

# 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
-

- international organisation
- other
- private enterprise
- professional organisation
- public authority
- public enterprise

\* 1.6. If you are a civil society organisation, please indicate your main area of focus.

- Agriculture
- Energy
- Environment & Climate
- Other
- Technology & Research

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

*200 character(s) maximum*

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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 type="radio"/>                         | <input type="radio"/>                      | <input checked="" type="radio"/> | <input type="radio"/> |
| Biofuels from energy crops (grass, short rotation coppice, etc.) | <input type="radio"/>      | <input type="radio"/>                         | <input type="radio"/>                      | <input checked="" type="radio"/> | <input type="radio"/> |
| Biofuels from waste (municipal solid waste, wood waste)          | <input type="radio"/>      | <input type="radio"/>                         | <input checked="" type="radio"/>           | <input type="radio"/>            | <input type="radio"/> |
| Biofuels from agricultural and forest residues                   | <input type="radio"/>      | <input type="radio"/>                         | <input checked="" type="radio"/>           | <input type="radio"/>            | <input type="radio"/> |
| Biofuels from algae                                              | <input type="radio"/>      | <input type="radio"/>                         | <input checked="" type="radio"/>           | <input type="radio"/>            | <input type="radio"/> |
| Biogas from manure                                               | <input type="radio"/>      | <input checked="" type="radio"/>              | <input type="radio"/>                      | <input type="radio"/>            | <input type="radio"/> |
| Biogas from food crops (e.g. maize)                              | <input type="radio"/>      | <input type="radio"/>                         | <input type="radio"/>                      | <input checked="" type="radio"/> | <input type="radio"/> |
| Biogas from waste, sewage sludge, etc.                           | <input type="radio"/>      | <input checked="" type="radio"/>              | <input type="radio"/>                      | <input type="radio"/>            | <input type="radio"/> |
| Heat and power from forest                                       |                            |                                               |                                            |                                  |                       |

|                                                                                 |                       |                                  |                                  |                                  |                       |
|---------------------------------------------------------------------------------|-----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------|
| biomass (except forest residues)                                                | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Heat and power from forest residues (tree tops, branches, etc.)                 | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Heat and power from agricultural biomass (energy crops, short rotation coppice) | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Heat and power from industrial residues (such as sawdust or black liquor)       | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> |
| Heat and power from waste                                                       | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Large-scale electricity generation (50 MW or more) from solid biomass           | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Commercial heat generation from solid biomass                                   | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Large-scale combined heat and power generation from solid biomass               | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Small-scale combined heat and power generation from solid biomass               | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> |
| Heat generation from biomass in                                                 |                       |                                  |                                  |                                  |                       |

|                                                              |                       |                                  |                                  |                                  |                       |
|--------------------------------------------------------------|-----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------|
| domestic (household) installations                           | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Bioenergy based on locally sourced feedstocks                | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Bioenergy based on feedstocks sourced in the EU              | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Bioenergy based on feedstocks imported from non-EU countries | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Other                                                        | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> |

Please specify the "other" choice

*200 character(s) maximum*

Biomass from grasslands, road sides etc. harvested for nature conservation purposes.

### 3. Benefits and opportunities from bioenergy

#### 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 type="radio"/>  | <input type="radio"/> | <input checked="" 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 checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Reduction of GHG emissions                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Environmental benefits (including biodiversity)                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Resource efficiency and waste management                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> |
| Boosting research and innovation in bio-based industries                                      | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Competitiveness of European industry                                                          | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Growth and jobs, including in rural areas                                                     | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> |
| Sustainable development in developing countries                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>            | <input checked="" 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*

Bioenergy production with co-benefits should be prioritized in comparison to biomass used only for energy. Examples include anaerobic digestion of waste based biomass that allows to return nutrients to the soil and use of biomass that is harvested for nature conservation purposes such as grassland management.

## 4. Risks from bioenergy production and use

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### 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 checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Change in carbon stock due to deforestation and other direct land-use change in non-EU countries                                                                    | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Indirect land-use change impacts                                                                                                                                    | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| GHG emissions from the supply chain (e.g. cultivation, processing and transport)                                                                                    | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| GHG emissions from combustion of biomass ('biogenic emissions')                                                                                                     | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Impacts on air quality                                                                                                                                              | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Impacts on water and soil                                                                                                                                           | <input type="radio"/>            | <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"/> | <input type="radio"/> |
| Varying degrees of efficiency of biomass conversion to energy                                                                                                       | <input checked="" type="radio"/> | <input type="radio"/>            | <input 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 checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input 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 checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please specify the "other" choice

*200 character(s) maximum*

Impacts on food security, right to use and tenure land (water, forests), problems with free prior and informed consent, lack of respect for basic human and labour rights.

