

China's Cleantech Ecosystem: What You Need to Know





Key Takeaways

- **China has pledged toward cleantech development.** Renewable energy, alternative transportation vehicles, and energy efficiency sectors have been identified by the Chinese government as key investment areas.
- **China's 12th Five-Year Plan mandate is a key market driver for cleantech adoption.**
 - 16% reduction in energy consumption per GDP
 - 17% reduction in carbon dioxide per GDP
 - RMB 5.3 trillion investment in the power industry
 - 11.4% renewable energy portfolio by 2015; 15% by 2020
- **Cleantech investment ecosystem in China, as of May 2013, is notable.***
 - 1000+ companies
 - 220+ investors
 - 480+ deals
 - \$40+ billion invested
 - 700+ relationships
 - 187+ M&A's
 - 170+ IPOs

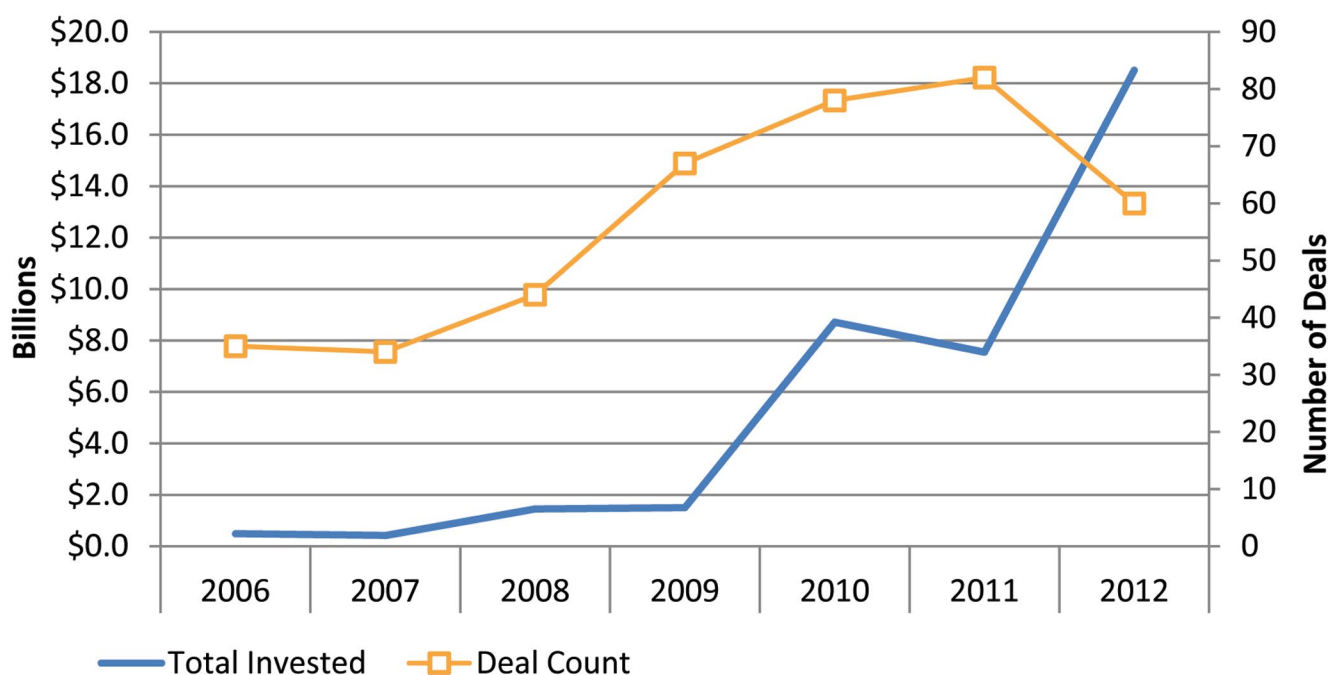
* Source: Cleantech Group's

Cleantech Investment in China

As the world's next emerging country, China is committed to the development of a sustainable low-carbon economy that will address the serious environmental challenges it currently faces. With existing manufacturing capabilities, China has demonstrated its initial cleantech success in the Solar and Wind sectors. As the nation begins to emphasize domestic cleantech innovation, how will China emerge from a pure manufacturing hub to a technology innovation center?

