

What Maine “Energy” Dealers Should Know about Wood Pellet Fuel

A recent story in the **MODArandum** (Volume 5, Issue2, May 2009, reprinted at the back of this paper) titled “Energy in Maine: Facts for Members on Energy Policy in Maine” is misleading. Furthermore, the story does not provide the energy dealers of Maine with a strategic perspective to help them begin to transition to the future of home heating in our great state. The story suggests that “business-as-usual” will be good for the future of these businesses that have supported and helped to heat Mainers since they displaced the Maine coal dealers many years ago.

The future of many of these dealers will depend on a broader perspective of their role. Fuel delivery dealers’ presence will continue to be vital to Maine’s future; but the fuel that will be delivered will more and more not be heating oil in the decades to come. To pretend that change is not coming is shortsighted and is a disservice to these mom and pop businesses that should be getting the best advice for keeping their businesses relevant and profitable.

This paper will explain why that is true and also will show that some of the so-called facts in the MODArandum article are, to quote the article directly, “laden with half truths, incomplete information, prejudice, and simple ignorance.” It is ironic that the author of that article, in an effort to paint a growing alternative fuel business as a threat, misses the point regarding how a broader portfolio of heating fuel offerings is in the best interest of the Maine “Energy” Dealers.

The first part of this paper is a general discussion of the future of heating in Maine. The second part is a point by point discussion of the so-called facts in the MODArandum article.

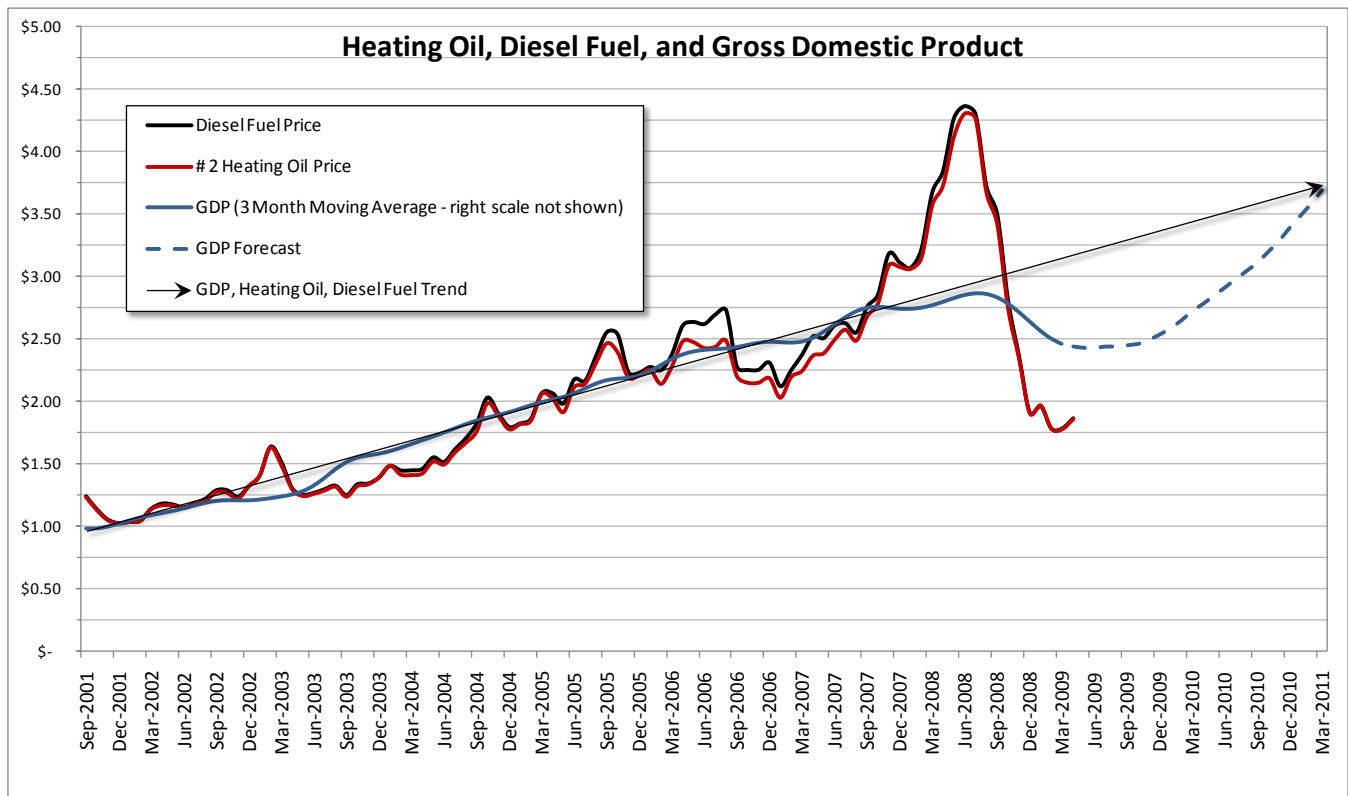
The Future of Heating Homes and Businesses in Maine

Heating in Maine will continue to be based on an in-house combustion system but the fuel will transition over the next 5 to 10 years to low-carbon emissions renewable fuels. The change will happen for a very simple reason: cost. The cost of heating oil will rise due both to the inherent relationships in supply and demand and also due to the inevitable regulations on carbon emissions.

The EPA has recently ruled that CO₂ is a pollutant that needs regulation. What is coming in the US is already the rule of law in all of the other developed nations of the world: carbon emissions will be regulated. That means that the currently external costs of emitting carbon will be internalized by regulations. In other words, the cost of fuels derived from petroleum or any other non-renewable energy source that emits carbon will increase. Although we cannot predict how this will be phased in, we think that it will be slowly. But it is inevitable that over the next decade, the cost of using non-renewable fossil fuels will increase significantly.

