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M/298 – EN

MANDATE TO CEN FOR STANDARDISATION IN THE FIELD OF SOLID BIOFUELS

1. MOTIVATION

The Target for the Contribution of Renewable Energy Sources

The present mandate is part of the policy of the European Union to encourage the development of renewable energies. The White Paper “Energy for the future: Renewable Sources of Energy” (COM97 599) from the European Commission has the aim to double the share of renewable sources in the EU energy balance from 6% to 12% in 2010. With the implementation of the Kyoto commitment, where the main target is to reduce the greenhouse gases like CO₂, it is anticipated that the use and trade of solid biofuels will increase by a significant proportion.

Characterisation of Bioenergy sources

Bioenergy can be produced from resources of different origin and chemical composition. These can be classified by their origin in the following broad areas:

- Agricultural products (such as energy crops) and residues (such as straw and olive stones from the agro-food industry).
- Forestry products (such as wood from thinnings, short rotation forestry) and residues (such as tops and branches left in the forest) and also residues, wastes, products and by-products from forest-based industries and operations such as bark, sawdust and fibre sludge
- Waste streams generated by the consumer society (such as sorted biodegradable fractions of municipal and industrial solid waste and sludge).

The Role of Renewable Energy Sources (RES) in EU

The importance of RES in the Member States varies considerably. This variation depends on the individual energy policy of the member country, the existence of fossil fuel reserves as well as biofuels, and in particular upon specific measures taken to promote RES on a national level.

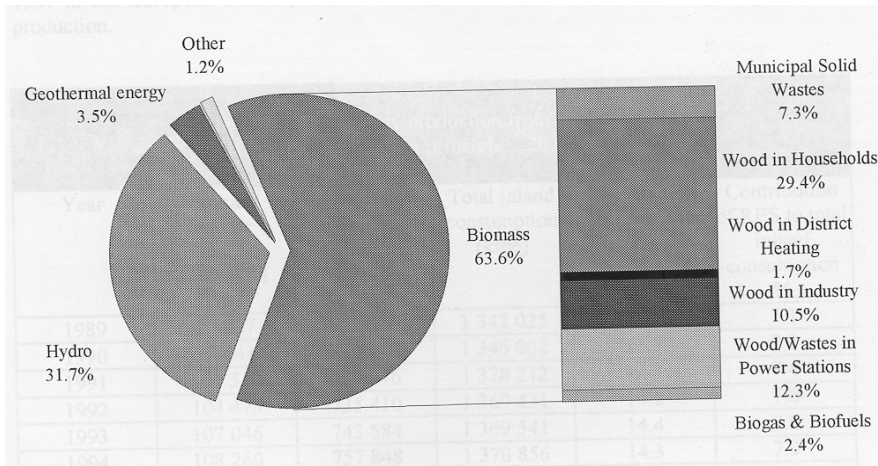


Figure 1. EU-15 RES used for energy production 1997

The role of solid biofuels as RES is becoming more and more important in the EU. The contribution was 2,200,000 TJ in 1997, representing 64% of total energy production from RES, figure 1.

Figures 2 and 3 show the respective contribution of RES in total heat and electricity production in the EU. From these figures it is apparent that solid biofuels are the most important renewable fuel today when it comes to heat production (98%), but only a small portion of solid biofuels is used to produce electricity.

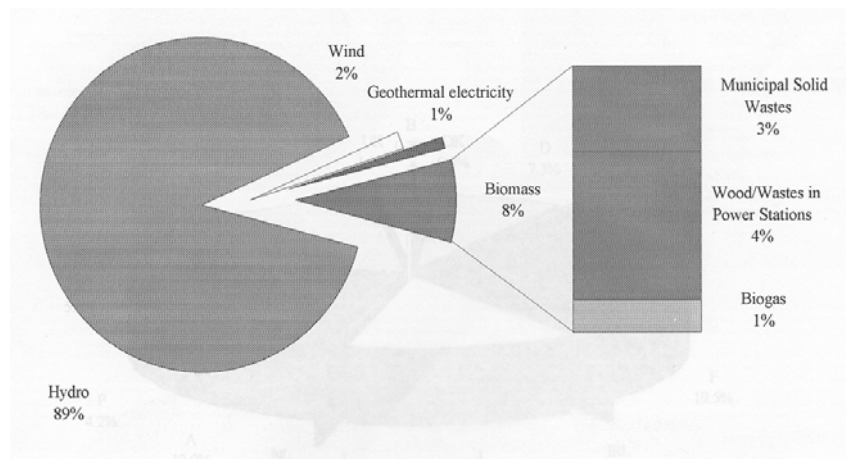


Figure 2. Contribution of each source to produce electricity of the total RES (EU, 1997)

