Water Recycling for Non-potable and Potable Purposes on Multiple Scales

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Water: delivering high quality water every day to 2.7 million people

Power: generating clean energy

Wastewater: protecting public health and the environment
Diversify Water Supply Portfolio

HETCH HETCHY + LOCAL WATER

Better together.

Conservation
Groundwater
Recycled Water
Approach to Recycled Water

- Multiple Scales - Centralized and Decentralized
- Potable and Non-potable Applications
Centralized Water Recycling Water for Non-potable Applications

- Best investment to build centralized to address large scale irrigation
- Golf courses and city parks
Decentralized Water Recycling for Non-potable Applications

Precipitation collected from roofs and above-grade surfaces

Precipitation collected at or below grade

Nuisance groundwater from dewatering operations

Wastewater from toilets, dishwashers, kitchen sinks, and utility sinks

Wastewater from clothes washers, bathtubs, showers, and bathroom sinks

San Francisco Water Power Sewer
SFPUC Headquarters Incorporates Onsite Water Systems
Mandatory Decentralized Systems in New Buildings/Districts

- Decentralized Systems Integrated with Centralized Infrastructure

- Treatment systems must meet log reduction targets for protozoa, bacteria and virus removal
• Common treatment processes include:
  • Microfiltration (MF) / ultrafiltration (UF)
  • Membrane biological reactor (MBR)
  • Ultraviolet light (UV) disinfection
  • Chlorination
  • Ozone disinfection

• A properly designed treatment train can be used to achieve pathogen reduction credits based on accepted crediting frameworks.
Purified water is produced from recycled water using the most advanced purification treatment processes.

- Indirect and Direct Potable Reuse
Examining Feasibility of Centralized Purified Water

Drivers

- Need for drought-resistant local water supply (SFPUC)

- Anticipated regulations that will reduce concentration of nutrients that can be discharged to the Bay or Ocean (partnering wastewater agencies)
Piloting Decentralized Purified Water
PureWaterSF Objectives

The 9-month pilot will:

1. Demonstrate direct potable water reuse at the building scale (UF, RO, AOP)

2. Demonstrate innovative real-time system monitoring

3. Provide a community focused education and outreach program on potable water reuse
Thank You

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