Even if CO₂ is not regulated, prices will increase significantly from today’s lows. The chart below is based on real data. It shows that the trends in heating oil prices, diesel fuel prices, and the gross domestic product of the economy are almost identical. The analysis also includes the forecast for the GDP based on the Congressional Budget Office forecast (February, 2009). Several points should be noted. If the economy were not in recession now, the price of heating oil would be expected to be about \$3.15/gallon. By the winter of 2011 heating oil is expected to be about \$3.75/gallon. The chart also

suggests that as soon as the economic recovery is established, heating oil and diesel fuel prices will rapidly move back toward the trend level and will breach \$3.00/gallon perhaps even before this next winter. (It is also clear from this analysis that the price run-up in 2008 was unsustainable.)



Even without any carbon regulation and even if this analysis is wrong, the Energy Information Administration's own forecast suggests that heating oil prices will rise significantly over the next 10 years.

So what will Mainers do? Or perhaps more importantly, what should Maine Energy Dealers do to begin to prepare for a future that is not business-as-usual?

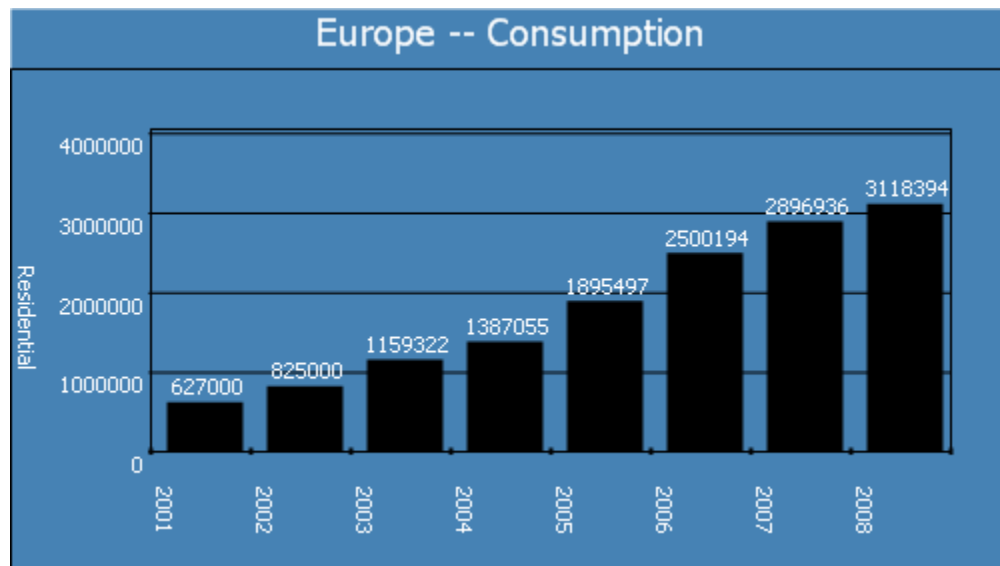
If natural gas is an option then that will be an easy choice for those with access to that fuel. But most homes in Maine are not able to connect to natural gas now or in the future. And natural gas has nothing to do with a fuel delivery business. Electricity from wind or hydro is another low-carbon emission option; but heating homes with electricity is very inefficient and very expensive unless the homes use geothermal heat pumps. Those are a very good option but due to the requirements for a large ground heat transfer loop, it is an option that will not work in urban setting or for poor rural families. Anyway, that solution also does not have anything to do with a fuel delivery business either.

As noted above, a significant number of Maine homes will continue to burn fuel in a boiler. We think that fuel will be a biothermal fuel and will be produced right here in the state. Biothermal fuel is a refined clean burning fuel made from renewable sources like trees. Home heating oil is a refined fuel made from non-renewable resources. It is important to make it clear that everyone should use a refined fuel for home heating. No one would consider putting a match to a bucket of petroleum for heat.

Burning cordwood in a woodstove is like putting a match to a bucket of petroleum compared to using refined biothermal fuel in a modern fully automatic central heating system.

In this region of the country that refined biothermal fuel is made from wood from our abundant forests and is commonly called wood pellet fuel. The Maine Forest Service has stated many times that there is plenty of wood in Maine. Just in the last half decade the pulp and paper industry's demand for wood has declined by 1.1 million tons a year. That is enough wood to make wood pellet fuel for about 80,000 Maine homes (about 650,000 tons per year of biothermal fuel).

To see what is coming, let's take a look at Europe where there are very strict rules on emissions of all types of pollutants. The chart below shows the residential consumption of wood pellet fuel in Europe (from the European Pellet Centre database, www.pelletcentre.info). In 2008, more than 3.1 million tons of wood pellet fuel heated European homes. Most of that consumption was in fully automated boiler systems. In Austria in 2006, 76% of all new homes built were built with a pellet fueled central heating system. The number of European homes using biothermal fuel has increased from about 78,000 in 2001 to about 390,000 in 2008. All those homes need someone to deliver fuel. (See the photos of delivery trucks that are now being used in Maine at the back of this report). This would not be happening if these systems were polluting. In fact, modern European pellet fueled boiler systems are just as efficient as modern oil boilers (see the emissions comparisons at the back of this report).



Right now in Maine there are about 100 home heating systems that are running on wood pellet fuel. Maine will be following in Europe's footsteps in converting to renewable locally produced fuel.

The delivery market for bulk pellet fuel in Maine is not limited to home heating systems. There are now tens of thousands of wood pellet stoves in Maine each of which consumes about 3 tons per year of fuel. Inexpensive bulk containers that take the place of pallets of bagged pellets are going into homes now and all of those homes will need a fuel delivery dealer. These inexpensive bulk containers allow the stove owner to open a small gate and fill a pail with pellets rather than have to carry a 40 pound bag, rip

it open, and dump it. Plus there are no waste bags or pallets. Bagging and palletizing adds about \$20/ton to the cost of manufacturing pellets.

