

# A sustainable bioenergy policy for the period after 2020

Fields marked with \* are mandatory.

## Introduction

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EU Member States have agreed on a new policy framework for climate and energy, including EU-wide targets for the period between 2020 and 2030. The targets include reducing the Union's greenhouse gas (GHG) emissions by 40 % relative to emissions in 2005 and ensuring that at least 27 % of the EU's energy comes from renewable sources. They should help to make the EU's energy system more competitive, secure and sustainable, and help it meet its long-term (2050) GHG reductions target.

In January 2014, in its Communication on A policy framework for climate and energy in the period from 2020 to 2030,[1] the Commission stated that '[a]n improved biomass policy will also be necessary to maximise the resource-efficient use of biomass in order to deliver robust and verifiable greenhouse gas savings and to allow for fair competition between the various uses of biomass resources in the construction sector, paper and pulp industries and biochemical and energy production. This should also encompass the sustainable use of land, the sustainable management of forests in line with the EU's forest strategy and address indirect land-use effects as with biofuels'.

In 2015, in its Energy Union strategy,[2] the Commission announced that it would come forward with an updated bioenergy sustainability policy, as part of a renewable energy package for the period after 2020.

Bioenergy is the form of renewable energy used most in the EU and it is expected to continue to make up a significant part of the overall energy mix in the future. On the other hand, concerns have been raised about the sustainability impacts and competition for resources stemming from the increasing reliance on bioenergy production and use.

Currently, the Renewable Energy Directive[3] and the Fuel Quality Directive[4] provide an EU-level sustainability framework for biofuels[5] and bioliquids.[6] This includes harmonised sustainability criteria for biofuels and provisions aimed at limiting indirect land-use change,[7] which were introduced in 2015.[8]

In 2010, the Commission issued a Recommendation[9] that included non-binding sustainability criteria for solid and gaseous biomass used for electricity, heating and cooling (applicable to installations with a capacity of over 1 MW). Sustainability schemes have also been developed in a number of Member States.

The Commission is now reviewing the sustainability of all bioenergy sources and final uses for the period after 2020. Identified sustainability risks under examination include lifecycle greenhouse gas emissions from bioenergy production and use; impacts on the carbon stock of forests and other ecosystems; impacts on biodiversity, soil and water, and emissions to the air; indirect land use change impacts; as well as impacts on the competition for the use of biomass between different sectors (energy, industrial uses, food). The Commission has carried out a number of studies to examine these issues more in detail.

The development of bioenergy also needs to be seen in the wider context of a number of priorities for the Energy Union, including the ambition for the Union to become the world leader in renewable energy, to lead the fight against global warming, to ensure security of supply and integrated and efficient energy markets, as well as broader EU objectives such as reinforcing Europe's industrial base, stimulating research and innovation and promoting competitiveness and job creation, including in rural areas. The Commission also stated in its 2015 Communication on the circular economy<sup>[10]</sup> that it will 'promote synergies with the circular economy when examining the sustainability of bioenergy under the Energy Union'. Finally, the EU and its Member States have committed themselves to meeting the 2030 Sustainable Development Goals.

[1] COM(2014) 15.

[2] COM/2015/080 final.

[3] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5.6.2009, p. 16).

[4] Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998, p. 58).

[5] Used for transport.

[6] Used for electricity, heating and cooling.

[7] Biomass production can take place on land that was previously used for other forms of agricultural production, such as growing food or feed. Since such production is still necessary, it may be (partly) displaced to land not previously used for crops, e.g. grassland and forests. This process is known as indirect land use change (ILUC); see <http://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/land-use-change>.

[8] See more details on the existing sustainability framework for biofuels and bioliquids in section 5.

[9] COM/2010/0011 final.

[10] Closing the loop – an EU action plan for the circular economy (COM(2015) 614/2).

## 1. General information about respondents

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\* 1.1. In what capacity are you completing this questionnaire?