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

*2500 character(s) maximum*

The key risks are:

- Exceeding the limits of sustainably available biomass, land and forest resources
- Failing to reduce carbon emissions to a sufficient extent
- Wasteful use of biomass resources in contradiction to the idea of the circular economy
- Negative environmental, biodiversity and social impacts

High risks of carbon emissions from bioenergy due to changes in nature's carbon stocks are not linked just to deforestation or direct land use change as suggested by question 4.1. Risks are even bigger due to 1) time delay in the (assumed) recapture by biomass growth, and 2) decrease in carbon stocks because increased harvesting for energy.

Studies of the Commission have already shown that the risk is significant. Results of GLOBIOM modelling published in March 2016 confirmed that EU's original biofuels policy would have been worse for climate than continuing the use of fossil fuels in transport if it hadn't been changed (<https://eubioenergy.com/2016/05/02/biodiesel-a-cure-worse-than-the-fossil-disease/>). Another study (DG Energy 2/2016) showed that business as usual consumption of bioenergy will result to annual emissions of over 500 MtCO<sub>2</sub>.

Negative, documented environmental impacts of growing use of bioenergy include for example conversion of natural grasslands to maize fields for biogas production, increased forest harvesting in protected areas and in natural, biodiversity rich forests and extraction of stumps from forest soils. See: <https://eubioenergy.com/category/case-studies/>

Risks of negative social impacts such as land use conflicts, land rights, livelihoods of local communities, volatility of food prices and food security have not been appropriately considered in this consultation even if they should be considered as a significant risk, especially in relation to land based crops.

## 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[1] 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 type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|                                                          |                       |                                  |                       |                       |                       |

|                                           |                       |                                  |                       |                                  |                       |
|-------------------------------------------|-----------------------|----------------------------------|-----------------------|----------------------------------|-----------------------|
| GHG emissions from direct land-use change | <input type="radio"/> | <input checked="" 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 type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Impact on soil, air and water             | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

Any additional comments?

*2500 character(s) maximum*

Biofuels sustainability scheme from 2009 ignored ILUC emissions and therefore did not prevent the deployment of biofuels with potentially higher GHG emissions than fossil fuels they were meant to replace and hence have been counterproductive.

Revision of the sustainability scheme in 2015 and the 7% cap on food based biofuels is expected to partly address indirect land use change impacts. Further efforts are still never the less the needed as not even the new, revised policy includes full accounting of all emissions (including ILUC) and doesn't cover all land based crops used for biofuels and allows the growth of damaging, food based biofuels.

Existing sustainability criteria have been partly effective in preventing direct land use change and other negative impacts when it comes to biofuel production but in the case of some crops being used for biogas production for example, there have been no safeguards.

Effectiveness of sustainability criteria on biodiversity (Art 17(3)) has been limited by unclear or loose definitions of areas such as primary forests, high biodiversity grasslands etc.

The impact of criteria on soil, air and water are difficult to gage but estimated generally to be limited to counter-productive as they were addressed only through EU reporting and not fully included in the sustainability criteria.

## 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*

There should be no volume / percentage target for advanced (or any other) biofuels as this approach only focuses on quantity and not on quality or impacts of those biofuels.

The 7% cap on land based biofuels (as agreed in the ILUC decision of 2015) should be maintained also after 2020 and these biofuels phased out completely. Advanced, non-land or forest based biofuels could play a role in the phase out of land based biofuels but other measures to decarbonize the transport sector (e.g. efficiency and electrification) should be prioritized.

There should be a level playing field for all forms of bioenergy, including advanced biofuels, which would apply the same sustainability requirements for all bioenergy (see response 8.2).

### 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*

Concerns on negative societal, climate and environmental impacts of policies, raised by the scientific community and civil society should be addressed in a precautionary manner to avoid flawed or constantly changing policy incentives. This means it's important to address all the sustainability concerns raised and documented upfront when first introducing sustainability legislation for bioenergy / biofuels.

