

2007 Industry Strategic Plan

Summary:

The Oilheat industry is entering a period of transformation that will allow it to grow. The industry faces a wealth of opportunities and challenges. Globalization, energy deregulation, environmental issues, and new technologies require that Oilheat companies reevaluate their existing business strategies. New business models will be required for future success and survival. In particular, the Oilheat industry must forge strategic alliances to position itself for market success by providing innovative products and services, offering unique technology solutions, delivering superior value to customers, setting new standards of efficiency and environmental protection, and maintaining competition and profitability.

Strategic Goals

The Oilheat industry has identified five strategic goals that are critical to achieving its vision. The goals respond to the trends and drivers shaping energy markets and to the needs of customers, shareholders, and the public.

Technology Growth

- Fuel Pathway
- Core Technology Pathway
- New Technology Pathway

Business Model Transformation for the Future

- Increasing the variety and quality of Oilheat services for the existing customer base
- Reduce operating and other costs
- Transformation for the future: i.e. the internet

Public Policy and Regulatory Improvement

- Improve Energy Efficiency Rating Standards
- Tax incentives to encourage change outs of existing , boilers, furnaces and storage tanks
- Tax incentives to encourage ULS and XTL fuels.
- International collaboration and technology sharing

Public Awareness

- Policy makers, media, manufacturers, dealers and consumers need to understand and support the Industry's Strategic Vision.

Strategic Alliances

- Strengthen alliances that support the industry vision

[To view complete Strategic Plan click here](#)

June 20, 2006

Mr. John Huber, President

National Oil Heat Research Alliance

600 Cameron Street, Suite 206

Alexandria, VA 22314

Dear John:

Today we held our last task force meeting for the development of the Peerless®



Pinnacle® oil fired boiler. We are finalizing the remaining design and manufacturing issues and will now concentrate all our efforts at continuing to introduce this product to the market. We have a stock of finished boilers and are beginning to receive orders from our distributors. You will soon receive our final report to NORA.

As you know, our initial introduction of this boiler at the AREE and NAOHSM shows this spring was extremely successful. The oil dealers' interest in this new, high efficiency, fully condensing product was remarkable. Technicians responded positively to its features and benefits.

They especially like the fact that we use a Beckett AFG burner and tekmar controls; two products with which they are very familiar. I can't remember a product introduction at a major oil industry show that received more attention. In addition, the trade press is now featuring articles on the Pinnacle oil boiler.

The Peerless oil fired boiler line is the most complete in the industry. The introduction of the Pinnacle oil boiler solidifies our position in the industry as the most innovative manufacturer of oil boilers for residential use. The development of this product was fast tracked so that we could have it available for the 2006 heating season and we accomplished this task on time. In addition, we continue to develop additional new products for the oil heating market.

On behalf of PB Heat, LLC and its affiliated companies that design, manufacture, market and sell the Peerless boiler product line, I want to thank you and the NORA board of directors for having faith in us. Without the support of NORA and the grant that you so generously provided, we would not have been able to accomplish our goals. Your confidence in us is greatly appreciated.

Thank you, again, for your assistance and we look forward to working with NORA on future projects.

**Cordially,
Jeffrey K. Alexander
Vice President**

2006 Report

Alexandria, VA - August - The National Oilheat Research Alliance (NORA) has approved seven projects that will change how the Industry is viewed in the public eye. The projects will explore ways to become even more efficient, investigate emerging fuel technology, and increase market share. The projects will be completed within five years time period.

NORA has helped develop a condensing furnace with Adams Manufacturing Company which now lays claim to the world's highest delivered energy efficiency at 98%. And

also helped developed the Peerless Pinnacle condensing oil boiler that is a direct vent, sealed combustion boiler and is 93%+ efficient, earning it the ENERGY STAR® rating. Both product lines are extremely quiet and the beginning to move the industry into a new era of equipment.

The new line of projects builds the focus of its predecessors. The three challenges are: efficient, investigate fuel technology, market share. The findings will reinforce to the American homeowners that Oilheat is safe, reliable, secure and sustainable energy choices for the future.

Higher efficiency equipment will ensure the unit is squeezing every BTU out of a gallon of heating oil possible. Also, better combustion in the unit will decrease soot, smoke, and carbon monoxide emission into the environment making Oilheat even cleaner. Investigate new fuel technology is the wave of the future; by exploring new effective and efficient ways to heat a home will not only benefit the consumer but also the dealer. Increase market share is priceless and Oilheat will venture into different housing markets and household appliances. The intent is to make Oilheat more versatile.

