

The CleanTech PatentEdge Quarterly

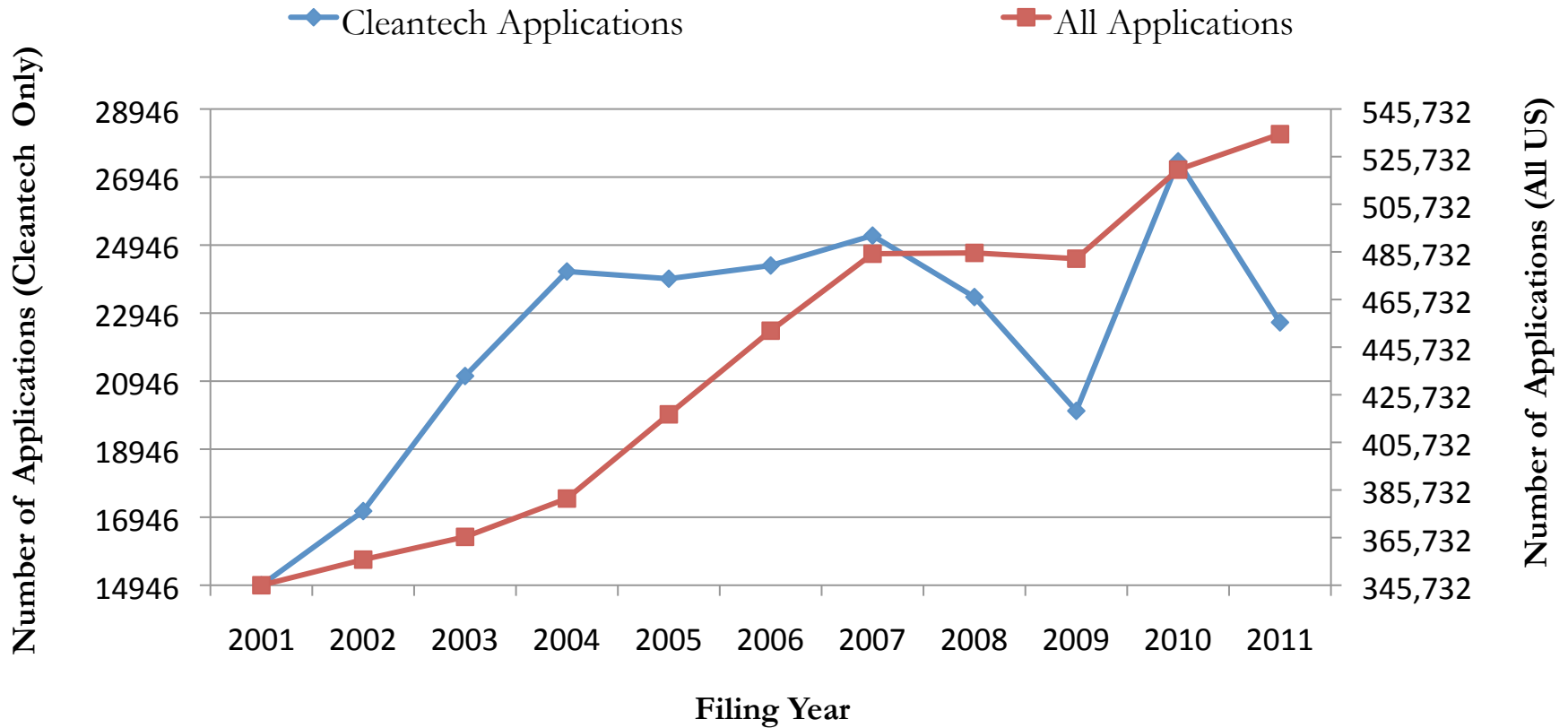


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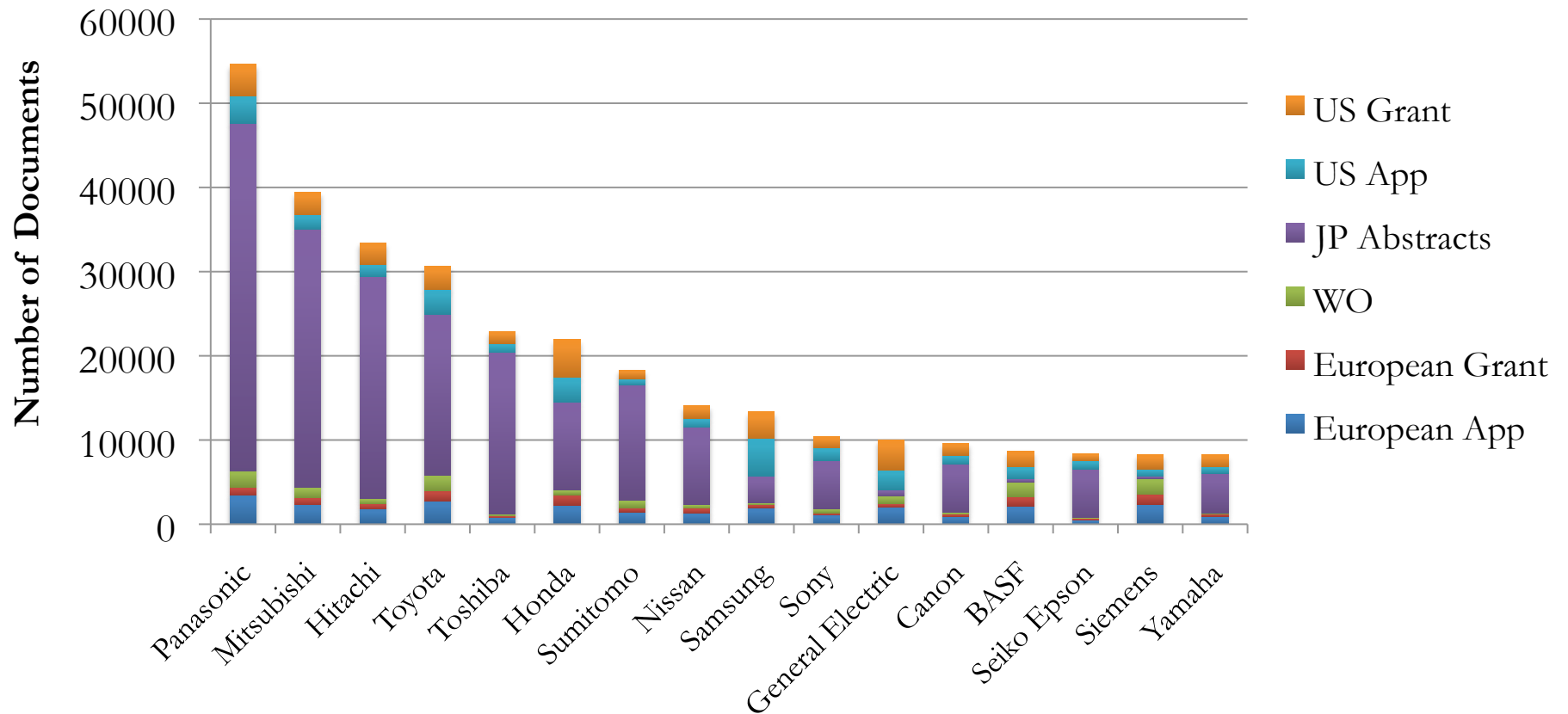
U.S. Patent Filing Trends, 2001-2011



