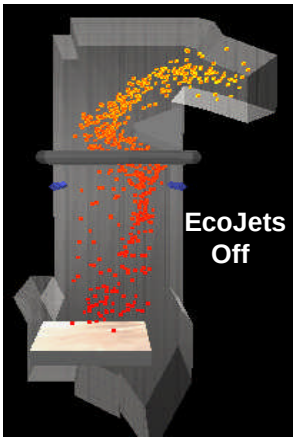
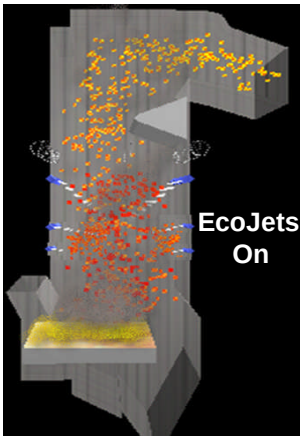
The EcoJet System
Advanced Combustion Improvement & Emission Reduction System

Synterprise Solutions For
Biomass Boiler Plants

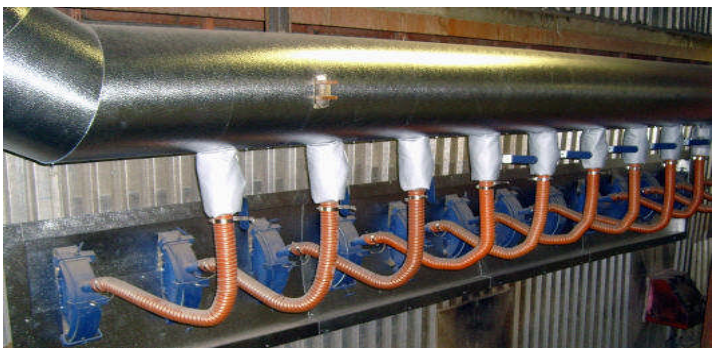
- **Reduce Fuel Use**
- **Increase Steam Flow**
- **Increase Generation**
- **Reduce Emissions**
- **Reduce Erosion**
- **Reduce O&M Costs**
- **Reduce Particulates, Carry Over and Ash**





The EcoJet System- Advanced Separated Over Fire Air [SOFA]

- **High Energy, Variable Direction Injection Ports Installed on the External of Boiler Waterwalls**
  - **Variable Direction - Vertically, Horizontally, Top to Bottom Tuning**
  - **Variable Flow –Optimal Flow To Each Area of The Furnace, Top to Bottom**
  - **Extremely High Energy SOFA System** – 80” to 100” WC to break up laminar flow
  - **Includes PlantCare Data System for Remote Monitoring and Data Archiving**
- **Multiple Elevations Separated Above the Primary Combustion Zone**
  - **Increased Combustion Completion Time**
  - **Increased Turbulence, Breaks Up Laminar Flows**
  - **Increased Steam Generation**
  - **Stable Combustion Operation – Reduced Combustion Variation**
- **Temperature Management –**
  - **Improved Temperature Tuning For Impacts of Temperature Differences From Different Fuels**
  - **Increased Temperatures For Low Heat Value Fuels**
  - **Reduce Negative Impacts From Flame Impingement Temperature Spikes**
  - **Better Manage Exit Gas Temperatures**
- **Emissions, Erosion and Ash Reduction**
  - **Reduces Velocity & Mass Flow for Reduced Erosion Damage**
  - **Better and more complete burn reduces Particulates and Carry Over**
  - **Emission Reduction Options - NOx, SOx, Hg, Particulate, VOC, & Slag**
- **Base Component of Integrated Multiple Air Pollution System [IMAPS]**

