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## **MAKING THE BIOENERGY SWITCH**

*Promoting bioenergy for combating climate change,  
supporting rural development and strengthening energy security*

### **WWF submission to the EC public consultation on the European Biomass Action Plan**

**28 February 2005**

#### **Introduction**

In November 1997, the European Commission published a White Paper on RES setting the ambitious but realistic goal of doubling the share of RES from 6 to 12 % by 2010. About 75% of the assumed growth of renewable energy is expected to come from biomass sources.

According to the European Environment Agency (2002), however, the renewable energy targets are unlikely to be met under current trends. This is due mainly to the unchecked growth in energy demand but also to the very slow development of bioenergy compared to the goals. More specifically, only 7% of the total proposed increase in 15 years was achieved in 2000. It should have been 33% after five years of the period between 1995 and 2010.

Experiences in certain European countries, however, suggest that the White Paper bioenergy targets are reachable provided that suitable and effective support measures for bioenergy schemes are implemented. For instance, Finland and Sweden have already realised respectively 60% and 40% of their expected bioenergy goals during the first 5 years.

The following paper presents WWF recommendations for policies and measures to be taken at national and European level to boost bioenergy in Europe over and beyond 2010.

#### **A. European level**

1. Adopt a European directive on renewable heat
2. Increase financial and structural support for sustainable biomass feed-stocks and forest production into the Common Agricultural Policy (CAP)
3. Prioritise biomass schemes within the Structural Funds

## B. National level

1. Link fiscal and regulatory incentives for solid biomass & liquid biofuels to sustainability certification
2. Provide stable and long-term financial support for bioelectricity and bioheat

## A. Measures needed at European level

### 1. Adopt a European Directive on renewable heat

Renewable heating sources, and biomass heating in particular, has a huge potential for growth and can replace substantial amounts of fossil fuels and electricity currently used for heating purposes. As recalled by the European Commission in its may 2004 Communication on renewable energy, without a rapid introduction of renewable heat into the European heat market it will not be possible to attain the goals of the White Paper and the desired CO<sub>2</sub> reduction<sup>1</sup>.

However, renewable heat has received too little political attention so far. Specific targets were included in the White Paper, but they were never formalised into European legislation and coherent support policies focused on renewable heat are still to come. Therefore there is a need to create a specific European and national policy framework to support renewable heat. The European Union has to take a first bold step by adopting a European Directive to promote heating and cooling.

Such Directive should contain the following measures:

- Setting **specific targets for renewable heating**. Experience gained in recent years indicates that targets can play a key role in guiding policy action at national and local level and sending important signals to investors and the public. Similarly to the Electricity and Biofuels Directives, a Heating Directive should set targets for the heating sector - which would contribute to accelerate market development and technological advancement. An overall target for heating and cooling from renewable energy sources in the EU by 2020 shall be set for at least 25% of overall heating & cooling consumption. This must be broken down into binding national targets for each Member State, taking into account their natural resources and the capacity already in operation.
- Requiring **implementation of national support mechanisms**. The Directive should require Member States to set positive framework conditions for renewable heat, based on proven best practice options including direct financial incentives, tax exemptions, binding regulations, awareness raising campaigns, and other measures as appropriate in each country for heating based on biomass and other renewable sources. National support mechanism should ensure that the targets are reached, by delivering a stable

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<sup>1</sup> *"The shortfall compared to the 12% target is caused by sluggish growth of renewable energy markets for heating and cooling (...) considerable extra action is needed in this sector to enable the full 12% target to be reached."* European Commission, Communication to the Council and Parliament, 26.5.04 [COM(2004) 366 final]

framework for investments on the supply side and by guaranteeing an adequate return on investment for the user of renewable heating devices.

- Removing **administrative barriers**. In many countries, the use of renewable heating is limited by administrative barriers and unfavourable bureaucratic conditions, including esthetical, planning or safety regulations that are not taking into consideration the specific needs of biomass applications. Member States should facilitate regulatory procedures for the installation of renewable heating and cooling installations.

## **2. Increase support for biomass feed-stocks production**

Currently, there is little market pull in most EU member countries for biomass feedstocks for electricity generation other than landfill and sewage gas and some agricultural and forestry residues. A few countries, such as Sweden for example, have established markets for wood fuel. While the market pull for energy crops for electricity production will need to come from the energy sector, agricultural and forestry policy needs to provide the conditions for biomass feed-stocks to be produced in an efficient and environmentally sound way.

A market needs to be created for additional feedstock that can be derived from agricultural and forestry residues, and from an environmentally sustainable exploitation of available forest resources and land taken out of food production. Agricultural and forestry policy should be aimed at rural development by making the most productive use of land while fostering the environment and nature conservation.

