

Facts...



- Only a finite amount of water exists on our planet. And we are drinking the same water the dinosaurs drank! 
- Burj Al Arab in Dubai produces 42000 gallons per day, that is water for 17000 people in rural Africa.
- Water scarcity affects 1 in 3 people in the world, that is 1/3 of the entire population of the human race.
- Water Municipality around the globe increase their rates on an average of 40% a year!
- An average usage per day for a family is 17 toilet flushes = 95 gallons.



Make a change!
Save water!

Go place a potted plant under you're A/C unit!

Future Works:

Future teams should continue our effort to persuade authoritative figures to publicize our vision towards the recycling of air condition condensate.

They should also Push ahead for changes to the Chicago Plumbing code allowing the recycling of air condition condensate in buildings.

Future IPROs should also aim to have a running IIT water saving system installed on campus.

Acknowledgements:

We would like to give our special thanks to the following:

- The Idea shop and the IPRO office
- Office of Campus Energy and Sustainability
- Plumber's union Local 130
- Chicago Department of Environment
- Pentair Inc

Check us out:

@ Twitter
http://twitter.com/IIT_Saves_Water
@Facebook
<http://www.facebook.com/illinoistech.saveswater>



HARVESTING & BENEFICIAL USE OF CONDENSATE FROM AIR CONDITIONING

Team Members

Rene Tapia
Raksha Rajagopalan
Anthony Ruth
Mansi Patel
Ester Romo-Ortiz
Joshua Kenward
Cheng Li
Narayan Natarajan

Faculty Advisor

Phil Lewis

Problem Statement:

- The main problem that prevents recycling of condensate are the plumbing codes that prohibit the use of alternate water sources within a building
- Lack of awareness amongst public on the possible use of air condition condensate also needs to be addressed.

Background:

HVAC systems generate water condensate as a by product during the process of cooling air from a building. Water generated is from the vapor content in the building's air. It has been determined that on average a 10,000 square foot office building can produce more than 15,000 gallons of condensate water per year. This source of highly pure water (not suitable for drinking) is virtually left unnoticed. By recycling air condition condensate, households and commercial buildings may be able to save not only water but also water bills. Water vendors only charge on the amount of fresh water used by a building, By using less fresh water from the pipes, one can save quite a bit of water at the end of the year. Some of the possible uses of this recyclable water is for watering plants in gardens, flushing toilets and even for pre cooling in HVAC systems due to the temperature at which they are produced.

Objectives

- Build public awareness through social media i.e.

- Alter public policy by attending various meetings with related governmental organizations.
- Build and set up a prototype recycling system for the continuous irrigation of a select garden on campus.
- Build a scale model to illustrate an ideal condensate recycling building and to demonstrate at various meetings and events

Methodology

Our project was addressed by creating two sub-groups, each was responsible for the development of different areas of the project.

Media subgroup

- Focused on the development and maintenance of Social media accounts (Facebook and Twitter)
- Contacting public officials to set meetings and presentations.

Prototyping Subgroup

- Focused on the development of a scale model illustrating an ideal condensate recycling building
- Designing practical prototype of condensate recycler to be implemented at IIT's MTCC.

Results:

- Presence in social media was established by creating a Facebook and Twitter account which over the summer attained 182 and 24 followers respectively.
- 3 Separate meetings were scheduled including Local 130(a plumber's union), IIT's Office of Campus Energy and Sustainability and The City of Chicago.
- Awareness materials were created including an awareness video, a working 3D model illustrating an ideal condensate recycling building and signs which were placed around campus to gain public awareness.
- A proposal was submitted to the Office of Campus Energy and Sustainability towards the implementation of a Condensate recycling system at IIT's Main campus.

