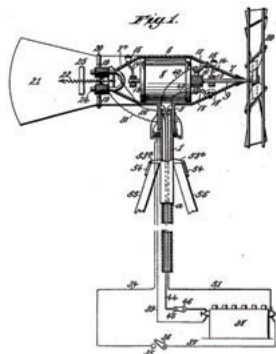


Patents, Litigation & Licensing

Emerging issues for clean energy technologies

By Mark C Scarsi, Lawrence T Kass & Chris L Holm
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May 19, 1891, Lawrenceville Georgia. Today, the US Patent Office issued US Patent No. 452,546 to James M Mitchell for his invention: 'Wind Apparatus for Generating Electricity and Charging Secondary Batteries.'

Mitchell filed the application for his newly issued US Patent in December 1890. That was only eleven years after Thomas Edison first demonstrated his improvements to the electric light in 1879, which allowed an incandescent lamp with a filament of carbonized sewing thread to burn for thirteen-and-a-half hours. Even now, Edison's additional inventions are fueling the development of a massive electric utility industry across the United States. In an interview Mitchell stated, "I hope and believe that my invention will play a significant and important role in providing alternative and renewable energy sources to supplement the electric utility industry. It is also very relevant in providing electricity to people living in rural areas where the electric utilities do not provide service. I have been in discussions with the electric utilities in the hope of forming a partnership and licensing my technology."

The press release is fictional and we don't actually know what Mr Mitchell said the day his patent was issued in 1891, or whether he was able to license his patent. But over 100 years later, James M Mitchell's dreams for alternative and renewable energy are finally coming to pass. Today, patents are playing an important role in the alternative and renewable energy industry, and they will continue to play an important role in the future.

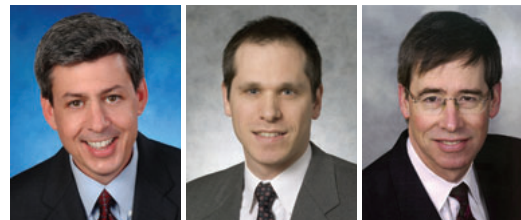
Patents are a force to be reckoned with as indicated by significant patent litigation. As just one example, in a patent infringement action at the United States International Trade Commission ("ITC") in Washington DC, General Electric is asking for an order that will block US imports of certain Mitsubishi wind turbines. GE is asserting three US patents, all directed to wind power generation technology, in the ITC action. In May 2009, there was a hearing on infringement of the accused Mitsubishi products and validity of the asserted GE patents. An initial determination is due in August 2009. If GE is successful, and Mitsubishi does not take a license from GE, then the accused Mitsubishi wind turbines and components will probably be excluded from importation into the US until the last asserted GE patent expires in 2023.

This wouldn't be the first time a patent holder has successfully excluded US imports of wind power components by proving patent infringement at the ITC. Earlier, in 1995/96, Kenetech/Zond Energy successfully asserted US Patent No. 5,083,039 ("the '039 patent") against Enercon. That ITC decision was affirmed in 1998 following appeal. GE acquired the '039 patent out of bankruptcy from Zond Energy in 2002, and GE is now asserting that same '039 patent along with two other GE patents in the current infringement action against Mitsubishi in the ITC action described above.

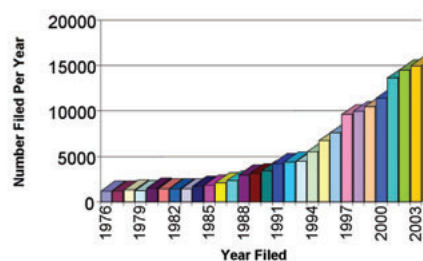
As reported, after GE acquired the '039 patent, Enercon and GE entered into a cross-license agreement, and Enercon is now able to import the previously excluded wind turbines and components into the US. Therefore, by cross-licensing their respective patents, GE and Enercon can practice the inventions of the other's licensed patents, by making, using, selling, offering to sell and/or importing products into the States, that might otherwise infringe those same patents.

Although it is not clear whether the successful ITC action between Kenetech/Zond Energy and Enercon had a role, wind power patent filings did increase dramatically thereafter. As illustrated, wind power patent filings were generally flat until about 2000, even though Kenetech/Zond Energy began its ITC action against Enercon in 1995, received a favorable decision in 1996 and that decision was affirmed in 1998. Beginning in about 2000, the number of wind power patent applications filed each year followed a significant upward trend.

The trend illustrated above mirrors a similar upward patent filing trend that was observed in the semiconductor industry over the last 40 years. Just as in the wind power industry, the semiconductor industry also reacted to successful patent infringement litigation by patent holders, and companies started to build their patent portfolios for use in licensing, cross-licensing, and litigation.



