

# “Modern Consumer Families and Self-reliant Maine Yankees: Two Cultures of Residential Heating”

## *Draft Paper Summarizing Key Research in 2010-12 EPSCOR Grant*

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### ABSTRACT

Lutzenhizer (1992, 2008), Stephenson (2010) and others have emphasized the need for a cultural analysis of the causes and patterns of energy consumption in order to understand and intervene effectively. In a study of residential heating in Hancock County, Maine, we developed a mix of ethnographic methods whose results indicated that previous studies of Maine energy use were dramatically underestimating the use of wood as a fuel and that fuel choices are very significantly affected by two alternative subculture patterns that involve systematic differences in root metaphors for heating and assumptions and values concerning space, time, aesthetics, costs, family structure, ways of knowing and other aspects of life. The

results would seem to have important implications for policy change and community based efforts that aim at changing energy use. They also raise interesting methodological and theoretical, as well as practical, questions about the nature of culture and how studies of it can best be integrated into energy research more generally.

## I. Introduction

Context: The ethnographic research reported here was undertaken as part of a larger interdisciplinary project studying the use of wood as a fuel for residential heating in a rural county in the northeastern United States. Key hypotheses motivating that project were that increased use of wood could reduce the carbon footprint, promote local economic development and security, and increase regional and national energy security – all in ways that would have minimal social and environmental costs- costs which were significantly less than the costs of other fuels being replaced. The aim of the ethnographic study was to determine who in the county was and was not using wood as a residential fuel and why and why not, with an aim of learning how use might be encouraged if it turned out that other parts of the research indicated that it would be good, overall, to promote increased usage. That other research consisted of a systematic risk analysis comparing the social, economic, political and ecological costs and benefits of firewood relative to other forms of residential heating. It indicated that so long as the plentiful local supply of wood continues to be harvested sustainably, increases in residential wood heating would significantly reduce net carbon footprint, provide needed local employment, increase the proximity and security of energy sources, and do so without

comparatively small public health costs as a result of increases in air pollution. So the questions about the demographics and social dimensions of wood use became especially interesting.

Hancock County is a coastal region in Maine, the northern most state in the New England Region of United States, which sits on the Canadian border. It has slightly more than a million acres of mostly forested lands. These have an approximate mix of 45% hardwood vs. 55% softwood/evergreen growth. It has a population of 53,000 people and 22,000 households distributed in coastal towns and more sparsely populated rural inland villages. It was chosen as a unit of analysis both because the scale and location seemed well suited to the resources of the research team and also because the economics of fuel wood transport suggested that it might be an appropriate size for studying a regional market. Furthermore, its socio-economic structure is similar to that of the state of Maine as a whole in ways that might perhaps make some of the study results scalable in useful ways. Previous study of residential heating with wood undertaken by the U. S. Census indicated that 10% of the households in the state of Maine and 11% in Hancock County heated with wood. FOOTNOTE

## II. Material and Methods

In studying the patterns of fuel use throughout the county, we elected to use multiple methods, including a household survey, focus groups, consulting with community leaders and experts, in depth ethnographic interviews, and participant observation. This strategy was rooted in two assumptions.

First, we assumed that human behavior is defined, articulated, given its proximate causes and institutionalized in communities through language. ( The social landscape we want to understand is constructed in the language the participants themselves use to form intentions, to act, and to critique each others' actions and reasons.) So, even if there are other determinants of behavior of a psychological, economic, ecological or other type, to simply describe and monitor the actual behavioral phenomena we were interested in, it would be essential to learn how the people we were studying talked, themselves, about the activities associated with heating their homes. To use Richards' (1985) terminology, we were asking what "verbal images" structured and guided their action.

Second, we assumed that the challenges of developing qualitatively and quantitatively significant data required some combination of an ethnographic method (cf. Spradley 1979) with a critical participatory research method (cf. Cox, 1986) which could be best addressed by employing multiple methods in a process of "triangulation" in which each might provide checks and corrective insights on the others. (Richards, 1985)

The team undertaking the ethnographic study included one professor and 8 students from College of the Atlantic. The work was completed between June of 2010 and August of 2011.

