

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are at the top left, some are at the bottom right, and others are scattered in the center. Each droplet has a highlight and a shadow, giving it a three-dimensional appearance.

# ROAD MAP TO NET ZERO / POSITIVE WATER BUILDINGS

# THE WHY'S

The average global **population** increase is 82 million people per year.

Growth Rate:

(2018-2019) 1.07% per year

2018 1.09%

2017 1.12%

2016 1.14%

**68% by 2050**

# BIG WATER TRANSPORT PROJECTS

Colorado River



Northern California



# BIG – INDEPENDENT WATER ISLANDS

## Net zero water building

- Self sustainable (potable water) buildings
- Resilient buildings a.k.a. resilient cities
- Can supply emergency water supplies if the water supply is damaged (natural or man made)



The commercial building path to NZW..



# PLANNING FOR TOMORROW

## Net Positive Water Buildings



## Sustainable Healthy Urban Cities





# ECONOMICS

## COMMERCIAL OFFICE TOWER (CONDENSATION COLLECTION)

	5 story – 100 ton AHU per floor
Water PRODUCED	3.1 million gallons per year / 11,071 per day
Value	\$ 38,405
Estimated building needs	8,745 gallons a day
Excess water produced could irrigate	88,500 sq. feet (football field)

# COMMERCIAL BUILDING & AIR CONDITIONER CONDENSATION





# ATMOSPHERIC WATER GENERATION

## THE PATH

Stage 1 (today): Landscaping

Stage 2 (2 years): Toilet Flushing


Stage 3 (5 years): Drinking water (currently at .07 cents a gallon)





# STEP 2

Reuse / upcycle / 2<sup>nd</sup> use of water



# WATER FOOTPRINT – LANDSCAPE



	<b>Turf</b>	<b>Managed</b>	<b>Drought Tolerant</b>	<b>1000 sq. feet</b>	<b>Greywater</b>
Los Angeles	46	31	14	14,000	0
Riverside	53	35	16	16,000	0
Palmdale	72	41	18	18,000	0

All numbers in gallons per square foot

# DRINKABLE WATER

## 1,000 SQ. FT – LANDSCAPE



10 PARKING SPACES



# HAVING WATER IS AN ENABLER

Enables GREEN buildings

- Reduces heat islands
- Sequesters carbon and pollution
- Naturally cools buildings





# ACTIONS TODAY FOR A BETTER TOMORROW

- SHADED BUILDING





# WHAT WE ARE SEEING

## Awareness of water usage

- End users desire to monitor, conserve and reuse outside
- Active discussions on retrofits for greywater inside (toilet flushing)
- Discussions on residential Atmospheric Water Generators

# POSITIVE POLICY CHANGES

FORWARD THINKERS KNOW WE ARE IN THIS CLIMATE CRISIS TOGETHER



THE LANDSCAPE =  
NEW GREYWATER TREATMENT PLANT

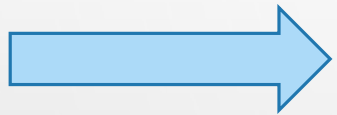


- A) Yuck factor
- B) Local district transfers – San Francisco is a positive model
- C) Legal liability – keeping the systems operationally perfect
- D) Optics: Green verse Dry

The image features a light gray gradient background. In the top-left corner, there are several realistic water droplets of varying sizes, some overlapping. A single droplet is in the top-right corner. The bottom-right corner contains a cluster of droplets, including a large one and several smaller ones. The text "BRINGING IT ALL TOGETHER" is centered in the upper half of the image.

BRINGING IT ALL TOGETHER

## BRINGING IT ALL TOGETHER



Condensation – to Landscape  
Sink water – to landscape

\$  
\$



Condensation – to toilet flushing  
Sink water to toilet flushing

\$\$  
\$\$



Condensation – for drinking water

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# IDEAL BUILDINGS





# FAST FOOD - IDEAL BUILDINGS



El Pollo Loco



In & Out



Del Taco



Starbucks

# TOOLS – BUSINESS/ENVIRONMENT CASE

Grey4Green.Com/Commercial

More Information on the topic

- Slide Deck in PDF format
- Water Condensation Calculator
- Green Building Water Calculation
- AWG sources

[Joseph@Grey4Green.Com](mailto:Joseph@Grey4Green.Com)

Grey4Green.Com

o: 213-985-4122 / c: 562-301-5598