From left to right: Mark C Scarsi, Lawrence T Kass & Chris L Holm



The semiconductor industry also provides some lessons learned for the alternative and renewable energy industries. As the IP climate was changing, some companies were slow to recognize the change and build their patent portfolios. In one particular case, when a company entered license negotiations with a large peer company with far more patents, the final cross-license had a significant

\$200M payment to the company with the larger patent portfolio. That fee might have been less if the numbers of patents owned by each side were more comparable.

In other cases, companies launched new products without investigating their competitor's patents, resulting in costly licenses or infringement suits. An early investigation before product launch might have mitigated impact from the competitor's patents. In some cases, companies only focused on patents for their own products with the attitude of "if we don't sell it, we don't need to patent it." As a result, in a cross-license negotiation, they had fewer patents to assert against their competitors, and got less favorable cross-license terms. Focusing on patents for their own products and considering their competitors' products when filing patent applications might have given them better leverage in the cross-license negotiation.

Finally, the semiconductor industry and other mature technology areas learned the value of early participation in the legislative process. This has been important as Congress considers changing the standard for injunctions, or imposing venue limits for patent infringement suits. Early and active involvement in the legislative process has allowed industry concerns to be heard, understood, and addressed by Congress as the legislation is being drafted, debated, and amended.

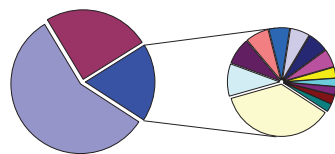
While the alternative and renewable energy industries are more than just wind power, the wind power industry provides a good perspective for the alternative and

Milbank, Tweed, Hadley & McCloy LLP recently hosted a webinar entitled, "Influence of Intellectual Property on the Development of Renewable Energy Technologies." The webinar provided additional details on the issues addressed in this article. To view a replay, please visit <http://milbanklegalupdate.com/ve/ZZ98U79Fk79tG92BFS>.

renewable energy industries as a whole. For example, owners of wind power patents include individual inventors, companies with less than a handful of patents, and large corporations with many patents. That same diversity applies for all the alternative and renewable energy industry technologies.

As illustrated below, in the area of wind power technology, there are a few companies with significant patent portfolios where GE, Hitachi, Vestas, Repower Mitsubishi, Nordex, and United Technologies have some of the larger portfolios. There are also many other companies with more modest portfolios including ABB, Gamesa, Ingeteam, Northern Power, Siemens, US Windpower. There are a number of companies that have less than five patents or patent applications, and also a significant number owned by the individual inventors and not assigned to any particular company.

Wind Power Patent Ownership



- Not Assigned (617)
- < 5 patents each
- GE (70)
- Hitachi (19)
- Vestas (16)
- Repower (14)
- Mitsubishi (12)
- Nordex (12)
- United Tech. (12)
- ABB (11)
- Gamesa (6)
- Ingteam (5)
- North Power (5)
- Siemens (5)
- U.S. Windpower (5)

and royalty payments, and plans to begin large-scale production in 2010. American Superconductor recently acquired Windtec, including 27 patents and patents pending worldwide on wind turbine technology by former sole owner and founder of Windtec, Gerald Hehenberger. Significantly, AMSC Windtec will supply the turbine electrical systems to Inox as part of their overall licensing deal.

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All of this means that patent infringement litigation for alternative and renewable energy technologies is here to stay. That litigation will certainly occur in US District Courts, where damages and injunctions can be awarded. Some Courts (like the Eastern District of Virginia, the Western District of Wisconsin, and the Eastern District of Texas) are reported to have reasonably fast case dockets, and the time-to-trial in those courts can be relatively short. Other Courts, (like the District of New Jersey) have much longer time-to-trial. Some Courts also have special patent infringement trial rules, which helps to formalize discovery and patent-unique issues.

Patent litigation for alternative and renewable energy technologies will also be prevalent at the US International Trade Commission, where a successful patent holder can get an order prohibiting importation of the infringing products into the US. The ITC is a specialized administrative court that is very experienced in patent law. Some unique requirements to sue in the ITC include: proof of a US domestic industry and import of the accused products into the US. If a plaintiff can satisfy those requirements, the ITC is a good place to sue. The time from filing a complaint at the ITC to getting an initial determination on infringement and validity is generally as fast or faster than almost every US District Court.

To avoid or settle litigation, licensing will also be more common, as companies with strong patent portfolios force infringers to either stop making and selling their products, or take a license. Cross-licensing will also be more common, as companies with strong patent portfolios realize success in the marketplace will require that they have access to patents held by others, including competitors and suppliers, providing the freedom to practice the technologies covered by patents that are licensed from others.

Indeed, there is an increased level of licensing activity in the renewable energy field. For example, last month American Superconductor subsidiary AMSC Windtec licensed its technology for 2 MW doubly fed induction wind turbines to Inox Wind Ltd. The license gives Inox rights to manufacture and sell the wind turbines worldwide. Inox will pay AMSC an upfront license fee