

Appendix table 5-61

U.S. utility patents in clean energy and pollution control technologies citing S&E literature, by patent assignee sector, article author sector, and patent issue year: 2003–12

Patent assignee sector and article sector	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	USPTO utility patents									
All utility patents	4,255	4,085	3,594	3,960	3,701	3,742	4,297	6,260	6,907	8,835
Patents citing S&E literature, all assignee sectors	440	409	391	477	473	496	707	1,060	1,264	1,527
Foreign	169	152	146	166	154	165	236	380	456	558
United States	271	258	246	312	319	332	472	680	808	969
Government	3	7	8	5	3	8	9	16	11	13
Private	210	199	189	237	252	260	383	548	658	820
Academic	58	52	49	70	63	64	79	117	139	136
	Citations from USPTO utility patents to S&E articles									
All citations, all article author sectors	1,470	1,500	1,824	2,549	2,480	2,438	4,061	5,413	8,308	10,098
Foreign	791	826	993	1,407	1,403	1,323	2,238	3,193	4,876	6,038
United States	679	674	831	1,142	1,077	1,115	1,823	2,220	3,432	4,060
Federal government	44	52	45	62	44	54	80	104	146	196
Industry	149	140	166	180	184	180	284	297	471	470
Academic	401	391	526	772	730	769	1,271	1,472	2,434	2,853
FFRDCs	63	75	75	101	102	98	155	275	323	410
Nonprofit	14	13	14	24	11	11	26	60	45	109
State/local government	3	2	3	2	3	2	1	1	2	3
Joint/unknown sectors	4	1	2	3	3	1	5	10	11	19

FFRDC = federally funded R&D center; USPTO = U.S. Patent and Trademark Office.

NOTES: Article/citation counts are from the set of journals covered by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles are assigned to a sector on the basis of the institutional address(es) listed in the article. Article/citations are credited on a fractional-count basis (i.e., for articles with collaborating institutions from multiple sectors, each sector receives fractional credit on the basis of the proportion of its participating institutions). Citation counts are based on an 11-year window with a 5-year lag (e.g., citations for 2012 are references in U.S. patents issued in 2012 to articles published in 1997–2007). Article counts are a sum of articles in the cited-year window. Detail may not add to total because of rounding. Data in the table are not comparable to previous versions due to changes in the cited-year window.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, and The Patent Board™, special tabulations (2013) from USPTO, Patent Grant Bibliographic Data, and Thomson Reuters, SCI and SSCI, http://www.thomsonreuters.com/products_services/science/.