

Consultation: Nutrients – Action plan for better management

Fields marked with * are mandatory.

Introduction

Nutrients are chemical compounds that are essential for life. The most common nutrients include nitrogen (N) and phosphorus (P). Nutrients are found in soil, air and water, in agricultural fertilisers, in the food we consume and throw away as well as the sewage we produce.

Human activities have significantly altered the natural processes which continuously cycle nitrogen and phosphorous in various (chemical) forms between different compartments of the environment. We consequently observe nutrient pollution that significantly affects public health, climate and the environment and at levels that exceed safe planetary boundaries. Nutrient pollution also has important economic consequences and puts at risk the sustainability of agriculture and fisheries in the EU.

In the EU, environmental legislation has sought to tackle excess nutrients. However, progress in the reduction of pollution is not uniform and harmful pollution levels for human health and the environment still exist due notably to shortcomings in specific legislation, significant implementation gaps and possibly the absence of an integrated approach on nutrient pollution encompassing air, water, soil and climate.

The Russia's invasion of Ukraine is driving up prices in agricultural and seafood product markets and exposing the vulnerabilities of the food system: our dependence on imports of energy, fertiliser and animal feed. Natural gas is a feedstock for most mineral nitrogen fertiliser production and reducing the reliance on such fertilisers has become a key objective. More than ever, we need more resource efficient fertilisers and better management of nutrients generally.

The Commission is preparing an Integrated Nutrient Management Action Plan as announced in the EU Biodiversity and Farm to Fork strategies and the Zero Pollution Action Plan. This will help achieve the 2030 zero pollution targets with a focus on minimising pollution at source.

Guidance on the questionnaire

This public consultation aims at gathering a broad range of views about the possible elements of the Integrated Nutrient Management Action Plan. All interested stakeholders are invited to participate in this consultation including members of the public.

You are invited to respond to the following questions below regardless of your level of expertise.

The estimated time for completion is 15 minutes.

The questions cover the following topics:

1. Awareness of nutrient pollution and its impacts.
2. How to reduce nutrient pollution.
3. How to better recycle nutrients.
4. Final remarks

The European Commission will assess all responses made to this consultation when preparing the Action Plan. We will also produce a stand-alone summary of the results of the consultation.

Thank you for taking part in this consultation.

About you

* Language of my contribution

- Bulgarian
- Croatian
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- German
- Greek
- Hungarian
- Irish
- Italian
- Latvian
- Lithuanian
- Maltese
- Polish
- Portuguese
- Romanian
- Slovak
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Slovenian

Spanish

Swedish

* I am giving my contribution as

Academic/research institution

Business association

Company/business organisation

Consumer organisation

EU citizen

Environmental organisation

Non-EU citizen

Non-governmental organisation (NGO)

Public authority

Trade union

Other

* First name

Oliver

* Surname

LOEBEL

* Email (this won't be published)

oliver.loebel@eureau.org

* Organisation name

255 character(s) maximum

EurEau

* Organisation size

Micro (1 to 9 employees)

Small (10 to 49 employees)

Medium (50 to 249 employees)

Large (250 or more)

Transparency register number

255 character(s) maximum

Check if your organisation is on the [transparency register](#). It's a voluntary database for organisations seeking to influence EU decision-making.

39299129772-62

* Country of origin

Please add your country of origin, or that of your organisation.

This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

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| <input type="radio"/> Åland Islands | <input type="radio"/> Dominica | <input type="radio"/> Liechtenstein | <input type="radio"/> Saint Pierre and Miquelon |
| <input type="radio"/> Albania | <input type="radio"/> Dominican Republic | <input type="radio"/> Lithuania | <input type="radio"/> Saint Vincent and the Grenadines |
| <input type="radio"/> Algeria | <input type="radio"/> Ecuador | <input type="radio"/> Luxembourg | <input type="radio"/> Samoa |
| <input type="radio"/> American Samoa | <input type="radio"/> Egypt | <input type="radio"/> Macau | <input type="radio"/> San Marino |
| <input type="radio"/> Andorra | <input type="radio"/> El Salvador | <input type="radio"/> Madagascar | <input type="radio"/> São Tomé and Príncipe |
| <input type="radio"/> Angola | <input type="radio"/> Equatorial Guinea | <input type="radio"/> Malawi | <input type="radio"/> Saudi Arabia |
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| <input type="radio"/> Bangladesh | <input type="radio"/> French Southern and Antarctic Lands | <input type="radio"/> Moldova | <input type="radio"/> |

- Barbados
- Belarus
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- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
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- Bulgaria
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- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
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- Monaco
- Mongolia
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Myanmar/Burma
- Namibia
- Nauru
- Nepal
- Netherlands
- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- North Korea
- North Macedonia
- Norway
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- South Georgia and the South Sandwich Islands
- South Korea
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Svalbard and Jan Mayen
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- The Gambia
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Turkey
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- Cayman Islands
- Central African Republic
- Chad
- Chile
- China
- Christmas Island
- Clipperton
- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Curaçao
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Oman
- Pakistan
- Palau
- Palestine
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
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- United Kingdom
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The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **For the purpose of transparency, the type of respondent (for example, 'business association, 'consumer association', 'EU citizen') country of origin, organisation name and size, and its**

transparency register number, are always published. Your e-mail address will never be published.

Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* **Contribution publication privacy settings**

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

Anonymous

Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.

Public

Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

I agree with the [personal data protection provisions](#)

1. Awareness of nutrient pollution and its impacts

The overall environmental costs of all nutrient pollution in Europe are estimated at [€70–€320 billion per year](#).

Nutrient pollution of waters is mainly due to the leakage of fertilisers used in agriculture and the insufficient treatment of domestic and industrial wastewaters.

- The excess of nutrients in water can lead to algae blooms that suffocate life under water (a phenomenon called eutrophication). Besides ecosystems degradation in rivers, lakes and seas, eutrophication has also negative consequences on economic sectors such as fisheries and tourism. Excessive algae development can also have negative impacts on public health, due to possible development of toxic components (development of toxic algae species or toxic gas released when algae decompose).
- High nitrate and nitrite concentrations in drinking water can be toxic, especially for infant and young children and lead to a disease called methaemoglobinaemia, also known as blue baby syndrome. The Drinking Water Directive specifies safe limits for nitrates and nitrites in drinking water in order to

protect human health. Compliance with these limits may require the specific treatment of drinking water or the need to look for alternative sources of drinking water, potentially leading to substantial additional costs.

Atmospheric emissions of nitrogen compounds originate from agriculture (as ammonia, NH₃) and from fossil fuel combustion (as nitrogen oxides, NO_x).

- These nitrogen compounds react in the atmosphere and contribute to the formation of fine particulate matters, which were responsible for [307,000 premature deaths in the 27 Member States of the European Union in 2019](#).
- They also damage terrestrial and aquatic ecosystems when deposited back to earth: (excess) nitrogen emissions adversely affect nature areas and forests throughout Europe.
- Nitrous oxide (N₂O) is an important greenhouse gas that affects the Earth's climate.
- The production of artificial fertilisers also requires a lot of energy and natural gas feedstock, and is therefore an important contributor to greenhouse gas emissions.

1.1. How well do you consider yourself informed about nutrient pollution in different media?

	Well informed	Somewhat informed	Not well informed	Not at all informed
Air	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.2. How well do you consider yourself informed about the impacts of nutrient pollution?

	Well informed	Somewhat informed	Not well informed	Not at all informed
Impacts on human health	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on air quality	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Impacts on water quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on soil quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on biodiversity	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on climate	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on economy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3. How significant are the impacts of nutrient pollution on human health?

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	Very low	Low	High	Very high
Air	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Soil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

1.4. How significant are the impacts of nutrient pollution on the environment?

	Very low	Low	High	Very high
Air	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Soil	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

1.5. Are the following actors doing enough to inform the public on nutrient pollutions and actions taken to address it?

	Yes, enough	No, not enough	I don't know
National authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
EU authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
National Environment Protection Agency	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
European Environment agency	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Professional associations (from the fertiliser industry, the food industry and other industries)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Local authorities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Civil society	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Media	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

2. How to reduce nutrient pollution

In the EU, nutrient pollution has been tackled by environmental legislation since the 90s, in particular through the Urban Waste Water Treatment and the Nitrates Directives. They were complemented later by the Water Framework Directive, the Marine Strategy Framework Directive, the National Emission reduction Commitments Directive, the Industrial Emissions Directive, as well as standards on emissions from transport and energy sectors. While some progress has been made to reduce nutrients in the environment, harmful levels persist in certain areas.

The European Green Deal presents a target of reducing nutrient losses by 50% by 2030 and this will require additional efforts to cut down nutrient emissions. The Integrated Nutrient Management Action Plan is a unique opportunity to consider the nutrient cycles globally and to provide a holistic and sustainable

approach to nutrient management.

A higher efficiency of fertilisers, through optimised manure management and fertilisation practices, is also lowering our dependency on the ones we import, or for the production of which we import natural gas.

Dietary habits have also an impact on nutrient pollution. Nitrogen losses in the environment is 25 times higher for beef protein than for cereal protein. [A 50% reduction in livestock product consumption and production would reduce nitrogen emission by 42%](#). Food waste also contributes to nutrient pollution.

2.1. What would be the most effective level of action to tackle nutrient pollution?

	Completely agree	Somewhat agree	Neither agree nor disagree	Completely disagree	I don't know
International/global level	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
EU level	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National level	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regional level	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
River basin level	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.2. To what extent are the following EU policies effective to address nutrient pollution?

