

THE FUTURE OF WOOD HEAT- 2013 AND BEYOND

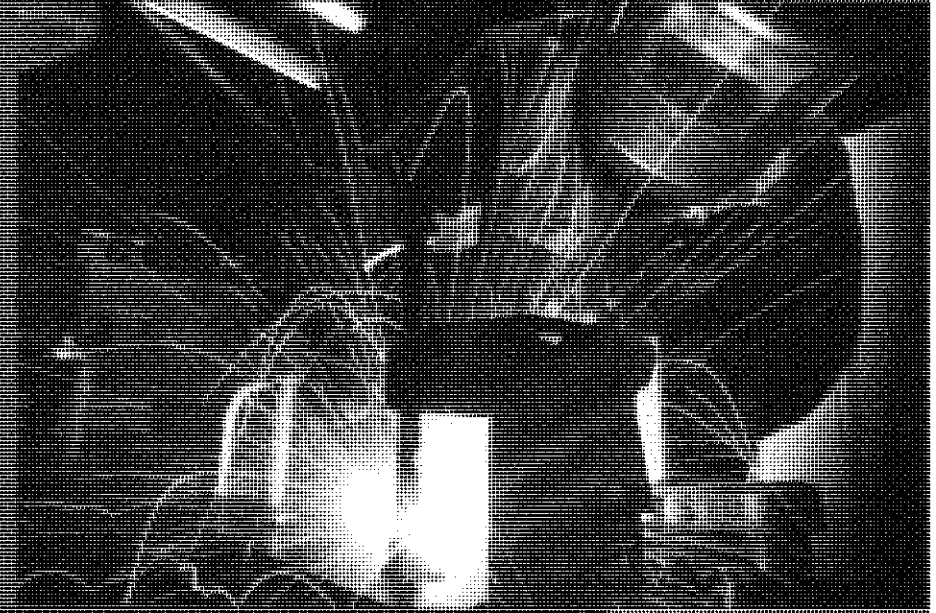
Wood stove
manufacturers asking
for a common sense
approach to the future.



Who are we?

- We are a group of manufacturers that make and distribute free standing and built-in EPA Certified wood fired products in North America:

- Jotul NA
- SBI
- HearthStone
- Pacific Energy
- Napoleon – Wolf Steel
- ICC – RSF
- Regency – FPI



- Together, we represent 37% of the total industry 2012 US shipments of EPA certified appliances.

What is right to do?

- When a tree rots naturally or burns, the carbon contained in the wood is released back to the atmosphere.



NSPS 2013

- EPA stated that the rule “is expected to require manufacturers to redesign wood heaters to be cleaner and lower emitting” and that these changes would provide for better and more efficient performance.

What do we Know?

- We sought out an independent survey firm to reveal consumer preferences and help us understand their likely behavior.
- This 15 minute survey conducted in June of 2013 is the most recent survey conducted in our industry.

the
STEVENSON
COMPANY

Wood Stove/Fireplace Emissions Study

Impact On Product Replacement & Consumer Opinions

7/11/2013

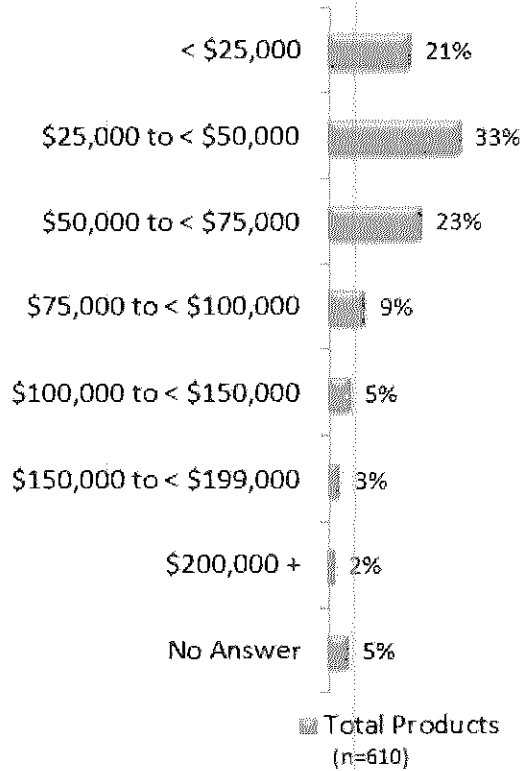
What do We Know?

- 610 relevant consumers as a data base:
 - 539 were currently hearth product owners
 - 71 were purchase "intenders"
- This significant data set gives us insight into consumer preferences and expectations to help us then understand the likely behavior of the general population.
- Sample size precision is estimated at ± 4.0 percentage points at a 95% confidence level.

Note: The survey excluded decorative fireplace owners. It strictly concentrated on wood heater owners, including those using freestanding stoves, built-in stoves and stoves inserts.

Who Answered our Survey?

