*Rainfall power to the people!*

## Introduction

It's all over the news: power shortages are coming this winter. And if that wasn't big enough of a motivation: we still are dependent on fossil fuels! We need to change this. To lower their dependency on fossil fuels and achieve higher electrical independence, a lot of buildings and homes have been installing solar panels on their roof. Problem is: this doesn't work on rainy days. But on these days, we have one big advantage: rainfall! What if we used rainfall to power our buildings? For example by using its potential energy. This is what this challenge is trying to achieve.

## Problem Definition:

Convert rainfall on roofs into a viable source of energy for buildings.

## What is the waste challenge?

Rainfall goes directly to the sewers, leaving all the waste behind!
This projects aims to tap into the potential of a yet untapped energy source, rainfall. Currently, most of the rainfall simply goes into the sewage system, completely unused. We want to change that and try to maximize its use to generate energy for houses, reducing energy demands to the grid and use nature as our advantage, whilst creating little to no waste.

- Is it possible to convert rainfall into energy?
- Is it possible to heat or power a home with this energy?
- Can it be economically viable?

## Who is behind this challenge?

I am Computer Science from EPFL passionate about energy, that's willing to make a change for the climate.

## Topic domain of challenge: Cities, Energy or Consumption

Energy and cities

## Desired Impact of Challenge:

People would need to rely less on the grid and could generate energy for their own homes or buildings. This could compensate the major caveat of solar panels that function poorly when raining. Combining these two technologies would therefore be a step forward in the use of renewable energy and energetic independence. If this is a economically viable solution, it could help reduce households' energy bills and maybe be deployed in areas that are off the grid.

## Skills needed/recommended

Possibly fluid dynamics and / or mechanics to be able to optimize the performance of the system.

Relevant considerations for the challenge / theme:
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Relevant links:
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