MORRISON | FOERSTER

Legal Updates & News

Legal Updates

Maximizing Patent Opportunities and Funding in Clean and Green-Tech Start-ups

April 2008
by Charles D. Holland

Related Practices:

- Cleantech
- Intellectual Property

Introduction

Clean and green technologies have secured an estimated $2.9 billion in investment in North America in 2006[1] and $3.7 billion in 2007,[2] and investors are quite eager to fuel further developments in areas such as alternative fuels from renewable sources, efficient solar power generation, lighting requiring less electricity, carbon credit trading, high capacity batteries and capacitors, and water purification. One of the cornerstones in building a viable new business is the technology and protection of rights to the entity's intellectual creations. What do investors in clean and green technologies want to know about intellectual property issues, and what can an entrepreneur in this field do to maximize valuation?

Prior to investing in any company, investors typically want assurances that: (1) the company can operate without significant risk of litigation and possible injunction for infringing IP rights of others; (2) the company can protect or enlarge its anticipated market using its intellectual property; and (3) the company owns its intellectual property free and clear of claims from third parties. After investing, investors often remain apprised of these three issues through their members' participation on boards of directors of the companies in which they invested.

This is the first in a series of articles on what clean and green-tech companies can do to maximize their IP opportunities to enlarge their markets and obtain investment. This article explains in brief what investors assess in patent diligence and after investment, and what measures a company can take to maximize valuation and opportunities from patent. (The companion piece by Mike Ward and Tim Young in this edition provides particular insights into patent protection for biofuels.) Future articles will discuss other aspects of an effective intellectual property strategy, such as the role that trademarks and trade secrets play in maximizing company value.

Patents provide a company with the power to prevent others from copying or exploiting the company's technology. Patents can also provide a means to legitimately force competitors into costly new development and to enlarge the patentee's market share. Conversely, patents of others can pose significant obstacles to a company's activities, especially if discovered late in product development. Investors interested in evaluating or maximizing a company's potential will want to understand how the company is maximizing its IP opportunities.

Company's Activities Are Clear of Others' Patents

While this is typically the most important IP issue for investors, start-up companies are often ill-prepared to discuss apparent risks to freedom of operation or the measures they have undertaken to avoid patent infringement. Often start-ups have not reviewed issued patents or pending patent applications of others to identify potential infringement risks prior to diligence. Many start-ups wait until they are about to seek funding to commence patent review. More than once, a company has been rudely surprised by the results of freedom of operation reviews, having to redesign the company's product or manufacturing process at one of the worst possible times.

Companies can take measures to help assure a more predictable outcome on patent diligence and avoid infringement risks by searching patents to identify potential freedom of operation risks well before critical junctures such as funding and product introduction. Periodic updates to searches help assure that patents which might pose a risk are identified routinely. When done in advance of patent diligence or product introduction, a company has time to assess whether prior art affects the level of risk of infringement and, if not, what other options might be adopted to reduce or eliminate such risk.

A company can receive a higher valuation after diligence has concluded and funding without conditions related to patents if the company has identified those patents which appear to pose a freedom of operation risk and has viable strategies for dealing with those risks. There is a large body of prior art available to invalidate current patent claims for alternative energy, clean water production, and waste handling in the form of publications resulting from decades of research. A company that implements processes to routinely identify and deal with freedom of operation issues gains investors' confidence.

Protecting the Company's Developments

Investors value an extensive patent portfolio that covers the company's technologies in many ways. While a portfolio containing a large number of patent applications may at first appear impressive, investors often also assess how inter-related the developments described in the patent applications are and determine whether the number of applications accurately represents multiple developments or simply iterations of a particular design.

The scope of coverage can therefore affect company valuation. A company's core technology should, of course, be protected by patents in almost all instances, but there are often opportunities to claim more broadly than just the core technology to prevent competitors from adopting similar technology. At times, it is possible to target patent claims on a competitor's manufacturing process and product. Key pieces of information needed to maximize claim scope for an invention include (1) what are the critical elements of the technology and their inter-relationship; and (2) what is the prior art.

