



EPA Office of Water

Municipal Program Update

Activities & Initiatives

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March 2015



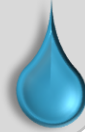
2013 Office of Wastewater Management Focus Areas & Objectives



Plan

Integrated Wet Weather Planning
Water Finance Center

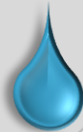
Identify pathways to strengthen sustainable practices



Program

Stormwater Management
Green Infrastructure Practices
WaterSense

Protect vital resources
Enhance energy relationships



Produce

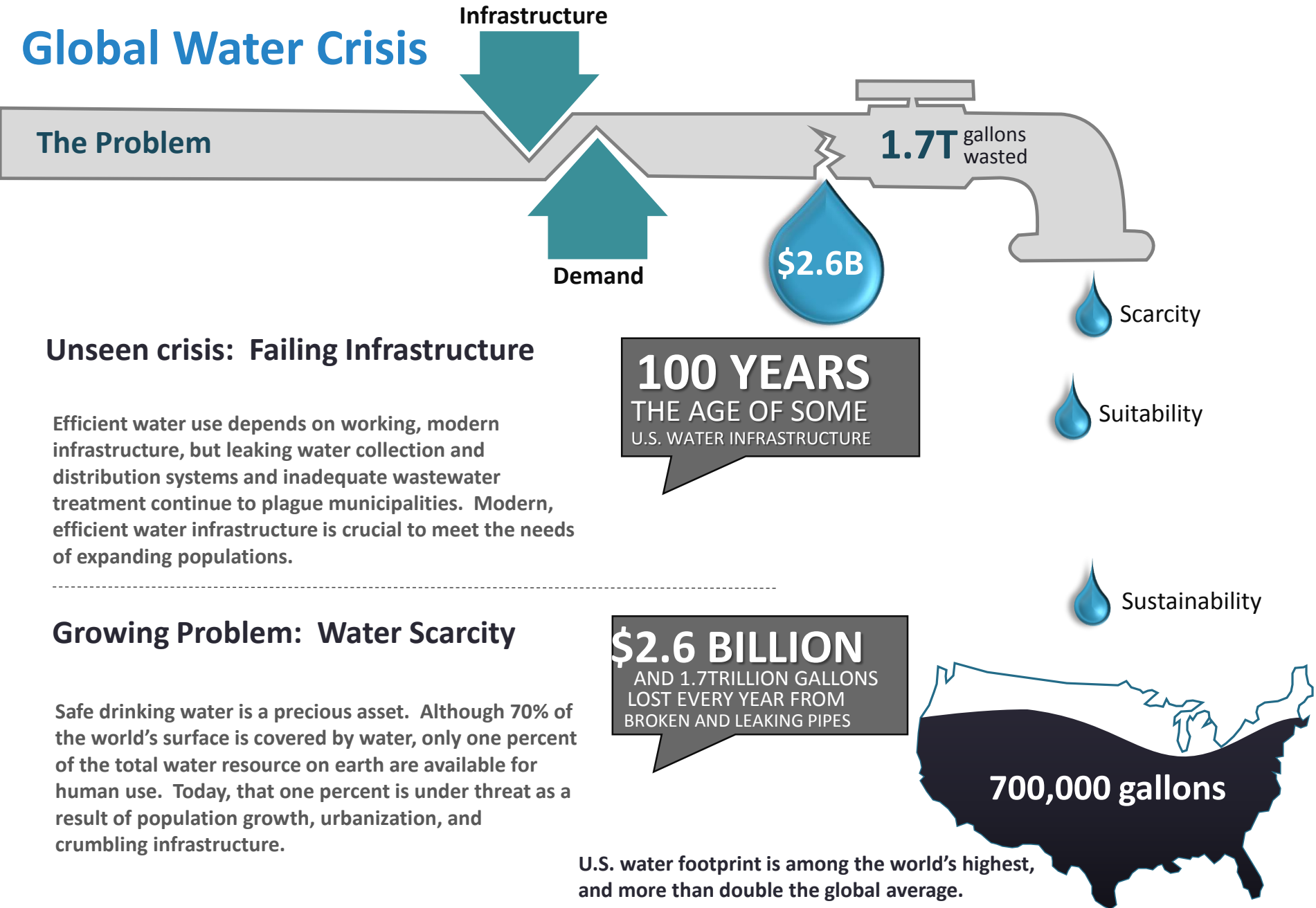
Technology Innovation
Partnerships

Innovate for smart, sustainable growth



Integrated efforts resulting in effective collaboration with government and private industry

