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U.S. Congressman Introduces IAPMO Supported Plumbing Research Investment Legislation

U.S. Rep. Matt Cartwright (D-Penn.) on Dec 2 introduced legislation intended to promote federal investment in research to ensure the data used in the development of U.S. plumbing standards reflects the 21st century's more water efficient technologies. IAPMO, developer of the American National Standard-designated *Uniform Plumbing Code (UPC®)*, is an enthusiastic advocate for this legislation and the updated data it would provide.

The National Institute of Standards and Technology (NIST) Plumbing Research Act of 2016 (H.R. 6424) would direct the NIST to reconstitute its plumbing research laboratory, identifying mismatches between old data and newer, water-efficient products that undermine from an infrastructural standpoint the conservation such products are intended to provide. For many decades, NIST ran a plumbing laboratory, but due to budgetary constraints, it was disbanded in the early 1980s.

"American consumers today reap the benefits of state-of-the-art water fixtures and appliances, such as water-saving shower heads and efficient washing machines," Rep. Cartwright said. "However, the plumbing that carries water to these fixtures and appliances has not kept pace. In fact, the research and data which are the basis for U.S. plumbing structure, design, and construction standards have barely changed since they were developed in the early 20th century. As a result, even newly built plumbing systems are often inefficient and inappropriate for current plumbing fixtures and appliances."

The proposed legislation furthermore addresses the health risks associated with

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specifications and certification and labeling processes. These clarifications are incorporated into the latest [Product and Labeling Clarifications](#) (XLSX) document and are effective immediately.

For any questions regarding the WaterSense program in general, please contact the WaterSense Helpline at (866) WTR-SENS (987-7367) or email watersense@epa.gov.

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Collaborating for a High-Performing Future at Building Innovation 2017: The National Institute of Building Sciences Fifth Annual Conference & Expo

In just over a month, building industry professionals will gather in Collaborating for a High-Performing Future at Building Innovation 2017: [The National Institute of Building Sciences Fifth Annual Conference & Expo](#), January 9-12, 2017, at the Mandarin Oriental in Washington, D.C. The International Association of Plumbing and Mechanical Officials (IAPMO) is the proud sponsor of the Building Innovation 2017 Technical Programs.

Many stakeholders, including policy makers, building owners and even building occupants, are establishing goals to achieve high-performing, resilient buildings and communities. To reach these goals, the building industry needs an approach to design, construction, regulation and operations that optimizes solutions across the building life cycle and incorporates the expertise from a wide range of professionals.

Collaborating across all of these disciplines is the key to ensuring high-performance goals are effectively met. Established by the U.S. Congress to serve as an authoritative source of innovative solutions for the built environment, the National Institute of Building Sciences brings together the thought leaders, the implementers and the influencers within the industry's vast network of voices.

There are a wide range of opportunities for IAPMO members to gain valuable benefits from attending this unique conference. Building Innovation 2017 offers attendees the opportunity to:

1. Get an in-depth look at one of the newest iconic buildings in the nation and the planning and collaboration required to develop a museum that tells the story of African-American history and culture. (**Opening Keynote Breakfast**)
2. Gain insight into how the Paris Conference of the Parties (COP21) and U.S. pledge to reduce greenhouse gas emissions could impact high-performance building design, incorporation of renewable energy resilience and connectivity to the grid. (**Session TU1A**)
3. Learn, through various industry perspectives, how establishing effective teams with shared goals can drive achievement of high-performance projects. (**Session TU1B**)
4. Appreciate the challenges and opportunities facing the building industry to achieve resilient, energy-efficient communities and cities. (**Session TU2A**)
5. Understand the need for a building information modeling (BIM) guide for owners and why an integrated team of building owners, BIM techies and facilities management gurus has worked for the past year to develop one. (**Session TU2B**)
6. Learn about current initiatives to empower the building industry to employ research to fulfill increasingly savvy building owners' performance requirements, and use lessons from history to industrialize the construction environment. (**Session TU3A**)
7. Hear about strategies to advance the capabilities of the building industry workforce and meet the growing demand for high-performance buildings in the

education: 800-SAVE-H2O
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face of worker shortages. (**Session TU3B**)