The household survey was developed and refined using initial in depth, open ended ethnographic interviews with a sampling of people from varied income levels, professional backgrounds and regions of the count as well as insights from

participant observation and consultation with various local experts on the production and use of wood as a residential fuel source. The systematic survey instrument developed from this process used a brief questionnaire that was designed to simultaneously gather basic data about heating choices and elicit open-ended dialogue in which the people interviewed were encouraged to talk about how they heat their homes in their own words and according to their own customs. Survey sessions lasted typically from 30 to 40 minutes with some becoming more extended and a few ending with brief but complete answers to the core survey questions. The sample included 120 households selected randomly using a mix of property tax lists and, when these were not available, geographic randomizations to provide a fair representation of the households throughout the county.

The basic survey questions were:

- 1. How do you heat? Do you heat with firewood or pellets?**
- 2. How many cords of wood or tons of pellets do you burn a year and where do you get them?**
- 3. What are your reasons for not using wood more for heating?**
- 4. What matters most to you regarding home heating?**
- 5. Do you think heating with firewood and/or pellets should be encouraged or discouraged for reasons of ecology, economy, health, or national security? Why?**

These questions were followed up in the interviews both to gather further relevant data in a systematic way (e. g. what kind of woodstove is used) and also to simply continue eliciting the elaboration of answers (e. g. “that’s really interesting – tell me more . . .”) or the addition of further ways of talking and reasoning about heating (e. g. by following up question 4 with asking specifically if cost, time required, or safety were issues).

The results of these interviews were recorded by hand written notes and then transcribed to computer text that could be entered into text files and spreadsheets. This allowed the language recorded to be examined for qualitative as well as quantitative patterns. We could look at records of people's actual words to try to inductively arrive at insights into their idiomatic ways of describing and reasoning – e. g. by finding a connection between the way they talked about uses of space and uses of time in activities related to heating. We could also experiment with different ways of classifying their responses in order to quantify them – e. g. by determining what percentage of households seemed to use language exemplifying one conceptualization of space vs. another.

A further study was undertaken in collaboration with a rural junior high school in which an integrated 6-8<sup>th</sup> grade class designed their own version of the basic household survey, administered it in their own homes, and analyzed the results. These provided an enriched range of dialogues that were consistent with the results of the 120 household survey.

In trying to arrive at insight into qualitative relationships between different kinds of language use and related practices, other methods used included participant observation, consultations with relevant professionals, focus group discussions with members of community organizations and a presentation and discussion session on a popular local radio call in show, Members of the research team heated their own homes both with wood and alternative fuels. Some members

took part in cutting and preparing the wood. They also engaged in a variety of conversations and observations of people heating with wood and with other fuels during the course of a broad range of other activities in the community. A variety of professionals in the community were interviewed to develop insight into the language and practices that were part of the social construction of reality in the areas of energy use, home heating, and wood production. These included stove salespeople, local foresters, an oil and gas company executive, a chain saw store manager, loggers, processor/distributors of fire wood, staff of non-profit agencies working on community development and on heating issues, and others. As participant observers, the researchers developed a command of language used to talk about heating with wood, and thus were able to understand these perspectives on a continually deeper level. Focus group discussions were held with a variety of community groups including members of local Rotaries, the Soil and Water Conservation District, a senior college for adult education, and open public forums convened on heating issues. The focus groups were polled using the household survey questions. They were also invited to comment on and critique study results as those developed through the course of the year and a half study. Presentation of results on an hour long local radio show that allowed call ins also provided an opportunity for such comment and critique.

### III. Results

The first finding was that the level of residential heating with wood in Hancock County is dramatically higher than previously indicated by U. S. Census

studies. Unlike the Census study which indicated 11% of households used wood, we found that 58% of households use at least some wood to heat and that of these, approximately half get half their heat from wood.

The data we found are presented in Graph 1.

#### GRAPH1

Why such different results than the Census study? It may be that behavior had changed some since that previous study – a number of people indicated that a bad ice storm ten years previously which had put many power lines down for two weeks or more had led them to seek a more secure and self-reliant way to supplement their heating. However, in almost all cases these respondents indicated that they did not switch to heating exclusively with wood but, instead, simply added wood heat as an alternative supplemental or “back up” source. It seems unlikely that changes in behavior or the smaller sample size of the Census survey (one fifth as large) would account for the dramatic differences in results.

