



BP Statistical Review of World Energy June 2008

Renewables

Renewable energy – geothermal

Cumulative installed geothermal power capacity*

Megawatts	1975	1980	1985	1990	1995	2000	2003	2004	2005	2006	2007	Change 2007 over 2006	2007 share of total
Argentina				0.7	0.7	0.7	–	–	–	–	–	–	–
Austria				–	–	–	1.3	1.2	1.2	1.2	1.2	–	♦
Australia				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	–46.7%	♦
China				31.1	32.1	32.1	32.1	32.1	32.1	32.1	32.1	–	0.3%
Costa Rica				–	55.0	142.5	162.5	162.5	162.5	162.5	162.5	–	1.7%
El Salvador				95.0	105.0	161.2	161.2	151.2	151.2	204.0	204.0	–	2.1%
Ethiopia				–	–	7.3	7.3	7.3	7.3	7.3	7.3	–	0.1%
France (Guadeloupe)				4.2	4.2	4.2	4.2	14.7	14.7	14.7	14.7	–	0.2%
Germany				–	–	–	0.2	0.2	0.2	0.2	0.2	–	♦
Guatemala				–	–	33.4	33.4	33.6	49.5	49.5	49.5	–	0.5%
Iceland				44.6	50.0	170.0	200.0	202.0	232.0	422.0	456.0	8.1%	4.7%
Indonesia				144.8	309.8	589.5	807.0	807.0	807.0	807.0	807.0	–	8.3%
Italy				545.0	631.7	785.0	790.5	790.5	790.5	810.5	810.5	–	8.3%
Japan				214.6	413.7	535.3	535.3	535.3	535.3	537.3	537.3	–	5.5%
Kenya				45.0	45.0	45.0	121.0	127.0	127.0	127.0	127.0	–	1.3%
Mexico				700.0	753.0	755.0	953.0	953.0	953.0	953.0	959.5	0.7%	9.9%
New Zealand				283.2	282.0	431.0	399.0	397.0	434.0	434.0	434.0	–	4.5%
Nicaragua				35.0	70.0	70.0	77.5	77.5	77.5	77.5	77.5	–	0.8%
Papua New Guinea				–	–	–	5.5	5.5	5.5	5.5	5.5	–	0.1%
Philippines				888.0	1154.0	1931.0	1931.5	1931.0	1978.0	1978.0	1978.0	–	20.3%
Portugal (The Azores)				3.0	5.0	16.0	16.0	16.0	16.0	16.0	16.0	–	0.2%
Russia (Kamchatka)				11.0	11.0	23.0	73.0	79.0	79.0	79.0	79.0	–	0.8%
Thailand				0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	–	♦
Turkey				20.6	20.4	20.4	20.4	20.4	20.4	24.7	24.7	–	0.3%
US				2774.6	2816.7	2228.0	2020.0	2534.0	2828.3	2830.7	2936.5	3.7%	30.2%
TOTAL WORLD	1300	3887	4764	5840.9	6759.8	7981.1	8352.4	8878.5	9302.7	9574.2	9720.4	1.5%	100.0%

*End of year.

Source: International Geothermal Association, conference papers presented at various IGA workshops and congresses, Dow Jones Factiva.

♦Less than 0.05%.

Note: Because of rounding, some totals may not agree exactly with the sum of their component parts.