Income



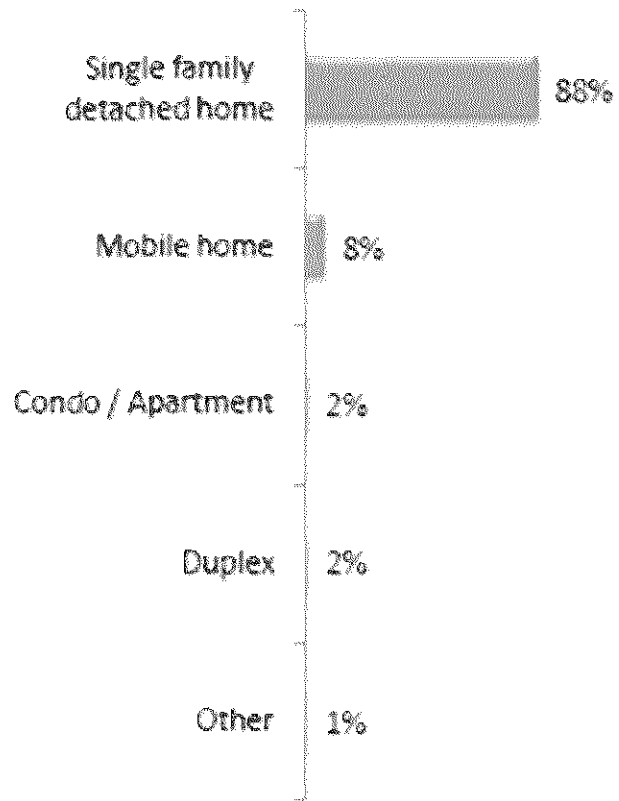
Region



NOTE: Sample Reflects Owners (n=539) & Intenders (n=71)
CAPITAL letters denote significant difference at a 95% confidence level.

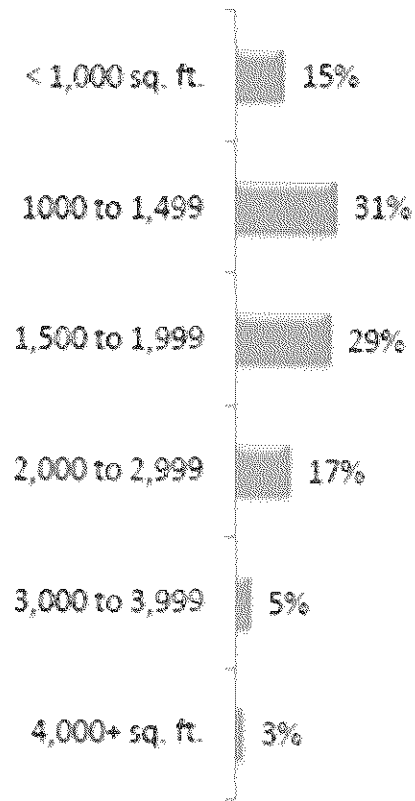
Residence types

Place of Residence



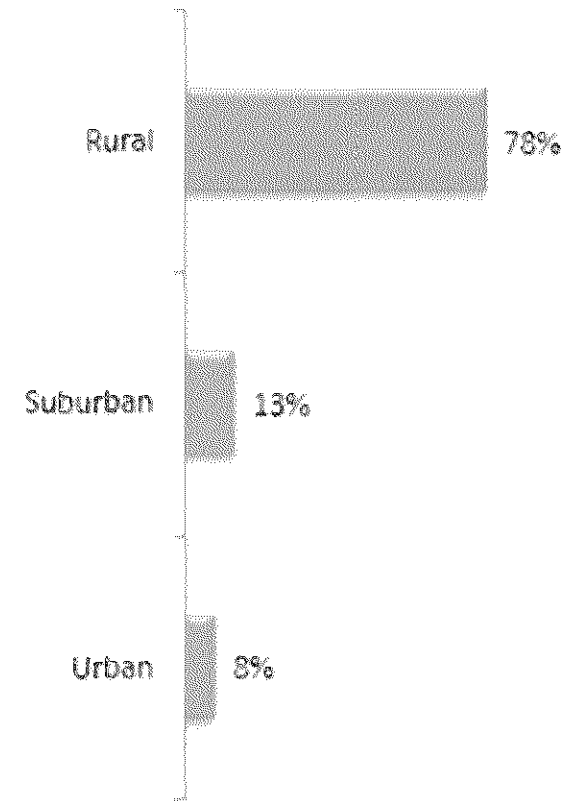
Total Products
(n=610)

Size of Residence



Total Products
(n=610)