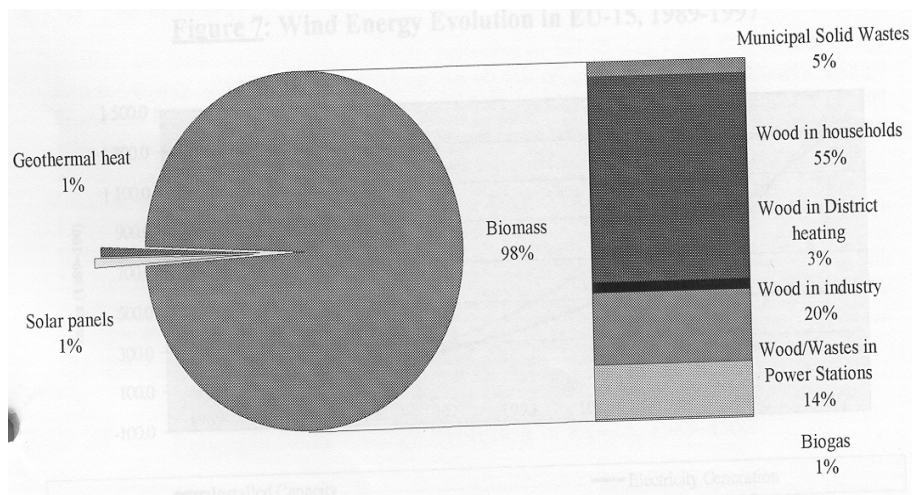


Figure 3. Contribution of each source to produce heat of the total RES (EU,1997)

RTD Programmes for Biofuels

In the 5th Framework Programme, biomass exploitation and the management of waste for the production of biofuels are integrated in the specific programmes Energy and Environment and Quality of Life (Agro-industry).

Environmental aspects of biofuels

Solid biofuels and/or dedicated energy crops may contain substances that can create significant pollution if used in inappropriate systems. Examples are chlorine in straw (from fertilisation with potassium chloride) and forest products from coastal locations (sea spray), cadmium in energy crops like willows (natural Cd in the soil is effectively taken up by the crop) or heavy metals. Biofuels with a “natural” content of chlorine may produce dioxins during thermo-chemical conversion and can show similarities with fuels derived from several waste streams. With this knowledge about biofuels, it is extremely important to identify and define different properties, standardise the accepted levels and have the right methods and tools to measure these properties.

Trade

Traditionally biofuels have been used in the form of fuel-wood for heating and cooking in households. The forest-based industries like the sawmills and the pulp and paper industries have always used residues such as bark, sawdust, shavings, black liquor and fibre-products for in-house energy production.

As a result of national energy policies aiming at sustainable development, biofuels are traded between producers and users. An international trade has been developed between the EU countries and also with countries outside the EU. At present, the international trade inside the EU has reached almost 1 Mtoe/year. The trade covers products like wood chips, wood pellets, round wood and by-products from sawmills.

The trade of biofuels for energy production is under development and the market is increasing rapidly at the moment. A major problem for a dynamic and sustainable market is that the quality of the traded biofuels varies extremely among the various

producers. The consequence is that the users are reluctant to buy fuels when the quality and composition can not be specified and the manufacturers of equipment do not guarantee their equipment for biofuels that do not follow a specification.

2. THE NEED FOR STANDARDISATION

No European standards available

The absence of European standards is a major barrier to develop the market for solid biofuels. A market which is necessary for the European Union to reach its targets for the deployment of bioenergy.

Market regulation

Standardisation of solid biofuels will help to regulate the market and to provide confidence to fuel producers and fuel users. Standards on solid biofuels with respect to quality and properties will make it possible to find the optimum utilisation of different biofuels with respect to protecting the environment. In addition, standards on solid biofuels will improve the efficiency of biomass utilisation because the users will be able to procure fuels of a quality corresponding to the specifications of their equipment.

3. SCOPE

Mandate to CEN

Based on the above issues, the European Commission proposes a mandate to CEN for the elaboration of standards in the field of solid biofuels.

