

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

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

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

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

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

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

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

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

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

200 character(s) maximum

Enviva Group of Companies

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

No registration; currently going through the process and should be registered for future consultations.

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 type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| Biofuels from energy crops (grass, short rotation coppice, etc.) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | | | | | |

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

Please specify the "other" choice

200 character(s) maximum

Clarifications:

“Should be promoted” means the type of bioenergy should be promoted.

Point 9- sawtimber should never be used for bioenergy, but thinnings and other sources should be promoted.

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

While ensuring sustainability of supplies is essential, the Commission should not lose sight of the increasing economic value of biomass to the EU's wider energy system.

Biomass is an affordable, storable, and dispatchable source of renewable energy.

Biomass energy provides a compelling answer to the energy "trilemma" of cost, decarbonization, and grid stability. It is currently the only renewable technology able to provide dispatchable electricity and heat, a system service of increasing value as more intermittent wind and solar energy is deployed across the EU.

Biomass energy is also relatively affordable. A Levelized Cost of Electricity (LCOE) analysis performed by the UK Department of Energy and Climate in December 2013 reveals that biomass conversion projects cost approximately £108/MWh, making this technology the most affordable renewable technology after onshore wind generation projects at £101/MWh. However, LCOE does not give the complete picture of the true costs of energy technologies since this measure does not take into account the system costs of wind and solar energy, including the need for enhanced transmission and distribution, the need for backup generation to cover fluctuations in intermittent wind and solar generation, and the additional costs posed by these technologies in electricity balancing markets. UK-based Aurora Energy Research recently analyzed these additional system costs to come up with a more complete affordability measure than LCOE – what they have labeled Total Cost of Energy (TCOE). Based on this analysis Aurora Energy Research find that TCOE for onshore wind is actually £115/ MWh with biomass conversion at £107/MWh, making it the most cost-effective renewable technology.

4. Risks from bioenergy production and use

4.1. Identification of risks

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

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

| | critical | significant | not very significant | non-existent | No opinion |
|---|-----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------|
| Change in carbon stock due to deforestation and other direct land-use change in the EU | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Change in carbon stock due to deforestation and other direct land-use change in non-EU countries | <input type="radio"/> | <input 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 the supply chain (e.g. cultivation, processing and transport) | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| GHG emissions from combustion of biomass ('biogenic emissions') | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Impacts on air quality | <input type="radio"/> | <input type="radio"/> | <input checked="" 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 type="radio"/> | <input checked="" 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 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

Sustainability regulations are very important, however the Commission should recognize that forest products markets, which include bioenergy markets, support the retention of working forests and do not diminish carbon stocks or drive land use change. Because of this, bioenergy feedstocks derived from sustainably managed forests provide significant and immediate GHG emissions reductions, even when accounting for biogenic emissions.

American timberlands are healthier and more abundant than they were several generations ago, proving to be a substantial carbon sink. The volume of trees growing in America's forests has increased about 60 percent over the past 60 years. In the American South, tree growth on timberlands more than doubled over the same period, increasing from 148 billion cubic feet to 307 billion cubic feet.

Moreover, American forest inventories have continued to rise, even in the face of increasing demand. Commercial forest owners have a business imperative to meet sustainability and continuous growth targets both in terms of their resource and economically. Trees in American timberland forests are growing at more than twice the rate of harvests; in 2011, timberland forests grew by 933 million cubic meters while commercial timber harvests removed 12.8 billion cubic feet of wood.

Because of their demonstrated ability to continually sequester carbon while supporting demand for forest products, American forests are an ideal source for sustainable renewable energy feedstocks. In fact, because biomass markets provide an additional income stream for waste products, they provide an important economic incentive to keep land in forestry instead of alternative uses, leading to additional carbon benefits from avoided land use change.

Researchers at Duke University and North Carolina State University examined how participation in the EU wood pellet export market affects forest inventories and carbon storage in the southeastern United States and whether fiber from southeastern forests can meet EU sustainability guidelines.

