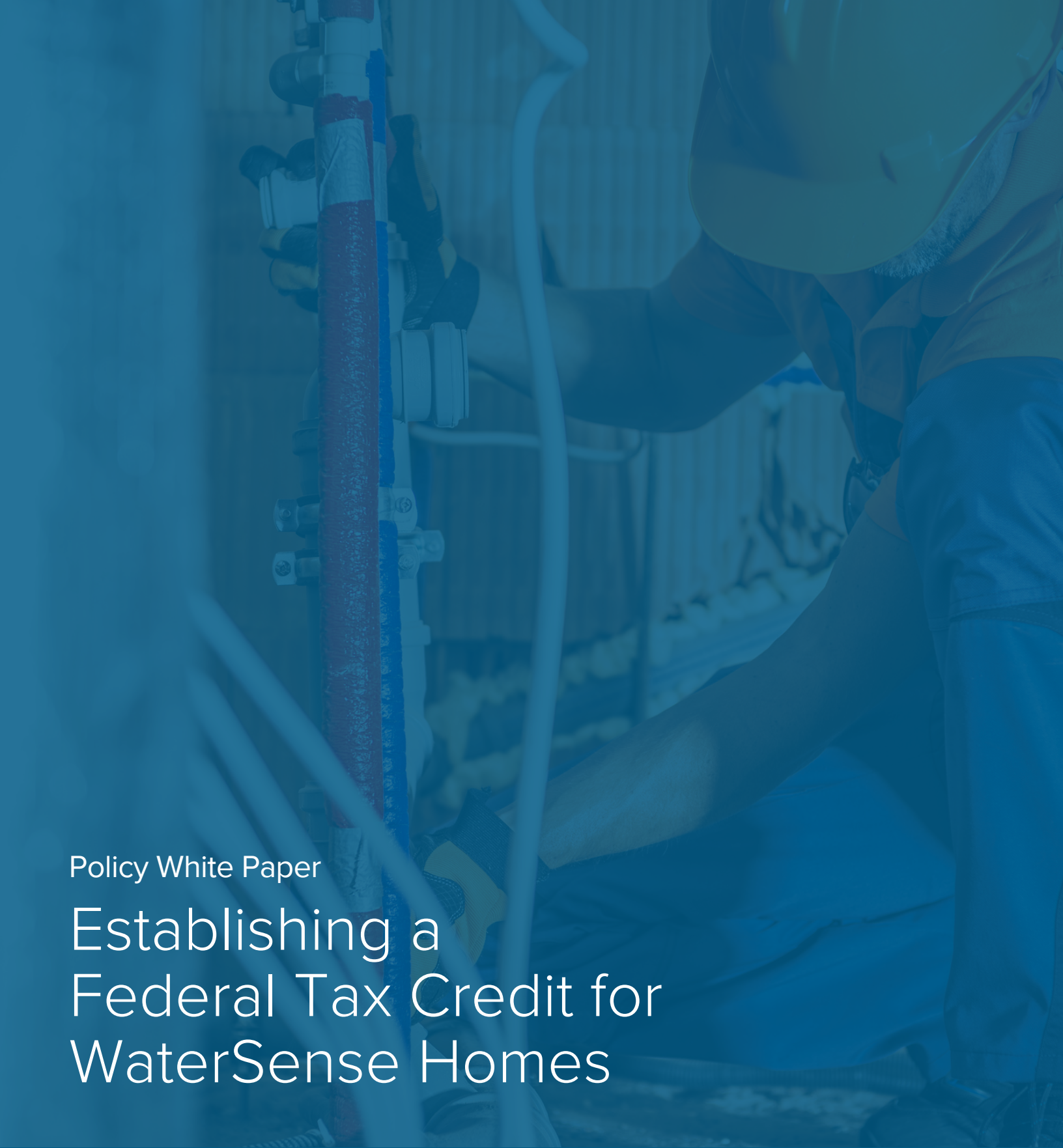


Policy White Paper

# Establishing a Federal Tax Credit for WaterSense Homes

Alliance for Water Efficiency

RESNET
RESIDENTIAL ENERGY SERVICES NETWORK

NOVEMBER 2024

# POLICY WHITE PAPER - ESTABLISHING A FEDERAL TAX CREDIT FOR WATERSENSE HOMES

More than ever, Americans need more homes that are affordable to buy initially and to own in the long run. At the same time, water resources are being stretched thin, and water utility bills are increasing faster than inflation. Efficiency can help address both affordability and water resource challenges. The federal government already provides tax credits for ENERGY STAR Homes under the tax code (26 USC § 45L) to transform the new home market to greater energy efficiency levels and ensure affordable energy bills for future homeowners. This tax credit, known as 45L, enables builders to increase the energy efficiency of their homes while limiting any increase in the upfront costs to homeowners.