Jim Townsend, Chairman of NORA, stated: “Twenty years from now; we’ll say this was the turning point for the New Industry as we know it.”

NORA is now funding these projects that will be crucial to achieve our goals.

The projects to produce higher efficiency equipment are:

- Two-stage burners with a minimum of 2 to 1 turndown
- Modulating burners with 5 to 1 turndown
- Advanced high efficiency boilers
- Combined condensing boiler/hot water heaters

The projects to understand emerging fuel technology are:

- Investigating of new Ultra Low Sulfur fuel in unit heaters
- Investigate advanced synthetic Coal-to-Liquid Fuels (CTL) for oil-fired burners

Lastly, NORA will look into introduction hot water heater for townhouses and condominiums which is a new market for Oilheat.

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2005 Report

National Oilheat Research Alliance Update on Research & Development Committee

On December 1, 2005, the National Oilheat Research Alliance met to discuss the Research & Development Committee progress and future plans. The meeting covered

Existing Projects, Market Overview, the Directions for the Future, and Future NORI Activities. Here are some highlighted points regarding the Committee meeting.

- **Future Funding**
 - **Over the next three to four years, NORA will be disbursing \$2.3 to \$2.5 million dollars to research.**

- **Existing Project Review**
 - **Adams has developed a 95% efficient condensing oil fired furnace product line and commercialized ranging 50,000 through 250,000 BTU.**
 - **Thermopride has developed combination heating and air-conditioning unit.**
 - **Honeywell Home and Building Control developed a Residential Oil Heat Remote Usage & diagnostics device with web capabilities. The product was commercialized in 2005**
 - **Carlin's remote monitoring will be tested this winter.**
 - **Beckett's Con NOX burner is continuing analysis.**
 - **Bacharach developed a workable prototype digital smoke detector.**

- **Market Overview**
 - **Research needs to address these issues: energy cost is the forefront, emissions, lack of complementary products, and installed cost versus alternatives.**

- **Directions for the Future**
 - **Tom Butcher from Brookhaven National Laboratory presented research in four areas: Low Sulfur Oil, Biofuels, Condensing Boilers, and Integrated System Performance Evaluation.**
 - **Tom Butcher, Ray Albrecht, and Rich Sweetser were tasked to create a draft on the subject of replacing existing "old" oil systems with "new" oil systems.**

- **Future NORI Activities**
 - **B-2 to B-5 Biodiesel is equivalent for heating oil safety. Further studies will be done considering the effects on pump seals.**
 - **Plastic storage tanks have many benefits, which may prove to be the next generation of tanks.**
 - **The need for associated oil products like a fireplace insert and radiant heaters to preserve market share and provide opportunities for oil.**

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2004 Report

NORA Releases Consumer Pamphlet About Low Sulfur Heating Oil

Information for consumers about the clean burning aspects and environmental benefit of low sulfur heating oil has been issued in the form of a statement staffer by the National Oilheat research Alliance (NORA).

Heating oil dealers can obtain the pamphlet for distribution to customers by order form from either of these NORA websites: www.nora-oilheat.org or www.norastore.org. The form is available via Pdf download. Or, dealers can order toll free at 1-888-924-1100. The pamphlets are distributed at NORA's cost @ \$65 per thousand.

There is a growing movement within the Oilheat industry to introduce and deliver low sulfur home heating fuel that surpasses earlier heating efficiency and performance achievements. This product is the result of recent advances in refining technology.

The advantages to low sulfur heating oil, include:

- Reduced emissions from furnaces or boilers
- Improvements in equipment performance
- Improved fuel stability.

These features are beneficial to retail distributors, customers, and the environment. Low sulfur heating oil refers to fuel containing .05% sulfur content (or less), sometimes expressed as 500 ppm, or 1/20 of 1%. This is a significant reduction compared to standard heating oil.

Research by the National Oilheat Research Alliance (NORA) has confirmed that as the sulfur in fuel is reduced, the amount of byproducts decreases. Low sulfur heating oil will make Oilheat equipment more efficient, reduce emissions and reduce the frequency and length of service visits.

