



THE CITY OF SAN DIEGO



# Pure Water

SAN DIEGO





# San Diego Water/Wastewater Facts



Provide services to  
8<sup>th</sup> 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

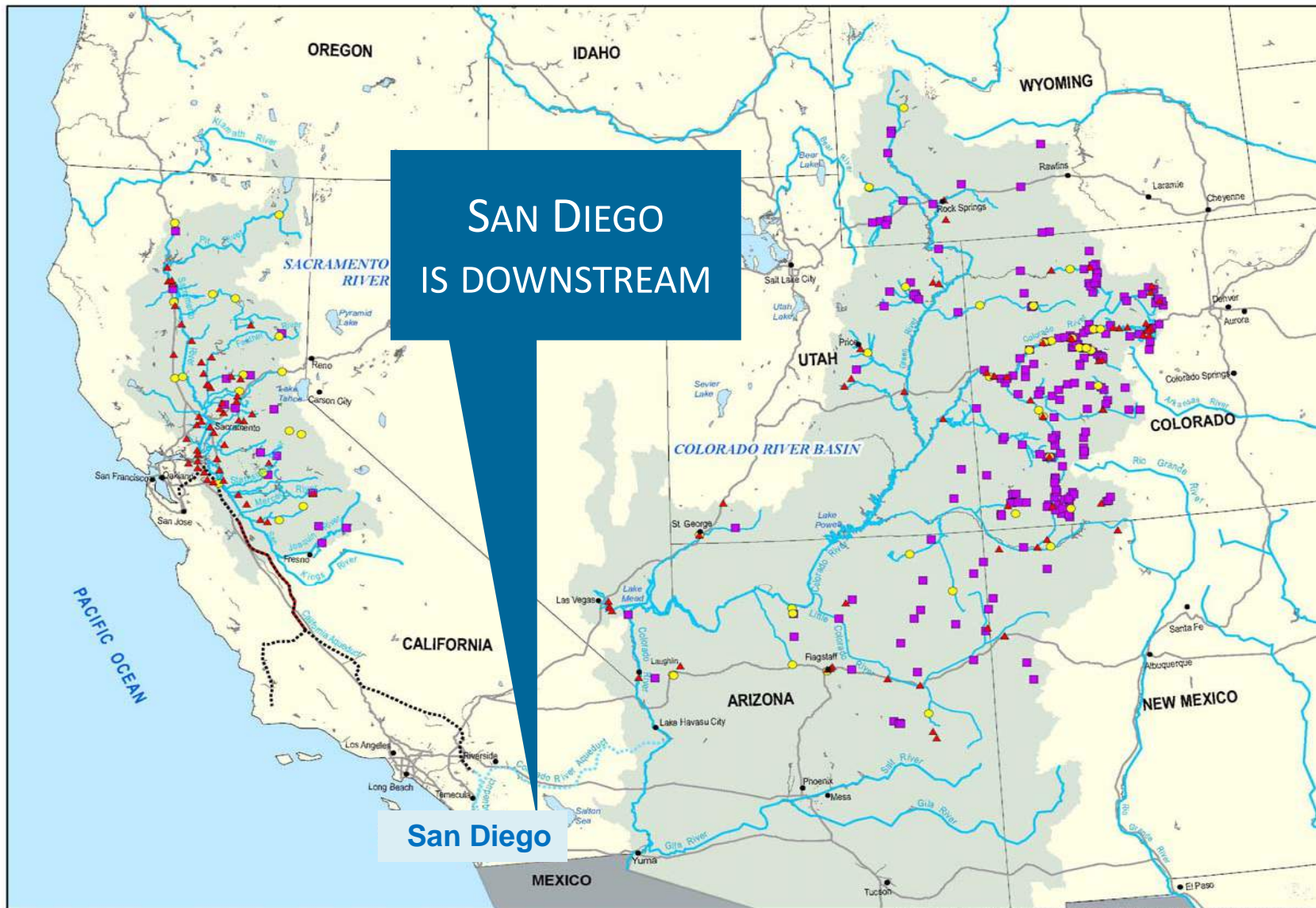
~\$1B invested in  
systems over last  
5 years

More than  
\$412M planned  
capital projects  
over next 2 years

Annual purchase  
of imported  
water (\$209M)  
and facility  
construction and  
maintenance are  
biggest costs

