

Do This. Not That. PMI Examines Tariffs & Wisdom of Foresight

By Kerry Stackpole, FASAE/CAE, PMI CEO/Executive Director



Kerry Stackpole

Nationally, for every \$1,000 increase in the price of a home, about 152,903 households are priced out of the market for a median-priced new home, according to HousingEconomics.com. In an era when millennials and Generation Y are entering an expanding workforce and seeking new housing, rising home costs can be insurmountable.

That's just one of the reasons the newly proposed tariffs on plumbing fixtures, fittings, sanitary ware, and component parts from China make so little sense. These are not items that endanger American security. If anything, tariffs will cause disproportionate economic harm to manufacturing businesses, retailers, home construction, commercial development, consumers, and other Americans and their businesses.

Home building, remodeling, and commercial development fuel job growth and by extension the marketplace for plumbing fixtures and fittings. The American plumbing fixtures and fittings manufacturing industry drives the American economy by creating more than 464,000 jobs and more than \$26 billion dollars in wages when you factor in its impact on retailers, wholesalers, suppliers, distribution, and the supply chain. Let me say it differently, the ripple effect of plumbing fixture and fitting manufacturing is 271,313 American jobs. If demand for our products fall, then—well, you know the rest.

A National Retail Federation study found that adding \$150 billion in tariffs would result in the loss of 455,000 jobs and a \$49.2 billion dollar drop in U.S. gross domestic product (GDP).

On August 20-23, the International Trade Commission (ITC) will host a public hearing on the newly proposed tariffs to hear both support and opposition for retaliating against Chinese imports including plumbing fixtures and fittings, sanitary ware, and component plumbing parts proposed by the International Trade Representative. By the time you read this,

it will be too late to sign-up to testify, but you still have time to comment at the [regulations.gov](https://www.regulations.gov) website. Just search for USTR-2018-0026 and follow the instructions.

PMI has submitted its request to appear before the ITC and has shared its concerns (and prepared testimony) with the Office of the International Trade Commissioner **Robert Lighthizer**, Secretary of Commerce **Wilbur Ross**, Secretary of Treasury **Steve Mnuchin**, and President **Donald J. Trump**. PMI believes in open markets and fair trade, along with sensible policies that support economic prosperity, job growth and the elimination of non-tariff barriers to trade. Throwing everything—including the kitchen sink—at China in the form of tariffs appears likely to do more harm to the American economy, consumers, and manufacturing jobs more than anything else.

While the rationale for imposing tariffs is well known, the likely impact on the American economy is not. The Trump Administration's proposal to provide \$12 billion in emergency aid for farmers impacted by the trade dispute provides a hint of things to come. A number of lawmakers of both parties have dismissed the plan as a bailout. That leaves the question of legislative action up for grabs, at least in the near term.

At last year's PMI Conference, third-generation logger **Bruce Vincent** delivered a compelling keynote presentation focused in part on proactively managing the "social license" given to every business by society and its norms. Vincent's perspective was razor sharp and highly provocative. What would happen to your company if your social license was ever revoked? The \$206 billion settlement against the four major tobacco companies comes to mind as does the television advertising ban on hard liquor, and more recently changing perspectives and new litigation against manufacturers and users of plastic grocery bags. Vincent's talk prompted a lot of us to think a bit differently about the future.

The PMI Board of Directors and the PMI Strategic Advisory Council grabbed the opportunity to think forward about how PMI can and will lead the industry in the next decade.

Continued on page 2

PMI Keeps Ear to the Ground on Plumbing Code Revisions

By Matt Sigler, PMI Technical Director, and Judy Wohlt, PMI Communications Team, Valek and Co.



Matt Sigler

Most people probably never think about plumbing codes when using a faucet or flushing a toilet. However, these codes are vital to protecting their health and safety.

Adopted into law by states and cities, plumbing codes provide a minimum level of rules that govern the safe installation of plumbing products.