A robust, coherent and binding EU level policy for all forms of bioenergy (biofuels, solid and gaseous bioenergy) is needed to give a harmonized basis

for sustainable bioenergy and clear direction for public incentives.

Sustainability policies need to go beyond regulating land and forest management practices i.e. just the production of bioenergy. “Sustainable” agriculture or forestry in itself (which also still need further work in Europe) is not sufficient to address the sustainability of bioenergy. Overall amount of natural resource use, impacts on our ecological footprint, resource efficiency, the full carbon emission impacts and social issues are also a crucial part of bioenergy sustainability that need to be addressed by a credible sustainability policy.

#### 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*

Targets and mandates for bigger volumes of biofuel or bioenergy use only produce quantities without encouraging more effective, innovative or environmentally beneficial use of bioenergy. For example, stringent requirements for example for higher conversion efficiency can facilitate technological innovation.

Policy needs to give a clear preference for the kinds of bioenergy (biomass source, conversion technologies etc.) that deliver societal and environmental benefits and exclude bioenergy with negative impacts, so that development of more innovative uses and forms of bioenergy is incentivized.

## 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 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

|                                                                                                                                  |                       |                       |                       |                                  |                       |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|----------------------------------|-----------------------|
| direct land-use change in the EU                                                                                                 |                       |                       |                       |                                  |                       |
| 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 checked="" type="radio"/> | <input type="radio"/> |
| Indirect land-use change impacts                                                                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| GHG emissions from supply chain, e.g. cultivation, processing and transport                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| GHG emissions from combustion of biomass ('biogenic emissions')                                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Air quality                                                                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Water and soil quality                                                                                                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Biodiversity impacts                                                                                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Varying degrees of efficiency of biomass conversion to energy                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input 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 checked="" type="radio"/> | <input type="radio"/> |
| Other                                                                                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

Please specify the "other" choice

*200 character(s) maximum*

Social impacts such a on food security, right to use and tenure land (water. forests), free prior and informed consent and, basic human and labour rights

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

Existing policies in the field agriculture (like the CAP or rural development) or in the field of forestry (such as national legislation on sustainable forest management) or waste management have not been effective in limiting the use of biomass for energy or ensuring it's done in a sustainable way - on the contrary.

Measures to report for emissions in the land use sector (LULUCF) sector (e.g. EU LULUCF Decision) or account for them under the Kyoto Protocol have not been effective in capturing the emissions of increased bioenergy use or influencing the kind of bioenergy sources used.

Clear sustainability and emissions savings requirements need to be placed on the energy producers, rather than on land owners, farmers or forest owners. Energy producers are directly influenced by the renewable energy policies and are hence driving its increased use for energy. They also directly influence the kind of biomass that is used for energy.

There's particularly a gap in policies (both EU and national) to ensure that bioenergy use delivers true GHG savings and that biomass is used in a resource efficient way in line with the cascading use principle.

Existing biofuels sustainability criteria and the 7% cap on land based biofuels, have not been consistently aligned with other EU climate policies such as the EU Emission Trading Scheme of the Effort Sharing Decision. For example biofuels that have not been proven to be sustainable cannot be counted towards a country's renewable energy target but can be used to reduce emissions in transport under the Effort Sharing Decision as it automatically considers all biofuels (and bioenergy) to produce no emissions.

To avoid misleading and conflicting policies, other EU climate and energy policies post 2020 need to be aligned with the requirements of the new bioenergy sustainability policy. Emission reductions / allowances from the use of bioenergy should be made conditional to the fact that bioenergy meets criteria that ensure it to be of low carbon emissions.

## 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"/> |
| Avoid environmental impacts (biodiversity, air and water quality)                    | <input checked="" type="radio"/> | <input type="radio"/> |
| Mitigate the impacts of indirect land-use change                                     | <input checked="" type="radio"/> | <input type="radio"/> |
| Promote efficient use of the biomass resource, including efficient energy conversion | <input checked="" 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 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"/> |
| 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 type="radio"/> |
| Promote energy security                                | <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 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 type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other                                                  | <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"/> |

Please specify the "other" choice

*200 character(s) maximum*

Avoid negative impacts on food security, right to use and tenure land (water. forests), respect free prior and informed consent, respect for basic human and labour rights.

