



Press release

June 2006

## 2006 Biogas Barometer

In this period of exploding petrol prices and increasing natural gas prices, it's no longer possible to produce biogas and then just let it burn off into the air. More and more countries are setting up incentive legislations to valorise this energy that results from the treatment of organic waste (in the form of heat, electricity and fuel). EurObserv'ER presents the current state of development of this sector in its barometer published in **issue 173** of **Systèmes Solaires** magazine.

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### ***5 million toe produced in Europe***

Biogas is obtained from different types of deposits. It can come from natural methanisation of urban waste in rubbish dumps (the biogas produced is then collected) or can be produced (voluntary methanisation) using a digester.

In 2005, nearly 5 million tons oil equivalent (toe) were produced for energy use in the countries of the European Union, on a deposit estimated at more than 20 Mtoe. The United Kingdom and Germany are the leading producers, and this in terms of both total primary energy production (respectively 1,782.6 ktoe and 1,594.4 ktoe) and per capita production (respectively 29.9 toe per 1,000 inhabitants and 19.3 toe per 1,000 inhabitants). France ranks only fifth, following behind Italy and Spain, and ranks fifteenth in terms of per capita production.

Rubbish dumps are the most exploited deposit at present (3,172.7 ktoe), ahead of sewage purification plants (932.4 ktoe) and the other types of deposits (854 ktoe of agricultural biogas, in particular). Primary energy production grew by 15.9% between 2004 and 2005, and mainly benefited the methanisation of biogas other than from sewage purification plants (+ 58%, agricultural biogas in particular) and rubbish dump origin biogas (+ 12.8%).

**Table 1 : Primary biogas energy production for each European Union country in 2004 and 2005\* (in ktoe)**

in ktep	2004				2005			
	Landfill Gas	Sewage Sludge Gas <sup>1</sup>	Other biogas <sup>2</sup>	Total	Landfill Gas	Sewage Sludge Gas <sup>1</sup>	Other biogas <sup>2</sup>	Total
U.K.	1,326.70	165.00		1,491.70	1,617.60	165.00		1,782.60
Germany	573.20	369.80	351.70	1,294.70	573.20	369.80	651.40	1,594.40
Italy	297.70	0.30	37.50	335.50	334.10	0.40	42.00	376.50
Spain	219.10	52.40	23.60	295.10	236.50	56.80	23.60	316.90
France	127.00	77.00	3.00	207.00	129.00	77.00	3.00	209.00
Netherlands	48.70	48.60	28.90	126.20	48.70	48.60	28.90	126.20
Sweden	35.83	69.27	–	105.10	35.80	69.30	–	105.10
Denmark	13.80	19.80	55.60	89.30	14.30	20.50	57.50	92.30
Belgium	56.30	9.70	7.80	73.80	56.30	9.70	7.80	73.80
Czech Republic	18.60	28.70	2.90	50.20	21.50	31.40	2.80	55.80
Poland	21.50	23.90	–	45.40	25.10	25.30	0.30	50.70
Austria	11.80	19.10	14.50	45.40	11.80	19.10	14.50	45.40
Greece	20.50	15.50	–	36.00	20.50	15.50	–	36.00
Ireland	19.90	4.80	5.10	29.90	24.90	4.80	5.10	34.80
Finland	16.60	9.90	–	26.50	16.60	9.90	–	26.50
Portugal	–	–	4.50	4.50	–	–	10.00	10.00
Slovenia	5.80	0.90	–	6.60	6.00	0.70	–	6.80
Luxembourg	–	–	5.00	5.00	–	–	6.70	6.70
Slovakia	–	5.70	0.20	5.90	–	5.70	0.20	5.90
Hungary	0.70	2.60	0.20	3.50	0.80	2.90	0.20	3.80
<b>E.U.</b>	<b>2,813.80</b>	<b>922.90</b>	<b>540.50</b>	<b>4,277.20</b>	<b>3,172.70</b>	<b>932.40</b>	<b>854.00</b>	<b>4,959.10</b>

<sup>1</sup> urban and industrial.