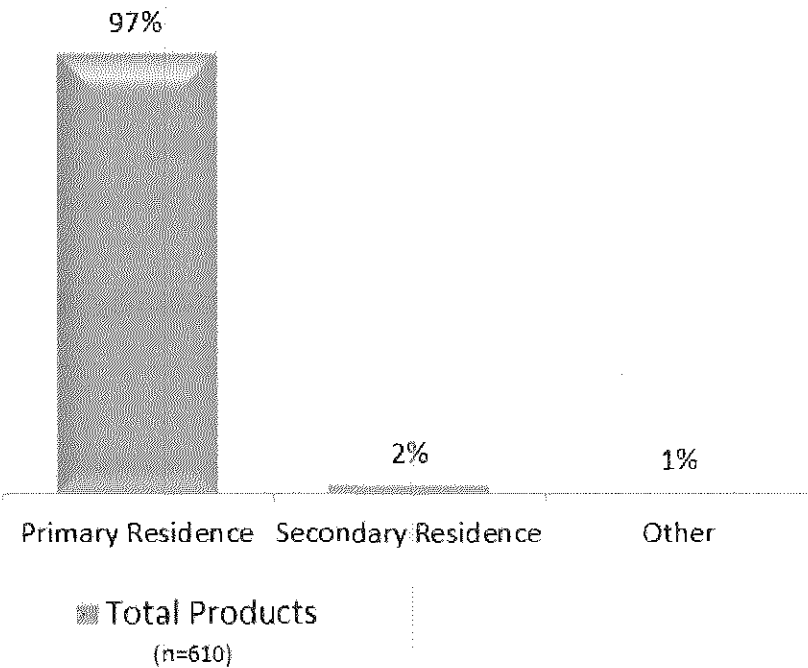
Location of Residence



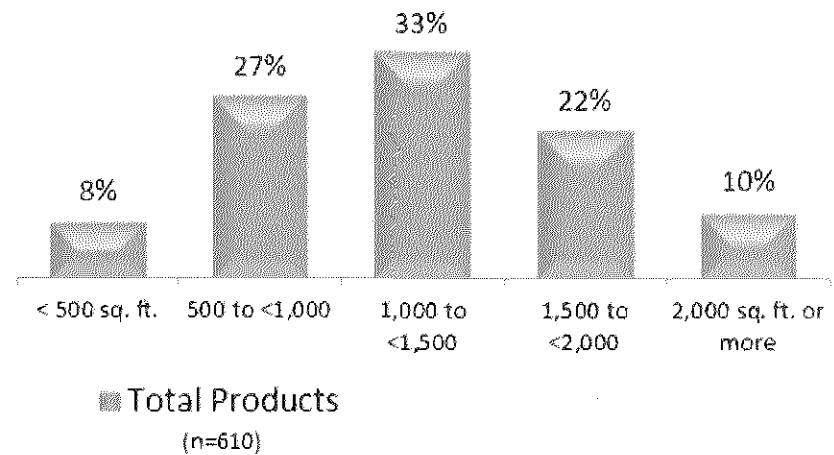
Total Products
(n=610)

Location of the Appliances

Product Location



Area Used



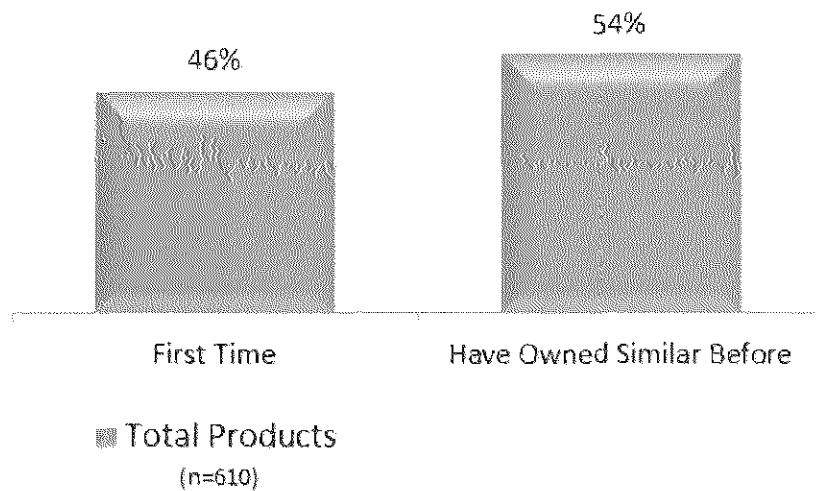
S12. Where [is this / will this] [Product] be installed?

S13. What is the approximate square footage of the area you [use / intend to use] this product? (if heating entire home provide sq. ft. of home. Otherwise, provide sq. ft. of area where product is used)

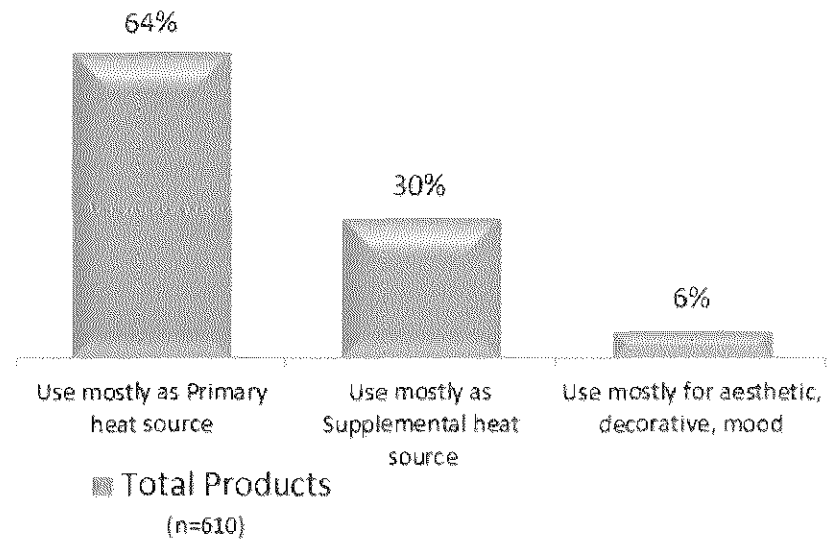
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Ownership and intent