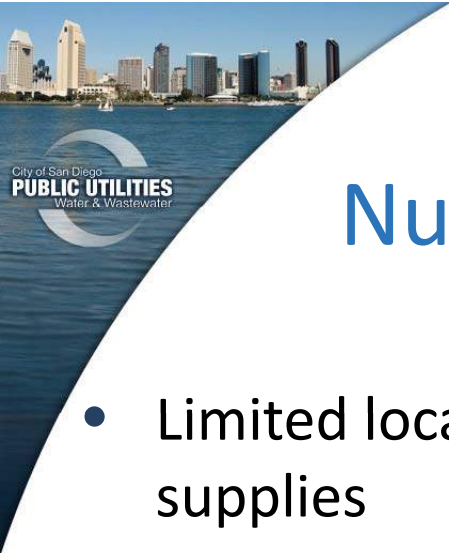


# 85% of Our Water is Imported



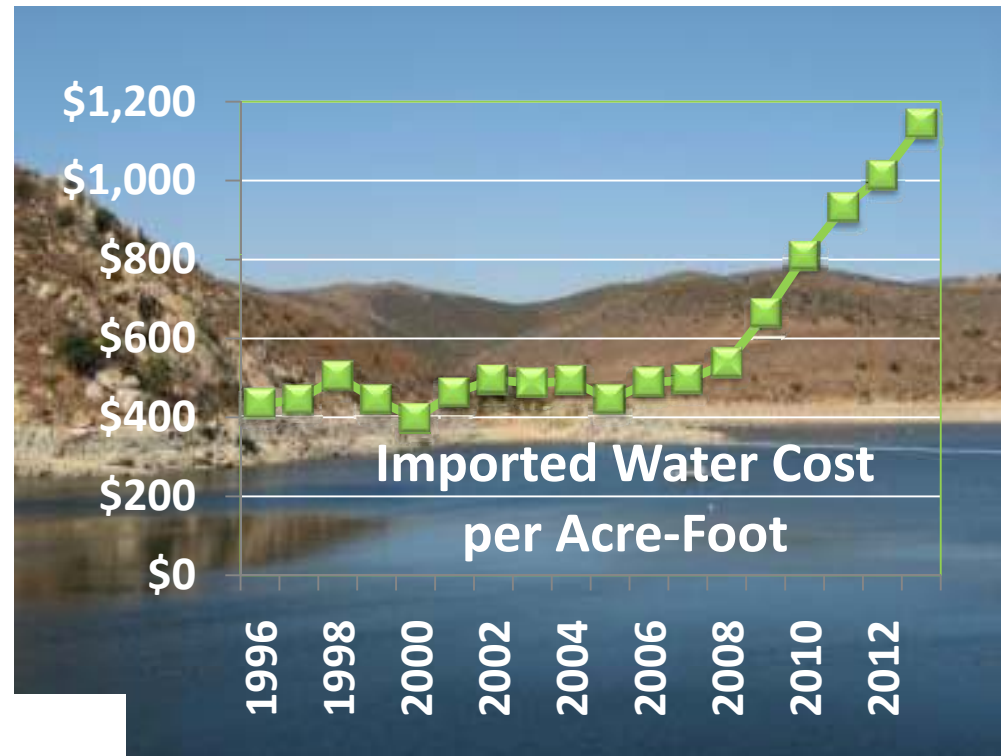
SAN DIEGO IS DOWNSTREAM

San Diego



# Numerous Water Challenges

- Limited local & imported supplies
- Recurring drought
- Population growth
- Bay Delta constraints
- Natural disaster risk
- Rising imported water costs



**Los Angeles Times**  
**'Severe' drought covers nearly 99.8% of California, report says**



# What is Being Done?

## Regional:

- Water Conservation
- Desalination (SDCWA)

## City of San Diego:

- Water Conservation
- Groundwater Development
- Recycled Water
- Potable Reuse (Pure Water)