Because plumbing codes are always top-of-mind for PMI members, PMI fully participates in the development of the three main model codes followed in the United States – the Uniform Plumbing Code (UPC), the International Plumbing Code (IPC) and the National Standard Plumbing Code (NSPC). While PMI does not participate in the development process, it does stay up-to-date on the only Canadian model code available – the National Plumbing Code of Canada (NPCC), which has a five-year publishing cycle.

PMI solicits member input on proposed U.S. code changes, participating in code hearings, tracking progress throughout the various code cycles and providing regular updates to members via PMI's monthly, members-only "Tech Talk" conference calls (bit.ly/2vsJA9Z).

The UPC, published by IAPMO, applies to commercial, institutional and residential buildings. Largely followed in the West, Northwest and Southwest regions of the U.S., the UPC includes requirements for plumbing, fuel gas, medical gas and alternate water systems.

Issued by the International Code Council (ICC), the IPC primarily affects commercial and institutional buildings. Generally followed in the Midwest, Northeast and Southeast regions of the

U.S., the IPC contains requirements for plumbing, non-potable water and landscape irrigation systems. For residential buildings, the International Residential Code (IRC) – in chapters 25-33 – provides plumbing requirements.

The NSPC, now published by IAPMO, is followed in New Jersey and in the cities of Baltimore and Annapolis, Maryland, and contains requirements for the installation of plumbing systems in most occupancies.

PMI offers codes and standards training for members in a two-part workshop covering "everything you need to know" about codes, standards and conformity assessment. PMI's Allied Member Com-

mittee members are currently providing feedback to assist PMI staff to update the workshop materials according to the 2018 model plumbing codes. The revised workshop, offered onsite in the past, will be available online by the end of 2018.

For more information on the progress of the 2021 versions of the model plumbing codes, visit IAPMO's website for the UPC timeline (bit.ly/2ApyNCR) and the International Code Council's website for the IPC 2018-2019 development schedule (bit.ly/2Lzs51O). For more information on the NSPC and to download the 2021 "Proposed Code Change Form," visit IAPMO's website (bit.ly/2vgKh5d).

Do This. Not That. (contd.)

Continued from page 1

Last month, the board gathered to explore the Foresight Planning Model – a deliberate, evidence-based research initiative that supports PMI leaders in environmental scanning and planning for change. The Foresight approach envisions a future in which leaders are not only aware of potential changes ahead; they are actively engaged in planning for and creating opportunities from these changes.

The board was joined by the author of Foresight Works futurist **Marsha Rhea**, who helped the board identify drivers of change that will be important to the future work of the industry and PMI. The goal of the session was to determine where PMI can achieve the best results for your association and its members. The collaboration among volunteer leaders, professional staff, and industry consultants resulted in a series of robust conversations, lively debates, and at the end of the day, a clear pathway for delivering real value and ever stronger outcomes for members. More details to our new approach will emerge in the coming months, along with important advances to celebrate at the 2018 PMI Conference and 44th annual meeting of the membership at the Wigwam Resort in Litchfield Park, Ariz., in November. You don't want to miss it.



PMI Board of Directors members, staff and consultants participated in a Foresight Strategy Session hosted by board president Peter Jahrling of Sloan Valve Company and led by futurist Marsha Rhea

Cambria McLeod Dives into PMI's Recycled Water Efforts

By Judy Wohlt, PMI Communications Team, Valek and Co.



Cambria McLeod

A cartoon about a little boy wasting water while brushing his teeth left a big impression on **Cambria McLeod** when she was a little girl. She recalled that

when the little boy left the faucet running too long, it emptied the water out of a pond next door leaving the fish on dry land.

Growing up in California, Cambria has always been aware of drought and water sustainability issues. Mindful use of water throughout her life has taught Cambria to value and preserve the limited supplies of fresh water available. This awareness also inspired her to pursue a career helping to develop the plumbing systems, fixtures and codes that will deliver water safely and efficiently.

As staff engineer on the codes and standards team at Kohler Co. and co-chair of PMI's Water Efficiency and Sustainability Committee, Cambria said she is excited about the committee's focus on recycled water. "Here in California, there are already many recycled water regulations in the works, as we're still learning about the consequences of using this type of water," she said. "There is a big future ahead on how recycled water will affect our products and our industry and PMI is helping to bring a better understanding of those issues to members."

