



## **Where can I get more information?**

The Hawken Energy team consists of outdoor wood furnace experts who are capable of answering any questions you may have. Please do not hesitate to call us at (888) Log-Burn, or (888) 564-2876, or send us an email to [Info@HawkenEnergy.com](mailto:Info@HawkenEnergy.com).

## **8. Impact on the Environment**

### **What impact does burning wood have on the environment?**

Wood is an environmentally friendly resource that reduces greenhouse gases and produces no increase in carbon dioxide – this cannot be said for fossil fuels. Also, wood as a fuel reduces our nation's dependency on foreign oil.

Responsible companies in this industry, like Hawken Energy, only sell to customers who either live in rural areas, who properly vent smoke, or who use proper emission control devices. Though heating with wood may sound old fashioned, modern wood-burning appliances are anything but. The use of emissions control devices can reduce 90 percent of smoke emissions.

The world is running out of fossil fuels. Experts have shown that in just a few years, the world's inhabitants will have consumed one-half of the known fossil fuel reserves. Once this happens, fuel prices will skyrocket as fears of "running out" will become more of a reality. This prediction is based on the present world consumption; however, world consumption is expected to increase. Since solar, hydrogen fuel cells and other energy technologies are still in their infancy, wood fuel is becoming the fuel of choice for many homeowners.

### **Is wood a "Renewable Resource"?**

Yes! Wood is a plentiful renewable resource that has been safely used as a fuel longer than any other fuel – since the beginning of history. A "Renewable Resource" means that it can be restored and replenished by nature in a period of time that is compatible with our human use. The heat released from wood is actually stored energy from the sun-released when consumed in a wood burning boiler.

### **Why doesn't wood add greenhouse gasses to the environment?**

Wood burning is completely safe in terms of "Greenhouse Gasses" - All fuels produce carbon dioxide, the primary greenhouse gas, when they burn. When the atmospheric concentration of greenhouse gasses increases, they cause the average global temperature to rise.

Wood differs from the fossil fuels, coal, oil and gas, because it is part of the natural carbon/carbon dioxide cycle. As a tree grows, it absorbs carbon dioxide from the air and stores it in the wood as carbon, which makes up about half of the weight of wood. When the wood is burned, carbon dioxide is released back into the atmosphere. No additional carbon is released because the same amount of carbon dioxide would be



released if the tree died and were left to rot on the forest floor. The carbon in coal, oil and gas, by contrast, are taken from underground stores, usually from overseas, where they were deposited by nature, and released into the air without means for equal re-absorption.

When trees are used for energy, a part of the forest's annual growth is diverted from the natural decay and forest fire cycle into our homes to heat them. Firewood is a natural energy product from the forest. Burning wood actually helps reduce greenhouse gas emissions by displacing the use of oil, gas and coal.

### **Is there enough wood?**

Yes. Wood is an abundant resource in this country that is easily sustained. Provided they are cared for and managed properly, our forests can be a perpetual source of fuel, unlike gas, oil, and coal, which are being depleted at a rate that is astonishingly faster than the millions of years it took nature to make them. Wood is affordable, renewable, sustainable, it is a secure domestic heating method, and wood is appropriate to the resources of our country.

Wood is ideally suited for human consumption since it naturally renews itself, and adds no greenhouse gasses to the environment.

### **Does wood burning save money over burning fossil fuels?**

Yes! Per Btu, wood is much less expensive than fossil fuels – natural gas is three times the cost of wood, propane is five times the cost of wood, and electricity is seven times the cost of wood. This assumes wood is purchased, but many people have an unlimited supply of free wood.

### **What is the BTU value of different types of wood?**

See chart below:



## Heat Values in Various Species of Wood

Species	Density (lbs/ cubic ft)	Weight/Cord (lbs)	BTUs/Cord (millions)	Recoverable BTUs/Cord (millions)	Units needed to produce 1 million BTUs
Hickory	50.9	4327	27.7	19.39	0.052
East. Hophornbeam	50.2	4267	27.3	19.11	0.052
Apple	48.7	4100	26.5	18.55	0.054
White Oak	47.2	4012	25.7	17.99	0.056
Sugar Maple	44.2	3757	24	16.8	0.06
Red Oak	44.2	3757	24	16.8	0.06
Beech	44.2	3757	24	16.8	0.06
Yellow Birch	43.4	3689	23.6	16.52	0.061
White Ash	43.4	3689	23.6	16.52	0.061
Hackberry	38.2	3247	20.8	14.56	0.069
Tamarack	38.2	3247	20.8	14.56	0.069
Paper Birch	37.4	3179	20.3	14.21	0.07
Cherry	36.7	3121	20	14	0.071
Elm	35.9	3052	19.5	13.65	0.073
Black Ash	35.2	2992	19.1	13.37	0.075
Red Maple	34.4	2924	18.7	13.09	0.076
Boxelder	32.9	2797	17.9	12.53	0.08
Jack Pine	31.4	2669	17.1	11.97	0.084
Norway Pine	31.4	2669	17.1	11.97	0.084
Hemlock	29.2	2482	15.9	11.13	0.09
Black Spruce	29.2	2482	15.9	11.13	0.09
Ponderosa Pine	28	2380	15.2	10.64	0.094
Aspen	27	2290	14.7	10.29	0.097
White Pine	26.3	2236	14.3	10.01	0.1
Balsam Fir	26.3	2236	14.3	10.01	0.1
Cottonwood	24.8	2108	13.5	9.45	0.106
Basswood	24.8	2108	13.5	9.45	0.106