

Appendix table 6-57

**USPTO patents granted in alternative energy and pollution-control technologies, by region/country/economy: Selected years, 1997–2012**

Region/country/economy	1997	1999	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
World	3,087	3,640	4,081	4,256	4,085	3,594	3,960	3,701	3,742	4,297	6,260	6,906	8,834
North America	1,733	1,967	2,147	2,116	2,068	1,815	2,055	1,881	1,930	2,156	3,032	3,444	4,324
Bermuda	1	1	0	0	0	0	0	0	1	0	1	0	0
Canada	96	124	114	131	143	142	146	113	124	114	161	177	225
Mexico	3	0	4	3	3	3	2	1	4	1	8	4	9
United States	1,633	1,842	2,029	1,982	1,922	1,670	1,907	1,767	1,802	2,041	2,863	3,264	4,090
Central and South America	5	11	5	9	10	6	4	4	7	7	7	26	25
Argentina	2	1	1	4	0	0	0	0	0	0	1	3	2
Brazil	2	2	1	2	4	3	2	3	3	3	6	16	13
All others	1	8	3	3	6	3	2	1	5	4	1	7	11
Europe	573	698	758	760	670	646	598	631	643	687	1,067	1,109	1,493
EU	527	638	682	718	621	588	549	594	594	638	1,007	1,044	1,417
Austria	11	16	13	7	11	19	17	17	12	16	19	17	24
Belgium	7	6	10	10	12	9	13	9	6	12	20	20	17
Denmark	11	14	22	24	18	23	11	19	22	34	56	108	149
Finland	18	15	15	22	15	13	15	18	9	12	22	9	20
France	92	94	104	96	68	84	62	98	85	96	155	151	165
Germany	237	291	327	351	319	287	268	264	276	316	474	458	596
Hungary	1	1	0	3	0	1	0	0	1	0	4	1	4
Ireland	0	0	2	2	3	4	1	1	4	3	3	3	4
Italy	25	26	25	28	30	23	28	26	28	25	43	42	67
Netherlands	16	36	34	31	24	19	14	23	32	15	37	49	60
Spain	3	1	3	13	12	11	4	9	9	19	20	30	44
Sweden	44	64	53	40	38	34	34	31	31	21	41	40	75
United Kingdom	61	71	65	81	65	54	81	74	74	64	94	102	161
All others	0	3	8	12	7	6	3	6	8	6	20	15	31
Other Europe	46	60	76	42	49	58	49	37	49	49	60	65	76
Norway	5	8	11	7	6	13	8	11	12	10	13	14	13
Russia	0	0	14	10	8	10	7	5	14	9	12	11	10
Former Soviet Union	9	12	0	0	0	0	0	0	0	0	0	0	0
Switzerland	32	36	49	22	30	32	31	19	22	27	32	37	50
All others	0	4	2	3	5	3	3	2	1	3	3	3	3
Asia	722	912	1,125	1,311	1,278	1,079	1,252	1,140	1,111	1,380	2,062	2,217	2,873
China	5	3	7	12	13	10	18	20	23	32	67	74	146
India	1	1	3	7	7	8	5	13	9	12	21	39	43
Japan	653	809	993	1,152	1,105	932	1,071	941	910	1,038	1,451	1,522	1,965
Malaysia	0	0	1	0	4	1	0	1	0	0	0	1	4
Singapore	2	1	2	3	3	5	1	6	3	5	10	11	18
South Korea	37	55	76	85	99	76	105	106	105	210	394	421	489
Taiwan	21	39	39	48	46	45	49	51	61	79	110	144	204
All others	3	4	4	4	1	2	3	2	0	4	9	5	4
Middle East	17	19	21	28	27	18	16	15	21	27	49	53	72

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Region/country/economy	1997	1999	2001	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Israel	15	17	19	26	24	15	16	12	20	24	39	45	49
All others	2	2	3	2	3	3	0	3	1	3	10	9	24
Africa	6	7	8	2	4	4	8	6	6	5	11	7	4
South Africa	6	7	8	2	3	3	7	6	6	3	11	6	3
All others	0	0	0	0	1	1	1	1	0	2	1	1	0
Australia/Oceania	32	30	19	30	31	26	28	25	25	34	33	50	43
Australia	29	26	17	28	28	26	25	24	22	31	26	47	37
New Zealand	3	4	2	2	3	1	3	1	3	4	6	2	6
All others	0	0	0	0	0	0	0	0	0	0	0	0	0

EU = European Union; USPTO = U.S. Patent and Trademark Office.

NOTES: Alternative energy and pollution-control technologies include alternative energy, energy storage, smart grid, and pollution mitigation. Alternative energy includes solar, wind, nuclear, hydropower, wave/tidal/ocean, geothermal, and electric/hybrid. Energy storage includes batteries, compressed air, flywheels, superconductivity, magnet energy systems, ultracapacitors, hydrogen production and storage, and thermal energy. Pollution mitigation includes recycling, control of air, water, and solid waste pollution, environmental remediation, cleaner coal, and capture and storage of carbon and other greenhouse gases. Technologies are classified by The Patent Board™. Patents are fractionally allocated among regions/countries/economies based on the proportion of residences of all named inventors. The EU includes 27 member countries. China includes Hong Kong. Detail may not add to total because of rounding or minor discrepancies. See appendix table 6-41 for a full list of countries by region.

SOURCE: The Patent Board™, special tabulations (2013) of the Proprietary Patent Database.

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