Ownership History



Product Purpose/Intention

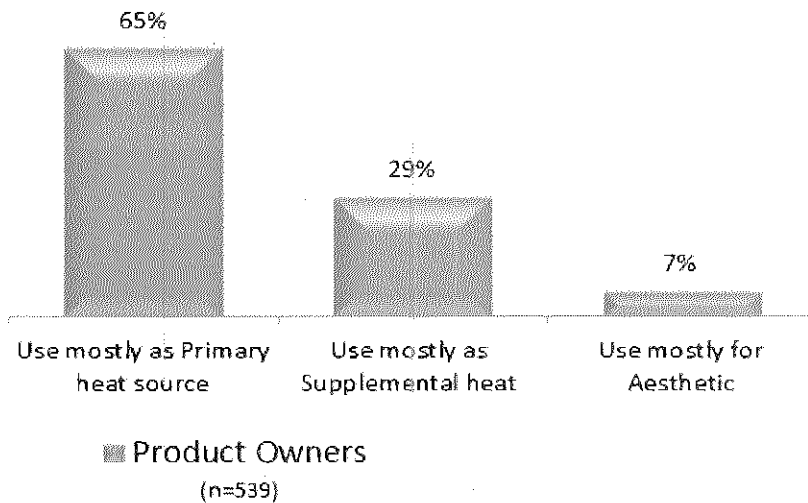


S11. Is this the first [Product] you [have owned / will have owned], or have you owned a similar product before?
S14. Which of the following best describes the [primary / intended] use of this product?

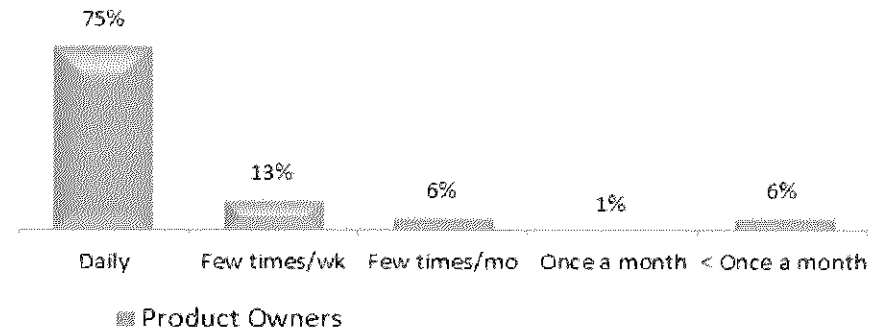
NOTE: Sample Reflects Owners (n=539) & Intenders (n=71)