Global Water Crisis



The Problem

Infrastructure

Demand

1.7T gallons wasted

\$2.6B

Scarcity

Suitability

Sustainability

700,000 gallons

100 YEARS
THE AGE OF SOME
U.S. WATER INFRASTRUCTURE

\$2.6 BILLION
AND 1.7 TRILLION GALLONS
LOST EVERY YEAR FROM
BROKEN AND LEAKING PIPES

U.S. water footprint is among the world's highest, and more than double the global average.

Unseen crisis: Failing Infrastructure

Efficient water use depends on working, modern infrastructure, but leaking water collection and distribution systems and inadequate wastewater treatment continue to plague municipalities. Modern, efficient water infrastructure is crucial to meet the needs of expanding populations.

Growing Problem: Water Scarcity

Safe drinking water is a precious asset. Although 70% of the world's surface is covered by water, only one percent of the total water resource on earth are available for human use. Today, that one percent is under threat as a result of population growth, urbanization, and crumbling infrastructure.

EPA Launches

Water Infrastructure & Resiliency Finance Center

- The center was created to help communities
- The center is part of the Build America Investment Initiative
- Increasing investments to improve water systems
- Center of Financial Expertise & Excellence



Increasing investment
in community water
and wastewater
systems

The Water Infrastructure Finance Challenge

Community Financial Gap

Some communities lack financial capacity and resources, face multiple demands and are experiencing affordability concerns.

Infrastructure financing and resiliency are key components to help communities address economic and environmental needs.

100 Years +

The age of some U.S. water infrastructure

\$600 Billion

In water sector needs over the next 20 years

Trillions of Gallons

Of potable water lost yearly from broken & leaking pipes

Billions of Gallons

Of raw sewage discharged to local waters

Community Concerns

Impacts include limited financial expertise, frequent storms, droughts, and floods

Innovative Financing Program

Build upon the highly successful State Revolving Fund and other programs of EPA and its federal partners (examples, DOT, USDA, Treasury). Share successes and deploy financial alternatives.



The Center will support communities and explore alternative financing and financial analyses - in support of drinking water and clean water obligations, including innovative financial tools, public-private partnerships (P3), and non-traditional financial concepts such as loan guarantees.

Share examples of innovative deals such as the EPA, Maryland Department of Environment and Prince George's County Public-Private Partnership for stormwater infrastructure.



The Prince George's County P3 will create cost effective solutions for meeting clean water requirements in the Chesapeake Bay.

It will simultaneously create 5,000 engineering and landscaping jobs and stimulate economic growth.

Drilling Down – Financial Focus Areas

Financing Resilient Water Infrastructure

Integration of water efficiency, energy efficiency, green infrastructure and water reuse

Financing Stormwater & Green Infrastructure

Support communities in development of sustainable funding

Financial Capacity Building for Small & Medium Communities

Build upon existing collaboration with the U.S. Department of Agriculture's Rural Utility Service and other federal agencies to increase the financial capacity of community water systems

Alternative Financial Delivery Systems

Build upon existing work within the Environmental Finance Centers to support targeted communities explore financial options to address clean water and drinking water obligations



**Financing solutions for
21st century water
infrastructure
challenges**

Focus Areas (cont)

- Create opportunities for public and private entities to work together to leverage available financing
- Create a community model for financial expertise and excellence through training, clearing house, advising, sharing successes
- Create an objective Center of Excellence that highlights and educates communities around financial partnerships, financial leadership, alternatives, risks and risk management, and successes
- Explore targeted financial practices to improve efficiency and savings, for example, procurement



