

ECONOMIC IMPACT STATEMENT

Attachment B

Greenhouse Gas Impact Statement pursuant to 3 V.S.A. § 838(c)(4)

As with any combustion process, the burning of wood fuel emits carbon dioxide (CO₂) to the atmosphere, thus potentially contributing to global warming. Wood burning in particular also creates emissions of methane, a potent global warming gas. The total CO₂ and methane emitted from any particular outdoor wood-fired boiler (OWB) on an annual basis is dependent on the quantity of wood burned. As demonstrated by the attached graphs, the efficiency gained by the use of an OWB that meets the Phase II emission limit proposed by this rule over an OWB that meets the existing Phase I limit greatly reduces the quantity of wood burned by the user. Burning less wood in a Phase II OWB results in an immediate reduction in CO₂ and methane emissions over what would be burned in a Phase I OWB.

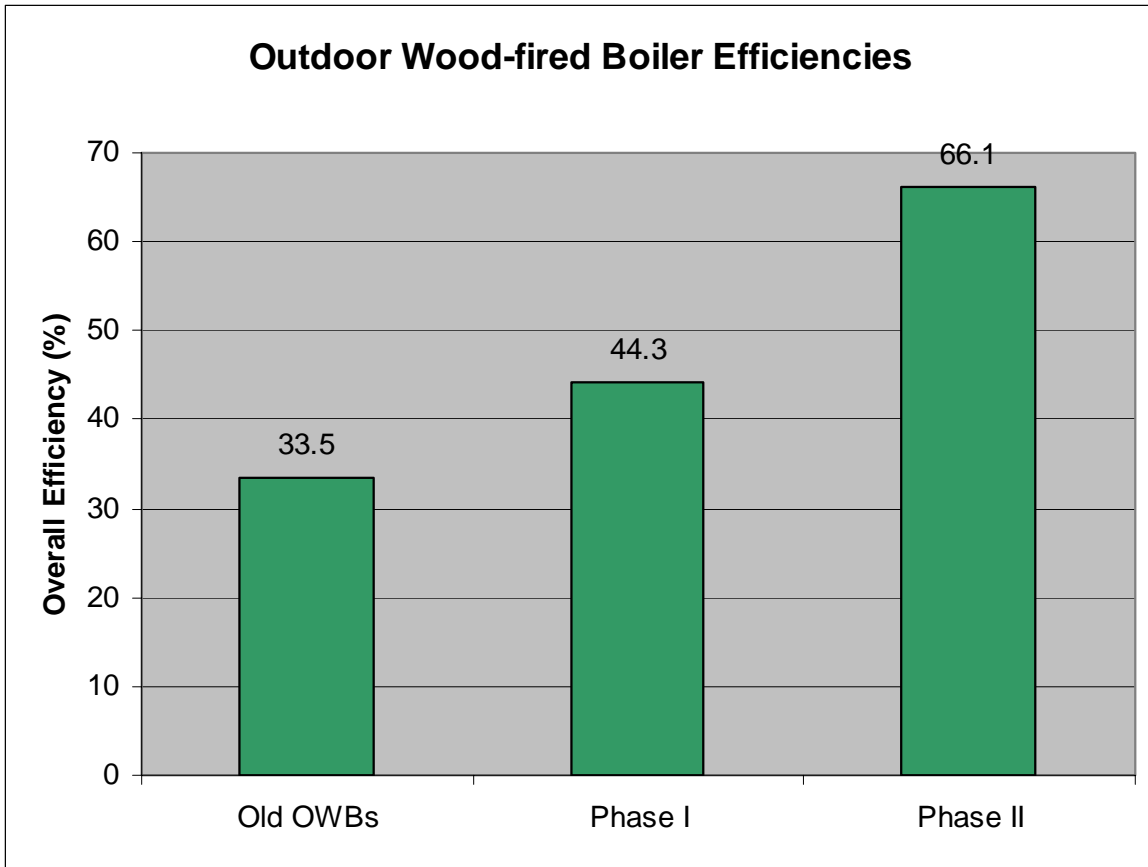
Arguably, over the long term, the burning of wood can be carbon neutral. However, the time required for the forest to sequester a quantity of carbon equal to that released during residential combustion of wood during a heating season may be several decades or longer. During the intervening years while replacement carbon is being grown, the balance is toward an increase in atmospheric CO₂. Moreover, the burning of wood can only be carbon neutral if the forest or trees used for fuel are replaced.