The Alliance for Water Efficiency (AWE), the Residential Energy Services Network (RESNET), and their respective members see an opportunity to further meet the need for affordable and efficient new housing by expanding the 45L tax credit to include water efficiency through the WaterSense Homes program. Much like ENERGY STAR Homes, the WaterSense Homes program is a voluntary federal program that recognizes homes that are at least 30 percent more water-efficient than typical new construction, use WaterSense-labeled plumbing products, and are free of water leaks. WaterSense recently estimated that labeled homes could save between $388 and $978 annually on utility bills compared to typical new construction.

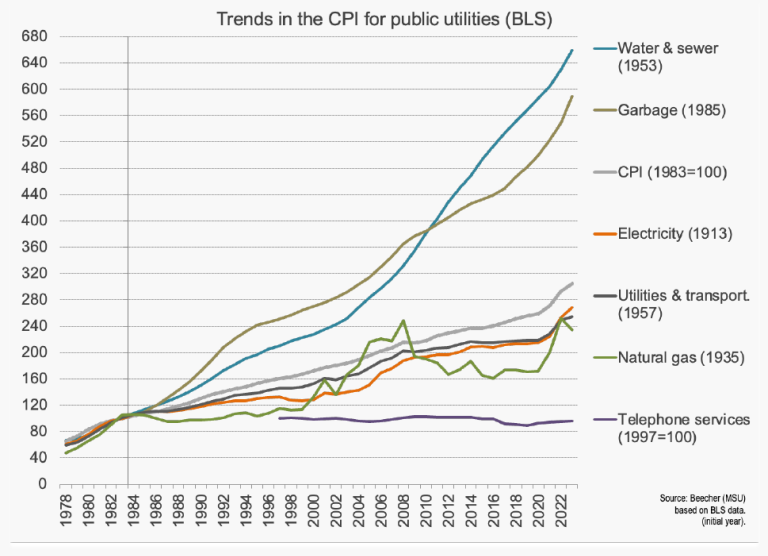
## AWE'S AND RESNET'S PROPOSAL

THIS POLICY WHITE PAPER OUTLINES AWE'S AND RESNET'S PROPOSAL THAT CONGRESS AMEND SECTION 45L (OR CREATE A NEW SECTION 45M) OF THE TAX CODE TO INCLUDE A $2,000 TAX CREDIT FOR BUILDERS OF NEW WATERSENSE LABELED HOMES THROUGH DECEMBER 31, 2032.

## OBSTACLES TO MORE NEW, AFFORDABLE, AND EFFICIENT HOUSING

### WATER AND SEWER BILL TRENDS

Ongoing utility costs are a significant part of the costs of home ownership, and water and sewer costs have been growing faster than inflation and other utility services, as shown in this graph:



Even though a more water efficient home may cost a small amount more upfront, the long-term savings from water efficiency are substantial – between $388 and $978 annually compared to typical new construction.

### WHAT IT TAKES TO BUILD MORE WATER EFFICIENT HOMES

As new, more efficient technologies and practices are introduced, there is often some slight increase in the incremental cost to a homebuilder using the latest technology or practice, and these costs, in turn, are typically passed along to the homebuyer in the form of a higher initial purchase price. The incremental costs of water efficient technologies and practices are relatively small compared to the substantial savings over time described above. In the long run, incremental costs have historically come down significantly over time as the market for new, more efficient technologies and practices matures. A tax credit for water efficient new homes, like AWE and RESNET are proposing, will help offset some upfront costs, limit any impact on home prices, and accelerate the market transition towards more water efficient homes.

