

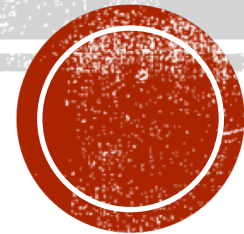
STOVE TECHNOLOGY IMPACTS OF THE 2020 NSPS AND OPPORTUNITIES FOR NEXT GENERATION HEATERS

**Residential Wood
Smoke Workshop**
March 10-12, 2020
New Orleans, LA

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President



ALLIANCE
FOR GREEN HEAT
low carbon, renewable and local



SINGLE BURN RATE STOVES

- ❖ A promising way to avoid operator error, single burn rate stoves operate hotter and burn quicker.
- ❖ Masonry heaters are also sophisticated single burn rate stoves that capture heat in their masonry mass. We encourage the EPA to endorse an efficiency calculation method for masonry heaters.
- ❖ The EPA list of heaters does not designate test methods or single burn rate stoves, so its unclear how many are on the market and at what price points. Does anyone have a list?
- ❖ Stove at right, made by ICC-RSF emits 1.3 grams, burns hot and fast, and thus gets 60% (Booth 928 & 4201). Stuv has many single burn rate stoves (Booth 1349)

RSF/ICC-booth



FUTURE INNOVATION

- ❖ True hybrid stoves that burn wood and pellets.
- ❖ When wood load burns out, pellets automatically start feeding. Allows people to enjoy look and feel of wood when they are awake and the cleanliness of the pellets the rest of the night. On the market in Europe, but not in US
- ❖ Enerflex Electrostatic Precipitator (Booth 2625). More ESP models in the marketplace is important as we learn and experiment about this high potential technology.



THE NSPS, CHANGE-OUT & BEST PRACTICES

- ❖ Many change out programs that referenced gram per hour limitations need to be changed.
- ❖ AGH encourages adding or maintaining a 70% efficiency minimum for pellet stoves.
- ❖ With stricter emissions and efficiency, AGH urges programs to find ways to include big box stores that have selected quality stoves to make your program dollars stretch.
- ❖ A clean combo: a mini-split heat pump and a pellet stove offer best of multiple worlds.
- ❖ Educate clients on benefits of hybrid stoves, instead of catalytic stoves



MORE CHANGE OUT BEST PRACTICES

- ❖ Get your state to require energy auditors to inspect wood and pellet stoves using BPI
- ❖ Facilitating energy audits and weatherization as a requirement or recommended action.
- ❖ Consider grants for pellet stoves to go in an operating fireplace without a change out of an old stove.



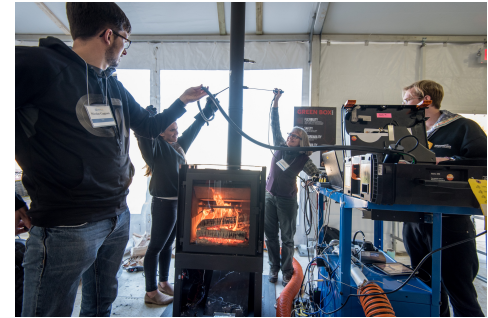


Promoting automation and innovation.

Visit two of the award-winning teams who built automated stoves:

MF Fire – booth 657

SBI – booth 639



SOLAR AND PELLET

- ❖ Smart technology can connect solar thermal, heat pumps and a pellet stove to fully provide water and space heating to a building year-round.
 - ❖ Each source is used when it is cheapest and most effective.
 - ❖ Solar thermal when the sun shines
 - ❖ Heat pump baseload nearly all the time
 - ❖ Pellet fuel during cold nights and cloudy days
- ❖ Coupled with rooftop solar PV or renewable electricity from the grid, a home or building requires no fossil fuel.



HOW QUICK CAN WE ELECTRIFY HEAT?

- ❖ Q. Can the pellet stove compete in a world moving towards electric heat pumps?
- ❖ A. Yes for now, but pellet stoves and boilers may be a bridge technology to complete electrification of heat as solar & wind get cheaper and more abundant.
- ❖ A. We simply won't have enough renewable electricity for at least 10 years in most states to cover heat and transportation.



IRS \$300 TAX CREDIT: BUYER BEWARE

- ❖ The reinstated \$300 IRS tax credit can help change-out programs through the end of 2020, but ...
- ❖ The IRS says only that heaters have a 75% "thermal efficiency rating" and does not specify the LHV or HHV – or weighted average
- ❖ Many manufacturers mislead consumers into thinking they are buying a high efficiency stove.
- ❖ Jotul, HHT and others claim stoves in the mid to low 60s qualify.
- ❖ We urge you to ask these manufacturers how they calculate efficiency and urge them to do so honestly.



AMERICAN ENERGY INNOVATION ACT (AEIA)

- Senators Murkowski (R-AK) and Manchin (D-WV) packaged up dozens of bills that didn't pass last year. Gives boost to a broad range of technologies.
- Would give a 30% tax credit to residential wood heaters with a "thermal efficiency rating of at least 75 percent (measured by the higher heating value of the fuel).
- Could extend the residential biomass tax credit till 2024.



Murkowski

Manchin



Wyden