Partnerships

- Communities & Municipal Utilities
- Private Sector
- Environmental Finance Centers
- States
- Associations /Advocacy Groups
- Other Federal Agencies
- Environmental Finance Advisory Board



<http://water.epa.gov/infrastructure/waterfinancecenter>



WaterFinanceCenter@epa.gov

Integrated Wet Weather Planning



- October 27, 2011 memo expresses EPA commitment/support for integrated approaches to municipal stormwater and wastewater management
- Integrated planning approaches help municipalities meet their CWA obligations by fostering:
 - Sequencing of projects in a way that starts highest priority projects first; and
 - innovative solutions, (e.g., green infrastructure)
- EPA is providing \$335,000 in technical assistance to five communities to develop components of Integrated Plans.

Integrated planning framework

➤ June 5, 2012 Memorandum releases the Integrated Planning Framework which identifies principles and elements of an integrated plan

Overarching Principles

- Maintain existing regulatory standards that protect public health and water quality
- Allow a municipality to balance various CWA requirements in a manner that addresses the most pressing public health and environmental protection issues first
- The responsibility to develop an integrated plan rests with municipality



Financial Capability Assessment FRAMEWORK

-  November 24, 2014 Framework discussing ways to improve financial capability assessment used in schedule development.

Framework identifies Elements

- 1997 Guidance assessment provides a common basis.
- 2% MHI is not a rigid threshold.
- EPA will consider all CWA costs, including stormwater costs, in the residential indicator.
- EPA will consider SDWA obligations as part of financial capability indicators.
- Communities should assure that CWA obligations that are addressed as costs will be implemented.

Encourages additional Information

- Income distributions
- Rate structures with differential rates for low income customers
- Rate or revenue models

Green Infrastructure



Green Infrastructure: Initiatives & Partnerships



EPA has several initiatives to help municipalities implement green infrastructure approaches

Over \$2.2 million in technical assistance provided to 39 communities since 2012 to help implement green infrastructure projects and develop national case studies

Last fall, launched the Green Infrastructure Collaborative, comprised of 7 federal agencies and 30 external stakeholders, to cooperatively work to support local green initiatives

Partnerships

Recently, EPA, DC Water and the District signed green infrastructure partnership agreement

- Joint commitment to green infrastructure and path forward to consider possible green infrastructure amendments to their consent decrees

Philadelphia requested federal partnership in their state negotiated, green infrastructure approach

- EPA signed partnership agreement and administrative order with Philadelphia to bring all parties into united effort for the most ambitious green infrastructure effort in the country
- ORD awarded \$5 million in grants to support city efforts

Green Infrastructure: Campus Rainworks challenge

- Student design competition in the midst of its third year
- College and university students submit green infrastructure designs for their campus
- WEF, ASCE & ASLA work with EPA to judge entries and rate the best submittals
- Awards given to student teams and faculty advisor



Municipal Stormwater

Focusing on a suite of actions to help communities effectively address their stormwater challenges

Federal Partnerships

1

Education, Technical Assistance & Engagement with Key Partners

2

Recognition/
Incentive Programs

3

Strengthening the MS4 Program

4



Copper-free brake initiative

Purpose



To reduce the use of copper, mercury, lead, cadmium, asbestiform fibers, and chromium-VI salts in motor vehicle brake pads to decrease runoff of these materials from roads into our waterways.

Details

- EPA signed an agreement with eight automotive industry groups and the Environmental Council of the States
- Includes reductions of copper and other materials as well as marking of brake friction materials and packaging

Website



<http://water.epa.gov/polwaste/npdes/stormwater/copperfreebrakes.cfm>

Memo on Stormwater & TMDLs



Background

- Joint Memo from Office of Wastewater Management (OWM)-Office of Wetlands, Oceans, and Watersheds (OWOW)
- Updates 2012 Stormwater-TMDL memo
- Replaces 2010 Stormwater-TMDL memo