7.2. Any other views? Please specify

*2500 character(s) maximum*

Bioenergy use needs to contribute to climate change mitigation, the circular economy and resource efficiency without negative impacts on the environmental (biodiversity, water, air, soil, etc.) or on food security, right to use and tenure land (water. forests), respect free prior and informed consent, respect basic human and labour rights, etc. In all these areas concerns are already raised and evidence of negative impacts provided. Neglecting any of these objectives can easily lead to discrediting of the future sustainability policy. Therefore we don't find it meaningful to prioritize between these, equally important objectives.

Use and production of bioenergy is growing because of demand created through EU's climate and energy policies. Therefore it deserves particular scrutiny, for example compared to other uses of biomass, and measures to ensure that it contributes to the given policy objectives.

Extent and scale of negative impacts is not just a matter of quality of biomass used but also the quantity of its use. Studies have shown that the EU is already starting to reach the limits of wood and land resources available for the various growing needs of different sectors, including the policy driven energy demand. The EU should evaluate the sustainable potential of domestic biomass supply for energy use, taking into consideration competing uses in other sectors and needs for environmental protection and cap the use of biomass for energy accordingly.

## 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 EU should introduce four main safeguards for bioenergy use as part of the EU's 2030 climate and energy policies:

- A cap to limit the use of biomass for energy production to levels that can be sustainably supplied;
- An efficient and optimal use of biomass resources, in line with the principle of cascading use;
- Verifiable greenhouse gas savings and correct carbon accounting for biomass;
- A comprehensive binding sustainability criteria to mitigate other negative social and environmental impacts

More concretely, the policy should result in exclusion of the kinds of biomass sources that have the highest risk of negative climate, environmental and human impacts and support only the use of lower risk sources such as waste and residue based biomass, while still respecting the principle of waste hierarchy.

The following kind of sustainability requirements should be set for all bioenergy use:

- An overall cap on the amount of biomass above which no biomass can be used to meet the 2030 renewable energy target of the EU
- Maintain the 7 % cap on land based biofuels also after 2020 and phase out the use of land based biofuels and other land based crops used for bioenergy altogether, unless it can be proven that the use of land for energy crops hasn't had significant negative environmental impacts and hasn't displaced food production
- No use of biomass from protected areas unless it can be proven that biomass harvesting is part of the management plan of the area and contributes to its conservation aims.
- no stumps or roundwood for bioenergy unless harvesting is for nature conservation purposes
- Apply a minimum limit of forestry and agricultural residues that need to be left on the harvesting site if residues are extracted for energy.
- No growing of invasive alien species for bioenergy
- Require evidence that the use of biomass for energy hasn't caused significant displacement of other, higher value or more long lived uses of those biomass resources.
- Ensure that use of waste based biomass is in line with the waste hierarchy principle.
- Minimum efficiency limit for installations producing bioenergy.
- Require evidence of Free Prior Informed Consent of communities affected by biomass and bioenergy production and that there haven't been significant negative impacts on food security, right to use and tenure land (water, forests), basic human and labour rights when looking at the whole production chain of bioenergy.

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## 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*

Policies on sustainable forest management and agriculture have so far failed to stop biodiversity decline in these habitats and have also not been effective in stopping environmentally and climate wise negative bioenergy uses. While these policies should be improved, additional policies and requirements for the energy sector are needed to ensure especially that GHG savings from bioenergy use are delivered and that biomass resources are used in an efficient way.

Policies for emissions from the land use and forestry sector (LULUCF) such as EU's LULUCF Decision and the Kyoto Protocol have not effectively captured the biogenic emission related to bioenergy use or succeeded in limiting them. Accounting rules and targets for the land sector today are inconsistent globally and allow the hiding of emissions in projected reference levels (forest management especially). Carbon emissions need to be minimized by applying sustainability requirements on the policies driving bioenergy use i.e. the renewable energy policies. As operators in the energy sector benefit from support schemes on renewable energy, they should also be responsible for ensuring emissions savings are actually delivered.

The sustainability requirements of bioenergy need to be linked to other EU climate and energy policies, such as the EU Emission Trading Scheme, the Effort Sharing Decision and the Commission's State Aid Guidelines to ensure that also all the other policies incentivize only bioenergy proven to be sustainable.

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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