- academic/research institution
- as an individual / private person
- civil society organisation
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- international organisation
- other
- private enterprise
- professional organisation
- public authority
- public enterprise

\* 1.2. If you are a private or public enterprise, could you please indicate your principal business sector?

- Agriculture
- Automotive
- Biotechnology
- Chemicals
- Energy
- Food
- Forestry
- Furniture
- Mechanical Engineering
- Other
- Printing
- Pulp and Paper
- Woodworking

\* 1.3. If you are a private or public enterprise, could you please indicate the size of your company?

(Medium-sized enterprise: an enterprise that employs fewer than 250 persons and whose annual turnover does not exceed EUR 50 million or whose annual balance-sheet total does not exceed EUR 43 million.

Small enterprise: an enterprise that employs fewer than 50 persons and whose annual turnover and/or annual balance-sheet total does not exceed EUR 10 million.

Micro-enterprise: an enterprise that employs fewer than 10 persons and whose annual turnover and/or annual balance-sheet total does not exceed EUR 2 million.)

- large enterprise
- medium-sized enterprise
- small enterprise
- micro-enterprise
- I don't know

1.8. If replying as an individual/private person, please give your name; otherwise give the name of your organisation

*200 character(s) maximum*

Pannonia Ethanol Zrt.

1.9. If your organisation is registered in the Transparency Register, please give your Register ID number.

(If your organisation/institution responds without being registered, the Commission will consider its input as that of an individual and will publish it as such.)

*200 character(s) maximum*

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1.10. Please give your country of residence/establishment

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom
- Other non-EU European country
- Other non-EU Asian country
- Other non-EU African country
- Other non-EU American country

\* 1.11. Please indicate your preference for the publication of your response on the Commission's website:

(Please note that regardless the option chosen, your contribution may be subject to a request for

access to documents under [Regulation 1049/2001](#) on public access to European Parliament, Council and Commission documents. In this case the request will be assessed against the conditions set out in the Regulation and in accordance with applicable [data protection rules](#).)

- Under the name given: I consent to publication of all information in my contribution and I declare that none of it is subject to copyright restrictions that prevent publication.
- Anonymously: I consent to publication of all information in my contribution and I declare that none of it is subject to copyright restrictions that prevent publication.
- Please keep my contribution confidential. (it will not be published, but will be used internally within the Commission)

## Perceptions of bioenergy

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### 2.1. Role of bioenergy in the achievement of EU 2030 climate and energy objectives

Please indicate which of the statements below best corresponds to your perception of the role of bioenergy in the renewable energy mix, in particular in view of the EU's 2030 climate and energy objectives:

- Bioenergy should continue to play a dominant role in the renewable energy mix.
- Bioenergy should continue to play an important role in the renewable energy mix, but the share of other renewable energy sources (such as solar, wind, hydro and geothermal) should increase significantly.
- Bioenergy should not play an important role in the renewable energy mix: other renewable energy sources should become dominant.

### 2.2. Perception of different types of bioenergy

Please indicate, for each type of bioenergy described below, which statement best corresponds to your perception of the need for public (EU, national, regional) policy intervention (tick one option in each line):

	Should be further promoted	Should be further promoted, but within limits	Should be neither promoted nor discouraged	Should be discouraged	No opinion
Biofuels from food crops	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofuels from energy crops (grass, short rotation coppice, etc.)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Biofuels from waste (municipal solid waste, wood waste)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofuels from agricultural and forest residues	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofuels from algae	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Biogas from manure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Biogas from food crops (e.g. maize)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Biogas from waste, sewage sludge, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat and power from forest biomass (except forest residues)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat and power from forest residues (tree tops, branches, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat and power from agricultural biomass (energy crops, short rotation coppice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat and power from industrial residues (such as sawdust or black liquor)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat and power from waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Large-scale electricity generation (50 MW or more) from solid biomass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Commercial heat generation from solid biomass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Large-scale combined heat and power generation from solid biomass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Small-scale combined heat and power generation from solid biomass	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Heat generation from biomass in domestic (household) installations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Bioenergy based on locally sourced feedstocks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bioenergy based on feedstocks sourced in the EU	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bioenergy based on feedstocks imported from non-EU countries	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 3. Benefits and opportunities from bioenergy

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### 3.1. Benefits and opportunities from bioenergy

Bioenergy (biofuel for transport, biomass and biogas for heat and power) is currently promoted as it is considered to be contributing to the EU's renewable energy and climate objectives, and also having other potential benefits to the EU economy and society.