These would seem better explained by a key nuance in the self-reporting of households emerged in the ethnographic interviews undertaken in our study. A number of respondents were clearly aware of and concerned by the fact that insurance companies typically charge significantly higher premiums for houses which rely primarily or exclusively on wood heat. It is likely that if they had any source of heat other than wood, they would report it as their primary source in a survey contributing to what they perceived as an official government document. Since the Census survey did not ask about supplemental or back up forms of heat,



other sources would have been unregistered. One of the advantages of the ethnographic approach to developing our study was that it allowed us, early on, in the process of developing the survey instrument, to identify the need for surveying various levels and varieties of usage of different forms of heat that households might mix for different reasons.

Other initial findings included self-reported explanations as to why people did not heat with wood which indicated that 6% had allergies or asthma, 6% were elderly or infirm and no longer able to heat with wood, and 5% were renters whose landlords did not allow them to heat with wood (even if a stove and chimney were in place). These seemed like compelling reasons to not heat with wood. For the remaining households, however, the question was, why did they choose to heat with wood or not?

## GRAPH 2

One clue to this came from people's direct responses to the question, "what matters most to you regarding home heating?" Surprisingly for us, only about half of them mentioned economic issues like cost or finances as mattering most, or even mentioned them at all. Further, of those who did, the percentage that used some wood in heating their homes corresponded to that in the sample as a whole, indicating that a concern with such economic issues was not a predictor of which fuel people would choose for heating.

What was perhaps even more striking was the often very different ways in which people interpreted questions of cost in terms of fuel choice. In comparing wood with oil, one person said, for example: "It costs more than oil because my time is worth more than that. You have to cut it and stack it. It's dirty. You get tired of it." A second person making the comparison said, instead: "The nice thing about wood is that it heats you three times. Once when you cut it, once when you split it, and once when you burn it." Clearly these two had very different ways of constructing their understanding of what calculates as a cost. People who had views similar to the first might not only spend the extra premium that heating with oil cost in dollars but also go and spend hundreds of dollars on a membership in a fitness club they drove to in order to get exercise which the second person viewed himself as getting for free by "heating himself three times" with wood.

In closely reviewing the nuances of people's responses and reflecting on insights from the other methods employed, we came to see a pattern of two different subcultures of household heating distinguished by their root metaphors, assumptions, values, and practices. The first group, which we labeled the "Modern Consumer" (MC) families, has as its root metaphor for heating the notion that heating should be viewed as an efficient service that is provided for you. The second group, which we labeled the "Self-reliant Maine Yankee" (SMY) families" has, as its root metaphor for heating, the notion that heating should be viewed as a self-reliant practice that is performed by the householders themselves.

Systematic differences in values in these two sub-cultures emerged. Modern Consumer (MC) families value a heating service that is delivered in a homogeneous and relatively uniform distribution through space and time. They comment, for instance, that “I like to be able to walk anywhere in the house in my T-shirt and be comfortable.” They praise their conventional oil or propane gas heating system because “I don’t have to give it a thought, just set the thermostat and you’re done.” For them, a good heating system is like a good waiter or valet who seamlessly delivers the desired service – the less you need to notice it or talk about it the better. Typically, a neat and tidy house that is uniformly clean and well appointed is desired.

In contrast, for the Self-reliant Maine Yankee (SMY) families it is considered common sense that heat should be distributed unevenly through space and time. They emphasize the desirability of having a space in the house that is especially hot, noting, for example, “There’s nothing like a woodstove if you want to get warm when you come in from the cold.” But they will often also make comments like “I like to leave the bedrooms cold, I sleep better.” They assume further that variations over time are normal and appropriate – keeping the house at different temperatures depending on the time of day or week and season of the year as well as who is home and the kinds of activities that are going on. They prize, in a variety of ways, opportunities to notice, talk about, and interact with the materials and devices that they use to produce heat in their homes. They will note, for example, “I like to watch the fire and feed it, it’s homey, cozy.” They savor the feel of the seasoned wood in handling it, the smell of it burning, the hypnotic flicker and glow of the fire and

coals, the sparks that rise when they poke in new logs, and even the fertile mineral qualities of the ash when they use it to enrich their gardens. For these SMY families it seems normal and appropriate that there be dirty spaces where wood is brought in and handled as well as where as is taken out. This extends to their utility spaces and landscaping outside the house as well, in which workspaces of different sorts are assumed to be part of the well-equipped household.

