



# Promoting sustainable bioenergy production and consumption – policy recommendations

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<http://www.ceinsight.com/uploads/Image/Biomass%20with%20Plant.jpg>

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# Overview

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**Context**

**Key messages**

**EU policy framework**

**Selected recommendations**



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## Context

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One of the key objectives of *Bioenergy Promotion* is to facilitate a **policy dialogue** about sustainable bioenergy production and consumption and to develop respective **recommendations**.

Selected project activities:

- Development of principles and criteria for sustainable bioenergy production and consumption in the BSR
- Assessment of existing sustainability schemes and certification systems and proposals for optimization
- **Trans-national recommendations for policy makers at national and (sub-)regional levels**
- Country-specific recommendations for policy makers at national and (sub-)regional levels



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## Key messages: Sustainable Development

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- **Sustainable Development** meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundtland Commission);
- The concept of **Sustainable Development** emphasizes the maintenance of natural resources and the natural environment as a **pre-requisite** for developing any economic activity to achieve human well being and quality of life.



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## Key messages: Sustainable Consumption and Production

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- Improving quality of life without increasing environmental degradation and compromising the resource needs of future generations;
- **Decoupling** the link between economic growth and environmental degradation and reducing material and energy intensity;
- Reducing emissions and wastes from extraction, production, consumption and disposal;
- Promoting a shift of consumption patterns towards groups of goods and services with lower energy and material intensity;
- Applying **life-cycle thinking**.

*Source: European Topic Centre on Sustainable Consumption and Production*



## Key messages

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- Bioenergy production and consumption can provide **multiple environmental and socio-economic benefits** (e.g. GHG emission savings, improvements in energy security and trade balances, opportunities for economic and social development, mitigation of waste disposal problems and better use of resources);
- Production, processing, transport and conversion of biomass into bioenergy can have **adverse impacts** on GHG, biodiversity, natural habitats and ecosystem services, on a global, regional or local scale.



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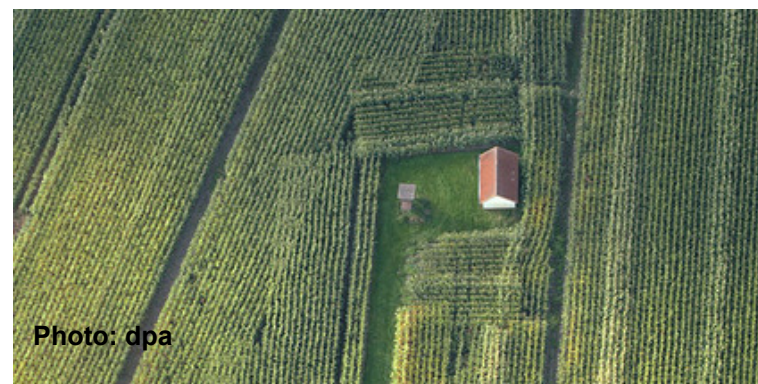
  
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## Key messages

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- In the worst case, these impacts **run counter** to climate change mitigation, biodiversity or other environmental policy targets. It follows that bioenergy production and consumption is not automatically sustainable and worth promoting;
- Biomass is a **renewable** energy source but **not unlimited** available. Therefore **production and consumption** of bioenergy should be as efficient as possible;
- From a **life-cycle perspective** the use of bioenergy is not necessarily carbon neutral.





# EU policy framework

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## Renewable Energy Directive (2009/28/EC)

formulates **binding** sustainability standards for **biofuels and bioliquids** to be met in order to count towards the mandatory RES targets and to benefit from financial support.

## EU COM Report on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling (COM 2010(11))

**recommends** that Member States that either have, or who introduce national sustainability schemes ensure that these in **almost all respects** are the same as those laid down in the RED for biofuels and bioliquids.





# EU policy framework

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## Binding EU sustainability criteria for biofuels and bioliquids

- Minimum GHG savings of 35% (50% from 2017)
- Raw material not obtained from land with high biodiversity value
- Raw material not obtained from land with high carbon stock
- Agricultural raw material cultivated in the EC to comply with Cross Compliance rules

