



Green Newsletter
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Los Angeles Ordinance Requires Water Saving Fixtures

The City of Los Angeles has passed a new ordinance requiring fixtures installed in the city meet low-flow guidelines.

The new ordinance, which takes effect Dec. 1, applies to new and upgraded residential, commercial and industrial projects.

"We don't have a water supply problem in Los Angeles," said Council President Eric Garcetti at the press conference. "We have a water conservation problem."

The ordinance is expected to save 1 billion gallons of water every year.

Under the new ordinance:

- Maximum flush volume of toilets may not exceed 1.28 gallons per flush (current requirement is 1.6 gallons per flush)
- Urinals may not exceed 0.5 gallons per flush (current requirement is 1.0 gallons per flush); beginning October 1, 2010, requirement changes to 0.125 gallons per flush
- All faucets in public restrooms must be self-closing. The flow rate for all indoor faucets shall be 2.2 gallons per minute except as follows:
 - The maximum flow rate for private or private use lavatory faucets shall be 1.5 gallons per minute.
 - The maximum flow rate for public or public use lavatory faucets, other than metering faucets, shall be 0.5 gallons per minute. Metering faucets shall deliver not more than 0.25 gallons of water per cycle.
 - The maximum flow rate for a pre rinse spray valve installed in a commercial kitchen shall not exceed 1.6 gallons per minute.
- Showerheads shall not exceed 2.0 gallons per minute.
- Cooling towers must be operated at a minimum of 5.5 cycles of concentration
- Use of single-pass cooling towers for air-conditioning is prohibited.
- All commercial dishwashers must meet the following requirements:

Type	High Temp. – Max. Gallons/ rack	Chemical – Max. Gallons/ rack
Conveyor	0.70	0.62
Door	0.95	1.16
Under counter	0.90	0.98

- All residential dishwashers shall not have a water factor of more than 5.8 gallons per cycle, and must be Energy Star-rated
- All high efficiency plumbing fixtures shall be listed or labeled by a listing agency such as International Association of Plumbing and Mechanical Officials (IAPMO).

For a copy of the ordinance: http://clkrep.lacity.org/online/docs/2009/09-0510_rpt_atty_4-30-09.pdf

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Do Dual Flush Conversion Kits Save Water?

It seems like a great way to reduce water usage - convert your old tank type gravity-fed toilet with a dual-flush conversion kit, and choose between a full and half flush depending on the situation.

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But saving water might not be that simple, according to a joint cautionary statement released by Veritec Consulting Inc. and Koeller & Company. In fact, in tank type, gravity-fed toilets it could potentially increase the amount of water used.

The statement lists four areas of concern:

1. The removal and replacement of an original equipment manufacturer's (OEM) flush valve with an after-market product changes the full flush characteristics of the toilet fixture. The delivery of the right amount of water to the bowl at a certain rate is critical to the full removal of all solid and liquid waste from the fixture. This is especially true of 1.6-gallon and 1.28-gallon toilets where the hydraulic characteristics (profile) are finely tuned to achieve the maximum "force" of the water delivered through the flush valve. Changing that profile can adversely affect flush performance, potentially leading to double flushing by the user, thereby increasing water use. In a perfect scenario, dual-flush retrofit flush valves should be flush performance tested with each model of the gravity-fed toilet into which it is to be installed to assure the purchaser or end-user that flushing performance will not be sacrificed. In reality, however, such extensive testing is largely impractical and, therefore, has not occurred.
2. Similarly, the reduced flush is particularly vulnerable to unsatisfactory performance from a retrofit product because the user expects a complete exchange of water in the bowl when the fixture is flushed. There is no assurance that the after-market product will, in fact, remove all of the waste. That is, if it appears to the user that the reduced flush has not removed all of the liquid waste (and potentially toilet paper), the toilet will be flushed a second or third time.
3. OEM components internal to the tank not only provide for the efficient evacuation of waste, but also assure that the proper amount of refill water is supplied to the bowl to re-establish a minimum 2-inch (50mm) trap seal, thereby preventing sewer gasses from entering the room. Each model of toilet requires a different volume of refill water to be provided from the fill valve to achieve proper trap seal restoration — adding more water than is required to achieve the trap seal is simply a waste of water. Testing has not been conducted on these dual-flush conversion devices to demonstrate that the appropriate amount of refill water is delivered to the bowl.
4. Most of the conversion devices are fully adjustable and allow the user to increase the flush volume well above the originally rated volume of the fixture, thereby negating much of the expected "savings".