Purpose and frequency of use

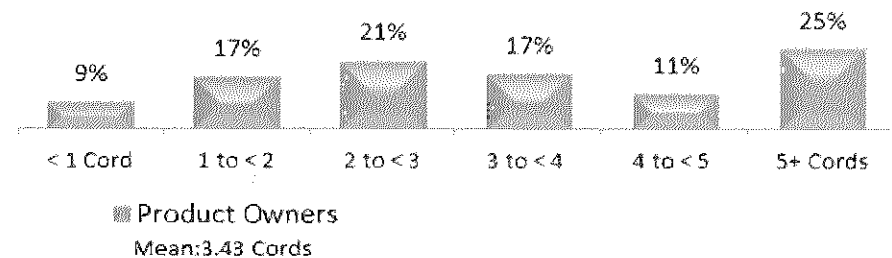
Product Purpose



Frequency of Product Use



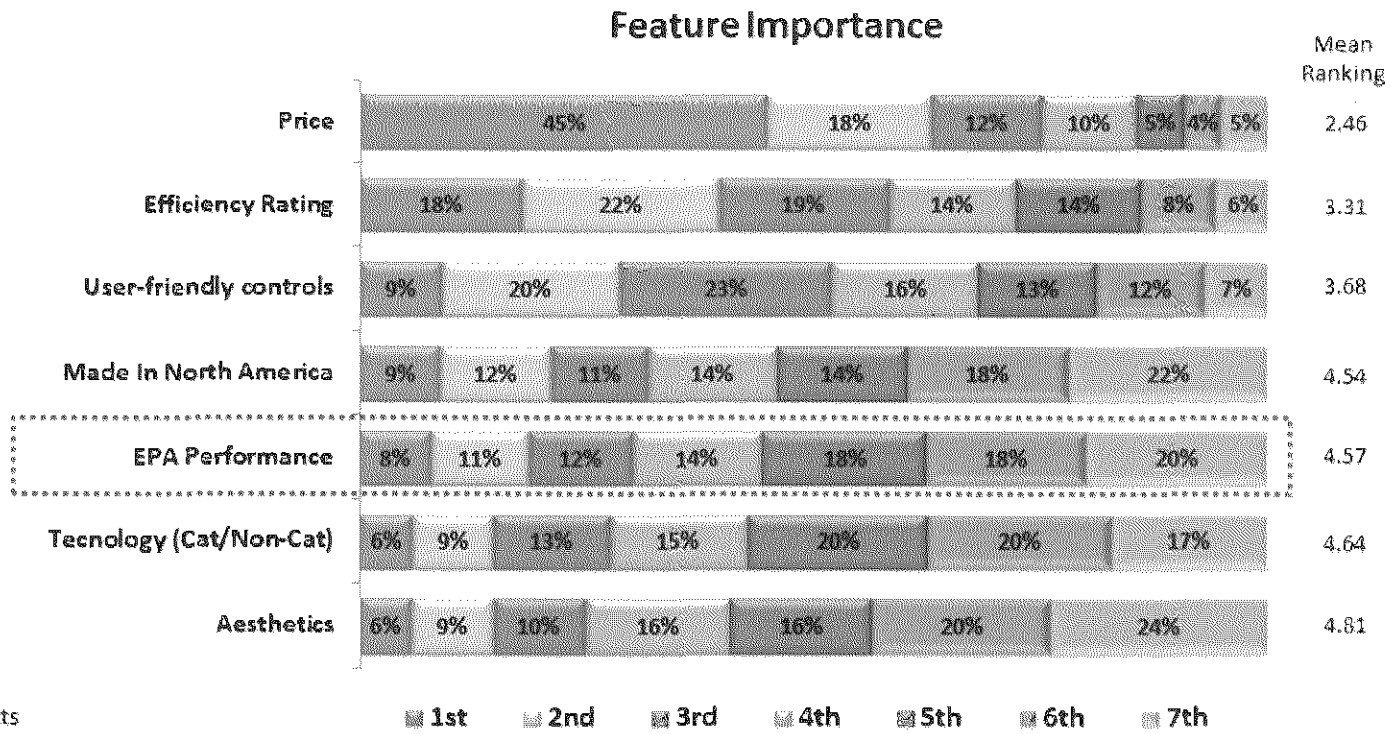
Wood Burned Per Year (Cords*)



- S14. Which of the following best describes the primary use of this [Product]?
 Q2. During your heaviest use times, about how often do you use your [Product]?
 Q3. Over the course of one year's use, about how much wood do you burn in your [Product]?

*Cord defined as 4' wide x 4' high x 8' long (128 cubic feet)

What do consumers care about?



NOTE: Mean ranking: 1.00= First Choice ... 7.00= Seventh choice

Q17. If you were to purchase a new or replacement [Product], what features would be most important to you?
Please rank the following from 1 to 7 with 1 being most important to 7 being least important.

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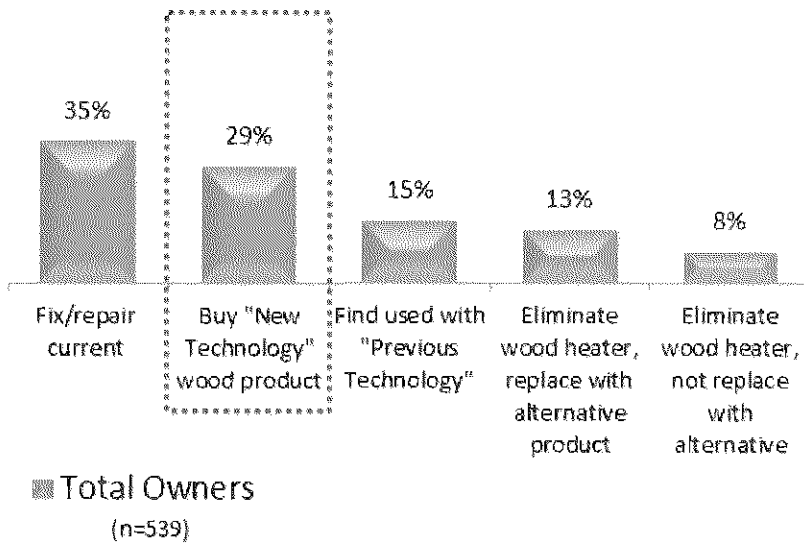
The #1 Decision Making Reason to Select a New Wood Burning Appliance is:

Price \$\$

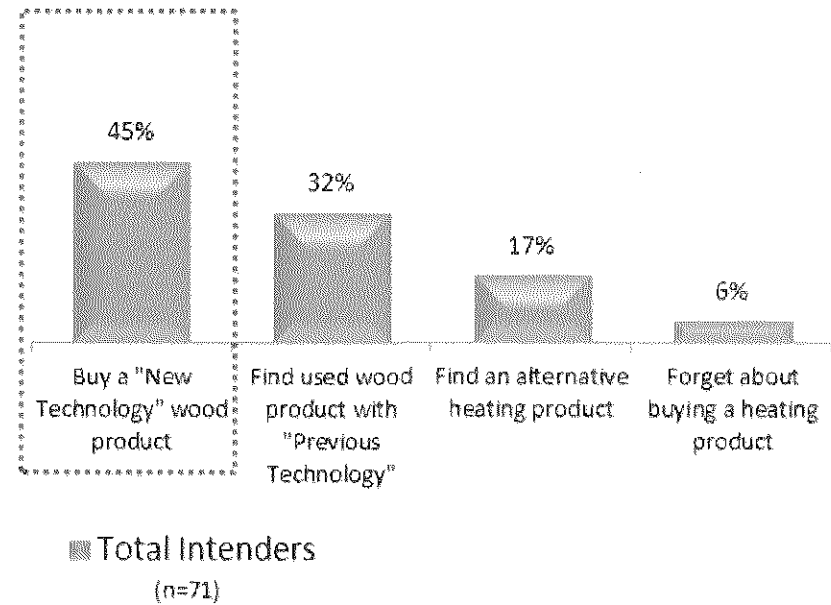
1. The Stevenson Company Survey is clear.
2. In 2012 sales, HPBA manufacturer's data shows an overall decline (-23.7%) in higher cost Cast Iron EPA wood stove volume with an average wholesale of \$1230, while the lower cost Steel EPA wood stoves with an average wholesale of \$752 enjoyed an increase of 20.6%.

Are Owners more Likely to Fix Their Current Appliance or Find a Used "Previous Technology" Appliance?

Likely Purchase Action (Owners)



Likely Purchase Action (Intenders)



In this survey we presented information about wood products and how they could be configured in the future. You learned that in the near future "non-catalytic" products may no longer be available, and current "catalytic" products may need "new technology" to meet EPA emission standard.

Q20a. (Owners) Based on the marketplace we described, when it comes time to replace your current wood heater, which of the following would you most likely do:
 Q20b. (Intenders) Based on the marketplace we described, when it comes time to purchase a wood heater, which of the following would you most likely do:

The #2 Decision Making Reason to Select a New Wood Burning Product is:

Efficiency!

- ① Currently reported efficiencies are confusing to consumers;
- ② Industry needs and supports the idea of a simple standardized method of calculating and reporting efficiency.
- ③ Our consumers want affordable energy independence and power free reliability.

Natural Draft Appliances and Efficiency

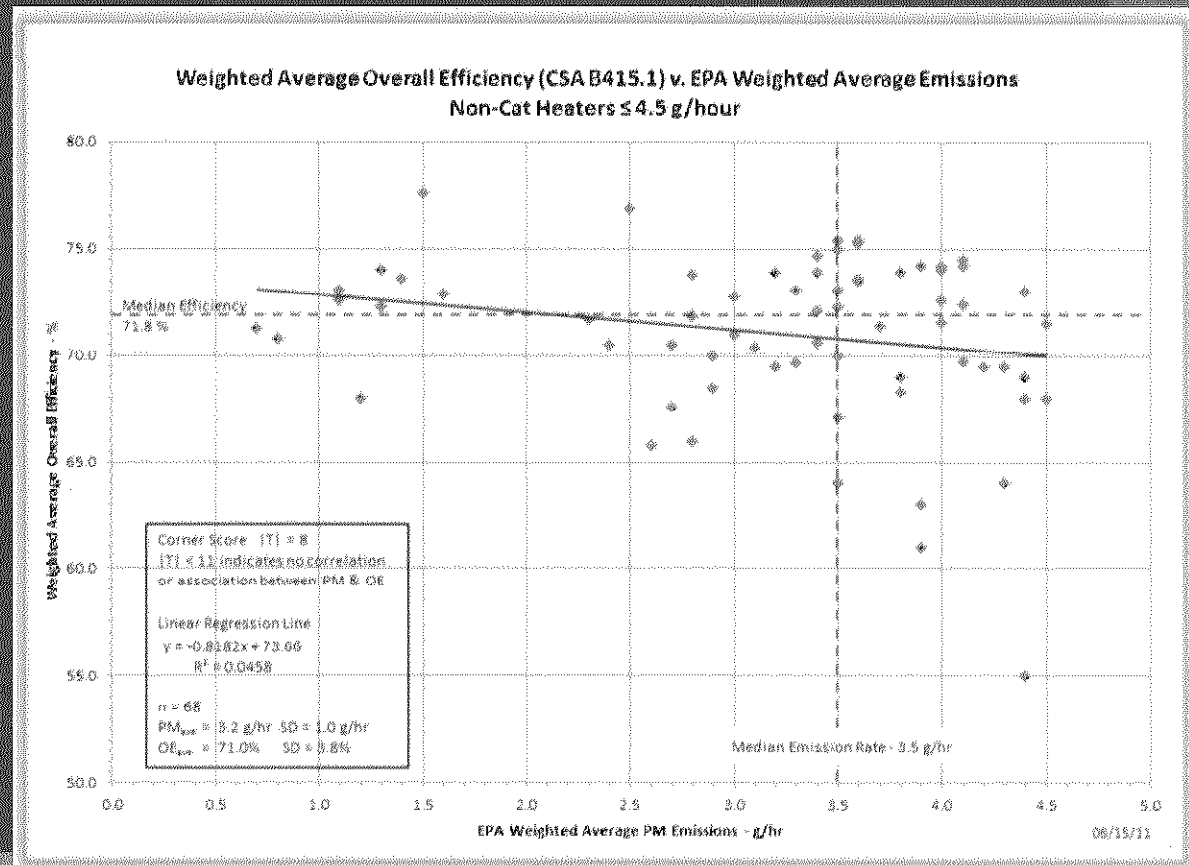
- Wood heaters are natural draft appliances:
 - They continue to work during power failure.
 - They generate their own power to create and maintain draft.