The $2,000 amount for the proposed tax credit was chosen to cover the cost of obtaining the rating and certification (typically $200 to $500) and to cover a good portion of the incremental costs. For example, some WaterSense home builders opt to incorporate landscaping that requires less watering (drought tolerant planting beds, native grasses, mulch, hardscapes), which can increase upfront costs from $300 to $2,000+ per home depending on lot size and landscape design and selection. Advanced irrigation controllers can add $100 to $200. Homes opting for drip irrigation over traditional spray can see additional costs in the thousands. Builders also need to account for the time and expense associated with changing their processes for installing these landscapes and irrigation systems. The incremental costs of more water efficient plumbing fixtures are generally negligible, and water efficient dishwashers and clothes washers together add approximately $100 in cost. Some builders choose to use hot water recirculation systems to improve efficiency, and the cost of adding these systems typically falls within the range of $400 to $1,000.

### IMPACTS TO COMMUNITY INFRASTRUCTURE AND WATER RESOURCES

Building new homes can place additional burdens on existing water infrastructure or drive the need to build new infrastructure. Furthermore, the water resources in many communities are limited or otherwise stressed by factors such as drought, overuse, and tension with neighboring users. As a result, communities sometimes charge large impact fees to pay for water resource development and new infrastructure or limit new developments because of limited groundwater availability. In a recent article from RESNET, Ryan Meres noted: "According to the World Resources Institute, 25 of 50 states in the continental U.S. are under medium-high to extremely high levels of water stress [, and] . . . 41 of the 50 hottest markets for new-home construction are in these areas." In other communities, the desire to avoid impacts from new development manifests itself indirectly through the political process, land use policies, and decision-making, resulting in fewer new homes being built. Programs like WaterSense labeled homes help minimize any impacts and provide third-party verification that the new homes and homeowners will be good stewards of a community's water resources.