The MC families view heating as a service provided to them as consumers and the purchase of it is relatively neutral with regard to gender, age and other features of them as individuals. Either spouse can, for instance, ask the other to call the professionals and have them come and fix problems or maintain the system. In contrast, the SMY families typically suppose that it is normal and appropriate for different members of the household to have different gifts, skills and preferences when it comes to performing various heating activities. The traditional stereotypical form this could take is that the husband with greater upper body strength cuts the wood and the wife who is home through the day in the kitchen tends the fire. This is not an especially accurate stereotype but the underlying reality that it makes sense for different people to do different chores is a part of the practice-centered understanding of heating for these folks. The activities provide opportunities for creativity and self expression in the ways wood is split and stacked and fires are built – and ways children or family and friends are involved in such activities.

In contrast to the MC families' purchase of a service by professionals, much of the activity associated with heating in SMY families is only partially commodified, if

at all. It may involve gift exchanges of work, tools or material. Much is exchanged by barter. Often wood is harvested on the householders' own land or gleaned from public lands or lots of others. Much of the work is by people who do it only part time or as amateurs in supplying fuel or building and maintaining chimneys and stoves along with other infrastructure. The guiding and regulation of such activity is not directed by expert opinion provided by professionals as in the case of the MC families purchasing conventional heat from "Them". Instead, it is developed and shared in a collaborative, community based epistemic process of dialogue and shared practice in which an individual may share what "I" have found and compare it with "Your" experience to develop a collective sense of what "We" would agree on – which might come, over time, to be accepted, increasingly without thinking or debate, as what "One" does in heating a house.

In their views of each other, the typical – or perhaps better said, the stereotypical – MC and SMY families have rather sharply contrasting visions. The MC family can tend to view their own approach to heating as modern and rational and in many cases see the wood heating done by SMY families as quaint, old-fashioned, poor or backwards looking and perhaps even feel compassion for "those poor b\*\*\*\*\*s".

A significant portion of the SMY families can, in contrast, view heating with wood as a source of personal and family pride and regional identity and view oil users as un-ecological, irrational householders who are irresponsible and not self-reliant, taking a risk that they will freeze in an ice storm. They may even view them as politically un-

American or lacking good Earth stewardship because they are supporting “Big Oil” and not advancing oil independence or reducing their carbon footprint.

The accompanying charts summarize the contrasts we found between the two subcultures.

“Modern Consumer Families and Self-reliant Maine Yankees: Two Cultures of Residential Heating in Hancock County, Maine” – Table 1

#### IV. Discussion: Analysis of Possible Policy and Community Organizing Implications of Findings

What might be the implications of the two “verbal images” of these subcultures and their language and practices for socially constructing their experiences of household heating? One set of implications might concern the light these could cast on how programs aimed at changing fuel use might best be designed and implemented. For example, could community organizers promote one culture over another or could policy incentives encourage the promulgation of one culture over the other? Organizers might use various kinds of community activities to encourage the sharing, elaboration, celebration, or transformation of one set of cultural practices or other. Policy steps promoting one or the other could reinforce such action at the community level with resources to carry on the work, with public commitments to one cultural identity or the other, with educational initiatives

within the school systems, or with subsidies and other incentives that would reinforce these.

Another set of implications might concern their relevance for understanding household behavior in other arenas of interest in sustainability studies – such as food systems or health care. Might there turn out to be subcultures of households in Maine where food is understood with analogous root metaphors, views of space and time, aesthetic values and other assumptions analogous to the two sketched here? Participant observation carried out as part of this study strongly suggests that many key elements of the MC and SMY subculture patterns inform people’s practices for providing themselves with food and health care and that systematic research on this would provide fruitful insights both into the cultural patterns and into the dynamics by which they develop and change over time. For example, are there experiences like gardening with tomatoes or using herbal teas for medicine that provide key gateways into SMY cultural practices? Are there community institutions like farmers markets or CDC sponsored community health agencies that are effective vehicles for more systematic cultural change?

