Improving Hydraulic Fracturing

The oil and gas industry is working diligently to make hydraulic fracturing more efficient and to reduce the footprint the process has on the environment.

Water Usage in the Marcellus

Total water use in 2000

?

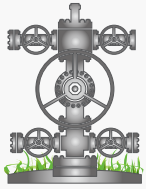
3.6 trillion gallons

The natural gas industry only accounts for .1% of additional total water usage.

Flowback Recycling

In the Marcellus, about **10% to 30%** of the fluid used to fracture a well returns to the surface and is captured with produced gas. This fluid is called **flowback water.**

Today, a majority of major gas producers in the Marcellus are ***recycling this water*** for use in new wells.



Recycling of flowback water **reduces demand** for freshwater and reduces the need for disposal of waste water.

Reduction in Chemical Additives

Many natural gas companies operating in the Marcellus have found ways to **reduce the amount of chemical additives** used in fracturing fluid while still effectively producing gas from shale.

These diluted, common additives account for ***less than 1 percent*** of fracturing fluid.

Sources:
"From Flowback to Fracturing: Water Recycling Grows in the Marcellus Shale", Journal of Petroleum Technology, July 2011.

"Water Use in Marcellus Deep Shale Gas Exploration", Chesapeake Energy, January 2012.