Market Disposition of High-Efficiency Water Heating Equipment

Final Report

Prepared by

C. Edward Barbour
John T. Dieckmann
Brian J. Nowicki

DOE Program Manager:
Terry DuBois

Arthur D. Little, Inc.
955 L'Enfant Plaza, SW
Suite 4200
Washington, DC 20024

for

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Primary energy consumption for service (potable) water heating accounts for 10% of total residential and commercial energy used in buildings. This amounts to over 3 quads annually. If all currently installed water heaters were replaced with commercially available high-efficiency watering heaters, primary energy consumption could be reduced by one-half (1.5 quads), and save residential and commercial consumers over $10 billion per year in energy costs. Advanced (or “state-of-the-art”) technologies could reduce primary energy consumption on even more, by over 2 quads per year.

Unfortunately, high-efficiency and solar water heating units account for less than 1% of residential and 20% of commercial water heater sales annually. In spite of large potential savings, the market is resistive to broad acceptance of high-efficiency water heating equipment. The report presents the status of the market relative to furthering energy efficiency given the existing technology, cost, market, and institutional barriers. Promising technologies include: heat pump water heaters, condensing water heaters, and solar water heaters. Consumer operating cost savings can range from 15%, to 67%, to nearly 100% over the present installed stock. However, as a deterrent to more sales of efficient equipment, cost barriers are significant in such a cost-competitive market. Market and institutional barriers are partly due to consumer unawareness, but other market factors are influencing the situation. Actions to address these barriers and promote the market for more efficient water heating equipment include research and development, market transformation, and consumer education.

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Where to find this report...

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