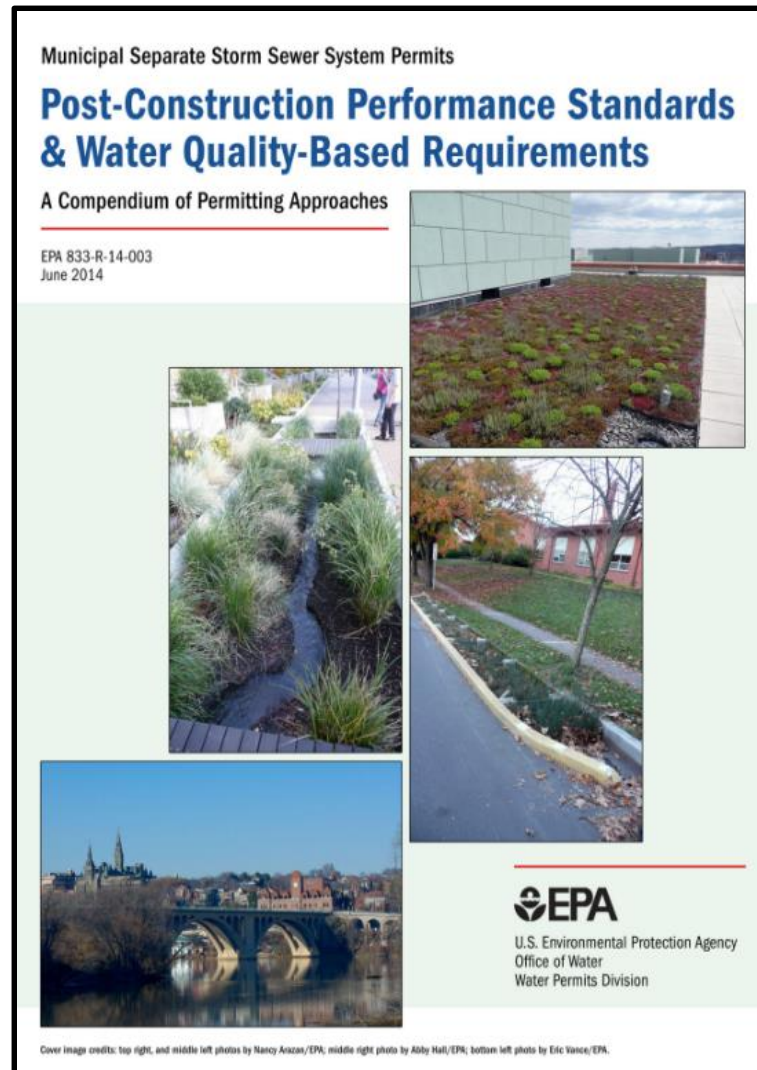
Key recommendations

- Where MS4 discharges have the reasonable potential to cause or contribute to a WQS exceedances, NPDES permitting authorities exercise their discretion to include **clear, specific, and measurable permit requirements and, where feasible, numeric effluent limitations** as necessary to meet WQS
 - Applies also to construction and industrial stormwater permits
- Where the TMDL includes WLAs for stormwater sources, the permit should include effective, measurable WQBELs to achieve the WLA – these requirements can take the form of:
 - Numeric effluent limitations, or BMP-type limits with clear, specific, and measurable elements

Recommendations largely based on the examples found in state permits – published in the *MS4 Compendium* (next slide)

- Demonstrates how permitting authorities are establishing requirements that are tied to a measurable water quality target, including permit examples expressed in both numeric and non-numeric form
- These examples share the attribute of being expressed in a clear, specific, and measurable way

POST-CONSTRUCTION PERFORMANCE STANDARDS & WATER QUALITY-BASED REQUIREMENTS



Available at:

www.epa.gov/npdes/pubs/sw_ms4_compendium.pdf

Retention standards

- An increasing number of states and communities are relying on retention standards to reduce impacts of stormwater from impervious cover
- Retaining stormwater near where it falls reduces:
 - Pollutants
 - Volume and velocity
 - Flooding
- Retention standards are cost-effective
 - It is more cost-effective to incorporate sustainable controls as development occurs and prevent the need for costly retrofits or restoration
 - For new development, these standards can save money because smaller detention ponds and less gray infrastructure would be used

