

Greentech IP Landscaping

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Despite the recent explosion of interest in environmentally friendly technologies, many of the scientific and engineering principles underlying green technologies have been around for decades. For example, harnessing power from the wind, water, and the sun are not new concepts. As companies develop their intellectual property surrounding today's versions of the windmill, bioreactor, and solar cell, as well as novel breakthrough technologies, it becomes increasingly important to understand both the historical context and the current competitive landscape of the relevant technology areas. In particular, companies must consider their new methods and strategies in relation to older technologies to properly assess the value of their own IP portfolios. In addition, having a good understanding of competitors' IP can help a company make better business decisions, and may allow the company to better position itself to attract investors and other funding dollars. In this article, we discuss the goals and strategies for acquiring a comprehensive IP landscape. We also provide examples in various technology areas, and discuss pitfalls to avoid when commissioning such a landscape.

Patent Landscaping

In many cases, clients request an IP landscape with the understanding that they need better knowledge of their competitive context. However, a landscape can follow many avenues, and those creating the landscape need proper direction to be able to deliver the most useful product. Depending on the purpose of the landscape, as well as the client's status (e.g., startup company, venture firm, large business), the scope of the search and analysis can vary dramatically. In addition, the developmental stage of the client's core technologies may change the focus of a landscape.

Competitive Landscape

Commonly requested, competitive landscapes can help a company investigate the activities and strengths of known competitors, as well as identify unknown players. In areas related to green technologies, particularly where the government and other investors have devoted significant funding, startups commonly appear and disappear. In addition, established businesses looking to expand their presence in the field often acquire or merge with smaller companies founded based on green technologies.

For example, the use of microorganisms or plants to produce carbon-based products such as fuels and polymer materials has been an area of intense interest. For these landscapes, the searches will cover a much broader range of patents than a validity analysis or freedom-to-operate search would encompass. In particular, although a company may focus on a core technology (e.g., a specific strain of microorganism or plant), it can be important to look not only at competitors using similar technologies, but also at those who

are developing alternative strategies to arrive at the same end-products. In addition, it may be possible to answer certain freedom-to-operate questions within the context of a competitive landscape (e.g., has someone claimed the use of your plant variety to produce your desired product?).

Since these searches have a broad scope, it can be tempting to try to cover too much, only to wind up with information overload. For instance, it may not make sense to perform a freedom-to-operate analysis of a specific genetic construct or a particular step in a purification process as part of the competitive landscape. Instead, targeted searches that cover each aspect of the commercial technology can be performed separately.

Patentability Landscape

In certain cases, a company has developed a key piece of technology that it believes will advance an older product in the marketplace, and wants to plan its IP strategy around the existing prior art. A patentability landscape can be used to organize both patent and nonpatent literature. Certain green technologies such as the use of wind turbines to harness wind energy have been generally known for many years, meaning that disclosures of relevant products and research can reach back many decades, while progress continues in areas including blade design, generator and controller efficiency and reliability, and other improvements. Thus, a company working in this area must look beyond the current state of the art when preparing strategies for its patent portfolio.

In many cases, but particularly those involving older technologies, relevant information resides not only in patent literature, but also in research and trade journals, as well as product documentation and specifications. Because of governments' involvement in energy research, funding, and regulation, reports from state and federal agencies can also provide valuable information in energy-related areas. Cataloging these additional references can provide guidance to research and development teams, and can aid with business decisions. In addition, this process can help answer questions from potential investors regarding the benefits of the target company's technology compared to other competitors and previously developed products.

Because of its technology-heavy focus, a patentability landscape may have a different audience than a competitive IP landscape. Specifically, scientists, engineers, and in-house or outside IP counsel may be much more interested in the findings of a patentability landscape than senior management. Conversely, the competitive landscapes described above may not provide as much useful information for an engineering team making design decisions. When choosing how to focus the landscape, keep in mind which team members will be reviewing the information presented in the final deliverable.

Freedom-to-Operate Landscape

A third type of landscape can focus on freedom-to-operate, either for a specific product about to go on the market, or at an earlier stage during evaluation of multiple design options. For example, a company working on solar cell research might be choosing between several configurations for a specific component such as an electrode. Understanding the freedom to operate surrounding each of the options can influence the decision-making process, and also direct possible design-around possibilities. For these projects, it is important for the IP team to work with the science and engineering team to meet both technical and freedom-to-operate requirements.

The searches in these landscapes typically focus on individual features of the product -- in the solar cell example, searches could be conducted for materials and methods for manufacturing solar panels, electrodes to be used with the solar cell, or specific consumer products incorporating solar cells. Unlike a competitive landscape, a freedom-to-operate landscape may go well beyond companies directly competing in the green technology space, leading eventually to parties holding IP on various features of a solar cell and its uses.

In these types of landscapes, it is important to provide as much specificity to the landscape creator as possible. While the most comprehensive search of all possible features related to the technology might be achievable with unlimited time and resources, this is not the most practical approach for most companies. Instead, having a ranked preference of a handful of preferred design features can usually yield a more useful result.

Designing the Landscape

Regardless of the company's technology, when requesting an IP landscape, consider the specific questions that the landscape should be designed to answer, and determine who will be the target audience for the information derived from the landscape. The variety of technologies in the green space means that each landscape must be tailored to the unique business and technological aspects of each client. By clearly articulating the goals for a landscape project before beginning, green technology companies can use landscapes to evaluate their IP positions most efficiently.

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