Every morning I wake up, shuffle half-conscious to the bathroom, and wash my face and brush my teeth in the sink. It is instinct. I have never woken up, and been worried about whether or not the water was going to run, and whether or not it was safe to use. Something we all tend to take for granted, living in the United States, is the easy access we have to clean water. Contrary, around the world, especially in developing countries, people do not have the privilege of easy access to clean water. To many, the idea of a water shortage in our world is ridiculous. After all, nearly 70 percent of the world is covered by water. However, only 2.5 percent of that is fresh. Of that freshwater, only 1 percent is accessible. The rest in glaciers and snowfields. Mathematically, that means only 0.007 percent of the world’s water can be used by people [4].

Currently, 844 million people are living without access to clean water. All those people, having to go through their daily routine without water. This can cause a domino effect of problems in education, work opportunities, and health care. Children are forced time away from their education in order to travel far distances to collect water. Water is directly proportional to sanitation, and without sanitation, diseases spread quicker and are harder to treat. Women are forced to, instead of getting a job, spend their days trying to find, and transport, water for their families. “1 in 9 people lack access to safe water” [6]. This is a widespread crisis affecting a multitude of people.

It has always been a goal of mine to be able to have a career in which I could help people born into unfavorable circumstances. Nobody can control how, when, and in what environment they are born into. I have always found it baffling that I could be born into such a privileged environment, and others not so much. I have never worried about where my next meal came from, or if I would have water to use that day without traveling miles to get it. I find it intriguing that a career in engineering could lead to developing innovations to help people gain access to clean water. “By 2025, an estimated 1.8 billion people will live in areas plagued by water scarcity, with two-thirds of the world’s population living in water-stressed regions as a result of use, growth, and climate change” [4]. It is quite obvious that something needs to change in relation to managing the freshwater we do have. Subsequently, engineers are rushing in order to find new ways to conserve and distribute the water that we do have.

In recent years, new technologies have arisen that serve to extract water from moist air. This is not a new concept. Plants and insects have been doing it for years. Those who live in some of the driest regions of the earth find it necessary to pull water out of air from fog that comes in from nearby oceans [2]. Engineers and researchers are collaborating in order to find ways to mimic what they do on a larger scale. 17 nations already have systems like these in place, but more recently they have been finding ways to make more efficient versions that can work in areas of lower air humidity [2]. Many developing countries that lack the water they need do not have very humid air, so this new technology is helpful and quite necessary.