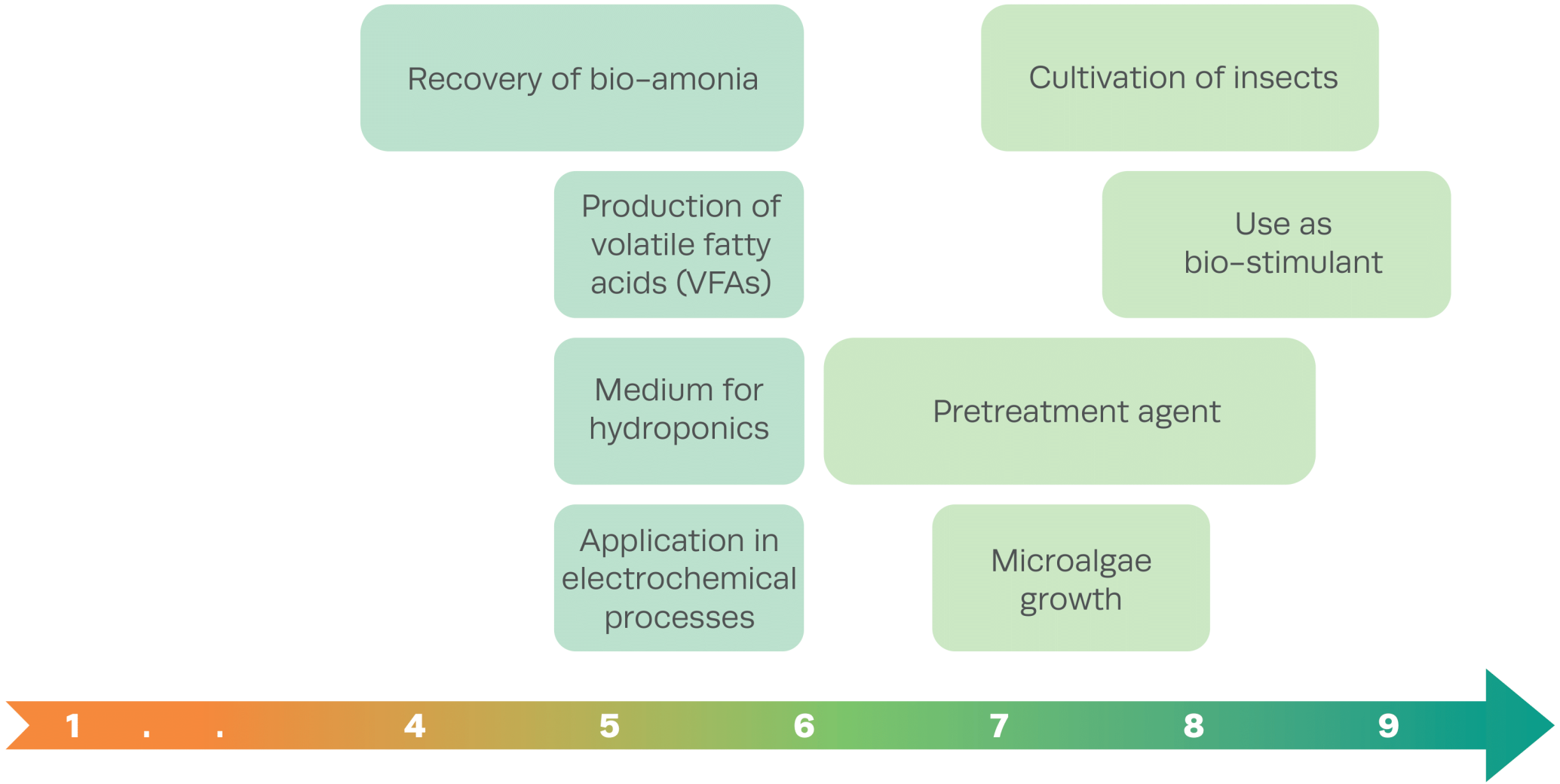
TRL of novel digestate applications



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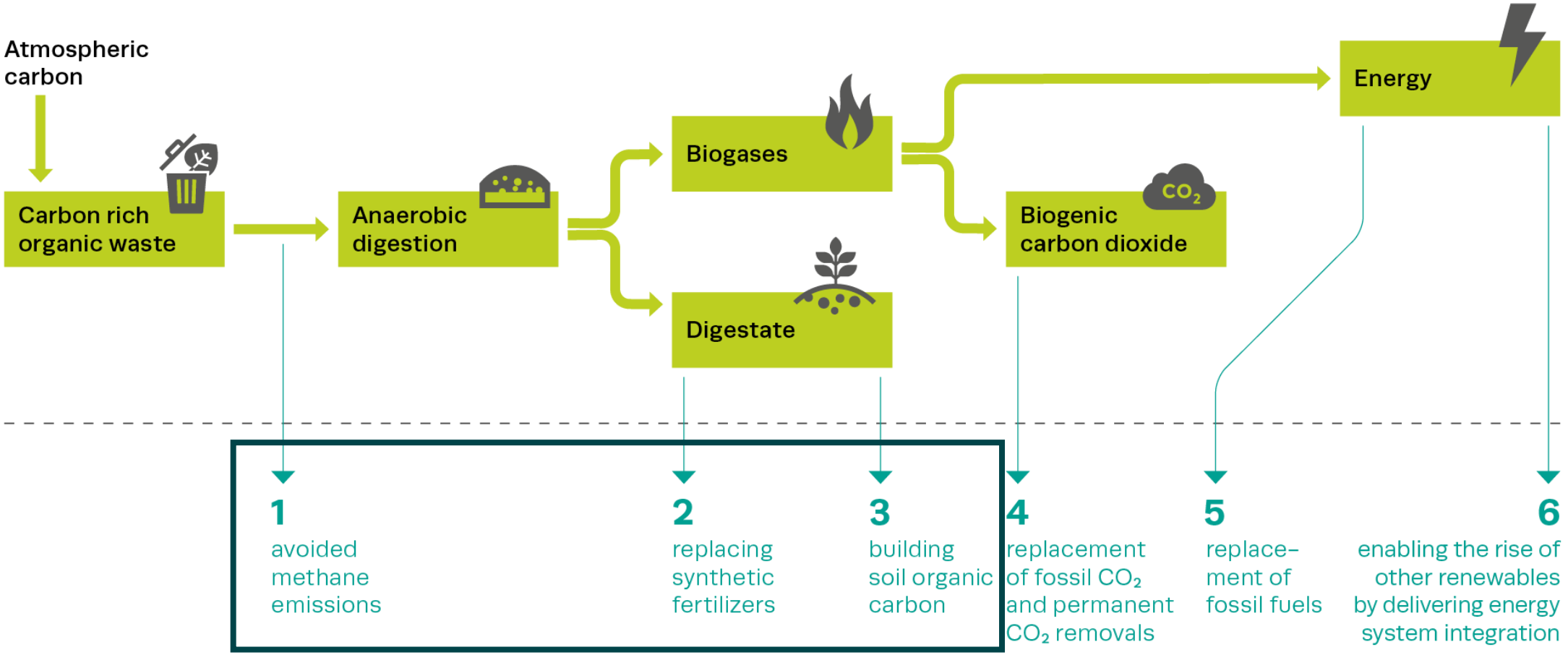
Positive impact on the environment

	Anaerobic digestion	Composting	Incineration	Landfill	No treatment
Energy recovery	✓	✗	−+	−+	✗
Nutrient recycling	✓	−+	−+	✗	−+
Contribution to soil health	✓	✓	✗	✗	✗
Odour reductions	✓	✓	✓	−+	✗
Sanitation	✓	✓	✓	✗	✗

Comparison between AD, composting, incineration, landfill and no treatment as organic waste and byproduct management practices.

✓ Yes
✗ No
−+ Limited

Positive impact on climate



Digestate's **transport routes are often shortened**, resulting in lower GHG emissions.

