Retrofitting Residential Fixtures

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Retrofitting Residential Fixtures

- Residential showerhead, aerator and toilet flapper retrofit programs
- Residential toilet replacement programs
- Residential clothes washer incentives programs.

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A typical U.S. family of four uses approximately 280 gallons of water per day.
In the LWSP, water systems range from as low as 30 to 150 gallons per person.
In the US, of the 280 gpd, 80% is indoor water use.
The average indoor water use in a home with water efficient fixtures and appliances is approximately 35 percent less than without these fixtures.

Showerhead, Aerator and Toilet Flappers

- GOAL: To retrofit at least 10% per year of eligible single-family and multi-family residences constructed before 1995 that have not been retrofitted.

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At least 20% of single family and multi-family residences built before 1995 is needed to apply this BMP.

Dissemination Methods

- Door to door canvasing
- Direct install by utility or contractor
- Mass mailing
- Depot pickup
- Rebate
- Kit Request

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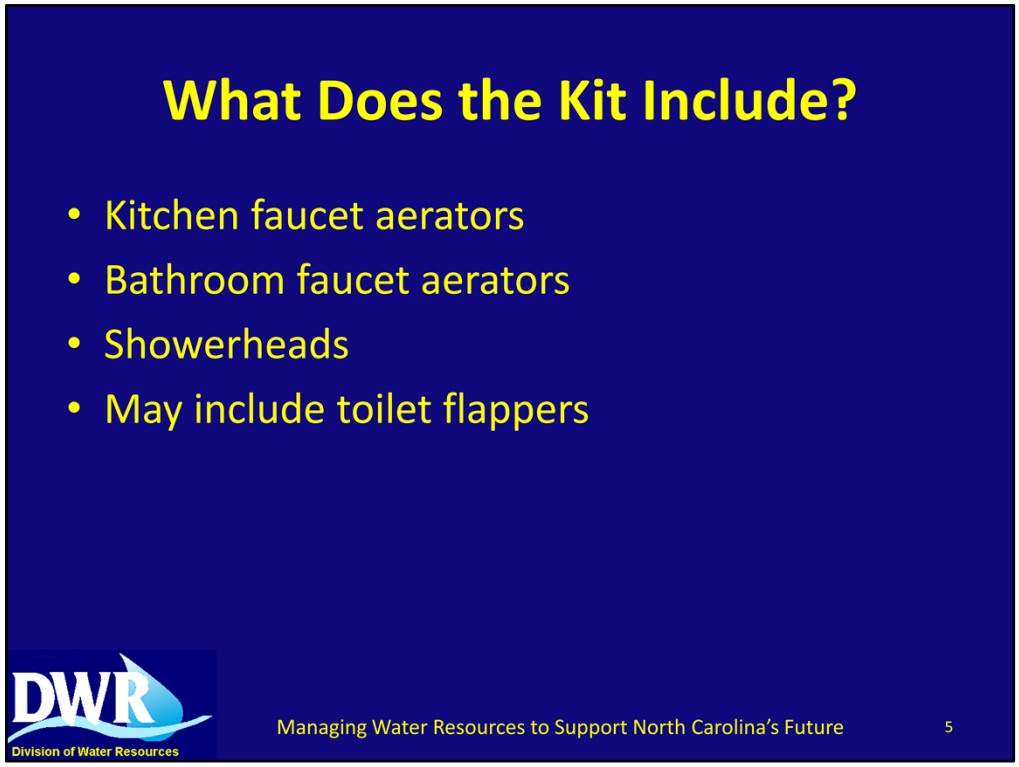
Reference the handout for pros and cons of each.



Pass around sample retrofit kits.

Kitchen Faucet Aerators

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2.2 gallons per minute or less

Bathroom Faucet Aerators

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1.5 gpm or less

Showerheads

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2.5 gpm or less

Toilet Flappers

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Toilet flappers flush at the volume designed for that toilet. Flappers are not always included.

Case Studies

Greensboro: General distribution and rebates

Picture from Wikipedia

- Greensboro used a general distribution method. They placed kits with showerheads, aerators, and toilet flappers at recreation centers, libraries, the farmers' market, and water customer service.
- From 1996 to 2003, they distributed 165,000 pieces of hardware.
- From 1995-1997, 1,665 customers received a $4 rebate for purchasing toilet flappers.

Water used by toilets is typically the greatest user of indoor water, using 26.7% of indoor water.

- The goal is to replace toilets using 3.5 gpf or more with low flow or ultra-lowflow toilets using 1.6 gpf or less in homes built before 1995 that have not been retrofitted previously. Replacement toilets include the dual flush toilets that use 1.6 gpf and between .8 and 1.0 gpf. The rate should be about 5% of eligible homes per year until reaching the goal of 20% of eligible homes.
- Installed directly by the utility, a contractor for the utility, resident or housing manager.

Another Option: Financial Incentives

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- Rebates, water bill credit, or direct giveaways
- If the rebate or credit is set too low, only those planning to get a new toilet already will benefit. If set too high, the utility will be overpaying customers to retrofit. Most find $70-$100 a sufficient incentive for customers to consider retrofitting.

Case Study

- Raleigh: Rebates and grants

Photo from Wikipedia

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- In response to the 2007-2008 drought, the city created a water conservation plan that included giving rebates for high efficiency toilets.
- In addition, they realized that the city's low-income residents were generally living in rented, water inefficient housing. They partnered with the Raleigh Housing Authority and the AmericaCorp Vista program to retrofit these residents.
- Replaced 5,000 3.5 – 5 gpf toilets with high efficient toilets and 1000 showerheads with 1.6 gpm models.

Clothes Washer Retrofits

The Energy Consortium of Energy Efficiency (CEE) has a list of washing machines that are considered water efficient with a low Water Factor.

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- A typical family of 4 washes a little more than one load of laundry a day.
- The average washer in the U.S. uses 41 gallons per load, but new high efficiency washers use 12-25 gallons per load.
- The Water Factor (WF) is the capacity of the washing machine in cubic feet divided by the gallons of water used per full load wash.

Things to Consider

- For this BMP to be effective, the rebate must bridge at least one-half the difference in price between a conventional and efficient washing machine.
- May be more effective if offered in conjunction with the local gas and/or electric utility.

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The incentive works best if the rebate is given as a discount at the register, because price is the largest decision factor between the conventional and efficient machines.

Contact Information

QUESTIONS?

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