## Recommended sustainability requirements for the use of solid and gaseous biomass in electricity, heating and cooling

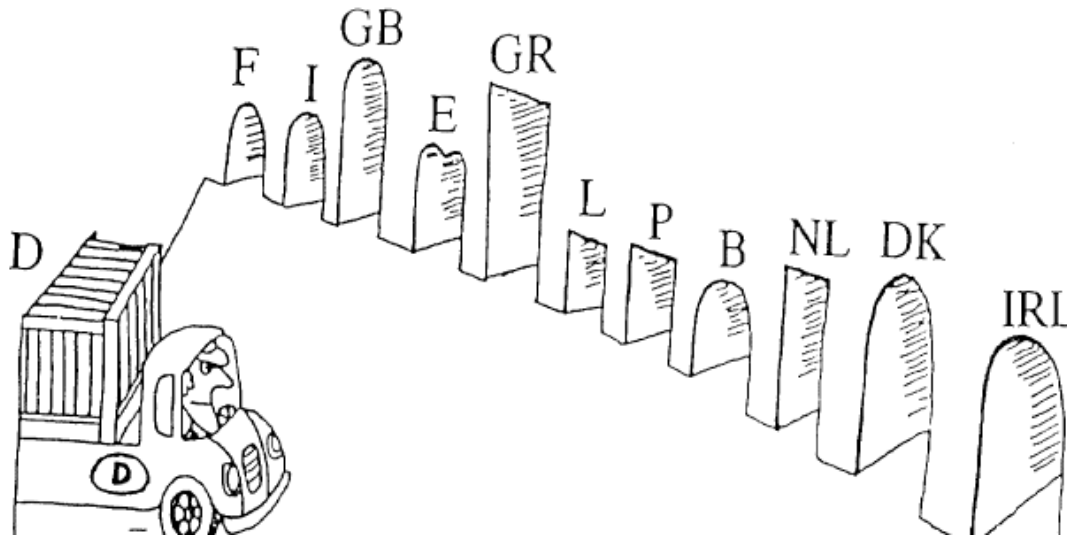
- Extension of the criteria as for biofuels and bioliquids
- EU-wide harmonised GHG emissions calculation methodology; extension to include conversion of biomass into electricity, heat or cold;
- GHG savings criterion not applied to wastes, only to products specified in Annex II;
- Support schemes to differentiate in favour of plants with high energy conversion efficiencies;
- Sustainability schemes shall apply only to larger energy producers ( $\geq 1 \text{ MW}_{\text{th}}$  or  $1 \text{ MW}_{\text{el}}$ )



## EU policy framework

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- Risk of a patchwork of sustainability regimes for solid and gaseous biomass in Europe



- Incoherencies (e.g. biogas)
- Administrative burden for enterprises due to sustainability certification



## General recommendations

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- Support an **international policy dialogue** to agree on internationally accepted (minimum) sustainability requirements for the food sector and non-food applications including industrial usage of renewable raw materials and bioenergy, including liquid and solid commodities;
- Take actions at EU level to enable a **level playing field for all biomass applications** and to progressively develop a coherent and ambitious set of sustainability criteria for all biomass uses;
- Make sure that policy development considers **full life-cycle impacts** as well as **direct** and preferably also **indirect effects** of bioenergy production and use;
- GHG emission calculations should consider not only CO<sub>2</sub> emissions, but also other GHG (e.g. nitrous oxide, methane).



## General recommendations

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- Encourage producers of biomass and bioenergy to go beyond the minimum criteria;
- Provide support to bioenergy to the extent that net reductions of GHG emissions, maintenance of biodiversity, energy security, and low social tradeoffs can be demonstrated;
- Re-align bioenergy strategies with national biodiversity targets, strategies and action plans;
- When designing support schemes take into account efficiency of land use, of biomass use and energy efficiency;
- Ensure a level playing field by carbon taxation etc.



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## Recommendations: Resource and energy efficiency

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- Prioritize the use of by-products, residues and wastes for bioenergy production;
- Promote energy efficiency in biomass production, harvesting, conversion, energy end use, and energy service provision;
- Promote efficient biomass production and conversion routes;. A high proportion of final energy from biomass will be crucial for achieving the RES targets;
- Ensure a **level playing field** and avoid one sided minimum efficiency requirements for bio-energy installations;
- Make biomass an element of an **integrated natural resource strategy** covering non energy and energy uses.



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## Recommendations: Resource and energy efficiency (II)

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- Avoid long distance transports of low density biomass;
- Promote local uses of biomass and closed material cycles;
- Promote the use of biogas and other bioenergy carriers for cogeneration or poly-generation, particularly in distributed systems;
- Encourage utilisation of surplus heat for (district) heating, cooling or other purposes and avoid promoting bio-electricity production without utilization of surplus heat;
- Support the development of micro biogas grids, upgrading of biogas to biomethane and its injection;
- Ensure that only those biomethane utilization pathways are supported which show clear environmental benefits.



