



Building Community®  
an Innovative

# INCREASING AND PROTECTING TOMORROW'S WATER RESOURCES

Jacksonville Rotary  
Paul Steinbrecher, V.P. Environmental Services

# The Basics: Earth's Water Cycle

**AMOUNT OF  
EVAPORATION  
=  
AMOUNT OF  
PRECIPITATION**

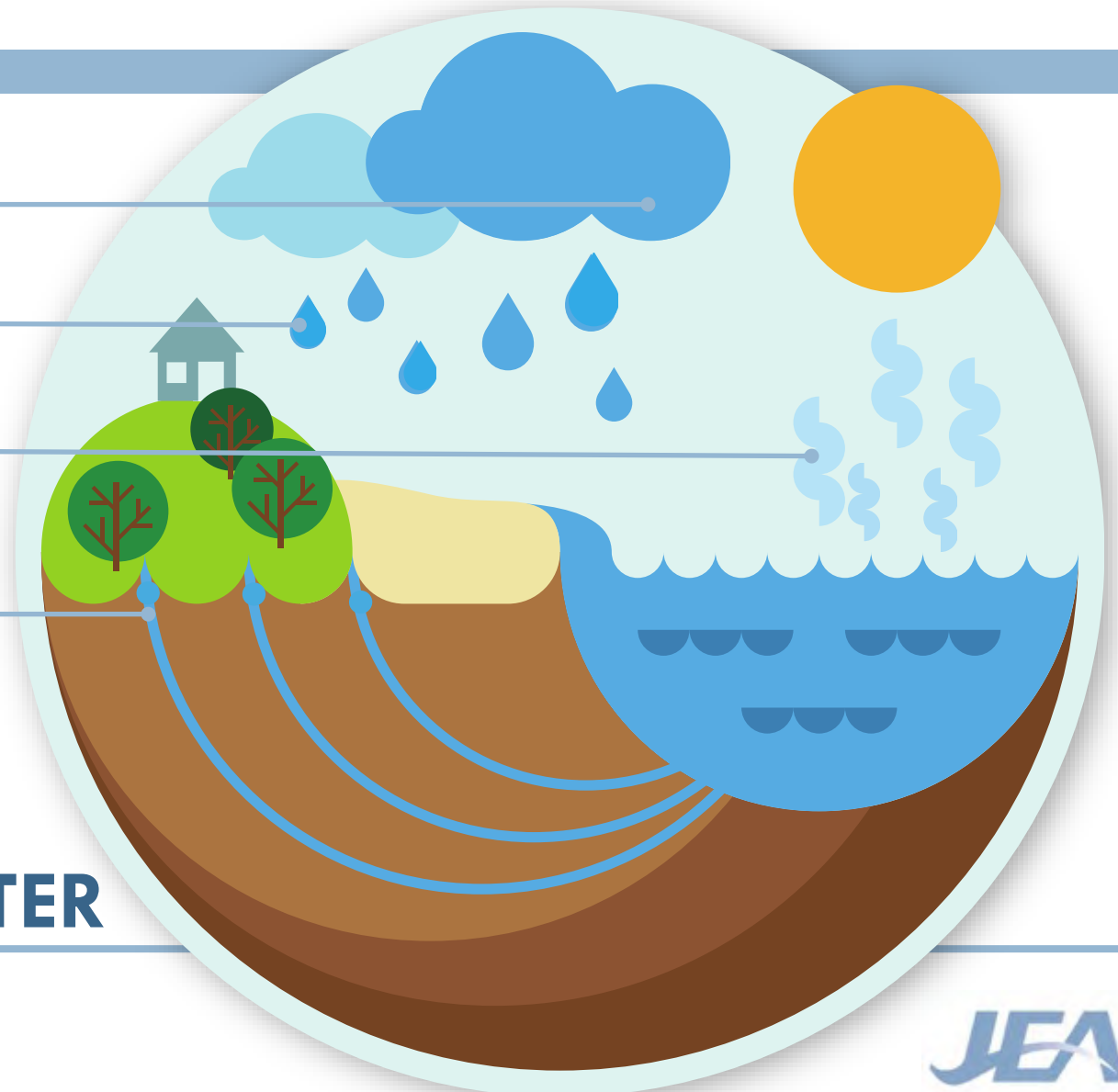
**THE AMOUNT  
OF WATER ON  
EARTH DOES  
NOT CHANGE**

CONDENSATION

PRECIPITATION

EVAPORATION

SURFACE RUNOFF  
AND AQUIFER  
RECHARGE



**IT'S ALL ONE WATER**

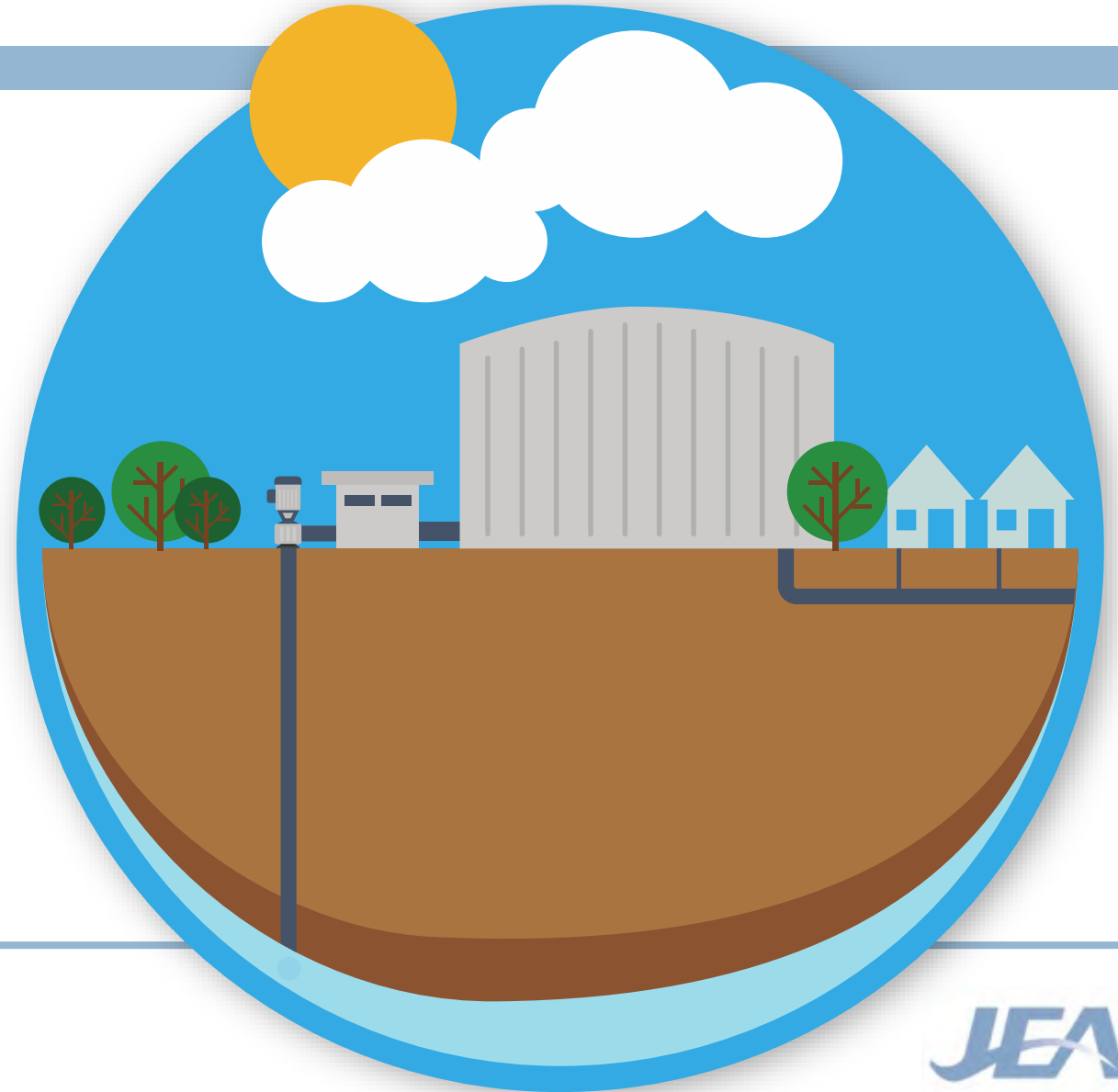
# Where Does Our Water Come From?

