MARSHALL GERSTEIN

Cleantech & Renewables

Cleantech and Renewables – Intellectual Property Powers Green Innovation

For companies, investors, and inventors, creating innovative solutions to the existential challenges that climate change and global development present is a once-in-a-lifetime opportunity. Massive investment, from both private and government sources, presents significant returns not only for investors but also for the innovators who create groundbreaking and incremental green technologies.

Marshall Gerstein attorneys have been helping protect Cleantech and Renewable energy innovations since before they were distinct industries. Our approach is informed and collaborative. We leverage firmwide experience to help companies in a wide array of fields – energy generation and management, consumer products, agriculture, chemicals, biotechnology – and their non-profit research partners to secure, defend, enforce, and transfer IP rights within this dynamic sector.

Broad Perspective; Specific Practical Experience
Clients find that our keen understanding of their business comes from our attorneys, who sit at the intersection of science, sustainability, and IP law. Our analytical approach helps identify opportunities not only to secure protection for innovations but also to carve out space for incremental protection of existing technologies in an increasingly competitive, important, and quickly changing market. Combining these abilities with the firm's deep experience navigating United States Patent and Trademark Office (USPTO) processes and proceedings gives us a unique set of capabilities across the full range of IP services for the sector.

In fact, Cleantech and Renewables advances come from several thriving industries. A renewed, rather urgent, global focus on Cleantech and Renewables underscores the need for innovative solutions that address society's most pressing needs. Our approach combines broad awareness of those needs with specific experience protecting innovations within these industries:

Reduce, Reuse, Recycle – We protect innovations throughout the product cycle

Reduce

- Carbon capture and storage technologies (e.g., capturing carbon from both air and water)
- Methylene conversions
- Energy consumption (e.g., utilizing autonomous vehicle platooning)
- Product packaging
- Optimization of material usage (e.g., manufacturing processes, improved component longevity)

Reuse

- Additive manufacturing using recycled materials
- Waste capture
- Carbon reuse (e.g., injecting carbon into cementitious materials)

Recycle

- Advanced processes and techniques (e.g., waste-to-energy, closed-looped systems, smart sorting technologies)
- Recycled building materials (e.g., concrete)
- Waste upcycling

Protecting the Next Generation of Energy Production and Use

Energy Generation, Storage, & Distribution

- Nuclear power technologies
- Energy storage (e.g., batteries, fuel cells)
- Electric chargers
- Hydrogen technologies (e.g., hydrogen powered machinery)
- Biofuels
- Renewable feedstock
- Alternative energy sources (solar, tidal, wind, biomass, biowaste, geothermal, etc.)

Protecting Innovations that Protect the Environment

Environment

- Nature compatible systems
- Bio-based chemicals
- Purification, remediation and abatement
- Commodity chemicals
- Climate mitigation technology

Clients on the Leading Edge
Our broad perspective and varied experience reflect the breadth and diversity of our clients. We advise Fortune 500 corporations, non-profit research and educational institutions, individual and institutional investors, inventors, startups, and emerging-growth companies based in the U.S. and abroad. We are proud of the work to help advance our clients' efforts to bring their green innovations to market.

Recent examples of our work include:

- **Patent and Trademark Protections Unlock the Potential of iMFLUX's Plastic Injection Mold Technology**
  Marshall Gerstein attorneys helped iMFLUX, an advanced injection molding solutions provider servicing the manufacturing industry, protect an innovative, low-constant pressure injection process technology. The disruptive approach to injection molding uses less energy, creates less waste, and saves wear on machinery as compared to conventional molding techniques. It facilitates use of a variety of post-consumer recycled and bio-materials in the plastic mold

injection process. In the case of automotive parts, iMFLUX's innovations enable molding of components that are also often lighter in weight than products molded using high, variable pressure injection, contributing to fuel savings at the vehicle level. Marshall Gerstein provides patent drafting and prosecution counsel as well as international protection for iMFLUX's suite of trademarks, including for "Green Curve," used extensively by iMFLUX in describing and marketing its adaptive process technology.