The role of the EU Common Agricultural Policy in promoting the production of biomass-based products has been very modest until now. Following recent reforms, a new payment to promote energy crops, set at EURO 45/ha, became available from the beginning of 2004. However this area-based energy crop payment is insufficient to stimulate the development of a biopower industry based on energy plantations. For instance, the Joint Research Centre has estimated that the energy crop payment would provide an incentive of only 0.11 €cents/kWh – clearly insufficient to make investment in woody energy crops production attractive. This is confirmed by the limited farmers' take of such payment, which amounted to just above 300,000 hectares in 2004. This is equal to only 20% of the maximum eligible area of 1.5 million hectares, which in itself is much too low an area for large scale economic development of biomass feed-stocks.

For production of woody energy crops to take off, it is necessary that the Common Agriculture Policy adopts a ambitious non-food policy that provides suitable payments for different energy crops, especially for woody energy crops used for heat and power production. More specifically, the energy crop regime should provide annual area support to growers of all energy crops on any appropriate land (arable and grassland) at least equal to the annual support of other agriculture land uses and guaranteed for 15 years.

### **3. Prioritise bioenergy schemes within the Structural Funds**

Investment incentives are needed to mobilise the large capital investments required for creating biomass supply chains and develop bioenergy schemes. Among those programmes designed to support economic development in the European Union, Structural Funds could provide a key funding source for bioenergy investments, particularly for new Member States.

According to the Commission's guidelines for programmes in the 2000-2006 period, Member States should guarantee that at least 12% of the global budget of the energy sub-programmes is used to support renewable energy sources.<sup>2</sup> Against the background of significant historic support for conventional fuels, the 12% goals results too timid and should be increased to at least 30%.

The European Commission has also envisaged specific programmes (ALTNER II and Intelligent Energy for Europe) to support the development of renewable energy projects. However, as regards the financial expenditure for programmes in favour of renewable energy in the framework of the Structural Funds, there is no distinction between different sub-parts of any particular project and so it is not possible to assess the extent of funding for purely renewable energy initiatives. Energy policy related objective and programmes should be clearly financed and developed through Structural Funds. As a matter of fact, the existing gap between the EU policy objectives on renewable energy and the available resources and the fact that the impact of the integration and implementation of the EU energy policy into the local environment is not visible undermine the effectiveness of the system.

According to a recent study led by several European local agencies on the use of Structural Funds<sup>3</sup> in Italy, France and UK, there is a "low and fragmented financial support to energy related measures and projects" due mainly to the fact that energy related objectives are not considered a priority on a local level and are defined in a generic way. Energy is often one of the measures in the Operational Programmes, but the link with the other measures is not clearly defined and the specific allocated resources don't exceed 2-3% of the total budget.<sup>4</sup>

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<sup>2</sup> [...] Investments in renewable energy sources favours the development of local resources and contributes to the reduction of dependency on energy imports while at the same time creating new local job opportunities. Targeted aid could be used to promote the acquisition of renewable energy equipment in SMEs, for instance in the tourism sector, where there is considerable potential for the use of renewables. In this regard, the Commission's "White paper on a Community Strategy and Action Plan for Renewable Energy Sources", calls on Member States to guarantee that at least 12% of the global budget of the energy sub-programmes is used to support renewable energy sources. Outside its less developed regions, the Community is in general well equipped with infrastructure for energy production. Consequently, investments here would tend to focus on small-scale innovative infrastructure projects. Priorities include investments to promote the use of renewable energy sources, investment aid to reduce SO<sub>2</sub> and CO<sub>2</sub> emissions, the use of energy audits and the promotion of efficient energy management in SMEs, towns and cities. In this context greater use could be made of local and regional energy agencies. [...]. "Commission Communication concerning the Structural Funds and their co-ordination with the Cohesion Fund - Guidelines for programmes in the period 2000 to 2006, Brussels 22.9.1999", p.6-7.

<sup>3</sup> "Sustainable Energy and the Structural Funds – Bacchus guidelines", 2003.

[http://www.bacchus.aeidl.be/docs/GuideBacchus\\_EN.pdf](http://www.bacchus.aeidl.be/docs/GuideBacchus_EN.pdf)

<sup>4</sup> Ibidem.



This makes very difficult not only to distinguish what is the role of energy in the local development, but also to understand if renewable energy is among the objectives of the intervention. This may suggest a revision of the model, in order to ensure the delivery of different energy policies, including the promotion of renewable energy, at the local and regional level, with the clear integration of energy objectives (i.e. endorsement of biomass) and programmes to regional energy programmes. Energy objectives should then become a priority in the definition of the management agreements for the implementation of structural interventions.