Over the past decade, overall patent filing has increased steadily in the U.S., despite stalling for two years during the last recession.

After accelerating rapidly from 2001-2004, cleantech patent filing leveled off, then began to decline sharply after 2007. In 2010, cleantech-related patent applications increased by almost 40% (year over year). Because complete patent filing data from 2011 is only available for the first quarter, it is likely that an increase in cleantech applications will also be found in 2011.

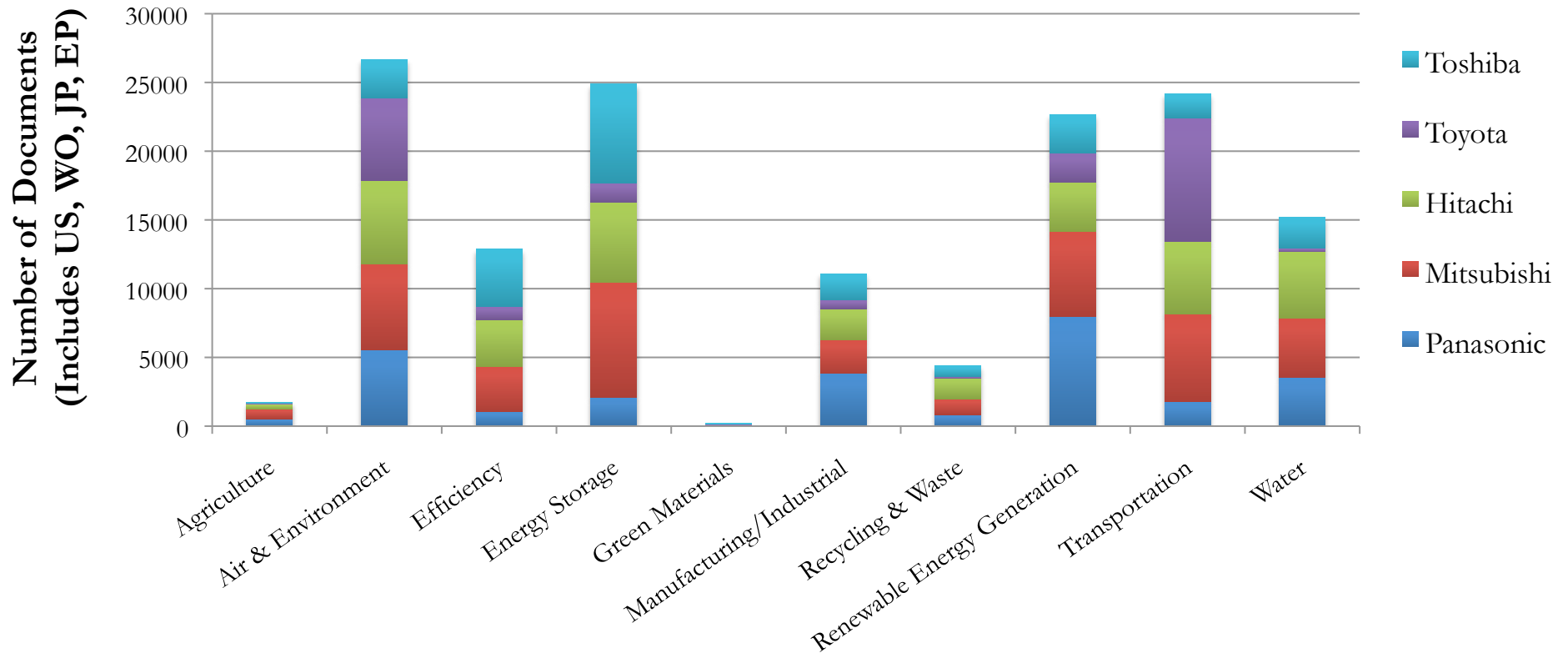
Top Assignees in Cleantech - Worldwide



Most of the top assignees in the cleantech sector are Japanese companies, which primarily focus their patenting efforts in Japan.

Many of the top cleantech assignees are automobile producers. Although these companies certainly have multiple business units, their relatively strong position in cleantech likely comes from the clean air initiatives that have directed innovation in the automobile industry for many years.