- **Accelerating U.S. Patent Approval for Energy Reduction through the USPTO's Climate Change Mitigation Pilot Program**
  Marshall Gerstein attorneys advised an Israeli client regarding options for expediting the examination of their U.S. patent application directed to energy reduction through the USPTO's Climate Change Mitigation Pilot Program. This program expedites patent examination at no cost, given compliance with specific USPTO criteria, including that one or more claims be directed to a product or process that mitigates climate change mitigation. In May 2023, we filed the application and a participation petition. Within weeks, the petition was granted, and by July 2023, just two months post-filing, we received a positive response from the USPTO, advancing all the client's patent claims to allowance. An issued U.S. patent is anticipated in late October or November 2023, a mere five months after filing.
- **Managing the Innovative Patent Portfolio: Spearheading Bio-based Solutions in Apparel and Cosmetics for Bolt Threads**
  Marshall Gerstein attorneys manage the patent portfolio for Bolt Threads, a materials solution company on the cutting edge of bio-based materials for the apparel and cosmetic industries. Bolt Threads' mycelium-based Mylo™ material has been incorporated into products from Adidas and lululemon. Our team prosecutes applications relating to the production and use of recombinant spider silk proteins in cosmetic products and textiles, as well as applications directed to mycelium-based materials. Bolt Threads' pioneering bio-based platforms enables their partners to shift away from petroleum-based materials and chemicals.
- **A Win for the Environment and at the USPTO**
  Marshall Gerstein helped a client protect its innovative focused pulsed (FP) technology and extend its use in a range of new applications. FP technology helps eliminate waste from wastewater by generating a high-voltage electrical field several thousand times per second and converts that waste into a form that facilitates its efficient conversion into energy. This technology is an all-around "green" win: cleaner water is returned to the environment, less waste is sent to landfills, and more energy is available from alternative sources. We also helped our client "win" at the USPTO. With an eye to streamlining the patent process, we made sure that the client was one of the first applicants to take advantage of the Green Technology Pilot Program, reducing in one instance a projected wait for a first office action from 21 months to two months.

- **Helping Heartland Technology Partners Protect and Monetize Innovative Wastewater Treatment Technology**
  For more than five years, Marshall Gerstein has worked with members of the Heartland Technology Partners management team to file and process numerous patent applications designed to protect its cleantech innovations. We have also helped provide a basis for licensing this technology in various industrial contexts, including in landfill processing, oil and gas drilling, and water processing. Our attorneys negotiated finance agreements and prepared licensing agreements on the patent applications. We also issued key opinions on the validity and patentability of the technology over the prior art, the results of which were used to obtain very favorable partnership agreements with the companies that will be implementing and/or using this technology in the field.

A Collaborative Approach Based on Possibilities
Research into and the commercialization of cleantech presents several challenges at the convergence point of science, sustainability and intellectual property law. Combining our knowledge and experience in many different technical disciplines, we use an integrated team approach to providing legal advice, often leveraging experience in the mechanical, electrical, chemical, and biotechnological arts to help clients select and pursue the path that is right for them.

Full Spectrum Legal Counsel
We provide end-to-end patent counsel at every step, from basic research, through technology development, to the commercialization of products and processes. Our research helps Cleantech clients ensure their innovations have legitimacy, and the enduring protection that they need. In addition to our patent prosecution and portfolio management services, our dispute-resolution team includes litigators with deep experience in the courtroom and in inter-partes and other post-grant review processes. Our transactional attorneys regularly draft agreements involving confidential disclosures, material and technology transfers, and IP asset assignments and licenses. We also help clients protect their brands and hard-earned reputations through trademark, domain name, copyright, and related registration issues; conduct full IP due diligence in the context of mergers, acquisitions, divestitures, and joint ventures; handle freedom-to-practice analyses; and negotiate financing agreements.

Circular, Continual Investment Relies on Strong IP Strategies
Investment in clean technology generally corresponds to technological innovation. A strong IP strategy is essential not only to attract investment in viable clean technology but also to protect those technologies as they evolve in the marketplace. Building a foundation of protected technologies, processes, and inventions fuels future growth. Innovators that fail to protect their creations at this invaluable time will fall behind in competition and will be limited in their ability to obtain important grant and investment money.