Whether the burning of wood for fuel is carbon neutral is a complex issue dependent on numerous factors including among others:

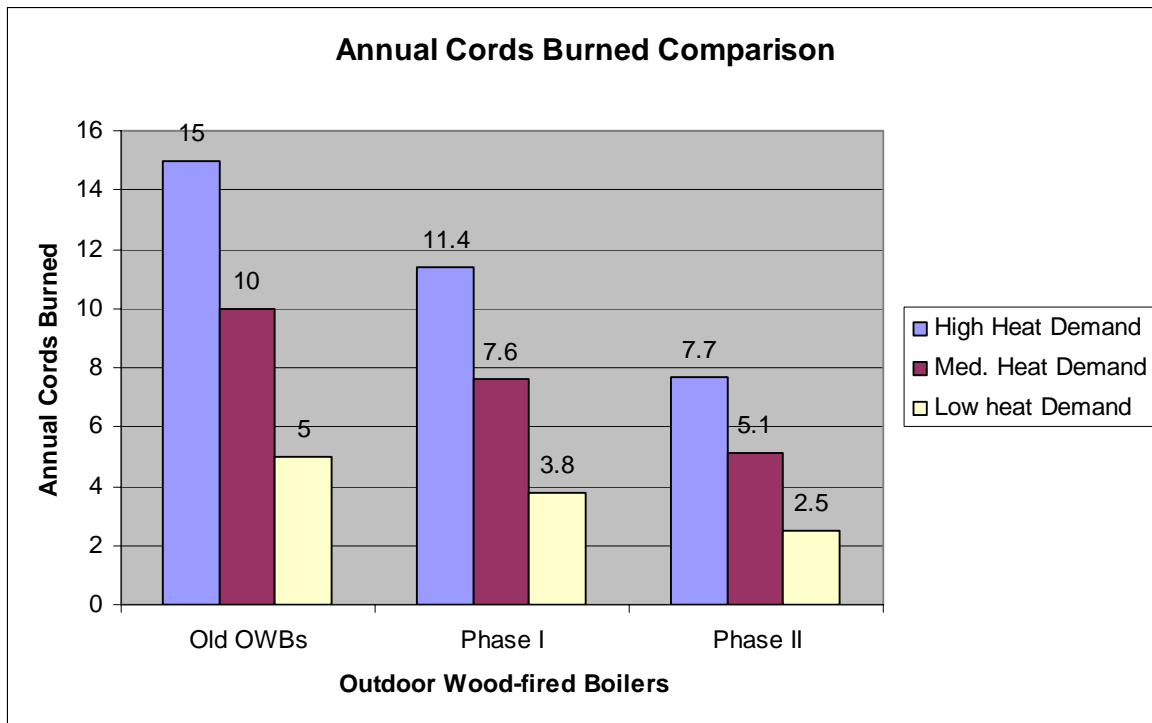
1. The efficiency of the combustion process
2. The time period of sequestration considered
3. Whether the forest is managed in a sustainable manner
4. The age and species composition of the forest
5. Whether the source of the wood fuel is replaced
6. Energy required to grow, harvest and transport the wood fuel
7. Energy required to form and dry wood pellets if considering pellet type fuels

In addition to CO₂ and methane, wood burning emits black carbon particles which, although not a gas, are considered significant climate forcing pollutants. The lower emissions from Phase II OWB's will result in less black carbon particles due to more complete combustion.

The overall climate change impact of implementing the OWB Phase II standard is expected to be positive. Over the short term, CO₂, methane and black carbon emissions should be reduced due to increased efficiency and reductions in total fuel burned, relative to Phase I and uncontrolled OWBs.



Overall thermal efficiency comparison of outdoor wood-fired boilers based on testing of older wood boilers and the tests of Phase I and II units certified by Vermont as of 10/1/08.



Comparison showing potential reduction of cords burned based on efficiencies.