

# What Will Regulations Look Like After the 'Emergency' is Over?

Southern California Water Dialogue  
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# San Diego's Water Story

## The Early Years – Water



- Early Inhabitants
- Progress



## The Early Years – Wastewater

- 1860s San Diego
- Environmental Challenges







City of San Diego





# White House Smart Cities Initiative

## Intelligent and Green Infrastructure

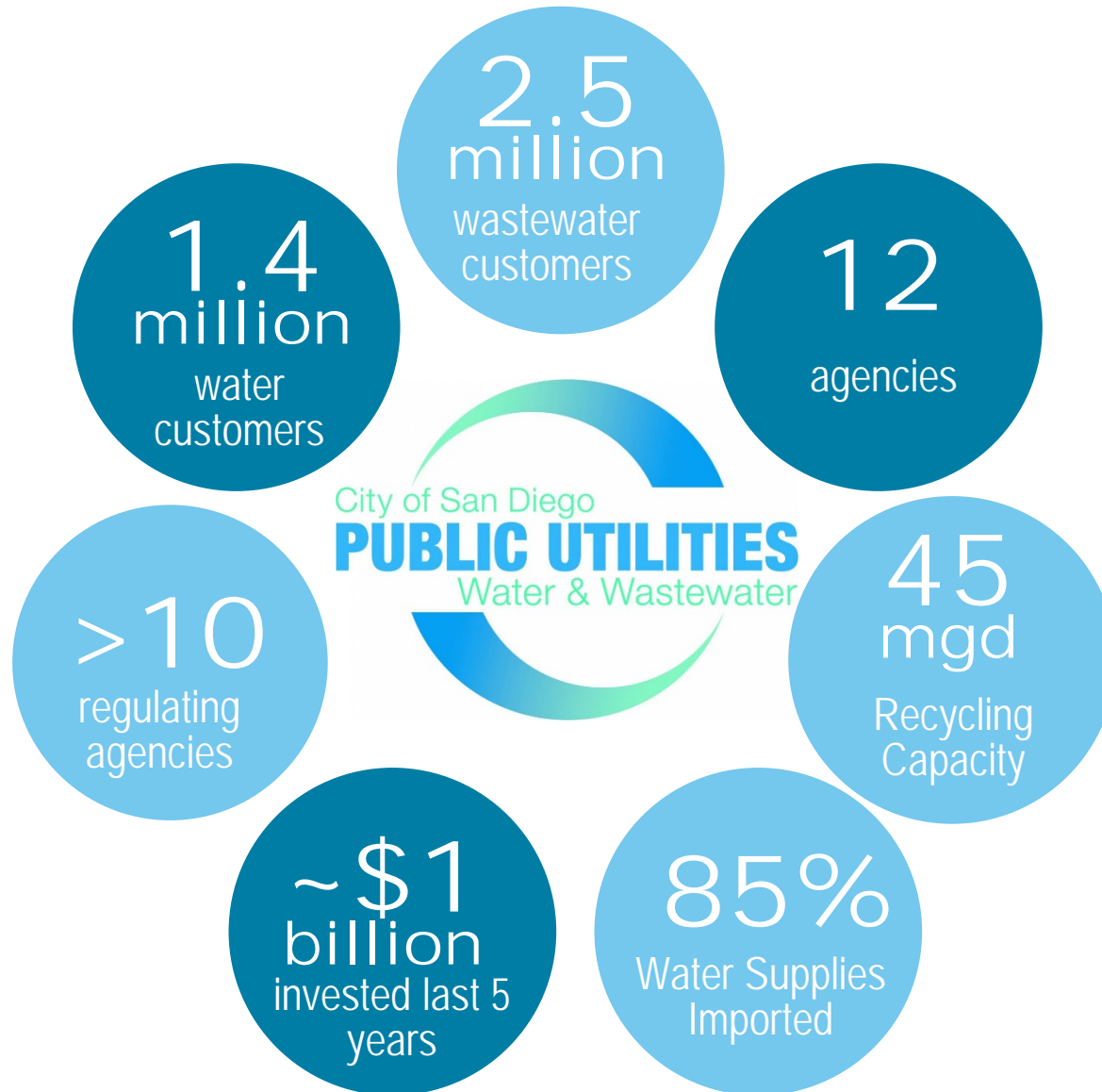
### Urban Agriculture Incentive Zone



Traffic Flow Improvements with  
better Public Transportation Systems



## Background





# By the Numbers – Water



## Vast Infrastructure

- 9 reservoirs
- 49 pump stations
- 3 water treatment plants
- 3,400+ miles of pipeline
- 320,000+ service connections
- 135 pressure zones