For any U.S.-based investors and entrepreneurs, it is a challenge to navigate through China's complex political and regulatory system in order to get a clear picture of the country's existing investment community. Cleantech Group tracks over 1000 Chinese companies, and provides a rich database on cleantech related investments in China. According to Cleantech Group's [China Cleantech Investment Report](#), China has invested over \$40 billion in cleantech development since 2006.

► China Investments in Cleantech



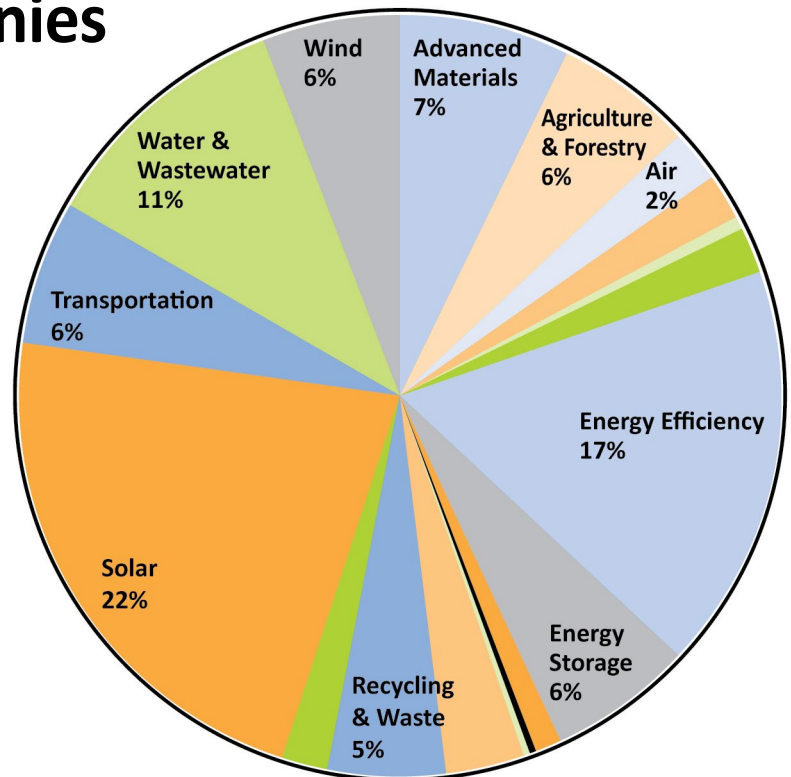
* Source: Cleantech Group's

► Popular Cleantech Sectors in China

Based on China's existing manufacturing capabilities, the Solar and Energy Efficiency sectors have dominated the early years of China's cleantech development. Since then, investments in sectors such as Transportation, Water & Wastewater, and Advanced Materials have increased as China began to shift from manufacturing to innovation in the cleantech space.

In the transportation sector, several Chinese companies such as Shanghai Dajun Technologies, Yuqing Electric Automobile, and Jinhao Motor are developing electric and hybrid vehicle technologies. China also witnessed a surge in cleanweb activities with companies developing web-based platforms to more efficiently utilize transportation services. Several notable Chinese cleanweb companies, including AA Pinche, Xiaoju Technology, and Yongche.com, are developing web platforms for ride sharing and taxi transportation services.

