NEWS RELEASE

The Energy Trifecta: Power. Production. Planet. Why the Future Runs on Helium

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Critical Materials & Resource Dependency

As global energy demand surges, governments face a new reality: the urgent need to deliver cleaner power at scale, while building future-proof infrastructure to sustain it. This shift from sheer output to long-term sustainability is elevating the profile of an often-overlooked element: helium.

Helium is now indispensable across the clean energy value chain - critical for:

Power generation in advanced nuclear systems
Production and manufacturing of high-tech electronics and infrastructure
Planet decarbonisation technologies including carbon capture and hydrogen
This week, we explore helium's role across all three.

Powering the Transition: Renewables, SMRs & Helium
While solar, wind, and batteries dominate the headlines, the challenge of delivering clean, affordable, and reliable round-the-clock baseload power has remained largely unresolved - until the emergence of Small Modular Reactors (SMRs). This new generation of compact, scalable nuclear reactors, increasingly backed by government policy and private capital in the U.S., Canada, and Europe, now looks set to help close the gap.

Several of the most advanced SMR designs - particularly High Temperature Gas-cooled Reactors (HTGRs) - use helium as a primary coolant. Its inert nature, thermal stability, and ability to operate under extreme temperatures make it the ideal medium for safe, high-efficiency reactor operation.

As SMRs scale toward deployment, helium is emerging as a silent enabler of tomorrow's clean energy grid - especially in regions where nuclear must fill the reliability gap left by intermittent renewables.

Fueling the Machines that Fuel the Future

Helium is vital to the manufacturing backbone of the clean energy and digital revolutions.

- Semiconductors & Electronics: Helium is essential in the production of microchips, GPUs, fiber optics, lithium-ion batteries, and solar panels. Its role as a shielding gas, cooling agent, and leak detector makes it irreplaceable in high-purity fabrication environments.
- AI & Data Centers: The rise of AI is driving explosive demand for processing power and the helium needed to manufacture and cool the systems behind it. This month, **xAI - Elon Musk's AI venture - announced plans to purchase an overseas power plant to support its sprawling data center in Memphis**, which requires up to 2 gigawatts of dedicated power per day to run one million AI processors. That's enough energy to power nearly 2 million homes daily - surpassing the demand of the largest existing U.S. data centers. The move has sparked concern over emissions and underscored the urgent need for scalable, clean power infrastructure - but the market demands AI solutions, and fast. And AI solutions demand vast amounts of energy. Helium demand is set to rise in parallel, as it plays a critical role across three fronts:
    - A. Producing the chips that power AI systems.
    - B. Enabling the sustainable energy solutions that could ultimately run them.
    - C. Supporting the carbon capture technologies that may one day offset their emissions footprint.

Cleaning Up the Aftermath: Helium in Carbon Capture

Even with aggressive investment in clean power, industrial emissions will persist for decades. That's why carbon capture, utilisation, and storage (CCUS) is critical - and helium plays a key role. Helium's ultra-low boiling point makes it vital for cryogenic systems used in both CO_2 sequestration and hydrogen production. It's also essential in leak detection for pipelines and pressure vessels - technologies that must function flawlessly if large-scale carbon mitigation is to succeed.

A Material with No Substitute

Helium is now integral to every layer of the modern energy economy - powering generation, enabling manufacturing, and supporting emissions mitigation. It is officially listed as a critical raw material by both the European Union and Canada, and while not currently recognised as such by the U.S., rising strategic demand may soon prompt a reassessment.

Pulsar is the world's only company advancing high-grade helium assets in both the United States and Greenland - standing at the intersection of three defining megatrends: the energy transition, advanced manufacturing, and decarbonisation.

Investors in helium are backing one of the few critically listed materials with full-cycle supply chain relevance - a finite resource that already underpins many of the technologies millions around the world rely on.

Pulsar Helium's shares trade on TSXV: PLSR | OTCQB: PSRHF | AIM: PLSR

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