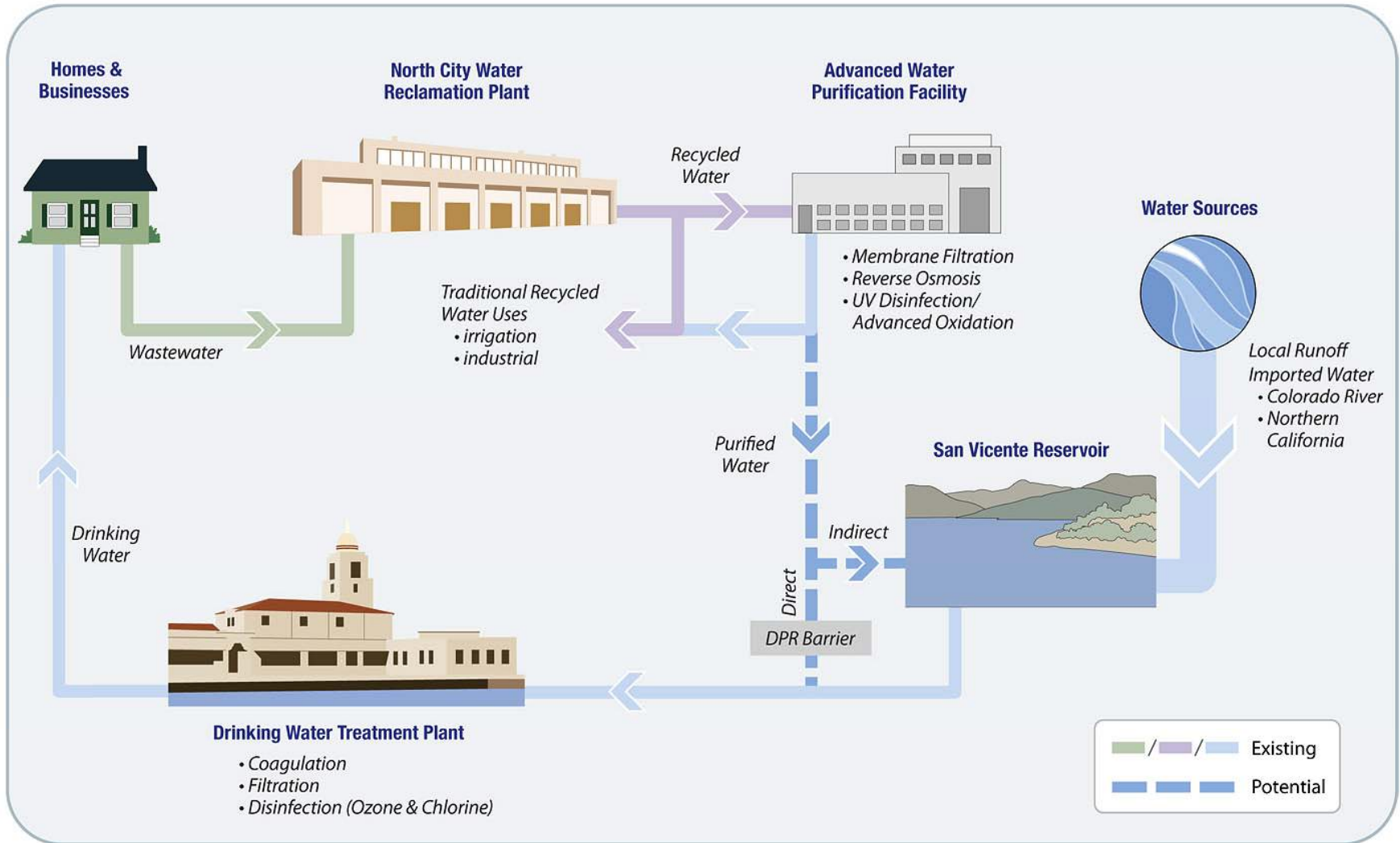
# What is Pure Water San Diego?

- 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?





# Pure Water Success

# Has Been

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- Excep
- Energy approxin

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illed water  
cost is

## Microfiltration & Ultrafiltration



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# 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**