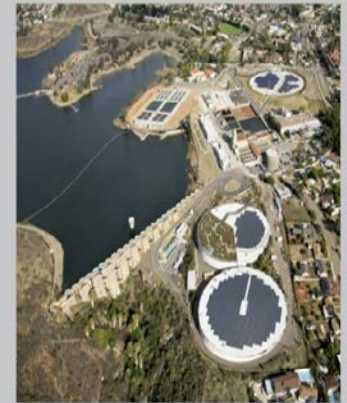
Among the Largest, Most Complex  
Systems in the World

We can treat

**378**

million gallons  
of water per day

## Water System



## Wastewater Infrastructure

- 2.5 million regional customers
- 3,000 miles of pipelines
- 79 pump stations
- 255 MGD capacity



- 3 wastewater treatment plants
- 2 ocean outfalls
- 1 bio solids center

# Drought Response

## emergency

*noun, often attributive* | emer·gen·cy | \i-'mər-jənt-sē\

### Simple Definition of EMERGENCY

Popularity: Top 40% of words

: an unexpected and usually dangerous situation that calls for immediate action

### Full Definition of EMERGENCY

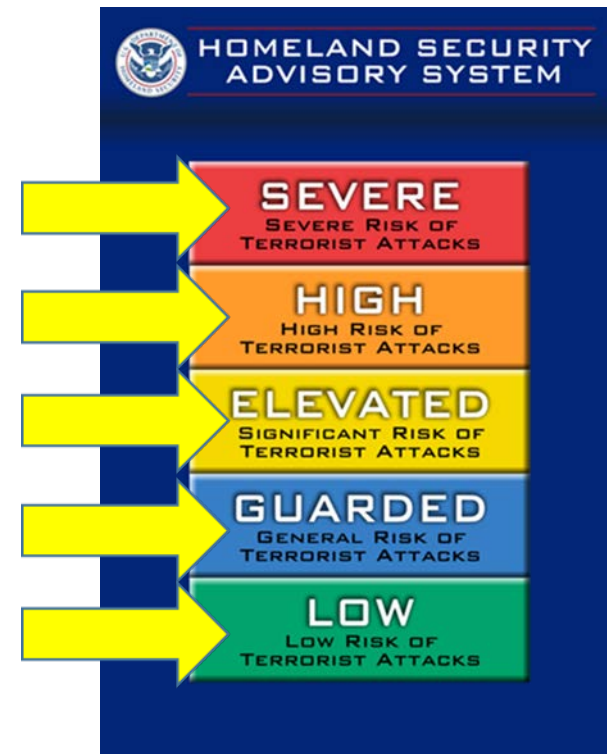
*plural emergencies*

- 1 : an unforeseen combination of circumstances or the resulting state that calls for immediate action
- 2 : an urgent need for assistance or relief <the mayor declared a state of *emergency* after the flood>