Researchers said the following: "We show a substantial increase in the area of all forest types in the presence of increased pellet demand." Another study by researchers at University of Illinois, including the chair of the U.S. EPA's biogenic carbon Science Advisory Board, found that full life cycle emissions of wood pellets have an associated emissions rate of 157-279 kg CO₂/ MWh, a 74-85 percent reduction in comparison to coal

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 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| GHG emissions from direct land-use change | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| Indirect land-use change | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| | | | | | |

| | | | | | |
|-------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------------|
| Impacts on biodiversity | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| Impact on soil, air and water | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

Any additional comments?

2500 character(s) maximum

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

Forest-derived biomass does not have the same indirect land use change risks associated with agriculturally-derived biofuels. In fact, forest bioenergy markets have a positive land use change effect, on the margins. Competitive markets for low-value wood fiber can provide extra income to landowners, incentivize reforestation and enhanced forest management practices, and reduce the risk of wildfire, pest infestation, and disease. Peer reviewed research from Duke University, North Carolina State University, and the University of Illinois has shown that increased demand for wood pellets from European markets raises forest land rents, resulting in the afforestation of marginal lands and a slower conversion rate of forests to agriculture. (See attached Galik et al. and Wang et al. publications.)

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

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

| | | | | | |
|--|--|--|--|--|--|
| 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

While a clear pan EU biomass sustainability framework for the 2020-30 period would be welcome and help improve investor certainty, a new bureaucracy to implement EU-wide guidelines is not required and would damage investor confidence. Existing Member State national regulations covering solid biomass and accompanying voluntary certification programs are proving to be effective and should be utilized by the Commission rather than re-inventing the wheel.

For example the regional risk assessment forest sustainability and carbon stock verification tool accepted by key Member States, and incorporated into certification systems like SBP, should also be accepted and adopted by the European Commission.

These systems include criteria to ensure forestry practices maintain

biodiversity and ecosystem services. As part of certification for SBP feedstock compliance, members must include “control systems and procedures to verify that negative impacts on groundwater, surface water, and water downstream from forest management are minimized.” Demonstrating compliance relies on a system of applicable laws and regulations as well as individual sourcing policies of the certified entity. For this particular indicator, Enviva provides evidence that the federal-level Clean Water Act (CWA) requires that surface and groundwater sources are preserved, state-level rules on Best Management Practices dictate how the CWA’s requirements should be applied, and state forestry agencies forest management activities to ensure these rules are being implemented. Enviva goes beyond these controls and manages an internal monitoring program in which foresters visit a subset of tracts supplying Enviva mills and conduct an audit to guarantee the logging crew adequately controlled for water quality and other impacts.

Note: For the “Change in carbon stock due to deforestation, forest degradation and other direct land-use change in non-EU countries” risk above, our answer refers to imports from non-EU countries such as the USA that have comprehensive forest monitoring programs in place. Forest inventory and carbon stock monitoring as well as prevalence of government corruption should be taken into account when evaluating biomass feedstock sources.

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 checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Avoid environmental impacts (biodiversity, air and water quality) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Mitigate the impacts of indirect land-use change | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input 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 type="radio"/> | <input type="radio"/> |
| 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

All of the above objectives are important for any renewable policy, but it's imperative that the updated policy work in harmony with the progress made by member states and existing sustainability certifications while ensuring the criteria work with monitoring capabilities of a variety of biomass producing nations.

While new pan-EU sustainability guidelines would be desirable and appropriate, a complex and bureaucratic new system to implement these guidelines would be both highly unwelcome and unnecessary, sapping investor confidence. Actors, including Enviva, within the wood bioenergy sector have invested significant time and resources in the development of current EU Member State policies and accompanying voluntary certification systems through multi-stakeholder processes, and the result has been the effective control of risks associated with bioenergy production and use.