Structural Funds could also support the implementation of bioenergy schemes in the new EU Member States. Due to their large agriculture area and forest cover, these countries have a large potential for biomass production. If developed properly, biomass-based energy can offer a new opportunity for sustainable developed in the region. It can provide a new income stream for farmers while ensuring a sustainable agriculture development path. Trade within the Enlarged Union could also mean the region becoming a net exporter of electricity produced from renewable sources.

With the enlargement of the EU, new member states have now the opportunity to use the Structural Funds. This opens many opportunities for bioenergy support, especially since the national and private funds of the acceding countries are not sufficient to support renewable energy development. In spite of all this, measures on a regional, national and local level have not been effectively introduced to capture this potential. Very often renewable energy measures are not given the priority they need and there is little indication that bioenergy will be prioritised as structural funds have largely been used for investments in new infrastructures, electricity and gas interconnections. The lack of EU investments in bioenergy is even more striking given that in this region's district heating systems are widespread and offer a unique opportunity for bioenergy penetration.

Another important message is the elimination of support for environmentally harmful projects from the Structural Funds. Fossil fuel related projects other than highly efficient natural gas-fired CHP should be excluded from the Structural Funds and financing should be redirected towards strictly renewable projects and energy efficiency. Generally speaking, in the future more space should be made within the Structural Funds program for environmentally friendly projects.

## **B. Measure at National level**

### **1. Link fiscal and regulatory incentives for biofuels to sustainability certification**

Bioenergy is not environmentally friendly by definition alone, and the way the feed-stocks are produced, processed and transformed into energy end uses is crucial to ensure its sustainability, both in terms of greenhouse gases (GHG) and wider environmental and social impacts. Therefore it is essential that an accreditation scheme is established at European level to audit the GHG balance of the final biofuel and to ensure that real GHG savings and positive environmental and social impacts are achieved.

The principle driver for incentivising the use of biomass to replace conventional and fossil fuels is to reduce the net greenhouse gas (GHG) emissions produced by the transport and energy sectors. If produced sustainably biomass can result in a number of local and global environmental benefits. However, in other cases the production of bioenergy, particularly in the case of certain liquid biofuels, is currently not sustainable, due to the energy and GHG intensive inputs required for the production, harvesting, transport and processing of the feed-stocks. Furthermore, if significant areas of agriculture land were dedicated to biofuels production there may be substantial impacts on local biodiversity or unacceptable demands on water resources.

Therefore it is key that national suitable fiscal and regulatory incentive schemes for biomass must maximise the positive impacts and prevent or minimise any negative impacts. These schemes should be underpinned by the requirement for the biofuel to meet a set of environmental standards which guarantee its sustainability both in terms of greenhouse gas emissions and wider environmental and social requirements. For instance, as recommended by the UK Clean Vehicles Partnership, tax incentives for transport biofuels should be set in proportion to an assessment of their life cycle GHG and environmental impacts.

### **2. Provide stable and long-term financial support for bioelectricity and bioheat**

A significant bioelectricity penetration will depend on the competitiveness of bioelectricity with other electricity sources. Due to the large capital investments required for biopower schemes, reliable and long-term support is needed to reduce the financial risk taken by independent generators. However, in several Member States, production incentives for biomass are either insufficient or inadequate to guarantee investors' security.

Firstly, the degree of financial support is generally not high enough to cover the costs of bioelectricity production. For instance, according to the Spanish Renewable Energy Association, feed-in tariffs in Spain are far from the 8.5 cents/kWh necessary to ensure profitable investments in biomass. Secondly, the guarantee period for financial support is often too short to ensure price security for investors, particularly in the new Member States. For instance, in the Czech Republic prices are set each year by the energy regulator and although they have remained the same for the last three years there is no long-term guarantee.



To address these two issues Member States should implement stable and long-term feed-in tariffs with suitable price bands for different bioelectricity chains. Experience suggests that for new investors, medium term – 10-15 years – price security is needed to ensure an adequate rate of return on investments. For instance, the feed-in law in Germany has supported bio-power since 2000.

Renewable obligations have been less effective for boosting renewable power, including bioelectricity. Obligations systems generally benefit mostly those technologies that are closest to market competitiveness such as wind power. For bioelectricity to be incentivised, it is necessary that governments break-down the renewable obligation into technology banding, including specific bioelectricity targets.

Finally, incentives for bioelectricity should promote the most efficient end-uses such as combined heat and power instead of electricity production only. Good quality co-generation will save around 20-25% of primary energy, resulting to largest CO2 emissions reductions compared to a model of separate production of heat and power.

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