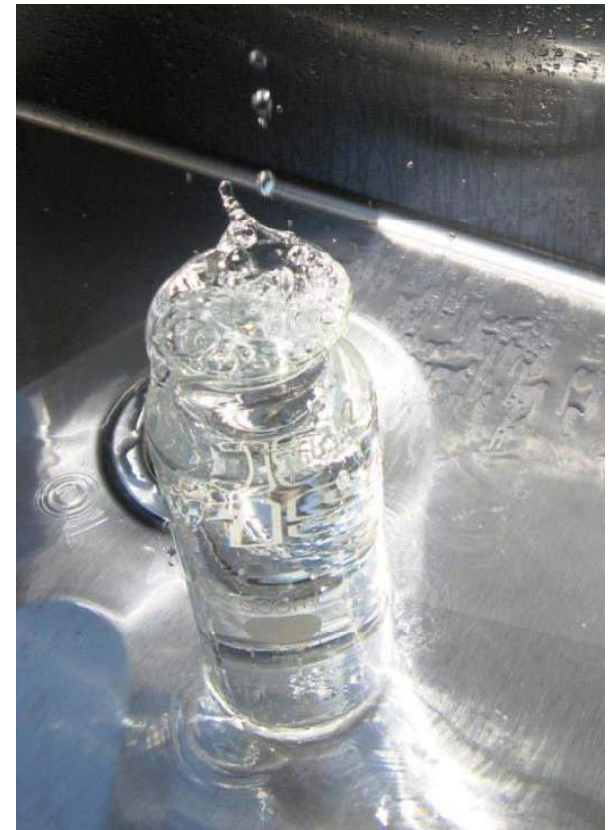
U.S. Environmental Protection

Agency



# 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





# 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



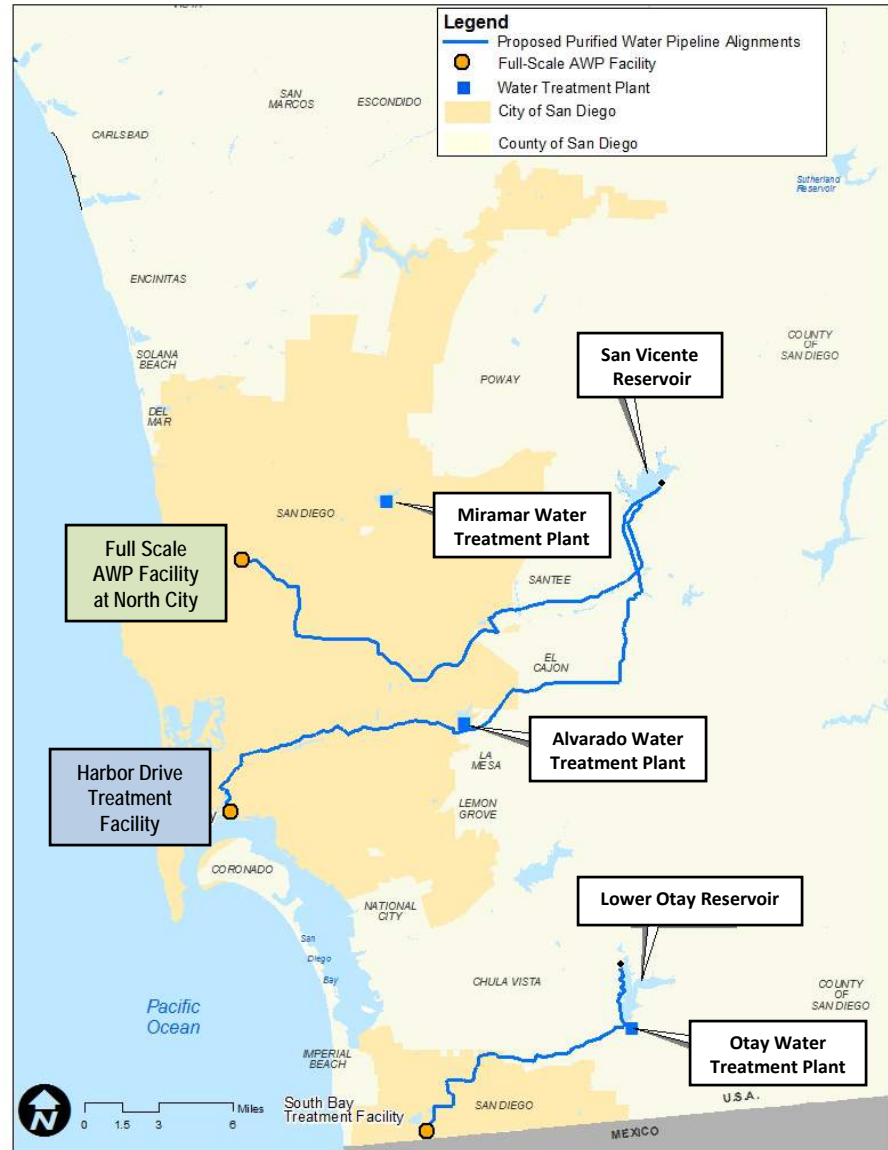
# Developing Our Local Water Supply

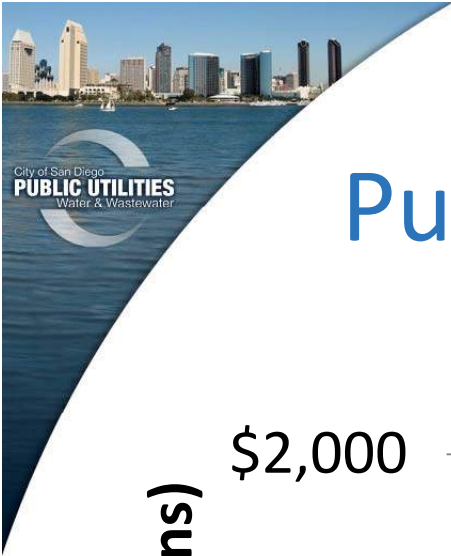
Initial phase  
2023

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

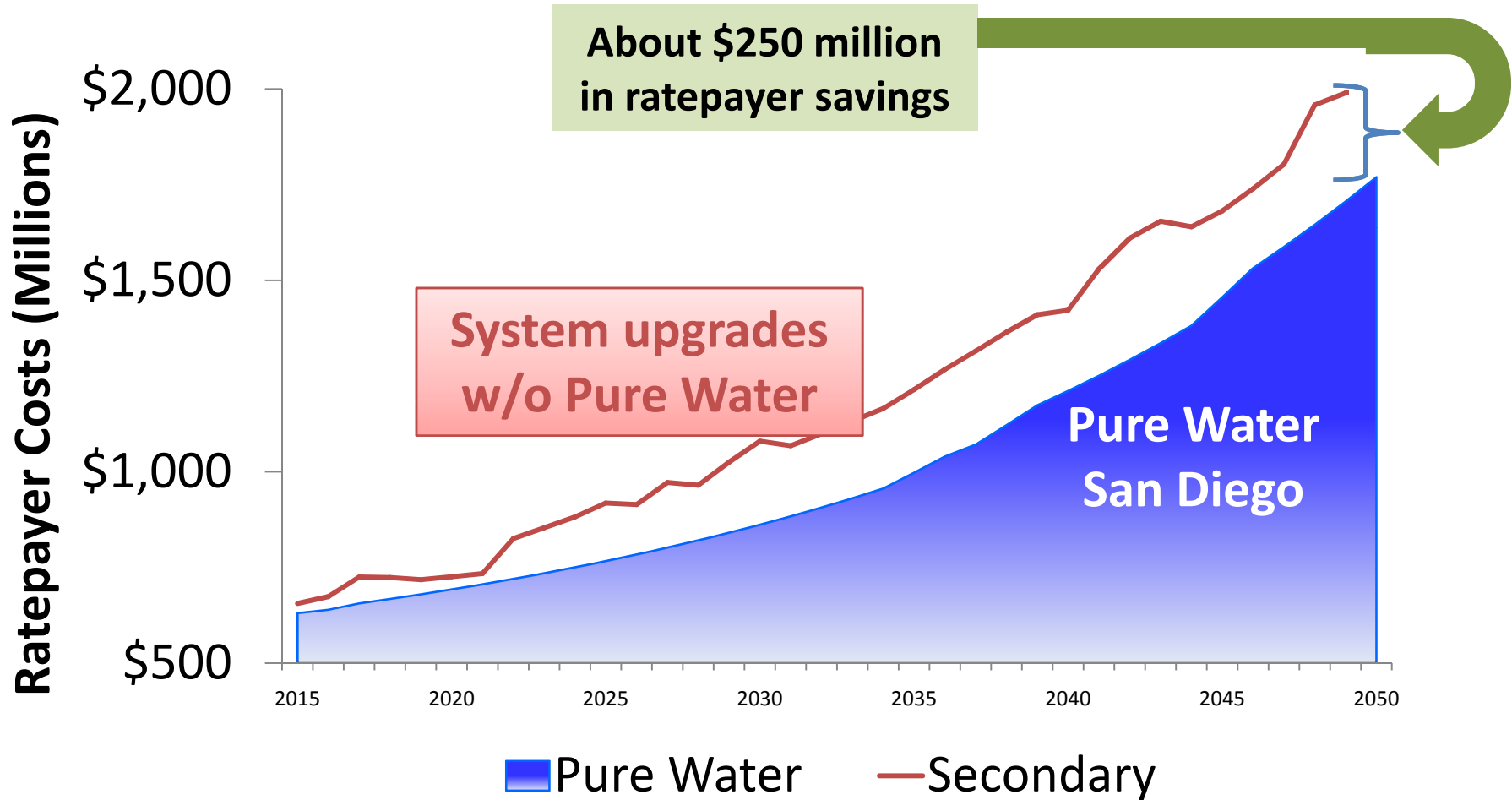
Long-term  
2035

83 MGD  
Wastewater will be purified at Harbor Drive facility and South Bay Plant and delivered to San Vicente and Otay Reservoirs





# Pure Water San Diego Saves Money





# Who Supports Pure Water?

- Elected Officials
  - City Council Resolution, April 29, 2014
- Environmental Groups