▶ Cleantech Companies Breakdown by Sector in China



* Source: Cleantech Group's

▶ Relationship Building

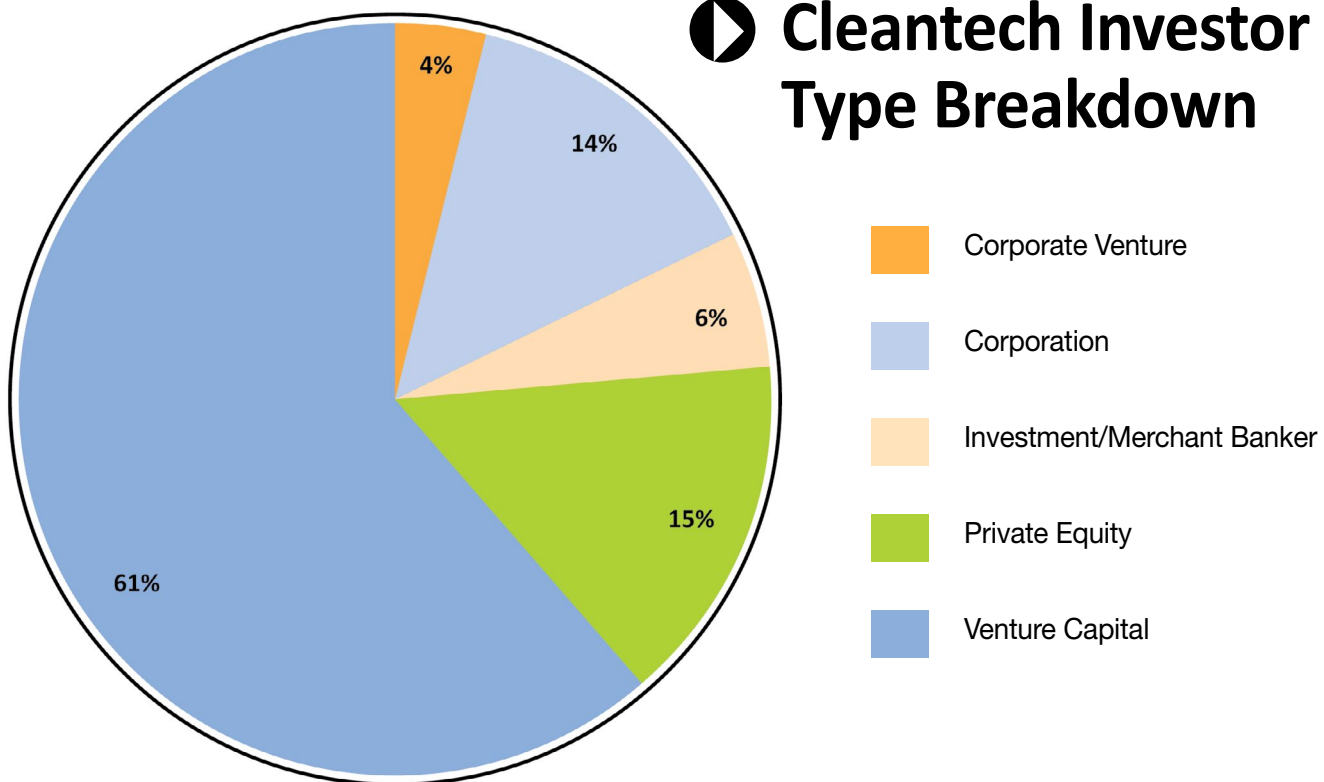
Chinese cleantech companies are actively searching for strategic partnerships to co-develop and expand clean technologies. For U.S.-based cleantech companies, partnering with Chinese companies and utilizing their manufacturing competencies could result in an accelerated path towards technology commercialization. Since 2006, Cleantech Group's has tracked over 700 Chinese relationships. Notable cleantech relationships in China over the past two years include:

- Lanzatech, the Illinois-based biofuels developer, formed a joint venture with China's Baosteel and development partnership with Jindal Steel to commercialize biofuel production using waste gases from steel factories.
- Balqon, the California-based developer of electric drive systems, formed a development partnership with Sichuan Automobile Industry Group (SAIG) to build electric buses using Balqon's technologies.
- Cree, the North Carolina-based LED lighting solutions company, formed a development partnership with China's Silian Optoelectronics to develop a municipal street lighting project.

