



May 2016

# **Biomass sustainability – public consultation: ValBiom answer**

---

**Laurent Anzalone**

[l.anzalone@valbiom.be](mailto:l.anzalone@valbiom.be)

081/627.144



# 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*

ValBiom (non-profit organisation)

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

- 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

---

### 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 checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofuels from agricultural and forest residues	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biofuels from algae	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biogas from manure	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biogas from food crops (e.g. maize)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biogas from waste, sewage sludge, etc.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

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

### 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 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 checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input 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 type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resource efficiency and waste management	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boosting research and innovation in bio-based industries	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitiveness of European industry	<input checked="" type="radio"/>	<input 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 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"/>

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

*2500 character(s) maximum*

- Energy security: As published by the Commission 23 January 2008 in its MEMO/08/33, “our dependence on a limited number of energy sources (oil and gas) is of increasing concern”. Bioenergy can play a significant role to increase independency in energy. For the specific case of Belgium, the sustainable potential to produce biogas is still mostly underused. For the production of biogas, most of the feedstocks used come from the regions studied or nearby regions. As Belgium has a high density population, Belgium needs importations when local biomass (wood) isn’t sufficient. These importations come from other regions than those for fossil energy, and so contribute also to increase energy security
- Grid balancing: Bioenergy has the possibility to produce power when it’s necessary, but up today these advantage is not used because these opportunities are not sufficiently encouraged.
- Reduction of GHG emissions: Most of biomass used have on short term lower emissions than fossil fuel. Concerning woody biomass, considering global carbon stocks seems more pertinent. Every biomass used in a sustainable way, leads to decrease of emissions compared to fossil fuel on long term. Attention should be paid for high carbon stocks and sensible regions
- Environmental benefits: hedges help to increase biodiversity; miscanthus doesn’t need nitrogen or mineral inputs and is efficient against erosion (as hedges); miscanthus and SRC stock more carbon than other crops; winter covers used for bioenergy are efficient against leaching of nitrates; etc. If the extraction is done in a sustainable way, the impact of bioenergies on the environment is low. In case of doubt about the sustainability of production/extraction, certificates schemes like PEFC or FSC could be used.
- Boosting innovation: Some innovations are currently being developed (bio-refineries, microCHP, torrefaction or pyrolysis oil) and offer promising opportunities for the future. Some of the older technologies have already gone through impressive innovative development to use biomass in an increasingly efficient and clean manner (eg: pellet stoves and boilers)
- Boosting jobs: 494 000 people worked in the bioenergy sector in 2012 (43% of total RES jobs). Biomass creates 2 times more jobs than gas in fuel production activities. It also creates at least 10 times more jobs than nuclear power. In addition to being more numerous, these jobs are mainly generated within the EU which is not the case with imported fuels

## 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 checked="" 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 type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indirect land-use change impacts	<input type="radio"/>	<input checked="" 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 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 checked="" type="radio"/>	<input type="radio"/>	<input 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 checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal market impact of divergent national sustainability schemes	<input checked="" type="radio"/>	<input 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*

- Change in C stock due to deforestation and other dLUC in EU: biofuels: solved (Directive 2009/28/CE); solid bioenergies: see 6.2, only risk in case of illegal cuttings.
- Competition between different uses of biomass: European parliament resolution of 28 April 2015 “A new EU Forest Strategy: for forests and the forest-based sector” (2014/2223(INI)), point 36: “Expressly supports the resource-efficient use of timber as a renewable, versatile raw material with limited availability, and opposes legally binding rules for prioritising the uses of wood, as this not only restricts the energy market and the development of new and innovative uses of biomass, but is also impossible to enforce in many remote and rural areas, if only for infrastructure reasons”; The problem of competition of uses concerns only a few feedstocks in some regions. To reduce some potential problem, it seems better to promote pertinent use of biomass for material application instead of limiting biomass uses. Furthermore, a legally binding hierarchisation will not be adapted to the market which is in constant evolution. The Commission is finalising a study on cascading and plans to work on guidelines (non legislative approach).
- iLUC risk is not on forest resources, only on some agricultural biomass mostly used for biofuel production. iLUC impacts for biofuel production are already softened by the 2015/1513 Directive. From the last report on iLUC: “The land use change impact of biofuels consumed in the EU” done by Ecofys IIASA and E4Tech, main findings:
  - 1) Changing time chosen to amortise the emissions change significantly the results. Replacement of fossil fuel will become more and more crucial, space needed for bioenergies will be constant or increase in the long term, so would be more pertinent to calculate on a long amortisation time, reducing the value.
  - 2) “Drainage of peatlands in Indonesia and Malaysia plays a large role in LUC emissions for vegetable oils”; “[...] this study shows that one of the major contributors to LUC emissions, peat land drainage, is a relatively local problem. If peatland drainage in Indonesia and Malaysia were stopped, the negative greenhouse gas impact of land use change would reduce dramatically. This requires an effort either from the Indonesian and Malaysian governments, all palm oil using sectors (food, personal care products, biofuel) or, best of all, a combination of both.”
- Biogenic emissions; Air quality; Water, soil and biodiversity: See 6.2