## Call to Action

- ✓ Risk Level Defined
- ✓ Responses Match Identified Risks

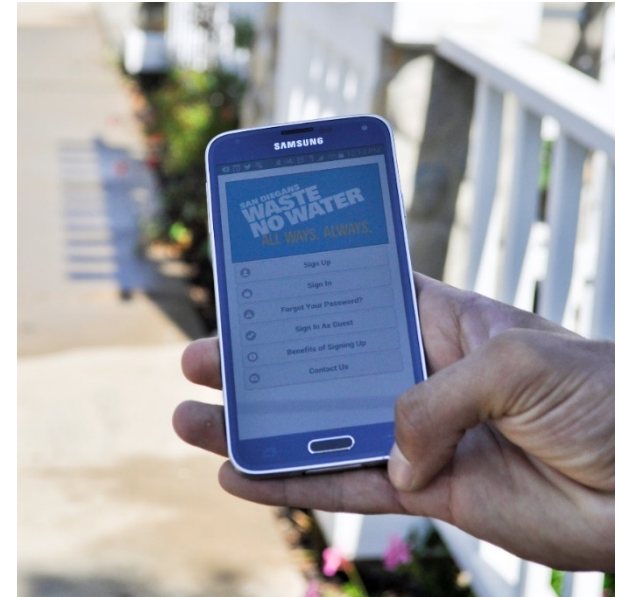




SAN DIEGANS  
**WASTE  
NO WATER**

**ALL WAYS. ALWAYS.**

- San Diego's Mandatory Water Use Reduction Target – 16%
- Outdoor Irrigation limited to 2 days a week for only 5 minutes & various other restrictions in place
- Turf Replacement Programs
- Residential & Commercial Water Use Surveys