Her initial involvement with PMI began a few years ago when she started working on codes and standards at Kohler. Now, Cambria said she is diving head-first – along with the Water Efficiency and Sustainability Committee and **Matt Sigler**, PMI's technical director – into helping PMI work on an industry response covering the potential



Cambria and Logan with their girls, Nora and Audrey, on a camping trip at the North Rim of the Grand Canyon, Ariz.

use of non-potable water, including recycled water, with member products. "Manufacturers are required to test our products with potable water, but our industry has not established a response regarding non-potable use in plumbing fixtures," she said. Cambria explained that water quality varies between states and cities; consequently, the regulations are continually shifting and complex.

Cambria described her current role at Kohler as her "dream job," which she helped create. She started her career at Kohler as a quality engineer about 12 years ago, but said she discovered how much she enjoyed working on plumbing codes and regulations. Since California is a hotbed of activity for shifting plumbing codes and regulations, Cambria said she feels right at home dealing with the state's recycled water, flow rate and other water-efficiency regulations, as well as with the EPA's WaterSense program.

"I love working on water regulations the most," Cambria said. "I have an open document on my desk right now – amendments to the recycled water regulations in California – which I can't wait to dig into."

In addition to participating in code hearings, including those for the Uniform Plumbing Code and supporting Kohler's

sustainability initiatives, Cambria also represents Kohler at the Society of Women Engineers conferences and is on the IAPMO Water Efficiency and Sanitation Standard (WE-Stand) Technical Committee, which developed the first-ever American National Standards Institute (ANSI) standard focusing solely on safe and efficient water use in both residential and non-residential buildings.

She said it's no surprise that her passion for all things water spills into her personal life. She and her husband, **Logan**, and their two daughters, 4-year-old **Nora** and 6-year-old **Audrey**, spend as much time as possible outdoors, camping, boating, and fishing during the summer and snow skiing during the winter.



Cambria McLeod participating in a discussion at the 2017 PMI conference

PMI Conference Offers Sponsorships to Members & More

Connect, Collaborate and Advocate

The 2018 PMI Conference will be a gathering of highly influential decision makers from the world's largest plumbing manufacturing companies and allied organizations. The meeting provides an exceptional opportunity for sponsors to have face-to-face interactions with technical and marketing executives during this gathering, where personal business relations can be forged and fostered.

To be held Nov. 5-8 at the Wigwam Resort outside of Phoenix, this year's conference has platinum, gold and silver sponsorship opportunities for members and non-members. Platinum, gold and silver sponsors have opportunities to showcase leading-edge technology and services in exhibits stationed in gathering areas.

PMI is also offering sponsorships of specific events, offering sponsors visibility on the attendee badge and during a coffee break, cocktail reception, conference lunch, the Fiesta Dinner, and keynote presentation by global futurist **Jack Uldrich**.

Last year's conference attracted 115 attendees, with 33 of 36 member organizations represented. This year, PMI expects a similarly sized gathering, giving sponsors personalized visibility.

Companies may choose to sponsor a specific event or activity, as well. These sponsors receive company signage during the event, recognition by PMI leadership, and the option to introduce the speaker or event. Keynote sponsorship also includes shared podium signage. Learn more and become a sponsor today! bit.ly/2vqBQ8g



Platinum Sponsorship

offers the highest recognition before, during and after the event, with premium

advertising and exhibit placement, solidifying your company's leadership position in the plumbing manufacturing community.

- 6-foot table to promote company
- Four complimentary conference registrations
- Priority company signage throughout conference
- Priority recognition on PMI website, *Ripple Effect* and *Inside My PMI*
- Member \$19,999; Non-Member \$24,999



Gold Sponsorship

gives unparalleled access and exposure to all attendees before, during and after the event and demonstrates your company's leadership position in the plumbing manufacturing community.