Of further concern is that most of the devices have not been tested to IAPMO's PS 50-2008 standard to ensure durability, performance and leakage requirements.

A PDF of the statement can be viewed at: http://forms.iapmo.org/docs/dualfush_caution.pdf

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IAPMO Seeking Volunteers to Participate on Newly Formed Technical Correlating Committee

IAPMO has begun accepting applications at its Website from those individuals wishing to participate on the newly formed Technical Correlating Committee toward the development of the 2012 editions of the Uniform Plumbing Code (UPC®) and Uniform Mechanical Code (UMC®). Applicants must submit their completed application by Aug. 17. Information and downloadable application forms can be found at <http://www.iapmo.org/Pages/CodeDevelopment.aspx>.

The UPC and UMC are developed using an American National Standards Institute (ANSI) accredited consensus process, signifying that the procedures used by standards setting organizations such as IAPMO meet the Institute's requirements for openness, balance, consensus and due process. This process brings together volunteers representing a variety of viewpoints and interests to achieve consensus on plumbing and mechanical practices. The UPC and UMC are the only plumbing and mechanical codes of practice to be named American National Standards.

In accordance with these procedures, a Technical Correlating Committee (TCC) will be formed with the assignment of managing and coordinating the activities of a Technical Committee Project within which more than one Technical Committee functions.



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The TCC shall be responsible for resolving conflicts, achieving correlation among the recommendations of the Technical Committees, correcting errors and omissions and ensuring that the Committee activities have been conducted in accordance with Regulations Governing Committee Projects.

The Uniform Codes are designed to provide consumers with safe and sanitary plumbing and mechanical systems while, at the same time, allowing latitude for innovation and new technologies. The public at large is encouraged and invited to participate in IAPMO's open consensus code development process. A code development timeline and other relevant information are available at IAPMO's Website, <http://www.iapmo.org/Pages/CodeDevelopmentTimeline.aspx>.

In addition to applications for the TCC, IAPMO is simultaneously accepting applications from those IAPMO members who wish to serve on the association's various other codes and standards committees. As a member-based association, committees are the engines that power the organization's work; the means by which IAPMO creates consensus-based codes, support products and programs to facilitate safe and sanitary plumbing systems throughout the world.

These committees are composed of dedicated volunteers who bring their extensive skills and knowledge to the work of the association so others can benefit. Typically, these volunteers are members of IAPMO who share in the mission and goals of the Uniform Codes.

For more information, direct your Web browser to <http://www.iapmo.org/Pages/IAPMOCommittees.aspx> or contact Lynne Simnick, director of Code Development at (909) 472-4110

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EPA: Notification of Intent to Develop a Specification for Pre-Rinse Spray Valves

In typical commercial food operations, dishwashing consumes nearly two-thirds of all the water used—nearly half of which is hot water used by the pre-rinse spray valve to remove food waste from dishes prior to dishwashing. Up to 50 percent of the estimated 1.35 million pre-rinse spray valves currently in use have flow rates as high as 3.0 to 4.0 gallons per minute (gpm)—more than double the federal standard of 1.6 gpm. Considerable progress has been made, however, to develop pre-rinse spray valves that use significantly less water than the federal requirement, and, since pre-rinse spray valves use hot water, this reduced water use can also lead to significant energy savings.

EPA's WaterSense and ENERGY STAR® programs are teaming up to develop a specification for high-efficiency pre-rinse spray valves. EPA wants to capitalize on the tremendous water and energy savings opportunity, improve and promote the use of more efficient pre-rinse spray valves, and help commercial and institutional kitchen, restaurant, and grocery managers make informed purchasing decisions to reduce their water and energy use, without sacrificing performance.