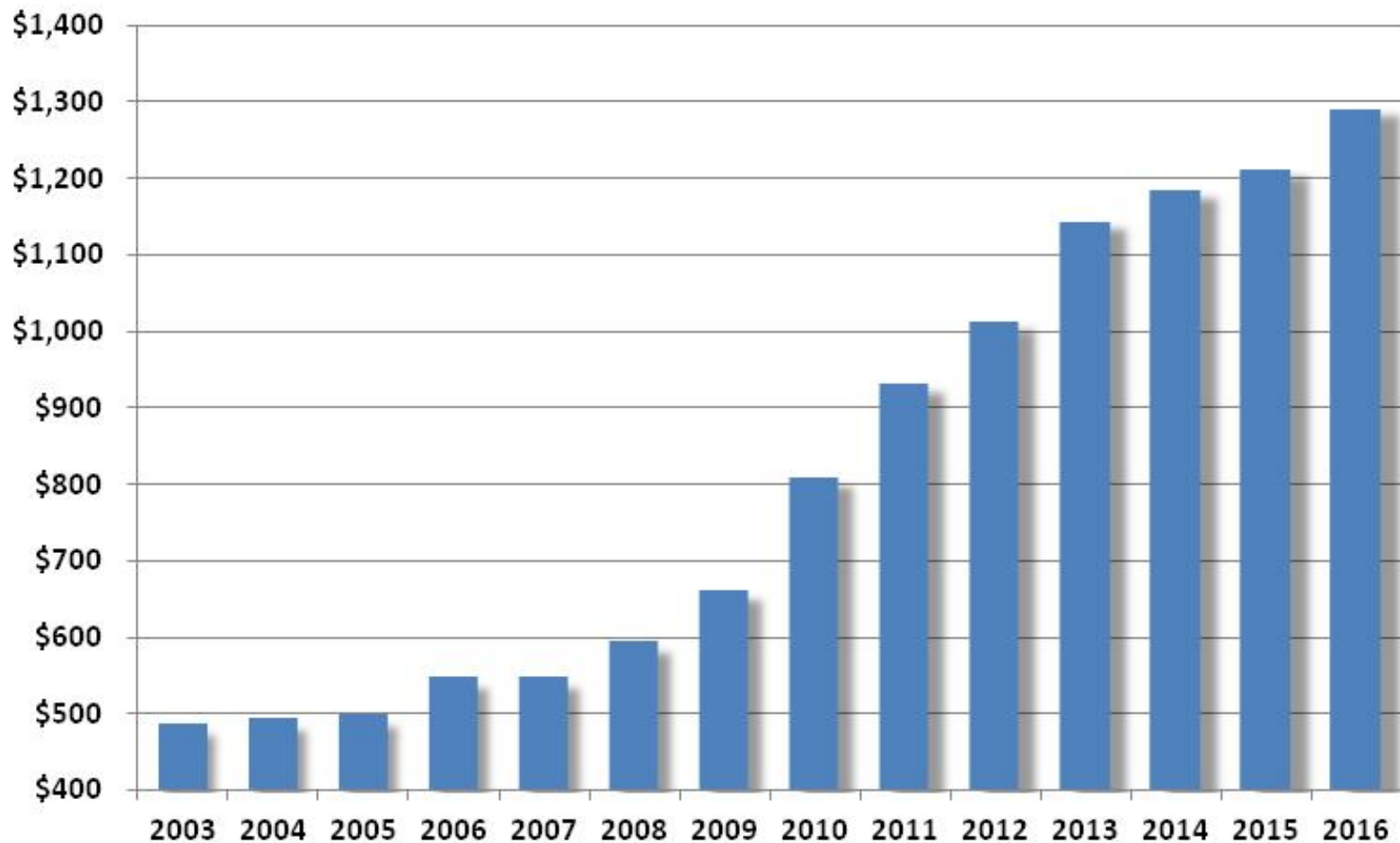
# Long-Term WUE Framework



Water-Use Efficiency will Continue to Improve  
Here's Why...

# Water Affordability

City of San Diego Costs to Purchase Untreated Water from the Metropolitan Water District and San Diego County Water Authority