4

## FLORIDAN AQUIFER

PRESENTLY SOURCE OF ALL  
JEA-SUPPLIED DRINKING WATER

OUR BEST AND MOST COST-  
EFFECTIVE SOURCE



INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES



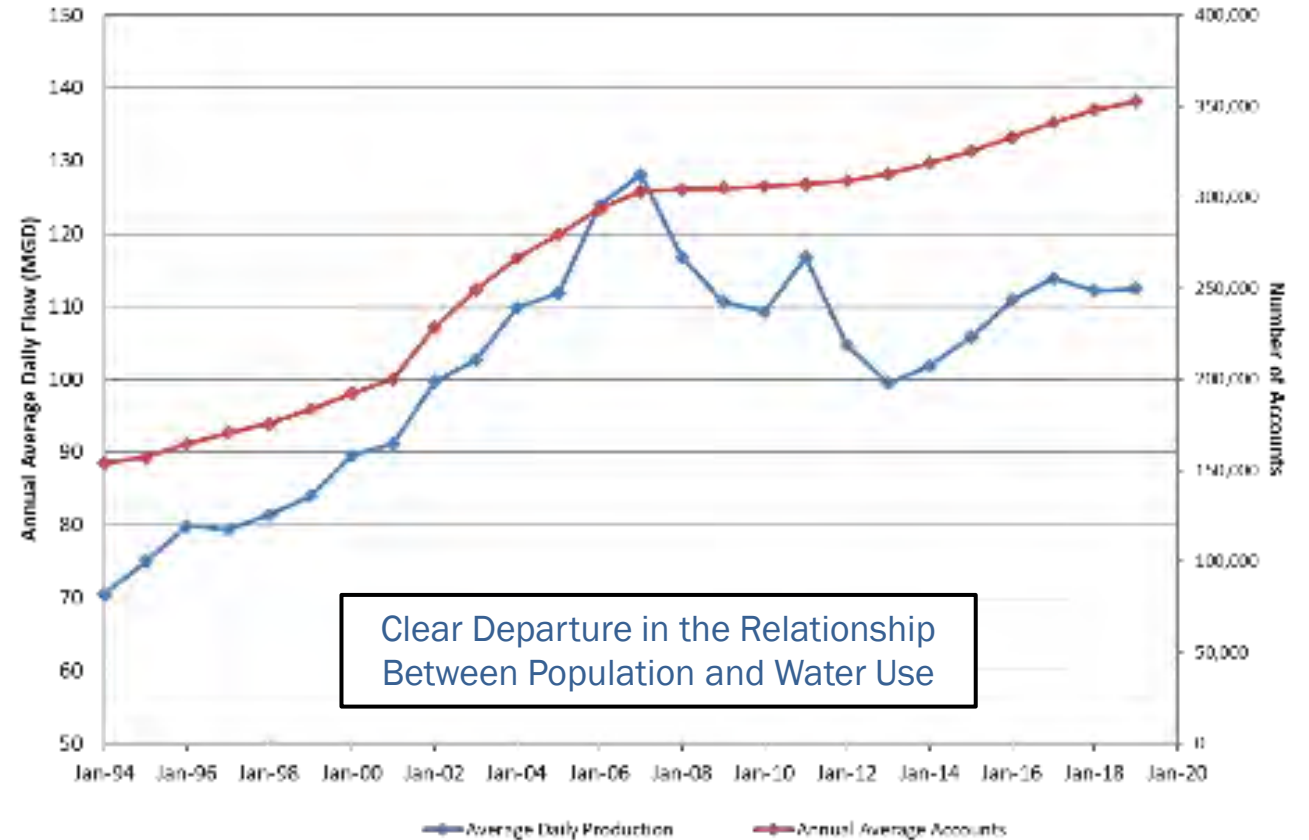
# Water Use Is More Efficient

6

## CHANGE OF HOUSING STOCK

### UTILITY EFFORTS:

- TIERED RATES
- PUBLIC MESSAGING/  
CONSERVATION EFFORTS
- CONTINUED EXPANSION OF  
RECLAIMED SYSTEMS IN AREAS  
OF GROWTH