Looking Closely at the “Facts” in the MODArandum Story

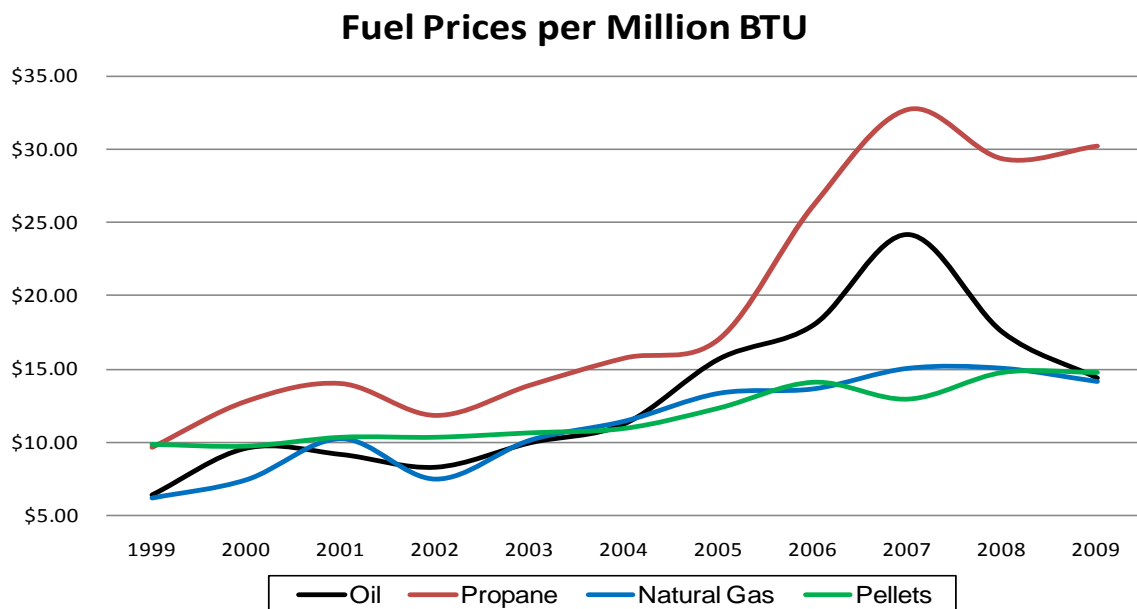
We agree with the author of that article that “it is your business that is at risk.” But we think that the article has a very narrow view of what an energy delivery dealer should be considering as their role in the future. Worse, the information in the article is misleading at best and purposefully inaccurate at worst. Does a business decision maker want to base his or her strategy on propaganda or on an objective understanding of the facts?

We will look at some of the statements in the story in the order in which they were presented. The section headings from the MODA article are reproduced below.

The reader can click on the [MODA] links to see the associated text in the original MODArandum story. At the end of each of those sections is a [Back] link that will bring you back to where you left off.

**Maine is 80% dependent on heating oil for space heat.
This is a bad thing as claimed by many in Maine government. [\[MODA\]](#)**

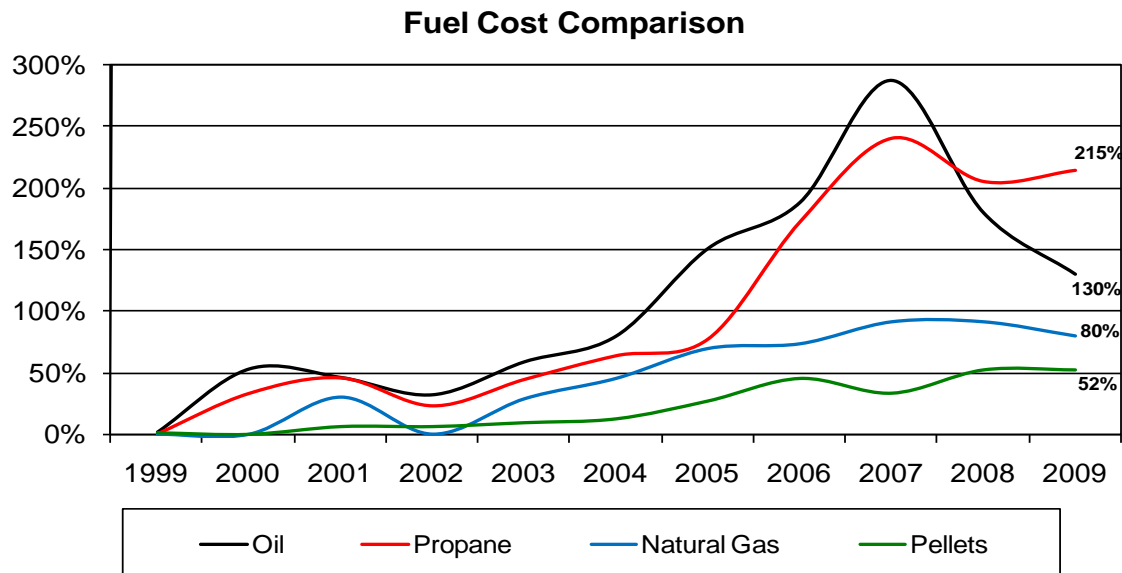
There is no argument with the fact that heating oil has been the mainstay for keeping Maine homes warm for many decades. However the statement that its cost has been consistently lower is misleading. The chart below shows the price per million BTU for four fuels (data from the US Energy Information Administration and www.pelletheat.org).



Since 2004, with the exception of propane, heating oil has been more expensive than the alternatives until very recently. Note also that pellet prices have been less volatile. The heating oil price is based on the average from around the state (MaineOil.com) on May 5, 2009.

May 5, 2009 Prices	
Portland	\$ 1.80
Augusta	\$ 2.00
Lewiston/Auburn	\$ 1.85
Southern	\$ 1.91
Mid-Coast	\$ 1.93
Bangor	\$ 1.96
Downeast	\$ 2.13
Northern	\$ 2.27
Average	\$ 1.98

The next chart shows the change in prices since 1999.



Note: This graphic illustrates a percentage of change comparison, not a comparison of prices.

Since 1999 until May 5, 2009, heating oil prices have increased by 130%. In 2007-2008 they were 287% higher than in 1999. Wood pellets are 52% more expensive than they were in 1998.

The MODA article suggests that there is lots of lifting and cleaning associated with pellets. This is true for a pellet stove but not for a pellet boiler. Pellet boilers are fully automated systems that are fueled from a bulk storage container in the basement. The homeowner never touches the fuel. The pellet fuel storage bin has a footprint that is about the size of two 275 gallon oil tanks. That 4-ton capacity bin needs to be filled through a hose only twice a year for the average home. That is two deliveries a year for pellets versus 3 or 4 for oil.

