



Press release
December 2007

Solid Biomass and Renewable Urban Waste Barometer 2007

With the price for a barrel of oil hovering at around \$100 at the beginning of November, the European logic of substituting solid biomass and renewable urban waste for fossil fuels to produce heat and electricity has been reinforced even more. This conversion makes it possible not only to reduce the energy bill by using a local and abundant raw material, but also permits decreasing greenhouse gas emissions, decreasing energy dependence in terms of imports as well as creating jobs and economic growth at the local level. EurObserv'ER presents this sector's current state of development in its barometer published in issue **N° 182** of *Systèmes Solaires – Le Journal des Énergies Renouvelables*.

Solid biomass growth continues

62.4 Mtoe in EU

Primary energy production from solid biomass (wood, wood waste and other solid animal and vegetable matter) increased by 5.3% in the European Union in 2006 with respect to 2005 to reach 62.4 Mtoe. That's 3.1 Mtoe more than in 2005. Unsurprisingly, the principal solid biomass producer countries in Europe are the large forestry countries like France (9.6 Mtoe), Sweden (8.9 Mtoe), Germany (8.8 Mtoe) and Finland (7.4 Mtoe). These four countries alone represent 55.8% of EU solid biomass origin primary energy production. However an indicator of per capita production reveals much more in terms of the real degree of a country's implication in a sector. This indicator shows that Finland (1.413 toe/inhabitant), Sweden (0.988 toe/inhabitant) and Latvia (0.866 toe/inhabitant) are by far the countries that produce the most solid biomass per inhabitant, while France, the leading European producer, only ranks 11th (0.153 toe/inhabitant).

Table 1 : Primary energy* production of solid biomass in the European Union in 2005 and 2006 (in Mtoe)**

Countries	2005	2006
France***	9,777	9,609
Sweden	7,937	8,943
Germany	7,754	8,816
Finland	6,592	7,428
Spain	4,176	4,325
Poland	4,180	4,299
Austria	3,365	3,347
Portugal	2,713	2,731
Latvia	1,987	1,987
Italy	1,790	1,810
Czech Rep.	1,460	1,568
Denmark	1,277	1,274
Hungary	1,003	1,058
Greece	0,957	0,931
UK	0,883	0,801
Lithuania	0,722	0,722
Estonia	0,706	0,706
Netherlands	0,516	0,556
Slovenia	0,469	0,449
Belgium	0,428	0,439
Slovakia	0,398	0,409
Ireland	0,175	0,179
Luxemburg	0,015	0,015
Cyprus	0,009	0,009
Total UE	59,289	62,413

* Imports and exports are consequently not included.

** Estimation.

*** Overseas departments included for France.

Source : EurObserv'ER 2007.

Renewable origin solid municipal waste: a stable energy production

Renewable solid municipal waste is composed of the biodegradable part of household waste intended to be directly burned in incineration units. Fermentable waste, that is first transformed into biogas, is thus not included in this category.

Primary energy production resulting from the combustion of renewable solid urban waste is estimated at 5.3 Mtoe in the European Union in 2006, i.e. 0.1 Mtoe more than in 2005. The principal countries valorising their waste by direct combustion are logically those countries that produce the most, namely France and Germany. Taking the size of their countries into consideration, the energy valorisation of waste is much more developed in Denmark (0.136 toe/inhabitant), Netherlands (0.039 toe/inhabitant) and Sweden (0.034 toe/inhabitant). France is only in 7th place (0.015 toe/inhabitant) and Germany in 9th place (0.011 toe/inhabitant).

Table 2 : Primary energy production of renewable municipal solid waste in the European Union in 2005 and 2006* (in Mtoe)

Countries	2005	2006
France**	0,945	0,928
Germany	0,831	0,919
Denmark	0,729	0,740
Netherlands	0,637	0,636
Italy	0,556	0,561
UK	0,374	0,404
Sweden	0,295	0,306
Belgium	0,199	0,184
Spain	0,188	0,169
Austria	0,057	0,101
Portugal	0,103	0,100
Finland	0,108	0,090
Czech Rep.	0,058	0,057
Hungary	0,033	0,047
Slovakia	0,017	0,021
Luxemburg	0,013	0,014
Poland	0,0004	0,0004
Total E.U	5,144	5,278

* Estimation.

** Overseas departments included for France.

Source : EurObserv'ER 2007.

A renewed industry

The biomass boiler manufacturing industry has been considerably renewed over the past few years. The continual increase in the price of fossil fuels associated with wood-energy development policies have created new European market prospects and openings. The manufacturers are therefore trying to take advantage of this growth by increasing production capacities and gain export market shares. Another trend is the desire of the industrialists to widen their range of capacities to benefit from growth on other market segments. This strategy of diversification can be seen at all the different levels, for the small capacity specialists just as well as for the very high capacity specialists.