- 6-foot table to promote company
- Two complimentary conference registrations
- Individual company signage throughout conference
- Recognition on PMI website, *Ripple Effect* and *Inside My PMI*
- Member \$9,999; Non-Member \$14,999



Silver Sponsorship

is another powerful way to increase awareness of your company to this audience of plumbing manufacturing professionals.

- 6-foot table to promote company
- One complimentary conference registration
- Combined company signage throughout conference
- Recognition on PMI website, *Ripple Effect* and *Inside My PMI*
- Member \$4,999; Non-Member \$9,999

All sponsors' logos and company descriptions will be featured in the PMI Conference's meeting materials and information packet.

Event Sponsorships

AM/PM Coffee Breaks

Member \$2,999; Non-Member \$4,999

Badge Sponsorship

Member \$2,999; Non-Member \$5,999

Cocktail Receptions

Member \$6,999; Non-Member \$9,999

Conference Lunches

Member \$7,999; Non-Member \$10,999

Fiesta Dinner

Member \$14,999; Non-Member \$19,999

Keynote Speaker

Jack Uldrich, Global Futurist
Inquire for pricing

2018 PMI Conference Schedule

Monday, November 5

12:00 p.m. - 3:00 p.m.	PMI Board of Directors Meeting (Invitation only)
3:00 p.m. - 4:00 p.m.	Committee Chairs and Board Meeting
3:00 p.m. - 5:00 p.m.	Meeting Registration
5:30 p.m. - 6:00 p.m.	VIP/1st Time Attendee Reception (Invitation only)
6:00 p.m. - 7:00 p.m.	Welcome Reception for All Attendees

Tuesday, November 6

8:30 a.m. - 9:00 a.m.	Opening Remarks from PMI Leadership
9:00 a.m. - 10:00 a.m.	Keynote - Jack Uldrich , Futurist, Author and Speaker on Technology, Change Management and Leadership
10:00 a.m. - 10:20 a.m.	Networking Break and Exhibits
10:20 a.m. - 11:00 a.m.	Warren Tenney , Executive Director, Arizona Municipal Water Users Association (AMWUA)
11:00 a.m. - 12:00 p.m.	Pete DeMarco , Executive Vice President of Advocacy and Research, IAPMO, ISO Standard for Water-Efficient Plumbing Products and Appliances Update
12:00 p.m. - 1:00 p.m.	Lunch, Exhibits, Networking and Free Time
1:00 p.m. - 2:30 p.m.	Home Builders Panel with Connie Wilhelm , CEO, Home Builders Association of Central Arizona (HBACA)
2:30 p.m. - 2:50 p.m.	Networking Break and Exhibits
2:50 p.m. - 4:00 p.m.	Commerce Committee, with a Focus on Trade Issues. Yvonne Orgill , Chief Executive, Bathroom Manufacturers Association (BMA); Sandra Watson , President and CEO, Arizona Commerce Authority; and a Representative from the U.S. Department of Commerce
5:00 p.m. - 8:00 p.m.	Fiesta Dinner

Wednesday, November 7

8:30 a.m. - 9:30 a.m.	Tara Lohan , Managing Editor, Water Deeply
9:30 a.m. - 10:30 a.m.	Legionella Presentation: Joseph A. Cotruvo , Ph.D., BCES, President, Joseph Cotruvo & Associates, LLC
10:30 a.m. - 10:50 a.m.	Networking Break and Exhibits
10:50 a.m. - 12:00 p.m.	Advocacy Government Affairs, with PMI Government Affairs Consultants Jerry Desmond and Stephanie Salmon , and Jim Buster , CEO, Southwest Resource Strategies
12:00 p.m. - 1:00 p.m.	Lunch, Exhibits, Networking and Free Time
1:00 p.m. - 1:40 p.m.	Allied Member Committee and WaterSense Presentation by Veronica Blette , Chief, EPA WaterSense Program
1:40 p.m. - 2:30 p.m.	Water Efficiency and Sustainability Committee with Marcus Lenger , CEO, CleanBlu Innovations Inc., and Marc Campbell , Manager, Sustainability Policy and Programs, Salt River Project
2:30 p.m. - 2:50 p.m.	Networking Break and Exhibits
2:50 p.m. - 3:50 p.m.	TBD
3:50 p.m. - 5:00 p.m.	General Membership Meeting (Members Only)
6:00 p.m. - 7:00 p.m.	Cocktail Reception
7:00 p.m. - 9:00 p.m.	PMI Dinner