8. Explore the principles to designing and managing safe, secure healthy spaces for occupants and how the quality of the environment can impact performance. (**Session WE1A**)
9. View case studies of healthcare facilities and strategies that promote occupant satisfaction and health. (**Session WE2A**)
10. Witness the challenges two medical establishments faced to provide world-class, resilient healthcare facilities. (**Session WE4A**)
11. Gain insights on how healthcare systems are using collaboration, technology tools and financing to design, deliver and maintain high-performance facilities. (**Session WE5A**)
12. Examine how an understanding of the cost-effectiveness of past mitigation efforts can set a pathway for community resilience in the public and private sectors. (**Session TH1A**)
13. Discover how various information tools, including the Construction Operations to Building information exchange, can improve collaboration and building performance. (**Session TH1B**)
14. Find out how a multi-faceted approach that uses investing in incentives can help achieve resilient buildings and resilient communities. (**Session TH3A**)
15. Understand the importance of managing and securing facility information, from the design and use of standards to streamline information exchange to the security of building systems. (**Session TH3B**)
16. Learn about policies and approaches cities are taking, and the role building codes play, in advancing the nation's resilience. (**Session TH4A**)
17. Understand standards-based data interoperability and how innovation can be used to achieve high-performance buildings. (**Session TH5B**)

Join your industry colleagues for this industry-wide collaboration. Register now to attend Building Innovation 2017. Online registration ends December 31, 2016. Take advantage of the pre-conference savings and avoid long lines at onsite registration.

Register today: http://www.nibs.org/event/BI17_register

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Dodge Momentum Index Inches Up in November

The Dodge Momentum Index moved 0.3% higher in November to 133.2 from its revised October reading of 132.7 (2000=100). The Momentum Index is a monthly measure of the first (or initial) report for nonresidential building projects in planning, which have been shown to lead construction spending for nonresidential buildings by a full year. The overall Momentum Index has now posted increases in 10 of the last 12 months, and stands 18% higher than its November 2015 reading. This suggests that construction activity should continue to strengthen in 2017. The uptick for the Momentum Index in November was due to a 4.1% rise in the commercial building component, while the institutional component slipped 5.2% in the month. Institutional planning had shown strength earlier in 2016, but has since receded, and is now 2% lower than last year. Commercial planning, on the other hand, had a very weak start to the year but has since moved forward and is now 35% above last year. While trending higher over the last year, volatility has been the hallmark of the Momentum Index in 2016, matching the uneven pace of growth in the overall economy. It is likely that the volatility will persist in the months ahead.

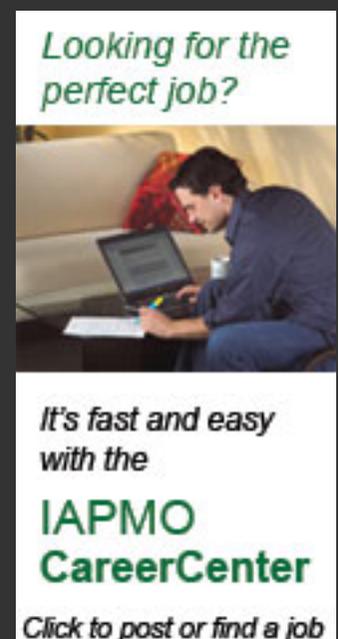
In November, seven projects entered planning each with a value that exceeded \$100 million. For the commercial building sector, the leading projects were a \$400 million office building in Chicago IL and a \$180 million expansion and renovation of a hotel in New York NY. The leading institutional projects were a \$155 million hospital in



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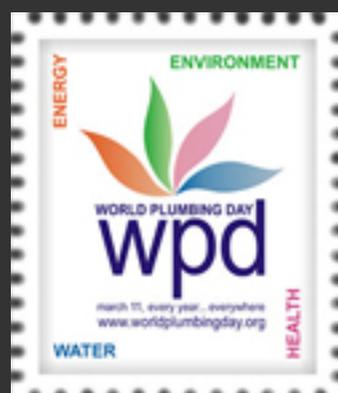
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ENVIRONMENT

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Dodge Momentum Index (Year 2000=100)			
	Nov-16	Oct-16	% Change
Dodge Momentum Index	133.2	132.7	0.3%
Commercial Building	149.0	143.1	4.1%
Institutional Building	113.6	119.8	-5.2%

Source: Dodge Data & Analytics



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EPA Outlines Actions to Improve Safety, Reliability of Nation's Drinking Water

Plan depends on collaboration among all levels of government, utilities, private sector

Last month the U.S. Environmental Protection Agency released a plan that serves as a national call to action, urging all levels of government, utilities, community organizations, and other stakeholders to work together to increase the safety and reliability of drinking water.

"Ensuring that all Americans have access to safe drinking water is an absolute top priority for EPA," said EPA Administrator Gina McCarthy. "We must work collectively to seize opportunities for progress, partnership, and innovation in order to continue to provide our citizens with the safest drinking water in the world."