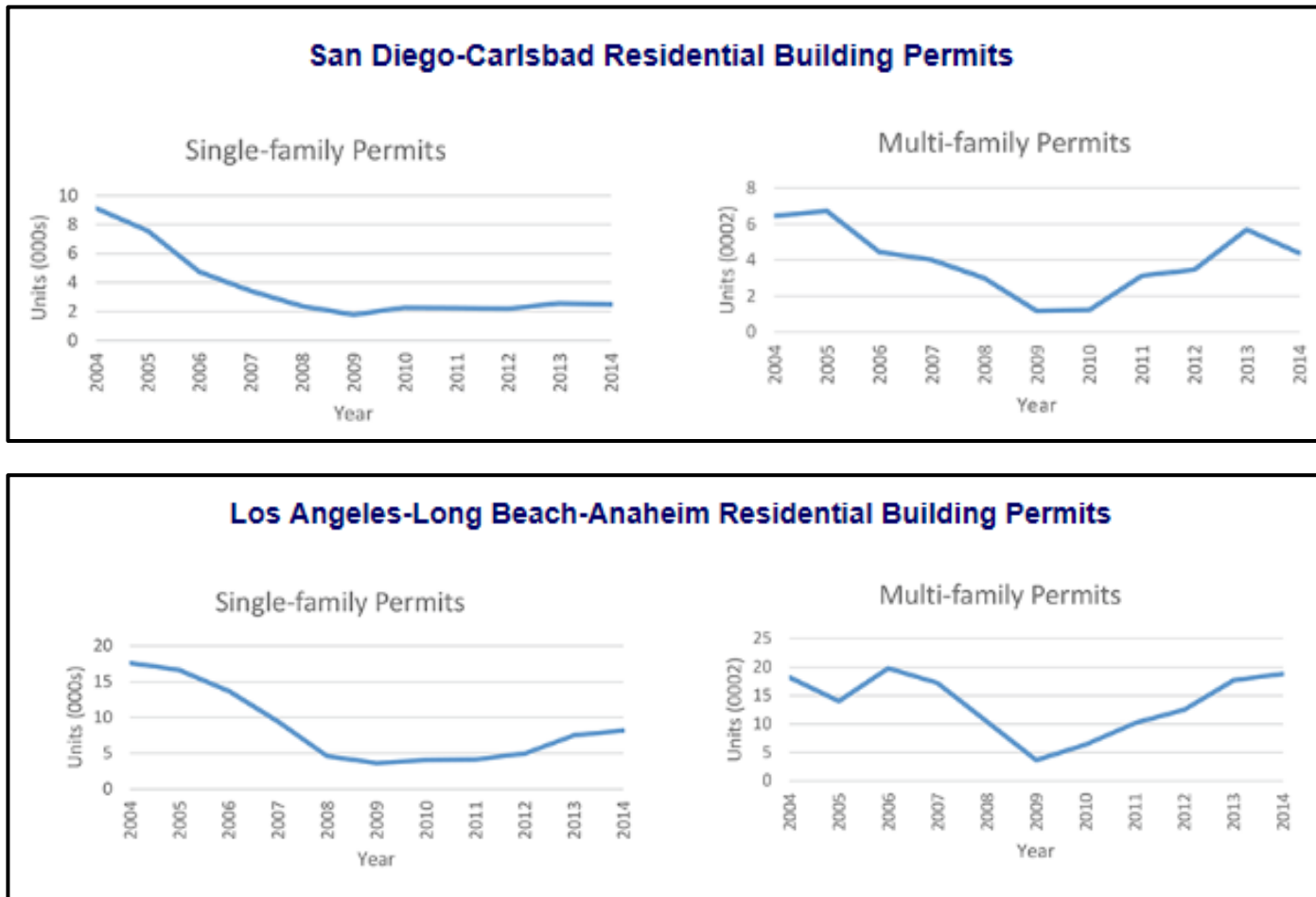


# Urban Densification



# Urban Densification

## Land Use Trends



Source: <http://www.cmdgroup.com/market-intelligence/articles/graphs-showing-the-history-of-housing-starts-in-21-major-u.s.-cities#top>



# Climate Change Policies

## Sustainable Building Policy

- The expedited permitting process is estimated to take 75% as much time as the normal permitting process.
- In order to qualify for expedited permitting as a sustainable building, a project must utilize either photovoltaics to generate a "certain percentage" of the project's energy needs, or achieve LEED Silver certification.



