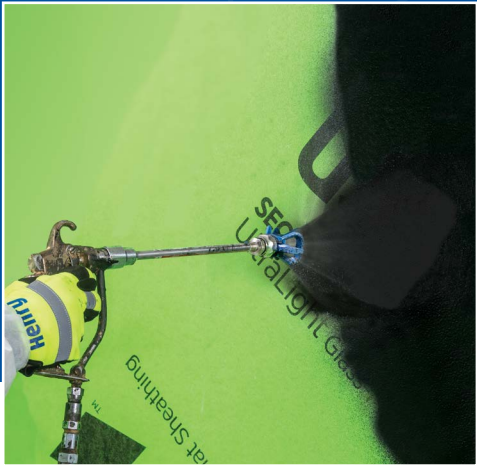


The Inflation Reduction Act Quick Guide



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Introduction to the Inflation Reduction Act

On August 16, 2022, President Biden signed the [Inflation Reduction Act of 2022](#) into law. The new bill is the largest in U.S. history focused on combating climate change. More than \$300 billion will be invested in energy and climate reform through energy tax incentives, investments in clean energy production, and tax credits aimed at reducing carbon emissions.

The building industry can take advantage of extended and expanded incentives through energy-efficient building practices. This guide will explain the opportunities for builders, installers, and building owners and shares relevant resources to help you move forward. The following page includes a summary of key changes for easy reference.

The Importance of Energy Efficiency

According to the U.S. Department of Energy, buildings account for about 76% of electricity use and 40% of all U.S. primary energy use and associated greenhouse gas (GHG) emissions.

According to the Environmental Protection Agency, commercial buildings account for 18% of U.S. primary energy use, and on average, 30% of the energy used in commercial buildings is wasted.

Tax Incentive Summary

Section 45L New Energy Efficient Home Credit

What's Changing with 45L?	Claim Your Credit
<ul style="list-style-type: none"> • Credit extended for 10 years through December 31, 2032 • The credit opportunity is higher – now up to \$5,000, up from \$2,000 • All multifamily buildings qualify – no longer restricted to ≤ 3 stories • It does not impact basis for Low Income Housing Tax Credit (LIHTC) – you can use both 	<ul style="list-style-type: none"> • \$2,500 credit per dwelling: meet or exceed ENERGY STAR® requirements • \$5,000 credit per dwelling: meet or exceed Department of Energy (DOE) zero-energy ready • Multifamily projects must meet prevailing wage or the credit per dwelling is reduced • Certifications must be obtained from an independent and qualified certifier • Credits will be adjusted annually for inflation

Section 25C Homeowner Tax Credit

What's Changing with 25C?	Claim Your Credit
<ul style="list-style-type: none"> • Credit extended for 10 years through December 31, 2032 • Higher credit opportunity – 30% of eligible purchases with no lifetime limit, up from 10% with \$500 limit • Air barriers & duct sealing clarified as qualifying • Roofing removed as a qualifying credit 	<ul style="list-style-type: none"> • Credit equal to 30% on eligible expenses up to \$1,200 per year • Eligible energy efficiency improvements include window, doors and insulation; labor costs may not be included • Must meet IECC requirements for insulation and ENERGY STAR requirements for windows and doors • Home Energy Audits qualify for a credit of up to \$150

Section 179D Deductions for Energy-Efficient Buildings

What's Changing with 179D?	Claim Your Deduction
<ul style="list-style-type: none"> • Higher credit opportunity – now up \$5.00 per square foot, up from \$1.80 per square foot • There's more incentive to retrofit existing buildings • Updates are permanent – there are no deadlines • Changes to deductions will begin January 1, 2023 	<ul style="list-style-type: none"> • The credit value is now available on a sliding scale, from \$2.50 to \$5.00 per square foot • Must exceed latest DOE-determined ASHRAE 90.1 by a minimum of 25% to receive \$2.50, rising in 10-cent increments up to \$5.00 for each percentage point improvement up to 50% above 90.1 • Existing buildings can get sliding scale \$2.50-\$5.00 deduction by demonstrating 25%-50% energy use intensity reduction over existing baseline • Projects must meet prevailing wages and apprenticeship program or receive a lower deduction of 50 cents to \$1 per square foot • Includes annual inflation adjustment

Opportunity for Residential Builders

Section 45L | New Energy Efficient Home Credit

The Inflation Reduction Act extends and expands many existing tax credits, including [Section 45L](#), the New Energy Efficient Home Credit, which provides builders with a tax credit opportunity for each energy-efficient dwelling unit. Both single family and multifamily homes are eligible.