## Recommendations: Resource and energy efficiency (II)

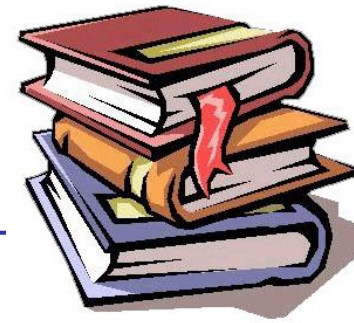
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- Encourage biomass based heating systems, particularly the use of surplus heat from CHP plants through instruments like **renewable heat obligations** etc;
- Make sure that DH/C is being incorporated in planning, design, building and renovating industrial or residential areas;
- Promote municipal heat and energy planning and enable local authorities to **designate priority zones** and/or **mandatory connection** to DH/C grids based on climate protection rationales;
- Support the development of “bioenergy regions”, “bioenergy villages”, “bioenergy efficient villages/regions” by promoting the use of locally available biomass in CHP and small to medium scale DH/C and innovative concepts for the use of surplus heat .



## Recommended reading

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### Policy guidance paper

### *Promoting sustainable bioenergy production and consumption in the frame of the NREAPs and beyond*

*Sustainable feedstock mobilisation from agriculture*

*Sustainable feedstock mobilisation from forestry*

*Sustainable feedstock mobilisation from municipal waste, industrial waste and sewage sludge*

*Efficient use of biomass and conversion into bioenergy*

*Sustainable production and use of biogas*

*Resource assessments and data availability*



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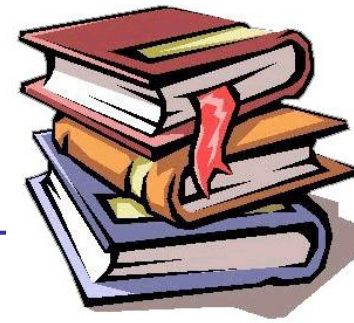






## Recommended reading

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### Reports (2010)

*Sustainable bioenergy production: Defining principles and criteria*

*Description of sustainability initiatives & certification systems in the BSR*

*Comparative analysis of sustainability initiatives and certification systems in the BSR*

### Reports (2011)

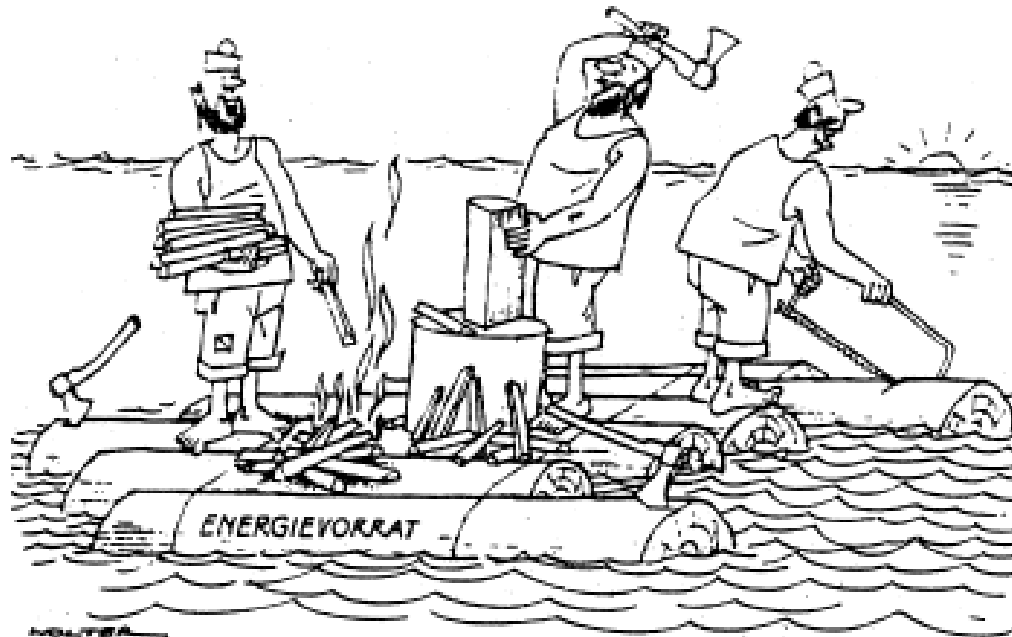
*BSR country policy assessments with country specific recommendations*



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# Labai ačiū!

## Thank you for your attention!



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