

31<sup>st</sup> Annual AWMA Midwest Section Environmental  
Technical Conference

# The Role of Intellectual Property in Addressing Global Warming

**Robert J. Lambrechts, Esq., Ph.D., P.E.**

Senior Counsel, Law Firm of Lathrop GPM, LLP

May 7, 2024

© 2024 Lathrop GPM. All rights reserved. Dissemination and duplication are prohibited without express consent from the author.  
The content is intended for informational purposes and is not legal advice or a legal opinion of Lathrop GPM.



# Global warming

- Some numbers to consider
- 37,550,000,000
- 4.66
- 280
- 426.95
- 20,000,000,000

# The Role of Patents

- Patents have been instrumental in helping U.S. startup businesses grow the economy from an agrarian backwater into the most powerful industrial economy on the face of the earth.

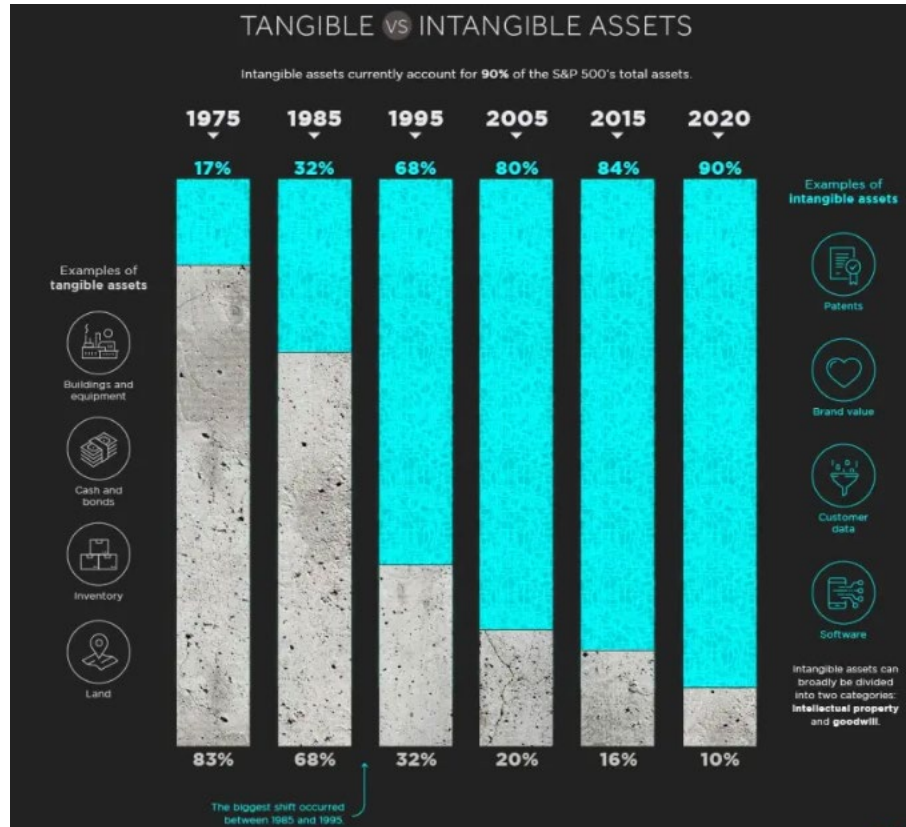
# The Role of Patents

- The evidence shows that rather than hindering knowledge sharing, patents promote it.
- The patent system is one of the most effective tools for knowledge-sharing and technology transfer ever devised – *Forbes Magazine*.

# Value of Intellectual Property

- Today, intangibles, in the form of intellectual property (IP) and goodwill, comprise 90 percent of the value of the S&P 500.

# Value of Intellectual Property



# Climate Change Mitigation Pilot Program

- On June 3, 2022, the United States Patent and Trademark Office (USPTO) implemented the ***Climate Change Mitigation Pilot Program*** as a component of its ongoing efforts to encourage and incentivize innovation in the climate space and as an example of its commitment to policies tackling climate change.

# Climate Change Mitigation Pilot Program

- As of April 23, 2024, a total of 909 applications have been filed and 641 granted (71% grant rate)