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Positive impact on soil health

The stable organic fraction of digestate sustainably enriches the humus content of the soil. **Humus formation is critically important for soils:**

1. **Nutrient retention**
2. **Soil structure improvement**
3. **Water retention**
4. **pH buffering**
5. **Microbial habitat**
6. **Carbon sequestration**

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Mapping Digestate policy: Challenges and Opportunities

Lucile Sever

Policy Officer
European Biogas Association

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European Biogas Association

Navigating EU rules for production, application and marketing of digestate

Waste Framework Directive 2008/98/EC

Recommends Member States to set up end-of-waste criteria (including for **digestate from waste**)

Sewage Sludge Directive 86/278/EEC

Sets minimum standards for the application of **digestate from sewage sludge**

Fertilising Products Regulation (EU) 2019/1009

(optional harmonisation)

Regulates placing of **digestate-derived fertilising products** on the EU market

Nitrates Directive 91/676/EEC

Sets minimum standards for the application of **digestate from manure**

Animal By-Products Regulation 1069/2009/EC

+ Regulation (EU) 142/2011

+ Delegated Regulation (EU) 2023/1605

Sets additional requirements for **digestate from animal by-products**

End point for **digestate from animal by-products**

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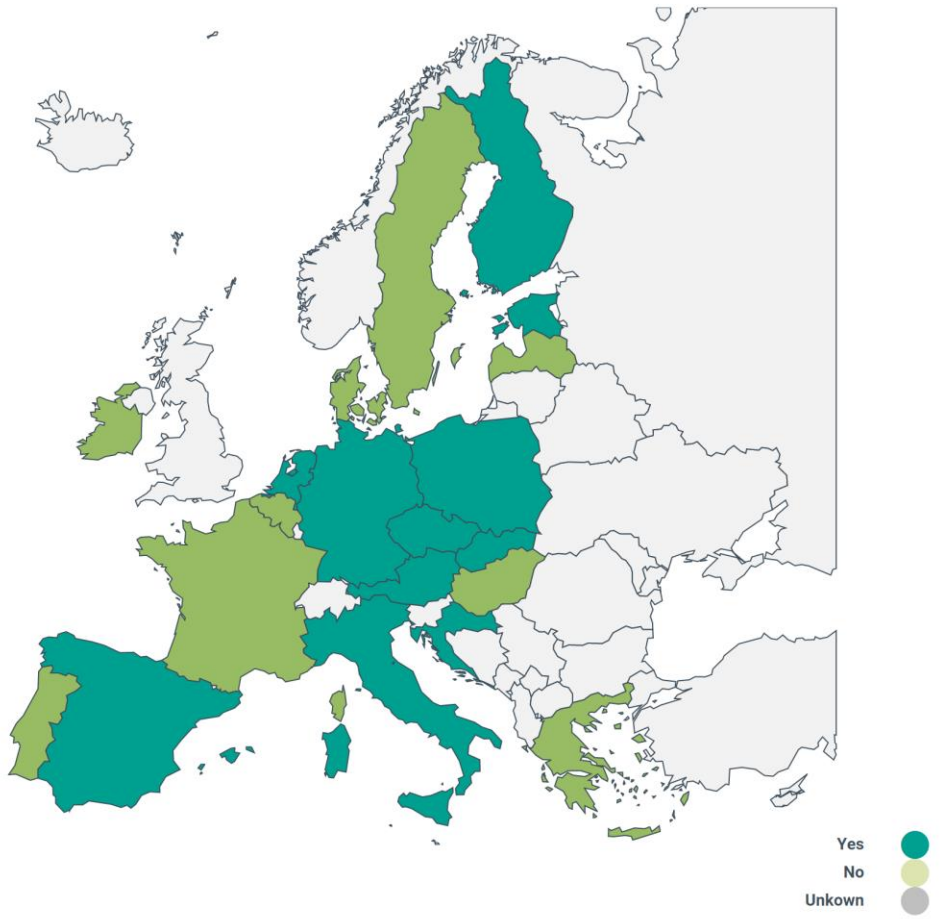
A comparative analysis of digestate regulatory frameworks across 20 EU countries

➔ Access to the **in-depth country analysis** available only for EBA members

Table 4: Key aspects of national regulatory frameworks for digestate

	Inclusion of digestate in a legislation on fertilisers	End-of-waste for digestate	Quality assurance scheme/certification for digestate	Additional rule for digestate
Austria	Yes, in Fertilizer Act and Ordinance	No	No	From 2028, storage for liquid digestate above 240 m³ will have to be equipped with a permanently effective, full-surface cover.
Belgium	No, Royal Decree on marketing and use of fertilisers, soil improvers and cultivation substrates not including digestate	Yes, in Flanders when compliant with the Flemish Regulation On Sustainable Management of Material Cycles and Waste Materials (VLAREMA) and VLACO No, in Wallonia	No in Wallonia Yes, in Flanders, VLACO	
Croatia	Yes, but under revision	Yes, when compliant with the Law on Fertiliser Products (NN 39/2023) and Regulation on the Cancellation of Waste Status (NN 55/2023)	No	