18 states and DC
have standards
based on
retention of a
certain volume of
stormwater
(as of 2011)



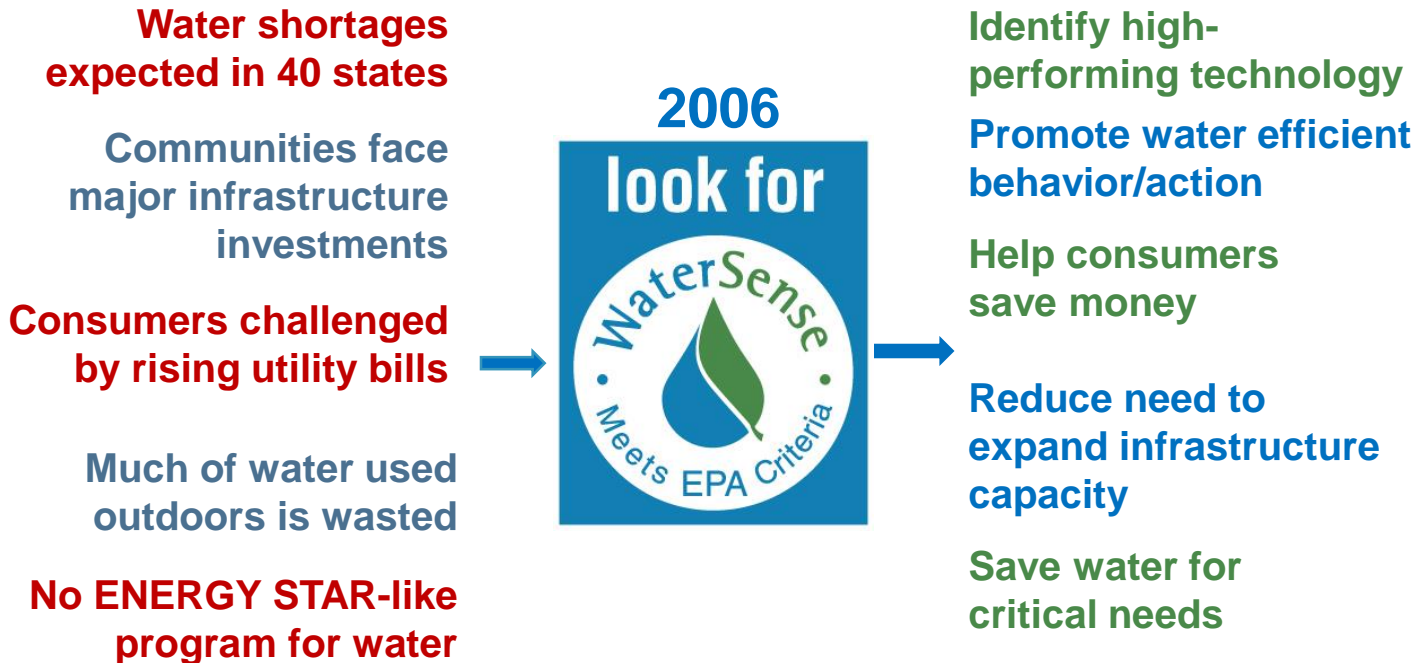
Additional requirements to address impaired waters

MS4 permits include requirements to address impaired waters such as:

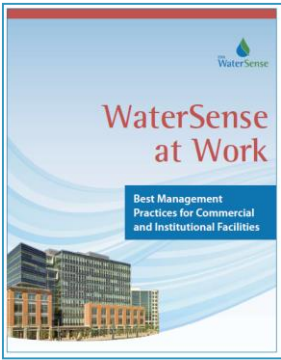
- Listing applicable total maximum daily loads (TMDLs), wasteload allocations (WLAs), and/or the affected MS4s
- Including numeric effluent limits and other quantifiable approaches for the specific pollutants of concern
- Requiring implementation of specific stormwater controls or management measures
- Including other types of water quality-based requirements like:
 - Permitting authority review and approval of TMDL plans
 - Monitoring/modeling requirements
 - TMDL-related annual reporting requirements
- Requiring actions for discharges to impaired waters where there is no TMDL



