

# Cleantech IP trends – intellectual property management from a business perspective

**Sharon Dayan, Vice President for Business Development at GTT Global Technology Transfer, points to the need for vigilant management of cleantech intellectual property.**

Clean technology is a collective term used to describe knowledge-based products that improve operational performance, productivity or efficiency while reducing costs, inputs, energy consumption, waste and pollution. Increasing awareness of global warming and the impact of burning of fossil fuels on the natural environment have provided the impetus to the search for environmentally friendly alternatives, such as wind, solar and hydraulic energy. These cleantech solutions rely heavily on innovations of a highly technical nature, therefore, companies developing such technologies should seek the same patent clearance as in any other technology-based industry. Failure to treat clean technologies as other technology innovations will have a harmful effect and will prevent such innovations from evolving into actual products. This article will review the trends in strategy as well as the management of clean technology IP portfolios.

## Cleantech patents – prosecution, licensing and litigation

Clean technologies involve extensive know-how, and the development of innovative solutions requires substantial investment. Therefore, most companies seek to legally guard their investment by protecting the novel aspects of the technology and establishing intellectual property (IP) rights. Companies typically hold a portfolio of patents that includes an "umbrella patent," covering the technological platform and numerous application-based supporting patents. Hefty costs associated with sustaining a portfolio coupled with high development costs are pushing companies to capitalize their IP. Traditional methods for monetizing IP, in addition to developing and marketing new products, include maintenance of a successful licensing program or active enforcement of the IP.

Indeed, there are examples of both methods, as demonstrated by: 1. the license agreement between HP and solar panel start-up Xtreme Energetics (XE), a collaboration to develop a solar energy system based on HP's transparent transistor technology, which was co-developed with Oregon State University, and 2. a lawsuit brought by Adventus Americas Inc. and EnviroMetal Technologies Inc. against AST Environmental Inc. and Calgon Carbon Corp. disputing a ground-water decontamination technology. As technology

and markets evolve, additional license agreements and lawsuits are bound to follow.

## IP Transactions – Trading Patents for Profit

Another attractive and promising alternative for monetizing intellectual property is selling/purchasing patents as opposed to entering into litigation. Recent US Supreme Court decisions have reduced the leverage of patent holders to enforce their intellectual property rights by making it easier to invalidate patents. And the increasing difficulties in obtaining new patents have encouraged companies to pursue alternatives. The high-tech industry has already realized that trading patents presents a lucrative option for fast, safe and easy return on investment. Although the IP transaction market for cleantech patents is still undeveloped, it will probably follow the high-tech industry. An early indication is the Clean-Tech Biofuels' agreement with World Waste Technologies to acquire a patent involving the conversion of pulp and paper products into cellulosic feedstock to create alternative energy.

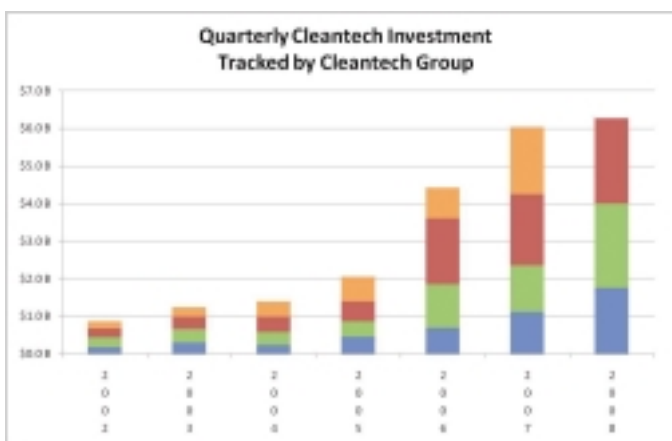
## Patent numbers

General data on patents are useful for assessing research and development trends. The cCleantech Group at Heslin Rothenberg Farley & Mesiti PC has been tracking cleantech patents since 2002 and produces quarterly and annual reports. It also developed the Clean Energy Patent Growth Index (CEPGI), which shows the number of patents issued by sector, state and country, providing insight into innovative activity in the clean energy sector.

Reviewing data of the past several quarters reveals that while fuel cells have dominated the other components in absolute numbers, they have



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Continued on page 27

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*Continued from page 25*

been on a downward trend since the fourth quarter of 2006. There has been an increase in the granting of wind patents over the last six months, while tidal/wave energy patents have been on an upward trend since the third quarter of 2007. In contrast, solar patents have been declining. As for hybrid/electric vehicle patents, there has been a downward trend since early 2007. The following graph shows trends in recent years according to sector.

### **Environmental patents – sharing not daring**

While patents have been used for protecting technologies and creating exclusive products, a new trend shows that some companies, such as IBM, Nokia and DuPont, are sharing their patents for a better world.

Last January, the World Business Council for Sustainable Development (WBCSD) initiated the Eco-Patent Commons, with the goal of sharing knowledge and technology to protect the environment. The idea is to make patented technologies available without royalties, thus assisting the world

community to reduce waste, pollution, global warming and energy demands. The hope is that sharing environmental patents can help companies become more eco-efficient, operate in a more environmentally sustainable manner and enable technology innovation to meet social innovation.

Examples of patents that have entered the pool:

1. Xerox pledged a system to reduce the time and cost of removing hazardous waste from water and soil;
2. DuPont offered a method of converting non-recyclable plastics into fertilizer; and
3. Bosch added several automotive technologies designed to lower fuel consumption and emissions and to use waste heat from vehicles as an energy source.

To conclude, IP in the cleantech environment is and should be treated as IP in the high technology and biotechnology industries and therefore should be carefully managed. In addition, it appears that just as in high-tech business, the cleantech IP market will include extensive licensing programs, litigation and eventually a real market for IP transactions. ■