

RECYCLED ENERGY PROJECT FACT SHEET

Customer: West Virginia Alloys, a subsidiary of Globe Metallurgical Inc.

Location: Alloy, WV (outside Charleston)

Project description: This \$ 100-plus million, 40-plus megawatt waste heat recovery project will serve West Virginia Alloys, a subsidiary of Globe Metallurgical Inc., the largest silicon producer in the country. Silicon — which is used to make a range of products such as computer chips, semiconductors, photovoltaic solar cells, and aluminum and steel alloys — has been a fast-growing market for decades. The energy recycling project will generate significantly cheaper power than from a new coal plant, but emit no carbon dioxide or other pollutants.

West Virginia Alloys uses electric arc furnaces to melt quartz rock and produce nearly pure silicon. The hot furnace exhaust is typically vented to the atmosphere, but RED will install waste heat recovery boilers to recycle the exhaust heat into steam which in turn will drive a turbine generator. The resulting energy will provide nearly one third of the electricity used in the furnaces, reducing the need for purchased power and eliminating the associated emissions. RED will supply all capital and energy expertise, receive a modest return on the capital and then split all remaining financial benefits with West Virginia Alloys, significantly improving the long-term competitive position of the silicon facility.

Commercial operation: 2011 (projected)

Environmental benefits: This project helps mitigate the threat of global warming. It will produce 40-44 megawatts of clean energy, enough to power more than 20,000 homes, but require no additional fossil fuel. By eliminating West Virginia Alloys' purchase of equivalent power from fossil-fueled generators, the project will reduce CO2 emissions by more than 290,000 metric tonnes per year.

Economic benefits: West Virginia Alloys will dramatically cut operating costs per ton of silicon, strengthening its position as the lowest cost silicon producer in the world today. The project will help maintain and grow the number of quality manufacturing jobs in West Virginia.

Project highlights

**Energy
produced:**
40-44
megawatts
electric

**Greenhouse gas
reduction:**
290,000
metric tonnes
CO2/year

Fossil fuel used:
Zero