

Jupiter Oxygen Corporation

**The Clearwater Conference in Florida, U.S.A.
International Technical Conference on Coal Utilization & Fuel Systems
April 18 - 22, 2004**

**Oxy-Fuel Combustion Systems for Pollution Free
Coal Fired Power Generation**

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ABSTRACT

Jupiter Oxygen's patented oxy-fuel combustion systems are capable of economically generating power from coal with ultra-low emissions and increased boiler efficiency. Jupiter's system uses pure oxygen as the combustion agent, excluding air and thus nitrogen, concentrating CO₂ and pollutants for efficient capture with near zero NO_x production, reducing exhaust mass flow, and increasing radiant heat transfer. Flue-gas recirculation rates can be varied to add flexibility to new boiler designs using this technology. Computer modeling and thermal analysis have identified important design considerations in retrofit applications.