Renewable energy – solar

Cumulative installed photovoltaic (PV) power*

Kilowatts	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Change 2006 over 2005	2006 share of total
US	76500	88200	100100	117300	138800	167800	212200	275200	376000	479000	624000	30.3%	10.9%
Canada	2560	3380	4470	5826	7154	8836	9997	11830	13884	16746	20484	22.3%	0.4%
Mexico	10020	11022	12022	12922	13928	14971	16160	17100	18181	18693	19747	5.6%	0.3%
Total North America	89080	102602	116592	136048	159882	191607	238357	304130	408065	514439	664231	29.1%	11.7%
Austria	1739	2208	2931	3672	4874	6120	10341	16833	21060	24021	25585	6.5%	0.4%
Denmark	245	422	505	1070	1460	1500	1600	1900	2290	2650	2900	9.4%	0.1%
Finland	1511	2042	2170	2363	2607	2700	3052	3409	3709	4009	4073	1.6%	0.1%
France	4392	6118	7631	9121	11331	13856	17241	21100	26023	33043	43933	33.0%	0.8%
Germany	27800	41800	53800	69400	113700	194600	278000	431000	1044000	1910000	2863000	49.9%	50.2%
Italy	16008	16709	17680	18480	19000	20000	22000	26000	30700	37500	50000	33.3%	0.9%
Netherlands	3257	4036	6480	9195	12759	20509	26326	45917	49521	51184	52705	3.0%	0.9%
Norway	4900	5150	5404	5726	6030	6210	6384	6615	6890	7252	7668	5.7%	0.1%
Portugal	424	527	648	894	1144	1210	1668	2069	2700	3300	3777	14.5%	0.1%
Spain	6933	7100	8000	9080	12100	15700	20500	27000	37400	57700	118200	104.9%	2.1%
Sweden	1849	2127	2370	2584	2805	3032	3297	3581	3866	4237	4840	14.2%	0.1%
Switzerland	8392	9724	11500	13400	15300	17600	19500	21000	23100	27050	29700	9.8%	0.5%
United Kingdom	423	589	690	1131	1929	2746	4136	5903	8145	10877	14042	29.1%	0.2%
Total Western Europe	77873	98552	119809	146116	205039	305783	414045	612327	1259404	2172823	3220423	48.2%	56.5%
Israel	210	265	308	401	441	473	503	533	886	1044	1319	26.3%	*
Japan	59640	91300	133400	208600	330220	452813	636842	859623	1131991	1421908	1708499	20.2%	30.0%
Korea	2113	2475	2982	3459	3960	4757	5410	5981	8534	13524	34733	156.8%	0.6%
Australia	15700	18700	22520	25320	29210	33580	39130	45630	52300	60580	70300	16.0%	1.2%
Total Others	77663	112740	159210	237780	363831	491623	681885	911767	1193711	1497056	1814851	21.2%	31.8%
TOTAL IEA PVPS**	244616	313894	395611	519944	728752	989013	1334287	1828224	2861180	4184318	5699505	36.2%	100.0%

*End of year.

**IEA Photovoltaic Power System Programme member countries.

*Less than 0.05%.

Note: Because of rounding, some totals may not agree exactly with the sum of their component parts.

Source: IEA Photovoltaic Power Systems Programme and EurObserver.

Renewable energy – wind

Cumulative installed wind turbine capacity*

Megawatts	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change 2007 over 2006	2007 share of total
US	1611	2141	2445	2610	4245	4674	6361	6750	9181	11635	16879	45.1%	18.0%
Canada	26	83	126	139	214	270	351	444	683	1459	1845	26.5%	2.0%
Mexico	2	2	2	3	3	3	3	3	3	86	86	–	0.1%
Total North America	1639	2226	2573	2752	4462	4947	6715	7197	9867	13180	18810	42.7%	20.0%
Argentina	n/a	14	15	16	27	28	30	30	31	31	31	–	•
Brazil	n/a	19	22	22	24	24	31	31	31	231	392	69.9%	0.4%
Costa Rica	n/a	27	51	51	71	79	79	79	79	79	79	–	0.1%
Other S. & Cent. America	n/a	6	7	7	9	9	50	54	54	56	79	41.1%	0.1%
Total S. & Cent. America	42	66	95	96	131	140	190	194	195	397	581	46.5%	0.6%
Belgium	9	10	11	19	34	45	78	106	177	222	297	33.8%	0.3%
Denmark	1116	1420	1738	2341	2456	2880	3076	3083	3087	3101	3088	–0.4%	3.3%
Finland	12	18	39	39	40	44	53	83	85	89	113	27.0%	0.1%
France	13	21	25	63	115	183	274	386	775	1585	2471	55.9%	2.6%
Germany	2081	2874	4442	6107	8734	11968	14612	16649	18445	20652	22277	7.9%	23.7%
Greece	29	55	158	274	358	462	538	587	705	862	987	14.5%	1.0%
Ireland	53	64	74	122	129	167	230	339	498	748	807	7.9%	0.9%
Italy	103	197	277	424	700	806	922	1261	1713	2118	2721	28.5%	2.9%
Netherlands	329	379	433	473	523	727	938	1081	1221	1557	1745	12.1%	1.9%
Poland	2	2	2	3	24	54	55	55	65	170	313	84.1%	0.3%
Portugal	39	51	61	111	153	204	311	585	1087	1716	2150	25.3%	2.3%
Spain	512	880	1812	2836	3550	5043	6420	8263	10027	11614	14714	26.7%	15.7%
Sweden	122	176	220	265	318	372	428	478	554	571	789	38.2%	0.8%
United Kingdom	328	338	362	425	525	570	759	889	1336	1967	2394	21.7%	2.5%
Other Europe & Eurasia	64	87	102	148	174	329	631	904	1294	1679	1987	18.3%	2.1%
Total Europe & Eurasia	4812	6572	9756	13650	17833	23854	29325	34749	41068	48651	56851	16.9%	60.5%
Iran	9	9	9	9	9	24	63	91	91	91	91	–	0.1%
Other Middle East	9	9	9	9	9	9	9	9	9	9	9	–	•
Total Middle East	18	18	18	18	18	33	72	101	101	101	101	–	0.1%
Egypt	6	6	36	69	69	69	123	146	180	231	310	34.2%	0.3%
Morocco	–	–	14	54	54	54	54	54	64	122	124	1.6%	0.1%
Other Africa	–	4	14	14	14	25	34	34	34	34	34	–	•
Total Africa	6	10	64	137	137	148	211	234	278	386	469	21.5%	0.5%
Australia	4	10	10	30	71	190	240	421	717	796	972	22.1%	1.0%
China	146	200	262	352	406	473	571	769	1264	2588	5875	127.0%	6.2%
India	940	992	1035	1220	1456	1702	2125	3000	4388	6228	7845	26.0%	8.3%
Japan	17	30	68	142	357	486	761	991	1159	1457	1681	15.4%	1.8%
New Zealand	4	25	35	35	35	35	56	167	167	170	321	88.8%	0.3%
Other Asia Pacific	8	5	16	19	24	30	37	90	194	351	498	41.9%	0.5%
Total Asia Pacific	1119	1261	1426	1798	2349	2916	3790	5438	7889	11591	17193	48.3%	18.3%
TOTAL WORLD	7636	10153	13932	18450	24927	32037	40301	47912	59398	74306	94005	26.5%	100.0%

