



To: Wisconsin Companies with Biomass Fired Boilers and Recovery Boilers
From: CleanTech Partners, Inc. and Wisconsin Focus on Energy
Subject: Reducing your energy costs now with *Boiler Air Flow Optimization*

Background: Paprican, the Pulp and Paper Research Institute of Canada, has recently developed a patented technology - *Boiler Air Flow Optimization* - to optimize boiler conditions, leading to increased throughput, efficiency and availability. This technology is applicable to both biomass (wood and bark) fired boilers and pulp and paper recovery boilers. It involves onsite measurements of gas velocity, temperature and composition profiles, the results of which are used to make changes in the boiler operation. Typical study costs for a biomass boiler are about \$25,000, and for a recovery boiler about \$75,000. Over 80% of those that have had their boiler studied have realized savings far in excess of the study cost. Benefits include:

Biomass (Wood and Bark) Fired Boiler Benefits:

- Increase steam generation by 7 to 55% often with little or no capital expenditures.
- Reduction or elimination of supporting fuels.
- NOx and SO₂ can be decreased without increasing particulate emissions.
- Purchased fuel cost savings may be significantly reduced.

Recovery Boiler Benefits:

- Increased recovery boiler capacity 3-20%
- Reduced frequency of water washing by 50 - 88%
- Dramatic reduction in odorous TRS gas emission
- Increases in reduction efficiency 3-7%
- Decreased soot blowing steam requirements

The Offer: In any type of boiler optimization study, there is always a risk that the savings and benefits anticipated before the study will not be identified. CleanTech Partners, Inc, (CTP) has developed a program to help mitigate that risk.

If you are concerned that a boiler study will not find savings, CTP will pay the costs of the study for you. If savings of less than 1% for a recovery boiler or 2% for a biomass boiler are identified, you owe nothing. If savings greater than these amounts are identified, you repay CTP for the study plus a modest premium. Loan financing for up to three years is also available to help you make any payment if savings are identified.

Additionally, the first five facilities to issue a purchase order for a boiler study will receive a \$10,000 rebate from Focus on Energy – regardless of outcome or implementation.

This offer is restricted to boilers located in the Wisconsin Focus on Energy service area that have the potential to reduce natural gas use. Please contact Brent English, CTP, at 608-203-0113 or benglish@cleantechpartners.org for details.