

4 KEY TAKEAWAYS

Cleantech Patenting Trends

Kilpatrick Townsend & Stockton and GreyB Services recently released their findings from *The First Annual Kilpatrick Townsend & GreyB Services Patenting Trends Study*. The Study provides clear and actionable information that assists decision makers in envisioning the technological future of their respective industries and setting their companies' strategies over the coming years and decades in an increasingly globalized economy.

Patent activity provides an important signal that is helpful in identifying and forecasting industry trends including the development of new products and services. It can predict the future focus of individual competitors within an industry, foresee the entry of new players into a particular market, identify potential acquisition or joint venture targets, identify geographic innovation clusters, and recognize competitors that may be gearing up for litigation by how they amass patents in a specific niche.

In the Study, Kilpatrick Townsend and GreyB analyzed a proprietary dataset of U.S. patenting activity. Automated and manual review allowed this study to be conducted at the industry level, with a focus on 12 industry areas, including Cleantech.

Below find some key takeaways:

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Patent application filings of clean energy harvesting innovations have been declining since 2011. The downward trend is seen across different technologies, including bioenergy, fuel cells, geothermal, hydroelectric, nuclear, solar, and wind. Policy and other factors may have influenced patent application filings. Government stimulus actions in 2009 resulting from the Great Recession made credit more available for renewable energy projects, which also made such projects more attractive to investors. The increased investment may have spurred more patent filings, but all available stimulus money was distributed by late 2011. The decrease in patent filings may also be affected by fossil fuel prices, which compete with clean energy. For example, natural gas prices have been decreasing since 2008.

Efficient energy systems are an exception to this larger downward trend. Patent filings for smart-grid innovation were buoyed for a while by the federal government's Smart Grid Investment Grant (SGIG) program but have fallen off since that program ended in 2014. Patenting activity remains steady for smart/green homes despite the removal of the SGIG, suggesting that there is enough market interest to support ongoing innovation. Patent filings for electric vehicles also remain steady and may be positively impacted by fuel efficiency regulations across the globe.

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A variety of industries and organizations are patent filers in Cleantech. The diversity may be a result of Cleantech being a broad term that can cover a variety of patentable technologies, including the harvesting of clean energy (e.g., electricity generation or fuel production), energy efficient systems (e.g., electric vehicles and smart grids), and environmental protection. Automotive companies and electronic products companies are well represented across the various technologies. For fields that are not as commercially developed (e.g., bioenergy and geothermal), university and other non-profits are some of the more prolific patent filers.

U.S.-based applicants have been responsible for just under 50% of total patent application filings in the U.S. for Cleantech technologies for several years in a row. Despite the overall decline in Cleantech patent filings, the proportion of those filings by U.S.-based applicants has remained stable over the past nine years. Many foreign jurisdictions have also remained steady, including Europe, Korea, and others. Two exceptions to this are Japan and China: Japan-based filings have been decreasing, and China-based filings have been increasing.

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