As the United States and other countries continue a pursuit of low-carbon energy sources, the mining industry is supplying a host of critical minerals essential to technologies such as solar panels, wind turbines, electric vehicle batteries and more.

In lockstep with these technologies made possible by mining, the industry itself plans to harness them in order to operate mines with new, sustainable approaches. This effort is being led by companies like South32, whose Hermosa project in Arizona’s Patagonia Mountains is
designed to use automation and technology to minimize environmental impact and eventually reach net-zero operational carbon emissions.

“Seeing what companies are doing to protect the environment has been really eye opening,” said Cayley Hoffman, Mining Engineer at South32. “A lot of companies really do take it to heart that if we don’t take care of the environment, we won’t be able to mine.”

Work to date at Hermosa has confirmed the potential to produce battery-grade manganese for the growing North American electric vehicle supply chain, with zinc and silver co-products.

“The special thing about Hermosa is that we have the potential to be able to change this [U.S. reliance on imports of manganese and zinc] and to be able to help supply the domestic need for these critical minerals,” said Taylor Parker, Geochemist Specialist at South32.

The episode, titled “Next Generation Mines,” highlights the exciting future of careers in mining, where a diverse collective of professionals are working together to help usher in a new era of sustainable energy.

“Me being a Hispanic, queer female in the industry, being in the position that I am just shows how much diversity there is throughout the mining industry,” said Naiz Garibay, Project Coordinator at South32.

This brand-new episode also features key insights from Misael Cabrera, Director of the University of Arizona School of Mining & Mineral Resources, whose mission is to transform the way students, professionals, and communities work across boundaries to meet the complex challenges of economically, socially, and environmentally sustainable mineral resources.

“One of the things that we’re trying to explain to students and the society at large is that the mining industry requires lots of different disciplines,” said Cabrera. “And that’s exactly why we created the school, to connect all of those disciplines together to meet the challenges of tomorrow.”
SME Studios is currently releasing six new episodes of *Jobs of Tomorrow*, a career docuseries spotlighting the exciting, high-tech and increasingly green world of mining where multidisciplinary professionals drive innovation in energy, infrastructure, transit and more.

Episodes and member profiles are available on SME Studios at [media.smenet.org](http://media.smenet.org). New episodes are being released biweekly through May 2024.

“Next Generation Mines” is sponsored by South32 Hermosa. Support for the series came from Brooks & Nelson.

**About SME**

The Society for Mining, Metallurgy & Exploration (SME) brings together the mining and mineral industry’s brightest and most dedicated professionals. Over 13,000 global members advance their careers with the world-class technical resources, educational programs, networking opportunities and professional development tools from SME. Our members are focused on sharing best practices for safety, environmental stewardship and moving mining forward. SME. *Inspiring mining professionals worldwide.*