You don't need someone to clean out your pellet boiler every week. In the dead of winter when you are burning the most fuel, you will need to remove about 30 pounds of material (about a cubic foot) every month. The rest of the year, months can pass. But the removal is no more effort than taking out the garbage. The material is fine pure wood ash and can be spread on a garden or lawn or put into a garbage can until spring.

We need to make Maine more energy independent. [\[MODA\]](#)

We are not sure if the author was kidding when writing about energy independence. How can anyone who depends on unstable unfriendly foreign nations for a supply that has to be pipelined onto ships that have to sail across oceans say that their supply chain is dependable? Any actual or feared disruption in the flow of petroleum into the US causes the prices to spike. This uncertainty is passed on to the customers where pre-buying has become commonplace just to alleviate the risk of price volatility.

It is true that Maine's pellet manufacturers output is fully booked for the coming season. That means that some 300,000 or more tons per year are already going to heat Maine homes. It is also true that Maine is importing some pellets from Canada, New Hampshire and other states. Almost all of that output is going into bagged pellets for sale in hardware stores and other retail outlets.

What is not stated is that the bulk delivery suppliers like Maine Energy Systems have contracts with the pellet mills in the region (including Canada) for guaranteed supply. That means that bulk users, which are the homeowners who have boiler systems and storage bags for their pellet stoves, will not run out of fuel.

But it is also true that several million tons per year of pellets are currently exported from North America to Europe. That is a large surplus that could (and should) fuel our homes. Furthermore, there is new manufacturing capacity coming online in Maine, New Hampshire, Vermont, and New York that will add about 1,000,000 tons per year to the supply of regional pellets.

Maine needs to reduce its dependence on foreign oil! [\[MODA\]](#)

The author of the article could not have titled that section any better. Who can argue with that? But the author first suggests that electricity will replace heating oil. That is not true. We have already stated that electricity will not heat Maine's homes.

There are plenty of pellets made in Maine. Those pellets create jobs from logging to trucking the wood to manufacturing. There are no oil extraction and refining jobs associated with heating oil in Maine. And for a dealer, there is no loss of business if a customer goes off of heating oil onto pellet fuel if that dealer is in the biothermal fuel delivery business. Maine Energy Systems, the lead developer of bulk pellet fuel systems in Maine, has, in the last few weeks, had 15 oil dealers in the region inquire about bulk delivery trucks. These are not "faceless foreign-owned" entities. These are dealers that see that their customers need to be ready for the next time that oil prices go up again.

Also, the Maine Pellet Fuels Association is committed to helping to make sure that Maine's pellet fuels sector grows responsibly. The MEPFA is working with all of the stakeholders to assure that there are economical, renewable, environmentally safe, and locally produced highest quality pellet fuels.

The fact that only a small portion of a barrel of crude becomes heating oil is correct. But what is missing from that story is that the same fraction that goes to heating oil in the refining process also goes to diesel fuel. That means that the refiner has a choice of fueling transportation or fueling home heating. More than 80% of the heating oil used in the United States is used in the northeast. That means that a

small part of the country is competing for that fraction of crude that also fuels the trucks that move our freight. There are two issues here. First, who is going to win that fight? Nine states that use most of the heating oil or 41 states that want to keep the cost of groceries and everything else down. Second, doesn't it make sense to use crude for transportation? There is no other substitute to run the trucks but there is a substitute to heat our homes.

What about supply shortages? [\[MODA\]](#)

The price histories in the charts illustrate which fuel is most sensitive to supply shortages. As soon as the world and US economies rebound from the Great Recession, demand for oil, which has actually shrunk for the first time in history, will increase again. Who really thinks that oil prices will remain at \$50/barrel? On May 7, 2009, as this is being written, oil prices are \$58/barrel and are at a 5 month high. Who knows if it will go up more or down in the next few months? But that uncertainty is costly to the homeowner in many ways. And the cost will eventually again become a significant burden to many of Maine's households.

Sure, as the author of the MODA article says, you can substitute diesel fuel for heating oil: but at what price? If there are shortages you can be sure the prices will be very high.

Remember how the homeowners treated the oil delivery people when heating oil was over \$4.00/gallon? That will happen again.

Maine Energy Supply? [\[MODA\]](#)

The residential and commercial wood pellet fuel market currently has no government handout. Solar and wind do get tax credits. Biomass-to-electricity generation facilities also get direct subsidies that cause everyone's rates to be a bit higher. While we agree that the government should not be in the business of picking winners, we also cannot help but notice that the playing field is already tilted. Level the playing field and then let the market decide. Last year, when heating oil was over \$4.00/gallon, the market drove homeowners to consider alternatives to heating oil. That will happen again.

\$5 billion leaving the state in petro dollars. [\[MODA\]](#)

One of Maine's largest winter exports is money for heating oil. Conservation is a very good idea for helping to lower that export. But whereas \$0.76 of every dollar spent on heating oil leaves the state (and a significant part of that leaves the country), every dollar of money spent on made-in-Maine pellet fuel stays right here. The mainstay of Maine's economy is the forest products sector. But jobs in that sector are disappearing as foreign pulp and paper competition and the global decline in paper demand are hitting us hard. Fuel made not only in the USA but in our state would support jobs and our economy.

We don't see how that will cause more money to leave the state.

How about costs? Pellets and pellet systems. [\[MODA\]](#)

The numbers used in this section of the MODA article do not match reality. It is true that the expected average cost of pellets over the next 10 years is a little more than \$300/ton. But then the author of the

article compares that to \$2.00/gallon oil. The Energy Information Administration (EIA) says that heating oil will average \$3.71 over the next 10 years. They could be right. But, given that 94% of the forecasts by the EIA have significantly underestimated what the actual costs turn out to be, we are skeptical of that forecast; particularly since last year the price was higher than that. Nonetheless, the author is comparing apples to oranges. Furthermore, the author says that the average home uses 850 gallons. 850 gallons of oil is equivalent to 7.1 tons of pellet fuel not the 10 tons that is used in the comparison.