## 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<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 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"/>
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 EU sustainability scheme for biofuels and bioliquids has allowed to address some risks. However, the European biofuel industry has been badly hurt by political uncertainty and lack of long-term policies. The iLUC debate, which has led to a change of the EU biofuels sustainability policy, has created uncertainty for investors and decreased the overall trust of biofuels economic actors in EU policies. This example is a very important lesson for the coming EU sustainable bioenergy policy which should address all issues from the beginning in a pragmatic and efficient way and not open the door to never-ending revision with unclear outcomes. Regarding the so-called "carbon debt" debate concerning EU woody biomass, robust and efficient solutions need to be implemented from the start and not be addressed in a revision clause. LULUCF accounting and risk based approach joined with for ex. certification for riskier regions. For the latter it could be interesting to organise an increase over time of the ratio of certified biomass.

The principal point of the iLUC are the reduction in a region of some carbon stocks. iLUC impacts for biofuel production are slightly softened by the 2015/1513 Directive by capping at 7% first generation biofuels. This negatively impacts every first generation biofuels, even biofuels which doesn't lead to significant iLUC impacts, without insure that the iLUC impacts will be really reduced. As said at Q.4.2, the last report on iLUC shows that an effort could be done by all sectors. We think that the problem of loss of some high carbon stocks could be better managed if there was a verification of the biomass imported in EU for every sector, particularly in "risky regions". If this report can show some trends, we addressed some reserves on the iLUC calculation, the first is expressed at Q.4.2 (amortising time). Both the economic parameters on which the modelisation is based and the methodology are very sensitive. Furthermore, modelisation is based on the current situation but the market in this sector evolves quickly and some assumptions would be rapidly incorrect. To base a legislation on these sensitive results seems risky. And just as expressed above, the iLUC values doesn't insure that zones with high carbon stocks will be preserved.

## 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*

On one hand, Member States have indeed to transpose the directive into national legislation by mid-2017 and establish their national indicative targets for advanced biofuels within 18 months (end 2016- beginning 2017). But the time frame is very short to adapt the legislation at that level to have an effective production in 2020.

On the other hand, development of new, so-called "advanced" biofuels, based on new feed-stocks, depends on a strong market for the existing conventional biofuels. Often, the same companies are actively pursuing both kinds of biofuels. Political uncertainties caused damage to biofuels sector and could further affect the development of new biofuels thereby benefit the fossil transport fuels.

For advanced biofuels to develop, investors and bankers need secure, long-term conditions. Today, this is not happening. The conditions after 2020 are not clear. High quality of technology providers and machine suppliers are available today in EU but it remains difficult to go to the commercialisation phase. The risk is that these developments may move where there is more support (US, Brazil, China).

### 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*

- At the beginning of the implementation of the EU biofuels sustainability scheme, there was a lack of compliant biomass to supply biofuels producers. This is due to the fact that legislations take time to be implemented. An appropriate timing for implementation should be considered for the future EU bioenergy sustainability policy. Progressivity is an important principle for the coming EU sustainable biomass policy.
- The implementation of the EU biofuels sustainability criteria has led to financial and administrative burden related to the system implementation. While this burden was possibly acceptable for large economic operators, it has been more problematic for small ones. Therefore we recommend the legislation applies to large capacity installations only (more than 20 MW).
- One positive aspect of the EU biofuels sustainability scheme which has proved to be efficient is the fact that it has taken into account in a pragmatic way the existing EU legislations on environmental impacts of the agricultural sector. Such approach should be reiterated for the future EU bioenergy sustainability policy.
- Overall, the EU harmonisation of biofuels sustainability criteria has avoided burdens related to diverging rules at national level but has still led to administrative burdens on operators to set the system and comply with EU rules. However, these burdens have been mitigated thanks to the pragmatic approach endorsed by the EU legislation (recognition of existing rules).