Table 3 : Some big boiler manufacturers

Company	Country	Type of product	Power Range	Turnover 2006 (M?)
Compte R	France	Boilers and burners for municipalities and industrial sites	150 – 6 000 kWth	11,5
ETA Heiztechnik GmbH	Austria	Boilers & burners for homeowners & small companies	20 – 90 kWth	50
Fröling Heizkessel und Behälterbau GmbH	Austria	Boilers & burners for homeowners & small companies	5 – 1 000 kWth	n.c.
HDG Bavaria GmbH	Germany	Boilers & burners for homeowners & small companies	10 – 200 kWth	34
KWB	Austria	Boilers & burners for homeowners & small companies	10 – 150 kWth	50
Nolting	Germany	Boilers & burners for homeowners & small companies	10 – 3 000 kWth	5,1
ÖkoFEN Heiztechnik GmbH	Austria	Boilers & burners for homeowners & small companies	2 – 224 kWth	35
TPS Termiska Processer AB	Sweden	Boilers & burners complete solution for district heating	300 kWth – 25 MWth	20
Wärtsilä Biopower Oy	Finland	Solutions for municipalities & industrial sites	3 – 17 MWth/2 – 7,5 MWe	n.c.
Weiss France	France	Boilers and burners for municipalities and industrial sites	200 kWth – 20 MWth	8

Source : EurObserv'ER 2007.

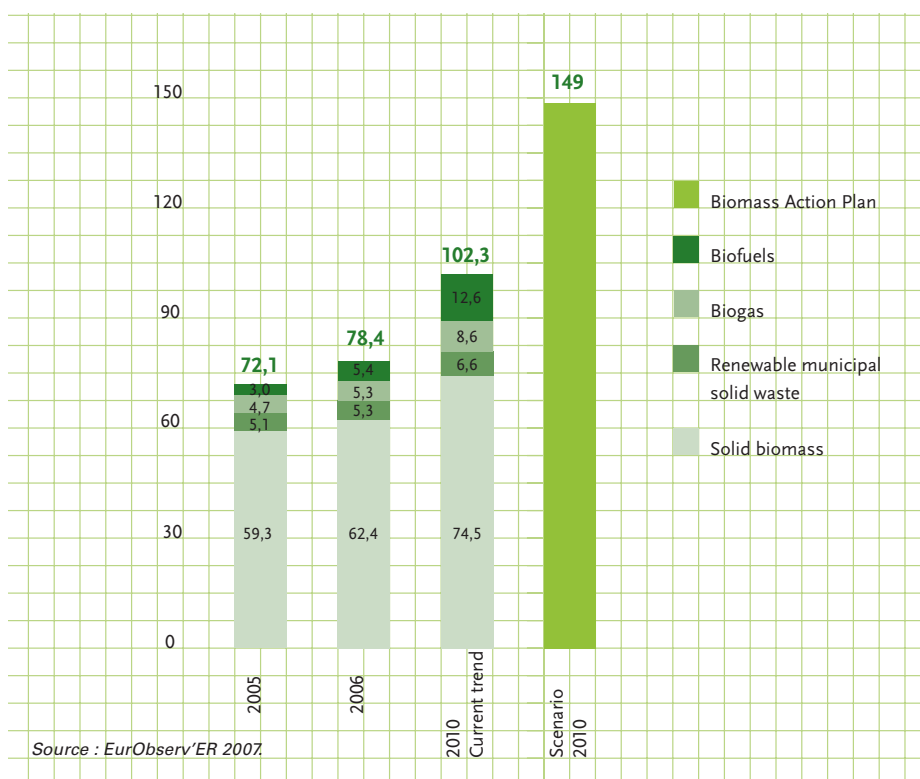
There is a large number of boiler manufacturers of all sizes in the EU. The companies presented in **Table 3** have in way been the object of any sort of classification. They were chosen insofar as they are representative of the current dynamism of their respective market segments.

Forecast for 2010: still far from the goals

Conditions are currently very favourable for development of solid biomass energy production. The continuous increase in the price of fossil fuels is a variable that investors, whether they be industrialists, local authorities or private individuals, can no longer afford to ignore. The principal danger is that production unit development takes place with too great a gap in terms of real capacities to supply biomass fuel. Because it is with respect to energy biomass production and distribution that the challenge remains the greatest. It is absolutely essential to prevent the increase in the price of biomass fuels from altering the industrial dynamism currently underway.

The Commission believes that the measures provided for in the Biomass Action Plan are going to lead to an increase in biomass use that should reach approximately 150 Mtoe (55 Mtoe for production of electricity, 75 Mtoe for production of heat and 19 Mtoe for transport). Even if the Commission does not rule out a slight delay, this scenario will still be difficult to reach. Taking into consideration the estimates of experts and the current primary energy growth rate, as well as the integration of Bulgaria and Romania, we estimate solid biomass production at 74.5 Mtoe in 2010, and renewable urban waste production at 6.6 Mtoe. If we add to this the forecast put forward in the last biogas barometer (8.6 Mtoe in 2010) and our estimate of biofuel consumption in 2010 (a 4.2% share, i.e. consumption in the region of 12.6 Mtoe), our biomass origin primary energy consumption amounts to 102.3 Mtoe.

Graph 1 : Comparison of the current trend with the Biomass Action Plan scenario (in Mtoe)



EurObserv'ER

EurObserv'ER is a consortium composed of five European organisations devoted to the promotion of renewable energies within the European Union.

These five organisations are:

- **Observ'ER**, the Observatory of renewable energies (Paris, France);
- **Eurec Agency**, the European association of renewable energy research centers (Brussels, Belgium);
- **Eufores**, European forum for renewable energy sources (Brussels, Belgium);
- **Erec**, The European Renewable Energy Council (Brussels, Belgium);
- **Jozef Stefan Institute**, Energy Efficiency Center (Ljubljana, Slovenia);

The EurObserv'ER barometer

The **EurObserv'ER barometer** consists of regular publication in the European press of indicators reflecting the current dynamics of renewable energy sectors (solar, wind, hydraulic, geothermal and biomass) worldwide and within the European Union.

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