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# Public consultation - IA on EU Algae initiative

Fields marked with \* are mandatory.

#### Introduction



#### Public consultation on the EU Algae initiative

The initiative aims at increasing sustainable production, ensure safe consumption and boost the innovative use of algae and algae-based products in the European Union.

The objectives of this consultation are to:

- Collect facts, views and opinions on current challenges in the algae production and consumption as well as options and preferences for resolving them,
- ensure all voices are heard with adequate representation of all stakeholder groups industry, public authorities, civil society, research; academia, NGOs, EU citizen, etc., and
- gather further information, including roadmaps, policy briefs, studies and analysis of policies, actions and technologies.

This survey seeks both your general opinion on the algae sector and provides an opportunity to answer more specific questions related to unlocking algae potential in Europe.

This survey should take approximately 10 to 30 minutes to complete. You can pause filling in the survey and continue at a later time. All information collected via the survey will be stored and handled in a confidential manner and compliant with the GDPR. You are entitled to upload a document or position paper to your contribution (maximum size 3 MB).

### About you

Bulgarian

Croatian

\*Language of my contribution

	Czech
	Danish
0	Dutch
•	English
	Estonian
0	Finnish
0	French
	German
	Greek
0	Hungarian
0	Irish
0	Italian
0	Latvian
0	Lithuanian
0	Maltese
0	Polish
0	Portuguese
0	Romanian
0	Slovak
	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
* Eluctus and
* First name
The Bioenergy Association
*Surname
of Finland
* Email (this won't be published)
*Email (this won't be published)  info@bioenergia.fi
*Email (this won't be published)  info@bioenergia.fi  *Organisation name
*Email (this won't be published)  info@bioenergia.fi
* Email (this won't be published)  info@bioenergia.fi  * Organisation name  255 character(s) maximum
* Email (this won't be published)  info@bioenergia.fi  * Organisation name  255 character(s) maximum
* Email (this won't be published)  info@bioenergia.fi  * Organisation name  255 character(s) maximum  Bioenergia ry - the Bioenergy Association of Finland
* Email (this won't be published)  info@bioenergia.fi  * Organisation name  255 character(s) maximum  Bioenergia ry - the Bioenergy Association of Finland  * Organisation size
* Email (this won't be published)  info@bioenergia.fi  * Organisation name  255 character(s) maximum  Bioenergia ry - the Bioenergy Association of Finland  * Organisation size  Micro (1 to 9 employees)

# Transparency register number

255 character(s) maximum

Check if your organisation is on the <u>transparency register</u>. It's a voluntary database for organisations seeking to influence EU decision-making.

174040000014 51			
174042620514-51			

# \*Country of origin

Pleas	e add your country of orig	jin, (	or that of your organisation	n.			
	Afghanistan		Djibouti		Libya		Saint Martin
	Åland Islands		Dominica		Liechtenstein		Saint Pierre and
							Miquelon
	Albania		Dominican		Lithuania		Saint Vincent
			Republic				and the
							Grenadines
0	Algeria	0	Ecuador	0	Luxembourg	0	Samoa
0	American Samoa		Egypt		Macau		San Marino
0	Andorra		El Salvador		Madagascar		São Tomé and
							Príncipe
0	Angola		Equatorial Guinea	a	Malawi		Saudi Arabia
	Anguilla		Eritrea	0	Malaysia		Senegal
0	Antarctica		Estonia		Maldives		Serbia
0	Antigua and		Eswatini		Mali		Seychelles
	Barbuda						
	Argentina		Ethiopia		Malta		Sierra Leone
	Armenia		Falkland Islands		Marshall Islands		Singapore
	Aruba		Faroe Islands		Martinique		Sint Maarten
	Australia		Fiji		Mauritania		Slovakia
0	Austria	0	Finland		Mauritius		Slovenia
	Azerbaijan		France		Mayotte		Solomon Islands
	Bahamas		French Guiana		Mexico		Somalia
0	Bahrain		French Polynesia		Micronesia		South Africa
	Bangladesh		French Southern		Moldova		South Georgia
			and Antarctic				and the South
			Lands				Sandwich
							Islands
0	Barbados		Gabon		Monaco		South Korea
	Belarus		Georgia		Mongolia		South Sudan
	Belgium		Germany		Montenegro		Spain