While low sulfur heating oil may not yet be available in all marketplaces, it is gaining in use and acceptance. The National Oilheat Research Alliance (NORA) and the Consumer Energy Council of America (CECA) support making this product available wherever Oilheat is distributed. This low sulfur product represents a major step forward on behalf of consumers who enjoy the warmth and comfort of Oilheat.

For more information:

National Oilheat Research Alliance

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Thanks to Clearburn Science Today's Oilheat is Clearer than Ever

Market research completed by the oilheating industry indicated that many consumers have a mistaken belief that Oilheat is dirty and old fashioned!" However, this belief is based on perceptions of equipment that is thirty and forty years or older. Fortunately, technological changes have been occurring in the oilheating industry, and now Oilheat is clean and modern. These advancements have been so steady, that many do not realize what a changed and improved product Oilheat is.

To reflect these changes, the Oilheat industry has developed a term that describes all the advances in technology Oilheat has made in the last 40 years. This term describes the fact that Oilheat has made significant advances in technology and fuel performance over that time. Additionally, the Oilheat industry has continued to provide high quality service for that whole period.

In the Oilheat industry's effort, there will be a renewed focus on explaining that the equipment The goals for NORA's advertising campaign is to stop the bleeding, and reverse the momentum. We must attack the perceptions of dirty and old fashioned head-on. Clearburn Science implies Clean, Technological, Modern, Changed. It is important that we extend the message that Oilheat is clean to every area of customer contact. We must clean up our act. Everything the customer sees must be clean, from our offices and facilities, to our trucks, uniforms, tools, and invoices. Most important, we must be sure our customer's heating equipment is clean! People judge the quality of Oilheat by the appearance of their heating equipment.

Clearburn Science describes the human touch provided by the people who work in the Oilheat Industry. To be successful we must commit to do all we can to insure that our customer's heating equipment is operating at peak safety, reliability, and efficiency. We must work to insure that their tanks never run low, and that our customer's experience with Oilheat is convenient, dependable, and trustworthy. We must always treat our customers with respect. We will work to offer competitive prices. We will stay informed so our customers can rely on us as their source for information on the latest technological heating innovations.

The best way to characterize the cleanliness of a heating appliance is the Fuel Conversion Efficiency. This refers to the percentage of the fuel converted to heat in the flame. According to Advanced Oil Heat- A Guide to Improved Efficiency, published by PMAA with funding from the USDOE, (page 3-14) "Oilheat's Fuel Conversion Efficiency is virtually 100%. All the fuel is consumed by the burner."

Further justification for the 99.9% claim comes from research work done for the USDOE by Brookhaven National Laboratory, and studies by the USEPA. The result of this research, published in USEPA AP-42-4th Edition, is that new oil burners produce 0.4 pounds (6.4 ounces) of combustion residue per 1,000 gallons of fuel burned. (The average oilheated home in the United States burns between 800 and 900 gallons of oil a

year.) The amount of combustion residue left in the heating appliance at the end of the heating season is the best measure for the cleanliness of a combustion device. Manufacturers specify that new oil burners be adjusted to zero or a trace of smoke. This is approaching zero levels. The volume of 7 ounces of combustion residue is about 3 cups. To define the magnitude of cleanliness 7 ounces per 1,000 gallons represents we must calculate the volume of fuel consumed. Oil weighs about 7.1 pounds per gallon, 7,100 pounds per 1,000 gallons. The less than 7 ounces of residue left from 7,100 pounds of fuel means we have burned 99.9938382% of the fuel, therefore Oilheat is 99.9% clean. By the way, older burners (pre-1970) created 10 pounds of particulate per 1,000 gallons of oil burned and were 99.8591549% clean. The “95% cleaner than before” claim refers to lowering particulate from 10 pounds per 1,000 gallons down to 7 ounces. This is a 95.625% improvement.

Why is Today’s Oilheat 99.99% Clean?

Clearburn Science recognizes the improvements made in heating oil. We have dramatically reduced the amount of sulfur in the fuel from over 1% in 1970 to an average of .25% today. This leads to improved efficiency, cleaner burning, lower environmental impact, and increased longevity for heating equipment. Today, many dealers have gone even further. They are marketing .05% sulfur fuel. Clearburn Science reflects this steady improvement and ongoing commitment to improve our fuel. NORA’s primary research initiative is to further improve fuel performance.

