



How to Choose a Wood-Burning Stove for Green, Natural Heating Power

November 2012

Imagine sitting in front of a roaring fire, gathered with family and friends in conversation and laughter. Behind the glass ceramic door of the stove burns wood, a sustainable, renewable energy source keeping the cold at bay.

Although people have burned wood for warmth for many years, technology has changed the way we think of wood. Instead of a smoky fire, a wood-burning stove is a source of pleasure as well as a source of efficient heating.

As we make choices to embrace the worldwide issue of climate protection, the obligation to reduce the greenhouse gas CO₂ has become a high priority for consumers. As we talk about "sustainability" and "energy efficiency," conversation naturally turns to wood as a renewable natural fuel.

The climate-friendly and efficient conversion of the energy stored in wood in the form of logs and pellets deserves more attention and support.



SCHOTT, makers of ROBAX® glass ceramic windows for high-performance wood burning stoves, has launched the

"Natural Power?-Yes Please" initiative in Europe to build awareness and support of wood as a sustainable, natural energy source.

This white paper, sponsored by SCHOTT, will explore the benefits of efficient wood-burning stoves for the home. Using a renewable energy source for heating has environmental benefits, of course. But a wood fire also becomes a natural focal point in a home, creating a feeling of togetherness that overcomes the isolation of our modern world.

Benefits of Burning Wood for Green Home Heating

Keep in mind that not all wood stoves are created equal. According to the "Burn Wise" program from the U.S. Environmental Protection Agency, stoves built before 1990 do not meet current standards for efficiency or air pollution. These stoves burn wood inefficiently which wastes firewood, pollutes the air in your neighborhood and creates dust inside your home.

Newer stoves can reduce smoke and dust, as well as cut heating expenses. There are many cleaner, energy saving heating options on the market, ranging from gas to high-tech wood stoves certified by the EPA. Check the EPA's website at www.epa.gov/burnwise for more information on approved wood-burning stoves.

Wood makes a great fuel source for heating because it is always available, it is always within easy reach, and it is always climate-friendly.

In Europe, the supply of wood is virtually unlimited thanks to sustained forestry practices. Using wood in a responsible manner for the environment requires heating to be well planned. Wood – provided it has



been dried and stored for at least two years – burns most efficiently in an enclosed fireplace and virtually without generating fine particles.

Firewood can come from many sources. If you buy your firewood in a store, you will get high quality wood ready for burning. However, it costs less to buy wood from independent merchants, and nothing at all if you harvest your own wood. Remember, wood must be sufficiently dried to burn with the best efficiency and least amount of smoke.

Also modern pellet stoves are an alternative to log fireplaces, especially where it is difficult or impossible to store wood. Standardized pellets made of compacted

wood chips can be easily and neatly transported. The use of pellet ovens is a very recent development, and many have won prestigious design awards. As well as being highly practical, they often make a striking centerpiece in a room, especially with a distinctive high-quality ceramic glass panel.

Benefits of using an EPA-approved wood stove

- *Saves money, fuel, time and resources.*
- *50 percent more energy efficient.*
- *Uses 1/3 less wood for the same heat.*
- *Cuts creosote build-up in chimneys that helps reduce the risk of fire.*
- *Produces 70 percent less particle pollution indoors and out.*

Source: U.S. EPA

Choose Glass Ceramic Windows for Wood-Burning Stoves

When using wood as a source of energy for heating, keep in mind that an out-of-date stove or old-fashioned fireplace simply

won't be sufficient. A high performance modern stove that incorporates a glass ceramic panel is required to attain the the efficiency and environmental benefits.

There are stoves without the glass ceramic panel but these designs close off the visual power of the fire and function solely as a heating appliance. Who wants to sit in front of a furnace? Add the glass ceramic panel, such as the German engineered ROBAX® panel, and a stove becomes a design element in the room.

A fireplace or stove that uses a glass ceramic panel like ROBAX® to contain the flames offers the best of both worlds. One can hear the crackling and watch the fascinating flickering flames through the glass, which at the same time provides protection from flying sparks.

The glass ceramic panel can withstand the very high temperatures required for efficient combustion. Burning a fire burning behind a glass ceramic panel saves wood. High temperatures of up to 760 C (1,400 F) are generated and only half the amount of wood is needed compared to an open fireplace. A glass panel is safer than an open fireplace, and it stores more heat, making the room more comfortable while using less fuel.

Discover Natural Power

In 2012 SCHOTT launched the "Natural power? – Yes please" (www.naturalpower-yes-please.us) initiative in Europe to promote the efficient use of wood as a source of energy.

It was started by Ruban Harikantha, a long-time SCHOTT employee working in

Germany. Prompted by a genuine interest and a sense of responsibility for children, including his own, and the entire coming generation, Harikantha wanted to help the world rediscover the value of wood energy. Wood as a natural fuel used in enclosed stoves and fireplaces satisfies current high standards and trends such as the energy turnaround and the re-emergence of home as the "safe haven."

Harikantha and other like-minded forward thinkers saw that by using wood as the efficient natural source of energy, we can hand down a culture of environmental protection to the coming generations.



What Wood Should You Burn?

This is a list of tree species commonly used for firewood, in order of their density. Trees at the top of the list are hardest and have the most energy per cord. Trees at the bottom of the list are softest and have the least energy per cord.

Softer trees can make excellent firewood for spring and fall because they can make heating control easier without overheating the house. Harder trees are great for heating in the peak winter season.

In order of hardest to softest wood:

- Ironwood
- Rock elm
- Hickory
- Oak
- Sugar maple
- Beech
- Yellow birch
- Ash
- Red elm
- Red maple
- Tamarack
- Douglas fir
- White birch
- Manitoba maple
- Red alder
- Hemlock
- Poplar
- Pine
- Basswood
- Spruce
- Balsam

Source: Government of Canada, Burn It Smart

About the publisher and sponsor



About the sponsor: SCHOTT North America, Inc., is the North American headquarters and holding company of North American subsidiaries of the SCHOTT Group. With 16 divisions and subsidiaries in the United States, Canada, and Mexico, SCHOTT Corporation employs approximately 2,500 people for the manufacture and distribution of special glass and glass-related systems. The SCHOTT company employs over 17,500 people worldwide and has sales of approximately US \$3.8 billion.



ProudGreenHome provides high quality, earnest, objective, useful and inspiring information. Our parent company is Sustainable Community Media. The news, information and insights created by ProudGreenHome creates an engaged online community, where the greatest efficiencies and sustainability are enjoyed by all.

Published by ProudGreenHome.com

© 2012 ProudGreenHome.com

By Gary Wollenhaupt, contributing writer