Digestate included in a national legislation on fertilisers



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Digestate market at national level

Low/no value of digestate – Raw digestate is very rarely sold but rather freely supplied to farmers (+ often the digestate producer pays for the transport and spreading) or traded against input materials.

Digestate management challenges associated with excessive nitrates – Countries with poor water quality, eutrophication, and groundwater pollution problems enforce stricter rules on digestate, necessitating targeted regulatory and technical solutions.

Connection of biogas plants to the soil – "Industrial" biogas plants lacking land and relying on collaboration with nearby farmers vs. on-farm biogas where the biogas plant (and use of digestate) is integrated into agricultural operations.

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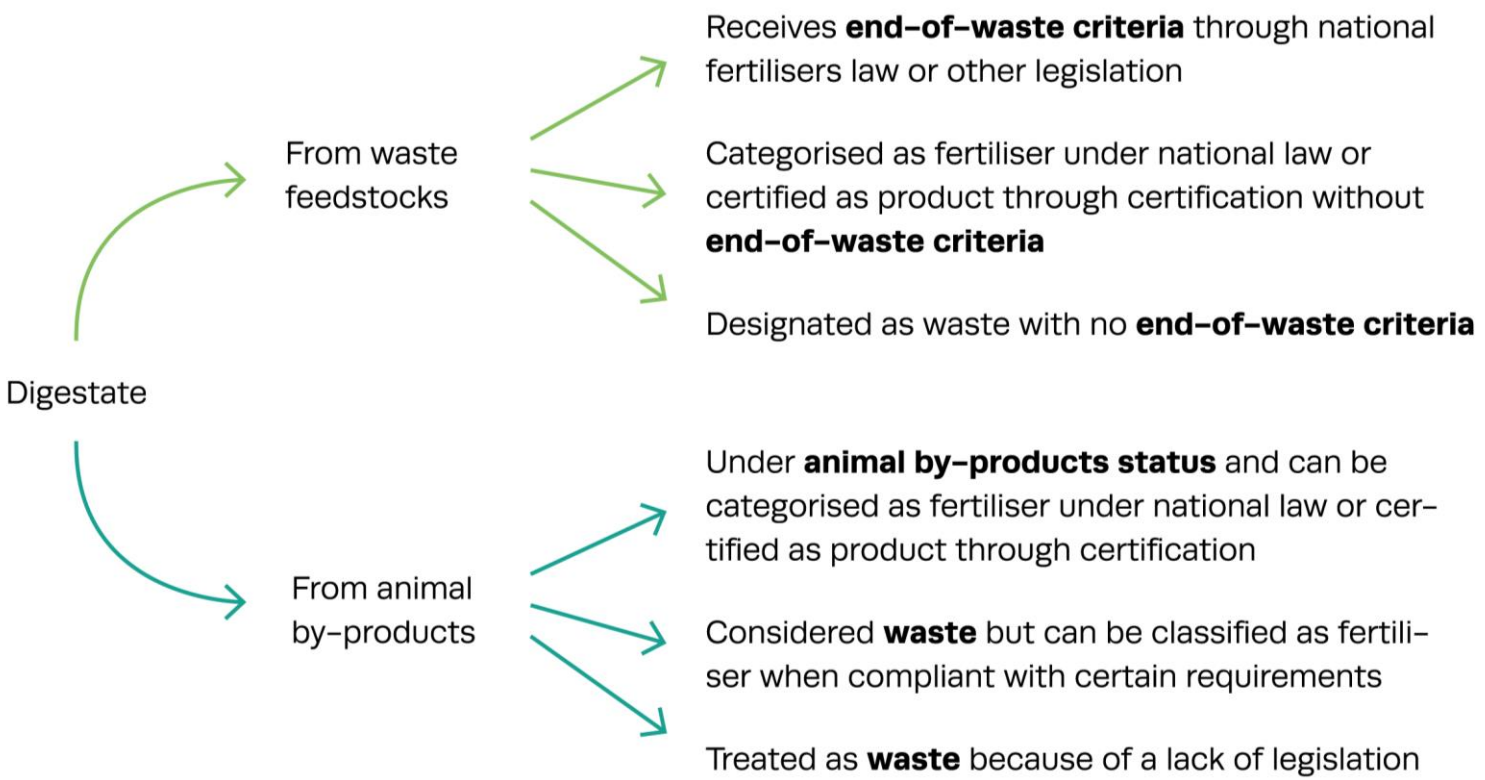
General features of national regulatory frameworks for digestate



