



**GLOBAL WATER**  
RELIABLE • RENEWABLE • REUSABLE

# **Water Resources Research Center Annual Conference**

## **Emerging Policy Challenges**

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Global Water Resources  
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# Outline

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- **Emerging Policy Challenges**
  - Scarcity Management
    - Scarcity - A worsening problem?
  - Water Reclamation and Reuse
    - Philosophies and Practices.
  - Eliminating Barriers
    - Perception; and,
    - Code simplification.
  - Align Quantitative & Economic Incentives for:
    - Private Utilities;
    - Public Utilities; and,
    - Development Community

# Scarcity Management

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- Growth in the state is continuing
- Despite the “slow-down” growth continues in outlying areas
- These areas have two things in common:

# Scarcity Management

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- Areas entirely controlled by small undercapitalized municipalities

Or

- Small undercapitalized private water companies

# These types of Entities

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- Generally lack the following:
  - Money
  - Man-power
  - Water Knowledge
  - Scarcity Management Capabilities...

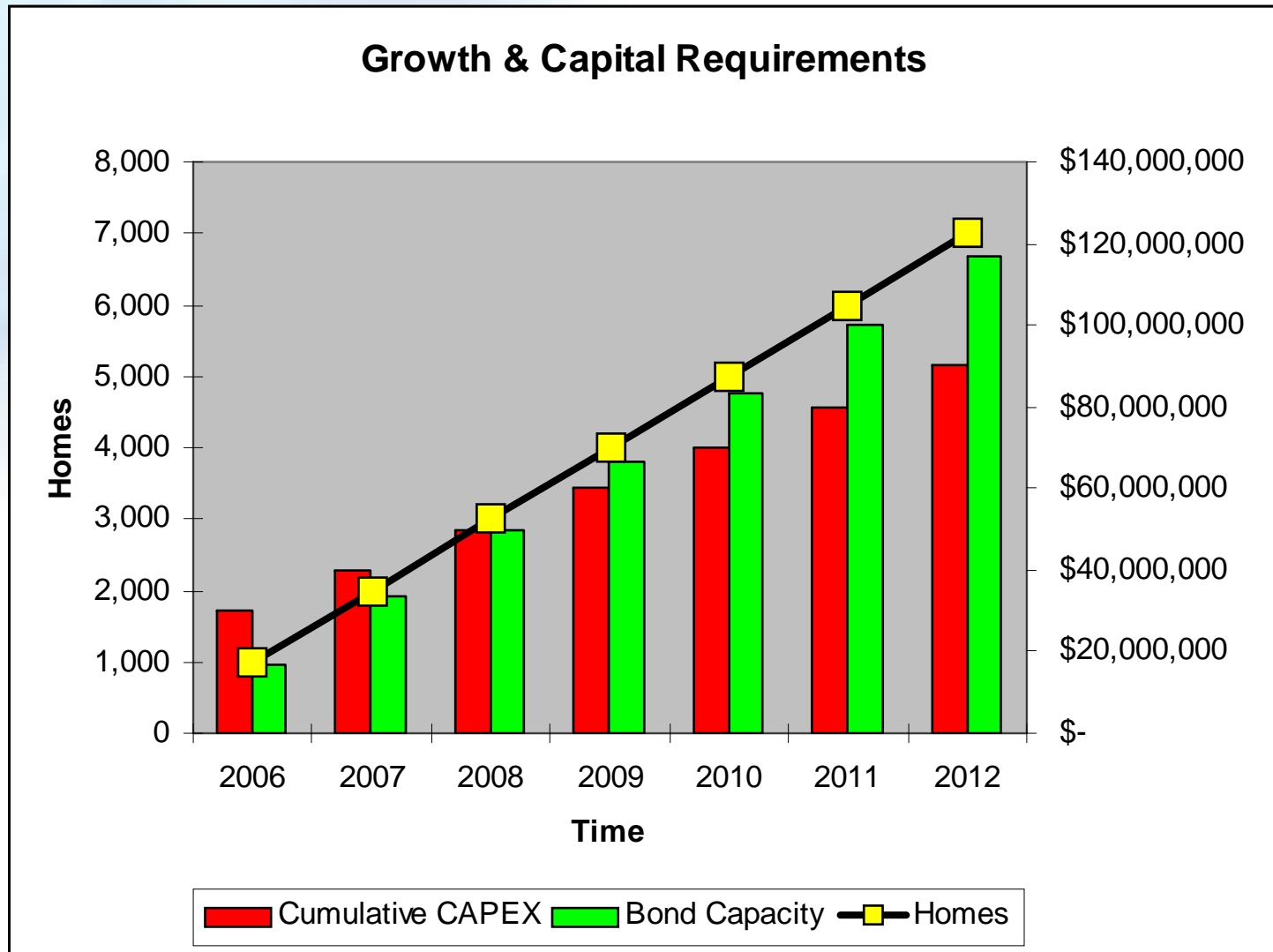
# Water Scarcity

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## Water Scarcity Impacts Costs:

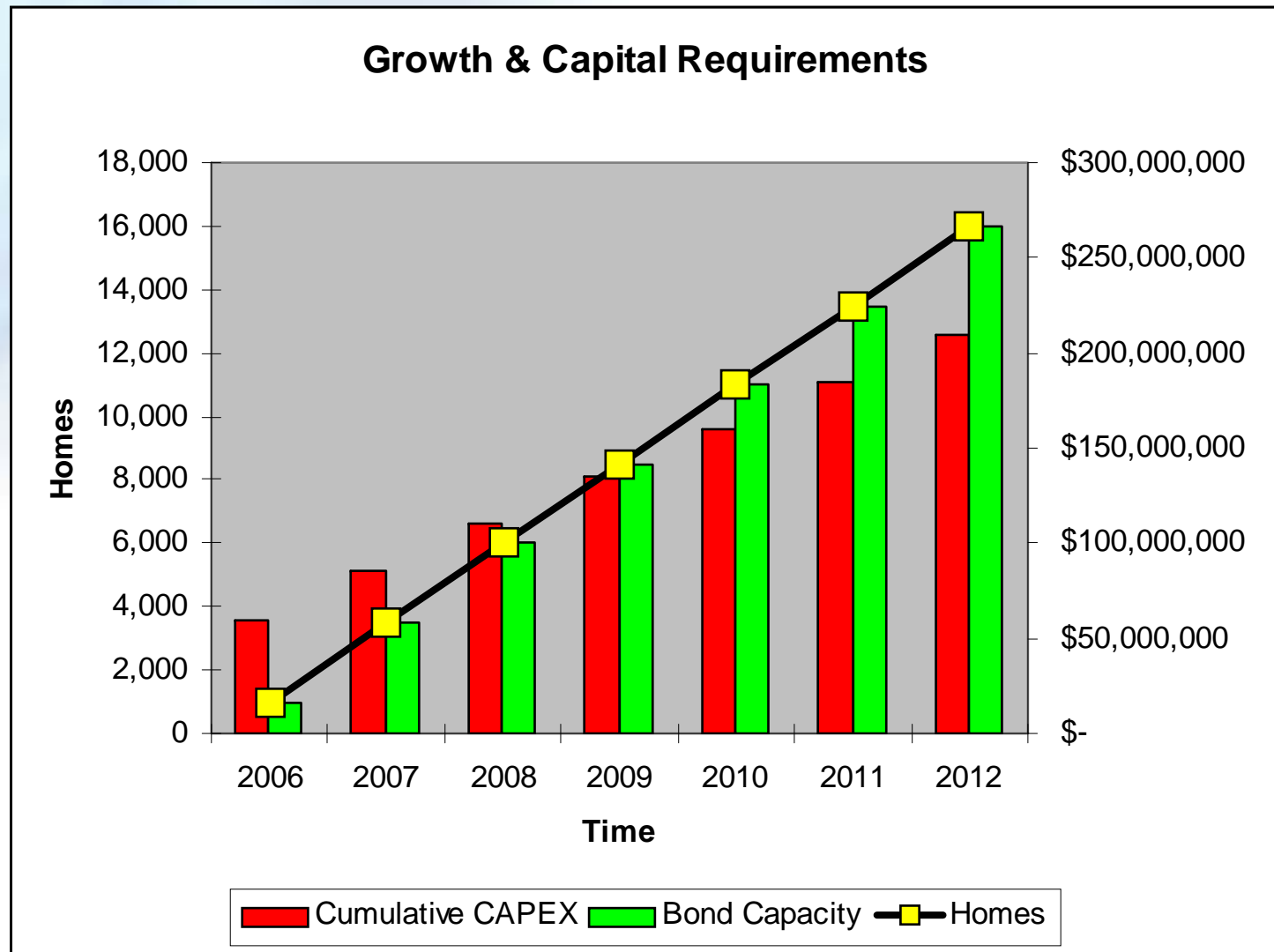
- Water and water rights are harder to come by
- Water quality standards are going up
- Water recycling is now essential
  - Dual plumbing costs more
    - “It costs more to use less”
  - Technologies are more expensive
  - Higher operating costs
- The increased costs of Water Scarcity
  - Historically per section
    - \$7,000/home
  - Water Scarcity model
    - \$10,000/home