Please rate the contribution of bioenergy, as you see it, to the benefits listed below (one answer per line):

	of critical importance	important	neutral	negative	No opinion
Europe's energy security: safe, secure and affordable energy for European citizens	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grid balancing including through storage of biomass (in an electricity system with a high proportion of electricity from intermittent renewables)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Reduction of GHG emissions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental benefits (including biodiversity)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resource efficiency and waste management	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boosting research and innovation in bio-based industries	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitiveness of European industry	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Growth and jobs, including in rural areas	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sustainable development in developing countries	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 3.2. Any additional views on the benefits and opportunities from bioenergy? Please explain

*2500 character(s) maximum*

In the questionnaire no distinction is made between different forms of bioenergy. Therefore shallow responses are encouraged.

There are many different types of biofuels and bioenergy with each different sustainability profiles. Specific answers is not made possible by this questionnaire.

The difference between the sustainability (and other) profiles of ethanol and biodiesel may be larger than between biofuels and biogas. While biogas is given a separate subquestion (see Q2), no distinction is made between bioethanol and biodiesel. Readers with concerns for palm oil biodiesel will need to generalise their response whereby unintentionally painting a negative picture on ethanol.

Ethanol brings manifold benefits, including the followings:

It contributes to decarbonisation of transport (saves more than 60% GHGs). Even after accounting for iLUC, European bioethanol is much better than oil. Transport needs to be decarbonised, and there are no silver bullets in transport. Ethanol is a good option.

Oil use must be displaced. European produced ethanol is a good option to replace oil. EU road transport uses around 90% imported oil. Ethanol contributes to energy security.

EU ethanol creates and maintains jobs. An important role played in rural renaissance in EU. Rural jobs are very much needed throughout the EU.

There is a large protein deficit in the EU. Ethanol co-product animal feed (DDGS) is instrumental to reduce EU's soymeal import dependency. Europe is 70% dependent on feed imports to meets its growing livestock demand.

Investments in the farming sector is stimulated by stable and predictable demand from biorefineries.

## 4. Risks from bioenergy production and use

### 4.1. Identification of risks

A number of risks have been identified (e.g. by certain scientists, stakeholders and studies) in relation to bioenergy production and use. These may concern specific biomass resources (agriculture, forest, waste), their origin (sourced in the EU or imported) or their end-uses (heat, electricity, transport).

Please rate the relevance of each of these risks as you see it (one answer per line):

	critical	significant	not very significant	non-existent	No opinion
Change in carbon stock due to deforestation and other direct land-use change in the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Change in carbon stock due to deforestation and other direct land-use change in non-EU countries	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indirect land-use change impacts	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
GHG emissions from the supply chain (e.g. cultivation, processing and transport)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
GHG emissions from combustion of biomass ('biogenic emissions')	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on air quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Impacts on water and soil	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impacts on biodiversity	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Varying degrees of efficiency of biomass conversion to energy	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competition between different uses of biomass (energy, food, industrial uses) due to limited availability of land and feedstocks and/or subsidies for specific uses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Internal market impact of divergent national sustainability schemes	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 4.2. Any additional views on the risks from bioenergy production and use? Please explain

*2500 character(s) maximum*

Indirect land use change is a valid concern. However recent science finds that ethanol has low iLUC impact. The Globiom report finds that ethanol is much better than oil even after accounting for iLUC.  
[https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report\\_GLOBIOM\\_publication.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/Final%20Report_GLOBIOM_publication.pdf)

Moreover, low iLUC biofuels are shown to have a large potential in Europe:  
<http://www.uu.nl/en/research/copernicus-institute-of-sustainable-development/research/research-groups/energy-and-resources/potential-indirect-land-use-change-iluc>

Ethanol has no relation to tropical deforestation, hence no impact on draining peatlands in the tropics.

