Cost Effective Tools for Water Conservation:

Water Efficient Fixtures

Ken Shear LEED AP
Sr. Sales Engineer
Kohler Company
Ken.Shear@Kohler.com
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Who is Kohler Company?

Bathroom & Kitchen

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KALLISTA
ANN SACKS
robern
STERLING

Hospitality

Interiors

McGUIRE
Baker
MARK DAVID

Engines & Generators

KOHLER Industrial Power
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Who is Kohler Global Hospitality

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KALLISTA
ANN SACKS
robern
MARK DAVID
KOHLER Industrial Power

Kohler Africa
Kohler Europe
Kohler South America
Kohler Middle East
Kohler Asia
Kohler Canada
Kohler Australia
Kohler Caribbean

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1. Conservation. Innovation. introduction by KOHLER's David Kohler
2. ***GREENING*** Your Hotel
   - High Efficiency (HE) Faucets
   - High Efficiency Showerheads & Handshowers
   - Conservation Flushing Platforms
   - Products Of Recycled Content
   - Front of House
3. Water Conservation Case Study

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Conservation. Innovation.

David Kohler, President & Chief Operating Officer

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GREENING
Your Hotel

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What is US Code?

The following components cannot exceed:

A) Lavatory & Entertainment Faucets
Code = 2.2 gallons per minute

B) Showerheads & Handshowers
Code = 2.5 gallons per minute

C) Toilets – Commercial & Residential
Code = 1.6 gallons per flush

D) Urinals
Code = 1.0 gallons per flush

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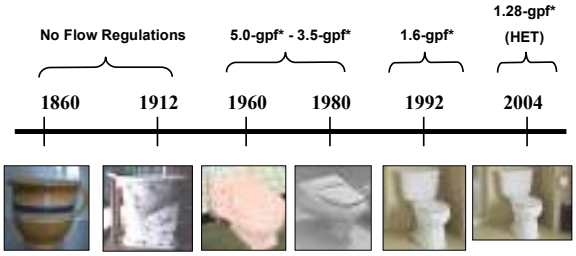
Perspective on Water Conservation

Water Consumption Over Time



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Conservation Guidelines

3 Easy Ways to save water at Hotels
(20% - 30% or greater water savings)

A) Use high efficiency showerheads
1.75 gpm = 30% savings from 2.5 gpm

B) Install high efficiency faucet aerators
1.5 gpm = 30% savings from 2.2 gpm

C) Install WaterSense toilets

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High Efficiency Faucets

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Kallista Designer Collections can save too!

KALLISTA

THE BOLD LOOK OF KOHLER Faucet Collections

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High Efficiency Showerheads & Handshowers

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Showerheads & Handshowers (1.75 & 2.0 gpm)

30% savings

20% savings

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Conservation Flushing Platforms

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Kelston™ & Cimarron 1.28 GPF Two-Piece Toilet

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Watersense Toilets – EPA Approved

WaterSense Meets EPA Criteria

Certified by IAPMO R&T

20% water savings or greater

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Sterling Karsten & Kohler Persuade Dual Flush Toilets

STERLING
A KOHLER COMPANY

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Saile™ One-Piece Dual Flush Toilet

San Raphael™ 1.0 GPF Pressure Lite™ Toilet

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Wellworth & Highline™ 1.0 GPF Pressure Lite™ Toilet

Highline - ADA

Wellworth

also available in 1.4 gallons per flush at same price

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Fountainhead™ Power Lite® Toilet

1. 1.28 gpf
2. an automatic flush
3. an illuminated toilet bowl
4. a heated toilet seat with 3 temperature settings
5. an assisted lid open and close feature
6. a tankless design

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Summary of Water Saving Technology