As a first step, EPA has issued a notification of intent (NOI) to develop a specification for high-efficiency pre-rinse spray valves. This NOI outlines EPA's approach to developing the draft specification, the efficiency and performance criteria EPA is working to define, and the technical issues that still need to be resolved related to these products.

The NOI can be downloaded at http://www.epa.gov/watersense/docs/prsv_noi508.pdf (6 pp, 135K, PDF)

EPA is interested in hearing your input! If you have comments or suggestions on the pre-rinse spray valves specification development process, or are interested in conducting field research to help answer the outstanding questions, please contact us at watersense-products@erg.com.

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Clock Ticking For Atlanta

Atlanta could potentially lose its main water source if it cannot negotiate water rights to Lake Lanier by 2012.

U.S. District Court Judge Paul Magnuson last month issued a ruling against Georgia, saying it is illegal for the state to depend on the reservoir for its drinking water.

the opportunity to update and improve the UPC and UMC, participation in local IAPMO chapters and an invitation to attend IAPMO's Annual Education and Business Conference. The conference offers superb educational seminars. Find out more at www.iapmo.org.



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"The Court recognizes that this is a draconian result. It is, however, the only result that recognizes how far the operation of the lake has strayed from the original authorization," wrote the judge in a 97-page order.

The U.S. Army Corps of Engineers built the Buford Dam in 1957, with the purpose of flood control, navigation and hydropower, said the judge.

In the early 1970s, the corps began allowing other municipalities to withdraw water from the lake on what it then characterized as "interim" contracts. In the 1980s, the corps acknowledged, "that allowing water-supply withdrawals from the lake was not an authorized purpose of the project and would require Congress' approval."

Georgia has been battling Florida and Alabama over water rights to Lake Lanier for almost 20 years. Florida and Alabama depend on downstream flow from Lake Lanier for wildlife preserves, farm and agricultural use, and industrial incorporation. The Army Corps of Engineers also is required to release adequate water to ensure habitats for species protected by the Endangered Species Act.

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PepsiCo International Sustainability Director Dan Bena to Address Global Water Crises at Opening Keynote of WaterSmart Innovations Conference

Dan Bena, who spearheads international sustainability efforts for food and beverage giant PepsiCo, will be the opening keynote speaker for the WaterSmart Innovations Conference and Exposition, Oct. 7-9, 2009, in Las Vegas.

Bena, PepsiCo's Director of Sustainability, Health, Safety, and Environment, will address the conference's opening session on October 7.

PepsiCo's "Performance with Purpose" operating model has environmental sustainability as a cornerstone and includes minimizing environmental impacts of operations, and extending across supply chains and communities.

In 2007, PepsiCo adopted rigorous enterprise-wide global metrics to track its environmental footprint, and was one of the first companies of its size to publicly commit to quantitative resource conservation goals. Using 2006 as a baseline, the company is pursuing 20 percent reductions of water and electricity and a 25 percent reduction in fuel use. This target year coincides with the target year of the United Nations Millennium Development Goals (MDGs), which PepsiCo firmly supports, and which forms the backdrop for many of their community initiatives.

Water stewardship is a core focus of the company. In the initiative's first year, PepsiCo's beverage businesses reduced water consumption by 9 percent, electricity by 8 percent and fuels by 7 percent on a per unit of production basis. The corporation's foods businesses reduced water consumption by 6 percent, electricity by 3 percent and fuels by 3 percent. All are on track to achieve their 2015 targets.

Earlier this year, PepsiCo became the first company in its league to formally recognize water as a human right, and commit to preserving this right. "You cannot de-couple the many elements of the water crises with which the world is faced," said Bena. "Water sits squarely at the intersection of agriculture and food security, global health, and even education and gender empowerment in developing economies. We need to solve the problems comprehensively, and conservation is one very important part of the solution."