The prior art limits the scope of patent coverage, and knowledge of the prior art during patent drafting assures that the company's patent claims are of the broadest scope that the prior art allows. If the prior art is viewed as a number of circles on a page, knowing the prior art allows a company to draft a series of claims that fill selected open areas representing valuable unclaimed subject matter. Broad patent claims can be developed by understanding the fundamental actions or components of the technology — in comparison to the known prior art — to develop multiple ways to draft claims to overcome the prior art.

For alternative fuels and water purification, for instance, there is a large body of prior art that makes claim drafting more complicated than in other fields. However, the potential to cover commercially important areas with a patent claim is often compromised by poor knowledge of prior art when that prior art is uncovered during prosecution or, worse, when suing competitors for infringement. Broader claims are more likely to survive patent prosecution or litigation unscathed where the closest prior art was known and considered at the time the claims were first drafted.

A freedom of operation study informs a proactive patent application strategy. A freedom of operation study usually provides much of the prior art that is relevant to the technology of the invention. Other prior art can be discovered by searching publications. Often, though, some of the most relevant prior art is not readily apparent, but is known to people of substantial experience in the field of the invention.

Employees at the company often know the best prior art to review and where to find additional prior art — helpful to know early in the process of drafting patent applications. People experienced with the technology also understand the economic implications of adopting patent claims of sufficient scope. It is oftentimes not essential to obtain the absolute broadest scope of claim coverage. It is essential, though, to obtain the broadest scope of claim coverage that provides significant economic advantage or opportunity. The partnership between the company and a patent professional in communicating and educating one another on the issues helps achieve that opportunity.

Assuring Ownership

Companies sometimes do not own the technology they think they own, and unfortunately, ownership

issues are not rare for start-up companies. The founders of a new company may have worked at other companies when they developed the ideas that led to founding their new company. Depending, in part, on the founders' employment agreements with their prior employers, one or more of the employers may own at least a portion of the rights to the founders' inventions, and sometimes the new company owns no rights to the inventions for which it was created. Consultants, retained or informal, may also contribute to inventions and own rights to the inventions in the absence of an agreement with them.

It is much more likely that ownership issues can be successfully addressed if they are identified early, before the technology has been developed to a significant extent at the new company and before its market potential is better established. Universities and governments often will provide letters stating that they have no ownership claim to technology, especially if the inventors comply with disclosure policies established by the employers. Employer companies also typically have policies for disclosing inventions to them and for resolving who owns an invention, while an employee-inventor is still at the company. Depending on circumstances, it may also be possible to obtain a former employer's agreement that the former employer does not have ownership rights to the technology upon which the company was founded.

The implications of not owning the technology can be quite severe. A company might not have freedom of operation in view of key patents that the company thought it owned. Moreover, a person who co-owns a patent with the new company by virtue of contributing to one or more claims can, in the United States, rightfully license the company's competitors without consulting with the company.

It is, therefore, especially useful to fully explain the circumstances of the founding company's technological invention to a patent attorney who can help identify and resolve ownership issues early in the process.

Conclusion

Successful funding and company operation can be better assured by applying three principles to develop and implement a successful patent strategy: preparation, partnership, and perseverance. The well-prepared company is better equipped to compete when it assesses and plans how to minimize risk to freedom of operation and how to address any potential patent ownership issues *before* seeking substantial funds. The company is better prepared when it partners with its patent professional to identify and assess freedom of operation risks, prior art, and claiming opportunities. Perseverance is often required to obtain issuance of patent claims of the greatest commercial significance as well as to address any other issues arising early in the partnership. It is not without reason that one judge referred to patent attorneys as exhibiting ant-like persistence in developing and procuring patent rights, and when a persistent patent attorney's efforts are coupled with those of equally persistent company personnel, the results obtained are often companies whose valuation is high.

Footnotes:

[1] *The Wall Street Journal*, "Biodiesel Powers Up on Financing," Jim Carlton, Feb. 21, 2007.

[2] *Financial Times*, "US cash threatens Europe's clean tech advantage," Richard Waters, Jan. 22, 2008.