- **HIGH EFFICIENCY CLASS FIVE** (Gravity)
  1.28 gpf
- **HIGH EFFICIENCY CLASS SIX** (Gravity)
  1.28 gpf
- **DUAL FLUSH TANK TYPE** (Gravity)
  1.1 gpf average, 0.8/1.6 gpf
- **PRESSURE LITE**, 1 & 2 PIECE
  1.0 gpf or 1.4 gpf
- **POWER LITE DUAL FLUSH AND HIGH EFFICIENCY** (0.2 hp pump)
  1.1 gpf average 1.0/1.4 or 1.28 gpf
- **HIGH EFFICIENCY FLUSHOMETER BOWLS**
  1.28 gpf

Products of Recycled Content

Kohler Cast Iron – 93% Recycled or Reclaimed

KOHLER CAST IRON LIFETIME LIMITED WARRANTY

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Salient™ Cast Iron Receptor with New Grit Blast Pattern

KOHLER CAST IRON LIFETIME LIMITED WARRANTY

60 x 30 (LH/RH drain) K-9053/4

60 x 36 Center Drain K-9055

48 x 36 Center Drain K-9026

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Ledges™ Cast Iron Lavatory

KOHLER CAST IRON LIFETIME LIMITED WARRANTY

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Front of House

New products for public restrooms

- 30 Year Battery
- 1/8th Gallon Urinal
- Wave Flushvalve

HYBRIDenergysystem

Driving KOHLER Insight Touchless Faucets

- Kohler-exclusive new technology to the plumbing industry that produces 30 years of power without the use of added equipment like turbines or solar cells
- Provides the trade a virtually maintenance-free faucet for 3 decades
- Potted cell mounts easily under counter, inside cabinet, inside shroud or inside chase
- Available on all 6 Insight faucet designs.
- Launching at USGBC Greenbuild Expo November 11th, 2009

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Bardon™ 1/8th gpf high efficiency urinal

87% more efficient than standard 1.0 gpf models.

This urinal is ideal for water conservation installations that require water consuming urinals. This urinal qualifies as a High-Efficiency Urinal (HEU) and can help a building earn Water Efficiency points in the LEED Green Building Rating System™

- **14" extended rim allows for ADA installation**
- **Optimized and intended for use with the K-10949 1/8th gpf Touchless™ urinal flushometer with Tripoint™ technology**
- **Same rough-in dimensions as K-4960-ET Bardon urinal**

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Wave Touchless Flushometers

New Touchless platform in the market
- Water closet and urinal applications
- User controls the flush touchlessly
- Saves water, prevents false-flushes
- Creates peace of mind, especially in children/parent users
- Best uses: Short range (WC, Urinals)

1.6 and 1.28 gpf Water closet applications
1.0 and 0.5 gpf Urinal applications

1.28 Flushometer HET Commercial Toilets

- **Kohler Kingston, Wellworth & Highline 1.28 Flushometer Bowls**
  - Optimized bowl and trapway geometry
  - Superior flushing performance and plugging resistance
- **Kohler 1.28 GPF Touchless™ Flushometer with Tripoint™ Technology**
  - Piston valve technology
  - Cast brass body offers vandal resistant durability
  - Manual courtesy flush on all flushometers – will flush w/o battery power

Kohler commercial bowls with 1.28 gpf Touchless Flushometer

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Waterless Urinals

Kohler Steward non-water urinal (new or retrofit installations)

Kohler Steward S non-water urinal (new installations)

- Our designs do not require cartridges and are extremely economical
- When installed and maintained, virtually odor free
- Can save up to 40,000 gallons of water per fixture per year!

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Waterless Urinals

Kohler Steward urinal

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FEATURE	BENEFIT
Water-free	Provide significant value to the customer by reducing water, sewage and maintenance costs
Cartridge-free, integral trap	Improved function with lower annual maintenance cost. No costly cartridges to plug and replace!
Optimized interior geometry	The only virtually splash-free urinals on the market
Touch-free	More hygenic Vandal resistant due to absence of flush valve
Large, clean footprint	Allows for easy installation without requiring tiling or rough-in changes
ADA compliant	Product complies with ADA installation requirements