Thursday, November 8

9:00 a.m. - 9:30 a.m.	Intro to Dual Tracks
9:30 a.m. - 11:30 a.m.	Technical Track Patrick Gurian , Associate Professor, Civil, Architectural and Environmental Engineering Department, Drexel University Andrew Whelton , Ph.D., Assistant Professor of Civil, Environmental and Ecological Engineering, Lyles School of Civil Engineering Peter Mayer , Principal, Water Demand Management Outreach/Communications Track Media Panel with Tara Lohan , Managing Editor of Water Deeply, Sharon Rehana , Editorial Director, TMB Publishing, and Other Media
11:30 a.m. - 12:00 p.m.	Report from Dual Tracks and Closing Ceremony

PMI Keeps Tabs on Tariffs as Trade Uncertainty Remains

By Judy Wohlt, PMI Communications Team, Valek & Co.

As the United States continues to levy high tariffs on products coming from China, the European Union, Mexico and Canada, some U.S. manufacturers are voicing concerns about how these tariffs are already affecting their businesses.

In certain areas of the country, including the East Coast, manufacturers said they are experiencing higher prices and supply chain disruptions, particularly caused by U.S. tariffs on metals and lumber imports, according to the July 18 Federal Reserve Bank of Boston Beige Book (bit.ly/2O258BV).

PMI has been keeping close tabs on how the tariffs may affect U.S. plumbing manufacturing companies, noting that none have reported any significant issues so far. However, PMI continues to actively monitor the recently imposed Section 301 China tariffs, which may impact U.S. plumbing products, while working closely with key trade associations on trade matters.

The most recent and notable escalation in the trade war came in June when the Trump administration moved ahead with \$50 billion in tariffs on Chinese goods and pledged future rounds of

tariffs potentially totaling \$200 billion on additional products. The move was prompted by the U.S. accusing China of using “unfair” tactics to build a large trade surplus with the U.S. and confiscating American technology, bringing into play a little used trade law - Section 301 of the Trade Act of 1974.

The first round of Section 301 tariffs that began on July 6 and affected \$34 billion of goods imported from China do not appear to include plumbing products. Those goods, known as List 1 (bit.ly/2JQPMku) by the United States Trade Representative (USTR), were hit with an additional 25% tariff, and include water boilers, X-ray machine components, airplane tires and various other industrial parts.

However, the remaining \$16 billion of potential tariffs that are part of USTR’s proposed second round, known as List 2 (bit.ly/2L43RZ2), may include products produced or imported by U.S. plumbing manufacturers. List 2 goods include plastics and plastic products; industrial machinery; machinery for working stone, ceramics, concrete, wood, hard rubber or plastic, and glass; cargo containers; tractors; and optical fibers.

The USTR has created an exclusions process for List 2 (bit.ly/2m2Hh8k) so that manufacturers and businesses can request exclusions from the tariffs for specific products. The public commenting period and public hearing for USTR’s List 2 took place in July while product exclusion requests are due on October 9.

The announcement of the Section 301 tariffs has been met with concern by business groups and in Washington. The U.S.-imposed tariffs are nothing more than a tax increase on American consumers and businesses, according to the U.S. Chamber of Commerce on its web page titled, “Trade Works, Tariffs Don’t” (uschamber.com/tariffs). The chamber also said manufacturers, farmers, and technology companies will all pay more for commonly used products and materials because of the tariffs. In addition, House Ways and Means Chairman Kevin Brady, R-Texas, has expressed concern that the tariffs will hurt American manufacturers, farmers, workers and consumers – instead of stopping China from its harmful trading practices.

Read more about the tariffs and reactions in Washington in a June article in *The Hill* (bit.ly/2uYQNhY).

