Gas Is Getting Greener…

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The foodservice industry uses 2.5 times more energy per square foot than all other commercial businesses. This fact, plus other efficiency drivers, is spurring foodservice equipment manufacturers to develop commercial gas cooking equipment that uses less gas while at the same time maintaining, and in many cases, increasing operational output, and in doing so, saving significant money for operators.

So, how is "gas getting greener?" Well, there are several different ways to answer this question. I will address, at a generic level, some of the new technological advances that collectively have made gas commercial foodservice equipment greener. And remember, new technology does not necessarily mean "high tech." In fact, in numerous cases, "low tech" has proven to be an excellent avenue to a greener industry!

Technological Advances

Most, if not all gas pieces of cooking equipment have several key components that are an integral part of their design that will determine just how efficient they will be — burners, heat exchanges, and controls. In the case of burners, an efficient burner assembly should provide 100% pre-mixing of natural gas and air into at least one high velocity stream of fuel. Doing so will ensure that maximum energy will be obtained when the gas and air mixture is ignited, generating heat. For instance, infra-red ceramic burners are considered to be very efficient at heat generation. These burners have two basic heat sources — the radiant heat that is generated when the combusted gas heats up the ceramics, and the "sensible" heat which is the heat that is generated from the actual burning of the gas.

Heat exchangers are devices that are designed to provide efficient heat transfer from one medium to another. In the case of foodservice equipment, it is the means by which heat is transferred from the combusting gas into the food or cooking vessel. There are numerous types of heat exchangers used in foodservice equipment ranging from tube-type exchangers (often found in fryers) and simple or finned plates (frequently used with griddles and steamers), to systems that are rather complex in nature. Aluminum is consider a very efficient medium for heat transfer. Several gas griddle manufacturers use aluminum heat sinks on the bottom of their steel griddle plates because they act as an efficient way to transfer heat to the actual cooking plate from the gas burner. In addition, the aluminum "spreads" the heat very evenly over the entire underside of the griddle, further increasing its efficiency. Steamer manufacturers are also using similar technology.

Some of the new electronic controls that manufacturers are putting on their equipment are designed to help reduce the energy consumption of the cooking equipment. By accurately monitoring the temperature of the cooking medium, fryer cooking oil for example, the controls can "modulate" the burning of the gas so that only that "exact" amount is burned to maintain a specific, desired temperature. Electronic controls are also being used to monitor other functions of equipment operation — all of which lead to greater efficiency and performance and hence greater energy savings.

What To Look For

So, what should foodservice operators be looking for when purchasing gas cooking equipment? What will make the gas that they will be burning "greener?" Below are some of the key features that should be taken into consideration. Look for:

- Equipment that uses pulse combustion technology, modulating burners, ceramic burners, or

 Published in COOKING FOR PROFIT Magazine/October 15, 2009 © 2009 Gas Foodservice Equipment Network

atmospheric burners — they are all energy-efficient and will save significant amounts of energy.

• Cooking equipment with enhanced temperature controls. This is a green "must." As mentioned earlier, such controls will cycle the gas cooking equipment on and off with the net result being significant energy savings combined with superior operating performance.

• Equipment that is well-insulated.

• Cooking equipment that uses a heat exchanger technology designed to disburse a maximum amount of heat throughout the entire cooking surface or cooking compartment. Advanced heat exchangers will result in less gas consumption.

• Equipment that uses technology designed to evenly disburse the heat throughout the entire cooking surface. This is especially important for operators who are in the market for griddles.

• Innovative grate designs that increase the heat transfer from the flame to the cooking vessel.

Simply Efficient

And "greener gas" does not necessarily have to be directly related to gas cooking equipment. One "new technology" that has been recently introduced to the industry is a piece of equipment that, when used with a gas range, will cut in half the amount of energy required to cook product. This piece of "equipment" is a simple pot.

The new pot, which comes in various sizes and capacities, has an aluminum clad bottom that has a series of grooves in it (similar to a heat-sink) that effectively increases the undersurface of the vessel by over 100% versus flat-bottom pots and pans. This greater surface area is conducive to greater energy transfer resulting in an operator being able to cook product in half the time and using half the gas energy than that associated with the use of the more traditional pots and pans. Simple technology like this helps gas become greener. Low-tech in nature, but it goes a long way in making foodservice operations more energy efficient.

Ask your equipment and supplies sales representative to show you the latest technology that can save you money on your energy bill while at the same time improving your overall operational performance. Gas is getting "greener" — you just have to know what to look for and stay informed on the subtle technology changes that continue to take place and shape the future of our industry.

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