Efficiency

- The Catalytic Hearth Coalition showed a home heating comparison between a Washington 4.5g/h non-cat stove with 75% efficiency and a 1.76g/h cat stove with 82.5% efficiency.

- A recent Evaluation of Overall Efficiency for EPA Certified Non-catalytic Wood Heaters showed no correlation between emissions and overall efficiency.

Ferguson, Andors & company, July 2011



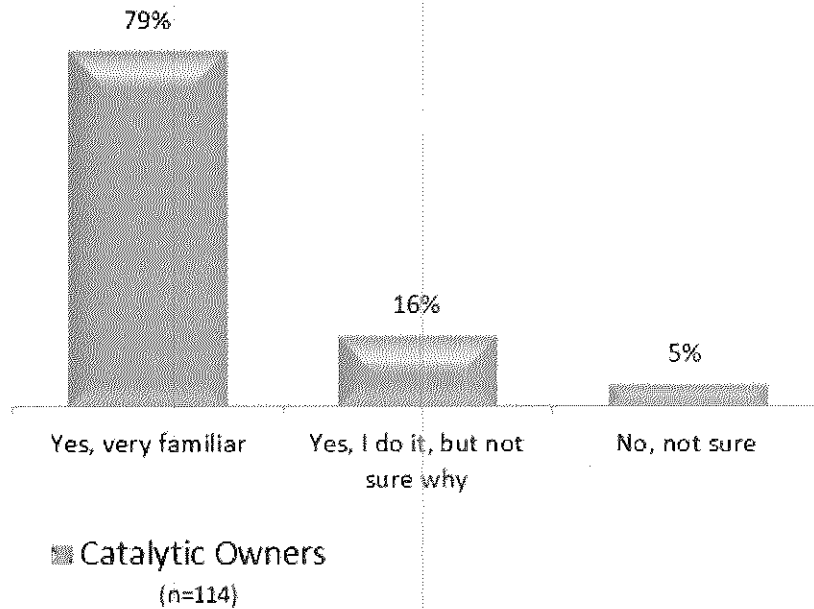
The #3 Consumer preference is:

User Friendly Controls and Ease of Use!

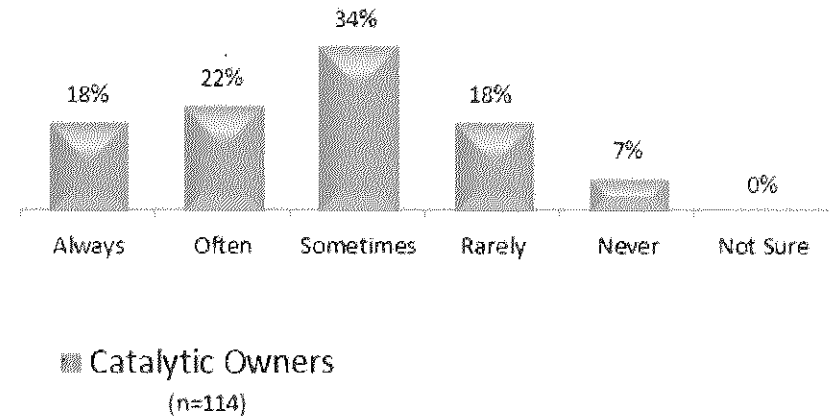
- ④ An affordable wood stove can be designed to pass the existing standards with one air control lever, "Low to High" with a passive non-cat secondary burn system. Easy to use.
- ④ Complex, technically advanced stoves can also be designed to pass the standards but require at minimum; air controls, a bypass damper, maybe a catalyst or other technology that drive up cost and need to be properly operated to burn clean.

If a consumer has an option...

Why Close Bypass Damper



Operation With Damper Open

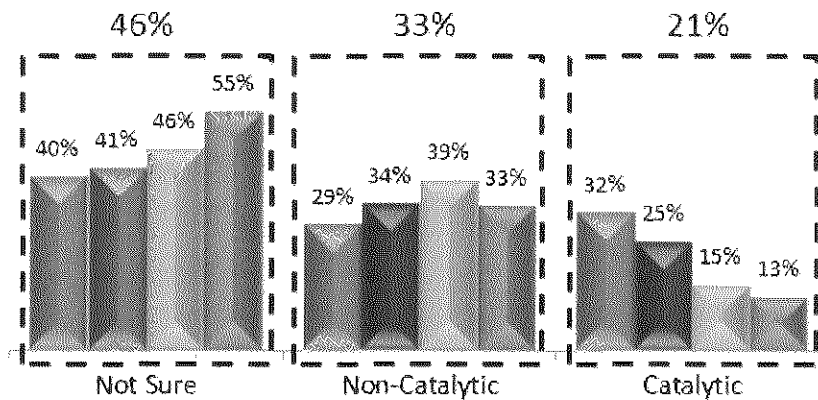


Q8. Are you familiar with the purpose of closing the bypass damper on your catalytic [product]? (Before Bypass Description)