A strong regional association of such community institutions is provided by the Maine Organic Farmers and Gardeners Association which promotes a variety of kinds of small business initiatives, household enterprises and do-it-yourself hobbyist activities that are aimed to support the development of a regional culture that diversifies the food system and makes it more resilient. Heating, health, education, entertainment and other activities that support such a cultural pattern

are also encouraged and supported – through local groups, training programs, state wide networking and an annual “Common Ground Fair”.

Another set of implications of the “two cultures’ pattern found in this study might concern understanding households in other parts of the U. S. or other parts of the world in which various forms of consumer culture – and alternatives to it – have developed in the last two centuries. Might there be elements or structures of these two cultures that are analogous? Certainly the MC culture is rooted in a very widespread cultural formation associated with the rise of consumer capitalism in many parts of the globe. Might there be a variety of local alternatives to it that are analogous in illuminating ways to the SMY patterns? These might include ways people choose to cool their homes in the Southwest of the US, for example, drawing on traditions from pre-Anglo Hispanic or earlier Native American practices – or on more contemporary Do-It Yourself (DIY) practices coming out of the Whole Earth Catalogue movement in the 1970’s or perhaps the more recent Hacker culture associated with the computer industry. There are a variety of empirical studies in ethnography and critical participatory research that could usefully explore the existence, structures and possible functions of these cultural patterns in understanding material culture, consumption and their environmental impacts. Another set of implications might concern useful ways of interpreting household behavior in other kinds of arenas besides ones focused on resource use – for example, political life and voting behavior. If people’s choices of heating systems are framed by cultural commitments and identities which then determine how they view economic costs, might it turn out that similarly, political choices – which are



often alleged to be rooted in economic interests – might be sometimes better understood as more fundamentally rooted in and framed by cultural commitments and identities? Might there be ways for example in which what are often viewed as economic based choices in favor of “jobs, jobs, jobs” over the environment are actually better understood as cultural choices for a certain identity? Support or opposition to large infrastructure projects like dams, nuclear power plants and military bases might be based on identity claims tied to visions of the type of jobs – and their externalities -- that people favor rather than any simple quantitative measure. On this view, choices would be explained by what we might call the “Culture Frames Costs Corrolary” of an even more basic hypothesis that “Culture Frames the Economy.”

These seem like promising and important lines of study for pursuing possible implications of the two verbal images discerned in the ethnographic study reported here. The findings of this study suggest, however, two sorts of methodological issues that would merit careful consideration in designing and pursuing such research.

## V. Conclusions and Policy Implications

To the extent that this study usefully illuminates patterns of household behavior associated with residential heating and suggests promising lines of further research, what distinctive features of its methodology contributed to this? We would argue that the following methodological assumptions and practices provide key elements of one, especially fruitful model for research on energy issues and other topics in sustainability.

1. The ethnographic assumption: Behavior is structured by language used to frame institutions, intentions to act, and responses to the world around us. A study of it should begin with ethnographic methods designed to discover the “native language” that people actually use to articulate those institutions, actions and responses. In practical terms this means, for instance, that quantitative studies of consumer behavior should always be developed by first doing open ended ethnographic studies that enable the researcher to discover what the words, phrases and concepts are that people use to structure their own behavior. These “native language” terms should be then used in framing whatever kinds of quantitative surveys are undertaken. Failure to do this can result in failing to observe and measure the actual social phenomena that occur in the world – which are defined and articulated in terms of that native language.

In the case reported here, previous quantitative surveys of heating behavior carried out as apart of a Census survey found only 11% of people heating with wood in contrast to our finding of 58%. The difference in result would seem largely due to a difference in the way the question “How do you heat your home?” was understood by the respondents. If they understand it as “What form of heating is the one you would report as your ‘primary source’ of heat to an agency like a government bureau or an insurance company?” then only those who heat exclusively with wood in Hancock County would seem to view the answer as “wood” – the 10 to 11% that our study found say they heat “exclusively” or “only” with wood and that corresponds to the group identified in the Census study. However, if an open-ended interview approach is used which invites people to describe how they

heat in detail – in their own words – then a very different result is obtained. The same point would apply to other questions. If, for example, we had tried to determine the role of economic costs in determining people’s heating behavior by using our own categories or ones we adopted from some theory to frame the questions in a multiple choice or Likert scale, we would have missed the nuances of the very different ways in which various people conceptualize what is a cost and how this is related to other aspects of their behavior. Note that the key point here is not survey questions are sometimes worded poorly and that fixing this (e. g. by rewriting the Census instrument) would fix the problem. The point is rather that the process of asking questions has to take a different form, at least initially, to adopt ethnographic methods that discern the structures of social reality by developing a “verbal image” in the “native language” of the people studied. (Spradley 1979)