# The Challenge Ahead

7

**FLORIDAN AQUIFER IS APPROACHING  
SUSTAINABLE WITHDRAWAL LIMIT**

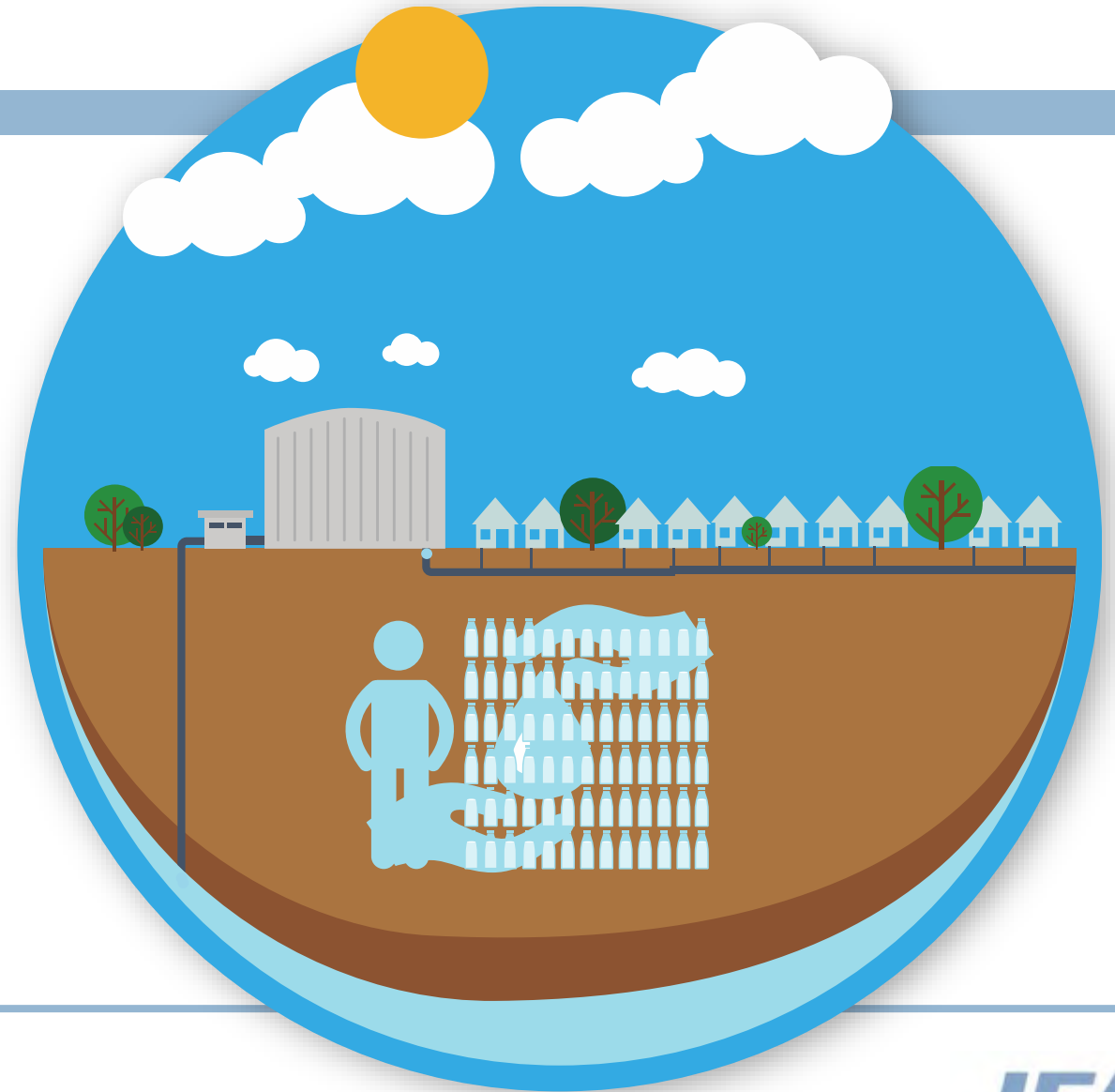
**POPULATION IS GROWING, AVAILABLE  
WATER SUPPLY IS LIMITED**

**PROTECT THE WATER RESOURCES OF  
THE REGION**

**CONSERVATION ALONE WILL NOT ENSURE  
A SUSTAINABLE WATER SUPPLY IN THE  
FUTURE**

**U.S.  
AVERAGE IS  
100  
GALLONS  
PER DAY**

**JEA  
AVERAGE IS  
80 GALLONS  
PER DAY**



**INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES**



# Possible Solutions

JEA is Expanding efforts to explore possible solutions:  
Purified Water is one cost competitive option to meet future water demands



# Purification Technology Safe and Reliable

10

**ESTABLISHED TREATMENT METHODS**

---

**INTERNATIONAL SPACE STATION  
UTILIZES SIMILAR TECHNOLOGY**



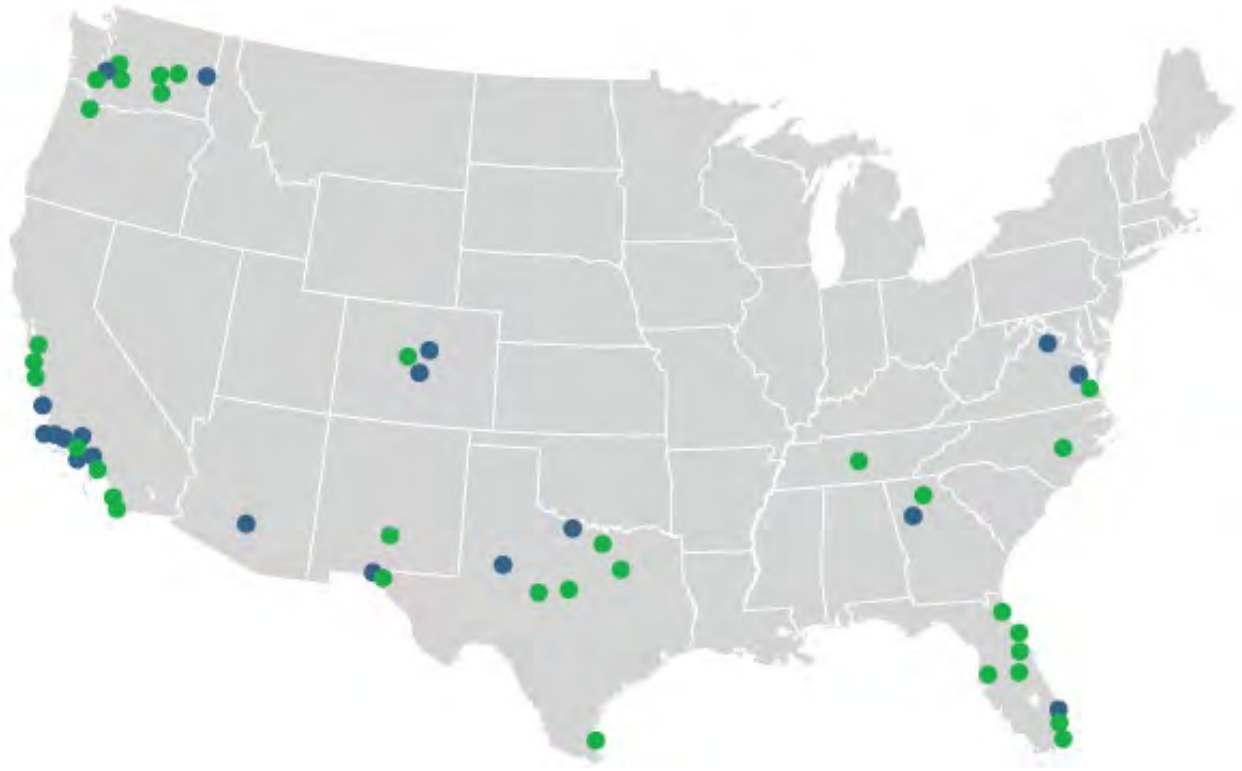
**INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES**