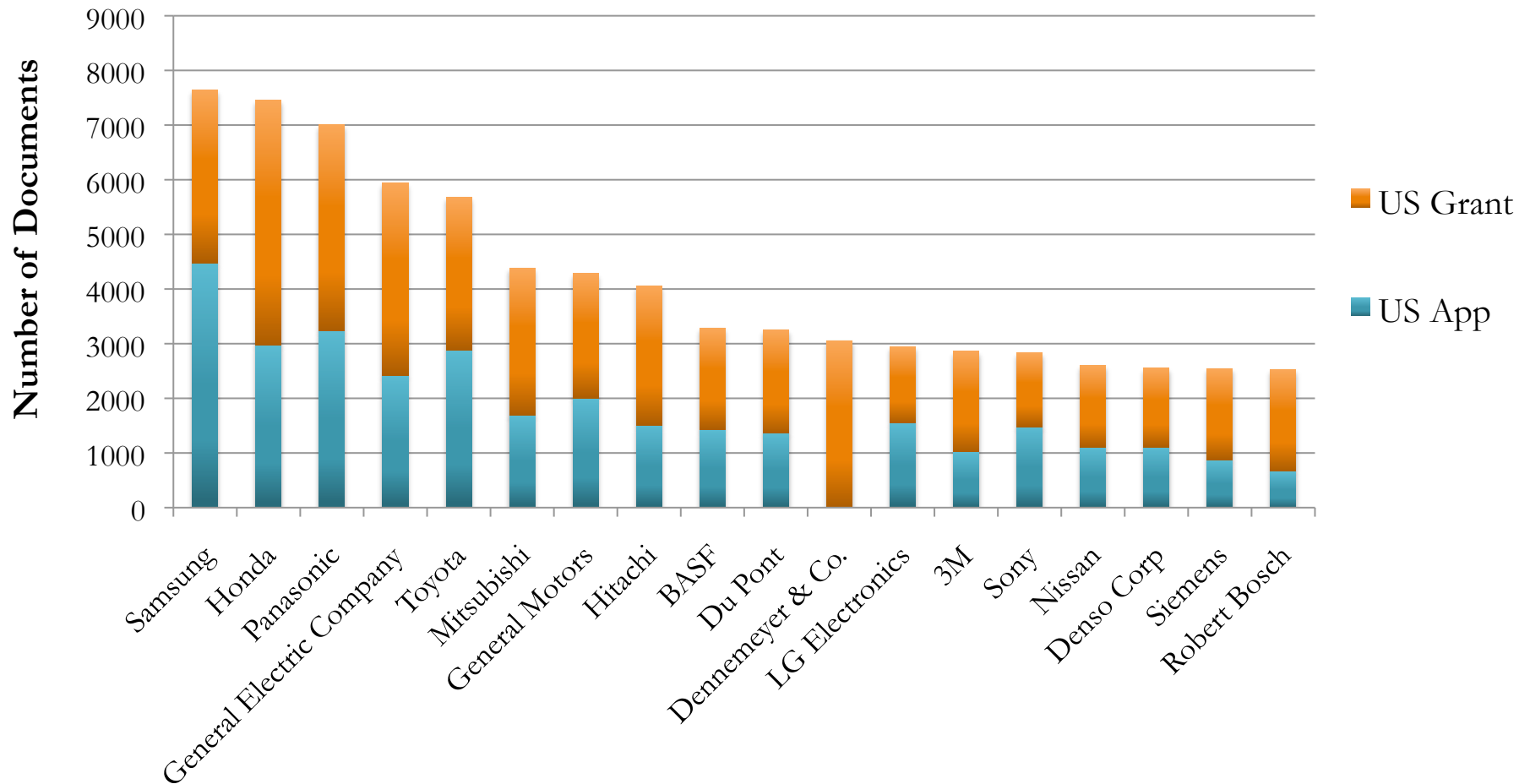
Top Assignees in Cleantech: Patent Holdings by Cleantech Industry Sector



Automobile-related patents can be found in the Air & Environment, Efficiency, Energy Storage, Manufacturing/Industrial, Renewable Energy Generation, and Transportation categories. Some patents appear in two or more categories.

Four of the top five assignees in cleantech have significant patent holdings in the water sector. This sector includes technologies and products related to water efficiency (e.g. reclamation), water supply (e.g. distribution), and water treatment (e.g. desalination, filtration, etc.).