Using the author's price of \$2.00/gallon and the current pellet fuel price of \$243/ton, it will cost a homeowner \$1,700 to heat the home for a year with oil and \$1,725 with pellets.

Last year that same home, at \$4.15/gallon, would have cost \$3,528 to heat. That was more than twice the cost of pellets. That will happen again.

Oil prices are volatile and could be \$4.00 per gallon next year! [\[MODA\]](#)

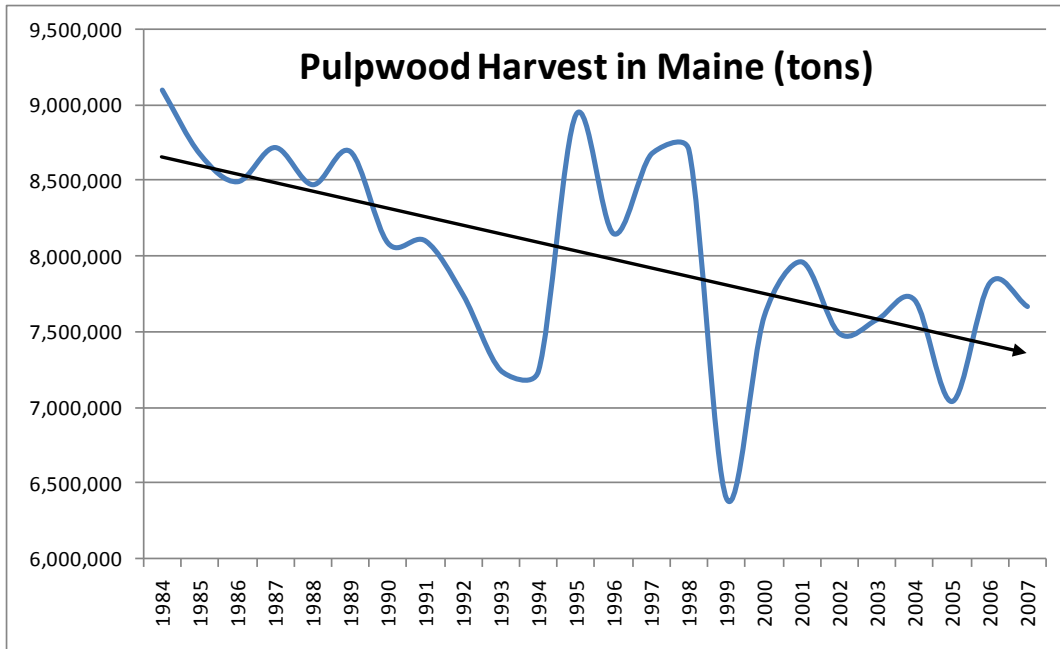
We are not sure what the Federal regulators are doing (or could do) that will fix the supply and demand relationships that drive prices in the oil market. We are sure, as are most analysts, that when the Great Recession subsides oil prices will not only rise, but will rise rapidly. Oil may not get to \$4.00/gallon next year but it will happen again. The Federal government may not be doing much but the Maine Governor's Wood-to-Energy Task Force has formulated a strategy endorsed by the governor for converting up to 10% of Maine's homes from non-renewable high-carbon fuel (heating oil) to renewable low-carbon fuel (wood pellets).

Doesn't it make sense to get ready now instead of waiting for the next crisis?

What about pellet price volatility? [\[MODA\]](#)

The pellet association material states that a price ceiling exists for pellets.

Trees are a renewable resource. Oil is not. Oil has to become scarcer. Trees and woody crops can actually become more abundant with good forestry practices. Sustainability is of course key. According to the Maine Forest Service, Maine sustainably harvests more than 17,000,000 tons per year of trees. About 6,000,000 tons per year go into pulp mills. Pulpwood demand has been volatile but has also declined by more than 1 million tons per year on average. But peak to trough pulpwood demand has seen fluctuations of almost 3 million tons (see the chart below)



Maine's forests are growing not shrinking. But the volatility in pulp demand is killing the logging industry. Who would invest in a new million dollar harvester if they were uncertain that next year that anyone would buy the wood?

That can be fixed with the growth of the biothermal fuel market. Just using the pulpwood that is no longer demanded by the pulp industry, more than 80,000 of Maine's homes could be heated with biothermal fuel from Maine. That known demand for about 1.1 million tons per year of wood would allow certainty to pass from the homeowner needing fuel right back to the logger who now knows that there will be a demand for the trees. That seems like a very good idea.

Claimed Environmental benefits for pellets: Oil and gas are the cleanest forms of energy production when something is burned. Solar, hydro, and wind are good technologies that have a place in the energy mix. [\[MODA\]](#)

Take a look at the charts at the end of this paper. Oil and gas are the cleanest in terms of particulates (barely better than a modern pellet fueled boiler) but are not in terms of carbon emissions and sulfur dioxide. We have already discussed how technologies that make clean electricity will not heat Maine's homes.

Made-made climate change is not a side show anymore. EPA has classified CO₂ as a pollutant (just as the rest of the developed world already has). That will impact oil prices. But Maine is not an insignificant contributor. Maine is the worst (the "winner" in the chart below) by far of any other state in the country for CO₂ emissions from the residential sector. That is completely because of our disproportionate reliance on heating oil.

Residential CO ₂ Emissions per Person		
	U.S. Rank	lbs. per Capita
Maine	1	7,440
Vermont	2	5,368
Connecticut	3	5,321
Rhode Island	5	5,128
New Hampshire	6	4,870
Massachusetts	8	4,604
New York	9	4,060

Should Maine subsidize the installation of wood pellet systems? [\[MODA\]](#)

While we do not favor government intervention into any market, we do favor a level playing field. The government already is picking winners with tax credits to solar, wind, geothermal, and biomass-electric generators. Although the use of pellet fueled boilers is a mature market in Europe, it is a brand new market here. With low volumes and no domestically produced (yet!) efficient and fully automatic pellet fueled boiler systems the price for a new system installed is about \$5000 to \$6000 more than an equivalent oil system.

Sometimes it makes sense for the government to help a new industry if that industry can create jobs, can save money in the long run, and can improve the environment.

