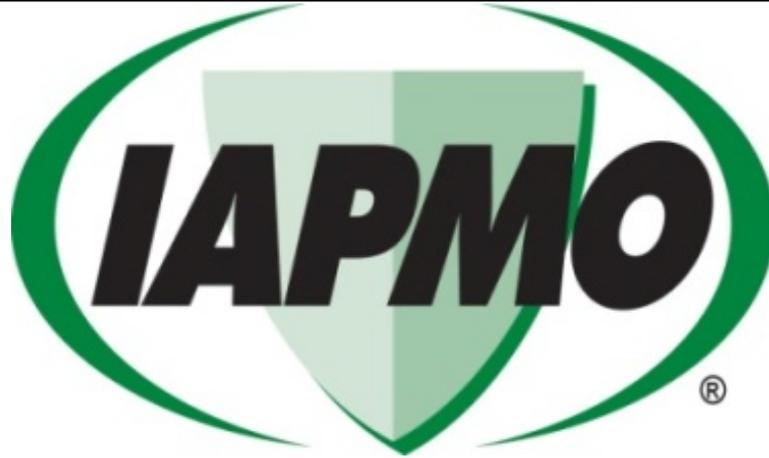




2009 Open Forum for  
Standards Developers



# Sustainable Plumbing and Mechanical Provisions for the Built Environment

*Presented by:*  
Peter DeMarco  
Director of Special Projects



Open Forum for Standards Developers  
October 6, 2009

Part of the World Standards Week 2009 series of events

# The International Association of Plumbing and Mechanical Officials

- ❑ Membership based association, Headquarters in Ontario, CA
- ❑ Over 80 year history of protecting health and safety
- ❑ The *ONLY* model code developer in the USA utilizing an open consensus process accredited by ANSI in the development of plumbing and mechanical codes and numerous product standards
- ❑ Developers of the Uniform Plumbing Code, Uniform Mechanical Code, Uniform Solar Energy Code, Uniform Swimming Pool, Spa and Hot Tub Code
- ❑ A true international organization
  - Collaborative projects in: India, China, Taiwan, Vietnam, Australia, Abu Dhabi, Jordan, Kuwait, Columbia, Venezuela, Ghana, elsewhere
  - Provisions of the UPC protect over half of the Earth's population

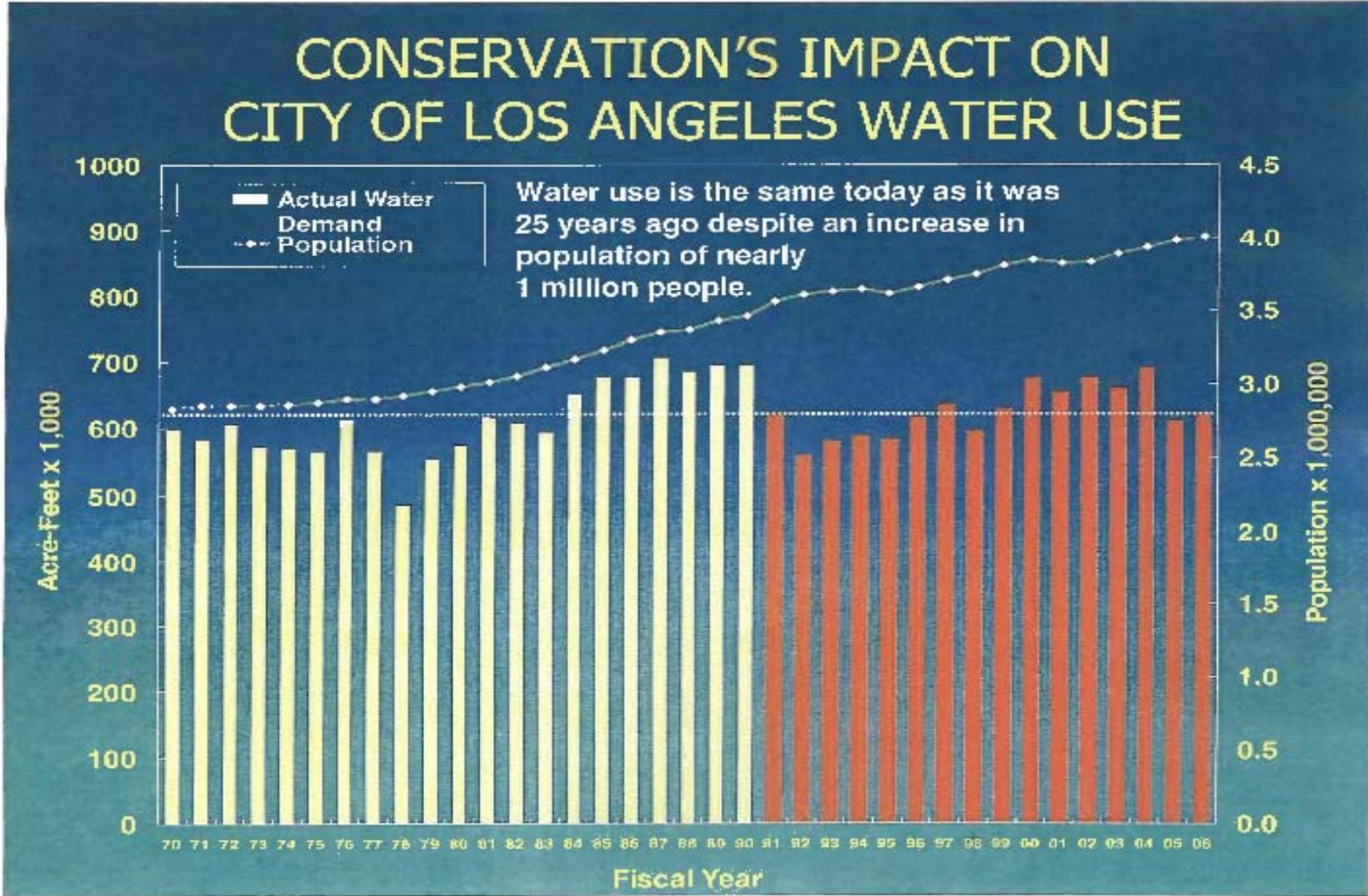
# Forces Driving Development of Sustainable Provisions for Buildings