Setting a clear and operational **national legislation on fertilisers** including digestate-derived products (**from both waste and animal by-products**) is crucial

Providing **end-of-waste status** for digestate is secondary but has an impact on public perception of digestate

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Key challenges for a wider use of digestate

1. **Nitrates Directive** preventing substitution of synthetic fertilisers by digestate

2. **Lack of fertiliser status at national level** leading to legal uncertainty, red tape and depreciation of the value of digestate

3. **Complexity of the regulatory framework**, especially when digestate producers are farmers

Regulatory drivers are needed

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Experience with FPR Certification for Biogas Residues

Ildiko Varga

Expert Biostimulant

CerTrust

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Experience with the FPR Certification for biogas residues (CMC5)

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dynamism, energetics, excellence

Ildikó Varga, PhD
Expert (Biostimulant Specialist) and Auditor of FPR

CerTrust Inspection and Certification Ltd
Notified Body 2806

The main points of CE-marking procedure

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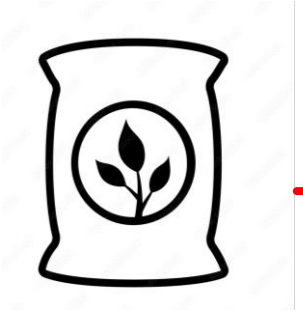
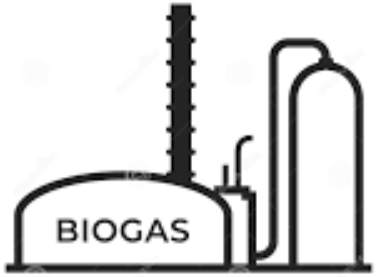


- What is an EU fertiliser?
- What are PFC and CMC?

02

- What is CMC5?
- What kind of input can be used for CMC5?

03



- Which Module must be applied for CMC5?

04

- How can a TD drawn up by a manufacturer?

Definition of EU fertiliser

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- **What is an EU fertiliser?**
  Those kinds of products can be named as an EU fertilisers, that are in compliance with the (EU) No. 2019/1009 Regulation.

- **What is a PFC and CMC?**

  PFC= Product function category → (at least one) must be chosen for the product

  CMC= Componet material category → most be chosen for all components

  For example:

  Biogas residue → *CMC5*

  Organic soil improver → *PFC3(A)*

- **How can an EU fertiliser put on market?**

  It is mandatory to implement a conformity assessment procedure of the EU fertiliser. Different kinds of PFCs and CMCs are related to the so-called Modules.

Component materials of an EU fertiliser: inputs of CMC5

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- **What kind of input materials can be used for CMC3 and CMC5?**

→ biological originated materials (bio-waste, plant tissue…)

→ additives 5% (in compliance with CMC1 point 2 of Annex I.)

→ **Category 2 and Category 3 materials** referred in the (EU) No. 1069/2009 Regulation, when the material have been reached the **end point** according to the (EU) 2023/1605 Reg

- **What kind of requirements are listed in the , End point' Regulation?**

Manufacturing permit of biogas site accoring to (EU) No. 1069/2009 Reg.

Minimum Hygienical requirements given in the (EU) No. 142/2011 Reg.

Application of the Modules

- **How can an EU fertiliser containing CMC5 put on market?**

  It is mandatory to implement a conformity assessment procedure of the EU fertiliser. Different kinds of PFCs and CMCs are related to the so-called Modules.