0	Belize		Ghana		Montserrat		Sri Lanka
0	Benin		Gibraltar	0	Morocco		Sudan
	Bermuda		Greece	0	Mozambique		Suriname
	Bhutan		Greenland	0	Myanmar/Burma		Svalbard and
							Jan Mayen
	Bolivia		Grenada	0	Namibia		Sweden
	Bonaire Saint		Guadeloupe	0	Nauru		Switzerland
	Eustatius and						
	Saba						
0	Bosnia and	0	Guam		Nepal		Syria
	Herzegovina						
(i)	Botswana	0	Guatemala	0	Netherlands	(iii)	Taiwan
0	Bouvet Island	0	Guernsey		New Caledonia		Tajikistan
0	Brazil	0	Guinea	0	New Zealand	0	Tanzania
0	British Indian		Guinea-Bissau	0	Nicaragua		Thailand
	Ocean Territory		_				
	British Virgin		Guyana		Niger		The Gambia
	Islands						
	Brunei		Haiti		Nigeria		Timor-Leste
	Bulgaria		Heard Island and		Niue		Togo
(C)	Division Francis	(C)	McDonald Islands	S (0)	Nawfalls lalawal	(A)	Takalan
0	Burkina Faso	<u></u>	Honduras	0	Norfolk Island	<u> </u>	Tokelau
	Burundi		Hong Kong		Northern		Tonga
0	Cambodia	(iii)	Uungan/	0	Mariana Islands North Korea	(iii)	Trinidad and
	Camboula		Hungary		North Korea		Tobago
0	Cameroon	0	Iceland	0	North Macedonia	0	Tunisia
0	Canada	0	India	0	Norway	0	Turkey
0	Cape Verde	0	Indonesia	0	Oman	0	Turkmenistan
0	Cayman Islands	0	Iran	0	Pakistan	0	Turks and
	Cayman Iolando		nan		ranotari		Caicos Islands
0	Central African	0	Iraq	0	Palau	0	Tuvalu
	Republic		1				
0	Chad	0	Ireland	0	Palestine	0	Uganda
0	Chile	0	Isle of Man	0	Panama	0	Ukraine
0		0		0		0	

	China		Israel		Papua New		United Arab
					Guinea		Emirates
	Christmas Island		Italy		Paraguay		United Kingdom
	Clipperton		Jamaica		Peru	0	United States
	Cocos (Keeling)		Japan		Philippines		United States
	Islands						Minor Outlying
							Islands
	Colombia		Jersey		Pitcairn Islands		Uruguay
	Comoros		Jordan		Poland		US Virgin Islands
	Congo		Kazakhstan		Portugal		Uzbekistan
0	Cook Islands		Kenya		Puerto Rico		Vanuatu
0	Costa Rica		Kiribati		Qatar		Vatican City
	Côte d'Ivoire		Kosovo		Réunion	0	Venezuela
	Croatia		Kuwait		Romania		Vietnam
	Cuba		Kyrgyzstan		Russia		Wallis and
							Futuna
0	Curaçao		Laos		Rwanda		Western Sahara
	Cyprus		Latvia		Saint Barthélemy	0	Yemen
	Czechia		Lebanon		Saint Helena		Zambia
					Ascension and		
					Tristan da Cunha	l	
	Democratic		Lesotho		Saint Kitts and		Zimbabwe
	Republic of the				Nevis		
	Congo						
0	Denmark	0	Liberia	0	Saint Lucia		
* Dloog	so specify your ord	าวท	nisation's role/relev	,an	co in the algae in	اراد	stry
i icas	Production/cultiva			an	ce in the algae in	Jus	sti y
	Pre-processing of		•				
			into end-products		oduction		
		-	services for algae	ы	oduction		
	Sales of algae en	-					
	Industry associati			_			
		-	ment organisation	5			
	Non-governmenta	al O	rganisations				

Educational organisations
None, I am a private person
Other, please specify

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. Fo r 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. General questions

1.1. Please indicate, on a scale from 1 to 5 (1 = not important, 5 = very important) those areas which you consider should be prioritized in the EU algae sector.