Ethanol is better for the environment than petrol in terms of PM emissions, and a whole lot better than diesel.

According to FAO data, the global price of food as measured by the Food Price Index was in 2015 as low in real terms as was last seen 9 years ago, well before the financial crisis. More importantly, since ethanol is mostly produced from cereals in Europe, and the prices of commodities are just one of the components of food price, it is better to look at cereals price developments. And FAO data shows that the deflated Cereals Price Index in 2015 was as low as in 2006. At the same time global ethanol production has doubled. This shows that ethanol production and agricultural commodity prices do not have a deterministic link. In fact, real world data clearly shows that ethanol production has not had the feared negative impact of food security. No such devastating impact has ever materialised.

## 5. Effectiveness of existing EU sustainability scheme for biofuels and bioliquids

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In 2009, the EU established a set of sustainability criteria for biofuels (used in transport) and bioliquids (used for electricity and heating). Only biofuels and bioliquids that comply with the criteria can receive government support or count towards national renewable energy targets. The main criteria are as follows:

- Biofuels produced in new installations must achieve GHG savings of at least 60 % in comparison with fossil fuels. In the case of installations that were in operation before 5 October 2015, biofuels must achieve a GHG emissions saving of at least 35 % until 31 December 2017 and at least 50 % from 1 January 2018. Lifecycle emissions taken into account when calculating GHG savings from biofuels include emissions from cultivation, processing, transport and direct land-use change;
- Biofuels cannot be grown in areas converted from land with previously (before 2008) high carbon stock, such as wetlands or forests;
- Biofuels cannot be produced from raw materials obtained from land with high biodiversity, such as primary forests or highly biodiverse grasslands.

In 2015, new rules<sup>[1]</sup> came into force that amend the EU legislation on biofuel sustainability (i.e. the Renewable Energy Directive and the Fuel Quality Directive) with a view to reducing the risk of indirect land-use change, preparing the transition to advanced biofuels and supporting renewable electricity in transport. The amendments:

- limit to 7 % the proportion of biofuels from food crops that can be counted towards the 2020 renewable energy targets;
- set an indicative 0.5 % target for advanced biofuels as a reference for national targets to be set by EU countries in 2017;
- maintain the double-counting of advanced biofuels towards the 2020 target of 10 % renewable energy in transport and lay down a harmonised EU list of eligible feedstocks; and
- introduce stronger incentives for the use of renewable electricity in transport (by counting it more towards the 2020 target of 10 % renewable energy use in transport).

[1] Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources (OJ L 239, 15.9.2015, p. 1).

### 5.1. Effectiveness in addressing sustainability risks of biofuels and bioliquids

In your view, how effective has the existing EU sustainability scheme for biofuels and bioliquids been in addressing the risks listed below? (one answer per line)

	effective	partly effective	neutral	counter-productive	No opinion
GHG emissions from cultivation, processing and transport	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GHG emissions from direct land-use change	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indirect land-use change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Impacts on biodiversity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impact on soil, air and water	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any additional comments?

*2500 character(s) maximum*

The ILUC Directive (2015) sets a 7% cap on conventional biofuels, including ethanol. In essence the cap on ethanol contributes to more oil use, which in turn worsens climate change and causes damages to ecosystems, something the regulation indirectly aims to avoid. If the share of renewable ethanol was supported to grow (while meeting sustainability requirements), more oil would be displaced.

Even after accounting for iLUC European ethanol is much better than oil. And importantly, brings other benefits too.

The cap, and in fact any regulation aiming to curtail ethanol, is bad for the climate (and rural development). The cap is a blunt measure, not effective to regulate iLUC.

Again, there are significant differences between biofuels, let alone forms of bioenergy. A generalised approach is inadequate.

