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## Cost and Efficiency of Household Hot Water Systems

Samantha Markus

*Missouri University of Science and Technology*

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## **Samantha Markus**

Department:	Civil, Architectural, and Environmental Engineering
Major:	Environmental Engineering
Research Advisor:	Dr. Stuart Baur
Advisor's Department:	Civil, Architectural, and Environmental Engineering
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### ***Cost and Efficiency of Household Hot Water Systems***

The Missouri S&T Solar House Team has competed in three Solar Decathlons and will be competing again in 2009. Each competition has ten components and one of these is hot water. In order to choose the best water heating system, the two solar powered water heaters used in past competitions as well as an electrical conventional hot water heater were studied and evaluated on various properties. These properties include cost, initial and ongoing; effectiveness, ability to quickly produce water above a certain temperature; and power efficiency, how much electricity each heater uses. It will also address the space taken by the heater and its aesthetics.

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*Samantha Markus was born in St. Louis, Missouri. She grew up in Fenton and attended Ursuline Academy in Kirkwood, Missouri until 2006. She is currently a sophomore in Environmental Engineering at the Missouri University of Science and Technology. She is an active member of the Cardinal Newman Catholic Campus Ministry Center and was part of the Missouri S&T Solar House Team for a year, including the 2007 competition.*