In the case of converting homes from oil heat to biothermal heat, using government forecasts for oil prices and the expected pellet fuel prices, the average home will save about \$1,600 per year in heating costs 10 years from now. Best of all, the cost of a tax subsidy will be more than paid back by taxes collected from the new jobs created. Of the more than 9,600 jobs that will be created if 10% of Maine homes convert from oil to pellet fueled boilers, more than 1,400 of those are in the forest products sector. Those are loggers and truckers who are seeing their jobs disappear now.

As a bonus, if 10% of Mainers switch to a low-carbon emission fuel it will stop about 630,000 tons per year of greenhouse gasses from being produced in Maine. That has real value since under the existing cap and trade system run by the Regional Greenhouse Gas Initiative (RGGI) those carbon offsets are worth money. In the most recent auction (3/18/2009), they sold for \$3.51/ton. That would be over \$2.2 million that those homeowners would earn for their reduction in greenhouse gas emissions.

Maine should subsidize electric conversion systems. [\[MODA\]](#)

We completely agree that wind power will cost more. And, as has been said already, electricity will not heat Maine's homes.

I could save 30-40% if I upgrade my oil furnace or boiler. [\[MODA\]](#)

Unfortunately, the author of the MODA article perpetuates the false argument that has already been corrected above. At today's prices, there is no savings using made-in-Maine biothermal fuel. But there is not, as the author states, a savings of \$1,800 per year from using oil!

However, if oil prices go back to \$3.00/gallon then the title is true. You would save 30% per year. That will happen. And we certainly agree that a switch from oil to pellet fuel is an “upgrade.”

MODA sounds anti-pellet and anti-alternative? [\[MODA\]](#)

Yes, it does.

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This article was written by William Strauss for the Maine Pellet Fuels Association.

The Maine Pellet Fuels Association’s members include pellet manufacturers, pellet retailers, pellet boiler systems suppliers, wood chip systems suppliers, and others with an interest in seeing Maine become energy independent with fuel made-in-Maine. The Maine Pellet Fuels Association is committed to a future of energy independence by helping the citizens of Maine and New England convert to economical, renewable, environmentally safe, and locally produced wood pellet fuel. MPFA is dedicated to supporting the sustainable management of our forests, the responsible growth of pellet manufacturing, the consistent production of high quality pellet fuel, the affordability and price stability of pellet fuel, and the use of clean-burning and efficient appliances so that the citizens of Maine and New England will have a reliable non-polluting source of heating fuel forever.

Dr. Strauss is the chief economist for the Maine Pellet Fuels Association and is a director with Maine Energy Systems in Bethel, Maine. Dr. Strauss is recognized as a leading expert on the economics of biothermal energy systems and served on the Governor’s Wood-to-Energy Task Force.

Maine Energy Systems' 10-ton Delivery Truck

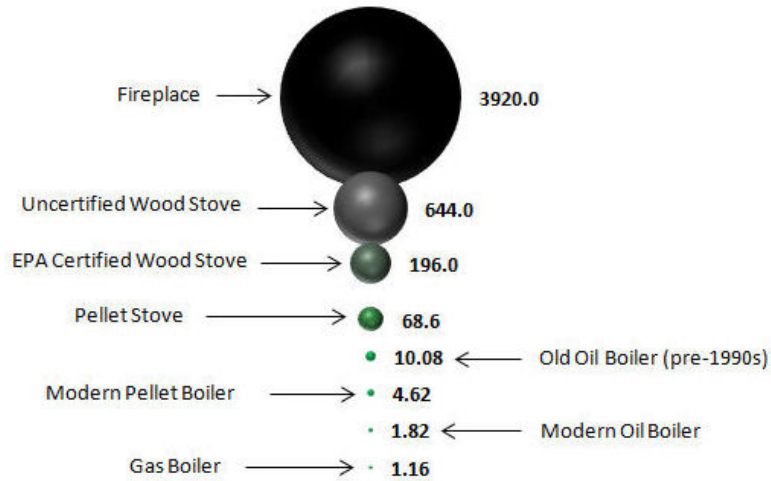


Maine Energy Systems' 20-ton Delivery Truck



Total Pounds of Particulate per Year

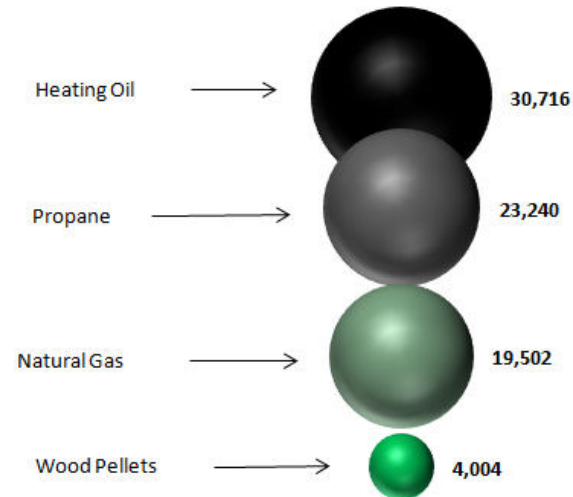
normalized to the equivalent of the BTU from 1000 gallons of heating oil per year



Source: USEPA and Swedish National Testing and Research Institute

Total Pounds of CO₂ (a greenhouse gas) per Year

normalized to the equivalent of the BTU from 1000 gallons of heating oil per year



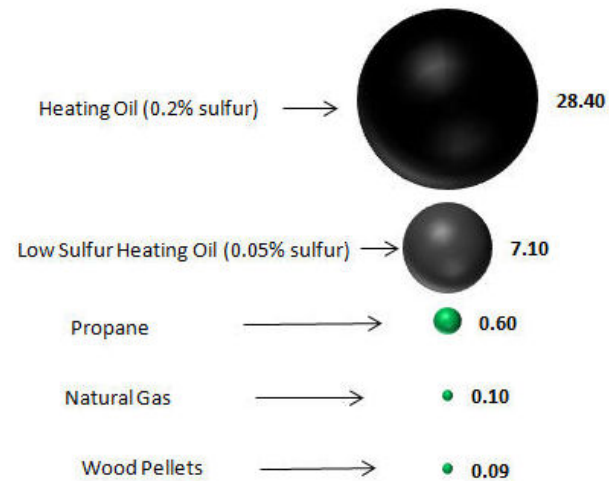
Source: University of Wisconsin, July, 2007 - With the assumption that Maine's forests will be harvested in a sustainable fashion so that trees can grow to maturity and perform their important role in the sequestration of carbon. Wood pellets are not entirely carbon neutral because some fossil fuel is required for the harvesting of trees and shipment. Extraction, refining, and transport emissions are included for each of the four fuel sources.