	Very effective	Sufficiently effective	Insufficiently effective	I don't know
Air legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Water legislation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nitrates Directive	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Waste legislation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sewage sludge directive	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Industrial emission legislation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Fertilisers legislation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Common Agricultural Policy	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

2.3. Would you say that the above EU policies are sufficiently coherent and complement each other?

- Yes

No

If you answered no, please explain what could be improved

The CAP has ineffective links with the Nitrates directive and the Water legislation (WFD) limited to only articles. The Fertiliser regulation does not require blending with fertilisers from organic sources which could support the goals of the UWWTD. The CAP does not promote the application of high quality sewage sludge (bio-solids) and, thus, does not support the Sewage sludge directive. There is duplication between the UWWTD and the Industrial emissions directive when it comes to digesters of sewage sludge importing sewage sludge from other UWWTP.

2.4. Are the EU and the Member States sufficiently equipped to tackle nutrients pollution?

	Completely agree	Somewhat agree	Neither agree nor disagree	Completely disagree	I don't know
Legislation is sufficiently developed	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring tools allow identification of the pollution source and diffusion	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Targets and expected results are clearly defined and known	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public authorities at EU, national and regional levels are sufficiently equipped to enforce the rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

2.5. Which aspects should be reinforced in addressing nutrient pollution for elaborating the Integrated Nutrient Management Action Plan?

	Needs reinforcing	No reinforcing needed	I don't know
Air quality	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Fresh and marine water quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biodiversity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climate	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Human health	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social impact	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economic impact	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

2.6. What actions should the Integrated Nutrient Management Action Plan focus on?

	Completely agree	Somewhat agree	Neither agree nor disagree	Completely disagree	I don't know
Reinforced coherence between existing policies	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reinforced controls of existing legislation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reinforced implementation and enforcement of existing legislation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Introduce new legislation	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non legislative measures (guidance, recommendations, cooperation, exchange of best practices)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial incentives	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax on polluting activities	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raising awareness about nutrient pollution	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing knowledge transfer on environmentally friendly practices (by training, advisory services, platform for sharing of best practices)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research and innovation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

You can specify the main focus here

Ambitious implementation and more controls at Member State level are key. This includes initiating measures and evaluating them to see whether they are effective to achieve the agreed goals.

2.7. How effective are the following ways of tackling nutrient pollution?

	Very effective	Somewhat effective	Neither effective nor ineffective	Somewhat ineffective	I don't know

Good farming practices to manage nutrients (balanced fertilisation, precision fertilisation, manure management)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advisory services for farmers	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stronger or new regulatory targets for nutrients pollution in air, water, soil	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopting reinforced measures on pollution hotspots	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing controls and sanctions in case of non-compliance with the environmental legislation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No or limited fertilisation near nature sensitive/ risk areas	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing organic farming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Reducing livestock density	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing land-based or mixed livestock farming practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Limiting industrial emissions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optimising waste waters treatment	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Optimising sludge treatment before application on land	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reducing food waste	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reducing other biowaste	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recycling nutrients from waste	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investing in nature based solutions (afforestation, filtering ditches, large buffer strips)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investing in drinking water and wastewater infrastructure	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building citizen awareness on nutrient pollution and the impact of consumer choices	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investing in research and development	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reducing emissions from energy (more renewable energy) and transport (stricter standards limiting motor emission, stricter speed limits)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.8. How much can citizens contribute to reducing nutrient pollution?

	More	Same as currently	Less	I don't know
By dietary choices favouring more vegetable protein than animal proteins	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By consuming products produced with less fertiliser (e.g., Organic Farming)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
By better sorting your waste, separating food waste from other waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
By reducing food waste	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By choosing greener transport means	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
By choosing renewable energy sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

2.9. As a consumer, would you be willing to contribute to the reduction of nutrient pollution?

	Yes, absolutely	Maybe, I would be ready to try	Not at all	I don't know
By dietary choices favouring more vegetable protein than animal proteins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By consuming products produced with less fertiliser (e.g., Organic Farming)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By better sorting your waste, separating food waste from other waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By reducing food waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By choosing greener transport means	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By choosing renewable energy sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.10. Should the scope of the initiative also extend to other nutrients than nitrogen and phosphorus?

- Yes
- No

3. How to better recycle nutrients

At the moment, nutrients such as nitrogen and phosphorus, are lost along the entire food chain, with negative impacts on human health, environment and economy. Closing the loop of the nutrient cycles is

part of the concept of circular economy and the Integrated Nutrient Management Action Plan will aim to stimulate the markets for recovered nutrients.

