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RENEWABLE ENERGIES STATISTICS

In 1990 the Commission of the E.C., in collaboration with the Member States (MS), started a project in order to create a Renewable Energies (RE) statistics collection/reporting system. In order to collect comparable statistics among the MS, the accountancy system already used by Eurostat to draw energy balance sheets was extended to the RE sources. Thus, referring to the individual RE sources, the primary energy production was defined as follows :

- | | |
|---------------------|-----------------------------------|
| - Active Solar | : heat absorbed by the collectors |
| - Wind Energy | : electricity generated |
| - Heat Pumps | : heat produced |
| - Hydropower | : electricity generated |
| - Biomass/Biogas | : heat content (NCV) of fuels |
| - Geothermal Energy | : brine enthalpy |

The collection system followed, as well as the sources of information used, varied among the different MS depending on the level of progress of collection of statistical information already established in the MS for their proper needs. Eurostat had already anticipated this situation and, although a data collection methodology was proposed, flexibility was allowed in order to adapt this methodology to the actual situation at national level. In general, the sources used by the various national institutes in collecting the necessary statistics may be summarised as follows :

- . survey results
- . specialised studies
- . statistics held by companies and government authorities
- . data held or estimates made by professional associations
- . specialised data banks
- . data banks created on the basis of government subsidies
- . personal contacts (experts).

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For further information please contact:
Eurostat, L-2920 Luxembourg, tel. 4301-3023 Fax: 4301 4771

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By the end of 1991, Eurostat received all reports for the twelve Member States where balance sheets are presented for the individual RE sources along with additional specific information (installed capacities, electricity production etc.) with 1989 as the reference year.

It is worth noting that not only was the information related to some sources not readily available but the statistics presented sometimes give a partial coverage of the field, while the accuracy varies from that of a well-founded estimate to the high accuracy of a survey result (details available in national reports). Within these limitations EUROSTAT notes that :

- 3.1 RE primary energy production in EUR 12 (Table 1) was 36 Mtoe, biomass and hydropower being the two main contributors (92%) while geothermal energy accounts for 6% of this total. The remaining RE sources have a rather limited (2%) contribution. However, the relative contribution of these latter RE sources is much higher in some Member States as for example in DK (19%), NL (19%) and GR (11%).
- 3.2 With reference to hydro-electricity, small plants play an important role in E, F and I (data for Germany were not available).
- 3.3 The importance of wood/wood residues within the context of biomass (Table 2) for all Member States must be stressed.
- 3.4 Individual examination of the RE sources that have a limited contribution into the overall RE primary energy production (Table 1, Table 3) shows that
 - wind energy prevails in DK
 - solar energy is exploited mainly in GR, E, F, I, P, UK
 - biogas is relatively important in UK, NL, I
 - geothermal energy is mainly present in I
 - heat pumps (no comparison is possible).

In 1989, RE contributed 6.0% into the overall primary energy production and 3.2% into the overall energy needs in the Community. It must be noted, however, that in some MS the contribution of RE in the primary energy production is much higher than the average for the Community while Portugal covers 11% of its energy needs by RE.

TABLE 1. RENEWABLE ENERGIES PRIMARY ENERGY PRODUCTION IN 1989

MEMBER	RE PRIMARY ENERGY PRODUCTION IN 1989 (ktoe)								PER CENT REN. ENERGIES CONTRIBUTION IN TOTAL			
	STATE	ACTIVE SOLAR	WIND	HEAT PUMPS	HYDROPLANTS		BIOGAS	BIOMASS	GEOTHE. ENER.	TOTAL	PRIMARY ENERGY PRODUCTION	GROSS INLAND CONSUMPTION
					<5MW	>5MW						
BELGIUM	1.0	0.6	3.1	2.2	24.0	6.4	334.7	1.0	373.0	3.1%	0.8%	
DENMARK	1.9	36.9	111.8	*	2.3	26.4	770.8	1.1	951.2	10.7%	5.4%	
GERMANY	NA	2.2	NA	*	1421.0	NA	3450.0	0.0	4873.2	3.8%	1.8%	
GREECE	67.1	0.1	NA	0.8	163.0	20.0	564.0	1.6	816.6	9.6%	3.8%	
SPAIN	21.1	1.2	NA	102.5	1650.0	**	2153.2	2.4	3930.4	12.0%	4.6%	
FRANCE	20.0	NA	NA	252.0	3729.0	NA	9666.0	122.0	13789.0	13.1%	6.3%	
IRELAND	0.0	0.0	3.0	0.3	59.0	2.2	82.7	0.0	147.2	4.3%	1.5%	
ITALY	7.2	0.2	13.0	244.0	2688.0	52.7	2919.0	2067.0	7991.1	30.2%	5.2%	
LUXEMB.	0.0	0.0	0.1	0.6	6.4	0.3	15.0	0.0	22.4	100.0%	0.7%	
NETHERL.	1.6	3.2	25.8	*	3.2	60.1	376.6	0.0	470.5	0.8%	0.7%	
PORTUGAL	39.8	0.0	0.0	0.0	500.0	2.0	1138.6	0.0	1680.4	96.2%	10.7%	
UN. KING.	8.5	2.5	NA	1.0	400.6	61.4	400.5	0.4	874.9	0.4%	0.4%	
EUR 12	168.2	47.0	156.8	603.4	10646.5	231.5	21871.1	2195.5	35920.0	6.0%	3.2%	

NA: Not Available to EUROSTAT

* Included in large Hydroplants Production.

Limits for Hydro in Italy are 3 MW

** Included in Biomass Production.

TABLE 2 : WOOD CONTRIBUTION IN BIOMASS

MEMBER STATE	PRIMARY ENERGY PRODUCTION (ktoe)		PER CENT CONTRIBUTION OF WOOD IN BIOMASS
	WOOD	BIOMASS	
BELGIUM	92	335	27%
DENMARK	258	771	33%
GERMANY	3010	3450	87%
GREECE	472	564	84%
SPAIN	NA	2153	NA
FRANCE	9000	9666	93%
IRELAND	82	83	99%
ITALY	2800	2919	96%
LUXEMBOURG	NA	15	NA
NETHERLANDS	1	377	0%
PORTUGAL	1002	1139	88%
UN.KINGDOM	163	401	41%

NA = Not Available to Eurostat

TABLE 3 : RE SPECIFIC CHARACTERISTICS

SPECIFIC CHARACTERISTICS, YEAR 1989			
MEMBER STATE	SOLAR COLLECTORS SURFACE (1000 m ²)	INSTALLED CAPACITY	
		PHOTOVOLTAICS kW _p	WIND TURBINES MW
BELGIUM	34	74	4.8
DENMARK	51	NS	263
GERMANY	NA	821	20
GREECE	1300	254	1.3
SPAIN	273	3000	6
FRANCE	370	NA	0.5
IRELAND	1	55	NA
ITALY	290	2400	2.5
LUXEMBOURG	NS	NS	NS
NETHERLANDS	80	329	38.7
PORTUGAL	265	NS	0.06
UN.KINGDOM	276	150	8.7

NA = Not Available to Eurostat

NS = Not Significant