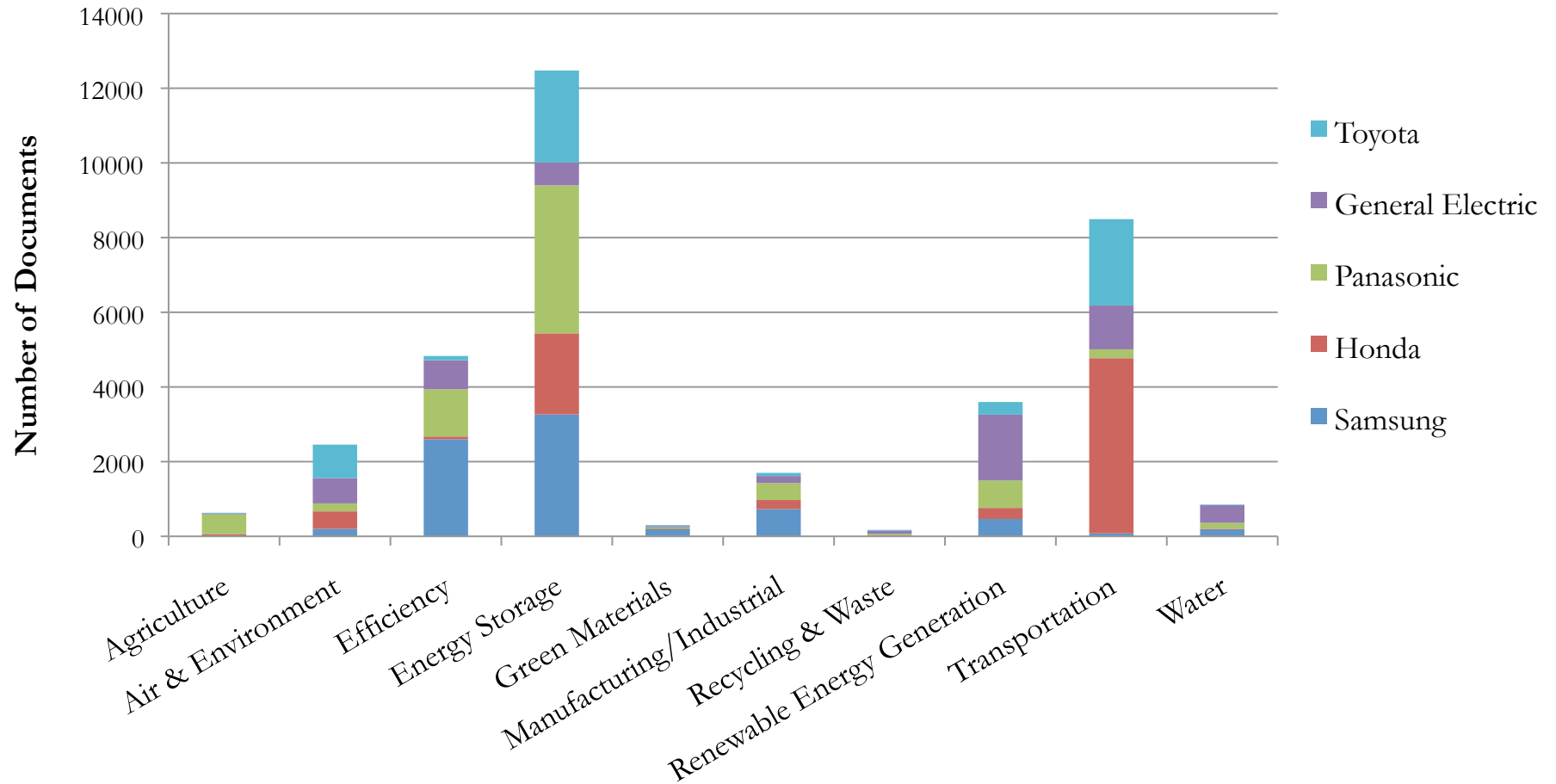
Top Assignees in Cleantech (US Only)



In the US, automobile manufacturers still occupy a strong position in cleantech. Japanese companies are also well-represented, although to a lesser extent than they are in worldwide cleantech patent ownership.

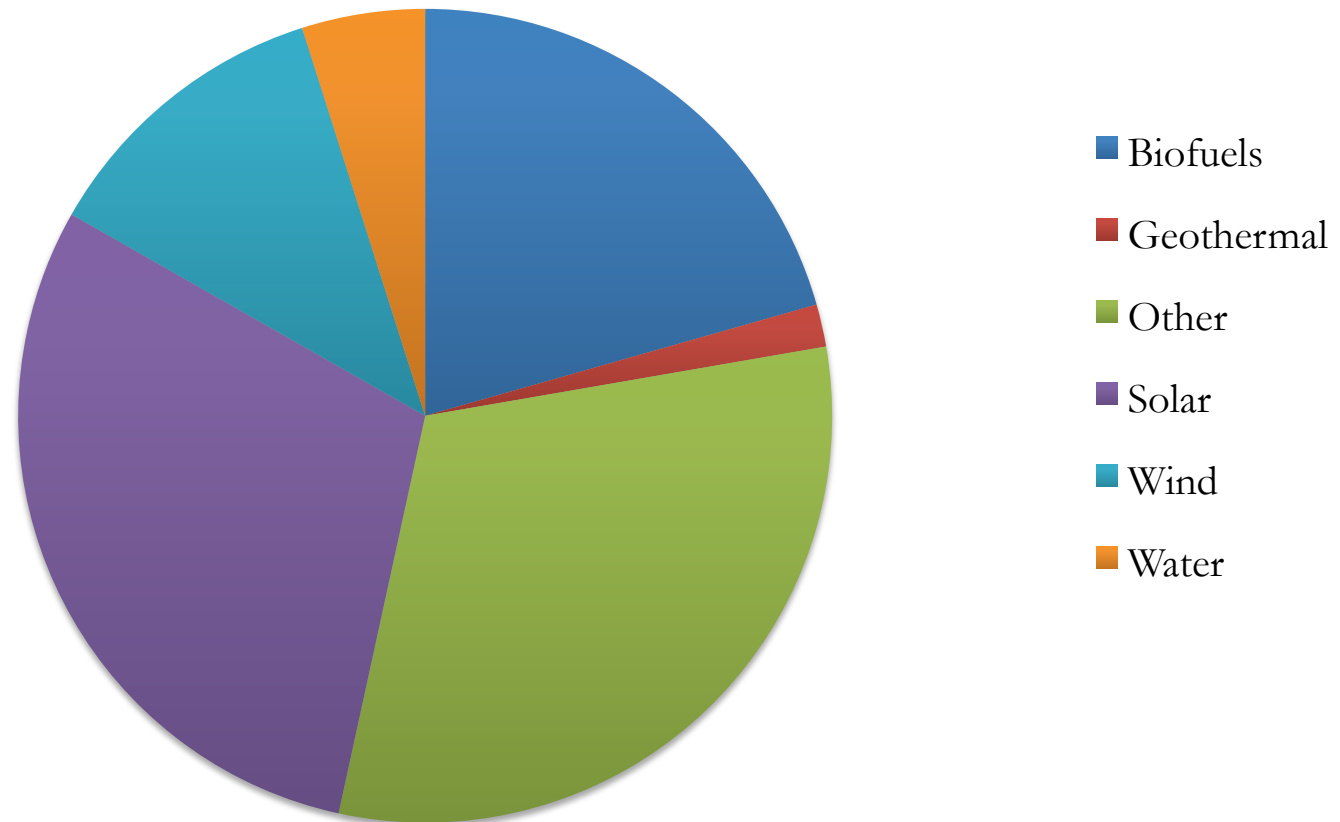
The top three—and seven of the top ten—U.S. cleantech patent owners are non-U.S. companies.