- Wastewater Participating Agencies
- Professional Engineering Community
- Water Reliability Coalition
- Business Community
- Independent Rates Oversight Committee



*Friends of Infrastructure*



# What Can I Do?

- Visit our website:  
**PureWaterSD.org**
- Register for tours:  
**PureWaterSD.org/tours**
- Join our mailing list or sign  
a support card



**Pure Water San Diego**



**@PureWaterSD**

Watch us on



**purewatersd**



**Please check all that apply:**

- I support the Pure Water San Diego Program.
- I would like to receive updates about Pure Water San Diego.
- I would like a presentation given to my organization.

**Please send information to:**

Name: \_\_\_\_\_ Organization: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

[purewatersd@sandiego.gov](mailto:purewatersd@sandiego.gov) • (619) 533-7572 • [www.purewatersd.org](http://www.purewatersd.org)



# Questions?





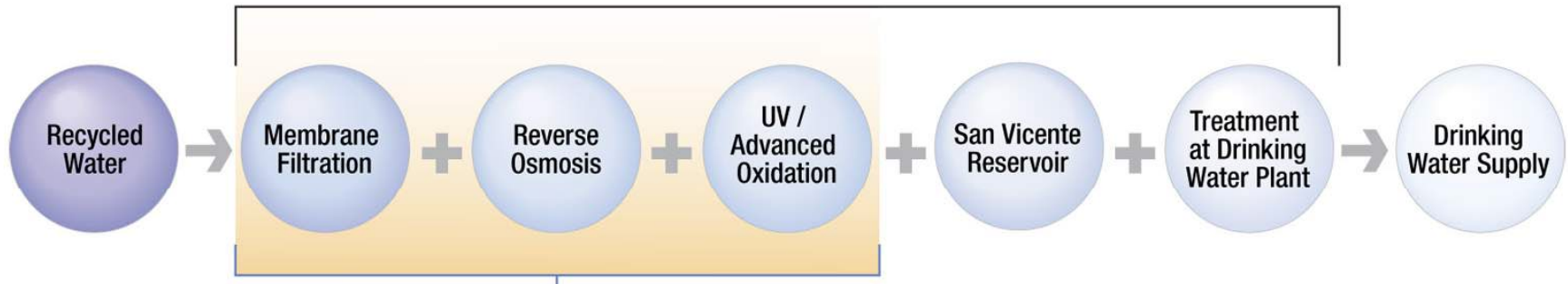


# Back Up Slides



# WATER PURIFICATION PROCESS

## Multi-Barrier Water Purification Steps



Water Purification Process

### Microfiltration & Ultrafiltration



### Reverse Osmosis



### Ultraviolet Light / Hydrogen Peroxide





# Pure Water San Diego Next Steps

- Stakeholder and customer outreach - Ongoing
- Solicitation for engineering and technical support services - Underway
- Finalize facilities plan and cost estimate/Rate impact - September 2014
- Point Loma permit application - Jan 2015
- Secondary equivalency approval – Enacted Law, December 2015

