

Biofuel Appliances

Wouldn't it be nice to have an alternative solution to the energy crisis, and have fuels that are clean and safe for the environment? The search for the answer to this question led man to the discovery of biofuels, which are expected to lower dependence on imported petroleum, reduce gas emissions, and lift up the economy by increasing demand for agricultural products. Significant developments in this type of energy production are expected in photovoltaics and wind energy. Also, biomass is a widely used energy source now. For instance, wood has been used since the beginning of time to cook food and provide heat. The solid, liquid or gas fuel derived from this biomass is called biofuel (also referred to as agrofuel). When you hear biofuels like woodgas, ethanol or methanol, these are produced from wood and its byproducts. These biofuels are used globally. The industries are continuously expanding in Asia, Europe and the Americas. In the home, biofuels can be used in cooking and heating. One common appliance that uses biofuel is a stove.

Heating Stove Do you have a fireplace in your home? If not, are you considering having one? The first thing that you need is to decide which kind of fireplace you prefer. Natural gas inserts or freestanding stoves will help you not only to keep your home warm, but it will also burn cleaner air and help maintain your indoor air quality. These stoves are now more popular than the regular wood-burning fireplaces, and create little outdoor pollution problems. If you want efficiency of heat and reduction of your utility bills at the same time, consider purchasing these pellet stoves, gas fireplaces, and gas inserts. It is so economical that it can heat your home up to about 1,000 square feet of space. There are several considerations to think of before deciding what type of fireplace would suit you. Factors such as the climate in your area, the age of your house and location, its construction, and the amount of heat it will take to keep it warm. There are masonry fireplaces that burn wood, but it can lose as high as 85% of its heat through your chimney. They are also branded as high polluters of air and usually create problems with the air quality and cleanliness in your home. On the other hand, pellet appliances come in fireplace inserts or free standing stoves that produce hot air by burning biomass pellets. They are highly efficient and its maintenance costs less than other heat stoves available in the market today. There are two kinds of these biofuel heat stoves: corn pellet stoves (which use the shelled dry kernel of corn as a fuel source) and wood pellet stoves (which use wood pellets made from sawdust and other wood byproducts). If you look from the outside, both stoves look almost the same. They are highly efficient and do not need a chimney to perform. Some models can be vented outdoors with a four-inch pipe going through an outside wall. While there are some modern models that does not need to be vented at all. These biofuel heat stoves are clean-burning, and use fuel pellets that can be renewable and environment-friendly. This type of biofuel appliance is becoming more and more popular. Currently, an average of half a million households in North America use pellet stoves to provide heat, and most probably the numbers are the same in Europe. These pellet stoves use a feed screw (auger) to move pellets from the storage (hopper) to a chamber for combustion. The electric blower provides air for this combustion, and the ignition will automatically use a stream of air that is heated by an electrical element. You can change the rotation speed of the fan and the feeder to control the heat output.

Cooking Stove There are many types of kitchen stoves used for cooking. In these modern times, the most popular ones are gas and electric stoves. As an alternative, you may want to help our environment through the use of biofuel appliances for cooking your food. These kinds of stoves use biofuels such as biogas, ethanol gelfuel, biopropane and pure plant oil (PPO) as its fuel source. In the face of mankind's rising concern to protect the earth, there have been many initiatives to promote the use of these biofuel appliances in our home. In developing countries covering half of the world's population, cooking food still relies on using charcoal, kerosene, dung or fuel wood. Most often, women and children are the ones who are burdened with tasks such as collecting these fuel sources to prepare the food. However, cooking in an open fire produces indoor smoke pollution that can kill humans over a period of time due to lung problems. According to World Health Organization (WHO), around 1.5 million women and children are dying each year because of this. Therefore, introducing non-polluting and efficient alternative cooking stoves can be a revolution in the household. Bosch and Siemens Home Appliances Group (BSH) is currently testing Protos, a cooking stove that uses biofuel as its source. First experiments in about a hundred households proved to be very successful, thereby inspiring BSH to expand their project to test ten thousand more. They described their testings as "small-scale carbon project." It emphasizes the stove's ability to be carbon-neutral, depending on the fuel that is used. Protos cooker typically works as follows: there is a tank that is filled with PPO, then the burner is pre-heated (either with little alcohol of any other available fuel source). Through an application of the pump, this tank will be pressurized to make the oil rise to the vaporizer, where the flame's heat converts the liquid into gas. It will then be emitted from a nozzle to a burning area, where it will be mixed with surrounding air and then burned in a blue flame. You can adjust the power output with a valve in your fuel line. Find out how you can purchase these kinds of biofuel appliances in your home. It can be your little contribution to reduce air pollution in our world today.