Top Cleantech Assignees (US Only): Patent Holdings by Cleantech Industry Sectors



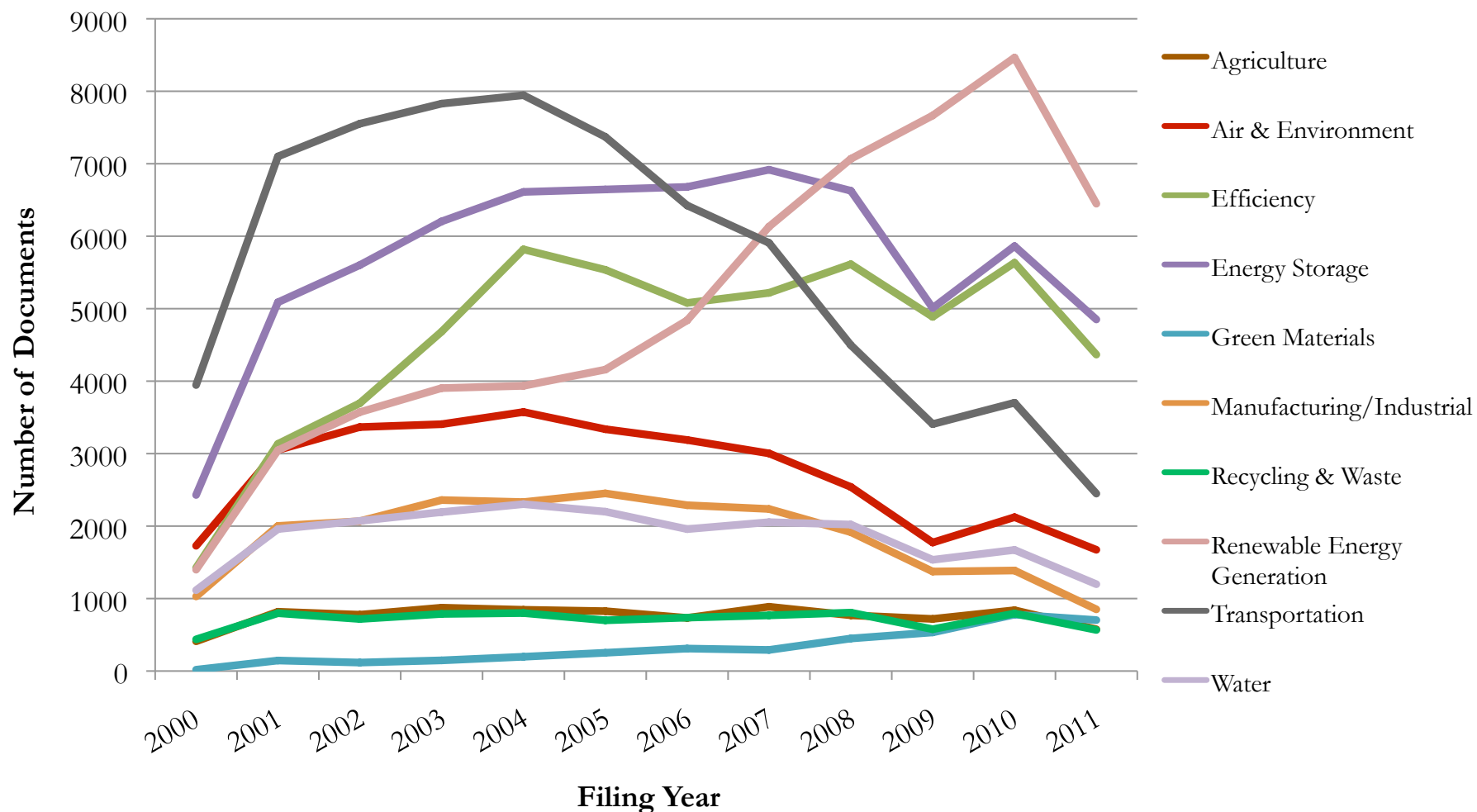
Many of the patented and patent-pending technologies owned by the top five assignees in the US are automobile-related. These companies also have significant patent holdings in non-automotive battery technologies and renewable energy generation.

US Renewable Energy Patenting, by Industry Sector



In the US, most patenting activity in renewable energy generation is concentrated in the solar, biofuels, and “other” industry sectors. The “other” industry sector contains technologies relevant to areas such as cogeneration, hydrogen production, and natural gas.

