

GREEN TECHNOLOGY and Patent Protection

by Robert Lambrechts

While the U.S. Environmental Protection Agency classification of carbon dioxide as a pollutant earned considerable media coverage in late 2009, the patent community was more interested in the U.S. Patent & Trademark Office (USPTO) announcement regarding the Green Technology Pilot Program (GTPP).

Robert J. Lambrechts, Esq., P.E., is a partner in the Overland Park, KS, office of the law firm of Lathrop & Gage LLP. E-mail: blambrechts@lathropgage.com.

The granting of patents by the USPTO is often seen as an indicator of the effectiveness of research and development investments. Patents are considered as such because to be awarded a patent, not only requires the efforts of inventors to develop new and nonobvious innovations, but also successful handling by patent counsel to shepherd a patent application through the USPTO. Thus, the granting of a patent is a clear indication that efforts at innovation have been successful and that an innovation had enough perceived value to justify the time and expense in procuring the patent.

With that said, environmental or "green" technology will either prosper or perish based on the amount of available investment money and the ability to give the entrepreneur/company/investor the right to keep others out of a given competitive space. In the United States, as in many other countries, the best way to do that is through the patent system, which is neither inexpensive, quick, nor a certainty with the latest USPTO statistics revealing an average patent allowance rate of approximately 44%.

Filing a Patent

Filing a patent application is all about development of the claim or claims. Claims are what are examined and allowed or rejected. It is the claim or claims that must be present in the accused device/method/process in an infringement action.



Thus, the claim drafting process is critically important when filing a patent.

While there are several varieties of U.S. patents, namely utility, design, and plant patents; this article focuses on utility applications, as they are the most applicable to the majority of green technology inventions. A utility patent application essentially covers the useful aspects of an invention. The drafting of a patent application, and in particular the claims, is a delicate dance that can have profound ramifications in later years. The reason for this is that, over the 20-year term of a utility patent, competitors will work diligently to design around the patented technology to avoid infringing the patent claims. This is typically done by avoiding some element of the claims so that the claims are not infringed. Obviously, the broader the scope of the patent claims, the more valuable the patent is from the standpoint of commercialization and enforcement.

The application process begins when documents are filed with the USPTO, identifying the invention and providing an enabling disclosure that reveals the best mode of producing the apparatus or employing the process or method. Once the application is filed, the applicant can start marking products with a "patent pending" signifier. Thereafter, it is a long wait; the latest USPTO statistics reveal an average pendency of 25.6 months before receiving a first assessment of patentability.

If authorized by the application owner, at the 18-month point, the application is published on the USPTO Web site (<http://patft.uspto.gov>). At that time, the public will know the content of the application and additional information regarding the ongoing prosecution will be available thereafter. Note that until publication (or issuance if no publication), there is no way to access the application except for authorization from the applicant.

Once the application is examined, the USPTO will send an official communication called an "office action" if claims are rejected or objected to, as well as the basis for the rejection/objection. There is

time, typically up to six months, to respond with arguments seeking to rebut the patent office position or amend claims, but no new matter may be added to the application as filed. This process is called the prosecution and it is a back-and-forth negotiation process that is very complex, often requiring administrative appeals or continued applications.

If claims are allowed, and the applicant is willing to accept them, an issue fee is paid and a patent will issue on the allowed claims. The latest USPTO statistics reveal that the average total pendency of a U.S. patent application is 32.2 months, meaning the average application filed on April 1, 2010, would not be allowed, presuming it satisfied the statutory requirements of novelty, usefulness, and nonobviousness, until December 7, 2012.

In an effort to address the long prosecution timelines associated with patent applications, in December 2009, the USPTO announced an initiative to speed up the patenting process for inventions directed to green technology.

The Green Technology Patent Program

On December 8, 2009, the USPTO implemented a pilot program to expedite the examination of green technology patent applications. Patent applications are normally taken up for examination in the order they are filed, although the USPTO has a procedure under which an application will be advanced out of turn if the applicant files a "petition to make special" with the appropriate documentation detailing why the application fits into one of the categories set aside for "petitions to make special." The program will last for 12 months, requiring that any petition to make special filed under the Green Technology Pilot Program (GTPP) be filed prior to December 8, 2010.

