Insights: Publications

# 6 Key Takeaways | AI's Evolving Role in Recent Patent Developments and Investment Activities, including Cleantech

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Kilpatrick recently hosted an event in the Walnut Creek office where partners **Joe Snyder**, **Eugenia Garrett-Wackowski**, and **Siegmar Pohl** addressed the profound impact that Artificial Intelligence (AI) is having on patent development and its transformative role in various industries, including cleantech. As AI systems increasingly contribute to the creation of groundbreaking inventions, the issue of inventorship has become increasingly complex. In response, the United States Patent Office (USPTO) has proactively provided comprehensive guidance and useful frameworks for evaluating inventorship in AI-assisted inventions. The USPTO aims to ensure that human inventors receive the recognition and protection they deserve for their contributions. The update included recent trends of AI's role in cleantech inventions through the lens of patent data and insights on the increasing role of AI in emerging cleantech innovation. The presentation also addressed venture capital investment in cleantech companies with an overview of typical deal terms for early-stage investments in the various segments of cleantech and climate tech.

Key takeaways from their presentation include:

1. Patent applications for AI-assisted inventions must name a natural person(s) i.e., a human being who significantly contributed to the invention as the inventor or joint inventor. A significant contribution may be shown by the way the person constructs “the prompt” in view of a specific problem. A natural person(s) who designs, builds, or trains an AI system in view of a specific problem to elicit a particular solution may be an inventor.

2. A patent application must not list any entity that is not a natural person as the inventor or joint inventor even if the AI system was instrumental in the creation of the claimed invention.

3. When determining if a person is an inventor for the AI-assisted invention, the analysis applied to joint inventors is used. The person's contribution must be significant and related to the core inventive concept.

4. Activity in clean tech and sustainable technology patents has accelerated rapidly since the mid-1990s, with nearly 55,000 clean tech and sustainable inventions made publicly available in 2021. This represents almost 15% of all technological inventions globally. At the same time, use of AI in clean tech and sustainability technology inventions is also increasing.

5. The USPTO created the Climate Change Mitigation Pilot Program (CCMPP) in 2022 in response to President Biden's Executive Order 14008, which supports climate action throughout the United States. The CCMPP creates an opportunity for expedited examination of patent applications directed to technologies that mitigate climate change. The CCMPP is available until June 7, 2027, or until a total of 4,000 applications have been granted special status.

6. Cleantech investment trends:

- In 2023, the US, EU and UK combined for the first time invested more in Clean Energy than China. According to *BloombergNEF*, Electrified Transport received the most investment globally, followed by Renewable Energy, and Power Grid investments. Strongest growth was in hydrogen, carbon capture and storage, and energy storage.
- Investment in clean technologies, particularly those that might qualify for incentives under the Inflation Reduction Act, has been increasing. According to the Clean Investment Monitor, it accounted for 4.5% of all private investment in the US between July 2022 and June 2024. In Q2 of 2024, 25% of those investments went into manufacturing.
- Cleantech start-up funding has been lower in the first half of 2024. According to PitchBook, investment in all sectors, except AI, declined. Most cleantech funding was received by solar PV, battery storage, and hydrogen. Specialist Climate Tech funds have been raising more money this year than during last year's dip, and this year might exceed the 2022 record high.

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