

Redefining Urban Wastewater

 epic cleantec



AN EPIC PROBLEM



Aging infrastructure =
rising water + sewer rates



70% of global population
expected to be living in cities
by 2050



Water demand increasing +
unpredictable climate

URBANIZATION

“The world’s building stock is expected to double by 2060— the equivalent of adding another New York City monthly between now and then.”

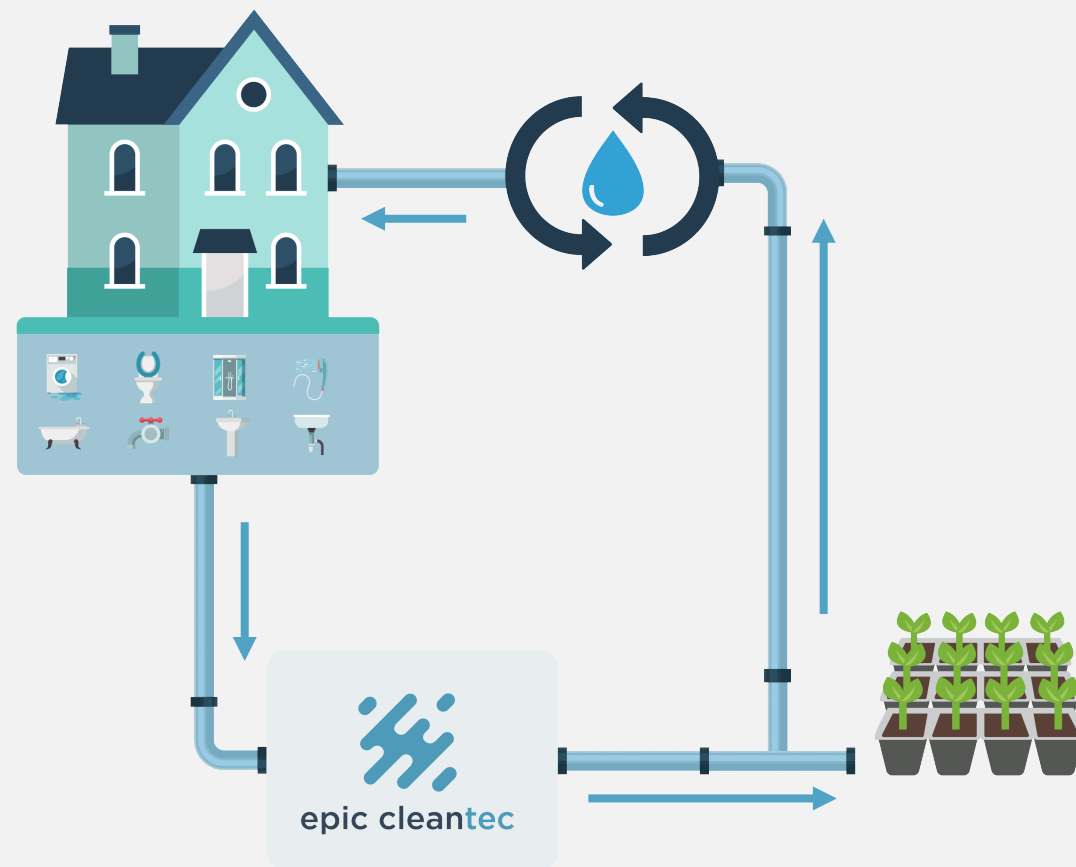
Bill Gates



OUR EPIC SOLUTION

A turnkey onsite reuse solution that
converts building wastewater into

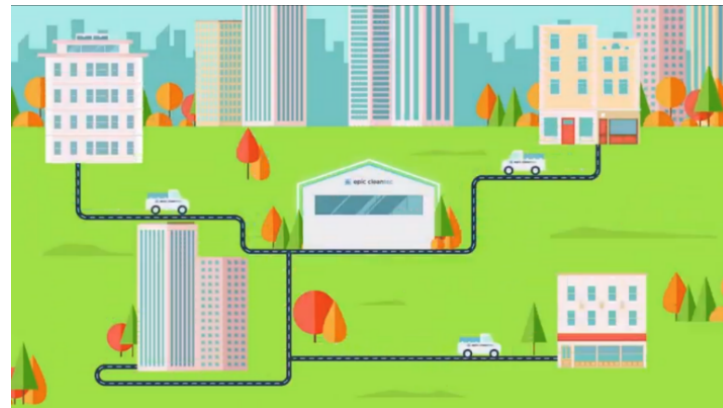
1. Treated water for onsite non-potable reuse
2. High quality soil amendments



Graywater or blackwater, we handle everything –

design, engineering, permitting, construction, contracting, ongoing operations and maintenance.

CIRCULAR APPROACH



DESIGNED FOR BUILDINGS



Epic pilot installation in the 35-story "NEMA" building in downtown San Francisco



MBR treatment skid in 39-story "Fifteen Fifty" building in downtown San Francisco

40% less energy

25% less footprint

Reduced chemical needs

Ability to monitor remotely via "EpicWise" monitoring system

EPIC HUBS PROCESSING FACILITY



Wastewater organic solids

Proprietary chemical
oxidation reaction



25 minutes per batch



High quality, carbon-rich soil products

Solids collected upstream in building are easier to handle and treat.
No need for expensive flocculants.

EPIC SOIL

Soil products can be used in and around cities as a natural alternative to fossil fuel based fertilizers.

Epic hubs are modular; can be installed quickly and inexpensively into small industrial spaces.

First hub + garden currently in operation inside former San Francisco Honda dealership.



BUSINESS MODEL

System sales



Long-term O&M contract



Soil product sales



- Initially going to market with system sales model.
- Leasing models being developed with third party financing partners and via dedicated project funds.

SAMPLE PROJECT

PLANNED 55-STORY HIGHRISE PROJECT

Potential to reuse 20,000,000 gallons annually.

ANNUAL WATER/WASTEWATER RATES

\$1,700,000

without Epic



\$1,030,000

with Epic

\$670,000 SAVED ANNUALLY

= 40% ANNUAL SAVINGS

Cumulative 10 year water/sewer bill savings

\$6.7 million+



MARKET VALIDATION

The global growth of modular, distributed wastewater plants is expected to rise 64%

\$13.3 billion	→	\$21.8 billion
2016		2021

San Francisco = Beachhead Market

- **2012** – SF adopts ordinance (Article 12C), **allowing onsite water reuse** in commercial, multi-family, and mixed use developments.
- **2015** – ordinance becomes **mandatory requirement** for all new construction of 250,000 square feet or more of gross floor area.
- **2017** – buildings with onsite non-potable water systems may receive an adjusted water and **wastewater capacity charge**.
- **CA Senate Bill 966**: requires State Water Board to create water reuse standards in California, which will allow cities to implement **local water reuse program**.
- **CA Senate Bill 1383**: requires **50% reduction in organic landfill waste disposal** by 2020 and a 75% reduction by 2025

CURRENT MOMENTUM



Fifteen Fifty building

- **18 months of testing** completed at **Stanford University's** Codiga Center.
- **6-month pilot** completed in downtown San Francisco NEMA building.
- **\$2.6 million** seed round closed June 2020.
- **High-rise projects** in SF + LA + San Diego in design phase.
- **Park planting pilot planned** with SF Rec and Parks Dept. using Epic soil products.
- First commercial system launching in downtown San Francisco **November 2020**.

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GATES foundation

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THANK YOU

Aaron Tartakovsky

Co-Founder and CEO

aaron@epiccleantec.com