- Buildings profound impact on environment, economy, health, and productivity.
  - In the United States alone, buildings account for:
    - 65% of electricity consumption,
    - 36% of energy use,
    - 30% of waste output
    - 12% of potable water consumption.
- We all know why we need to conserve water
  - Drought
  - Infrastructure
  - Growing population

# Water is a BIG Factor in the Energy Equation

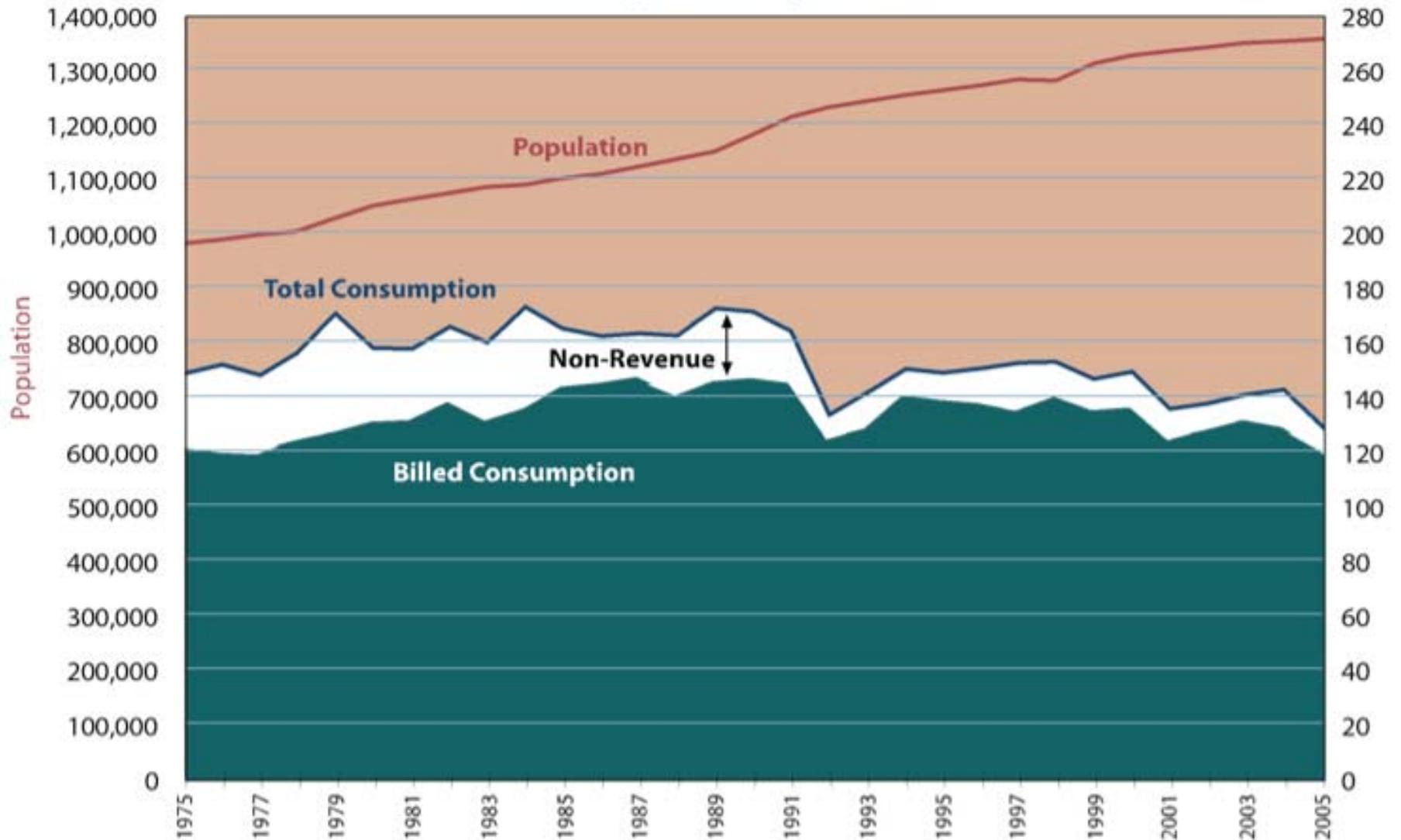
- ❑ Embedded energy in water
  - In California:
    - **19%** of electric energy load in California
    - **32%** of natural gas energy load in California
  - National Average:
    - **13%** of electric energy load
    - Many energy efficiency goals can be met by water efficiency programs at a very reduced cost
- ❑ Faucet running for 5 minutes  $\approx$  60-watt light bulb on for 14 hours.
- ❑ **Saving water  $\Rightarrow$  saves energy**