Taking into consideration that:

1. waste is defined in Directive 75/442/EEC on waste
2. incineration of municipal waste is regulated by Directives 89/369/EEC and 89/429/EEC for new and existing municipal incineration plants, respectively
3. the European Commission is examining in the Directive 75/442/EEC under which conditions a waste ceases to be a waste and becomes a product

It is underlined that wastes or products not originating from the sources in the list below are explicitly excluded from this mandate.

Biofuel sources

This mandate may only consider biofuels originating from the following sources:

- Products from agriculture and forestry
- Vegetable waste from agriculture and forestry,
- Vegetable waste from the food processing industry,
- Wood waste, with the exception of
 - wood waste that may contain halogenated organic compounds or heavy metals as a result of treatment;
 - treated wood originating from building and demolition waste
- Cork waste

4. DESCRIPTION OF THE MANDATE

Standard structure

The lack of standards in the field of solid biofuels should be complemented as soon as possible. The foreseen standards should be drafted under such a structure that they would provide adequate and clear delineation among the various types of fuels, their origin and their fitness for use in specific applications. The standards structure should give the market and the legislative authorities the possibility to distinguish between renewable and fossil fuels. The standards shall define sampling and measuring procedures for those pollutants and impurities that are expected to be present in the biofuels. This will allow regulatory authorities and end users to assess the environmental aspects of solid biofuels combustion. For this purpose, a clear and definite distinction must be made between systems of fuel classes for solid biofuels.

It is underlined that a material fulfilling certain standard specifications does not automatically qualify as a product.

Tasks

The Commission assigns to CEN to produce a coherent set of European standards for solid biofuels with the aim of satisfying the requirements mentioned above, namely the creation of a stable market for solid biofuels and for the related equipment.

Where appropriate, the standards shall give all elements to be able to carry out the tests in a uniform way, either by the fuels producer, the user, or any other body charged to carry out these tests.

Standards

More in detail the required standards must include:

1. Terminology (terms and definitions)
2. Classification system for solid biomass fuels
3. Sampling and sample preparation
4. Test methods

The detailed need of the standards is listed as Work Items (WI) in the Work Programme (WP). Each WI is presented with title, scope, target dates and priority.

5. EXECUTION OF THE MANDATE

Steering Committee

Matters of common interest between CEN and the Commission will be dealt with in a Steering Committee. The Steering Committee will be composed of the Technical Committee's Chairman and Secretary, the Commission services, the CEN/Management Centre, and (when needed) the Working Group Convenors of the Technical Committee. The aim of the Steering Committee is to help in co-ordinating the standardisation work and to facilitate the TC in preparing/making its decisions. The Steering Committee has a purely advisory role and will meet ad hoc, at least once a year.

The Commission reserves the right at any stage to withdraw the mandate, according to the formal rules, if CEN unilaterally decides to go beyond the agreed scope of the mandate.

The Commission also reserves the right to extend the scope of the mandate in case future technical, political or other related development justifies an extension to areas listed in the Paragraph on "Characterisation of Bioenergy sources" of Chapter 1, which are now excluded from the scope of the mandate. In particular, wastes excluded from the European Parliament and Council directive on incineration of waste (COM/1999/330) will be considered for inclusion in the scope of the mandate once the directive finally adopted. The Commission will regularly inform the Waste Management Committee on the progress of work of this mandate and, where appropriate, may seek advice from it.

Initially CEN will work in collaboration with FAIR contract CT98-3952 (DG RTD) and THERMIE contract STR/1269/97 (DG TREN) for the duration of these contracts following which the CEN working group shall continue independently.

Execution

- 5.1 Within 6 months after their adoption the EN standards will be transformed into national standards. Divergent national standards will be withdrawn in the Member States of the European Union.
- 5.2 Acceptance by CEN of this mandate will initiate the standstill period referred to in Article 7 of the Directive 98/34/EEC of 22 June 1998 (OJ no. L204, 21 June 1998).

6. REFERENCES

1. White Paper on Renewable Energy Sources, COM 599 of 26/11/97.
2. Eurostat, Renewable Energy Sources Statistics in the European Union, 1989-1997, DG XVII-EUROSTAT, 1999.
3. CEN BT/WG 108 "Solid biofuels" The proposed work programme from 8 Feb. 2000