	1	2	3	4	5	No opinion
* Simplification of administrative procedures	0	0	•	0	0	0
* Regulation for the algae sector	0	0	•	0	0	0

* Access to space and water	0	0	•	0	0	©
Improve EU algae industry's competitiveness	0	0	0	0	•	0
* Ensure fair market competition	0	0	•	0	0	0
* Ensure skilled workforce and training	0	0	0	0	0	•
* Improve awareness and acceptance of the consumers about algae products	0	0	0	•	0	0
* Integration of the algae sector in the local economy	0	0	0	0	0	0
Potential contribution of algae towards environmental sustainability	0	0	0	0	•	0
* Availability of funding	0	0	0	0	•	0
<ul> <li>Animal/fish feed and ingredients</li> <li>Pharmaceuticals</li> <li>Cosmetics</li> <li>Biofertilizers</li> <li>Biostimulants</li> <li>Bioremediation (fixing carbon, phosphorus at Innovative applications (textiles, 3D printing)</li> <li>Other, please specify</li> </ul>		roger	ı in w	rater)		
*Please specify						
255 character(s) maximum  Biofuels, bioliquids, biogas						
1.3. There will be 5 webinars organised around the express your interest to join one or more of them Improving governance framework  Supporting the functioning of the market  Ensuring sustainable development of the Ell Increasing social awareness and acceptance	J alga			Pleas	se fee	I free to

Closing knowledge, research, technological and innovation gaps

- 2. More specific questions on the targeted activities to support the sustainable growth of the algae sector
- 2.1. Please indicate, on a scale from 1 to 5 (1 = not important, 5 = very important) the importance of each of the following objectives to unlock the EU algae sector's potential

	1	2	3	4	5	No opinion
* 1. Improving governance framework	0	0	•	0	0	0
* 2. Supporting the functioning of the market	0	0	•	0	0	0
* 3. Ensuring sustainable development of the EU algae sector	0	0	0	0	•	0
4. Increasing social awareness and acceptance of algae production, products and applications	0	0	•	0	0	0
* 5. Closing knowledge, research, technological and innovation gaps	0	0	0	0	•	0

Please provide us with further details on why you chose "very important" for the objective "Ensuring sustainable development of the EU algae sector" (optional)

500 character(s) maximum

Algae is a potential source for producing sustainable renewable fuels (i.e.diesel, bioliquids, SAF, biogas)

Please provide us with further details on why you chose "very important" for the objective "Closing knowledge, research, technological and innovation gaps" (optional)

500 character(s) maximum

Knowledge in producing different kinds of algae for different purposes needs to be strongly improved by technological solutions and innovation.

`P	'lease	elab	orate
٢	rease	eiab	orale

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- 5. Ensuring sustainable development of the EU algae sector
- 5.1. In your opinion, what measures would ensure a sustainable development of the EU algae sector? Please indicate, on a scale from 1 to 5 (1 = not important, 5 = very important) the importance of each measure.