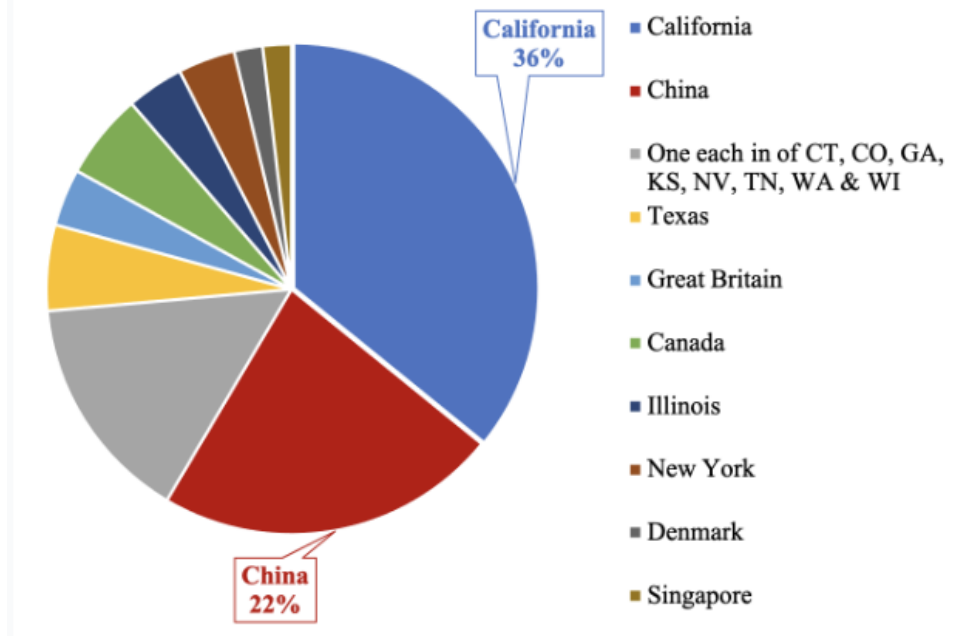


# Climate Change Mitigation Pilot Program

- Early data revealed that a first office action was issued within 67 days on average.

# Climate Change Mitigation Pilot Program

Chart 1: Geographic Distribution of Granted Climate Change Patent Petitions



# Climate Change Mitigation Pilot Program

- 1. Renewable Energy:** solar, wind, hydroelectric, geothermal, and other renewable energy technologies may benefit. Expediting the process may accelerate innovations in energy production and storage, reducing reliance on fossil fuels.
- 2. Green Transportation:** electric vehicles, **hybrid technologies**, more efficient engines, and alternative fuel sources are crucial in reducing emissions from the transportation sector. Methods and systems which more efficiently utilize conventional technology, such as autonomous driving, reduce the production of harmful gases.
- 3. Carbon Capture and Storage:** innovations related to capturing and storing carbon emissions from industrial processes or directly from the atmosphere could significantly impact climate change mitigation efforts.
- 4. Energy-Efficient Technologies:** companies producing appliances, electronics, and **building materials** designed for energy efficiency might seek to expedite the patent examination process to protect their innovations, contributing to reducing overall energy consumption.

# Climate Change Mitigation Pilot Program

- 5. Sustainable Agriculture:** technologies aimed at sustainable farming, water conservation, crop resilience to climate change, or reducing the environmental impact of agricultural practices may benefit.
- 6. Waste Management and Recycling:** innovations in waste reduction, and recycling technologies to minimize environmental impact may qualify for the expedited patent process.
- 7. Climate Adaptation Technologies:** innovations related to adapting infrastructure, cities, and systems to withstand the impacts of climate change (like extreme weather events, rising sea levels) may be eligible.
- 8. Environmental Monitoring and Analytics:** innovations related to advanced sensors, monitoring devices, or analytics tools for tracking environmental changes, pollution levels, or biodiversity conservation might benefit.

# Climate Change Mitigation Pilot Program

**9. Green Building and Construction:** innovations in sustainable building materials, building materials which are produced in less energy intensive systems, **energy-efficient construction methods**, and designs focused on reducing environmental footprints in the construction industry.

**10. Water and Air Purification Technologies:** technologies to purify water sources, treat wastewater, or improve air quality through innovative filtration or purification methods could utilize the expedited patent process.

# Petition to Make Special – 37 CFR § 1.102(c)

- **ENVIRONMENTAL QUALITY**

- Special status may be awarded to patent applications for inventions that contribute to environmental quality by maintaining or restoring essential natural elements.
- This type of petition is also available to inventions that contribute to the discovery, development, conservation, or more efficient utilization of energy resources, like wind power and solar energy.
- No fee is required for these petitions
- Applications which have been made special will be advanced out of turn for examination and will continue to be treated as special throughout the entire prosecution in the Office

# Petition to Make Special – 37 CFR § 1.102(c)

- **ENERGY**

- The U.S. Patent and Trademark Office will, on petition, accord “special” status to all patent applications for inventions which materially contribute to
- The discovery or development of energy resources. Examples of inventions in this category would be developments in fossil fuels (natural gas, coal, and petroleum), hydrogen fuel technologies, nuclear energy, solar energy, etc.
- The more efficient utilization and conservation of energy resources would include inventions relating to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc.
- No fee is required for these petitions

# Owned Patents / Applications

## Direct Air Capture Companies

- Climeworks AG – 41
- Global Thermostat Operations LLC – 25
- Carbon Engineering Ltd. - 228
- Heirloom Carbon Technologies, Inc. – 4
- Carbfix – 3
- Aker Carbon Capture ASA – 17



# Closing Thought

- IPCC analyses finds that up to 20 billion tonnes per year of CO<sub>2</sub> will need to be removed from the atmosphere to achieve global climate targets by 2050.