Q9. Except for when the unit is started or reloaded, how often do you operate your [Product] in bypass? (After Bypass Description)

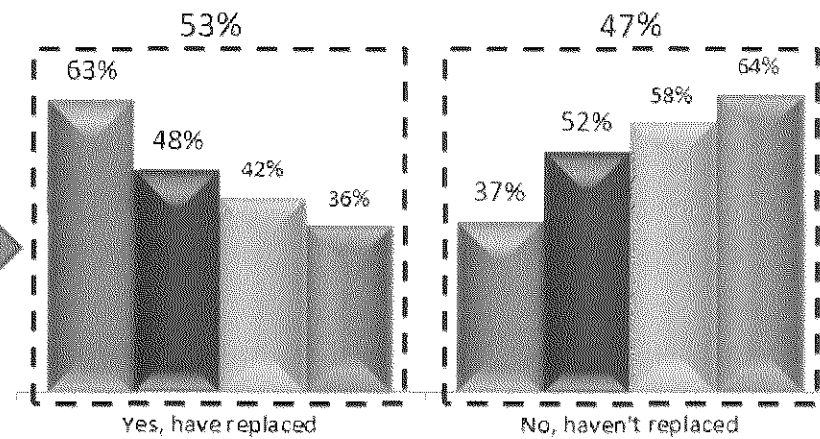
Catalytic stove age and expected Maintenance

Product Type By Age of Product



<5 Yrs (n=171) (A)
 5 to <10 Yrs (n=116) (B)
 10 to <20 Yrs (n=124) (C)
 20+ Yrs (n=88) (D)

Catalytic Replacement By Age of Product



<5 Yrs (n=54)
 5 to <10 Yrs (*n=29)
 10 to <20 Yrs (*n=19)
 20+ Yrs (*n=11)

*Small Sample Size

Q5. There are two main types of [Product]... Catalytic and Non-Catalytic. Which type do you own? (Before Catalytic Explanation)

Q6. In the time that you have owned your catalytic [Product], have you ever replaced the catalytic combustor? (After Catalytic Explanation)

CAPITAL letters denote significant difference at a 95% confidence level

Wood Product Consumer Research – Summary Of Findings

- **When purchasing a new product, “Price” is the most important attribute.**
 - Of the features examined, “Price”, “Efficiency ratings”, and “User-friendly controls” are most important.

- **Most consumers are not very familiar with Catalytic type products.**
 - About half of all owners are unsure if they own a Catalytic or Non-Catalytic product.

- **Almost half of owners do not know if their product is EPA certified.**
 - Owners of older products (10+ years) are much less likely to know if their product is EPA certified.
 - About one-third of owners know they have an EPA certified product, however these owners tend to have newer products (less than 5 years old).

- **Most owners do not have their product professionally serviced.**
 - Service is usually conducted by the owner. Once a season is the most common service interval.

- **These wood burning products are typically used as a primary heat source for the home.**
 - During heavy use times the product is generally used daily, and burns an average of 3.43 cords of wood per year [Cord Size = 4' X 4' X 8' (128 cubic feet)].

Where do we go from here?

- We want the EPA:

- To continue to regulate wood-heater performance by promulgating the current Washington emission limits which will have a better impact on the emissions inventory than forcing higher prices and "user-unfriendly" technology:

2.5 g/h for catalytic appliances

to offset the risks of not replacing the catalytic combustor and not using the bypass properly

4.5 g/h for non-catalytic appliances

The opportunity is...

- To allow *market pressures* to direct manufacturers to come up with cost effective, user-friendly technologies to reduce the emissions of their appliances. EPA needs to recognize that by setting the target for non-cat wood heaters at 4.5g/h, manufacturers will compete and will end-up with better results.

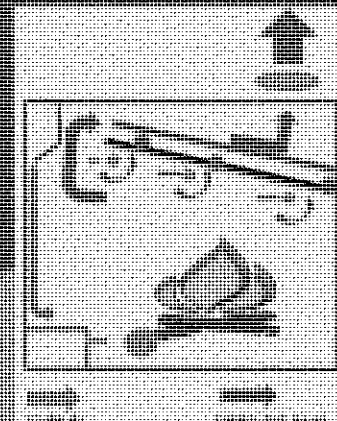
How Can We Do It?

- We must consider consumer preferences:
 - Price
 - Efficiency
 - User friendliness

Or we will defeat the goal of a reduced emissions inventory

The opportunity is...

- Encourage replacement of pre-certified stoves
- Stop selling exempt ones
- Keep it simple and affordable



Thank You!