## 5.2. Effectiveness in promoting advanced biofuels

In your view, how effective has the sustainability framework for biofuels, including its provisions on indirect land-use change, been in driving the development of 'advanced' biofuels, in particular biofuels produced from ligno-cellulosic material (e.g. grass or straw) or from waste material (e.g. waste vegetable oils)?

- very effective
- effective
- neutral
- counter-productive
- no opinion

What additional measures could be taken to further improve the effectiveness in promoting advanced biofuels?

*2500 character(s) maximum*

The double-counting measure is counter-productive, as less oil is displaced. The sustainability and carbon footprint of some feedstocks, such as imported Used Cooking Oil, are questionable, yet the regulations promote them by double-counting.

## 5.3. Effectiveness in minimising the administrative burden on operators

In your view, how effective has the EU biofuel sustainability policy been in reducing the administrative burden on operators placing biofuels on the internal market by harmonising sustainability requirements in the Member States (as compared with a situation where these matter would be regulated by national schemes for biofuel sustainability)?

- very effective
- effective
- not effective
- no opinion

What are the lessons to be learned from implementation of the EU sustainability criteria for biofuels? What additional measures could be taken to reduce the administrative burden further?

*2500 character(s) maximum*

#### 5.4. Deployment of innovative technologies

In your view, what is needed to facilitate faster development and deployment of innovative technologies in the area of bioenergy? What are the lessons to be learned from the existing support mechanisms for innovative low-carbon technologies relating to bioenergy?

*2500 character(s) maximum*

iLUC-free biofuels (low iLUC-risk biofuels) are to be identified and certified. They are innovative in the sense that stimulate advancement of farming.  
A robust policy framework beyond 2020 is vital if innovation potential in biorefineries is to be exploited.

## 6. Effectiveness of existing EU policies in addressing solid and gaseous biomass sustainability issues

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6.1. In addition to the non-binding criteria proposed by the Commission in 2010, a number of other EU policies can contribute to the sustainability of solid and gaseous bioenergy in the EU. These include measures in the areas of energy, climate, environment and agriculture.

In your view, how effective are current EU policies in addressing the following risks of negative environmental impacts associated with solid and gaseous biomass used for heat and power? (one answer per line)

	effective	partly effective	neutral	counter-productive	No opinion
Change in carbon stock due to deforestation, forest degradation and other direct land-use change in the EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Change in carbon stock due to deforestation, forest degradation and other direct land-use change in non-EU countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Indirect land-use change impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
GHG emissions from supply chain, e.g. cultivation, processing and transport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

GHG emissions from combustion of biomass ('biogenic emissions')	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Air quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Water and soil quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Biodiversity impacts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Varying degrees of efficiency of biomass conversion to energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Competition between different uses of biomass (energy, food, industrial uses) due to limited availability of land and feedstocks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>				

6.2. Any additional views on the effectiveness of existing EU policies on solid and gaseous biomass?  
Please explain

*2500 character(s) maximum*

## 7. Policy objectives for a post-2020 bioenergy sustainability policy

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7.1. In your view, what should be the key objectives of an improved EU bioenergy sustainability policy post-2020? Please rank the following objectives in order of importance: most important first; least important 9th/10th (you can rank fewer than 9/10 objectives):

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Contribute to climate change objectives	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoid environmental impacts (biodiversity, air and water quality)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mitigate the impacts of indirect land-use change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote efficient use of the biomass resource, including efficient energy conversion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote free trade and competition in										

the EU among all end-users of the biomass resource	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Ensure long-term legal certainty for operators	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Minimise administrative burden for operators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Promote energy security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote EU industrial competitiveness, growth and jobs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please specify the "other" choice

*200 character(s) maximum*

Rural development. Benefits to agriculture in the form of stimulating investments: drive towards investment in farming technology/innovation by providing a predictable market, lowering downside risk

7.2. Any other views? Please specify

*2500 character(s) maximum*

## 8. EU action on sustainability of bioenergy

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8.1. In your view, is there a need for additional EU policy on bioenergy sustainability?

