



## APPENDIX TABLE 6-60

## USPTO patents granted in pollution mitigation 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	1,975	1,924	1,887	2,002	1,810	1,802	1,692	1,442	1,459	1,439	1,409	1,605	2,143	2,129	2,416	2,788	2,825	2,781	2,590
North America	1,160	1,156	1,118	1,160	1,049	1,011	939	823	861	813	808	951	1,189	1,193	1,333	1,514	1,513	1,413	1,346
Canada	62	74	77	76	73	52	56	52	49	45	54	47	58	64	84	76	74	76	64
Mexico	2	0	1	3	5	2	1	1	0	1	4	0	1	2	5	6	3	2	3
Puerto Rico	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1
United States	1,097	1,082	1,039	1,082	971	957	882	770	812	767	750	904	1,130	1,127	1,244	1,430	1,435	1,334	1,278
Central and South America	3	6	1	3	5	4	4	3	1	4	5	4	5	17	6	11	8	10	15
Argentina	0	1	1	0	1	3	0	0	0	0	0	0	0	1	0	2	0	1	0
Brazil	2	1	0	1	2	1	2	1	1	1	2	0	4	9	0	6	2	2	7
All others	1	4	0	2	3	0	2	2	0	3	3	4	1	7	6	3	6	6	7
Europe	366	390	363	421	356	346	298	250	232	268	238	259	420	371	410	553	568	549	494
EU	328	361	336	385	340	330	283	227	215	253	222	235	398	353	389	519	536	511	453
Austria	10	5	3	6	9	7	5	10	7	13	4	5	9	7	10	13	10	22	20
Belgium	4	4	8	6	8	5	6	3	8	5	2	8	7	6	6	20	15	11	17
Denmark	4	12	9	12	8	10	3	5	2	4	11	9	8	11	11	10	13	11	10
Finland	8	10	10	13	8	16	10	5	6	9	6	6	11	4	9	9	10	12	8



Region, country, or economy	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
France	47	48	60	65	55	43	35	32	25	45	33	39	61	49	45	74	54	44	57
Germany	149	166	164	183	144	157	134	108	103	98	93	101	174	170	184	238	233	212	183
Hungary	2	0	0	0	1	2	0	1	0	0	1	0	3	1	0	2	3	1	1
Ireland	0	0	1	0	0	1	1	0	0	1	0	1	2	2	1	3	1	2	2
Italy	18	13	14	12	17	16	15	8	9	11	10	13	19	11	18	21	29	32	25
Netherlands	12	30	12	14	21	14	12	8	4	7	7	8	19	26	14	22	34	21	15
Spain	2	3	2	3	2	1	2	1	0	3	3	2	4	2	2	9	9	7	2
Sweden	24	21	21	26	28	12	21	18	14	15	19	13	28	17	21	29	31	38	31
United Kingdom	45	47	30	40	34	40	36	25	34	38	28	29	42	40	60	64	84	83	74
All others	3	2	3	4	4	6	4	4	1	4	5	2	10	7	7	7	8	14	8
Other Europe	38	29	26	36	16	16	15	23	17	15	16	24	22	18	20	34	32	39	40
Former Soviet Union	2	1	0	1	1	0	0	1	1	2	0	1	0	0	0	1	1	0	1
Norway	5	6	3	10	3	5	6	10	5	4	3	6	11	7	6	10	9	16	21
Russia	8	9	4	11	4	5	3	5	3	3	8	5	5	5	4	8	6	3	5
Switzerland	21	11	20	13	7	6	6	7	8	6	5	10	6	6	9	12	16	20	14
All others	2	1	0	1	1	0	1	0	1	1	0	2	0	0	1	2	1	0	0
Asia	418	350	381	390	375	410	426	345	339	330	335	369	496	512	610	640	658	720	672
China	7	2	4	4	5	7	7	6	10	13	9	15	24	25	34	42	53	56	64
India	1	0	5	3	5	6	5	7	3	7	4	8	6	8	13	11	22	17	25



Region, country, or economy	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Japan	344	303	339	322	306	343	365	290	287	254	273	290	390	412	472	456	473	500	462
Malaysia	1	0	1	0	0	0	1	0	0	1	0	0	1	0	1	2	1	1	0
Singapore	1	0	0	2	0	2	3	1	1	3	2	2	2	1	2	1	0	4	3
South Korea	35	24	18	34	34	23	28	14	20	24	25	33	50	41	58	94	83	111	95
Taiwan	27	21	13	24	23	29	17	24	18	26	21	20	21	21	29	30	23	28	20
All others	3	0	0	0	2	1	1	2	0	0	1	1	1	3	0	3	3	2	2
Middle East	12	8	9	9	8	17	9	5	6	8	7	10	15	14	28	43	38	56	45
Israel	12	6	6	8	6	16	7	4	5	4	5	8	12	9	14	15	16	16	15
All others	1	2	3	1	2	1	2	1	1	4	2	2	3	5	14	27	22	40	30
Africa	1	2	6	9	2	1	3	3	10	4	3	1	2	4	6	5	7	3	3
South Africa	1	2	6	9	2	1	2	3	9	4	3	0	2	4	6	3	7	3	2
All others	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	2	0	1	1
Australia and Oceania	15	12	8	9	15	12	13	13	9	12	13	11	16	17	23	21	33	29	16
Australia	13	10	8	8	15	11	13	13	9	12	11	9	13	16	21	18	32	28	14
New Zealand	1	2	0	1	0	1	0	0	0	0	2	2	3	1	2	3	1	2	1
Unclassified	1	0	2	1	0	0	0	0	1	0	0	1	0	0	0	1	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. Pollution mitigation technologies include 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 based on a classification developed by The Patent Board.

**Source(s)**

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Science-Metrix; PatentsView and USPTO patent data.

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