## Goals and Strategies

### Attain Drought Resilience

- ✓ Minimize incidences of water shortages
- ✓ Protect quality of life

### Maintain Credibility with our Customers

- ✓ Align messages and actions with the appropriate need





## Goals and Strategies

### Enhance and Protect System Operations

- ✓ Water quality
- ✓ Hydraulic Flows
- ✓ Energy and GHGs

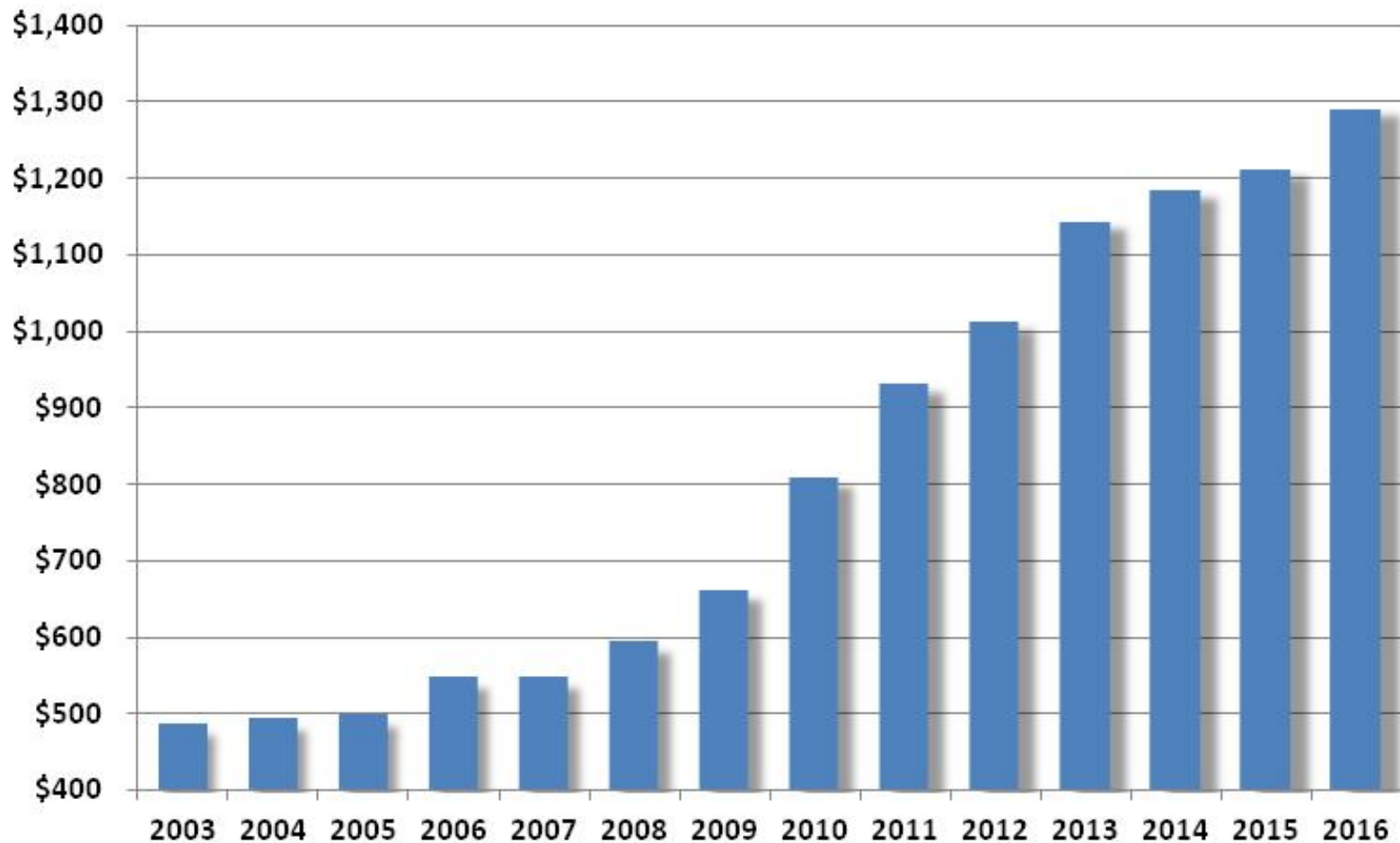
### Invest wisely

- ✓ Bang for the Buck
- ✓ Integrated Planning



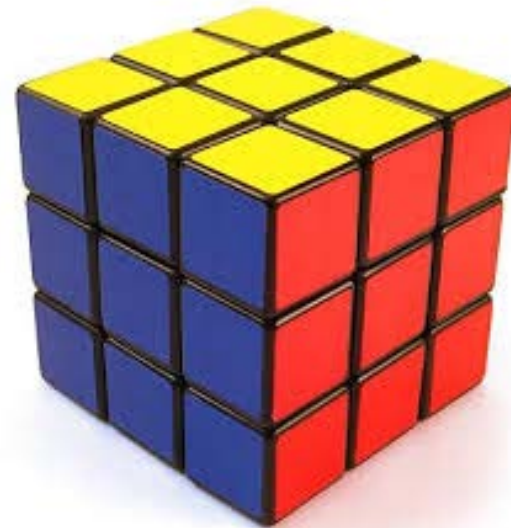
# Price Point for New Supplies

City of San Diego Costs to Purchase Untreated Water from the Metropolitan Water District and San Diego County Water Authority



# Drought Resilience

- ✓ Water-Use Efficiency
  - ✓ New Sustainable Water Supplies
  - ✓ Storage
  - ✓ Voluntary Water Transfers
- }
- ✓ Recycling and Reuse





# Long Term WUE Framework

## ✓ Local Water Management Planning focused on:

- Realistic Supply and Demand Analysis over Normal and Multiple Dry Year Scenarios
- Water Shortage Contingency Plans
- Self-Certification
- SWRCB Back-stop

## ✓ Supply and WUE Mix Depends on Local Conditions and:

- Net Reductions in Reliance on Imported Water
- Development of Sustainable Local Supplies
- Integrated Water Management/ Watershed Approach



## Pure Water San Diego

The City's Pure Water Program is a phased, multi-year program that:

- Uses proven technology to produce a safe, sustainable and high quality water supply
- Is drought-proof and locally-controlled to significantly improve our water reliability
- Is a cost-effective investment for San Diego's Water Future
- Is a Sustainable Water-Use Efficiency Program
- Will provide 1/3 of San Diego's future water supplies





# Pure Water San Diego





## Final Thoughts

- Multiple drivers are advancing WUE today, not just water agencies.
- Water agencies must always respond to local conditions in determining a preferred drought resiliency strategy.
- Recycling and Reuse provide conservation benefits.





San Diego Public  
Utilities



PureWaterSD



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