A sustainable bioenergy policy for the period after 2020

Fields marked with * are mandatory.

Introduction

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[10] 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

* 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

1.8. 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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Technologie- und Förderzentrum im Kompetenzzentrum für Nachwachsende Rohstoffe
(TFZ)
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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

1.10. Please give your country of residence/establishment

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- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
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- Lithuania
- Luxembourg
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- Netherlands
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- 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

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	○	●	○	○	○
Biofuels from energy crops (grass, short rotation coppice, etc.)	○	●	○	○	○
Biofuels from waste (municipal solid waste, wood waste)	●	○	○	○	○
Biofuels from agricultural and forest residues	○	●	○	○	○
Biofuels from algae	○	●	○	○	○
Biogas from manure	●	○	○	○	○
Biogas from food crops (e.g. maize)	○	●	○	○	○
Biogas from waste, sewage sludge, etc.	●	○	○	○	○
Heat and power from forest biomass (except forest residues)	○	●	○	○	○
Heat and power from forest residues (tree tops, branches, etc.)	●	○	○	○	○

Heat and power from agricultural biomass (energy crops, short rotation coppice)	○	◉	○	○	○
Heat and power from industrial residues (such as sawdust or black liquor)	◉	○	○	○	○
Heat and power from waste	◉	○	○	○	○
Large-scale electricity generation (50 MW or more) from solid biomass	○	○	◉	○	○
Commercial heat generation from solid biomass	○	◉	○	○	○
Large-scale combined heat and power generation from solid biomass	○	◉	○	○	○
Small-scale combined heat and power generation from solid biomass	◉	○	○	○	○
Heat generation from biomass in domestic (household) installations	○	◉	○	○	○
Bioenergy based on locally sourced feedstocks	◉	○	○	○	○

Bioenergy based on feedstocks sourced in the EU	○	◉	○	○	○
Bioenergy based on feedstocks imported from non-EU countries	○	○	◉	○	○
Other	○	○	○	○	○

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	◉	○	○	○	○
Grid balancing including through storage of biomass (in an electricity system with a high proportion of electricity from intermittent renewables)	◉	○	○	○	○
Reduction of GHG emissions	◉	○	○	○	○
Environmental benefits (including biodiversity)	○	◉	○	○	○
Resource efficiency and waste management	◉	○	○	○	○
Boosting research and innovation in bio-based industries	◉	○	○	○	○

Competitiveness of European industry	○	●	○	○	○
Growth and jobs, including in rural areas	●	○	○	○	○
Sustainable development in developing countries	○	●	○	○	○
Other	○	○	○	○	○

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

2500 character(s) maximum

• Up to date, long term experience in forestry and agriculture practice of EU member states ensures sustainable bioenergy production. Until 2020 most of solid and gaseous biomass for energy will derive from within EU borders. For 2020 - 2030, biomass imports will increase but current EU frameworks such as EU timber regulation, EU forestry strategy or CAP will further ensure sustainable biomass production, both within EU member states as well as outside the EU after 2020.
• GHG-savings of solid and gaseous biofuels usually already exceed 70% compared to EU fossil fuels. Savings will further increase until 2030 due to more efficient practice (Commission staff working document 259 final (2014)).
• Reduction of national and EU dependence of fossil fuels as well as of protein-fodder imports from non-EU countries when biofuels are processed from oil-, starch- and sugarcrops.
• The benefit of GHG-saving of a coupled production of biofuel and others, e.g. valuable regional protein-fodder during the processing of oilseed for biofuels, is not taken into account sufficiently because the allocation of GHG-emissions is done by the heating value of product and by-product.
• Regional protein-fodder as by-product of biofuel production could partly replace the import of soybeans from South America
• Closed nutrient cycle by using bio-waste or residues of all kinds of conventional biomass applications.
• Reducing GHG emissions (especially methane emissions) by using manure for biogas production.

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

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

2500 character(s) maximum

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• Overall low risks for human health and the environment due to already high
national and EU standards during biomass production and biomass use such as
national emission thresholds for CO, HC, NOx and fine dust during biomass
combustion, cross-compliance within CAP or advances in soil and nutrients
conservation in sustainable agricultural and forestry practice of individual
member states.
• The concept of indirect land-use change is a scientific model, which has not
been proven yet. Robust calculation and/or predictions aren't possible.
• Rules for sustainability should be used for all kinds of land use (food,
feed, biomass, industrial estate, streets, nature reserve …).
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5. Effectiveness of existing EU sustainability scheme for biofuels and bioliquids

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	◉	○	○	○	○
GHG emissions from direct land-use change	◉	○	○	○	○
Indirect land-use change	○	○	○	◉	○
Impacts on biodiversity	○	◉	○	○	○
Impact on soil, air and water	○	◉	○	○	○

Any additional comments?

2500 character(s) maximum

• The concept of indirect land-use change is a scientific model, which has not been proven yet. Robust calculation and/or predictions aren't possible.
• Double-counting of certain biofuels deforms the market.
• Now GHG emissions aims are only addressed for the on-road-transport sector. Aviation, rail transport and seafaring should be included.