# Implemented Throughout The United States

## PURIFICATION FAR EXCEEDS DRINKING WATER STANDARDS ESTABLISHED BY THE EPA

- Full Scale Implemented Facilities
- Projects in R&D, Planning or Demonstration





# Our Purification Program Has Started

12

## PAST

### R&D TESTING

- Began 2017
- Completed 2019

## PRESENT

### IMPLEMENTATION

- Immersive Public Engagement
- Performance Demonstration
- Expansion as Needed

## FUTURE

**INNOVATIVE TECHNOLOGY COST SHARE FUNDING IN PARTNERSHIP WITH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT**



INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES



# Multi-Barrier Treatment Approach

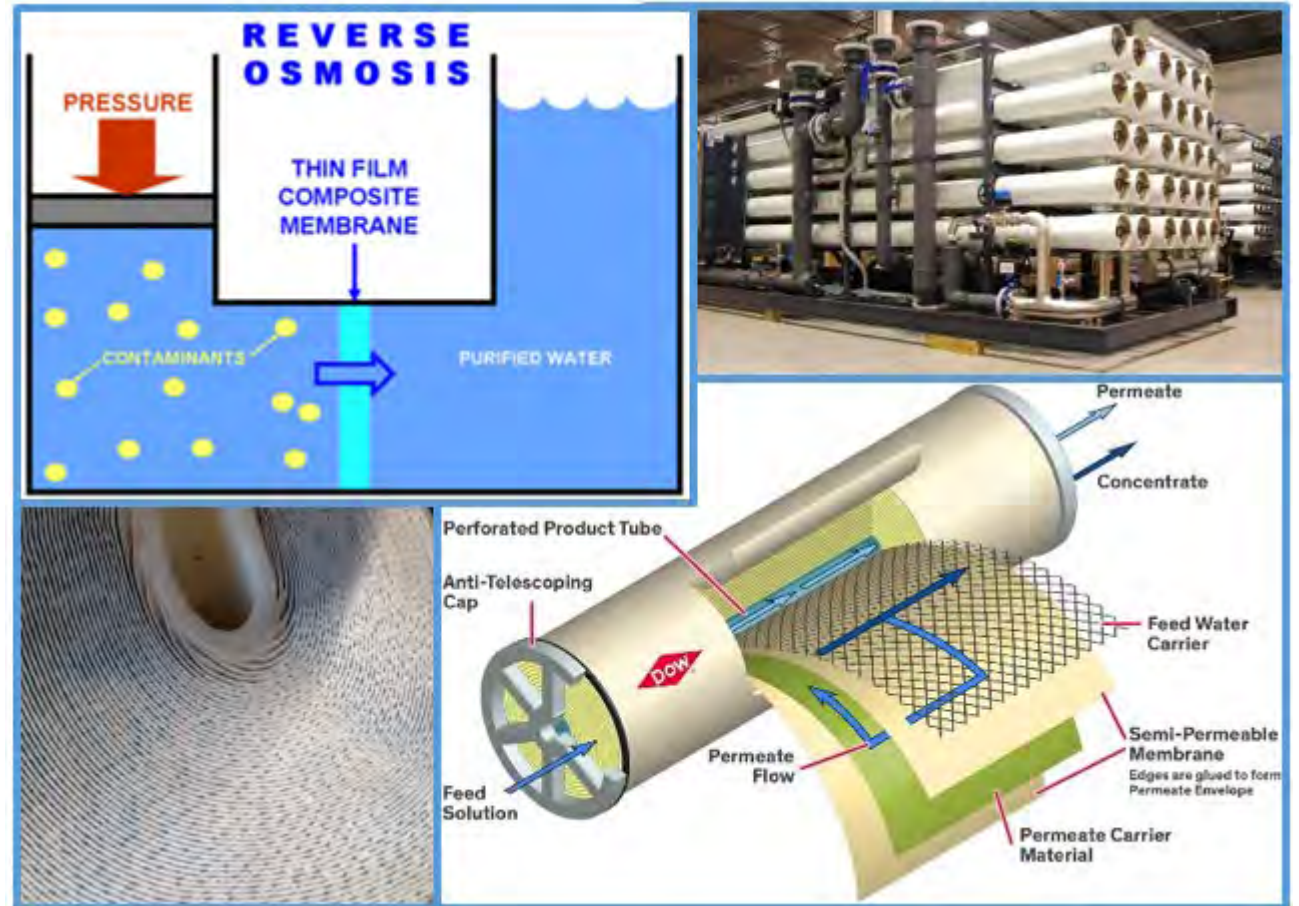
13

FILTERS MOLECULES

ENSURES SAFETY

PRODUCES PURE WATER