The plan includes six priority areas and identifies proposed actions for each area:

Building capacity for water infrastructure financing and management in disadvantaged, small, and environmental justice communities: Actions include launching a national initiative to promote regional partnerships, reinvigorating training programs for system operators, sharing best practices and establishing an online water funding portal.

Advancing oversight of the Safe Drinking Water Act: Actions include electronic reporting for Safe Drinking Water Act compliance data, releasing triennial EPA reviews of state programs, and developing indicators to identify troubled systems.

Strengthening source water protection and resilience of drinking water supplies: Actions include updating and acting on source water vulnerability assessments, building collaborative local partnerships for watershed protection, developing an initiative to enhance community resilience to climate and extreme weather events, launching source water monitoring pilot projects and promoting water efficiency and reuse.

Addressing unregulated contaminants: Actions include strengthening the effectiveness of the health advisory program, prioritizing work on contaminants that

pose the most significant risk, and promoting the development of low cost and innovative technologies that may remove a broad range of contaminants.

Improving transparency, public education, and risk communication on drinking water safety: Actions include strengthening transparency and public education, developing indicators to enhance how data is presented on the internet and improving risk communication tools.

Reducing lead risks: Actions include the consideration of critical options in revising the Lead and Copper Rule and continuing work to improve implementation of the current rule through enhanced oversight, identifying best practices on lead service line replacement, and revising guidance for schools.

The plan reflects input from state, local, and tribal government officials; drinking water utilities; community groups; and environmental organizations. While EPA and partners have already begun to take some actions, others will require additional resources and further stakeholder engagement. EPA recognizes that partnership and collaboration across all levels of government, utilities, the private sector, and the public will be essential to the success of the plan.

In tandem with the development of the plan, the President's Council of Advisors on Science and Technology (PCAST) undertook a study on science and technology for drinking water safety. The PCAST's recommendations complement and support EPA's plan.

Today, Americans depend on 152,000 public drinking water systems and consume more than one billion glasses of tap water a day. EPA has established drinking water standards for more than 90 contaminants, and compliance data show that more than 90 percent of the nation's water systems consistently meet those standards. While America's drinking water remains among the safest in the world, the drinking water sector faces a growing array of challenges including aging infrastructure, limited funding and management capacity, emerging contaminants, pollution of source water, and the impacts from drought and other climate events. These challenges can be particularly acute in small and disadvantaged communities.

More information on the plan: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-action-plan>

More information on the PCAST report:

<https://www.whitehouse.gov/administration/eop/ostp/pcast/docsreports>

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Renewable Energy's Next Frontier: Heat

While energy use is commonly associated with lighting or transportation, more than half of the world's energy consumption serves a simple function: heating things. This ranges from heating homes and buildings, to firing up industrial production, or even cooking. And because heat is mostly produced by burning fossil fuels, heat production accounts for 39% of the world's energy-related carbon dioxide emissions.

Yet unlike power or transportation, heat remains widely under-served by renewable sources of energy. The share of renewables in electricity generation will rise to 28% in five years according to the latest forecast by the International Energy Agency. By contrast, the share of renewable heat is forecast to reach only 8% by 2021.

This means there is tremendous potential for improvement. Almost 80% of energy demand in the buildings sector is for heat but renewables only account for 9% of heat

demand, mostly in the form of modern bioenergy. But concerns about local pollution from bioenergy use and high upfront costs remain serious challenges to further deployment in that sector.

One technology that is growing is solar water heating (SWH), which is projected to account for the highest proportion of demand growth in coming decades, according to *World Energy Outlook 2016*. Thanks to falling costs and more efficient technology, SWH has grown by about 17% a year since 2000, although it still accounted for just 6% of hot water production in the buildings sector worldwide in 2014.

Read the full article: <https://www.iea.org/newsroom/news/2016/december/renewable-energys-next-frontier-heat.html>

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UF/IFAS Survey Shows Homeowners Want Incentives to Conserve More Water

Homeowners with irrigation systems would use less water if they were offered more incentives, according to a new University of Florida Institute of Food and Agricultural Sciences report.

Most will even pay more for better water quality.

Respondents to a UF/IFAS online survey of 3,000 such homeowners in Florida, Texas and California said reducing the price of water-efficient equipment would be the most effective strategy. That was followed by more practical information on household water conservation, easier identification of water-efficient appliances and better landscape irrigation ordinances.

Additionally, respondents liked the idea of a real-time water use mobile app and more information on the environmental impacts of water conservation.