Under the GTPP, inventors who have previously submitted patent applications will be able to file such petitions for accelerated examination in technologies that "materially contribute" to the discovery or development of renewable energy



resources, energy efficiency utilization, or greenhouse gas reduction. Though the GTPP currently requires that an application must have already been on file with the USPTO in order to participate in this program, in this author's opinion there is a high probability that the USPTO will extend the accelerated review to green technology applications that are later filed. Precisely when this adjustment to the GTPP will occur is difficult to predict so those interested in utilization of this program should regularly check the USPTO Web site for announcements.

It is estimated that applications accepted into the GTPP will save approximately one year of examination time; therefore, a hypothetical application that may have issued as a patent in three years under the normal examination procedure would issue in two years via the GTPP route. By reducing processing time by an average of 12 months for these applications, the USPTO will enable promising green technologies to come to market sooner, spurring investment and creating green jobs. In the first four weeks following the announcement of the GTPP, several hundred petitions were filed suggesting the program has gained considerable traction with the inventing community.

According to the USPTO, as many as 25,000 applications already in the system could qualify for the expedited process. If history serves as a guide, the current efforts at reducing greenhouse gas emissions could result in substantial new patent application filings. The USPTO experienced a substantial increase in the number of applications directed to technology for controlling sulfur dioxide emissions following passage of the U.S. Clean Air Act Amendments of 1970.

The Clean Energy Patent Growth Index (<http://cepgi.typepad.com>) tracks the granting of U.S. patents for the following subcomponents: solar, wind, hybrid/electric vehicles, fuel cells, hydroelectric, tidal/wave, geothermal, biomass/biofuels, and other clean renewable energy. More clean energy patents were issued in 2009 than in any year since the data have been tracked. According to a recent Clean Energy Patent Growth

Index report, fuel cell patents (629) account for the highest proportion of the newly-issued patents. Also on the rise were patents issued in wind, hydroelectric, tidal, and geothermal technologies. Contrary to what some commentators have asserted, recent academic research on this issue has shown that the protection and enforcement of intellectual property are important drivers of international technology transfer.

Prior to the GTPP, the only avenue for expedited examination of a patent application directed to green technology in the USPTO was a "petition to make special," a less than desirable route, if only because of the significant cost burden imposed by that procedure. The standing accelerated petition to make special examination program under 37 CFR § 1.102, requires the preparation and submission of an examination support document. No fee is required for petitions seeking to have applications accepted into the GTPP, and such petitions must be accompanied by a request for early publication in compliance with 37 CFR § 1.219 and the publication fee set forth in 37 CFR § 1.18(d), currently \$300.

Other Patent Office Initiatives

The GTPP is but one of the USPTO's green technology initiatives. Another initiative will generate empirical data on the relationship between patents and international technology transfer, an area of significant international concern. The USPTO is cofunding additional research, focusing on green technology innovation and diffusion in China. China has quickly become a leader in solar technology, and is emerging as a leader in solar technology patenting. In fact, there has been a dramatic growth in the number of green technology patents granted to Chinese innovators, a development that highlights the importance of green patents to the Chinese private sector.

The USPTO plans to contribute further to green technology diffusion by working with industry to develop a separate green technology Web site that will provide information for innovators who want to license their inventions and companies that want



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The Air & Waste Management Association Would Like to Welcome Our New Members!

Listed members joined between December 15, 2009, and March 1, 2010.

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to develop these inventions. This Web site will also link to best practices for licensing new technologies, including licensing for developing countries.

sustainable technologies in the third quarter of 2008 at \$2.6 billion and it is clear that technology advancements are to follow.

The USPTO is also assisting the U.S. Department of Energy in developing intellectual property policies for research and development collaborations between the United States and other key countries, including China and India. Underlying all these initiatives is a deep understanding that timely and properly issued patents foster green technology innovation and promote widespread access to the benefits of such innovation.

As mentioned at the beginning of this article, green technology will either prosper or perish based on the amount of available investment money and the ability to give the entrepreneur the right to keep others out of a given competitive space. The GTPP is an intriguing first step by the USPTO to accelerate the protection of the green entrepreneur's competitive space. **em**

Conclusions

According to a 2009 report prepared by the German Foreign Office and submitted to the G20 Summit in London, titled *Towards a Global Green Recovery* (www.pik-potsdam.de), world governments intend to inject \$400 billion in green technology stimulus funding. Couple the world government funding with venture capital funding in green or