The most dramatic advances for Clearburn Science have been made by Oilheat equipment manufacturers. New oil powered equipment is dramatically cleaner burning and more efficient than it was thirty years ago. In 1973 the average oil heated home burned 1,294 gallons a year. In 2001 the average home burned 833! That is 6 billion fewer gallons a year! We have also increased reliability, thereby increasing maintenance intervals from one year, to as long as three years for new equipment. Manufacturers are hard at work in their research laboratories today on technological improvements that will make Oilheat even cleaner, more efficient, more reliable, and even easier on the environment.

In the 1990’s Oilheat technology produced dramatic advances in burner components. New flame retention burners produce hotter more efficient flames because less excess combustion air is used than with older oil burners. The flame temperatures of these burners can be 300 to 500 degrees F above older models. The improvement in air-oil mixing provided by new flame retention burners is evident by their performance: low smoke numbers and high carbon dioxide percentages in the combustion gasses. These new burners can easily reach 11% to 13% carbon dioxide with 0 to just a trace of smoke. We had to work hard to get older units up to a 7% to 9% carbon dioxide with a #2 smoke.

The most dramatic advance has been a remarkable increase in the consistent static pressure created by the new burner air control systems. Static pressure refers to the amount of compressive or expansive energy in a fluid or gas. Static pressure is the means of producing and maintaining flow against resistance. New oil burners available on the market today create much higher static pressures than units made as recently as the

1980's. Some of these burners create such high static pressures that they can force the products of combustion through the heat exchanger and out of the building through an exhaust pipe without the use of a chimney or power vent.

High static pressure burners were developed to accommodate the high efficiency flow resistive heat exchangers of modern boilers, furnaces, and water heaters as well as to assist with low or no draft conditions. High static pressure ensures uniform, dependable combustion performance under variable conditions. The higher static pressure acts like a shock absorber or tightly wound spring that resists and absorbs flame pulsations. High static pressure burners produce a consistent, clean, white-hot flame.

When properly adjusted, oil burners have always run rather clean. The problem has been getting them to fire-up and shut-down cleanly. We have made remarkable progress with this challenge. Thanks to microprocessor controls allowing pre and post purge, quick cut-off pumps and oil valves, as well as special nozzles with integrated cut-off valves, new oil burners start and stop much cleaner than earlier models.

Other innovations such as the use of PSC motors, interrupted ignition, and high output igniters result in cleaner combustion and less electric consumption. The end result of all these innovations is oil powered heating appliances stay clean much longer. Older units could be tuned-up to run clean, but their performance deteriorated over the heating season. New units burn so clean that even after two or three years their efficiency is still almost as good as the day they were tuned-up.

Technicians must tune-up oil burners properly. Clearburn Science also refers to The NORA Oilheat Technician Certification Program. It provides a national standard for Technician Training. It gives credibility and recognition to Master Technicians. It encourages Technicians to become perpetual students by requiring Continuing Education. It builds upon and supplements existing education programs. It gives Oilheat companies who invest in education for their Technicians a way to differentiate themselves from those companies that do not. Currently, over 7,000 technicians nationwide are NORA Certified.

Other Oilheat Benefits: Oilheat is the energy choice for your family's comfort, health, and safety. Oilheat is consistent, comfortable, satisfying heat. You can feel the difference with Oilheat. Oilheat is Efficient, Clean, Reliable, and Secure. It is easy on the Environment, and Safe. Oilheat is Economical, it offers Good Value. Oilheat offers a choice from a wide variety of service providers. Oilheat is an excellent investment. It gives your home a nice warm feel. Oilheat homes are cozy. Oilheat Equipment is long lived because of interchangeable parts. There is no built in obsolescence. Having Oilheat in your home gives you Peace of mind.

Summary

Oilheat is cleaner than ever because: high static pressure creates a very clean stable flame, new burners start and stop much cleaner than old burners, since they now burn so clean performance does not degrade through the season as it used to, the technicians

tuning-up the equipment are better trained and equipped, thanks to our tradition and commitment to continuous improvement. The Oilheat Industry is working hard to lower Oilheat's already low environmental impact. This ongoing commitment to research and training to improve fuel performance, increase efficiency and lower emissions for oil powered heating equipment, as well as increase the expertise of our service technicians insures that clean new Oilheat powered by Clearburn Science will continue to deliver terrific value for our customers.