	1	2	3	4	5	No opinion
* Create an EU wide sector organisation/network	0	0	0	•	0	0
* Create and maintain a web-based one-stop-shop for EU algae stakeholders for knowledge, good practices sharing, mapping of funding, algae project results, etc	0	0	0	•	0	0
* Create and maintain an assistance mechanism for EU algae stakeholders	0	0	•	0	0	0
<ul> <li>Identify and assess specific needs and availability of investment funding for innovation, technology, infrastructure, knowledge and skills development</li> </ul>	0	0	0	0	•	0
<ul> <li>Mapping and keeping an up-to-date EU funding sources overview for EU algae sector</li> </ul>	0	0	0	•	0	0
* Support to start-ups in the algae sector in accessing the value chain, including contacts with others companies, knowledge institutes and/or regulators	0	0	0	0	•	0

W	nat else, in your opinion, should the one-stop-shop contain/deal with?

- \*5.2. Are there any additional measures that should be incorporated?
  - Yes
  - O No
- \*Please elaborate

Dissemination of knowledge

\*5.3. What kind of work, in terms of administrative burden, is added/removed when measures to ensure a sustainable development of the EU algae sector referred to in 5.1. are implemented?

The administration already exists, sustainability legislation already exists.

- 5.4. Impact from measures ensuring the sustainable development of the EU algae sector
- \*5.5. Please choose the measures which according to you will have the highest impact

at most 3 choice(s)

Create an EU wide sector	organisation/network
Create and maintain a web	b-based one-stop-shop for EU algae stakeholders
for knowledge, good practi	ces sharing, mapping of funding, algae project
results, etc	
$^{\square}$ Create and maintain an as	sistance mechanism for EU algae stakeholders
Identify and assess specific	c needs and availability of investment funding for
innovation, technology, infi	rastructure, knowledge and skills development
Mapping and keeping an u algae sector	p-to-date EU funding sources overview for EU
Support to start-ups in the	algae sector in accessing the value chain, including
contacts with others compa	anies, knowledge institutes and/or regulators
	e most significant economic impact of ensuring a
	EU algae sector? (Multiple options possible)
	enerated by your organisation
_	generated by your organisation
Increase in total gross valu	ue added from the algae sector
Decrease in total gross val	ue added from the algae sector
Impact on the expansion / facilities	scale-up of micro- and macroalgae production
Impact on the market uptal	ke of innovative products
Increase in market prices	
Decrease in market prices	
Impact on potential compe	tition in the algae sector
Other, please specify	
•	e most significant social impact of ensuring a
_	EU algae sector? (Multiple options possible)
Increase in employment	
Decrease in employment	
Impact on the attractivenes	ss of the sector (e.g. salaries and how attractive the
sector is for people to prog	ress in careers)
Impact on consumer aware	eness and acceptance
Impact on improved availa	bility of health-related products (nutraceuticals,
cosmeceuticals, etc)	
Other, please specify	

*5.8. What is, in your opinion, the most significant environmental impact of ensuring
a sustainable development of the EU algae sector? (Multiple options possible)
Impact on CO2 and nutrients captured - bioremediation potential of algae
Impact on the biodiversity
$^{lacktrel{ ilde{V}}}$ Impact on the improved environmental footprint of algae-based industrial
products (e.g. bio-based polymers, surfactants, etc) vs. fossil counterparts.
$^{\square}$ Impact on reduction of the environmental footprint of production
Impact by replacement of current products with more environmentally friendly
alternatives (e.g. proteins from algae instead of soy)
Other, please specify

## 7. Closing knowledge, research and innovation gaps

7.1. How could knowledge, research and innovation gaps best be closed? Please indicate, on a scale from 1 to 5 (1 = not important, 5 = very important) the importance of each measure.