Based on changes outlined in the Inflation Reduction Act, the new eligibility criteria for the energy efficiency credit applies to homes acquired on or after January 1, 2023, and before January 1, 2033.

Credit Opportunity for Single Family & Manufactured Homes

- \$2,500 tax credit for a dwelling that meets [ENERGY STAR requirements](#)
- \$5,000 credit for a dwelling that is certified as a zero-energy ready home under the [Zero Energy Ready Home](#) Program of the U.S. Department of Energy

Credit Opportunity for Multifamily

- \$2,500 tax credit per unit if it meets the applicable [ENERGY STAR Multifamily New Construction Program](#); builders must pay prevailing wages to employed laborers and mechanics
- Credit is lowered to \$500 per unit if it meets the applicable ENERGY STAR Multifamily New Construction Program but employed laborers and mechanics are not paid prevailing wage
- \$5,000 tax credit per unit if it's certified as a zero-energy ready home under the [Zero Energy Ready Home](#) Program of the U.S. Department of Energy; builders must pay prevailing wages to employed laborers and mechanics
- Credit is lowered to \$1,000 per unit if it's certified as a zero-energy ready home but employed laborers and mechanics are not paid prevailing wage

Meeting ENERGY STAR Requirements

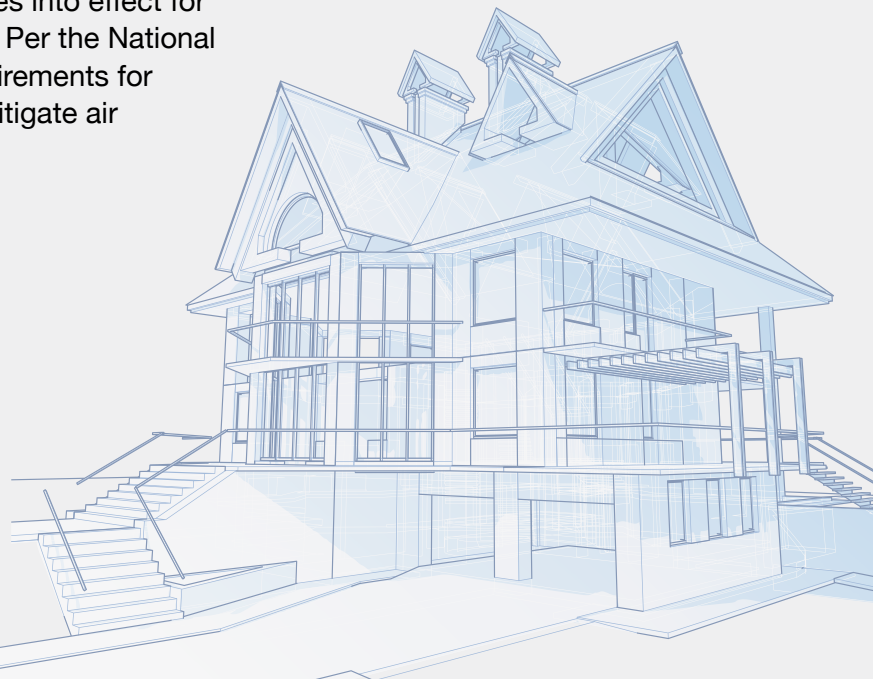


[ENERGY STAR](#) programs focus on energy efficiency. In fact, ENERGY STAR certified homes and apartments are at least 10% more energy-efficient than those built to code and achieve 20% improvement on average¹. Ultimately, this creates better environments for homeowners and residents, positively impacting quality, performance, and comfort. By meeting ENERGY STAR requirements, builders can take advantage of expanded tax credits outlined in the Inflation Reduction Act.