# Growth – 1,000 Homes/year

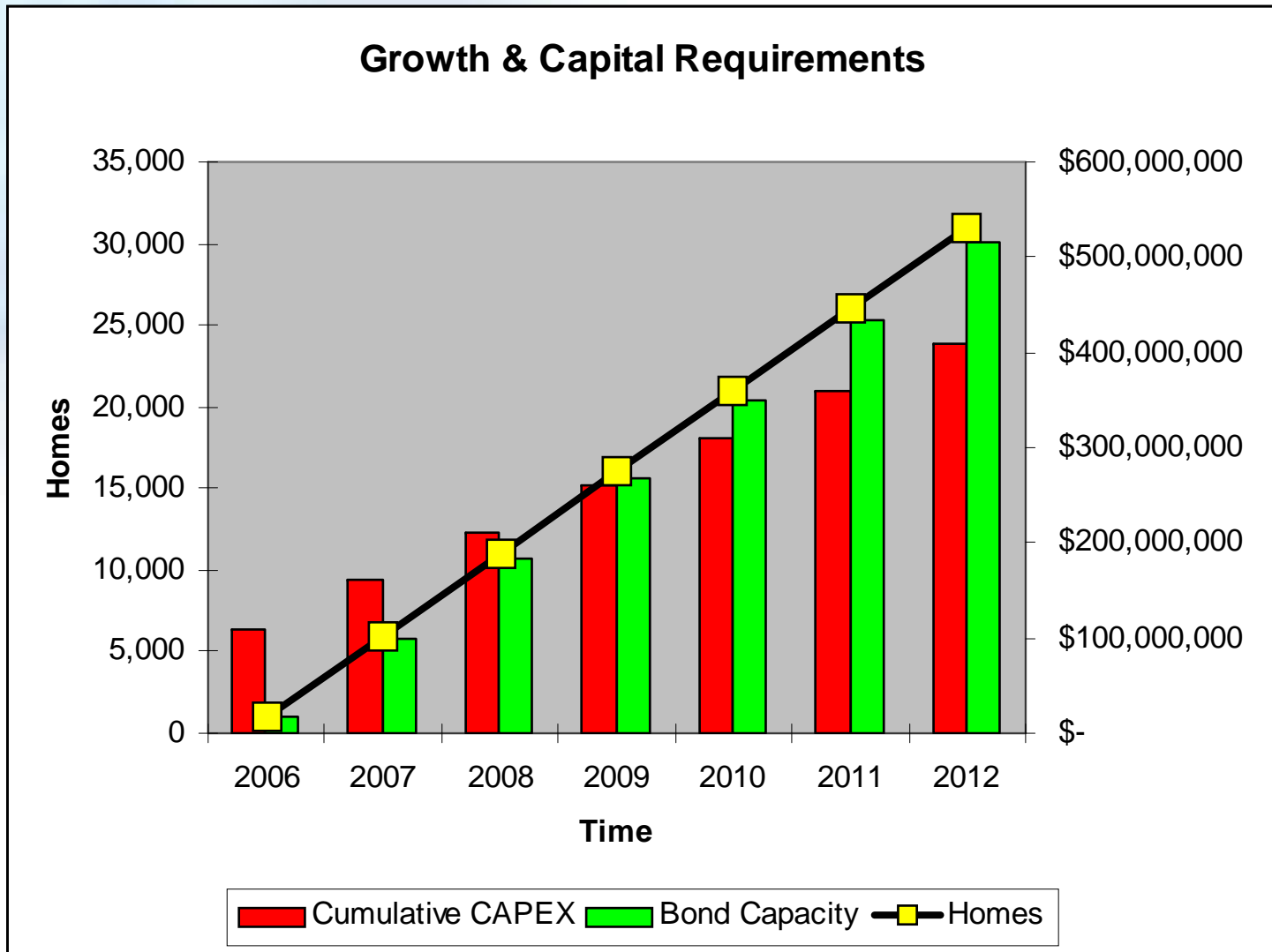




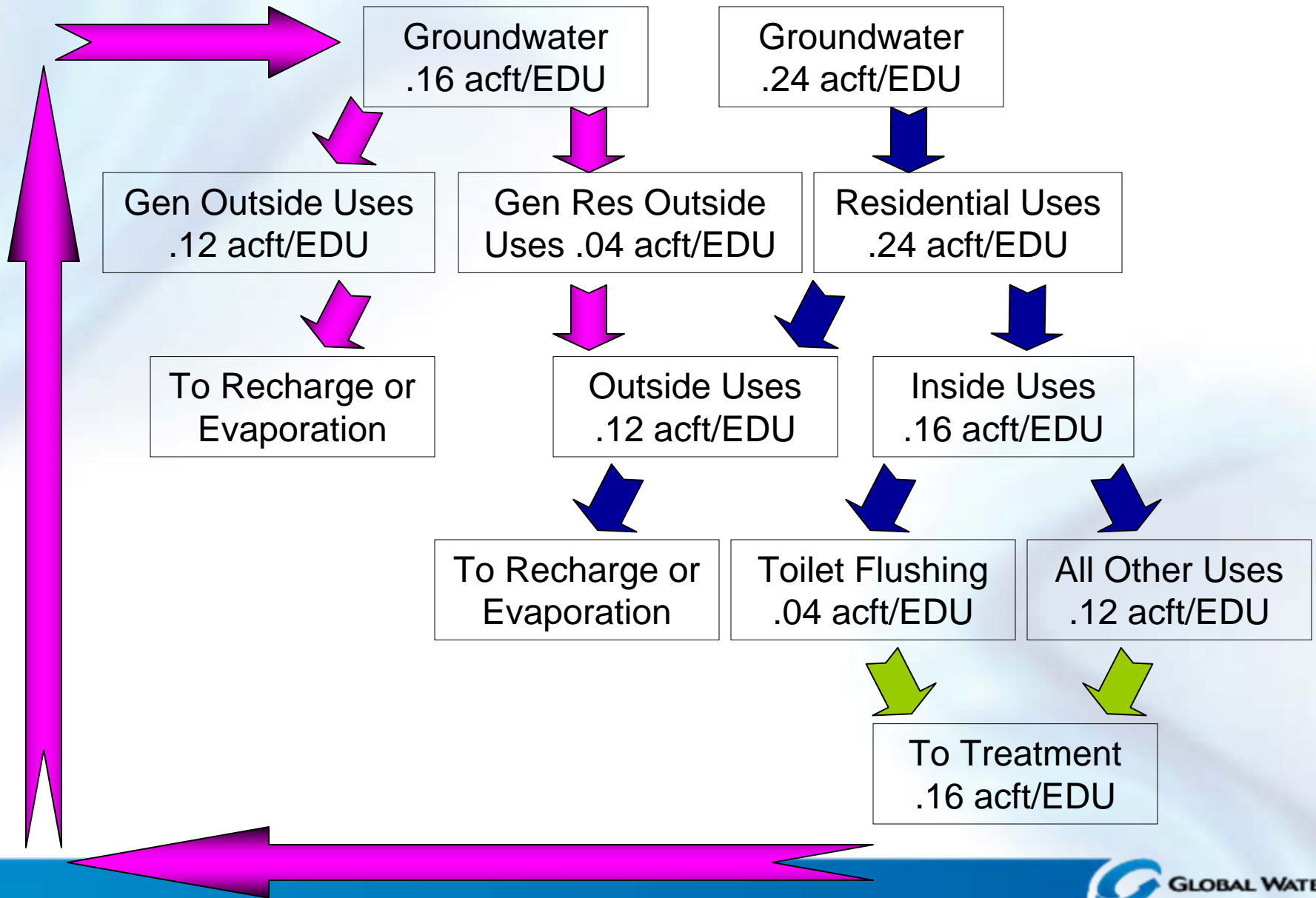
# Growth – 2,500 Homes/year



# Growth – 5,000 Homes/year

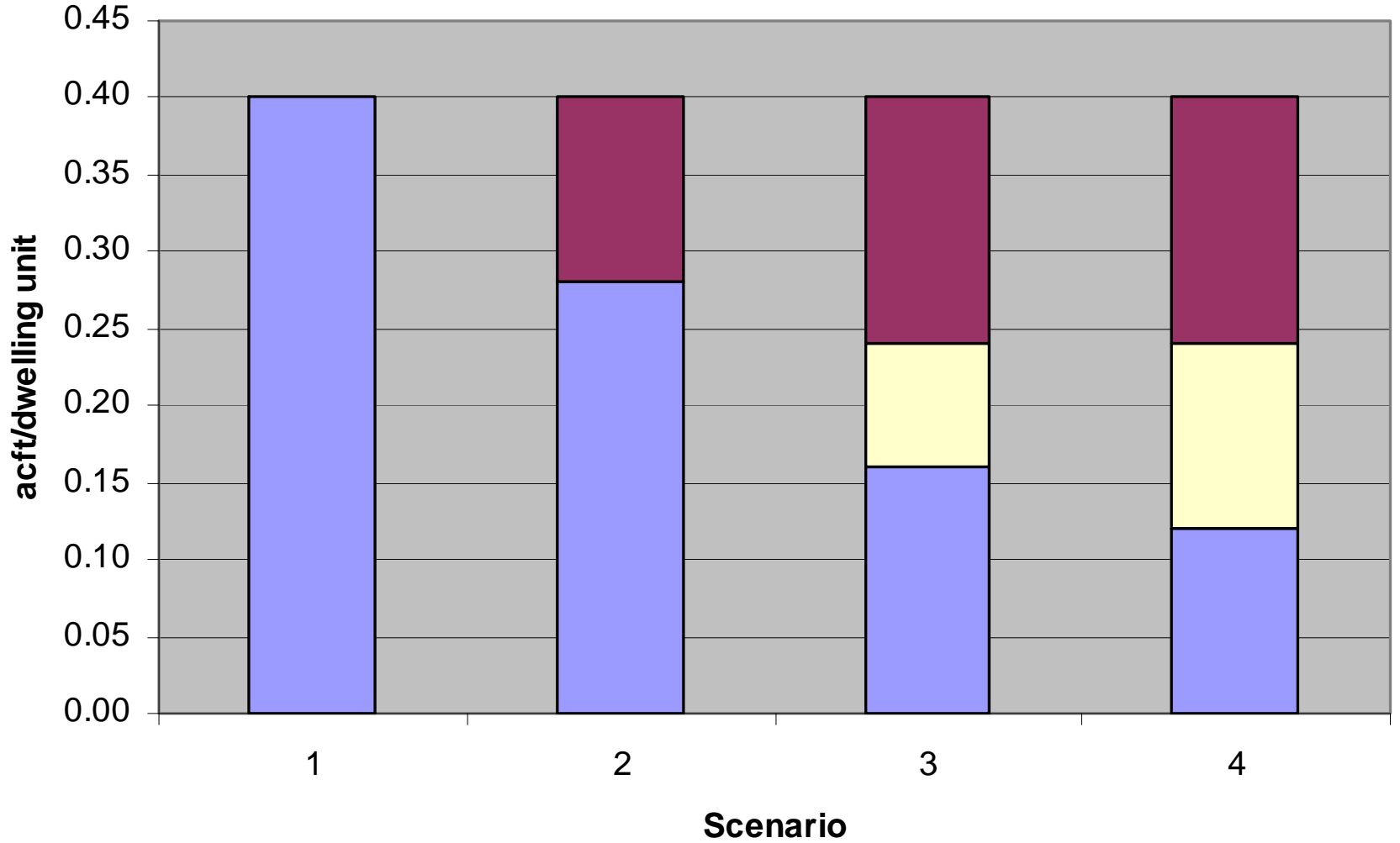


# Advanced Water Reclamation



# The Power of Reclamation

- Reclaimed Water
- Surface Water
- ground water



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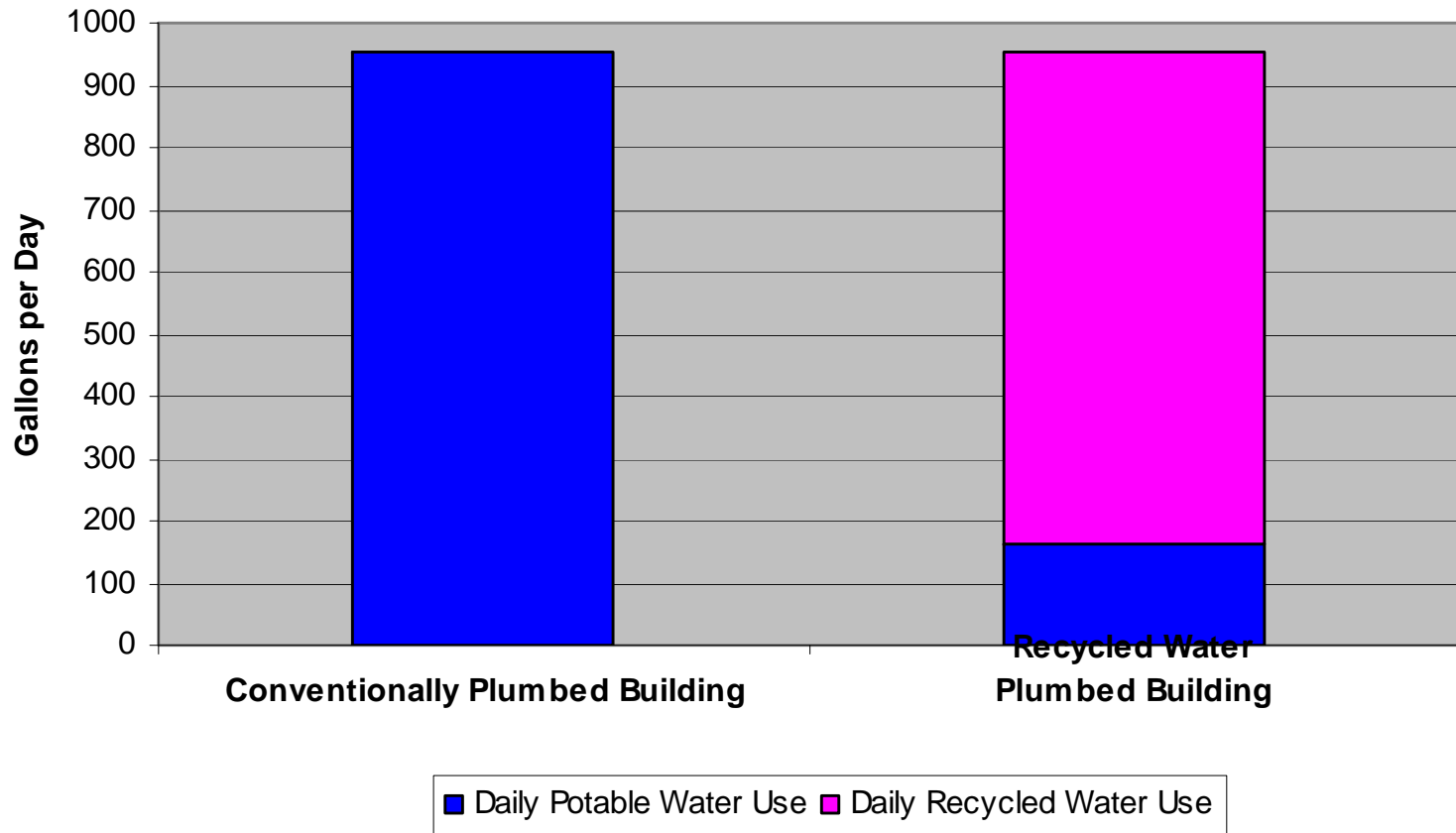
# Global Water Center

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## Daily Projected Water Savings Through Recycling in this Building



# Private Capital

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- **Patient Equity**