US Patent Filings by Cleantech Industry Sector

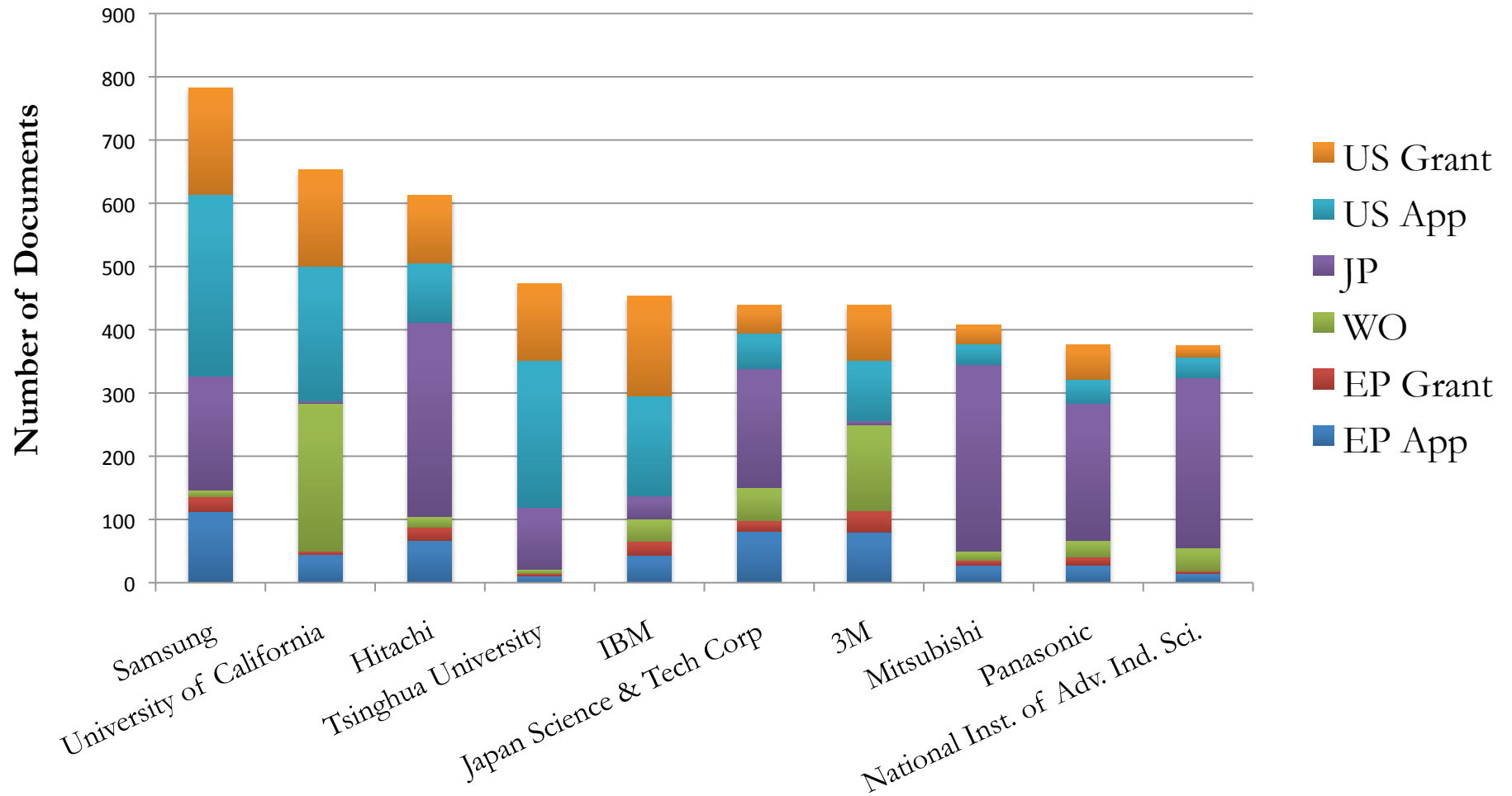


Except in renewable energy generation and green materials, U.S. cleantech patent filings began to decrease in the aftermath of the mid-2000s “cleantech bubble.” Much of the increase in renewable energy generation patenting can be attributed to growth in the solar and biofuels industries, as most of the increase in renewable energy patenting comes from these two industry sectors.