#### 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*

Support mechanisms for innovative low-carbon technologies: many biomass technologies are mature today. However, improvement and new technologies arising (advanced fuels, torrefaction, micro-CHP etc...) are still possible and need support in terms of R&D.

As far as mature innovative technologies are concerned (eg: modern efficient pellet boilers) for these to develop, more efforts need to focus on supporting investments. In the bioenergy sector, the cost of initial investment is an important barrier. This is the case for private consumers, industries and district heating systems (local authorities). This barrier is even more important in a context of very cheap oil price. Through the future RES, EED and EBPD legislations, the EU could encourage the switch from fossil to renewables through co-supporting the initial investment cost and raising awareness and information.

Lessons learned from R&D support:

Advanced biofuels: to develop new biofuels from cellulosic feedstock and new production processes, massive support is needed for research, development and demonstration of these new technologies. A number of large-scale production units must be built in the coming years. R&D conditions are today not gathered for this to happen. Indeed, limited resources have been allocated for R&D, but few demonstration and full-scale project have been realised. Awarded NER300 money has in many cases not been used due to the conditions for support, and a non-existent market for the produced fuels. Moreover, the NER300 program has in many ways delayed projects and hindered others waiting for the awards. In general, innovative technologies need upfront investment support to balance the risk and higher cost inherent with any new technology (no optimization yet, no economy of scale yet). But they also need a secured market that can take the form of an obligation or a support scheme. This is valid for breakthrough technologies (advanced biofuels) while for the improvement of existing technologies (better technologies for cleaner emissions) standardization and market forces can make it happen.

## 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	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input 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 checked="" 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 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 type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Water and soil quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biodiversity impacts	<input checked="" type="radio"/>	<input type="radio"/>	<input 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	<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"/>

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

Please explain

*2500 character(s) maximum*

-GHG emissions from supply chain: ValBiom supports methodology recommended by Commission in 2010 and confirmed in the 2014 report on biomass sustainability (clear, transparent and appropriate).

-Biogenic emissions: Cf. report: "Carbon impacts of biomass consumed in the EU: quantitative assessment" from Forest Research: "Biogenic carbon emissions occur when forest carbon stocks are reduced, carbon stocks in a forest stand can go up and down, what really matters is what happens across whole forests". It is more pertinent to consider carbon accounting at the scale of an entire region. Solid biomass used for energy mostly comes from harvest residues and (early) thinnings which doesn't lead to significant depletion of carbon stock if done properly: low risk in terms of biogenic emissions. EU is currently following IPCC approach: emissions are accounted under LULUCF and, therefore, are not in the energy sector. It seems better to consider the biogenic emissions by regions.

-Water, soil, biodiversity: many EU and national legislations (CAP, Birds and habitats Directive/Natura 2000, EU water framework Directive, etc) apply to the agricultural and forestry sectors. In EU, risks in these areas are subsequently not very significant (or quiet not existent if law are respected). Most of the biomass comes from the EU, 93% in 2012 (SWD(2014) 259 final)

Competition between different uses of biomass: Q. 4.2

-Air quality: ValBiom fully supports approach from EU IED and MCP Directives and EcoDesign rules which set strict emissions limits for large and medium scale combustion installations. Through additional efforts to replace old inefficient individual installations, emissions would be strongly mitigated.

## 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	<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"/>
Avoid environmental impacts (biodiversity, air and water quality)	<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"/>
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 checked="" type="radio"/>	<input 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 type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<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 checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure long-term legal certainty for operators	<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"/>
Minimise administrative burden for operators	<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 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 checked="" type="radio"/>	<input 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"/>					

## 7.2. Any other views? Please specify

*2500 character(s) maximum*

The question above is misleading as it mixes the objective of an improved bioenergy policy with bioenergy general benefits (eg: energy security) and with the safeguards that this policy should take into account in terms of practicalities (administrative burden).

The overall objective of an improved EU bioenergy policy should be to have harmonised EU rules that guarantee that biomass consumed in Europe (EU locally produced or imported) is sustainable in terms of biodiversity, soil / water protection, land use change limit, sustainable forest management and GHG emissions savings.

This framework will allow the bioenergy sector to keep developing and provide multiple benefits (climate, economic and social)

For this framework to be effective and successful, it must be set for a determined period (2020-2030) without risk of change during the period in order to provide certainty to economic operators. It must also avoid too heavy administrative burden on economic operators. The risk with a too complex policy would be a decrease of compliant biomass supply with economic operators not willing to take burden of the administrative and prove system (although producing sustainable biomass) and so lead to don't use biomass but fossil which are easier to use but have large problems (Doubtlessly the increase of GHG in the cycle, stock exhaustion, large dependency on a limited number of countries, ...)