Kohler Waterless Urinals

Waterless Urinals

KOHLER.com/savewater

Hotel / Conference Center Case Study

- **Project Statistics**
  - 896 Full Time Equivalent Occupants
  - 7,266 Estimated Visitors
  - 1,000 Hotel Guests
- **Assumptions**
  - 100% of male restrooms have urinals
  - 275 days occupancy ~ 75%

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Baseline Calculations using LEED Template

- **Baseline Case Calculation (based on EPACT 1992 limits)**
  - 1.6 gpf toilets
  - 2.2 gpm faucet aerators
  - 2.5 gpm showerheads
  - 1.0 gpf urinals
- **Baseline Case – Total Annual Water Use**
  - Utilize LEED NC 2.2 - WE Credit 3 Template
  - 11,626,664 gallons

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20% Reduction Goal

- **Design Case Calculation (based on high efficiency products)**
  - 1.6 gpf guest room toilets
  - 1.6 gpf public area toilets
  - 2.2 gpm guest room faucet aerators
  - 0.5 gpm public area faucet aerators
  - 2.0 gpm showerheads
  - 0.5 gpf urinals
- **Design Case – Total Annual Water Use**
  - Utilize LEED NC 2.2 - WE Credit 3 Template
  - 9,040,275 gallons
  - 22% water use reduction achieved

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30% Reduction Goal

- **Design Case Calculation** **(based on high efficiency products)**
  - 1.28 gpf guest room toilets
  - 1.28 gpf public area toilets
  - 1.5 gpm guest room faucet aerators
  - 0.5 gpm public area faucet aerators
  - 2.0 gpm showerheads
  - 0.5 gpf urinals
- **Design Case – Total Annual Water Use**
  - Utilize LEED NC 2.2 - WE Credit 3 Template
  - 8,136,006 gallons
  - 30% water use reduction achieved

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40% Reduction Goal

- **Design Case Calculation** **(based on high efficiency products)**
  - 1.1 gpf guest room toilets
  - 1.28 gpf public area toilets
  - 1.0 gpm guest room faucet aerators
  - 0.5 gpm public area faucet aerators
  - 1.75 gpm showerheads
  - 0.5 gpf urinals (could use 1/8th gpf or waterless)
- **Design Case – Total Annual Water Use**
  - Utilize LEED NC 2.2 - WE Credit 3 Template
  - 8,136,006 gallons
  - 38% water use reduction – short of goal

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Water Savings and ROI Summary

Plumbing Specification

Fixture/Faucet Description	Base Specification	Design Specification for 22.2% Reduction	Design Specification for 30.0% Reduction	Design Specification for 37.8% Reduction
Guest Toilets	K-3496	K-3496	K-3496-HE	K-3519
Public Toilets (Tank Type)	K-3496	K-3496	K-3496-HE	K-3519
Public Toilet (Flushometer Type)	K-4368	K-4368	K-4405	K-4405
Public Toilet Flushometer	K-10957	K-10957	K-10956	K-10956
Urinals	K-4960	K-4960	K-4960	K-4960
Urinal Flushometers	K-10960	K-10960	K-10958	K-10958
Public Faucets	K-10952-4	K-10952-4	K-10952-4	K-10952-4
Guest Faucets	K-454	K-454	K-454	K-454
Showerhead	K-10284	K-10240	K-10240	K-10240

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Water Savings and ROI Summary

Option	Water Use Reduction	LEED Points	Added Cost	Annual Water & Energy Savings*	Payback Period
1	22.2%	1	$3,000	$30,251	0.1 years
2	30.0%	2	$3,000	$34,308	0.1 years
3	37.8%	2 ~3	$52,000	$46,909	1.1 years

- Based on $6.50 per 1,000 gallons of water and $0.08 per kW hour
- Kitchen and janitorial faucets use standard flow aerators
- Use of waterless urinals or 1/8 gpf urinals would achieve 40% water reduction in option 3
- Assume initial fixture cost is baseline and costs are list price
- Does not account for escalating water/energy costs

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Thank you!

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