



# JUPITER OXYGEN CORPORATION

HEADQUARTERS  
4825 N SCOTT ST SUITE 200  
SCHILLER PARK, IL 60176 USA

RESEARCH FACILITY  
1745 - 165TH STREET  
HAMMOND, IN 46320 USA

WEB: [WWW.JUPITEROXYGEN.COM](http://WWW.JUPITEROXYGEN.COM)  
PHONE: 847 928 5934  
FAX: 847 928 0795

## PRACTICAL TECHNOLOGY

Fossil Fuel Carbon Capture ◦ Increased Energy Efficiency ◦ Greenhouse Gas Solution



Jupiter Oxygen's Research Facility in Hammond, IN

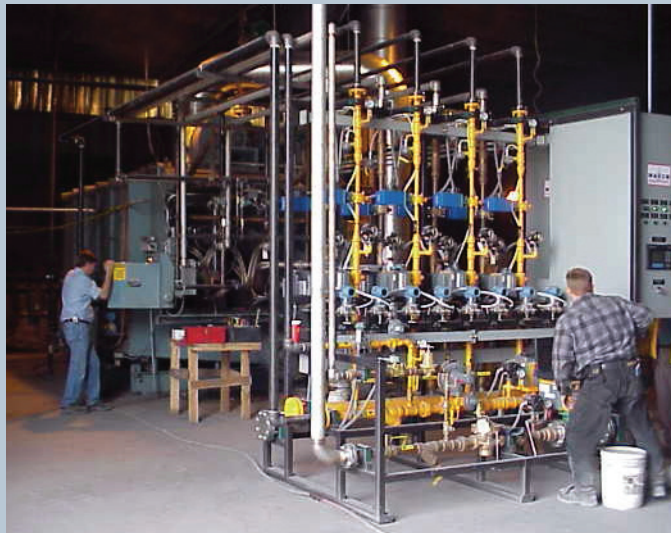
## VISIONARY INNOVATION | SCIENTIFIC APPROACH | OPERATIONAL EXPERIENCE

Jupiter's technology is the innovative application of oxygen, instead of air, for fossil-fuel combustion, which results in ultra-low levels of greenhouse gasses while removing the barriers for carbon capture. The technology provides the pathway for environmentally friendly and economically sound power plant policy.

Greater Radiant Heat Transfer ◦ Improved Efficiency ◦ Decreased Fuel Usage  
Reduced Flue Gas Volumes ◦ Concentrating The Pollutants For Easy Removal

## VISION AND INNOVATION: CLEAN COAL-FIRED POWER PLANTS

It is now practical to have environmentally friendly coal and other fossil fuel power plants. Jupiter's technology is patented in the United States, has patents pending throughout the world, and has been successfully used in industry since 1997. Coal or other carbon based fuels can be used without creating pollution, consistent with air and water quality goals as mandated in the Kyoto Protocol.



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### Jupiter's Oxy-Fuel Technology is Key...

- No Air, No Nitrogen — Ultra-low NO<sub>x</sub> without costly back-end control
- Less fuel used to produce steam
- Flue gas exhaust from the boiler is ¼ of air-fired

### ...For Significant Emission Reduction

- 95% capture of CO<sub>2</sub> from coal combustion
- 99% sulfur reduction
- 90% mercury removal
- 99% removal of all particulates

## COST-EFFECTIVE CLEAN COAL ENERGY

Jupiter Oxygen Corporation has demonstrated the cost-effective pathway for the capture of CO<sub>2</sub> and mercury for coal-fired power plants, as well as to remove other pollutants and use less fuel so that coal-fired power plants can be more efficient and have ultra-low emissions.

Jupiter Oxygen has projected fuel savings and other increased efficiencies so that costs of the technology, including the capture of CO<sub>2</sub> are on the order of 5.1 cents (USD)/kWh with amortized capital expenses, including a production cost of 1.7 cents (USD)/kWh.

Environmental benefits can be achieved without detriment to national economies through the cost saving aspects of our oxy-fuel technology. This development also has great significance for the energy security and independence of those countries which have access to abundant coal resources. Coal can also be the stable energy supply to support economic growth.

For countries without abundant coal resources, Jupiter's technology remains a vital component to development for three reasons:

- 1) Pollution drifts across borders, so that one nation's industrial waste can directly affect many others.
- 2) Global climate issues make it imperative for all countries to work together; resolving air and water quality problems resulting from power plant pollution.
- 3) Countries looking to make their Kyoto goals can license this technology for use in developing nations thereby gaining environmental credits under the Clean Development Mechanism and Joint Implementation.



**Canada's Environmental Technology Certification Program**  
— Enhancing the credibility of environmental technologies.

Patented in the US and other countries worldwide.  
**[www.jupiteroxigen.com](http://www.jupiteroxigen.com)**