Jinneng is an integrated chemical enterprise focusing on the production and sales of coal derivative chemicals and refined chemical products. One of the company’s main products is coke, which is primarily used in steel mills. Coke oven gas (COG) is a byproduct of the coking process, in which coal is heated in the absence of air to drive off the volatile compounds. COG is a high hydrogen and medium heating value waste gas containing significant dust and corrosive pollutants. Solar offered a gas turbine combined heat and power (CHP) solution. The waste product is captured, treated and used as fuel for the Taurus™ 60 gas turbine, which produces both electricity and useful thermal energy, while also reducing local air pollution.
For many years it was common practice in China enterprises producing these products to bake the coke oven gas out of the coal, and then emit it into the atmosphere, missing an opportunity to turn waste into energy and at the same time reduce emissions. The Solar gas turbine CHP system operates at approximately 68 percent efficiency and uses 26 percent less fuel than separate heat and power systems, which translates into a high rate of return on the initial investment. Jinneng became the first foreign business to win the U.S. Environmental Protection Agency International CHP Award. The installation not only makes commercial sense but benefits the environment by reducing CO2 emissions by 40,000 tons per year, the equivalent of removing annual emissions from 6,600 automobiles.