MINERALS ADDED FOR TASTE



INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES



# Next Steps

EXTENSIVE PUBLIC EDUCATION AND OUTREACH

FULLY EXPANDABLE COMMERCIAL SCALE DEMONSTRATION FACILITY



INCREASING AND PROTECTING TOMORROW'S WATER RESOURCES



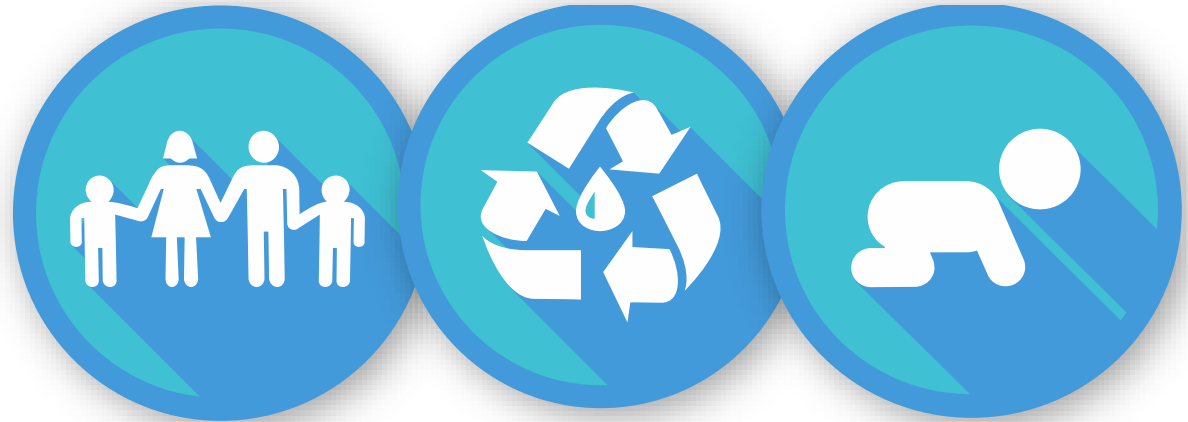
# In The End, We All Win

15

**A SUSTAINABLE WATER  
SOURCE FOR FUTURE  
GENERATIONS**

**WATER WE NOW DISCARD WILL  
BE REUSED**

**THE NEEDS OF AN EXPANDING  
POPULATION AND ECONOMY  
WILL BE MET**



**INCREASING AND PROTECTING  
TOMORROW'S WATER RESOURCES**





Building Community®  
an Innovative

- ✓ **SAFE**
- ✓ **RELIABLE**
- ✓ **SUSTAINABLE**
- ✓ **DROUGHT-PROOF**
- ✓ **ENVIRONMENTALLY RESPONSIBLE**
- ✓ **COST EFFECTIVE**
- ✓ **LOCALLY CONTROLLED**

