

Coal is one of the most abundant domestic sources of energy. Southern Company is working to develop smarter, cleaner ways to burn coal. To that end, Southern Company has focused on cost-effective technologies to reduce carbon dioxide and other emissions from coal-based power plants.



Kemper County Energy Facility

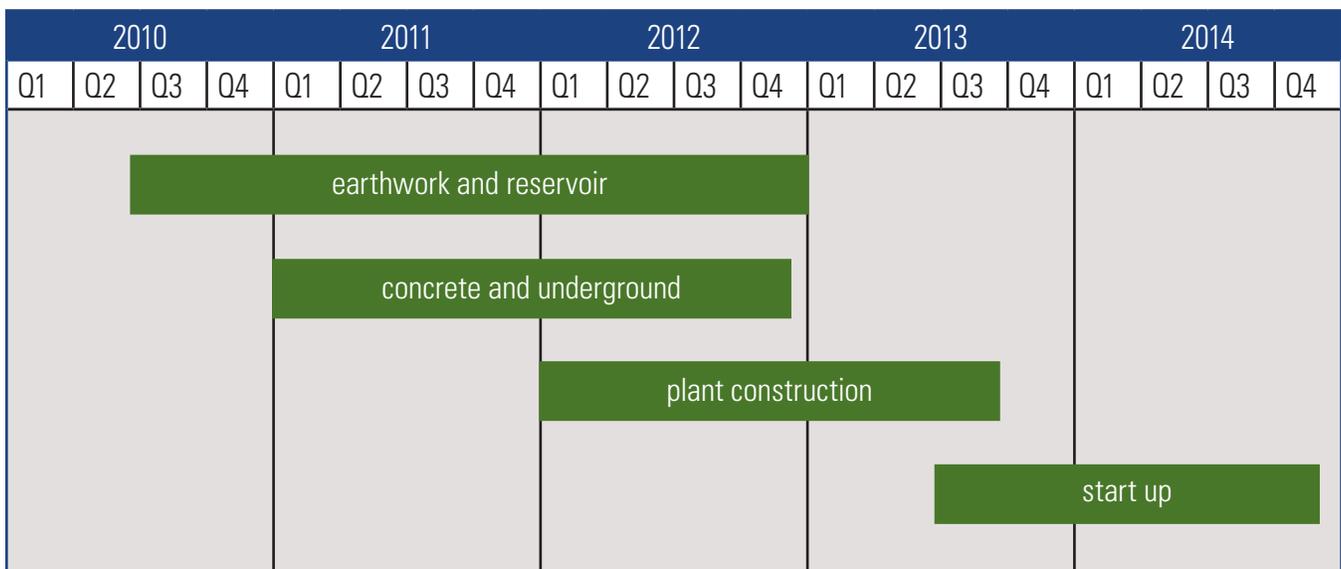
- 582-megawatt power plant currently under construction in Kemper County, Miss.
- Owned and operated by Mississippi Power.
- State-of-the-art coal gasification design called Transport Integrated Gasification, or TRIG™.
- The plant will utilize a 4-billion-ton reserve of lignite located directly within the state when it begins operation in 2014.
- Lignite is an abundant natural resource that is largely unused.
- Lignite is affordable and not subject to huge price swings associated with uncontrollable fuel markets.

Technology and How it Works

- TRIG is an integrated gasification combined cycle technology, which is sometimes referred to as coal gasification.
- TRIG was developed over the past 15 years at the Power Systems Development Facility in Wilsonville, Ala. – a research facility for the U.S. Department of Energy and Southern Company.

- As coal is fed into the TRIG gasifier, it is heated to a high temperature and high pressure.
- The combination of heat and pressure turns the coal into gas, which makes it easier to remove emissions such as carbon dioxide that otherwise would end up in the atmosphere.
- The clean burning gas can then be used as a fuel for electricity production.
- A unique feature of the TRIG high-efficiency design sends coal that is not converted to gas in the initial process back for a second round of gasification. This allows a high rate of coal-to-gas conversion to take place at a lower temperature – and thus lower cost – than what’s possible with other available gasification technologies.

Kemper County Energy Facility Construction Timeline



Environmental Benefits

- Includes carbon capture, a technology that will reduce carbon dioxide emissions by 65 percent, making it equal to similarly sized natural gas combined cycle plants
- Zero liquid discharge

Cost and Impact

- Will create approximately 260 permanent jobs, plus an additional 1,000 jobs during peak construction
- Nearly \$75 million in state and local taxes created during construction; \$30 million annually during the life of the plant once operational