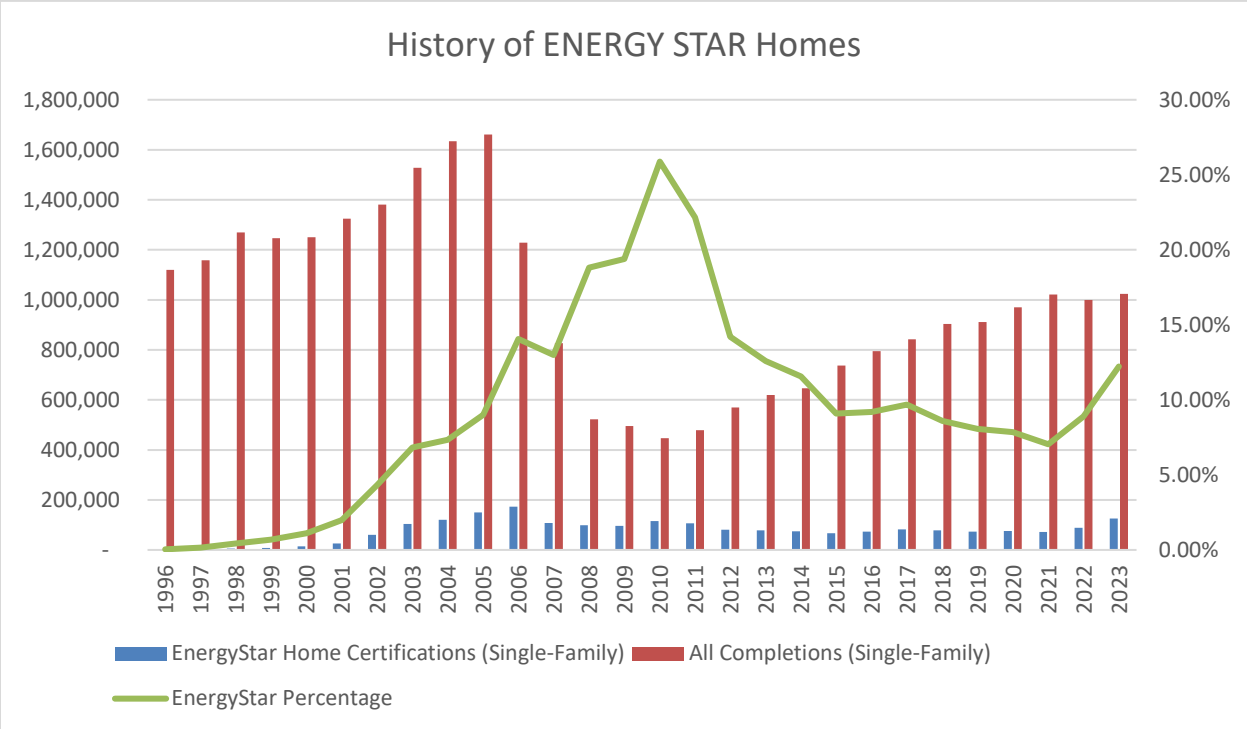
## LEARNING FROM THE HISTORY OF 45L TAX CREDITS FOR ENERGY STAR HOMES

Before considering how the 45L tax credit could be expanded to cover WaterSense Homes, it is helpful to understand the history behind the current tax credit and the ENERGY STAR Homes program. The ENERGY STAR Homes program was launched in 1996, and since then, more than 2.7 million homes have been certified. In 2023 alone, more than 190,000 homes and apartments were certified. But it was not always this way; the 45L tax credit has been a major contributor to keeping the program strong throughout the Great Recession of 2008 to 2009 and on a growth path since then.

The 45L tax credit was initially enacted as part of the Energy Policy Act of 2005 and became effective January 1, 2006. Since it was initially enacted, the 45L tax credit has regularly been extended for a limited number of years at a time. In some instances, it expired but was retroactively extended.

| Years Effective | Legislation |
|---|---|
| 2006 to 2007 | Energy Policy Act of 2005 (Sec. 1332) |
| 2008 | Tax Relief and Health Care Act of 2006 (Sec. 205) |
| 2009 | Emergency Economic Stabilization Act of 2008 (Sec. 304) |
| 2010 to 2011 | Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Sec. 703(a)) |
| 2012 to 2013 | American Taxpayer Relief Act of 2012 (Sec. 408(a)) |
| 2014 | Tax Increase Prevention Act of 2014 (Sec. 156(a)) |
| 2015 to 2016 | Consolidated Appropriations Act of 2016 (Sec. 188(a)) |
| 2017 | Bipartisan Budget Act of 2018 (Sec. 40410(a)) |
| 2018 to 2020 | Further Consolidated Appropriations Act of 2020 (129(a)) |
| 2021 | Consolidated Appropriations Act of 2021 (Sec. 146) |
| 2023 to 2032 | Inflation Reduction Act of 2022 (Sec 13304(a)) |

As far as how this timeline lines up with the growth of the program, consider the data on the graph below showing the number of ENERGY STAR-certified single-family homes over time compared to the total homes completed. This data and figure show the trends in ENERGY STAR Homes from 1996 to 2023.



While there is a modest dip in the number of ENERGY STAR Homes completed during the Great Recession and the associated housing market downturn, the decline is relatively modest compared to the overall housing market. This is due to the strong interest, value, and support for EnergyStar Homes, especially the financial support provided through the 45L tax credit starting in 2006. The impact of 45L becomes clear when compared the data on ENERGY STAR Homes to the overall housing completions during the same period, which show a far more dramatic decrease. The percentage of ENERGY STAR Homes increased significantly, as the absolute number of ENERGY STAR Homes remained constant despite the very significant downturn in overall single-family home completions during the Great Recession. Building ENERGY STAR Homes remained relatively steady throughout the recession and weathered it well. After the recession, the percentage declined due in part to changes in ENERGY STAR Homes program versions and due to uncertain and sometimes retroactive extensions of the tax credit. The data used for this chart above comes from the ENERGY STAR Homes program and the Federal Reserve Bank of St. Louis.

The success of the 45L tax credit in supporting the construction of ENERGY STAR Homes during the Great Recession and for many years after has served builders and new homeowners well. It has also yielded many benefits for the broader communities across the country where these houses are built. This success comes despite the numerous short-term and sometimes retroactive legislative extensions of the tax credit, which introduced uncertainty into the ENERGY STAR Home development and construction processes. The new home development process usually takes several years from start to finish, which makes any added uncertainty even more challenging.

The good news is that the 10-year extension of the 45L tax credit in the Inflation Reduction Act through 2032 is expected to provide the certainty needed for homebuilders to ramp up their production of ENERGY STAR Homes significantly and to transform the marketplace for energy efficient homes. There were several other noteworthy changes in the Inflation Reduction Act for the 45L tax credit, including increasing the amount of the credit from $2,000 to $2,500.