Spotlight on Green Nanomaterials

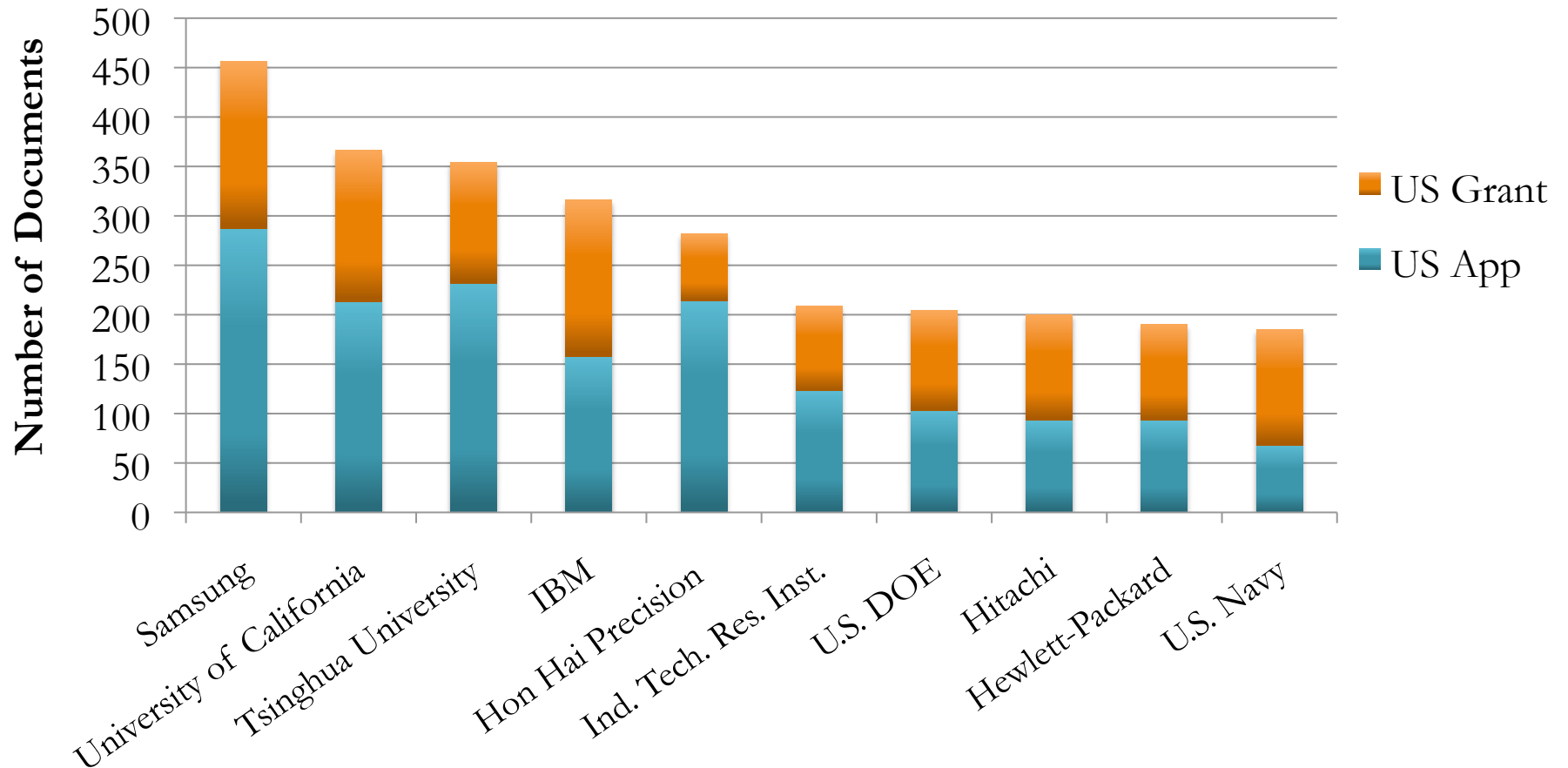


Green Nanomaterials - Top Assignees



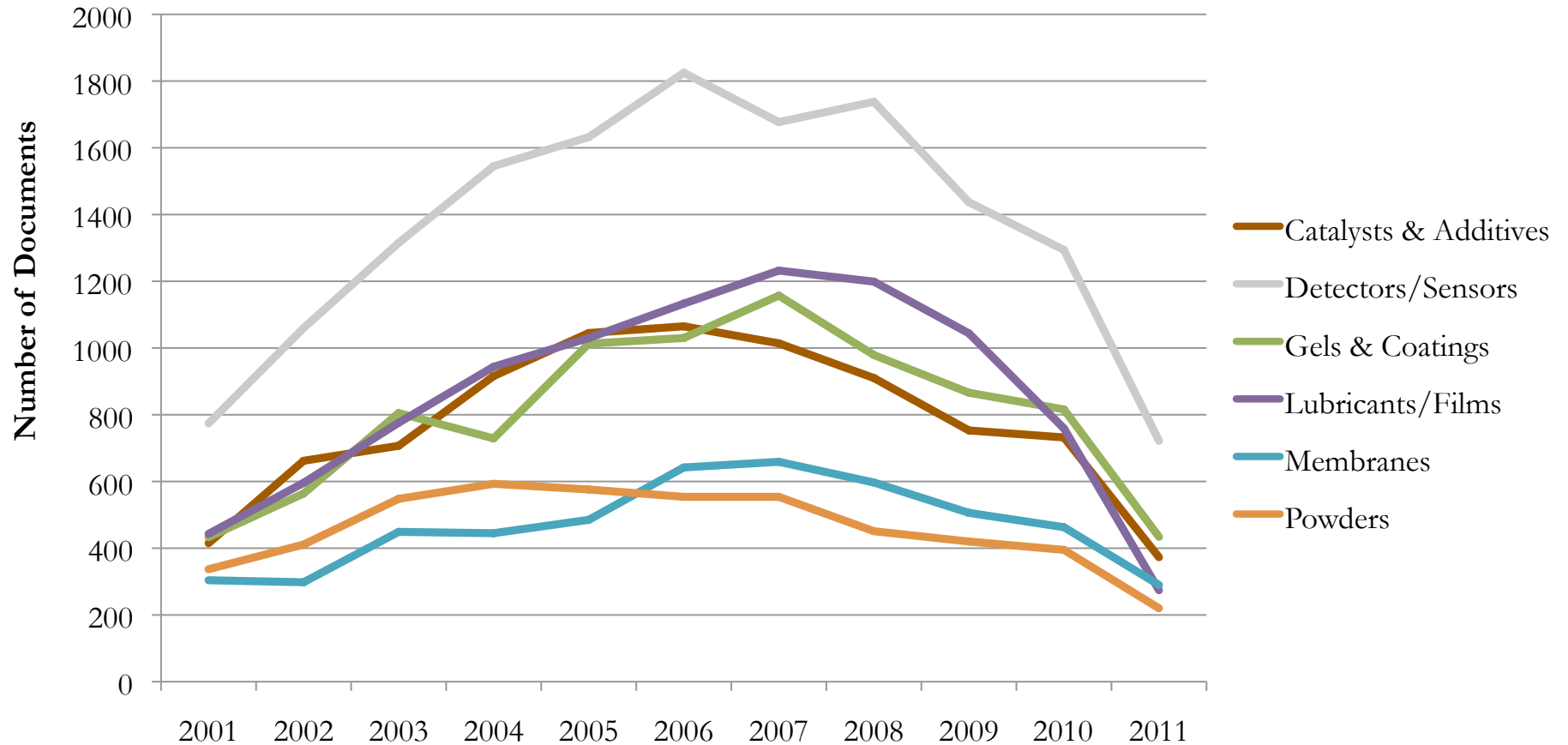
As is common in areas of emerging technology, some of the most robust patent portfolios in green nanomaterials belong to universities and other research institutions.