Bena speaks with authority on the topic, serving as chairman of American Beverage Association's Water Resources Committee, chairman of the International Society of Beverage Technologists Emerging Scientific Interests Subcommittee, and Subcommittee for Sustainable Development. He serves on the Public Health Committee of the Safe Water Network, a not-for-profit organization for which PepsiCo was a founding member that facilitates access to safe drinking water in developing countries. Bena is also a member of the Water Core Working Group of the World Business Council for Sustainable Development (WBCSD), and the World Economic Forum's Water Planning Board.

PepsiCo believes collaboration is vital, as evidenced by their endorsement of the United Nations CEO Water Mandate—companies across multiple sectors banding together with the common objective of helping to solve the worldwide water crisis. Bena added, "The water crisis is real, and is not just a problem for developing countries. It's a problem in our own back yard. A child dies every

15 seconds globally from a water-related illness, and that is a problem that needs to be solved; there is no debate."

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EPA Announces Energy Star Homes Reach Nearly 17 Percent Market Share for 2008

WASHINGTON — The U.S. Environmental Protection Agency recently announced that nearly 17 percent of all single-family homes built nationally in 2008 earned EPA's Energy Star label, up from 12 percent in 2007. Both homebuilders and homebuyers are continuing to invest in high performing homes that save consumers money on their utility bills and help protect the environment.

"Every year more Americans decide to cut their energy bills and help keep the air clean in their communities by buying a new home that has earned EPA's Energy Star. Features like properly installed insulation, high-performance windows and high efficiency heating and cooling can reduce home energy needs by 20 to 30 percent, saving American families thousands of dollars on their utility bills," said EPA Administrator Lisa P. Jackson. "Even in a difficult market, the interest in Energy Star qualified homes keeps rising. We're helping builders and homebuyers to protect the environment, safeguard our health, and move the country into a low-carbon energy future."

In addition, market share for Energy Star qualified homes was 20 percent or greater in 15 states in 2008, including Arizona, Colorado, Connecticut, Hawaii, Iowa, Kentucky, Nevada, New Hampshire, New Jersey, New York, Ohio, Okla., Texas, Utah, and Vermont.

Nearly 940,000 Energy Star qualified homes have been built to date, with more than 100,000 of these constructed in 2008. In 2008 alone, American families living in Energy Star qualified homes locked in annual utility bill savings of more than \$250 million — saving over 1.5 billion kWh of electricity and 155 million therms of natural gas while reducing the greenhouse gas emissions equivalent to those of nearly 350,000 cars annually.

To earn the Energy Star label, homes must meet strict guidelines for energy efficiency set by EPA. Typically they include energy-saving features such as:

- Effective Insulation Systems
- High-Performance Windows
- Tight Construction and Ducts
- Efficient Heating and Cooling Equipment
- ENERGY STAR Qualified Lighting and Appliances

More information about Energy Star qualified homes: <http://www.energystar.gov/HomesMarketIndex>

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Homeowners Moving to Smaller, More Efficient Homes

The economic recession and a renewed interest in cutting utility costs are reversing the trend of large homes and vaulted ceilings, according to the latest Design Trends Survey published by the American Institute for Architects (AIA).

Homeowners are requesting less square footage and smaller lots sizes. Architects surveyed also reported a preference for lower ceilings to save on utility costs, and diminished interest in two-story foyers.

"The era of the 'McMansion' could well be over as home sizes have been trending downward recently, with a significantly higher number of architects reporting demand for smaller homes this year," said AIA Chief Economist Kermit Baker, PhD, Hon. AIA. "And as the housing boom has passed there seems to be a renewed interest in investing in properties to make homes more livable, as opposed to real estate that can be resold quickly for a profit."

Just 4 percent of architects reported that their clients wanted more square footage, compared to 16% in 2008. Only 11 percent said clients wanted higher ceilings. And only 2 percent wanted a larger piece of property.

Property upgrades continue to be popular, as households try to maximize their usable space with finished attics and basements, outdoor living enhancements and blended indoor / outdoor features.

"Adding decks, porches and patios are all part of the outdoor living enhancement trend," added Baker. "But that also extends to more formal outdoor 'rooms,' cooking areas and blended indoor / outdoor features."

