



APPENDIX TABLE 6-57

USPTO patents granted in alternative energy technologies, by region, country, or economy: 1998–2016

(Number)

Region, country, or economy	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World	975	991	1,051	1,238	1,389	1,420	1,407	1,322	1,459	1,450	1,525	1,835	2,921	3,638	4,781	5,234	6,010	5,873	5,567
North America	482	482	516	610	642	684	681	631	738	713	728	858	1,352	1,740	2,263	2,512	2,715	2,540	2,453
Canada	23	25	32	23	37	49	59	64	55	39	47	41	59	76	85	101	102	127	98
Mexico	1	0	0	1	3	0	1	1	0	0	1	0	2	1	1	8	5	2	4
Puerto Rico	0	0	0	0	0	2	0	0	0	0	1	0	1	1	3	1	3	0	1
United States	458	457	484	586	602	634	621	566	682	674	679	817	1,290	1,661	2,175	2,402	2,605	2,412	2,350
Central and South America	0	4	0	1	0	1	3	2	2	2	0	2	1	8	12	9	14	16	13
Argentina	0	0	0	1	0	0	0	0	0	0	0	0	1	1	2	0	0	2	1
Brazil	0	1	0	0	0	0	1	2	1	2	0	1	0	5	7	6	10	3	6
All others	0	3	0	0	0	1	2	0	1	0	0	1	0	1	3	3	4	12	6
Europe	207	199	198	233	257	262	242	257	221	258	298	305	503	600	854	982	1,177	1,134	1,099
EU	194	181	184	209	245	253	232	236	208	247	279	294	479	575	817	920	1,120	1,087	1,043
Austria	2	5	3	4	2	1	4	4	7	3	5	8	8	8	16	12	16	17	18
Belgium	2	0	0	2	5	4	2	4	5	3	3	5	6	7	7	12	14	15	16
Denmark	5	2	0	2	4	12	11	12	4	15	11	17	43	87	120	98	150	135	136
Finland	3	4	1	2	1	2	2	3	3	1	1	2	2	4	10	12	19	22	19



Region, country, or economy	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
France	53	30	30	26	38	38	29	27	24	40	30	31	58	64	82	117	169	135	170
Germany	97	96	106	120	130	136	131	131	120	122	158	173	257	261	361	418	449	456	373
Hungary	0	1	1	0	1	0	0	0	0	0	0	0	1	1	2	2	4	1	2
Ireland	0	0	1	0	1	0	0	2	0	0	2	1	1	2	3	3	11	2	8
Italy	5	7	6	7	15	9	8	9	10	8	16	11	22	27	38	45	52	63	46
Netherlands	1	4	8	12	8	10	10	6	3	12	13	8	12	22	41	30	43	43	26
Spain	3	0	4	1	4	9	7	7	5	7	3	8	11	22	36	41	47	58	57
Sweden	4	13	9	15	18	13	11	6	10	8	10	6	12	16	19	30	48	37	51
United Kingdom	19	20	13	15	16	19	16	22	16	26	26	23	33	44	64	78	89	96	106
All others	0	0	2	4	1	1	1	1	0	1	3	0	13	8	17	21	10	6	16
Other Europe	13	18	14	24	12	8	11	20	14	11	18	11	24	26	37	62	57	47	56
Former Soviet Union	0	0	0	0	0	1	0	2	0	0	0	1	0	1	1	2	1	1	1
Norway	1	1	4	2	0	1	0	2	2	2	6	2	4	6	5	17	14	11	6
Russia	1	1	1	1	6	2	3	4	1	2	2	2	5	4	5	8	6	5	6
Switzerland	11	16	8	20	5	5	7	13	11	7	10	6	15	13	22	33	34	26	39
All others	0	0	1	0	1	0	1	0	0	0	0	0	0	2	4	2	2	4	4
Asia	270	282	319	378	471	460	463	421	478	468	486	657	1,033	1,244	1,609	1,666	2,023	2,093	1,887
China	1	0	2	3	2	3	4	5	5	7	10	12	27	29	62	81	91	113	128
India	0	0	0	1	1	2	0	3	0	5	1	4	7	25	25	22	22	36	26



Region, country, or economy	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Japan	250	257	297	346	436	423	414	374	421	407	405	493	738	868	1,113	1,093	1,273	1,308	1,114
Malaysia	0	0	1	1	0	0	1	0	0	0	0	0	0	1	2	2	5	2	7
Singapore	0	0	0	1	2	0	0	0	0	0	2	3	5	6	13	8	15	18	17
South Korea	10	13	10	15	13	19	24	28	24	28	42	89	183	210	257	299	458	473	481
Taiwan	8	9	8	7	18	11	20	12	26	21	26	54	66	103	136	157	154	137	112
All others	1	3	1	4	0	2	0	0	2	0	0	2	7	2	1	4	6	7	3
Middle East	8	9	7	9	8	6	11	7	7	4	8	6	16	22	24	40	50	52	74
Israel	8	8	6	8	7	6	10	5	7	3	8	4	12	19	16	26	38	35	41
All others	0	1	1	1	1	0	1	1	0	1	1	1	4	3	8	14	13	16	33
Africa	0	2	1	0	1	0	0	2	2	1	0	1	3	3	1	4	7	2	4
South Africa	0	2	1	0	1	0	0	2	2	1	0	1	3	3	1	3	5	2	3
All others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1
Australia and Oceania	7	13	9	6	10	8	6	3	11	4	5	7	12	20	17	21	23	34	37
Australia	4	11	7	6	10	8	6	3	9	4	4	6	11	19	15	18	19	30	27
New Zealand	3	2	2	0	0	0	0	0	1	0	1	1	1	1	2	3	4	4	10
Unclassified	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

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

Note(s)



Patents are fractionally allocated among regions, countries, or economies based on the proportion of residences of all named inventors. The EU includes 28 member countries. China includes Hong Kong. Alternative energy includes bioenergy, solar, wind, nuclear, fuel cells, hydropower, wave/tidal/ocean, geothermal, and electric/hybrid. Technologies are based on a classification developed by The Patent Board.

Source(s)

Science-Metrix, PatentsView, and USPTO patent data.

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