"We know that informed homeowners are aware and concerned about the environmental consequences of excessive irrigation water use. However, awareness and concern are necessary, but not sufficient, conditions for resource and water conservation." said Hayk Khachatryan, an assistant professor of food and resource economics and the lead investigator in the survey. "Efforts in promoting the adoption of water-saving irrigation systems and practices will be more successful when environmental conservation measures are combined with economic incentives such as utility or manufacturer rebates on smart irrigation equipment."

To get better-quality water, 64 percent of survey participants said they're willing to pay higher monthly water bills. Of those, 26 percent said they'd pay less than 5 percent of their current bill; 30 percent would pay 5 percent to 15 percent more and 8 percent were willing to pay more than 15 percent.

UF/IFAS researchers used the survey to analyze U.S. household water use and irrigation practices. They surveyed homeowners in Florida, Texas and California based on water scarcity issues identified in a U.S. Environmental Protection Agency report from 2008.

The survey was conducted by Khachatryan, a faculty member at the UF/IFAS Mid-Florida Research and Education Center in Apopka, Florida, and his post-doctoral research associate, Alicia Rihn.

Many respondents said they were aware of water restrictions in their area, and they know that their water conservation efforts affected the overall water supply.

UF/IFAS researchers asked participants about governmental and non-governmental incentives that may contribute to consumers' purchase and installation of water-conserving items.

Of those surveyed, more than 80 percent said they do not receive government or utility company financial support for water-conserving purchases.

Government or utility company incentives to purchase these items were fairly scarce. About 18 percent of respondents said they received an incentive to install low-volume /dual flush toilets. Only 17 percent said they received rainwater collection tanks, and only 16 percent received flow-restrictor taps/low-water shower heads.

The new UF/IFAS Extension document can be found at <http://bit.ly/2ghyvQP>.

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BCD Plastic Pressure Pipe Design Calculator

To assist with proper sizing of PEX, PE-RT and CPVC plastic pressure pipe and tubing, the BCD Plastic Pressure Pipe Design Calculator is designed for hydronic heating and cooling, snow and ice melting, plumbing, fire protection and geothermal applications. Developed by PPI's Building & Construction Division (BCD), this free online tool performs calculations for pressure and head loss, thermal expansion and contraction, surge pressures, plus pipe weight and volume. It can even help designers determine the lengths of expansion arms or loops, especially important for larger diameter piping systems. Users can select the pipe type, size and length; flow rate; fluid characteristics such as temperature and antifreeze content; add in fittings; and calculate results. Calculation details may be shown and results can be printed or emailed. Access the Calculator directly at www.plasticpipecalculator.com

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Industry Calendar

NAHB International Builders' Show
January 10 -12, 2017
Orlando, FL
www.buildersshow.com

The Kitchen & Bath Industry Show (KBIS)
January 10 -12, 2017
Orlando, FL
www.kbis.com

2017 AHR Expo
Jan. 30 - Feb. 1, 2017
Las Vegas, NV
ahrexpo.com

2018 UPC/UMC Technical Committee Meeting
May 1 - 4, 2017
Anaheim, CA
www.iapmo.org

Upcoming Seminars

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ARIZONA SEMINARS		
January 9-13, 2017	Phoenix, AZ	2016 ASSE 5110 Backflow Tester 40 Hour Class and Exam
January 13, 2017	Phoenix, AZ	Cross Connection Control Recertification - 8 hr Course and Exam
February 13-17, 2017	Phoenix, AZ	2016 ASSE 5110 Backflow Tester 40 Hour Class and Exam
February 17, 2017	Phoenix, AZ	Cross Connection Control Recertification - 8 hr Course and Exam
CALIFORNIA SEMINARS		
January 23-27, 2017	Ontario, CA	ASSE 5110 Backflow Tester 40 Hour Class and Exam
Feb. 27 - Mar. 3, 2017	Poway, CA	ASSE 5110 Backflow Tester 40 Hour Class and Exam
COLORADO SEMINARS		
January 26-27, 2017	Fort Collins, CO	Cross Connection Control Recertification - 12 hr course and Exam
February 21-24, 2017	Fort Collins, CO	ASSE 5150 Backflow Prevention Program Administrator/Specialist Training and Certification
MASSACHUSETTS SEMINARS		
Session 9 Training now available - click here for the schedule!		
MINNESOTA SEMINARS		
2015 Minnesota Plumbing Code DWV Provisions		
NEW JERSEY SEMINARS		
January 9-13, 2017	Pennsauken, NJ	ASSE 5110 Backflow Tester 40 Hour Class and Exam
January 13, 2017	Pennsauken, NJ	Cross Connection Control Recertification - 8 hr Course and Exam
SOUTH DAKOTA SEMINARS		
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