2. ) The triangulation assumption: Once such a verbal image is developed in the native language of the people studied, it is important to ask how such qualitative results can be quantified. A series of in depth ethnographic interviews with a single informant can provide a rich, detailed, coherent, systematic understanding of a set of practices for a culture or subculture. But it does not answer the question as to how many such people are out there. Is this informant typical of everyone living in the geographic area – or perhaps, like Ishi, “the last of his tribe” (Kroeber 2011)? It also does not answer the question as to whether there remain one – or more – other sets of practices and cultural types inhabiting the same region.

Following Richards and others, we would argue that the best way, in general, to approach the question of quantification is through “triangulation”. This is the strategy that uses multiple methods – e. g. participant observation, follow up surveys, interviews with experts, focus groups, etc. – to test the extent to which the behavior of various people actually exemplifies the verbal image developed through qualitative research and to test to see how many such people there are. Two points here are key. First, while any one method may be relatively weak and not provide a very high level of confidence in the quantitative judgment being made, if multiple methods confirm it, then this provides a converging body of evidence with an increasing level of justification. In our study, the results of the survey of 120 households were congruent with the results found in focus group discussions, participant observation, counts of wood piles observed from the street, a separate survey carried out by junior high school students and interviews with community professionals. Consistently we found that over half – something in the vicinity of 3/5ths -- of folks seemed to be using at least some wood. And about half of those were getting around half their heat from wood. Note here that these kinds of quantitative results are probably best reported in these kinds of quantitative terms – “over half”, “in the vicinity of 3/5ths”, “around half”. More precise numerical formulations like “58% with a standard of error of plus or minus 4” would provide an inappropriate illusion of precision.

The second key point about the use of triangulation for doing quantified studies of the native language and verbal images that inform people’s behavior is that we must be always ready to discover that there are in fact multiple verbal

images or clusters of linguistic and social practices informing distinct groups in the community being studied. In our case we seemed to find two. There could well be important subdivisions within them or a third or fourth group entirely. Whether there is always remains an empirical question and the research process should be geared to discover this.

The possibility of multiple subcultures and questions about their relationships lead to a third methodological and theoretical issue. What counts as a “culture” as distinct from a “sub-culture”, a “sub-sub-culture” or simply a distinctive or idiomatic local form of some social practice? Are the MC and SYM just subcultures of a larger form of Late Capitalist consumerism or do they subdivide into more specific cultures like “back to the land yuppies” vs. “traditional Mainers who are not ‘from away’” or even more specific practices like “wood pellet heaters” or “folks who just heat with a fireplace for ambiance”? In one respect the question is merely semantic, a choice of nomenclature. But it points to a set of complex theoretical issues.

At the heart of these lie questions about causation or explanation. What leads to the emergence and adoption of one subculture rather than another? Our study was able to identify a variety of possible kinds of dynamics and explanatory factors, including:

- 1.) Some people seemed clearly to have formed their ideas and practices of heating in early childhood and maintained them since. Parents enculturated

appreciation, for example, for the joys of splitting wood and then coming in to sit beside a warm wood stove.

2.) Others were motivated to adopt what they perceived as the local culture when they moved in to Maine in order to define and affirm their new cultural identities as “Mainers”.

3.) Other’s went through some kind of personal conversion experience when they had an opportunity to try an alternative form of heating and, for example, in some cases fell in love with the magic of a wood stove or, conversely, in other cases became enthralled with the relief of not having to feed one anymore.

4.) For a number of people, a major ice storm in 1998, which shut down many power lines for weeks, led them to conclude that self-reliance in heating sources was a matter of survival.

5.) Some shifted to wood heat as part of the self reliance efforts of the back to the land migration to Maine in the 1960’s and 70’s.

6.) Some shifted at one of the points at which the relative prices of fuels went through dramatic shifts up or down leading them to rethink their approach to heating.