A Modern Wood Pellet Boiler in a 4200 sq. ft. Maine Home

Total Pounds of SO₂ (precursor to acid rain) per Year

normalized to the equivalent of the BTU from 1000 gallons of heating oil per year



Source: EPA AP42, 5th Ed., Vol 1, Chapter 1; and "Control Analysis and Documentation for Residential Wood Combustion in the MANE-VU Region", Mid-Atlantic Regional Air Management Association, Dec., 2006.

Facts For Members On Energy Policy In Maine

(reprinted from MODArandum, Volume 5, Issue 2, May, 2009)

The State, many in the media, and those from the green persuasion are continuing their demonization of oil. In Maine, they are particularly focused on heating oil as a problem. This assault on heating oil, fossil fuels, and foreign oil is driving policy in Maine (and the nation). We must counter with the facts as most of the conversation has been laden with half truths, incomplete information, prejudice, and simple ignorance. Some balance needs to be inserted into this conversation about Maine's energy future. You can help. It is your business that is at risk if we don't tell our story. Below are a series of questions and answers that may be helpful to you when talking to legislators, friends, and businesses in your community. If we can be of further help, or if you have additional comments that seem to work well with your customers, family, and policymakers let us know and we can share the information.

Maine is 80% dependent on heating oil for space heat. This is a bad thing as claimed by many in Maine government.

Why is this bad? Maine people have chosen the best option for their serious heating needs. Heating oil and kerosene are fantastic products that are the cleanest, most reliable heating fuels in Maine. For most of the heating oil history, HO has been the best value. Its cost has been consistently lower than most other choices. Combine this with its cleanliness, reliability, and safety; you've got a great product. You can leave your house for a week if you want to. You don't need someone to clean out your pellet stove/boiler every week or every day and/or fill it. There is no lifting, storing, splitting, etc... [\[Back\]](#)

We need to make Maine more energy independent.

What is independence? Maine relies on the rest of the world for most of its goods. Why is energy any different? Independence does not necessarily mean security nor dependability. Would we be secure if Maine homes relied on a few pellet manufacturers in Maine for their heating needs? What happens if one or both close? Perhaps there's a fire? What are these people going to do? How dependable has the electricity grid been in recent years? [\[Back\]](#)

Maine needs to reduce its dependence on foreign oil!

This has been a great buzzword for politicians for years. However, it is meaningless. Maine is considering replacing "foreign" oil with electricity that comes from Canada, delivered by a Spanish corporation. Or with Canadian natural gas which is supplemented with LNG from Africa? Increasing demand for natural gas will require more LNG from African nations. Or with pellets from Canada and South America? Unless the state forces Maine citizens to only buy Maine-made pellets, it is likely that if demand surges, the additional supply may be from cheaper sources like South America and Canada. Half of our heating oil is produced in the U.S. by U.S. companies. All local heating oil and propane companies are "locally" owned. Do customers want to be dependent on a faceless foreign-owned utility? Or your local community business person whom you see at church and the supermarket and can go see if you need advice or help. Finally, heating oil is only responsible for 1.7% of a barrel of crude. When a barrel of crude is refined, only 1.7% is used for heating oil. Reducing the use of heating oil to nothing would have little effect on importing foreign oil. [\[Back\]](#)

What about supply shortages?

All energy sources are subject to supply situations that stress the normal day-to-day activities. Maine has never run out of heating oil. There are weather anomalies and transportation issues that stress the system. Because heating oil is a world commodity, it is subject to world price pressures; yet because it is a fungible commodity, it can be supplied from anywhere in the world. Thus heating oil is much more dependable from a supply standpoint than any other energy source, except perhaps wood from your backyard. 200 gallons of heating oil in a tank in your basement is security. Relying on gas and electric from limited wires and pipelines provides no self-sufficient storage. Russian early froze a whole country by closing a valve. Are we relatively more secure with that kind of tenuous supply? On Saturday, April 11, it was reported that the natural gas line to Maine was shut down. Further, heating oil can be

substituted for by diesel fuel and kerosene. If a real heating oil shortage happened— if for example, no ships can get into the harbor and the New Jersey pipeline shut down, and the refineries in the northeast and Canada shut down — then Maine homeowners and dealers can use diesel fuel as heating fuels. If diesel fuel becomes scarce, we are in real trouble and heating our homes will become secondary to the lack of food as trucks will not be moving. Natural gas is not immune: rolling brownouts have been caused by shortages of natural gas in the summer when demand for electricity is highest. [\[Back\]](#)

Maine Energy Supply?

There is nothing wrong with producing our own energy products in Maine. We could today have nuclear plants, oil refineries, coal-to-liquid facilities, coal-fired electric generation – any source of energy is possible– but we prohibit most forms. Thus, what is the real goal? Politically correct energy independence? Politically correct energy independence has been very expensive in the past. Furthermore, politically correct energy independence is insecure and more narrowly focuses our dependence. If the market is not the driving force, then government must subsidize. Government must take money from taxpayers to prop up one industry over others. How does government know what technology will be like in the future? For example, propane-fired micro turbine residential systems are available today. Why should that technology be shutout by a policy of government? [\[Back\]](#)

\$5 billion leaving the state in petro dollars.

True, BUT how much money is leaving the state for cars, shoes, clothes, food, electricity, electronics, wood products, building materials, toys, computers, etc... do we need to go on? And we actually get something for our money. Oil in return for cash. Conservation is really the only way to keep money in Maine citizen's hands. Switching fuels is no guarantee and historically has caused more money to leave the state. [\[Back\]](#)

How about costs? Pellets and pellet systems.