	1	2	3	4	5	No opinion
* Developing improved algae cultivation systems (integrated multi-trophic aquaculture, offshore cultivation) or methods (e. g. cellular mariculture) contributing to fighting the current technical constraints in the production systems and consequently upscaling production volumes	0	0	0	0	•	0
* Developing improved algae processing systems (biorefineries), processing algae into multiple products and for multiple applications	0	0	0	0	0	•
* Establishing a monitoring framework, targets and methodologies for (1) quantifying ecosystem services (e.g. carbon sequestration, blue carbon credits, nutrients uptake), (2) carrying capacities of EU waters for seaweed aquaculture and marine permaculture and (3) impacts of cultivation, restoration and harvesting on marine ecosystems	0	0	0	0	•	0
* Research to strengthen the potential nutritional benefits of algae	0	0	0	•	0	0
* Research to deliver new innovative algae-based products	0	0	0	0	0	0
* Targeted support to industry helping to move from research /demonstration stage to the market	0	0	0	0	0	•
* Research on safe and secure algae production methods in closed systems (eg. by using animal based biofertilizers)	0	0	0	0	0	0

	To support higher education programs in the area of blue biotechnology and innovative solutions for algae cultivation	0	0	0	0	0	•
	Fund doctoral theses in the area of innovative solutions, knowledge, data or good practices on the blue bioeconomy and algae	0	0	0	0	0	•
* 7.2.	Are there any additional measures that should	d be ir	ncorp	orate	d?	-	
0	Yes		7				
•	No						
mea	What kind of work, in terms of administrative to sures to close knowledge, research and innovermented?						
ι	Jse of existing administration						
	What specific actions, in your view, could help ng academia, research and industry?	to im	nprov	e the	colla	borat	ion
7.5.	Impact from closing knowledge, research	n and	inno	vatio	on ga	aps	
*7.6.	Please choose the measures which according	ı to vo	ou wil	l hav	e the	hiahe	est
impa	·	, , .					
•	ost 3 choice(s)						
<b>V</b>	Developing improved algae cultivation system aquaculture, offshore cultivation) or methods contributing to fighting the current technical constraints and consequently upscaling productions.	(e.g. constr	cellu aints	lar m in the	aricu	Iture)	
	Developing improved algae processing syste algae into multiple products and for multiple a	•			es), p	roces	sing
	Establishing a monitoring framework, targets				nies '	for (1	)
	quantifying ecosystem services (e.g. carbon credits, nutrients uptake), (2) carrying capaci aquaculture and marine permaculture and (3 restoration and harvesting on marine ecosys	seque ties o ) impa	estrat f EU	ion, t wate	olue o	arbo seav	n
	Research to strengthen the potential nutrition	nal be	nefits	of a	lgae		
<b>V</b>	Research to deliver new innovative algae-ba	sed p	rodu	cts			
J	- 	-					

stage to the market
To support higher education programs in the area of blue biotechnology and
innovative solutions for algae cultivation
Fund doctoral theses in the area of innovative solutions, knowledge, data or
good practices on the blue bioeconomy and algae
*7.7. What is, in your opinion, the most significant economic impact of closing
knowledge, research and innovation gaps? (Multiple options possible)
Increase in total revenue generated by your organisation
Decrease in total revenue generated by your organisation
Increase in total gross value added from the algae sector
Decrease in total gross value added from the algae sector
Impact on the expansion / scale-up of micro- and macroalgae production
facilities
Impact on the market uptake of innovative products
Increase in market prices
Decrease in market prices
Impact on potential competition in the algae sector
Increase in R&D (i.e. the number of innovations seen)
Other, please specify
*7.8. What is, in your opinion, the most significant social impact of closing
knowledge, research and innovation gaps? (Multiple options possible)
Increase in employment
Decrease in employment
Impact on the attractiveness of the sector (e.g. salaries and how attractive the
sector is for people to progress in careers)
Impact on consumer awareness and acceptance
$\hfill\square$ Impact on improved availability of health-related products (nutraceuticals,
cosmeceuticals, etc)
Other, please specify
*7.9. What is, in your opinion, the most significant environmental impact of closing
knowledge, research and innovation gaps? (Multiple options possible)
Impact on CO2 and nutrients captured - bioremediation potential of algae

