

Mining Companies Supporting Clean Energy

The clean energy transition is underway, and miners play a critical role in supporting this global effort.

NEW YORK, NEW YORK, USA, September 2, 2022 /EINPresswire.com/ -- [Boron](#), for example, is a key ingredient in batteries and other storage technologies that will be essential to integrating renewables into the grid. And as demand for electric vehicles grows, so will the need for boron.



Clean energy

Why is Boron Essential for [Clean Energy](#) Transition?

Boron is a trace mineral in the environment essential to clean energy transition. Boron is used in various industries and applications, including nuclear power, solar energy, and wind energy.

Boron is a neutron absorber in the nuclear industry to control nuclear reactions. Solar panels rely on boron-doped silicon wafers to convert sunlight into electricity. Wind turbines use boron-based composites to build lightweight blades that can capture more wind energy.

Boron is also used as a fuel, is a vital ingredient in batteries, and in multiple other industrial and agricultural sectors due to superconductive capabilities and tensile strength. In recent years, boron demand has been growing steadily, and to meet the demand, it is important to develop new boron sources.

US Government Demands Local Boron Supplies

The US Government's invocation of the Defense Production Act in March 2022 indicates its commitment to reducing reliance on China for the critical materials needed to power America's clean energy future. The act will encourage the mining and preparation of minerals and materials used in high-capacity batteries, such as boron, lithium, graphite, cobalt, and manganese. This policy perfectly suits FEAM's Fort Cady boron project producing lithium as a byproduct.

Fort Cady Boron Project

5E Advanced Materials (NASDAQ: FEAM) is committed to enhancing its fully owned Fort Cady integrated boron facility in Southern California, USA. It plans to complete a revised economic analysis for the large-scale Fort Cady project in 2QCY22.

NASDAQ: FEAM is investigating the prospect of recovering lithium from the Fort Cady integrated boron wastewater stream. With more exploration, it may be possible to significantly increase the 214k tonnes lithium carbonate equivalent found in the Fort Cady Mineral Resource Estimate. Lithium can be used in boron-specific applications aimed at LiBor salts for lithium-ion batteries.

After the extraction of boric acid, FEAM will investigate the extraction of the lithium that is still present in the process water. Although this may open up a new route for environmentally friendly battery production, the main focus is on boron niche applications.

FEAM's SSBF (small-scale boron facility) will also invest in top specialty boron markets for consumers with specialized boron requirements for

ceramic car brakes,
corrosion inhibiting products,
wind turbine permanent magnets and fiberglass blades,
nuclear power generation,
defense

and fertilizer specialization, such as altering the release speed of nutrients.

The SSBF and subsequent large-scale manufacturing will also strengthen America's supply chains by introducing local suppliers of critical materials emphasizing clean energy, electric transportation, food security, and domestic security.

What is Clean Energy?

Clean energy is any renewable energy source, and there is no doubt that renewable energy is crucial for the future of our planet. Not only does it help to protect our environment from further damage, but it also provides a more sustainable and affordable source of energy. Solar, wind, hydro, and geothermal power are all forms of clean energy.

Advantages of Clean Energy

There are many reasons we should use more clean energy. For one, it's a much more sustainable way to power our homes, businesses, and communities. Burning fossil fuels releases harmful pollutants into the air, which can cause health problems for people and animals. Additionally, the energy is renewable, meaning we won't run out of it as we would with fossil fuels. Finally, using this energy can help create jobs in the green economy.

How Do we Get Clean Energy?

There are many ways to get it, depending on the need. For instance, solar energy is captured through solar panels, which are then used to generate electricity, heat water, light buildings, etc. Solar panels are photovoltaic cells that convert sunlight into electrical energy. This energy can

also power homes and businesses and provide energy to the grid.

Wind energy is another clean energy source that is becoming increasingly popular. Wind turbines use wind's kinetic energy to convert it into electricity. This electricity is used to power homes and businesses, feed into the grid, pump water or handle other mechanical tasks.

Hydroelectric energy is another energy source that supplies power for domestic and other purposes. Hydroelectric power plants use the water from rivers or lakes to generate this hydroelectricity. The water is stored in a reservoir and then released through turbines, which spin and generate electricity. Hydroelectric power is a clean and renewable energy source, making it a good option for those looking to reduce their carbon footprint.

Other clean energy sources include geothermal, biomass, and tidal energy with specific advantages and applications.

The Future for Clean Energy

Looking to the future, it is clear that these energy sources will play an increasingly important role in meeting global energy needs. With continued growth in installation rates, clean energy sources are set to become the dominant source of power capacity globally within the next few decades. This is good news for the environment and the economy as countries move away from polluting fossil fuels and toward cleaner, more sustainable energy sources.

Positive Effects of Clean Energy on the Environment and Economy

It is widely accepted that reducing dependency on fossil fuels and increasing the use of clean energy sources has various environmental and economic benefits, which include:

Reduced Import Costs:

A shift to domestically sourced renewable energy reduces a nation's dependence on imported fossil fuels, which can be expensive and subject to geopolitical fluctuations.

Job Creation:

The renewable energy sector is a major employer, with estimated job numbers in wind power alone expected to reach 4 million globally by 2030.

Reduced Emissions:

Burning fossil fuels for electricity generation emits harmful greenhouse gases into the atmosphere, contributing to climate change. Renewables generate electricity with zero emissions.

Reduced Air Pollution:

In addition to reducing greenhouse gas emissions, the increased use of renewable energy also reduces harmful air pollutants such as particulate matter, nitrogen oxides, and sulfur dioxide.

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