Sustainable Plumbing and Mechanical Provisions for the Built Environment

Presented by:
Peter DeMarco
Director of Special Projects
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
- 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 ≈ 60-watt light bulb on for 14 hours.

- Saving water ➔ saves energy
How Effective are Water Efficiency Programs?

CONSERVATION’S IMPACT ON CITY OF LOS ANGELES WATER USE

Water use is the same today as it was 25 years ago despite an increase in population of nearly 1 million people.
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

Publications Date: February, 2010
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 11th and 12th, 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!