▶ China's Rise in Venture Capital

Venture capital (VC) investments in Cleantech began to emerge in 2006, led by pioneering cleantech VC firms such as Tsing Capital, GSR Ventures, and Shenzhen Capital Group (SCGC). How can U.S. cleantech companies discover and attract Chinese venture capital firms? What cleantech sectors do Chinese venture capital firms invest in? Cleantech Group's tracks over 200 Chinese investors with detailed investment history, fund data, and sector focus.

▶ Cleantech Investor Type Breakdown



* Source: Cleantech Group's

▶ Mergers & Acquisitions

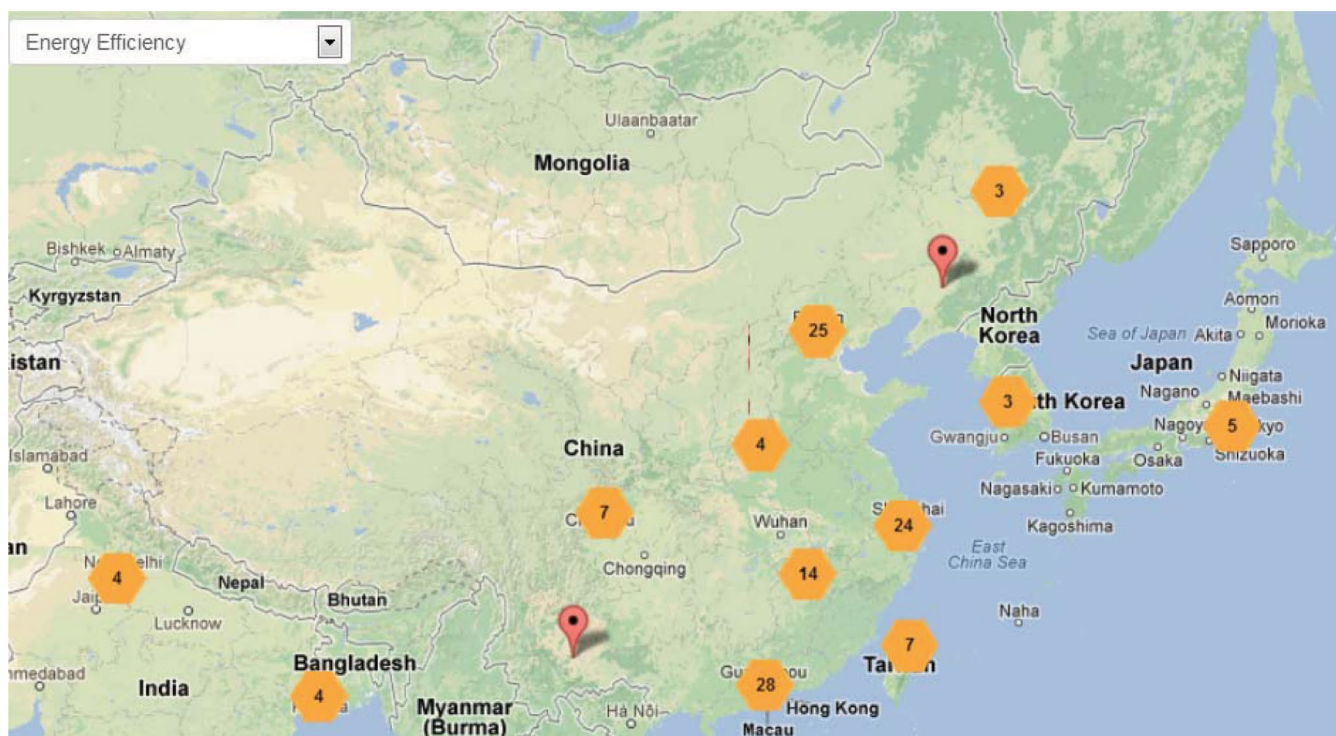
Many Chinese enterprises have acquired foreign cleantech companies for foreign market entry and technology acquisition purposes. Top mergers and acquisitions since 2011 include:

- Tianqi Group, the China based lithium metal producer, acquired Australia based Talison Lithium for \$838 million.
- Hanergy, the China based renewable energy project developer, acquired California based CIGS and PV solar module developer MiaSole for \$30 million.
- Tri-Tech, the Chinese public company providing integrated water solutions, acquired J&Y International, the Wisconsin-based provider of water treatment systems for \$1.5 million.