Overall, ENERGY STAR requirements have specific guidance by climate zone for cooling and heating equipment, water heaters, lighting and appliances, thermostat and ductwork, and the building envelope. The building envelope plays a critical role in reducing energy consumption and utility costs. The goal is to reduce air leakage since it accounts for between 25-40% of the energy used for heating and cooling in a typical residence².

Completing the Thermal Bypass Inspection Checklist is a critical step in the ENERGY STAR certification process. This is a visual inspection that includes a review of framing areas and insulation to ensure air and thermal barriers are continuous and complete. You can access the version 2.1 of the Thermal Bypass Checklist [here](#).

For single family homes, all homes permitted on or after January 1, 2023, will be required to meet the [National Version 3.1](#) program requirements. These requirements apply to site-built and modular single family homes, duplexes, and townhomes. There are specific regional requirements required in California. These requirements can be found in [California Version 3.3](#), which goes into effect for all homes permitted on or after January 1, 2023. Per the National Version 3.1, the following page outlines the requirements for windows, doors, and the building envelope to mitigate air leakage.



Meeting ENERGY STAR Requirements

—continued

BUILDING ENVELOPE Requirements

ENERGY STAR Residential New Construction Program Requirements, Version 3.1

- Insulation levels modeled to 2012 IECC levels and Grade I installation per ANSI / RESNET / ICC Standard 301
- Infiltration Rate, Climate Zones 1 & 2: **4 ACH50**
- Infiltration Rate, Climate Zones 3-8: **3 ACH50**

ENERGY STAR Windows

Window U-Value	Climate Zones 1 & 2 0.40	Climate Zones 3 0.30	Climate Zones 4 0.30	Climate Zones 5-8 0.27
Window SHGC	0.25	0.25	0.40	Any

ENERGY STAR Doors

Door U-Value	Opaque: 0.17	≤1/2 lite: 0.25	>1/2 lite: 0.30
Door SHGC	Opaque: Any	≤1/2 lite: 0.25	>1/2 lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7

For manufactured homes, all homes must meet the most recent ENERGY STAR Manufactured New Homes program requirements ([currently Version 2](#), with Version 2.1 currently proposed to be implemented in May 2023). These requirements apply to manufactured homes, defined as homes built in a factory that are subject to the federal Manufactured Home Construction and Safety Standards (commonly referred to as the HUD Code) contained in 24 CFR 3280.

For multifamily, all buildings permitted on or after January 1, 2023, will be required to meet the [National Version 1.1](#) program requirements. This program is available for all attached residential new construction, except two-family dwellings. To confirm if your building is eligible, visit the [ENERGY STAR Multifamily New Construction Building Eligibility](#) page. Like the requirements for single-family homes, there are specific requirements for California as noted [here](#). The certification process for multifamily offers three paths to meet performance targets: Prescriptive Path, ERI Path, ASHRAE Path. To view the requirements for each path, [click here](#).

Meeting DOE Zero Energy Ready Home Requirements

To unlock additional credits as outlined in the Inflation Reduction Act, builders and developers can meet Department of Energy (DOE) Zero Energy Ready Home (ZERH) requirements. Building on ENERGY STAR program requirements, ZERH is focused on increasing energy efficiency, improving indoor air quality, and making homes zero energy ready. There are two paths in qualifying a home: Prescriptive Path and Performance Path. Like ENERGY STAR, state energy codes that exceed program requirements always take precedence; California has specific requirements outlined [here](#).



As outlined in the [DOE Zero Energy Ready Home National Program requirements](#), the following homes are eligible for qualification:

- Detached dwelling units (e.g., single family homes)
- Dwelling units in any multifamily building with 4 units or fewer
- Dwelling units in multifamily buildings with 3 stories or fewer above-grade
- Dwelling units in multifamily buildings with 4 or 5 stories above-grade

Each dwelling must meet the requirements specified in the program; be verified and field-tested in accordance with HERS standards by an approved verifier; and meet all applicable codes. A HERS score ([Home Energy Rating System](#)) is a standard that measures a home's energy efficiency. A lower score indicates increased energy efficiency. Zero Energy Ready Homes feature greater efficiency with HERS scores typically in the 50s. To certify homes, work with a registered [third-party verifier](#) to model and inspect each home.

