



# Compact Residential Gasifier

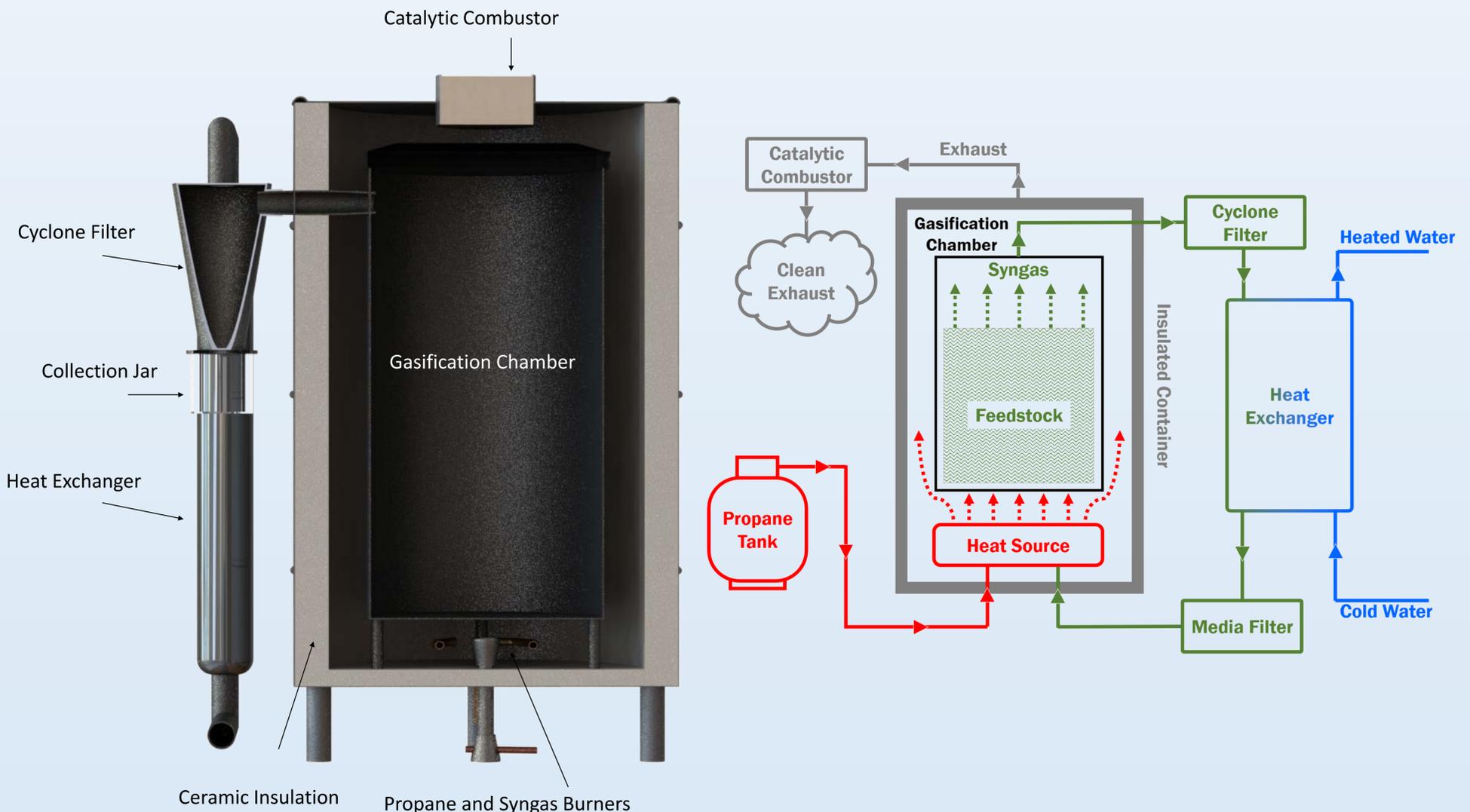
A clean, responsible, and efficient household waste management system

## Problem Statement

The average American produces about 4.4 lbs. of municipal solid waste every day. In 2013 alone, it was estimated 294 million tons of municipal solid waste ended up in American landfills. This increasing waste is a major concern for our planet's future and can lead to health and environmental concerns.

## Solution Overview

- Allows households to dispose of their waste in a safe, efficient, and environmentally friendly manner
- Utilizes gasification which requires high temperatures (700°C to 1000°C) and limited oxygen to break down the waste without combusting it
- This converts the waste into a synthetic gas (syngas) and a carbon byproduct
- The byproduct can be used as a fertilizer, and the syngas can be used as fuel
- The produced syngas is rerouted back into the system and combusted to continue the process and improve system efficiency



## Impact

- Reduces waste in landfills, which in turn reduces the amount of greenhouse gasses released into the atmosphere and reduces the amount of toxins being distributed into soil and groundwater
- Integrated into a household water system in order to preheat water entering the home
- Saves the user money on both their waste and utility bills

## Project Team

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