7.) Some bought houses or started renting where the infrastructure for one kind of heating practice or the other was already in place.

These first 7 examples suggest some of the variety of overall, more general kinds of explanation of the adoption or rejection of one sub-culture or the other.

What they might lead us to overlook, however, is the extent to which there is very significant variation in the extent to which the patterns of behavior of one sub-culture or the other are adopted. Individual households may have members with very different backgrounds and former practices of heating –who then raise children with some hybrid mix of values, norms and practices. And individuals may be self reliant or expert dependent to quite varying degrees in how they install, maintain, and feed the fuel systems for whatever mix of heating systems they choose. In the case of some individuals and households, there is an adoption of one subculture or the other in a systematic and relatively complete way, as though it were a Kuhnian paradigm they were committed to – a logically coherent and systematically distinct way of describing and explaining the world and interacting with it which would be incommensurable with the alternative paradigm. In the case of many other individuals or households, the elements of the two subcultures are more like elements of two different accents or regional dialects which they can intermingle and mix and match different elements from to form a linguistic pattern of their own which itself might vary considerably over time.

Research that deals in nuanced ways with such explanatory complexities should clearly draw on multiple disciplines to try to understand the processes affecting choices made at the household level. These can include processes in child development, identity formation, market changes, shifts in weather and climate patterns, technological change and other kinds of historical trends and events. It is also especially important to keep in mind that choices may be motivated by factors of which people are only vaguely or implicitly aware or of which they may not be

aware at all in a direct way. What the ethnographic method advocated here would counsel however is that in the search for such vague, implicit or unconscious motives and explanations for people's heating behavior we should begin always with the study of the descriptions and explanations of their behavior that they themselves use to articulate it – because that native language in which they form the verbal images they have of their social reality is itself the phenomenon which the more explicit, clear and causal accounts that they are unaware of must explain. To evoke the language of Carl Hempel and a whole tradition of advocates and critics of alternative ways of understanding human behavior, the native language and verbal images of the people heating their homes and using other forms of energy in their lives, provides us with the key *explanandum* for which researchers for Energy Policy seek the *explanans*. That linguistic phenomenon also provides the language in terms of which any attempt to persuade them to purposively alter their behavior must begin. For a critical participatory community based efforts as well as for instrumentalist policy initiatives it provides the key starting point.

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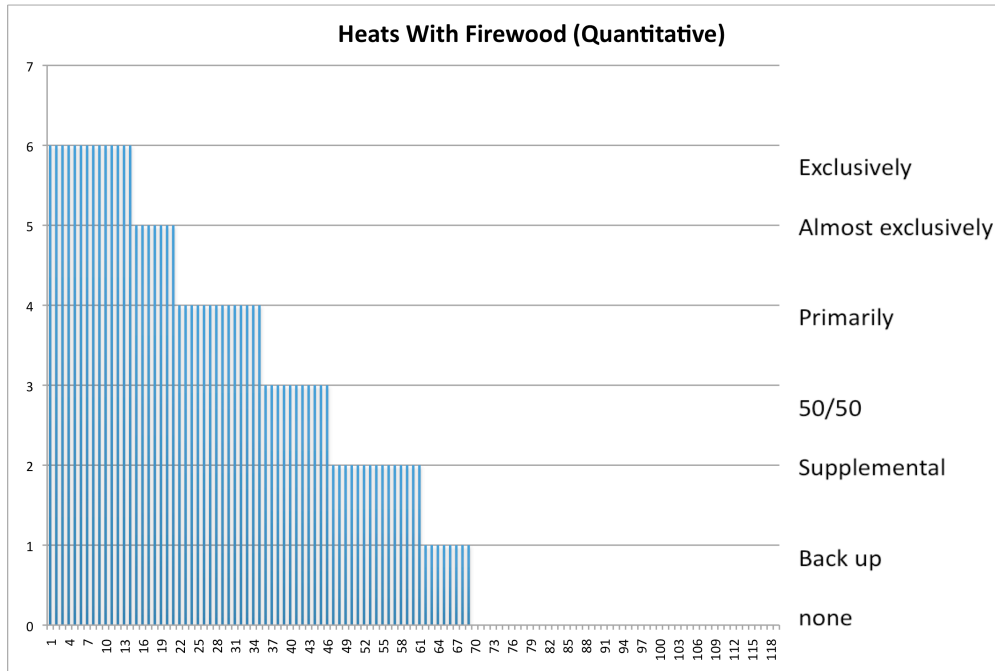
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Graph 1



