San Diego Water/Wastewater Facts

- Provide services to 8th largest US city & surrounding area
- 1.3M water & 2.5M wastewater customers from 15 agencies
- Regulated by Federal & State agencies
  - USEPA, State Water Resources Control Board
- ~$1B invested in systems over last 5 years
  - More than $412M planned capital projects over next 2 years
- Annual purchase of imported water ($209M) and facility construction and maintenance are biggest costs
85% of Our Water is Imported

San Diego is downstream
Numerous Water Challenges

- Limited local & imported supplies
- Recurring drought
- Population growth
- Bay Delta constraints
- Natural disaster risk
- Rising imported water costs
What is Being Done?

Regional:
- Water Conservation
- Desalination (SDCWA)

City of San Diego:
- Water Conservation
- Groundwater Development
- Recycled Water
- Potable Reuse
What is Pure Water San Diego?

- 20-year program to provide a safe, reliable and cost-effective drinking water supply for San Diego
- Uses proven water purification technology and is environmentally friendly
- Provides a locally controlled, drought-proof water supply
- Eliminates the need for expensive upgrades to the Point Loma Wastewater Treatment Plant
How Does This Process Work?

- **Homes & Businesses**
- **North City Water Reclamation Plant**
- **Advanced Water Purification Facility**

**Drinking Water Treatment Plant**
- Coagulation
- Filtration
- Disinfection (Ozone & Chlorine)

**San Vicente Reservoir**

**Water Sources**
- Local Runoff
- Imported Water: Colorado River, Northern California

**Recycled Water**
- Traditional Recycled Water Uses:
  - Irrigation
  - Industrial

**Purified Water**
- Membrane Filtration
- Reverse Osmosis
- UV Disinfection/Advanced Oxidation

**DPR Barrier**
Pure Water San Diego Has Been Successfully Demonstrated

1 million gallon per day Demonstration Project
- Conducted 9,000 lab tests – Routinely met all standards
- Exceptional water quality – Comparable to distilled water
- Energy use is comparable to imported water and cost is approximately $1,700 – 1,900 per acre-foot

Microfiltration & Ultrafiltration
Reverse Osmosis
Advanced Oxidation/UV Light
Hydrogen Peroxide
Independent Advisory Panel Verified

Experienced scientists & health professionals reviewed and evaluated research studies and treatment

George Tchobanoglous, Ph.D., P.E., Chair
Professor Emeritus, UC, Davis

Richard Gersberg, Ph.D., Vice-Chair
Interim Director, SDSU Graduate School of Public Health
Director, Coastal and Marine Institute, SDSU

Michael A. Anderson, Ph.D.
University of California, Riverside

Sunny Jiang, Ph.D.
University of California, Irvine

Richard Bull, Ph.D.
Consulting Toxicologist
MoBull Consulting (Richland, WA)

Joseph A. Cotruvo, Ph.D.
Principal
Joseph Cotruvo Associates (Washington, D.C.)

Michael P. Wehner
Director of Water Quality and Technology
Orange County Water District (Fountain Valley, CA)

James Crook, Ph.D., P.E.
Water Reuse Consultant (Boston, Massachusetts)

David R. Schubert, Ph.D.
The Salk Institute for Biological Studies

Audrey D. Levine, Ph.D., P.E., DEE
U.S. Environmental Protection Agency
Others Are Doing It Successfully

Orange County, CA

- Operating since 2008
- Places purified water into the groundwater basin
- Currently expanding its capacity

Fairfax, VA

- Operating since 1978
- Recycled water is added to a surface storage reservoir
- Potable water supply source for Fairfax County, VA
State & Federal Regulators Are Supportive

• September 7, 2012, California Department of Public Health approves the San Vicente Reservoir Augmentation Concept

• February 12, 2013, the Regional Water Board supports the City’s efforts to develop the San Vicente Reservoir Augmentation Project
Developing Our Local Water Supply

15 MGD
Wastewater will be purified at North City Plant and delivered to San Vicente Reservoir

83 MGD
Wastewater will be purified at Harbor Drive Treatment Facility and South Bay Plant and delivered to San Vicente and Otay Reservoirs
Pure Water San Diego Saves Money

- About $250 million in ratepayer savings
- System upgrades w/o Pure Water

Ratepayer Costs (Millions)

- $500
- $1,000
- $1,500
- $2,000

2015 2020 2025 2030 2035 2040 2045 2050

Pure Water San Diego

Pure Water
Secondary
Who Supports Pure Water?

• Elected Officials
  – City Council Resolution, April 29, 2014
  – City Council Point Loma permit application approval, Nov. 18, 2014

• Environmental Groups

• Wastewater Participating Agencies

• Professional Engineering Community

• Water Reliability Coalition

• Business Community

• Independent Rates Oversight Committee
What Can I Do?

• Visit our website: PureWaterSD.org

• Register for tours: PureWaterSD.org/tours

• Join our mailing list or sign a support card
Questions?
Back Up Slides
**Water Purification Process**

**Multi-Banner Water Purification Steps**

1. Recycled Water
2. Membrane Filtration
3. Reverse Osmosis
4. UV / Advanced Oxidation
5. San Vicente Reservoir
6. Treatment at Drinking Water Plant
7. Drinking Water Supply

**Water Purification Process**

**Microfiltration & Ultrafiltration**

**Reverse Osmosis**

**Ultraviolet Light / Hydrogen Peroxide**
Pure Water Will be Cheaper in the Long Run

Pure Water becomes cheaper than imported water

Comparison of Pure Water Costs and Imported Costs
The Pure Water San Diego Water Supply Will Require Investment

- Water and Wastewater rates are set every 2 years.
- Pure Water San Diego will annually require a 1-2% water bill increase from 2016-20 and 3-5% annually from 2021-25.
- It will require an annual increase of about 3% on the monthly wastewater bill starting in 2019 through 2025.
- Other costs will also affect our water and wastewater including imported water costs, desalination costs, and repair/replacement of the water and wastewater systems.
- Pure Water San Diego will SAVE money in the long run.