



Promoting sustainable bioenergy production and consumption – policy recommendations



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

Michael Krug
Freie Universität Berlin
Environmental Policy Research Centre

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Context

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

- **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

- 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



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Key messages

- 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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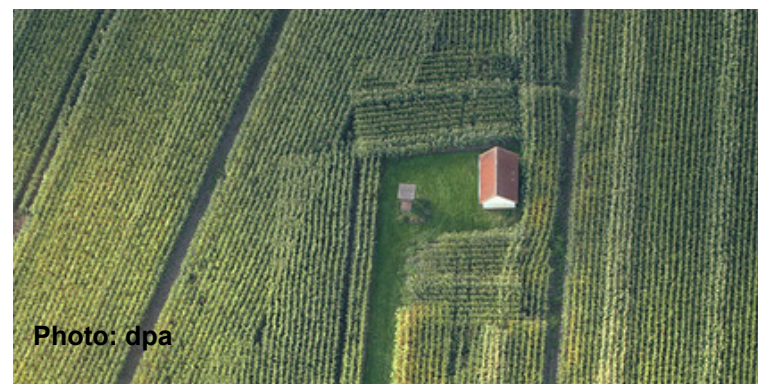
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Key messages

- 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

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

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 MW_{el})



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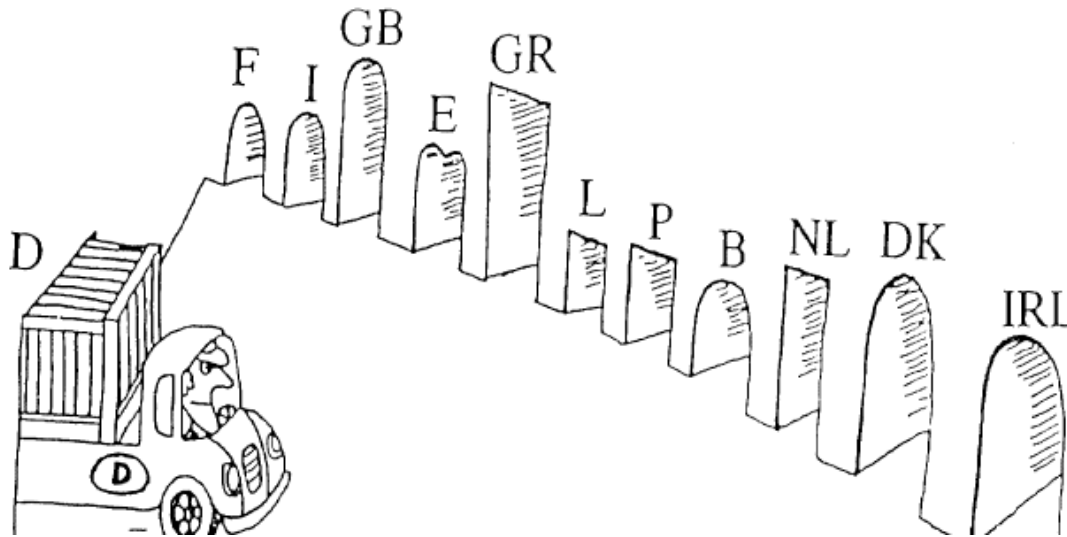
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EU policy framework

- 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

- 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 CO₂ emissions, but also other GHG (e.g. nitrous oxide, methane).



General recommendations

- 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

- 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)

- 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.

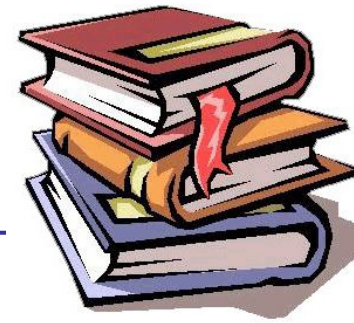


Recommendations: Resource and energy efficiency (II)

- 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



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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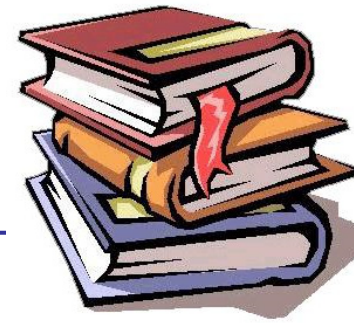


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Recommended reading



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

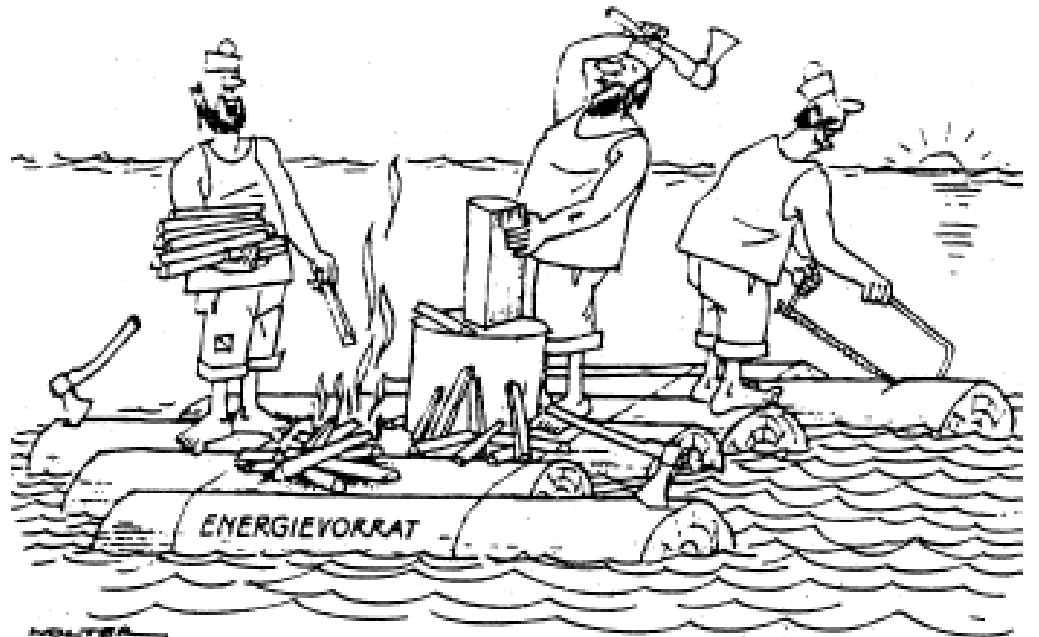
Reports (2011)

BSR country policy assessments with country specific recommendations



Labai ačiū!

Thank you for your attention!



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