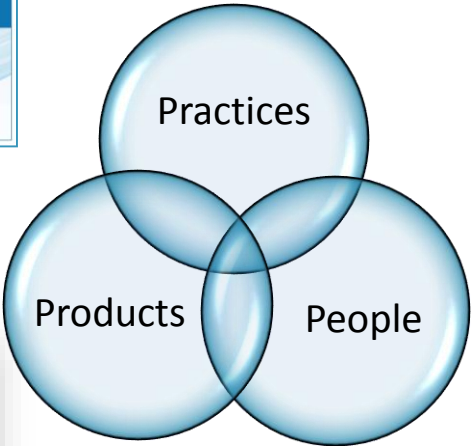
EPA and WaterSense – the why and what



WaterSense Focus – 3 P's



Actions that can be taken to reduce water use -- at home, outdoors and at work



Fixtures and technologies save water



Partners reach users to change behavior



What's Special About WaterSense?



A label with integrity

- Third-parties independently certify that products and homes meet EPA criteria
- Backed by the credibility of EPA

Smart use of resources

- EPA provides national standardization and outreach for water-efficiency
- Manufacturers and builders absorb product research, testing, and branding costs
- Licensed certifying bodies certify the products and police the label's use
- EPA, manufacturers, builders, retailers, utilities, and other partners help market/incentivize purchase of labeled products and homes

WaterSense Labeled Products



**Flushing
Urinals**



**Lavatory
Faucets**



**Irrigation
Controllers**



**Pre-rinse
Sprayers**



**Tank-Type
Toilets**



Showerheads



**New
Homes**

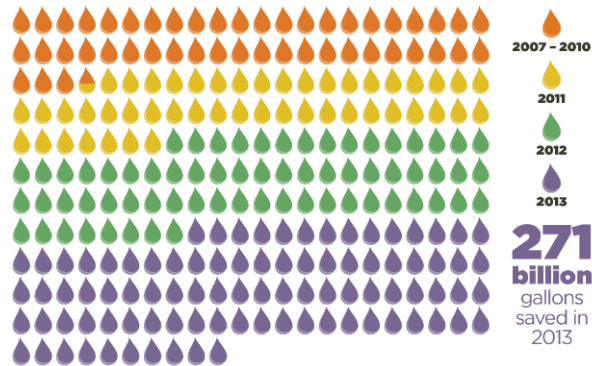
**More than
14,000
Labeled
Product
Models**



Water factors
are also
included in
many ENERGY
STAR qualified
products

Savings Add Up! 2006-2013

757 billion gallons of water saved since 2006!

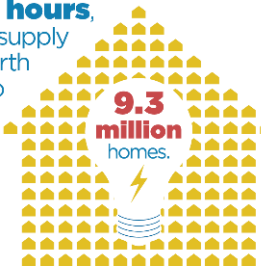


That's enough water to supply all the homes in the **United States** for **26 days!**

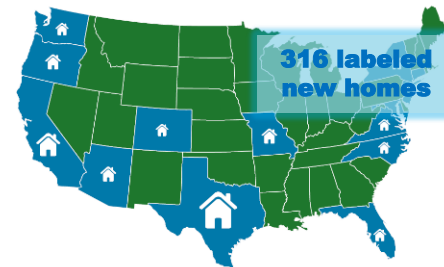
WaterSense has helped reduce the amount of **energy needed** to heat, pump, and treat water by

101 billion kilowatt hours,

enough to supply a year's worth of power to more than



WaterSense has **saved consumers** **\$14.2 billion** in water and energy bills.



Partner with WaterSense!

- Wastewater utilities are eligible to be WaterSense partners – and it's free!
- Reducing water demand can reduce need for infrastructure to provide additional capacity
- EPA offers free materials and templates to help utilities promote water efficiency and WaterSense
- Participate in EPA campaigns with our 1,600 partners
- Visit epa.gov/watersense/partners to learn more



Questions

