



Thermal Ventures, Inc.™

Developers and managers of district energy systems

Business

Thermal Ventures, Inc.™ established in 1989, is a developer and manager of district heating and cooling systems. These systems are typically regulated public utilities that provide heating or cooling service to customers under long-term contracts or tariff schedules by distributing steam, hot water or chilled water through underground piping networks. Customers include office buildings, hospitals, hotels, municipal auditoriums or arenas, shopping centers, universities and retail establishments. Customers benefit from lower utility expenses, greater reliability and reduced capital and maintenance costs.

Growth Strategy

Thermal Ventures, Inc.™, seeks to grow by acquiring or starting new district energy systems and by increasing the customer base of its existing systems. Management believes the district energy industry is well positioned for growth because of the following factors:

- Many large electric and gas utilities own district energy systems and do not consider them part of their core business, and may decide to divest these systems. In many cases, owners of these systems have not aggressively marketed these services or tried to extend penetration to nearby areas.
- The heating and cooling infrastructure is aging in many urban areas, as systems were installed 25 to 40 years ago within individual buildings. These systems are often inefficient and unreliable, and costs to replace them are often materially higher than the cost to connect to a community district energy system.
- Many owners of on-site heating and cooling equipment, such as steam boilers or water chillers, are either public companies, real estate investment trusts or non-profit organizations, all of which are interested in reducing operating, maintenance and capital costs and keeping assets off their balance sheets.
- Many corporations and industries have made strategic decisions to narrow their focus to their core business, and then outsourcing other functions, such as heating and cooling services, to industry professionals whose core business is district heating and cooling.

Projects

Thermal Ventures, Inc.'s™ management team have acquired a number of district heating and/or cooling systems from their long time utility owners such as the ones in Youngstown; Cleveland; Philadelphia; Boston; Baltimore; St. Louis; Pittsburgh and San Francisco.

In addition to managing the above steam systems our management team have managed a number of other systems including Akron; Richmond; San Diego and Nashville.

- **In 1980** our management team acquired the Youngstown Steam System from Ohio Edison and by 1987 six systems were owned by United Thermal, previously Catalyst Thermal Energy Corp., a \$125,000,000 revenue steam company with 500 employees and assets of \$157,000,000.
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- **Thermal Ventures, Inc.™** reacquired The Youngstown Steam Company in 1991 and grew it's steam business units from that foundation.



- **Thermal Ventures, Inc.™** current focus is on building a new company that will consolidate part of the nations steam systems as it did in the 1980's.

Strategic Partnerships

Management believes customers are increasingly interested in dealing with one Company to secure supplies of energy and energy services. In an effort to position itself as a single source of energy services to its customers, Thermal has established relationships and is pursuing relationships with regional and national electric, natural gas and energy services companies active in the existing and target markets identified by management. The services and supplies from these strategic partners will greatly enhance Thermals ability to satisfy customer needs. Thermals joint marketing and other relationships with leading engineering and mechanical contracting firms are expected to lead to opportunities to develop or manage additional district energy systems.

Management

Thermal Ventures, Inc.™ is led by a management team with deep experience in District heating and cooling. Carl E. Avers, Chairman and CEO of Thermal Ventures, Inc.™, is the former Chairman and CEO of Catalyst Thermal Energy Corp., which was once among the nations largest operators of district energy systems. Several other key Thermal managers are former Catalyst Managers as well.

- **Carl E. Avers, Chairman and CEO:** Mr. Avers, a mechanical engineer, co-founded Thermal Ventures, Inc.™ in 1989 with Lewis Mahoney and has been in the district energy business for more than 30 years. From 1980 to 1989, Avers was chairman and president of Catalyst Thermal Energy Corp., a New York-based company that acquired and grew district steam and cooling systems. During Mr. Avers nine-year tenure, Catalysts revenues grew from under \$3 million to \$125 million. Prior to Catalyst, Mr. Avers was consulting with Ellers, Fanning, Oakley, Chester & Pike, an engineering firm in Memphis, and served as director of its advanced energy systems division. He holds a Bachelor of Science degree in mechanical engineering from Michigan Technological University and is a board member and former president of the International District Energy Association (IDEA). Mr. Avers received IDEAs highest honor, the Norman Taylor Award, in 1986. He has published numerous articles and presented many technical papers on energy and environmental issues.
- **James A. Mullen, Jr. P.E., Vice President:** Mr. Mullen, an electrical engineer, has over 30 years of design and engineering experience with nuclear, coal and gas-fired steam boiler plants and underground steam, condensate and chilled water distribution systems. Mr. Mullen has served as president and general manager of Thermals Youngstown and Akron operations and is president of Youngstown Fuels and Technology, Inc., a combustion technology and fuels consulting company of Thermal Ventures, Inc.™. He received a B.E. in electrical engineering from Youngstown State University and has completed various post-graduate courses in electrical engineering and mathematics from Youngstown State. Mr. Mullen is a registered professional engineer and is a member of The National Society of Professional Engineers, the Institute of Electrical and Electronics Engineers, the Association of Energy Engineers and the International District Energy Association.
- **John Rambo, General Manager:** Mr. Rambo has a diverse background in electronic media and has owned and operated radio stations in Ohio and West Virginia. He received his B.A. from Kent State University and worked as a news anchor, editor, director and station manager before acquiring his first radio station. After a career in broadcasting, Mr. Rambo founded a computer services company and later a wood waste recycling business which supplies alternative fuels for industrial boilers. He owns and operates Buckeye Wood Energy, LLC and Buckeye Energy Management, LLC. He teamed with Carl



Avers in 2006 to participate in several wood-fired boiler projects. Mr. Rambo currently manages Youngstown Energy, LLC.

The District Energy Industry

The district energy industry is growing because district systems offer building managers a viable alternative to operating their own on-site boilers and chiller systems. Among the advantages of district energy systems are:

- **Efficiency:** A central plant has a few large boilers that are more efficient than the operation of hundreds of small boilers in a district.
- **Air quality:** Large central plants are better equipped to operate to air quality regulations than smaller plants, and cleaner air is the result.
- **Fuel purchasing:** District energy operators are central purchasing agents and negotiate lower fuel prices based on larger volumes.
- **Multiple fuels:** Most district energy facilities have two or more fuels available, offering more flexibility than on-site building managers can afford.
- **Reliability:** District plants typically have standby energy capacity that can be used in cases of emergencies. This fosters greater reliability.
- **Building design:** Building designers can offer more rentable space if they eliminate the space dedicated to boiler rooms, chimneys, cooling towers and chiller mechanical areas.
- **Hassle-free operations:** Building managers who buy energy from a community system avoid the labor, maintenance, capital, regulatory and chemical-disposal costs related to managing onsite systems.

Thermal Ventures, Inc.™

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