# How Effective are Water Efficiency Programs?



# Growth in Population and Water Consumption

Seattle Regional Water System: 1975-2005



# IAPMO Responds

- ❑ Water & energy efficiency provisions are not new trends at IAPMO
  - Fostered incorporation of sustainable provisions in our codes for decades
  - Forward thinking Leadership and Board of Directors
  - Consistent with IAPMO's core mission; Health & Safety
- ❑ But... we've redoubled our efforts!
- ❑ Current IAPMO Green Projects:
  - Uniform Plumbing and Mechanical Green Code Supplement
  - PERC Research Program
  - International Emerging Technologies Symposium
  - MoU with Green Plumbers - Training & Certification Collaboration

# Uniform Plumbing and Mechanical Green Code Supplement

- ❑ Separate document from UPC and UMC
- ❑ Establishes efficiency provisions applicable to plumbing and mechanical systems
- ❑ Adjunct to ANY plumbing and mechanical codes used in the US, written in code enforcement language and format
- ❑ Can be modified for international use as required
- ❑ Resource for:
  - Progressive jurisdictions, Code officials, plumbers, contractors, engineers and manufacturers
- ❑ Publication Date: **February, 2010**



# Plumbing Efficiency Research Coalition



Alliance  
for Water  
Efficiency



INTERNATIONAL  
CODE COUNCIL®



PLUMBING-HEATING-COOLING  
CONTRACTORS ASSOCIATION



PLUMBING  
MANUFACTURERS  
INSTITUTE®

- January, 2008: IAPMO and AWE agree to foster development of a Plumbing Research Coalition
- February – December, 2008: PMI, PHCC and the ICC contacted
  - All express interest in joining
  - MoU developed and ultimately agreed to
  - January, 2009: MoU signed at EPA Headquarters - Administrator Stephen Johnson presiding



# International Emerging Technologies Symposium



- ❑ Bi-annual event – May 11<sup>th</sup> and 12<sup>th</sup>, 2010 – Ontario, CA
- ❑ Co-convened with the World Plumbing Council
- ❑ Expose participants to emerging products and practices
- ❑ Provide a vision for a more efficient future for plumbing and mechanical systems.
- ❑ Currently seeking sponsors, presenters and panelists:
  - Water Quality, Sanitation and Health
  - Water and Energy Efficiency
  - Water Reuse
  - Water and Embedded Energy
  - Solar, Geothermal and Other Renewable Energies
  - New Technologies in Fat, Oil and Grease (FOG)

# Thank You!