## 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*

- Define sustainability rules based on biomass types and categories: Today, all types of biomass can be used in the 3 main energy sectors (H&C, E, transport) and technological developments make it possible to produce all bioenergy forms in the same process.
- Agricultural biomass: RES Directive sustainability criteria for biofuels should be maintained and their scope extended to all agricultural biomass fuels, irrespective of their final use. Legislation like CAP insure that agricultural biomass produced in the EU is sustainable; this should be recognised in order to decrease administrative burden.
- Forestry biomass: the development of bioenergy from forestry sources is raising questions and concerns on possible impacts on forest resources, carbon in forests and on forest ecosystems (biodiversity, soil, water...) The EU sustainable bioenergy policy should focus on these issues. The Commission should define more "risky" regions for the procurement of different feedstocks

(evaluation can be done considering the legal framework of each region/country and the risk that the legislation is respected or not). For more “risky” regions, more evidence could be asked like a need of sustainability certification like PEFC or FSC. For less “risky” regions, risk based approach should be used to demonstrate sustainability of biomass coming from forests.

- GHG emissions reduction:

- o Set a GHG emissions savings threshold for all types of biomass, irrespective of the final energy use
- o GHG emissions should be calculated according to the current methodologies endorsed by the Commission
- o Default values should be established, as it is the case today
- o Methodologies and default values should be established for the period 2020-2030

- Installations concerned:

- o For H&C and E installations using solid fuels from biomass, the 20 MW fuel capacity threshold should be considered
- o For installations using gaseous fuel from biomass (biogas), the temporal threshold should be considered. When considering some simulation with the BioGrace II tool, we can see that covering the digestate stockage is an important measure to decrease emissions, this should be a future obligation but actual installations could have financial problem to adapt.

- Recognition of certification schemes: voluntary schemes should have the possibility to be recognized by the Commission if they meet the EU requirements, following the same approach as biofuels voluntary schemes recognition.

- Same rules for every biomass uses: Bioenergy production and use could pose various risks (see Q 4.2). We therefore call for the implementation of EU wide mandatory sustainability criteria not only for biofuels, but also for solid/gaseous biomass. However, the share of biomass for energy purposes is often (very) small compared to other biomass uses such as feed. We therefore call for the expansion of the same set of sustainability criteria towards all biomass applications when there are some risk of sustainability. In EU the CAP legislation cover agricultural biomass, it could be interesting that imported agricultural biomass are also under sustainability criteria. A similar framework of criteria should be developed for fossil and mineral resources in order to ensure a level playing field and to reduce the competitive disadvantage of biobased resources due to increased regulatory measures.

## 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*

- Doubtlessly using fossil energy increases the amount of GHG in the atmosphere; biomass is an interesting solution to avoid fossil energies, and if rules for biomass appear to be too hard to comply with, this could favour fossil fuels.
  
- To come back to Q. 2.2 :
  - o About residues: the only limit about use of forest and agricultural residues is concerning the need to give organic and mineral matter back to the soil. Soil humus is living and vary geographically as well as temporarily. Therefore, our view is that regions should be in charge of setting in place a system ensuring a sufficient amount of residues back to the soil to be adapted to the real need of each parcel.
  - o About agricultural and forestry biomass: every agricultural or forestry feedstock should be produced in a sustainable way, in terms of soil, minerals and carbon return to the soil, etc.
  
- When defining possible future EU rules, it is important to recall the following important issues concerning forest biomass:
  - o The woody bioenergy sector is characterized by many small and medium enterprises, and the biomass is supplied by hundreds of thousands of forest owners, besides larger forest industries and forest owners (companies and state forests). These characteristics make it essential to reach a balanced approach to develop sustainability criteria that guarantee that the increased use of biomass is met with sustainably sourced biomass while minimizing new administrative burdens or blocking biomass mobilisation.
  - o Forests are already subject to several sets of legislations and to voluntary SFM certification. The new EU policy should take into account this existing framework.
  - o Biomass from forests is used for wood products (sawn wood, panels, paper...) and for energy purposes (advanced biofuels, heat and electricity). When managing forest, the forest owner doesn't know what the individual tree or tree part will finally be used for, as this depends on the market prices, and decisions later in the supply chain. To date, wood industry (sawn wood, panels, paper...) do not have to comply with EU sustainability requirements. In the medium-to-long term, it may be relevant to adopt a holistic approach.

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

SG-D3-BIOENERGY@ec.europa.eu

---