PMI Adds Value for Members with Trade Webinar, Regular Updates

A webinar providing an overview of the new Section 301 tariffs and their impact on plumbing manufacturers will be held on Aug. 9, 10 to 11 a.m. Central Time, and remain available to PMI members on the webinars page of the PMI website: bit.ly/2M6yWiz

In addition, PMI members can read the latest trade updates on the Commerce Committee reports page of the website: bit.ly/2LB0mft.

The webinar will address the Section 301 tariffs, opportunities to weigh-in with the Trump Administration, the

exclusion process, and options and best practices for importers of products on the Section 301 lists. Presenters will be **Teresa Polino**, partner, and **Leah Scarpelli**, associate, International Trade Practice, Arent Fox LLP.

On June 15, the Office of the United States Trade Representative (USTR) announced it was imposing tariffs on certain products imported from China as part of the U.S. response to China’s trade practices related to “the forced transfer of American technology and intellectual property,” pursuant to Section 301 of the Trade Act of 1974.

On July 10, 2018, USTR announced 10% duties on an additional \$200 billion of Chinese imports, including a number of plumbing manufacturing related components and fixtures. Affected companies now have a very limited time to seek changes and prepare for the impact of the new tariffs. This list of imports is undergoing further review in a public notice and comment process that includes a public hearing. After completion of this process, USTR will issue a final determination on the products from this list that would be subject to the additional duties.

PMI Members Pay it Forward in Big and Small Ways

By Judy Wohlt, PMI Communications Team, Valek and Co.

Author **Anne Frank** once wrote, “How wonderful that no one need wait a single moment to improve the world.”

Without hesitation, PMI members take improving the world to heart by giving back in many big and small ways – from helping teens with cancer celebrate prom to granting scholarships to delivering affordable, safe plumbing to far corners of the world.

In May, PMI member Speakman Company donated \$10,000 to give current and former patients at Nemours/Alfred I. duPont Hospital for Children in Wilmington, Del., a chance to dance the night away at the hospital’s 7th annual teen prom. The event is held for patients not able to attend dances and other school events because of their health concerns.

Speakman began its longstanding connection with the hospital when an employee’s granddaughter was diagnosed with stage 4 cancer several years ago. “We support this event annually because of the lifesaving work that happens at Nemours every day,” said **Bob Knoll**, Speakman CEO. “The hospital provides essential care to children and young people in our community, including for family of our staff, so the connection is a natural for our company.”

Lending a hand year-round has been a lasting tradition for employees at PMI member Brasscraft Manufacturing Company. The company brought together employees to raise funds for many charities, including Make A Wish, Habitat for Humanity and the Juvenile Diabetes Research Foundation (JDRF). Their efforts, supported by parent company Masco Corporation, helped raise \$25,000 for JDRF and more than \$35,000 for the Leukemia and Lymphoma Society.

Brasscraft also awards \$1,500 annually to qualifying plumbing apprentices

through its annual Zell Scholarship Program. “Helping develop qualified plumbers is a critical initiative for Brasscraft,” said **Charles Pryde**, Brasscraft marketing director. “We are proud to give hard-working students scholarships to help them continue their education and continue to develop into a strong workforce for the plumbing industry’s future.”

In addition, several PMI members are making strides to improve sanitation products and plumbing standards in areas of the world that need a helping hand.

Late in 2017, LIXIL Corporation announced that it will deliver safer sanitation to 15 million more people through its SATO business, a first-of-its-kind line of affordable toilet and sanitation products for rural and peri-urban communities with difficulties accessing safe sanitation. LIXIL was able to scale up manufacturing and distribution of its SATO products in 11 additional countries with new funding under the “Urban Sanitation Challenge,” a newly launched program of the Water Innovation Engine (bit.ly/2fcfz5R). The products are designed to automatically



LIXIL’s SATO latrines



Brasscraft employees participate in various fundraising activities, including fitness events, auctions and bake sales, to raise money for charities.

seal open-pit latrines with a self-closing trap-door that minimizes odors and the passage of disease-carrying insects.

