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ENERGY FOCUS

Heating with Wood

By Dave Misiuk

As fuel prices continue to climb, more interior Alaska residents are making the commitment to heat their homes with wood. New homes are being furnished with masonry heaters, pellet stoves and wood boilers. Residents with existing homes are adding these supplemental heating systems and those with existing wood heat systems are planning to use them more. While solar and wind energy are on the horizon as hopeful technologies for some residential applications, the obvious near-term solution is to burn wood to displace heating oil.

Wood used as fuel is considered to be sustainable, renewable and carbon dioxide (CO₂) neutral. The amount of CO₂ released from wood burning can be considered the same as the amount released during natural wood decomposition and is thought to not contribute greenhouse gases to the environment. This sounds good so far, right?

It sounds like a good solution except for the fact that the Environmental Protection Agency (EPA) has designated Fairbanks as a “Non-attainment” area for winter air-quality. While this isn’t exactly new information for most, it is thought that an increase in wood burning will have an adverse affect on our air shed this coming winter. The interest in burning wood is becoming exponentially larger and EPA’s emissions standards are getting increasingly tighter for particulate matter such as that emitted from wood burning.

Wood heat is currently a highly debated topic, especially in Alaska where it has been a historic part of the state’s culture. I’ve heard arguments both for and against wood burning. The reality of the situation is that burning wood for home heating is not going away any time soon. And the EPA’s tightening air-quality requirements are not going away either. So where does that leave us?

A sensible approach to this problem involves doing what we can to try to burn wood as cleanly as possible to reduce emissions. We should remember that the most important reason to burn cleanly is really a health issue and not merely another federal law with which we have to comply. Burning wood cleanly also increases the combustion efficiency, which means less wood is needed for the same amount of heat. As a result, if you buy firewood you will pay less money and if you cut firewood you can harvest less.

The good news is that wood-burning technology has improved over the years and many appliances are now available that burn cleanly and efficiently. Unfortunately, navigating brochures and marketing information from manufacturers can sometimes be difficult when trying to determine which product to purchase.

12/10/2009

This article will be the first in a series on residential wood heating. The series will include information about firewood, different heating appliance options, applications, installations and other aspects that will hopefully help us conserve our resources, keep our environment healthy and...keep us warm.

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