<ul> <li>Impact by replacement of current products value alternatives (e.g. proteins from algae instead</li> <li>Other, please specify</li> <li>Potential regulatory measures</li> </ul>			nviro	nmen	itally t	friendly
8.1. Please indicate, on a scale from 1 to 5 (1 = n	-		t, 5 =	very	impo	ortant)
the importance of implementing the following mea	asures 1	. 2	3	4	5	No opinion
* Targets (binding or voluntary) for substitution of fish-based fish feed and animal feed with algae-based feed	0	0	0	0	0	•
* Better inclusion of algae in the Common fisheries policy	0	0	0	0	0	•
* Targets for governments agencies to purchase/subsidize the price of algae-based food, the use of feed, and other products	0	0	0	0	0	•
* Identification of regulatory gaps such as in agriculture, limiting use of algae-based feed/fertilisers	0	0	©	0	0	•
* Establish an enabling regulatory framework allowing the deployment of algae-based (pilot) ecosystem services projects (e.g. bioremediation (removal of nutrients, CO2 from the water), biological carbon capture and storage, carbon pricing, carbon credits, marine permaculture)	0	0	0	0	•	0
* Improved implementation of the Organic Regulation e.g. as regards algae international partnership initiatives	0	0	0	0	0	•
* Effective patents for algae technologies	0	0	0	•	0	0
8.2. Are there any additional measures that shoul  Property Yes  No	d be ir	ncorp	orate	ed?		

Impact on the biodiversity

8.3. What kind of work, in terms of administrative burden, is added/removed when regulatory measures referred to in 8.1. are implemented?
Use of existing administration and legislation
8.4. Could you provide some examples of the consequences for you/your organisation of the absence of adequate regulatory frameworks in the EU algae sector?
8.5. Impact from the potential regulatory measures
*8.6. Please choose the measures which according to you will have the highest impact  at most 3 choice(s)
Targets (binding or voluntary) for substitution of fish-based fish feed and animal feed with algae-based feed[1]
Better inclusion of algae in the Common fisheries policy
Targets for governments agencies to purchase algae-based food, feed and other products, or materials
Identification of regulatory gaps such as in agriculture, limiting use of algae- based feed/fertilisers
Establish an enabling regulatory framework allowing the deployment of algae-based (pilot) ecosystem services projects (e.g. bioremediation (removal of nutrients, CO2 from the water), biological carbon capture and storage, carbon pricing, carbon credits, marine permaculture)
Improved implementation of the Organic Regulation e.g. as regards algae international partnership initiatives
Effective patents for algae technologies
*8.7. What is, in your opinion, the most significant economic impact of introducing regulatory measures? (Multiple options possible)
Increase in total revenue generated by your organisation
Decrease in total revenue generated by your organisation
Increase in total gross value added from the algae sector
Decrease in total gross value added from the algae sector

Impact on the expansion / scale-up of micro- and macroalgae production facilities
Impact on the market uptake of innovative products
Increase in market prices
Decrease in market prices
Impact on potential competition in the algae sector
Other, please specify
8.8. What is, in your opinion, the most significant social impact of introducing
regulatory measures? (Multiple options possible)
Increase in employment
Decrease in employment
Impact on the attractiveness of the sector (e.g. salaries and how attractive the
sector is for people to progress in careers)
Impact on consumer awareness and acceptance
Impact on improved availability of health-related products (nutraceuticals,
cosmeceuticals, etc)
Other, please specify
8.9. What is, in your opinion, the most significant environmental impact of
introducing regulatory measures? (Multiple options possible)
Impact on CO2 and nutrients captured - bioremediation potential of algae
Impact on the biodiversity
Impact on the improved environmental footprint of algae-based industrial
products (e.g. bio-based polymers, surfactants, etc) vs. fossil counterparts.
$^{lacktrel{ iny}}$ Impact on reduction of the environmental footprint of production
Impact by replacement of current products with more environmentally friendly
alternatives (e.g. proteins from algae instead of soy)
Other, please specify

Please feel free to upload a document or position paper to your contribution (maximum size 3 MB)

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

### Contact

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