IAPMO has been working with the Indonesian government to help support the needs of the Indonesian plumbing and sanitation industry and aid in developing the country’s national standards for health, safety and the environment. The joint collaboration helped take Indonesia’s national standard for plumbing — SNI 8153:2015, Plumbing Systems for Buildings — from the classroom to the real world in the form of a new public restroom in Parang Kusumo Tlogosari Park in the city of Semarang, Central Java province. IAPMO provided the technical expert and assisted with the necessary funding.

“As buildings continue to be constructed utilizing SNI 8153:2015, the health and safety of more and more Indonesian residents will be protected through improved access to clean, safe water and sanitation,” said **Shirley Dewi**, senior vice president of IAPMO R&T’s Quality Assurance and Client Services. Learn more about IAPMO’s work in Indonesia on the Standards Alliance website (bit.ly/2LHZqgL).

USGS Credits Efficient Plumbing for Record-Breaking Conservation

Americans are using less water in their homes than at any other time in the past 50-plus years, according to a recently released U.S. Geological Survey (USGS) report. The report estimates per-capita water consumption to be 82 gallons per day, lower than the average yearly per-capita consumption that ranged from 89 to more than 100 gallons per day during the 1960s and 1970s.

According to a summary of the report published by the *Washington Post*, the USGS credits water-efficient plumbing products for reducing home water use, naming federal efficiency standards for toilets, faucets and showerheads set by the National Energy Policy Act of 1992. This legislation passed with overwhelming bipartisan support and was signed into law by President **George H.W. Bush**. Additional and amendment legislation encouraged the development and purchase of water-efficient washing machines, dishwashers, and other water-using appliances, the report stated.

The EPA's WaterSense program, implemented in 2006, took water efficiency a step further by encouraging the development and purchase of plumbing and irrigation products using at least 20% less water than products meeting the federal standards. WaterSense is a voluntary program that uses an easily identifiable label on consumer products. The EPA estimates that 70% of total home water consumption happens indoors, with the remainder going to outdoor uses.

The report also points out that industrial facilities are using more efficient water-conserving manufacturing technologies, driven by the need to reduce water- and energy-related production costs.

The report shows per-capita water consumption peaking at 112 gallons per day in 1980 and then slowly declining to the most recent reading of 82 gallons.

Read the *Washington Post's* summary of the report: wapo.st/2NXmUFE

Dr. Paul Sturman Writes About Legionella Prevention

Dr. Paul Sturman of Montana State University writes about "Reducing Biofilms in Building Water Systems to Abate Risk of Legionella" in *Contractor* magazine.

Improperly maintained water supply systems and other factors can lead to Legionella survival and growth. While biofilms occur naturally on many surfaces, including bodies of water and living tissues, they can become a concern when they invade a building water system,

potentially damaging water quality and threatening public health. An example of harmful biofilm formations can be found in those that capture and harbor opportunistic pathogens, such as Legionella pneumophila, the bacteria responsible for causing Legionnaires' disease.

Read more of the *Contractor* article at ow.ly/IjC330l9pv9. Read PMI's Legionella content, "Just the Facts: Legionella and Water Supply Systems," at bit.ly/2Oglqp0.

2018 PMI LEADERSHIP

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PMI STAFF

Kerry Stackpole, FASAE, CAE
CEO/Executive Director
kstackpole@safeplumbing.org

Matt Sigler
Technical Director
msigler@safeplumbing.org

Jodi Stuhberg
Association Manager
jstuhberg@safeplumbing.org

Ann Geier
Administrative Assistant
ageier@safeplumbing.org

PMI CONSULTANTS

Ray Valek
Public Relations
ray@valekco.com

Frederick Desborough
Technical Consultant
frd@flex-fluss.com

Erin Shencopp
Legal Consultant, Jones Day
eshencopp@jonesday.com

Newsletter Design By:
Maureen Baird Graphic Design
info@mbairdgraphics.com



1750 Tysons Blvd., Ste. 1500
McLean, VA 22102
Phone: 847 481-5500
Fax: 847 481-5501
SafePlumbing.org

Connect, Collaborate and Advocate

2018 PMI Conference

Ψ November 5-8 Ψ