Sector Map

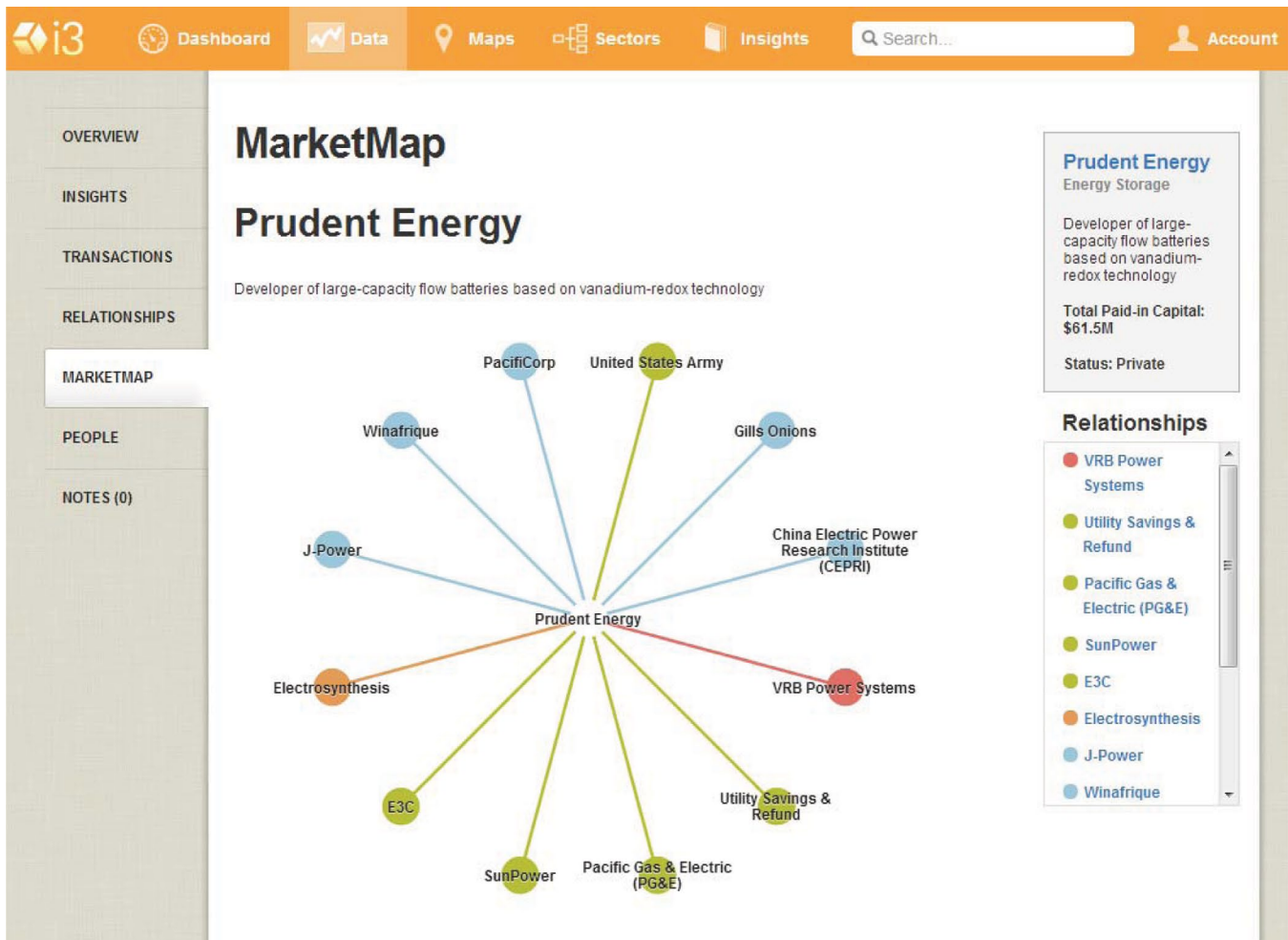
As an U.S. entrepreneur or investor, what is the easiest method to discover innovating cleantech companies in China? The Maps Feature on the [Company Profile Page](#) shows the location of Chinese companies across all 18 cleantech sectors.