Name of the module	Implementation of the conformity assessment procedures according to the applied module	Which CMCs and PFCs shall be chosen for the different modules?		
		Shall be chosen	May be chosen	May not be chosen
D1	During the conformity assessment procedure, the Notified Body monitors the quality assurance system of the production process. This examination covers not only the production system related to EU fertiliser, but also the evaluation whether the final products are in compliant with the Regulation.	CMC3, CMC5, CMC12 to 15	Anything else	AN fertiliser (N>28%)

General requirements of a Module D1 conformity procedure

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- **What are the obligations of the manufacturer?**
  - to built up a QMS
  - the requirements of FPR must be built in the QMS (for. ex.: education, analytical criteria, constant monitoring of the quality etc…)
  - to draw up a TD (labelling!!!)

- **How many audits will be needed during this period?**

  1st year: 1 initial + 1 surveillance audit

  2nd and 3rd year: only surveillance audits

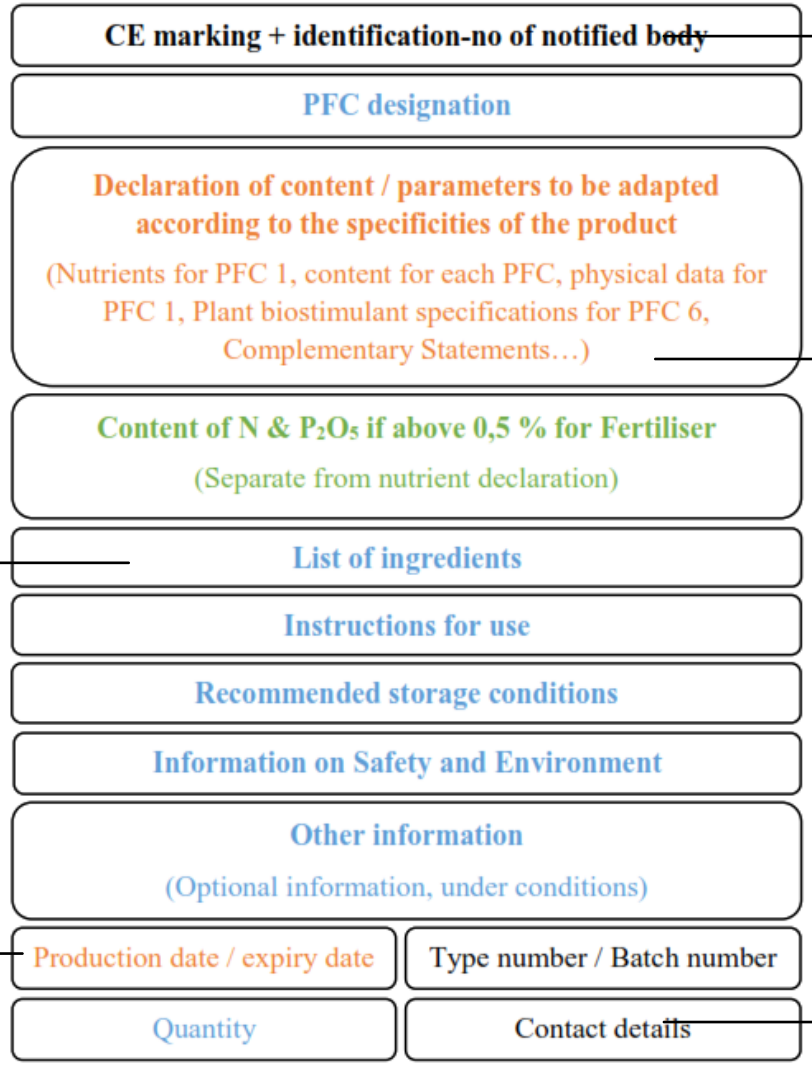
  → **+ sampling audits (in case of special CMCs)**

- **How long is a certification period?**

  3 years

Labelling requirements

Example for general labelling requirements and visual apperarance of an EU fertilizer label according to the Guidance for labelling



NoBo number **must be affixed** when the conformity procedure was established according to Module D1.

In case of PFC3 it is **mandatory** to give :

- N, P_2O_5 and K contents, when it above 0,5 w/w% and
- N_{org} in w/w% followed by the **description of origin.**

'X % organic nitrogen from animal origin, of which Y % from manure'

All ingredients must be listed above 5% in dry mass in decreasing order.
+ ABP origin must be given!
F.e.: CMC5 (manure origin)

In case of PFC3 giving only the **production date** is mandatory.