*End of year.

n/a not available.

•Less than 0.05%.

Note: Because of rounding, some totals may not agree exactly with the sum of their component parts.

Source: BTM consult Aps.

Renewable energy – fuel ethanol

Production

Thousand tonnes of oil equivalent	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change 2007 over 2006	2007 share of total
US	2374	2572	2714	2996	3251	3957	5173	6247	7208	9017	11957	32.6%	46.0%
Canada	n/a	n/a	n/a	n/a	n/a	n/a	n/a	115	127	295	424	44.1%	1.6%
Total North America	2374	2572	2714	2996	3251	3957	5173	6362	7335	9312	12381	33.0%	47.7%
Brazil	7737	7052	6483	5343	5726	6286	7226	7314	8010	8871	11264	27.0%	43.4%
Colombia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	50	134	142	5.4%	0.5%
Paraguay	†	1	4	5	3	5	17	20	22	23	25	8.7%	0.1%
Total South America	7737	7053	6487	5349	5729	6291	7243	7334	8082	9028	11431	26.6%	44.0%
Austria	n/a	n/a	n/a	–	–	–	–	–	–	–	14	–	0.1%
Czech Republic	n/a	n/a	n/a	–	–	–	–	–	1	7	16	120.0%	0.1%
France	n/a	n/a	n/a	57	57	111	101	50	72	146	289	97.3%	1.1%
Finland	n/a	n/a	n/a	–	–	–	–	1	6	–	–	–	♦
Germany	n/a	n/a	n/a	–	–	–	–	12	82	215	197	–8.6%	0.8%
Hungary	n/a	n/a	n/a	–	–	–	–	–	17	17	15	–11.8%	0.1%
Italy	n/a	n/a	n/a	–	–	–	–	–	4	48	22	–53.1%	0.1%
Latvia	n/a	n/a	n/a	–	–	–	–	6	6	6	9	50.0%	♦
Lithuania	n/a	n/a	n/a	–	–	–	–	–	4	9	10	11.1%	♦
Netherlands	n/a	n/a	n/a	–	–	–	–	7	4	7	7	–6.7%	♦
Poland	n/a	n/a	n/a	–	–	41	38	24	32	80	77	–3.7%	0.3%
Spain	n/a	n/a	n/a	50	50	57	52	127	151	198	174	–12.1%	0.7%
Sweden	n/a	n/a	n/a	13	28	32	33	35	76	70	35	–50.0%	0.1%
Turkey	n/a	n/a	n/a	–	–	–	–	–	15	20	20	♦	0.1%
Total Europe	n/a	n/a	n/a	120	136	241	223	264	472	824	886	7.5%	3.4%
Australia	n/a	n/a	n/a	n/a	n/a	n/a	26	12	14	31	56	78.6%	0.2%
China	n/a	n/a	n/a	n/a	n/a	n/a	38	144	580	985	1043	5.9%	4.0%
India	n/a	n/a	n/a	n/a	n/a	n/a	90	75	50	60	70	16.7%	0.3%
Pakistan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	23	17	–23.9%	0.1%
Thailand	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30	64	88	37.0%	0.3%
Total Asia Pacific	n/a	n/a	n/a	n/a	n/a	n/a	154	230	673	1164	1275	9.5%	4.9%
TOTAL WORLD	10111	9625	9200	8465	9116	10490	12793	14190	16562	20328	25972	27.8%	100.0%

Sources: Canadian Renewable Fuels Association; European Bioethanol Fuel Association; F.O. Lichts; Government agencies in Brazil, Canada, US, Austria, Australia, China.

n/a not available.

† Less than 0.05.

♦ Less than 0.05%.