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IN CONTROL

A Newsletter From Control Instruments Corp

Go Green with CIC

Industries all over the world have come together to combat greenhouse gases and look for alternate and renewable energy sources in order to build a better future.

Under the Kyoto Protocol, 39 industrialized countries and the European Union (EU) have committed to reduce Greenhouse Gas Emissions collectively by the year 2012 to over 5% from 1990 levels. Each country has a defined target to meet. These Greenhouse Gases include carbon dioxide, methane, nitrous oxide, sulphur hexafluoride and two additional groups of gases (hydrofluorocarbons and perfluorocarbons). In addressing these target emission reduction goals, many countries are participating in carbon credit trading as well as issuing tax incentives for developing alternating sources and using renewable energy.

It has been shown that through optimization of energy, money can be saved and costs cut to keep businesses greener and most profitable, while also running more efficiently. Here are some ways that Control Instruments' Process Analyzers can help accomplish these goals.

Carbon Credits

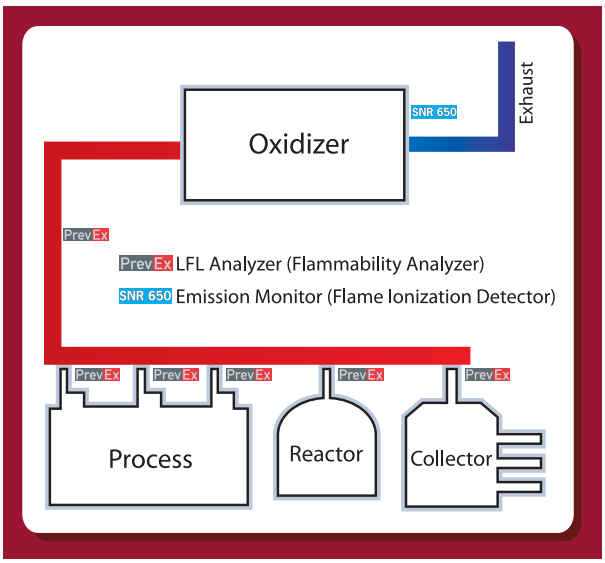
Use a PrevEx in solvent-based applications to measure and control ventilation rates in process ovens, dryers and oxidizers. By recirculating the solvent, less ventilation air is used, hence less fuel is needed to heat the oxidizer to the set-point temperature. This reduces natural gas usage and will also lead to a CO_2 decrease. This may produce additional carbon credits for trading. Then, use the SNR650 FID for proper measurement and certification of the stack emissions.

PrevEx Flammability Analyzer

SNR650 FID

Example

With the industrial price of natural gas at $6 per thousand cubic feet, and a one-to-one correlation between a cubic foot of natural gas and a cubic foot of CO_2 emissions, Certified Carbon credits go for about $10 to $30 per metric ton (1000 kg). This is about 20,000 cubic feet of CO_2. Since natural gas converts directly to CO_2 on a one-to-one cubic foot to cubic foot basis, then 20 thousand cubic feet of natural gas produce one metric ton of CO_2. The credit might be worth $1 per thousand cubic feet natural gas, about 15% of the cost of the natural gas. This might be significant, since a printing press might use $5,000 to $10,000 in natural gas per month. If you can cut your fuel use in half, you also cut your CO_2 emissions in half, and subsequently can save $30k to $60k in fuel and produce a credit, in theory, worth $5k to $10k - IF it can be certified and traded.



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Renewable Energy

Use a CalorVal BTU Analyzer to measure the energy content of a waste gas, biogas or SYNGAS stream for use as an alternate fuel source in lieu of natural gas in many advanced combustion equipment, such as flare stacks, boilers, furnaces as well as Turbine Engines to help generate electricity.

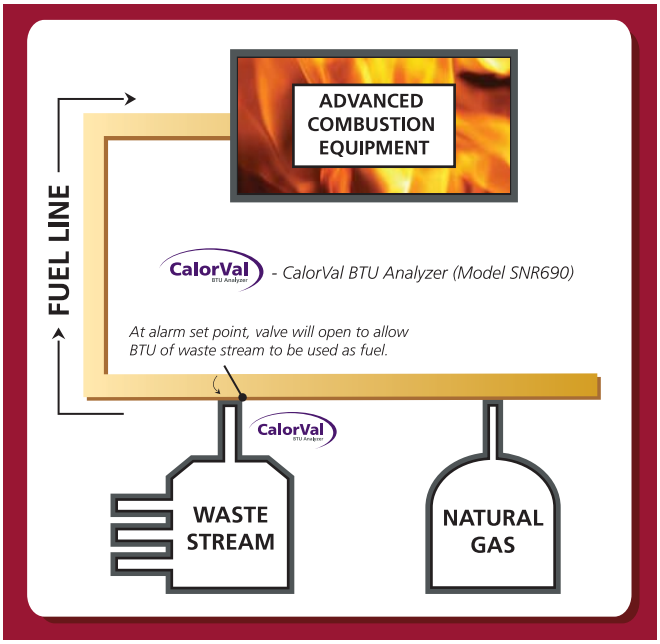
CalorVal BTU Analyzer

Example

Advanced Gasification systems convert solid renewable energy fuels into clean, combustible gas. The energy fuels are typically wood (and/or wood waste), crops, rubber, wastewater sludge, and other Municipal Solid Waste (MSW) materials.

During these processes the fuels are converted into a clean gas (low calorific value) that can be burned in any gas engine or micro turbine. To do this properly, they must be able to measure the converted unknown gases accurately in order to know if there is sufficient energy content in the stream to be used as a fuel stream.

"The present market value for natural gas is about $5.6 MMBTU. This means that every MMBTU worth of energy found in the by-products of the waste stream could save as much as $5.6 in natural gas. So, a plant venting an average of 2,000 SCFM of H_2 (305 BTU/ft^3) during the year could reduce its annual energy cost by $1.8M if it burned hydrogen to offset the natural gas." This enables companies to generate their own heat and power from renewable sources.



Bujold, N. (2010). Alternative fuel applications ensure economic and environmental gains. *Energy-Tech Magazine*, February.

Local Green Project Resources

- USA - Recovery & Reinvestment Act: *www.energy.gov/recovery/*
- Canada - ecoEnergy Renewable Power Projects: *www.ecoaction.gc.ca/ecoenergy-ecoenergie/power-electricite/projects-projets-eng.cfm*
- Europe - European Energy Exchange Participant List: *www.eex.com/en/EEX/Participants*
- Asia - Tianjin Climate Exchange: *www.chinatcx.com.cn/*

Contact Us

To find out how Control Instruments Corporation can help you go Green and Save or if you would like to talk with us about your application, call us at 973.575.9114 or visit *www.controlinstruments.com*. We are always ready to listen.