All the contacts of manufacturers, distributors or importers shall be listed. The **obligations of economical operators** can be found in Chapter 2 of the FPR.

How is it working in practice?

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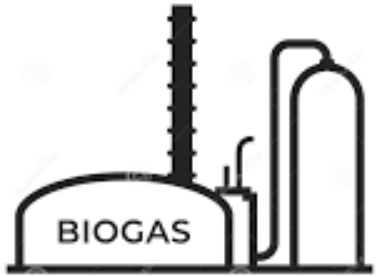
01

02

03

04



- **Contraction and documentation pre-check:**
  TD, main part of the QMS documentation + audit questionnare
- **Visition the site:**
  initial audit
- **Certificate:**
  No NC (non-conformity) in the audit questionnare
- **Constant control:**
  mini audits aiming collecting samples

Useful links and tips

- **What shall a manufacturer read before application for conformity assessment procedure?**
  - ✓ Chapter 2 of the FPR: Obligations of economic operators
  - ✓ Requirements of the TD assembling (point (2) Module D1 of Annex IV.)
  - ✓ Requirements of the QMS (point (5) Module D1 of Annex IV.)
  - ✓ Delegated regulation of End Points determination (EU) No. 2023/1605
  - ✓ Health Rules Regulation (EU) No 142/2011 (referred in the End Points determination)
  - ✓ Example of DoC (see in Annex V of the FPR)
  - ✓ Labelling guidance (of the related PFC
- **Useful links**

FPR https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R1009
End Poins Reg. https://eur-lex.europa.eu/legal content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.198.01.0001.01.ENG
Health Rules Reg. https://eur-lex.europa.eu/eli/reg/2011/142/oj
Labelling guidance https://ec.europa.eu/docsroom/documents/44831
FAQ of FPR https://ec.europa.eu/docsroom/documents/54694

Thank you for your attention!

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Inspection and Certification Ltd
Notified Body 2806

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Vice-chair of Coordination Group of Notified Bodies for EU fertilising products

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EBA
European Biogas Association

We want to hear from you!

Insert you question in the Q&A & upvote your favorite question(s)!

Registration link: https://us06web.zoom.us/j/83558605832

Upcoming FER-PLAY Seminar

CIRCULAR FERTILISERS FOR HEALTHY SOILS: DRIVERS AND CHALLENGES

FER-PLAY Seminar
18 April 2024 – Mundo Madou, Av. des Arts 7/8, 1210 Brussels

Back in March 2020, the European Commission announced its intention to develop an integrated nutrient management strategy in the Circular Economy Action Plan, "with a view to ensuring more sustainable application of nutrients and stimulating the markets for recovered nutrients". Later on in 2021, the Communication on Sustainable Carbon Cycles was adopted, promoting green business models which take up sustainable practices, including the recycling of carbon from waste streams. Against this background, the goal of the seminar is to discuss the drivers and barriers (from the technical, economic, social, legislative and environmental point of view) for the uptake of circular fertilisers in the market, from producers' perspective.

	Circular fertilisers for healthy soils: drivers and challenges
13:30 – 14:00	Welcoming and registration
14:00 – 14:05	Opening remarks
14:05 – 14:15	Presentation of the Fer-Play project
14:15 – 14:45	ECN-QAS and BioBest guidelines – ECN (20 min.) Q/A session (10 min.)
14:45 – 15:15	Compost from bio-waste – RETERRA (20 min.) Q/A session (10 min.)
15:15 – 15:30	Coffee Break
15:30 – 16:00	Digestate from manure – WATERLEAU NEWENERGY (20 min.) Q/A session (10 min.)
16:00 – 16:30	Struvite from wastewater treatment – NURESYS (20 min.) Q/A session (10 min.)
16:30 – 16:50	Panel discussion
16:50 – 17:00	Conclusions and closure of the event

MODERATOR: Jane Gilbert (Carbon Clarity, UK)

fer▸play

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N° 101060426.

LOGISTICS

Where: Mundo Madou, Av. des Arts 7/8, 1210 Brussels

When: 18th April 2024, 13.30 – 17.00

EB European Biogas Association

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