The establishment of new burdensome regulations would increase the perception of risk and discourage investment in renewable biomass technologies, creating barriers to entry into the marketplace and negatively affecting Europe's ability to meet its renewable energy and climate change goals in a secure and cost effective manner. Regulatory stability and governmental support are critical to renewable technologies that require significant upfront investment in order to establish supply chains so that one day markets can be self-sustaining. Moreover, overly-burdensome regulations may prevent smaller biomass producers from participating in European markets. These producers are apt to use some of the most sustainable feedstocks (originating from fire prevention, storm/ disease salvage, etc.) and create the highest impact jobs (medium-small businesses in rural areas.)

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

NO RESPONSE: None of the options below accurately capture Enviva's position, which is that the European Commission should adopt pan-EU sustainability guidelines however should rely on the strong and effective existing national and voluntary verification systems to implement those guidelines, rather than creating a cumbersome new bureaucracy.

EU-level sustainability guidelines should ensure that solid biomass feedstocks:

- a. Originate from legal sources through processes that uphold the social rights of workers and communities.
- b. Meet lifecycle GHG emissions reduction requirements of the Renewable Energy Directive, with a 60% CO2 reduction compared to the appropriate fossil fuel comparator, consistent with biofuels policy, being a sensibly ambitious level to aim for
- c. Derive from sustainably managed forests in which biodiversity, forest health and ecosystem services and functions are preserved and maintained verified by regional risk assessment approaches already embedded in several Member State biomass sustainability regulations
- d. Do not contribute to land conversion to non-forest use or the deterioration of carbon stocks, also verified by existing regional approaches

EU-level sustainability guidelines should be developed so that they:

- e. Align with existing policy frameworks developed by individual Member States.
- f. Accept forest-level certified feedstocks from globally recognized programs as sufficient demonstration of compliance with sustainability guidelines. As well as the Sustainable Biomass Partnership (SBP), these programs include the Forest Stewardship Council (FSC,) the Sustainable Forestry Initiative (SFI,) and the Programme for the Endorsement of Forest Certification (PEFC) (including the other global programs endorsed by PEFC.)
- g. Allow for the use of globally recognized process-based certification and regional risk assessment programs to demonstrate compliance with sustainability guidelines in the absence of forest-level certification. These programs include FSC Controlled Wood, SFI Fiber Sourcing, the Sustainable Biomass Partnership (SBP) Standard, and PEFC Controlled Sources (including the other global programs endorsed by PEFC®.)
- h. Include sufficient flexibility in order for biomass producers exporting feedstocks into EU markets from non-EU nations to demonstrate compliance with sustainability guidelines using robust data and monitoring frameworks specific to their country and feedstock procurement region.

While new pan-EU sustainability guidelines would be desirable and appropriate, a complex and bureaucratic new system to implement these guidelines would be both highly unwelcome and unnecessary, sapping investor confidence. Actors, including Enviva, within the wood bioenergy sector have invested significant time and resources in the development of current EU Member State policies and accompanying voluntary certification systems through multi-stakeholder processes, and the result has been the effective control of risks associated with bioenergy production and use. The establishment of new burdensome regulations would increase the perception of risk and discourage investment in renewable biomass technologies, creating barriers to entry into the

marketplace and negatively affecting Europe's ability to meet its renewable energy and climate change goals in a secure and cost effective manner.

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

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

feb40c90-d912-462a-af88-033ba9f3e7e0/Aurora_ER_-_Comparing_RE_technology_costs.pdf
6b640fb7-4dd2-435f-957a-d5b5ce73dda7/Enviva_EC_consultation_biomass_sustainability_position_pap
02cee4db-ced6-4e04-8198-7b6040b56f79/Galik___Abt_R_2015.pdf
f085e242-8cc7-4d6b-83ce-c6e4b2d8b85c/Wang_et_al_2015.docx

Thank you for participation to the consultation!

Contact

✉ SG-D3-BIOENERGY@ec.europa.eu
