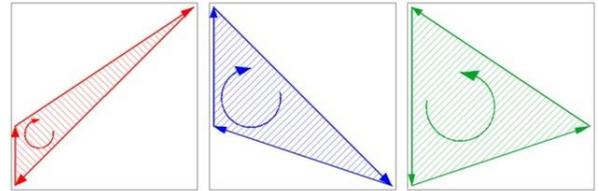


# ThermoLift, Inc.

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## Contact Information

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## Industry

HVAC – Commercial/Residential  
Energy Efficiency  
Building Efficiency

## Development Stage

Gen 2.0 Prototype Testing  
Gen 3.0 Development



## Year Founded

2012

## Number of Employees

20 (17 FT, 3 PT)

## Use of New Funds

70% R&D/Product Development  
5% Marketing/Sales  
20% Operations/Inventory  
5% Legal/Other

## Existing Grants

\$750K – Department of Energy  
\$482K – NYSERDA  
\$100K – NYSERDA  
\$250K – Wells Fargo IN<sup>2</sup>

## Existing Debt

\$0

## Existing Equity Investors

TopSpin Fund  
Long Island Angel Network

**EXECUTIVE SUMMARY:** ThermoLift is developing its patented natural gas air conditioner and cold-climate heat pump technology that combines building heating, cooling, and hot water equipment into a single appliance. The appliance utilizes an innovative thermodynamic cycle, TC-Cycle™ to improve system efficiency resulting in a 30-50% reduction in building HVAC costs as well as associated reductions in greenhouse gas emissions. The energy and cost savings as well as other features such as fuel agnostic capability, elimination of refrigerants for cooling, partial load, and small size offer a significant advantage over current state-of-the-art equipment.

**PROBLEM/OPPORTUNITY:** TC-Cycle™ addresses one of the biggest problems associated with building HVAC: 17% of total US primary energy is used to satisfy building HVAC demand which is associated with high operating costs and carbon emissions. The TC-Cycle™ system will provide a 30-50% reduction in HVAC energy consumption and costs as well as associated reductions in GHG emissions, and help alleviate the electricity demand during peak months by using natural gas.

**PRODUCT:** A 20 kW TC-Cycle™ unit will meet the HVAC demands of an average 2,500 sq.ft. building. It will be sized at approximately 4 feet in height and 2 feet square. At scale, the equipment cost will range from \$3,500 - \$4,500 based on whether it is installed specifically as a heating or cooling system and \$5,500 if it is installed for both; representing a substantial upfront cost savings when installed as a replacement for space heating, water heating, and space cooling equipment.

**MARKET OPPORTUNITY:** ThermoLift has determined that our target market will include small commercial and residential buildings located in cold climate environments that have natural gas connections, and HVAC equipment over 15 years old. Market focus will be on buildings located in the northern US, Europe, Canada, and the UK, representing an addressable market of 10M units per year.

**COMPETITION:** Primary competition includes OEM manufactures of condensing gas boilers, furnaces and electrically driven heat pumps for heating, electrically driven vapor-compression systems for cooling, as well as developing technologies (absorption and engine-driven heat pumps). The TC-Cycle™ utilizes a thermodynamic cycle that offers unique economic and operational advantages.

**REVENUE MODEL:** The company anticipates initial revenue in 2018 with up to twenty field demonstration units. In 2019, ThermoLift will begin small scale manufacturing with direct sales to early commercial adopters, resulting in >\$10M in revenue while securing licensing arrangements. By 2020, ThermoLift will address larger secondary markets with revenues from sales and licensing of over \$77M.

**GO-TO-MARKET STRATEGY:** ThermoLift is working with utility and HVAC distribution companies as a direct channel to customers. To create confidence, ThermoLift will initially target the commercial market and then pursue licensing relationships with HVAC manufacturers. ThermoLift has developed relationships with utilities including National Grid, ConEdison, and British Gas among others.

**FINANCIALS:** ThermoLift has raised \$11.8M in funding including \$1.3M in grants from the DOE and NYSERDA for research and development and \$250K from the Wells Fargo Innovation Incubator (IN<sup>2</sup>). ThermoLift will use a combination of private capital from existing investors, new investors, and grant funding from the government to take us through our Series-B raise, projected at \$10M.

**THE TEAM/RELEVANT EXPERIENCE:** ThermoLift has a multidisciplinary performance team including four PhDs and nine Master's-level engineers. Paul Schwartz (CEO) has 20-years' experience securing early-stage capital. Prof. Dr.-Ing. Peter Hofbauer (Inventor, President) was Head of VW Powertrain Development Worldwide. Board members include Bob Catell, former Chairman of National Grid, and Steve Winick, former CTO of Honeywell's Home Security Business group.

**EXIT STRATEGY:** ThermoLift intends to begin initial commercial production utilizing contract manufacturing. ThermoLift will seek partner relationships with major HVAC companies for additional development funding and establish royalty-based licensing agreements which include up-front investment. Over the long-term, ThermoLift anticipates large-scale production through these major HVAC companies, potential acquisition, and an initial public offering as revenues increase.