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

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

• The costs of the certification of sustainability, affect for small producers adversely.
• The certification for biofuels for transport and bioliquids differs from country to country in the EU. It should be harmonised all over the EU.
• Sustainable agricultural and forestry production should be regulated within the EU by law to avoid the effort necessary for certification.

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

• All biofuels are to be treated equally. A multiple counting of certain biofuels with the target of promotion leads to undesirable effects, e.g. on the markets for residual (e.g. straw) and waste (e.g. used cooking oil).
• Competitive instead of integrated support of first and second generation biofuels is an undesirable development and hampers market access for both 1st and 2nd generation fuels. For example: To achieve a higher consumption of bioethanol in ethanol-FFV 1st generation ethanol could pave the way

(introduction of fuel infrastructure and vehicle technology) for LCB ethanol until relevant amounts are available and prices get reasonable.
• Development of pure renewable fuel markets is being neglected. Pure fuel markets, even for niches, where engine and fuel supply infrastructure can be aligned properly enabling much higher shares of renewable fuels (as it used to be in Germany).
• Hen and egg controversy: missing engine technology for biofuels => no infrastructure (filling stations) and the other way round.
• Missing market implementation efforts for state of the art biofuels (e.g. by mandatory shares for specified segments, by incentives for initial market stimulation…) Looking for the one and only optimum fuel solution, without allowing application and optimisation of already developed sustainable fuels will never lead to any improvement.

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

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	○	●	○	○	○
Change in carbon stock due to deforestation, forest degradation and other direct land-use change in non-EU countries	○	○	●	○	○
Indirect land-use change impacts	○	○	○	●	○
GHG emissions from supply chain, e.g. cultivation, processing and transport	●	○	○	○	○

GHG emissions from combustion of biomass ('biogenic emissions')	◉	○	○	○	○
Air quality	◉	○	○	○	○
Water and soil quality	○	◉	○	○	○
Biodiversity impacts	○	◉	○	○	○
Varying degrees of efficiency of biomass conversion to energy	○	◉	○	○	○
Competition between different uses of biomass (energy, food, industrial uses) due to limited availability of land and feedstocks	○	○	◉	○	○
Other	○	○	○	○	○

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

2500 character(s) maximum

• For solid and gaseous biomass production from wastes as well as from agricultural and forestry practice within EU member states, non-binding sustainability criteria are sufficient as common practice within EU member states can already be considered highly sustainable (low GHG emissions, growing forests stocks, etc.). Up to date, more than half of EU member states already adopted regulations promoting higher efficiency of bioenergy production, as proposed by the European commission. Moreover, current and developing EU regulations such as the MCP directive or EU timber regulation will further increase sustainable biomass use by promoting highly efficient boiler techniques or by prohibiting illegally harvested wood on EU markets. Therefore, no further binding sustainability criteria are deemed necessary for solid or gaseous biomass.
• The concept of indirect land-use change is a scientific model, which has not been proven yet. Robust calculation and/or predictions aren't possible
• Biogas plants with an installed rated thermal input up to 5 MW don't need binding criteria, because the feedstock is delivered from the nearer surrounding.
• Sustainable agricultural and forestry production should be regulated within the EU by law to avoid the effort necessary for certification.

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

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	●	○	○	○	○	○	○	○	○	○
Avoid environmental impacts (biodiversity, air and water quality)	○	●	○	○	○	○	○	○	○	○
Mitigate the impacts of indirect land-use change	○	○	○	○	○	○	○	○	●	○
Promote efficient use of the biomass resource, including efficient energy conversion	○	○	●	○	○	○	○	○	○	○
Promote free trade and competition in										

the EU among all end-users of the biomass resource	○	○	○	○	○	○	○	●	○	○
Ensure long-term legal certainty for operators	○	○	○	●	○	○	○	○	○	○
Minimise administrative burden for operators	○	○	○	○	○	○	●	○	○	○
Promote energy security	○	○	○	○	●	○	○	○	○	○
Promote EU industrial competitiveness, growth and jobs	○	○	○	○	○	●	○	○	○	○
Other	○	○	○	○	○	○	○	○	○	○

7.2. Any other views? Please specify

2500 character(s) maximum

8. EU action on sustainability of bioenergy

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

• Now GHG emissions aims are only addressed for the on-road-transport sector. Aviation, rail transport and seafaring should be included.

9. Additional contribution

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

• For solid biofuels from forestry, production within European countries can be considered highly sustainable due to long term experience in forestry practise of EU member states.
• Up to date, GHG savings of solid or gaseous biomass often exceeds 70% compared to EU fossil fuels. Due to increasing efficiency during production and use, GHG savings will further increase until 2030.
• Assessments of GHG-emissions need to be harmonised for all energy sources (renewable and non-renewable) to allow for transparent evaluation.
• Tax for external costs of fossil and renewable fuels (especially GHG-Tax), related to the energy content of the fuels, harmonized within the EU: Income should be used for support of market implementation and partly for research in the field of renewable energies. Tax increase stepwise in relation to actual legal external cost calculation.

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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