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Energy & Sustainability Client Feature – Pascal

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This month we are excited to feature our client **Pascal**, a technology company that has pioneered low-pressure solid refrigerants for use in heat pumps, air conditioners, refrigerators, and freezers. Pascal recently raised **$8 million in a seed round** led by Engine Ventures, a fund committed to helping scale companies dedicated to climate change, with Khosla Ventures and previous investor Blindspot Ventures also participating.

The seed round will advance Pascal's mission to replace refrigerant gases, some of the most potent greenhouse gases in the world, with solid refrigerants. Currently, space and hot water heating, cooling, and refrigeration account for approximately 50% of electricity use in commercial buildings and over 70% in residential buildings. Additionally, current HVAC technology relies on hydrofluorocarbon (HFC) refrigerants, which gradually leak into the atmosphere where they act as extremely potent greenhouse gases, thousands of times more powerful than carbon dioxide.

Solid refrigerants, because they are solid, do not emit pollutants to the atmosphere, however, they have never been implemented in commercial systems because of the extreme pressures needed to operate them. Pascal's revolutionary solid refrigerants operate at much lower pressures, allowing them to be manufactured within the existing industrial ecosystem while improving energy efficiency by 50-80% and eliminating refrigerant emissions. This proprietary technology will allow Pascal to provide affordable and environmentally sustainable solutions to companies operating in the commercial refrigeration supply chain.

"As our climate continues to warm, demand for HVAC is rapidly rising, with global energy demand for air conditioners alone expected to triple by 2050. At the same time, the HVAC industry faces significant regulatory and societal pressure to shift to using refrigerants with lower global warming potential, as demonstrated by the Kigali Amendment, which mandates an 80% reduction in HFC use in developed nations by 2036," explained Adam Slavney, co-founder, and CEO of Pascal. "Heat pumps are a crucial tool for decarbonizing the HVAC industry; however, they rely on polluting HFCs and are more expensive than gas furnaces. Pascal is building a better heat pump based on solid refrigerants that will deliver higher efficiencies at lower costs while eliminating all refrigerant emissions."

Jinyoung Seo, co-founder and CTO of Pascal, noted that "over the past two years, we've driven down the operating pressures of our solid refrigerants by several orders of magnitude, unlocking cost-effective systems that can work with existing HVAC compressors and components." Michael Kearney, General Partner at Engine Ventures added, "With demand for clean electrons surging, but constraints on their access biting, solutions that increase efficiency and drive down HVAC electrical loads and costs are critical to meeting our energy transition goals. Accomplishing that and removing 2% of greenhouse gas-equivalent emissions from HFCs is a win-win."

Mintz is proud to support the Pascal team in its mission to transform cost and sustainability in the refrigerants market!

Authors

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Sahir Surmeli is a Mintz business counselor who advises companies, boards, entrepreneurs, investment banks, and venture and private equity investors as they build and grow companies. He handles public offerings, 144A and private financings, acquisitions, joint ventures, and strategic partnerships.

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Ilse P. Johnson is an Associate at Mintz who focuses her practice on corporate and securities law, real estate transactions, and general corporate matters.

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