In the EU, animal manure, compost and sewage sludge have been applied as fertilizer, but there are many other bio products rich in nutrients that could be better recycled such as food waste and other biowaste, which will have to be collected separately from other waste from 2023.

Global availability of phosphorus is limited. Food production uses approximately 90% of all phosphorus mined but it is rarely recycled, which raises concerns about the scarcity of future supplies and market prices.

The Russia’s invasion of Ukraine also increased chemical nitrogen fertilisers cost because of the natural gas their production consume, and jeopardize the import of phosphorus and potash fertilisers from certain countries. Reducing our dependency on these fertilisers by a better nutrient circularity is also necessary to increase the resilience of our food chain.

3.1. What are the main obstacles to nutrient recycling?

	Completely agree	Somewhat agree	Neither agree nor disagree	Completely disagree	I don't know
Lack of information about the current possibilities to recycle nutrients	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regulatory constraints	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presence of contaminants (heavy metals, pathogens or pharmaceuticals) in recycled nutrient products	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of demand for recycled nutrient products	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Higher cost of recycled nutrient products compared with conventional products	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consumer reluctance due to the risk of food contamination	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Odour and troublesome traffic in rural areas associated with storage, transport and spreading of recovered nutrients	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you identify another obstacle to nutrient recycling, could you please mention it, as well as the reason why it constitutes an obstacle?

Other obstacles include the lack of innovative business models (lack of uniform EU end-of-waste criteria and of markets for secondary raw materials to make their recovery economically viable), and the lack of consideration for control-at-source measures and innovative solutions to avoid pollutants release to certain waste streams.

A real driving force for producing recovered nitrogen and phosphorus is needed in the EU. An effective instrument would be to set compulsory quotas for recovered phosphorus and nitrogen in all mineral fertilizers put on the EU market, starting at a few percent and then increasing every 3-5 years.

If you mentioned regulatory constraints as an obstacle to nutrient recycling, could you please explain what the problem is?

There should be clear legislation incentivising the recovery of products containing nutrients accompanied by the setting of end-of-waste criteria. It is disappointing to see that no criteria will be set in the foreseeable future for material recovery streams from waste water.

The lack of implementation of the control-at-source principle continues to be a major concern, especially for PFAS in consumer products and industry discharging effluent in municipal sewers. It transfers pollutants to sewage sludge and hampers the possible use of sludge as fertilizer.

3.2. At what level could nutrient recycling be improved?

	Completely agree	Somewhat agree	Neither agree nor disagree	Completely disagree	I don't know
Farming	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food and drink processing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Wastewater treatment / sewage sludge	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food waste	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other biowaste	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3. Which of the following would be the most effective ways of boosting nutrient recycling?

	Very effective	Somewhat effective	Neither effective nor ineffective	Somewhat ineffective	I don't know
Information campaigns to citizens, consumers, local authorities, companies and farmers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better separating waste streams	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensuring better enforcement of existing legislation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Remove legal obstacle to nutrient recycling	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Funding streams to support investment in infrastructure for nutrient recycling	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tax on conventional chemical nutrients in fertilisers	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Target on nutrient recycling for different waste streams	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting legally binding targets for nutrient recycling	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Investing in research and development to find technological solutions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Final remarks

If you wish to provide additional evidence in relation with this initiative, please add it here.

The main applicable piece of legislation to protect water resources is the Nitrates Directive. The most urgent measure is to ensure its full and correct application across Europe.

As to resource recovery, fertilizer producers should be obliged to use recovered materials. While it becomes increasingly technically feasible to recover resources, there are very few companies that are indeed reusing them. Measures imposing a minimum percentage of resource recovery will only push the waste managing entities to invest in the recovery infrastructure. But this will not give them access to a market for their recovered products. This may give fertilizer producers an unfair advantage over recyclers with the latter being unable to store increasing amounts of recovered materials and, hence, being forced to offer it at whatever price potential buyers are willing to pay. Even if this means selling at a substantial loss. Such a situation could be avoided if the EU introduced measures like a blending obligation of virgin materials (for ex. P rock) with a minimum share of recycled material (for ex. P recovered from organic sources). This would create a much needed market pull triggering investment in nitrogen and phosphorous recovery and supporting fair prices for the recovered materials. The minimum share could be low in the beginning and then increase every 3-5 years.

If you wish to add a specific short contribution - within the scope of this questionnaire - please add it here.

If you wish also to complement it with a more extended contribution you can also upload a short separate document. (The maximum file size is 1 MB) Only files of the type pdf,txt,doc,docx,odt,rtf are allowed.

Please note that the uploaded document will be published alongside your response to the questionnaire which is the essential input to this open public consultation. The document is an optional complement and serves as additional background reading to better understand your inputs.

Please upload your file(s)

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85d03e5e-34ab-430d-9fb5-ab1d963893ca/EurEau_publications_relating_to_nutrient_management.pdf

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