

Draft Efficiency Criteria for New U.S.-Supported Homes Would Cut Energy Bills and Emissions

May 2023

Roughly 200,000 new homes each year that receive federal financial support are subject to federal energy efficiency requirements. Those criteria are badly out of date, leaving low- and moderate-income residents with high energy bills and causing high carbon emissions.

A Biden administration proposal out for public comment would change that. On May 11, 2023, the U.S. Department of Housing and Urban Development (HUD) and U.S. Department of Agriculture (USDA) released a "[preliminary determination](#)" to update the energy requirements for federally supported homes. They seek [public comment](#) by **July 17, 2023**.

What Is the HUD-USDA Determination?

Though building energy codes are set at the state or local level and vary widely, the federal government sets minimum efficiency criteria for many of the new and rehabilitated homes with government-backed mortgages or federal grants. HUD and USDA jointly set the main efficiency criteria. The agencies have done so using the "model" energy codes used by most states: the International Energy Conservation Code (IECC) for single-family and low-rise multifamily homes and ANSI/ASHRAE/IES Standard 90.1 for high-rise multifamily. When these model codes are updated every three years, the updates apply to federally supported homes after (1) the Department of Energy determines that the updates save energy and (2) HUD and USDA then determine that their use would not harm the "affordability" or "availability" of housing covered by the requirements.

HUD and USDA have made the determination only once—in [2015](#)—on the 2009 IECC and ASHRAE Standard 90.1-2007. They now have finally proposed to update to the 2021 IECC and 90.1-2019.

These efficiency requirements apply to new homes purchased with federally backed loans such as Federal Housing Administration (FHA) and USDA mortgages, along with new homes with funding from other federal programs, like the HOME Investment Partnerships grants for affordable housing. These homes are primarily for low- and moderate-income homeowners and renters. Together, the homes subject to these new requirements make up about one-fifth of all new single-family homes and one-eighth of new units in multifamily buildings. See below for a list of affected programs.

The new model energy codes **reduce energy use by about one-quarter** compared to the current requirements. HUD estimates this will save around **\$400–900 million** and **2 million tons of CO₂ emissions** for each year of new homes. [ACEEE](#) projected larger long-term savings from the policy with progressively stronger standards.

Why Energy Codes Matter

Building energy codes like the IECC and Standard 90.1 improve home quality, reduce monthly costs, lessen vulnerability to fuel price spikes, support the health and comfort of residents, and ensure long-term reductions in carbon emissions. Homes built to current model energy codes (2021 IECC and Standard 90.1-2019) use about [one-fourth less energy](#) than homes under the current federal requirements (2009 IECC/90.1-2007). Even with some upfront costs for the efficiency measures, the total monthly housing cost for low- and moderate-income residents will be lower. But only a few states have updated their codes to the most recent model codes (in addition, some homes in other states, especially subsidized apartments, are already built to above-code levels such as ENERGY STAR®).

Table 1. Estimated national average cost and savings per home or unit

Home type	Initial added cost	Annual energy savings	Years to positive cashflow	Net life-cycle savings
Single family	\$5,555	\$752	2	\$14,536
Low-rise multifamily	\$2,307	\$315	2	\$5,266
High-rise multifamily	\$18	\$224	0	\$5,886

These numbers from the preliminary determination are compared to current federal requirements (savings and costs will be lower in many states). Positive cashflow occurs when the monthly net savings (mostly energy bill savings minus added mortgage payments) pay off the added initial capital (added down payment and expenses). This general analysis assumes a 12% down payment, but FHA loans, with a typical down payment of 4.5%, will yield even faster positive cashflow and somewhat lower life-cycle savings.

The savings come from added insulation in the walls and above the ceiling as well as better air sealing and energy-efficient windows. The systems in these homes are more energy efficient, including better-sealed ducts that waste less heat and more efficient lighting, heating, and cooling that costs less to operate.

Covered HUD and USDA Programs

HUD loan programs: FHA Single Family and Multifamily Mortgage Insurance Programs

USDA loan programs: Section 502 Guaranteed Housing Loans and Rural Housing Direct Loans (single family only)

HUD grant programs: HOME Investment Partnerships, Public Housing Capital Fund, Rental Assistance Demonstrations (RAD), Housing Trust Fund, Choice Neighborhoods, Section 202 Supportive Housing for the Elderly, Sec. 811 Supportive Housing for Persons with Disabilities

The Department of Veterans Affairs also is required to follow the determination for veterans' home loans.