Green Nanomaterials – Top U.S. Assignees



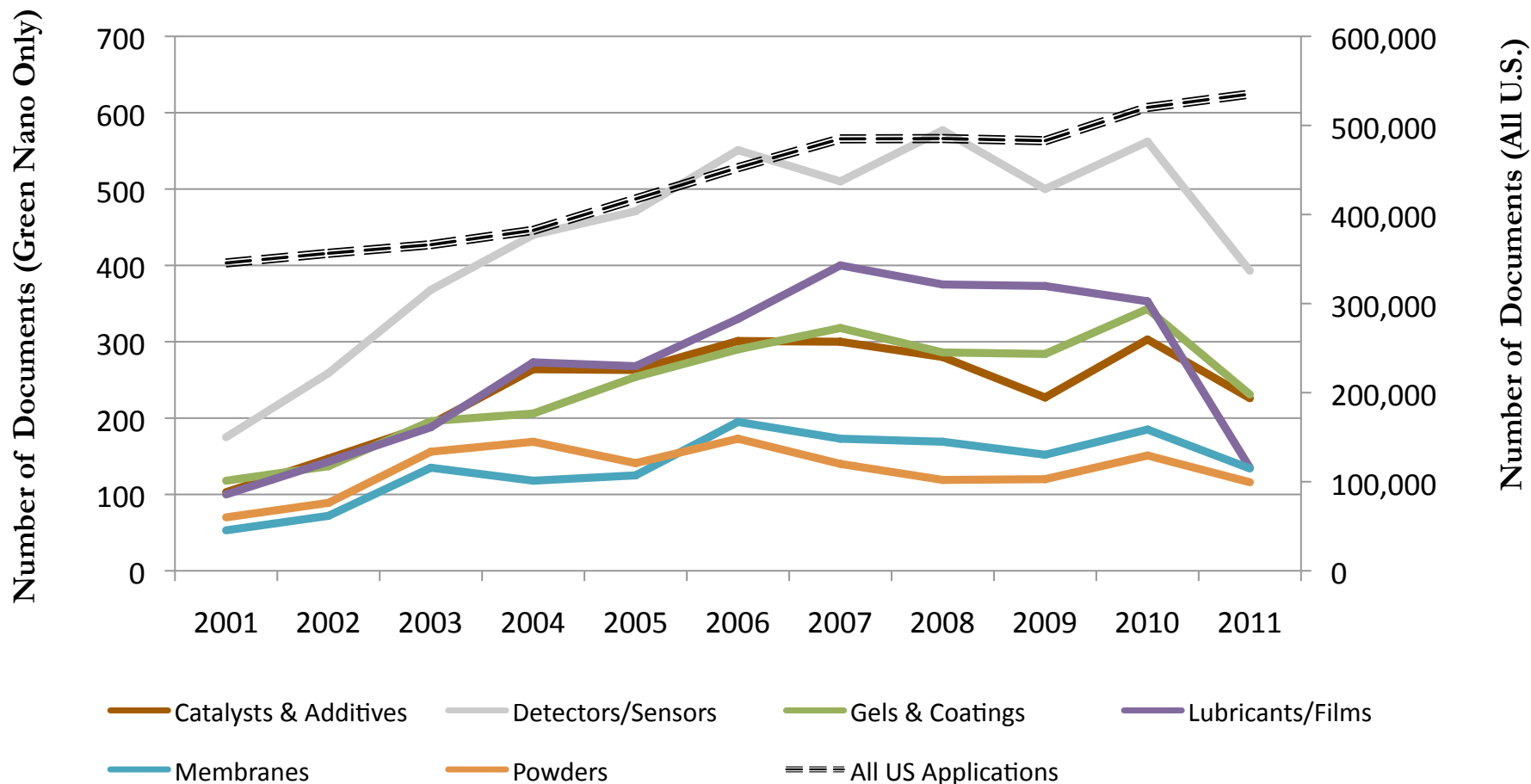
In the green nanomaterials sector, many of the top worldwide assignees are also among the top U.S. assignees. Interestingly, two of the top U.S. assignees are U.S. government organizations: the Department of Energy and the U.S. Navy.

Green Nanomaterials: Patent Filings by Nanomaterial Product Categories



After a mid-decade peak, worldwide patent filings in green nanomaterials have tapered off recently. Particularly steep declines in patenting occurred in technology areas related to detectors/sensors and lubricants/films.

Green Nanomaterials: U.S. Patent Filings Across Product Categories

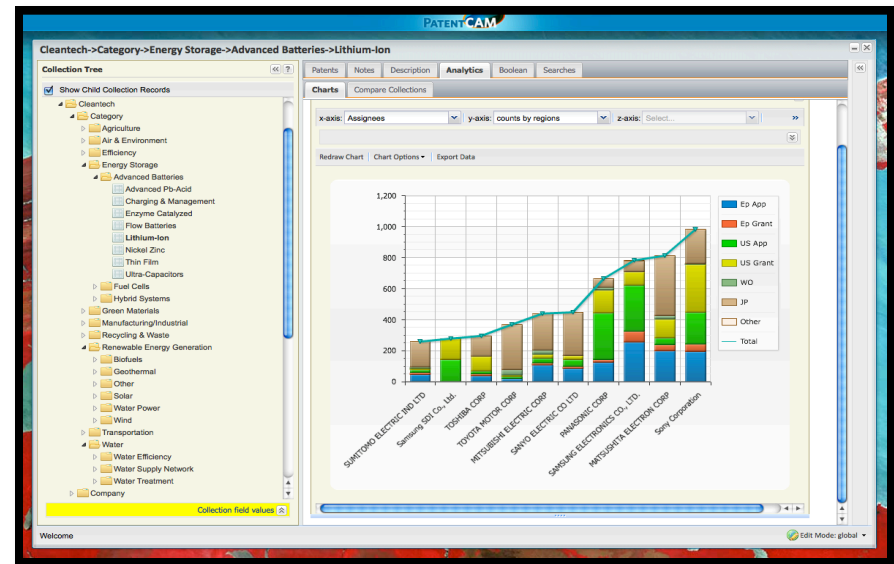


Patent filings in green nanomaterials did not increase substantially in the U.S., post-2007. Nevertheless, the worldwide decline in patent filings observed over this period was not observed in the U.S. This may reflect a greater market for nanomaterials in the U.S., or it may merely indicate ongoing interest from research organizations.

Interested in More Cleantech Patent Data?

Data for this report is provided by IP Checkups' CleanTech PatentEdge, an online compendium of cleantech patent data presorted into over 150 green industry categories.

The database captures patent data from markets as diverse as advanced batteries, solar or wind energy, and water treatment processes.



For more information check out:

<http://www.cleantechpatentedge.com>