Low-maintenance landscaping that requires less watering continues to be of importance to a homeowner, with 67 percent of architects reporting an increase in what their that clients wanted.

Will the trend toward smaller homes last?

"Home sizes tend to flatten during recessions and expand when the market is healthy," Baker said.

To view the AIA report, go to <http://www.aia.org/press/AIAB08034>

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DOE Toughening Guidelines for Energy Star Homes

The Department of Energy is moving forward with its plans to tighten the guidelines necessary to achieve the Energy Star New Home label.

This third-generation of guidelines, called ENERGY STAR 2011, will "help EPA meet its broader goal of transforming the housing industry to build homes with less environmental impact and increased homeowner benefits, including greater affordability through lower energy bills along with improved comfort, indoor air quality, and durability."

Among the key changes:

Additional Mandatory Measures Needed for Complete Building Science Requirements:

Thermal Flow — New mandatory requirements for proper installation of insulation, reduced thermal bridging, and increased duct insulation.

Air flow – New mandatory requirements for pressure balancing and an additional Thermal Bypass Checklist requirement for sealing sheetrock at top plates.

Moisture Flow — New mandatory requirements for whole-house mechanical ventilation, spot local exhaust, and water-managed roofs, wall foundations to address reduced tolerance to unmanaged moisture flow in tightly sealed and insulated homes.

Inclusion of High-Efficiency Equipment and Products:

A performance path method that ensures a consistent bundle of technologies, including high efficiency heating, cooling and water heating equipment

New requirements for energy efficient lighting and appliances.

Requirements for efficient water distribution systems and low-flow shower heads.

Under the proposed guidelines, houses will be required to undergo the following checklist inspections:

- Proposed Quality Framing Checklist
- Proposed HVAC Quality Installation Contractor Checklist
- Proposed HVAC Quality Installation Rater Checklist
- Proposed Thermal Bypass Checklist Update
- Proposed Indoor Air Quality Checklist
- Proposed Water-Managed Construction Checklist

The new requirements would apply to homes permitted on or after January 1, 2011.

More information can be found at:

http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.nh_2011_comments

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Video Spotlight

Rainwater Catchment Sizing and Design Considerations
E.W. Bob Boulware, P.E., MBA, President, Design-Aire Engineering

Bob discusses sizing and design considerations for rainwater catchment. Bob is the northeast region director for the American Rainwater Catchment Systems Association (ARCISA) and an accredited rainwater systems design professional. Bob specializes in energy related retrofitting of building mechanical/electrical systems.

<http://www.youtube.com/watch?v=EerDAnEFfCw>

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IAPMO Green Seminars:

Seminar	Length	Credits
GreenSpeak	3 hours	0.3 CEUs
Intro to Green Plumbing and Mechanical Concepts	1 day	0.8 CEUs
Intro to Green Plumbing Concepts	1/2 day	0.4 CEUs
Intro to Green Mechanical Concepts	1/2 day	0.4 CEUs
2009 UPC Chapter 16, Nonpotable Water Reuse Systems	1.5 hours	0.15 CEUs
LEED® for Contractors	4 hours	0.4 CEUs
Building Rating Systems - A Comparative Analysis	4 hours	0.4 CEUs

For more information about IAPMO's Green Seminars, [download the brochure](#), visit www.iapmo.org/Pages/CareerServices.aspx, or email careerservices@iapmo.org

Events Calendar:

IAPMO Green Technical Committee Meeting
August 14 -21, 2009
Denver Sheraton
Denver, CO
www.iapmo.org

IAPMO 80th Annual Education and Business Conference
Sept 27 - Oct.1, 2009
Doubletree Hotel
at Mission Valley
San Diego, CA
www.iapmo.org

WaterSmart Innovations Conference & Expo
October 7-9, 2009
Las Vegas, NV
www.watersmartinnovations.com

GreenBuild 2009
November 11-13, 2009
Phoenix, AZ
www.greenbuildexpo.org

IAPMO Green Technical Committee Meeting
Nov. 17-19, 2009
Chicago, IL
www.iapmo.org

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