<sup>2</sup> Decentralised agricultural plant, municipal solid waste methanisation plant, centralised co-digestion plant

\*Estimation

Source : EurObserv'ER 2006

**Table 2 : Primary biogas energy production per inhabitant for each European Union country in 2005\* (toe/1000 inhab)**

	<b>Toe/1,000 inhab.</b>
United Kingdom	29.9
Germany	19.3
Denmark	17.1
Luxembourg	14.7
Sweden	11.7
Ireland	8.6
Netherlands	7.7
Spain	7.7
Belgium	7.1
Italy	6.5
Austria	5.6
Czech Republic	5.5
Finland	5.1
Slovenia	3.5
France	3.5
Greece	3.4
Poland	1.3
Slovakia	1.1
Portugal	1.0
Hungary	0.4
<b>European Union</b>	<b>10.9</b>

*\*Estimation*

*Source : EurObserv'ER 2006*

## **Methanisation of solid waste: industry of the future**

While methanisation of biosolids has been dependent on the water treatment industry, the household waste methanisation industry is much more recent (since beginning of the 1990s). The industrial and commercial offer has become very diversified in Europe for this type of methanisation, with each company having developed its own specific methanisation technology, with the principle ones being the Valorga, Linde BRV, Dranco, BTA, and Kompogas processes.

**Table 3 : Representative firm of the biogas sector in Europe**

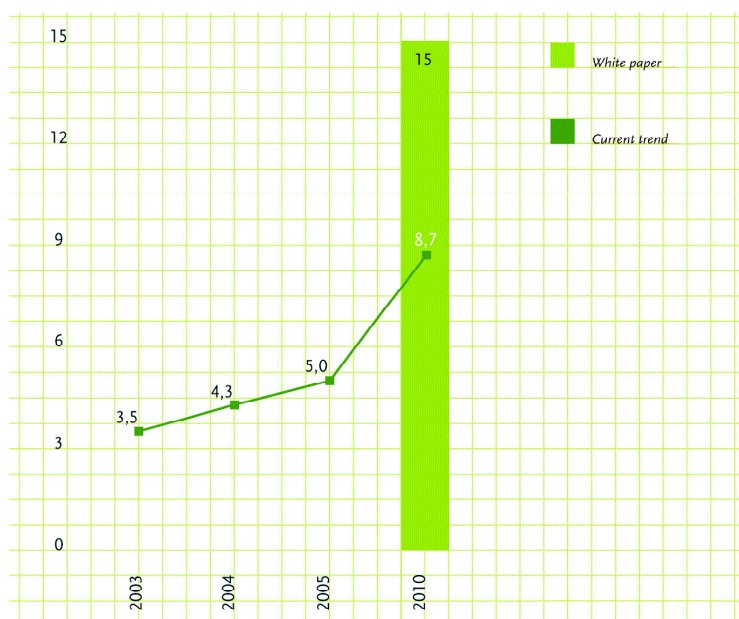
<b>Firms</b>	<b>Country</b>	<b>System</b>	<b>Wastes type*</b>	<b>Plants number</b>	<b>Total Capacity (tons/year)</b>
Linde AG Wies-baden	Germany	Linde BRV/KCA	Wet & Dry	24	1,000,000
Biotechnische Abfallverwertung	Germany	BTA	Wet	27	624,5
Kompogas AG	Switzerland	Kompogas	Dry	24	416,000
Organic Waste Systems	Belgium	Dranco	Dry	14	750,000
Schmack Biogas AG	Germany	Euco/Coccus	Wet	approx: 100	unknown
Valorga International SAS	France	Valorga	Dry	12	1,047,000

Source : EurObserv'ER

## **Far from White Paper objectives**

There is a real, strong political will today to develop biogas production both as a means of eliminating waste and as a means of energy valorisation, and this for each type of existing deposit. For this reason, we are maintaining our forecast of 8.7 million toe for the year 2010 (see graph). This estimate is based on efforts currently made by the big biogas producing countries (particularly the UK and Germany) being maintained and being reinforced by other countries with high potentials like France, Spain and Italy, where the sector is still only little valorised. The European Commission White Paper objective, which is set at 15 million toe for this date, therefore seems to be out of reach.

**Graph 1 : Comparison of current trend with White Paper targets (in million toe)**



Source : EurObserv'ER 2006.

# 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);

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## ***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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