## WATERSENSE HOMES PROGRAM – OVERVIEW AND RECENT TRENDS

Much like ENERGY STAR Homes, the WaterSense Homes program is a voluntary federal program that recognizes homes that are at least 30 percent more water-efficient than typical new construction, use WaterSense-labeled plumbing products, are free of water leaks, and meet other performance requirements. There are multiple home certification organizations and associated certification methods in use for the WaterSense Homes program, and since Version 2 of the WaterSense labeled homes program was finalized in February 2021, interest in the program has been growing but is still in the early stages. There are multiple home certification organizations and associated certification methods in use for the WaterSense Homes program, and since Version 2 of the WaterSense labeled homes, program was finalized in February 2021, interest in the program has been growing but is still in the early stages. More information and background on the WaterSense Homes program can be found on WaterSense's website.

As builders become familiar with this program and ramp up their efforts, there are some additional costs to build and certify a WaterSense-labeled home. These upfront costs are relatively small, and they will be substantially offset by the proposed $2,00 tax credit. Furthermore, they are quickly recouped in utility bill savings. WaterSense recently estimated that labeled homes could save between $388 and $978 annually on utility bills compared to typical new construction. Nonetheless, the upfront costs can discourage builders because they incur additional costs, they do not realize the utility bill savings, and it can increase the purchase price of a new home at a time when consumers are already struggling with housing affordability. A new tax credit can minimize these barriers and encourage the construction of more WaterSense-labeled homes. Extending the tax credit through 2032 would help transform the marketplace by giving builders, their

suppliers, and their contractors a clear, multi-year path to adapting to building higher efficiency homes, and future homeowners, their communities, and their water resources would benefit.

The first version of the WaterSense Homes program was launched in 2009. In part due to the Great Recession, slow homebuilding thereafter, and a lack of federal financial support, there was limited uptake of the program. The WaterSense program received and gathered feedback over time on what would improve the program in terms of water savings, performance, and builder and consumer interest, and based on that, the program was updated in several impactful ways in developing WaterSense Homes Version 2.0, which was finalized in February 2021. Some of the impactful changes in Version 2.0 include:

- PRIORITIZING A MORE FLEXIBLE PERFORMANCE-BASED APPROACH THAT ALLOWS BUILDERS TO CHOOSE HOW THEY MEET THE 30% OR MORE WATER EFFICIENCY REQUIREMENT
- REDUCING THE NUMBER OF ITEMS ON THE MANDATORY CHECKLIST TO ALLOW FOR MORE FLEXIBILITY
- CREATING A PROCESS FOR HOME CERTIFICATION ORGANIZATIONS TO PROVIDE INDEPENDENT, THIRD-PARTY VERIFICATION WITH WATERSENSE-APPROVED CERTIFICATION METHODS

As a result of these changes, the number of WaterSense homes has steadily trended upward. While RESNET, with its HERS H20 rating system, has been the most widely used home certification organization, there are three other approved organizations to choose from (CHEERS, Green Builder Coalition, and Home Innovation Research Labs). Consistent with the goals of the Version 2.0 update, the program remains open to additional home certification, providing competition in the marketplace.

Some early examples of WaterSense Homes under Version 2.0 were studied as a pilot project, and the results were published in an article in the American Water Works Association's Journal May 2022 issue titled, *Assessing Water Use in WaterSense-Labeled Homes and Quantifying the Savings*. (Jonah Schein, Toby Bickmore, and Kent Sovocool, Journal AWWA May 2022.) The metered indoor and outdoor water use was analyzed based on 160 WaterSense homes built in the Las Vegas metro area. Compared to the predicted water savings, the homes in the pilot test outperformed in actual water savings.

## WATER AND BILL SAVINGS POTENTIAL

WaterSense homes are independently verified and certified to be at least 30 percent more water efficient than typical new construction. The certification process for WaterSense-labeled homes is designed and implemented to ensure that new homes will save water across the United States' many climates and geographies. This means every new homeowner will benefit from buying these water-efficient homes regardless of location. WaterSense achieves this high level of performance nationwide based on how it calculates water use on a location-specific basis for the benchmark home that accounts for how temperature, rainfall, and humidity affect water use. This is a simpler structure than ENERGY STAR Homes, which has a range of different versions for different climate regions.