Mr. Otten, on behalf of his pellet company and the pellet association, stated on February 11, 2009 before the Maine's Energy Future Committee, that it takes 10 tons of pellets to heat a home. In the literature that Mr. Otten gave out, it says that wood pellet costs average \$300 per ton. Thus, according to Mr. Otten and the Maine Pellet association themselves, it would cost \$3,000 a year to heat your home. Mr. Otten also stated that in-home central pellet heating systems cost between \$15,000 and \$18,000. Oil and gas heating systems cost between \$6,000 and \$10,000. A complete retrofit oil and gas system could cost less. Suppose I wanted to put in a pellet central boiler – it would cost almost double what an oil or gas system costs. Oil has historically been cheaper than gas, but either one has been much lower than pellets. Over the last 20 years, heating oil has averaged \$1.50 per gallon. It was at over \$4.00 per gallon for only five months. Today it's at about \$2.00 per gallon. An average home uses 850 gallons of oil per year. Heating oil would have to cost \$3.53 per gallon to cost \$3,000 per year. It has never averaged \$3.53 per gallon. [\[Back\]](#)

Oil prices are volatile and could be \$4.00 per gallon next year!

True, they could also be \$1.00 per gallon. Oil prices have been artificially volatile over the past few years. For a barrel of crude to run up to \$147 per barrel and then down to \$35 in less than a year indicates that something other than normal supply and demand forces are at work. There are obvious problems in the commodities markets when this happens. Federal regulators have taken note and are acting to stop this seesaw. Natural gas prices are also volatile: It was only a year and a half ago that the state was complaining about the costs of electricity being too high because Maine relied too much on natural gas electric generation and at that time, natural gas prices were extremely high. Government guessing about prices has historically been a bust. Further, prices for energy tend to follow each other. A price for a BTU will follow another. [\[Back\]](#)

What about pellet price volatility?

Raw materials for pellets are being used by the biomass facilities and paper mills. Pellet manufacturers compete for raw materials. An artificial demand (government sponsored) for pellets could cause the raw material price to rise, thus giving an uncertainty to the pricing of pellets. [\[Back\]](#)

The pellet association material states that a price ceiling exists for pellets.

The ceiling is achieved, according to them, when the price for raw materials for the biomass facilities and paper mills becomes too expensive for the mills and biomass units to operate anymore. Thus, when the paper mills and biomass facilities go out of business, pellet prices will subside. Sounds great for those working in those industries in Maine. Whether or not those other businesses will close and thus lessen the demand for raw products is at best hypothetical. Prices of different energy sources tend to follow each other. Energy users are always looking for a cheaper way to use energy and save money. When oil was \$4.70 a gallon, many people understandably did not want to use oil so they went and found an alternative. There was no need for government intervention. The market will drive these decisions. [\[Back\]](#)

Half of our heating oil is made in the U.S.

It is true that half of the heating oil in the country is made in the U.S. Much of Maine's oil comes from the U.S. and Canada.

Claimed Environmental benefits for pellets: Oil and gas are the cleanest forms of energy production when something is burned. Solar, hydro, and wind are good technologies that have a place in the energy mix.

Particulate and toxic emissions from wood and pellets are off the charts compared to oil and gas. Many cities ban wood fired appliances because of the air pollution caused by them. Central wood pellet systems are cleaner than non-EPA certified wood stoves but they are still many times dirtier than oil and gas. Pellet's only advantage is with greenhouse gases, if you believe that burning wood and wood products do not add to the CO2 emissions —and if you believe that the trace amounts of atmospheric gas CO2 emissions from Maine citizens have a significant impact on climate. Man-made climate change and the infinitesimally small contribution that Maine could possibly add to that theory should be deemed a side-show. Real emissions of known harmful compounds are what is really at issue here. In the case of air pollution, unless it's solar, wind, geothermal, or hydro, your best bet is oil or gas. [\[Back\]](#)

Should Maine subsidize the installation of wood pellet systems?

Giving a \$5000 tax credit for the installation of a central pellet system is government picking winners and losers. If the government is trying to help Maine people lower their energy bills and lower their consumption of oil, why not use the credit for any type of upgrade? A new high efficiency oil unit can reduce usage 30% on average. Reducing the average oil user from 850 to 600 gallons per year will save a lot of money and reduce all types of emissions. This is known, reliable, dependable, and proven technology that exists now and will get even better in the near future. [\[Back\]](#)

Maine should subsidize electric conversion systems.

It is claimed that electricity is the heating fuel of the future. It is green, local and...? There is a new push to have Maine issue a \$1.4 billion bond to start a massive changeover from oil to electric heating systems. The claim is that electric will be cheap and clean. This is not a joke. The government has proposed it believing Maine to be the Saudi Arabia of wind. There is nothing indicating that wind will be cheap. Government picking winners and losers is almost always wrong. [\[Back\]](#)

I could save 30-40% if I upgrade my oil furnace or boiler.

If I reduced my usage of oil by 30% to 600 gallons how much money would I save? The price of oil will have to be \$5.00 per gallon in order to reach the \$3,000 per year you would be spending for pellets. (600 x \$5.00/gal = \$3,000) At \$2.00 per gallon you are saving \$1,800 per year with the oil system. Further, you also saved at least \$5,000 on the installation which you could use to buy something else in Maine. [\[Back\]](#)

MODA sounds anti-pellet and anti-alternative?

We are not anti-pellet nor anti-alternative. We are pro free market. The pellet association, government officials, and other energy providers have made claims that need to be challenged and addressed for

anyone who is considering energy policy or perhaps buying energy related equipment. Many MODA members are energy companies selling oil, propane, motor fuels and alternatives including solar, geothermal, and pellets. [\[Back\]](#)

These companies pay this association to provide factual information on comparisons and to critically assess claims made by others in the energy delivery business. The pellet association and others can make their claims, but we have the same right and duty to inform Maine citizens from our point of view. We strenuously attempt to apply real facts and research to any energy assessment. We recommend that everyone does their own homework, talk with dealers and installers, and find out the facts.