- No: the current policy framework (including the sustainability scheme for biofuels and bioliquids, and other EU and national policies covering solid and gaseous biomass) is sufficient.
- Yes: additional policy is needed for solid and gaseous biomass, but for biofuels and bioliquids the existing scheme is sufficient.
- Yes: additional policy is needed on biofuels and bioliquids, but for solid and gaseous biomass existing EU and national policies are sufficient.
- Yes: a new policy is needed covering all types of bioenergy.

8.2. In your view, and given your answers to the previous questions, what should the EU policy framework on the sustainability of bioenergy include? Please be specific

*5000 character(s) maximum*

The existing sustainability scheme laid out in RED and FQD is sufficient to address concerns and ensure the sustainability of renewable ethanol production. The sustainability scheme in EU is the most stringent and progressive globally.

Policies are needed to reduce carbon intensity of fuels, and policies need to incentivize those forms of bioenergy that bring substantial GHG savings (including ILUC). Ethanol is one such bioenergy.

As for iLUC, preventive measures are needed in the first place, such as a scheme to be in place for iLUC-free (low iLUC-risk) biofuels.

The fossil fuel comparators, and all industry GHG data in regulations should be updated to better reflect reality.

## 9. Additional contribution

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Do you have other specific views that could not be expressed in the context of your replies to the above questions?

*5000 character(s) maximum*

The questionnaire is biased. The structure of the questionnaire due to its generalised format does not allow for specific views to be expressed, hence responses are predisposed to be unnecessarily/unintentionally negative towards renewable ethanol. The questionnaire design appears to have an underlying ideology. As a consequence negative views are expected to disproportionately appear in the responses.

The questionnaire sets bioenergy against other renewable such as solar or wind. Such setting is unnecessary as competition is non-existent in many cases. For instance bioethanol does not compete with solar, wind, hydro nor geothermal. Different forms of bioenergy are rather complementary. For instance all sustainable RES are needed to meet the 1.5 degrees climate target.

This biased setting right from the beginning of the questionnaire may set the tone against bioenergy. It unfavourably influences the careless reader.

There can be no right answer to such generalised questions as Q2.1. There are many different types of biofuels with each different sustainability profiles. Specific answers is not made possible by Q2.1.

Right the first questions (Q.2.2) speak of "food crops", when in fact ethanol is produced from feed crops (feed corn, feed wheat, etc.). See below:

1. Everything but sugar goes back to the feed chain

It is important to underscore that the nutrients in the corn used in ethanol plants are not removed from the food chain, but go back in the form of animal feed. Bioethanol production takes away the starch components of corn only. The protein is not taken out of the food chain, and is actually substantially increased. A modern ethanol plant produces equal quantities of ethanol and a high-protein animal feed product (distillers' grain, DGS). This co-product of bioethanol production displaces soy that would otherwise be devoted to low yield protein meal production and so frees land for food production.

2. Low nutritional value components are used for ethanol production

The corn ethanol pathway process uses only the starch from the corn kernel. Starch is of very low nutritional (and market) value. Corn starch does not add any sort of nutritional value to foods other than calories; no protein, fat, vitamins, minerals or fiber.

3. Feed corn not meant for human consumption is used

Ethanol production uses feed corn that has almost no market as food, but is instead purchased for animal feed and industrial (plastics, paper, chemicals, etc.) uses. White or sweet corn, the corn eaten by people in any quantity, is not used in ethanol plants.

4. Valuable animal feed is co-produced (DGS)

DGS substitutes for a range of high value feed products, adding to the options available to livestock producers to improve feeding strategies, and the best balance of fibre, starch, energy and protein. DGS contains three times more protein, fat and fibre than corn.

The corn ethanol pathway adds more protein to the co-product animal feed through the fermentation process (i.e. brewers' yeast, 5% of DGS mass). It also makes DGS more digestible and less likely to spoil as it is cooked and dried during the process.

Finally, you may upload here any relevant documents, e.g. position papers, that you would like the European Commission to be aware of.

**Thank you for participation to the consultation!**

## **Contact**

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