Below are water savings estimates from across the U.S. that account for local climates and geographies.

| SELECT LOCATIONS | BASELINE HOME ANNUAL WATER USE | WATERSENSE HOME ANNUAL WATER USE | ANNUAL WATER SAVINGS |
|---|---|---|---|
| Charlotte, NC | 129,000 gal | 90,000 gal | **39,000 gal** |
| Denver, CO | 161,000 gal | 113,000 gal | **48,000 gal** |
| Orlando, FL | 149,000 gal | 104,000 gal | **45,000 gal** |
| Phoenix, AZ | 261,000 gal | 182,000 gal | **79,000 gal** |
| Salt Lake City, UT | 159,000 gal | 111,000 gal | **48,000 gal** |
| San Antonio, TX | 177,000 gal | 124,000 gal | **53,000 gal** |
| Selection Avg. | 173,000 gal | 121,000 gal | **52,000 gal** |

As previously mentioned, a study of pilot homes built under Version 2 of the program in Las Vegas, Nevada, confirmed that actual water savings met and exceeded the expected annual water savings. See *Assessing Water Use in WaterSense-Labeled Homes and Quantifying the Savings*. Jonah Schein, Toby Bickmore, and Kent Sovocool, Journal AWWA May 2022.

WaterSense recently estimated that labeled homes could save between $388 and $978 annually on utility bills compared to typical new construction. The present value of these savings over a 30-mortgage would be $13,387 using a 3% discount rate and the midpoint of $683 in annual utility bill savings per household. Compared to the $2,000 federal investment, the benefit-cost ratio is more than 6:1. WaterSense homes also help save energy and support decarbonization. For example, a WaterSense study of 219 homes showed estimated annual savings of 530,000 kWh of water-related energy savings and 331,000 pounds of C02 per year in water-related carbon reductions; these annual savings are in addition to the 13.5 million gallons of water saved per year. See *WaterSense Labeled Homes Communities Save Energy and Support Decarbonization*, EPA 832-F-24-001.

## ESTIMATED COST TO THE FEDERAL GOVERNMENT; UTILITY BILL AND WATER SAVINGS – 2026 TO 2032

In 2023, it is estimated that approximately 4,000 homes received the WaterSense label, which is expected to increase to 10,000 or more in the coming years without a tax credit. Following the passage of any new tax credit, there would be some ramp-up time as homebuilders adjust their processes to ensure they will earn the WaterSense Homes label. Our best estimate is that there would be 85,000 new WaterSense homes per year by 2032 based on a 50% annual growth rate. The annual cost to the federal government and the utility bill and water savings from the homes built each year would be as follows:

| Year | Number of WaterSense Homes | Cost (@ $2,000 per home) | Utility Bill Savings (@NPV of $13,387 per home over 30-year mortgage) | Water Savings (52,000 gals per year over 30-year mortgage) |
|---|---|---|---|---|
| 2026 | 7,500 | $15 million | $100.4 million | 11.7 billion gallons |
| 2027 | 11,250 | $22.5 million | $150.6 million | 17.6 billion gallons |
| 2028 | 16,875 | $33.75 million | $225.9 million | 26.3 billion gallons |
| 2029 | 25,300 | $50.6 million | $338.7 million | 39.5 billion gallons |
| 2030 | 38,000 | $76 million | $508.7 million | 59.3 billion gallons |
| 2031 | 57,000 | $114 million | $763.1 million | 88.9 billion gallons |
| 2032 | 85,000 | $170 million | $1,137.9 million | 132 billion gallons |

## NEXT STEPS

1. AWE and RESNET will convene a coalition to help with further policy development and advocacy. We will invite a wide range of organizations interested in water-efficient new homes, including water sector associations, water utilities, homebuilders, landscape and irrigation professionals, certification organizations, water and plumbing industry partners, and environmental nonprofits.

2. The coalition will identify and build relationships beyond the water sector to seek unity and build momentum with efforts that improve the efficiency of new homes.

3. The coalition will identify and work with Congressional sponsors, with the goal of introducing legislation in 2025.

For organizations interested in getting involved, please contact Andrew Morris at andrew@a4we.org.


**About Alliance for Water Efficiency**

Alliance for Water Efficiency (AWE) is a nonprofit dedicated to the efficient and sustainable use of water. AWE supports water conservation practitioners from over 500 member organizations, including water utility agencies, businesses and corporations, governmental agencies, nonprofits, and researchers, to advance the adoption of water-efficient practices, appliances, and programs across North America.
Learn more at www.allianceforwaterefficiency.org


**About RESNET**

The Residential Energy Services Network (RESNET) is the independent, national nonprofit organization that homeowners trust to improve home energy efficiency and realize substantial savings on their utility bills. RESNET's industry-leading standards are recognized by the U.S. Department of Energy and the U.S. Environmental Protection Agency, among others. For more information, visit www.resnet.us