- **The Funny Paradox**
  - While municipalities struggle to raise capital due to their roof-top oriented bond capacity, which by definition is rearward looking...
  - The water sector has never been hotter.
    - The world is awash in risk capital
    - There is not enough deal-flow to meet the demand for securities
    - Equity by definition is forward looking



# Eliminating Barriers

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- Leadership
- Outreach
- Frank dialogue on Scarcity Management
- Making it easy
  - Code
  - Support
- Making it mandatory

# Aligning the Economics

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- Historically – the Arizona Corporation Commission has defined the public interest as “lowest rates”
- In the new paradigm the new public interest is “scarcity management”
- This means the old precepts of:
  - used and useful
  - no recovery on acquisition of renewable rights
  - disincentives for designations
  - no incentives for reuse
- ...need to give way to :
  - regional planning
  - conservation and recharge incentives
  - broad spectrum support and implementation of reclamation and reuse
  - financial incentives for reducing water demand in private utilities.

# Conclusions

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- Growth will continue – in some cases hyper-growth
- Infrastructure provision is getting more expensive and complex in the face of water scarcity
- Infrastructure for Cities is more costly and time-consuming to deploy by definition
- Scarcity Management is critical to achieve the State's interest in sustainable economic development
- Partnership's will be critical
- Private sector will play a very significant role
- New policies must define how utility infrastructure will conserve the state's water resources