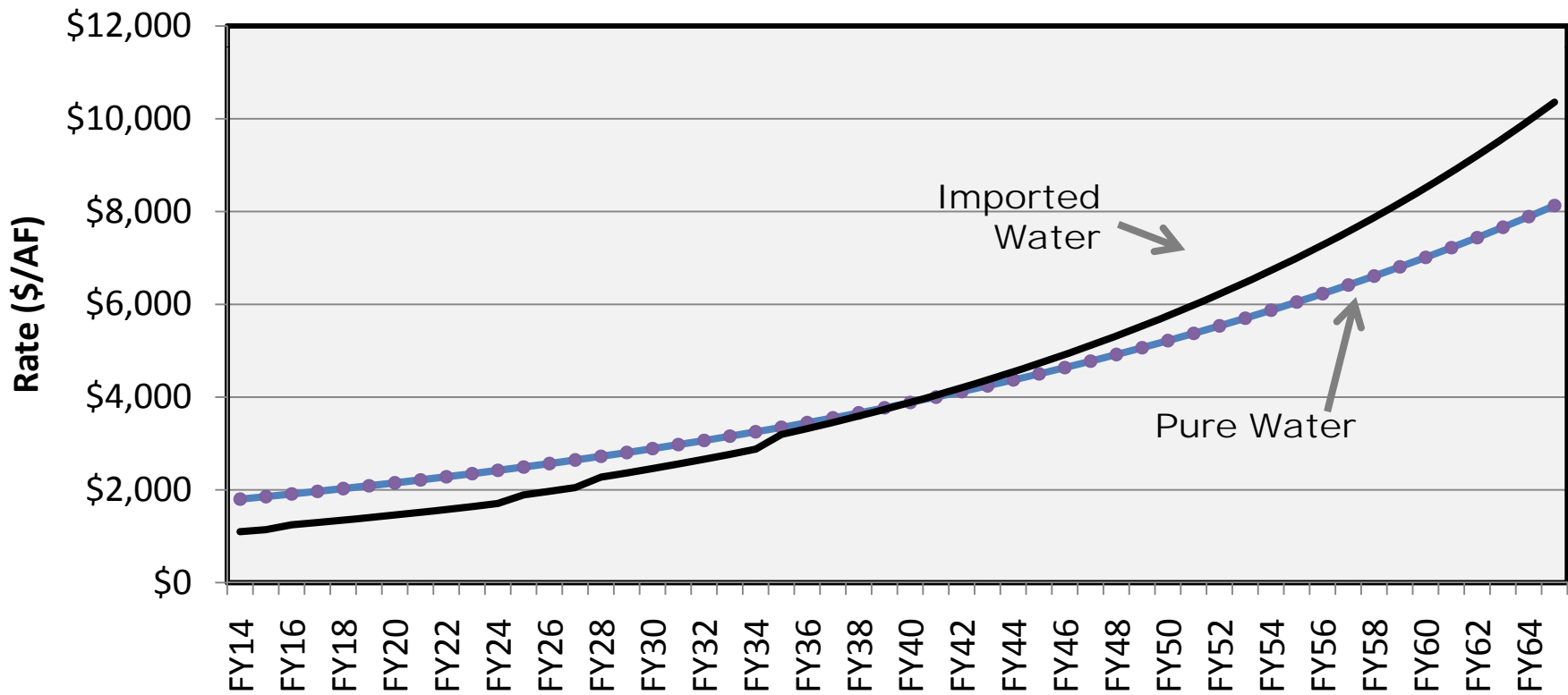


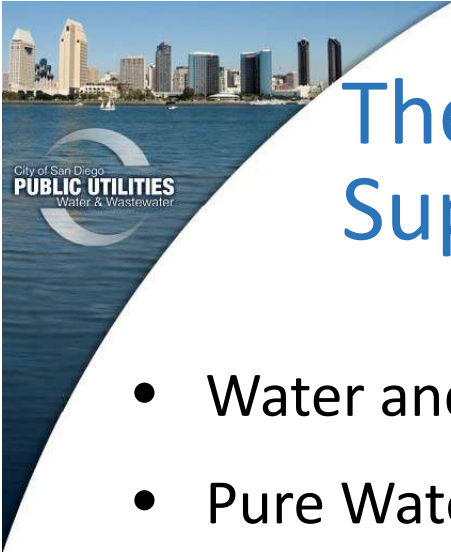


# Pure Water Will be Cheaper in the Long Run

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