Coal is the major source of energy in China, and the country ranks third behind the U.S. and Russia in coal reserves. But much of that supply is low-rank coal that produces less energy, and has a higher ash content than other coals.

A start-up in Tucker, Ga., believes it has the clean answer for China. CoalTek Inc.’s technology can improve the quality of this low-rank coal by basically zapping it with microwaves. Once the coal is processed, it is both cleaner-burning and more energy efficient.

Chief Executive Officer Chris Poirier said he’s seeing so much demand coming from China that his company needs to establish a subsidiary there to develop projects. The company will source material and technology locally to drive down project costs, Poirier said.

“Over time our plan is to develop a fully functional supply chain in the country,” Poirier said. “we can change the [capital expenses] associated with our proprietary platform by sourcing in country,” he said.

CoalTek is already working with an undisclosed, large Chinese conglomerate to roll out its technology on a scale that will see it eventually treating 10 million metric tons of coal annually.

“We had our first conversations with our partner in early November, and we are now at the point where we are submitting our formal registration documents with the central, provincial, and municipal government authorities,” Poirier said.

The CoalTek China subsidiary will also need sufficient capital to invest alongside its partners in developing new treatment facilities. Poirier didn’t say what size of stakes its China subsidiary would take in projects.

Poirier estimates that the CoalTek subsidiary may need to raise as much as $150 million in financing from venture or private equity investors. CoalTek has raised a little more than $50 million in financing from investors including Draper Fisher Jurvetson, Element Partners, Braemar Energy Ventures, Technology Partners, and Warburg Pincus.

The initial rollout for the company’s first project with the undisclosed conglomerate will be a modest installation for approximately 250,000 metric tons of coal. According to Poirier’s estimates, that project should cost less than $20 million.

However, as the facilities expand to include 10 processing lines for coal sourced in China, Poirier estimates that the total cost could reach up to $50 million. And that’s just the first project.

CoalTek is working in the U.S. as well. According to Poirier, it is building a processing facility slightly smaller than its China installation in a county in Kentucky.
And the company isn’t alone in its bid to clean up China’s coal before it’s burned in factories or power plants in the country. Denver-based, publicly traded Evergreen Energy Inc. signed an agreement with China Power Investment Corp., a state-owned power company in 2007, to develop its own coal treatment process in the country.