Water Bottle Cooling Station

(Technical Report)

Fighting for the Right to Safe Drinking Water

(STS Research Paper)

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by

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Preface

How do we better secure reliable access to safe water in the United States? Roughly 1.2 million Americans do not have hot and cold running water at home; for many more, the local water supply is not consistently safe and clean. Many places in the United States have old infrastructure that needs to be replaced, causing of water crises across the country. Many Americans must drink unsafe water as it is their only source. Water is essential and people should not have to make the choice between dehydration and unsafe water.

How can we reduce individuals' water waste? People tend to prefer cool drinking water. Many water bottles can maintain water at or near its original temperature, but none actively cools the water. Rather than drink room-temperature water or take time to cool it, many people would prefer to dump it for colder water. My research team used a thermoelectric cooler to actively cool water already in a bottle. Although we did not succeed in our goal of cooling water to a certain temperature without the need for a refrigerator or ice, with further development a practical water cooler bottle may be feasible.

How are social groups in the U.S seeking to compel state and local governments to provide safe drinking water? The responsibility for supplying safe water is controversial. Programs that mitigate food insecurity may serve as a model for water. Local and national advocacies are striving to ensure that everyone has access to safe water. Seeking strength in numbers, they organize to demand safe water.

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