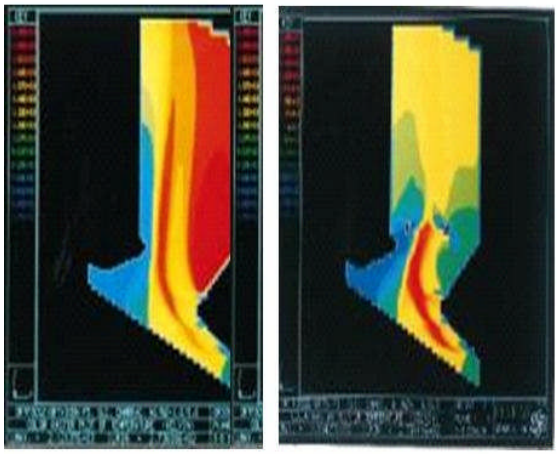


The EcoJet System Offers

Reduced Fuel Use

EcoJet reduces the use of fuel operating costs with improved combustion completion. The EcoJet System's unique high energy variable direction, variable flow tuning capabilities provide dramatically improved mixing and distribution of fuel in the flue gas. The EcoJet System breaks up the laminar flow present in almost all Biomass boilers using high pressure, low volume, variable flow air nozzles.

The EcoJet System re-circulates the gas stream in the furnace finishing combustion, reducing gas velocity, improving distribution, reducing particulate carry over, reducing total mass gas flow while providing temperature control in the upper furnace. **The EcoJet System reduces fuel use and erosion accelerated damage to water walls and convection pass elements as well as related damage in down stream components.**



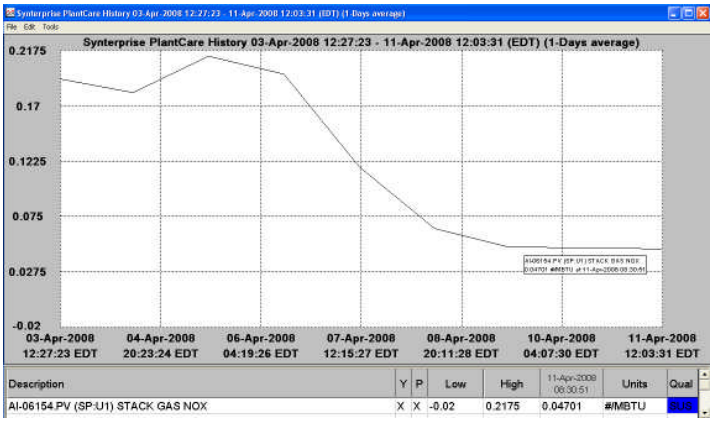
SOFA Off SOFA On

Increased Steam / Power Generation Revenues

The EcoJet System is designed to dramatically improve the mixing of combustion air, partially burned gases and fuel while decreasing total mass flow and reducing velocities. Increased turbulence, increased time, and improved temperature management increase furnace efficiencies and result in increased steam generation. The EcoJet System overcomes poor combustion conditions caused by wet fuel, lower quality fuel, high CO, and other poor combustion conditions resulting in a much more stable combustion state that allows recovery of previously lost generation from wet fuel or high CO conditions. Using advanced separated over fired air staged combustion improvement processes, the EcoJet System offers the best technology to improve combustion completion, increase steam generation, and reduce particulates, ash and erosion. By decreasing fuel use (3-10%), increasing steam generation / power sales revenue (3-10%), and by lowering erosion, particulates, ash and related maintenance costs, **the EcoJet System provides a quick return on investment**.

NOx, CO, SOx, Slag, VOC and Particulate Emission Reduction

The EcoJet System provides excellent emissions reductions. For example, NOx emissions can be dramatically reduced by the unique advanced, staged separated over fired air process using staged combustion while optimizing CO and particulate carry over. The EcoJet System completes the combustion process, stabilizing CO allowing reductions in total air and excess air, thus reducing NOx formation from 20-50%, and can reduce, or eliminate, the use of reagents to meet emission regulations.



The EcoJet System can reduce NOx emissions an additional 30-40% by injecting reagents such as urea, aqueous ammonia, or anhydrous ammonia. No other combustion improvement system can provide such significant business benefits, providing substantial additional revenues while at the same time reducing emissions to meet existing regulations and providing a state-of-the-art platform for future, deeper emission reduction requirements.

Call Synterprise at 423-267-5363 to schedule a visit or web session to learn how the EcoJet System can improve your plant's performance.

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