The country map below highlights cleantech companies in the Energy Efficiency sector in business areas such as LED lighting technologies and building energy efficiency. With a population of more than 1.3 billion and the desire for urban lifestyles, Chinese cleantech companies are targeting technology areas in energy management systems for commercial and residential buildings. To discover companies in specific technology areas, visit the [Taxonomy](#) page and identify emerging Chinese cleantech companies in each of the 18 cleantech sectors.



Market Map

With China's complex regulatory system, coupled with various governmental policies across different jurisdictions, how can U.S. investors get a clear picture of the complex market and identify high-potential Chinese cleantech startups? The Market Map feature of the [Company Profile Page](#) provides a clear overview of relationships, partnerships, customers, and joint ventures for every company profile.



▶ Conclusion: Cross-border Interaction in Cleantech Innovation

China is motivated and committed to pursue cleantech innovation, as evidenced by the country's national policy and cleantech investment trends since 2006. In addition, environmental challenges and energy scarcities have become global issues that will require cross-border collaboration. Therefore, there is an increasing interest in U.S. – China interactions in cleantech innovation, and many opportunities for U.S. companies to commercialize their technologies in China.

As foreign companies begin to formulate their China market strategy, Cleantech Group's is the definitive source for insights into China's cleantech landscape on investments, partnerships, and company discoveries.

About Cleantech Group

Cleantech Group helps clients find, connect with, and embed innovation. The company's i3 platform allows subscribers to discover companies and explore cleantech trends strategically with proprietary real-time data. Cleantech Forums bring together thought leaders and innovators in the cleantech and sustainability ecosystem. The company's advisory services leverage expertise in designing and executing corporate strategies for sustainable growth and innovation sourcing. Visit <http://www.cleantech.com>

The Definitive Source for Insight into Innovation

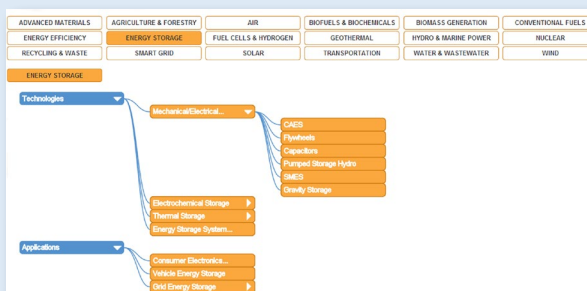
Why i3?

- **Discover** investors and innovative cleantech companies across the globe
- **Stay up-to-date on industry trends** and new deals by getting daily investments & partnership announcements delivered to your inbox
- **Find sector and geographic-specific data** for companies, investments, relationships and revenue and M&A
- **Identify future customers and partners** and connect with key executives
- **Explore** 20,000+ companies across 18 sectors including Biofuels, Energy Efficiency, Smart Grid, Conventional Fuels, Solar and Water

Get started today:

cleantech.com/testdrive
info@cleantech.com
 +1 415-233-9700
 +44 (0) 20 7554 0733

Sectors



- 18 sectors with breakdown by technologies and market
- Definitions, investment amount, and sector trends
- Proprietary taxonomy enhances company discovery

Maps



- Visual map of clusters of cleantech companies worldwide
- Zoom to see companies within a city or county
- Plan business trips or company discovery in your area

Insights

- Proprietary information entered by the company and cultivated by Cleantech Group
- Key relationships, customers, investors and revenue
- Your connections to management team and board