Graph 2

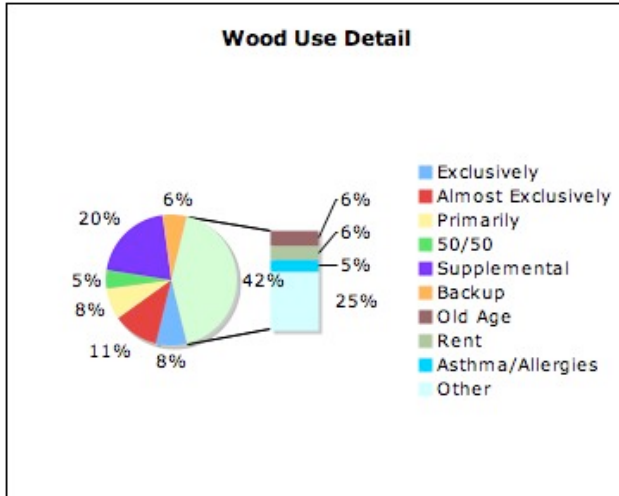


Table I

<b>Metaphors, Assumptions, Values, &amp; Practices</b>	<b>“Modern Consumer Family”</b>	<b>“Self-reliant Maine Yankee Family”</b>
Root Metaphor	Heating is an efficient service provided for you.	Heating is a self-reliant practice performed by you.
Costs	Home life should be efficient, purchase production or efficient machines that work in the home for you, Time is money,	Householding is enjoyable work that promotes health in practices with organically connected means and ends
Values regarding Experiences of heat and warmth	Uniform and constant heat is desired, allowing uniform movement throughout house. The less you need to think and talk about it the better.	Multiple heating zones desired including a place to get warm by the fire and cool bedrooms. Enjoy daily, weekly, and seasonal cycles of variation in temperatures. People love to talk about it and celebrate it and connect it to other parts of their householding practices.
Aesthetics	Clean, uniform house with minimal ash, dust etc. Sources of heat function best when unseen, unheard, and not thought about.	Fire creates ambiance, hypnotic entertainment. Enjoy varied smells and earthy connection.
House and landscaping	Able to design easy to clean and uniform, neat, tidy, cute.	Different zones of function including dirty and clean spaces and multiple functions for things. Practices associated with householding provide opportunities for multiple kinds of creativity and fulfilling work.
Family structure including gender	Professional house maintenance of structure and equipment that commodifies the tasks and	Different household members appropriately have different chores depending on their gifts, ,

	makes them gender neutral.	tastes, age, and skills
Age	Retirement age associated with physical challenges that make wood problematic as a heat source.	Working with wood keeps people more fit and should be sustained as long as possible.
Relationship to landscape and nature	Relationship is mediated by professionals, corporations and technology on the production side and the consumption side focuses on aesthetic observation, interacting by seeing, touring.	Relationship is via interaction, ready to hand experiences, doing things to nature on the production side, celebrating direct involvement – and the consumption side is infused with production elements that shape the product or service to the special needs, tastes and creative urges of the householder.
Production	Done by experts and corporations for pay.	Done by householders with ingenuity and in barter, gleaning, gift, family, amateur, work gangs of friends and other forms of only partially or un-commodified economics.
Community And epistemology	Desire to consult professionals who deliver commodified expert opinion.	Desire to share experiences and insights and to construct knowledge through a process in which "I" and "You" develop agreements that "We" commit to and then become norms about what "One" does.
Ideology	Accepts as normal, modern, and what one does in the US and New England – views woodburners as quaint, irrational, old-fashioned, poor, backwards looking.	Wood used as source of personal and family pride and regional identity, views oil users as unecological, irrational householders, irresponsible and not self-reliant, taking risks in ice storms etc., politically un-American or lacking good Earth stewardship because they are not supporting oil independence and reduced carbon footprint, a repugnance for dependency on large corporate entities – governments and businesses. Different view of history in which we should be in touch with the past but

		also the future (post-peak oil)
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