Much like ENERGY STAR, getting the building envelope right plays a critical role in obtaining ZERH certification. According to the U.S. Department of Energy, up to 40% of the energy costs required to heat and cool a building are consumed due to air leakage through the building envelope³. An air barrier system can substantially reduce the amount of this leakage, resulting in reduced building energy consumption. For reference, here are the requirements for insulation, infiltration, and windows based on the [current version of the ZERH program](#). Additional performance requirements are outlined for HVAC equipment, the water heater, thermostat, and lighting and appliances.

BUILDING ENVELOPE Requirements

DOE Zero Energy Ready Home National Program Requirements (Rev. 07)

- Insulation levels shall meet the 2015 IECC and achieve Grade 1 installation, per RESNET standards
- Infiltration – Detached Dwellings (ACH50): 3.0 in CZ 1 & 2 | 2.5 in CZ 3 & 4 | 2.0 in CZ 5-7 | 1.5 in CZ 8
- Infiltration – Attached Dwellings (ACH50): 3.0 in all climate zones

ENERGY STAR Windows

	Climate Zones 1 & 2	Climate Zones 3 & 4 (Except Marine)	Climate Zones 5-8, 4 Marine
Window U-Value	0.40	0.30	0.27
Window SHGC	0.25	0.25	Any

Opportunity for Homeowners & Installers

Section 25C | Homeowner Tax Credit

The Inflation Reduction Act expands existing homeowner credits significantly, offering incentives to make energy efficiency improvements in their homes. For contractors and installers, this creates opportunity to grow renovation business and serve as a trusted partner for homeowners seeking to take advantage of increased credits year-over-year.

The 25C Homeowner Tax Credit has been extended for 10 years, through December 31, 2032. Homeowners can qualify for a 30% credit on eligible energy-efficient building envelope expenses up to \$1,200 per year. Previously, 25C offered a 10% credit with a \$500 lifetime limit. Eligible energy-saving expenses include improvements to insulation, doors, and windows. Insulation improvements must follow the requirements outlined in the [2021 International Energy Conservation Code \(IECC\)](#). Windows and doors must meet ENERGY STAR performance requirements. A homeowner may not include the labor costs for qualified energy-efficient building envelope components.

There is also a 30% credit for a Home Energy Audit, not to exceed \$150, which helps pinpoint where homes are losing energy. The audit must identify the most significant and cost-effective energy efficiency improvements, including an estimate of the energy and cost savings for each improvement, and be conducted and prepared by a certified home energy auditor.

Often, this includes a blower door test that locates air leaks by using a high-powered fan. The fan evacuates air from the home, creating a low-pressure environment. An air pressure gauge on the assembly precisely measures the rate of air exchange in the home. This is often expressed as air changes per hour at a specified pressure, usually 50 Pascal, or ACH50.

Both ENERGY STAR and ZERH have infiltration performance requirements by climate zone. For example, ENERGY STAR residential new construction guidelines require that homes achieve a minimum of 4 ACH50 in climate zones 1 and 2. Blower door tests are conducted before and after air sealing to measure the effectiveness of the work.

In addition to the changes to 25C, there are two other updates worth noting. Section 25D, the Residential Clean Energy Credit, was expanded. The credit amount increased from 26% to 30% for eligible expenditures for on-site residential solar electric. The credit is available through 2032; it drops to 26% for 2033 and 22% for 2034. This creates opportunity for roof repairs and/or replacements prior to solar panel installation. Also, per the High-Efficiency Electric Home Rebates Program, low- and moderate-income households can qualify for a rebate up to \$1,600 for upgrades to insulation, air sealing and ventilation. To qualify for a rebate, the homeowner's total annual income must be less than 150% of the median income where they live.

Opportunity for Commercial Building Owners

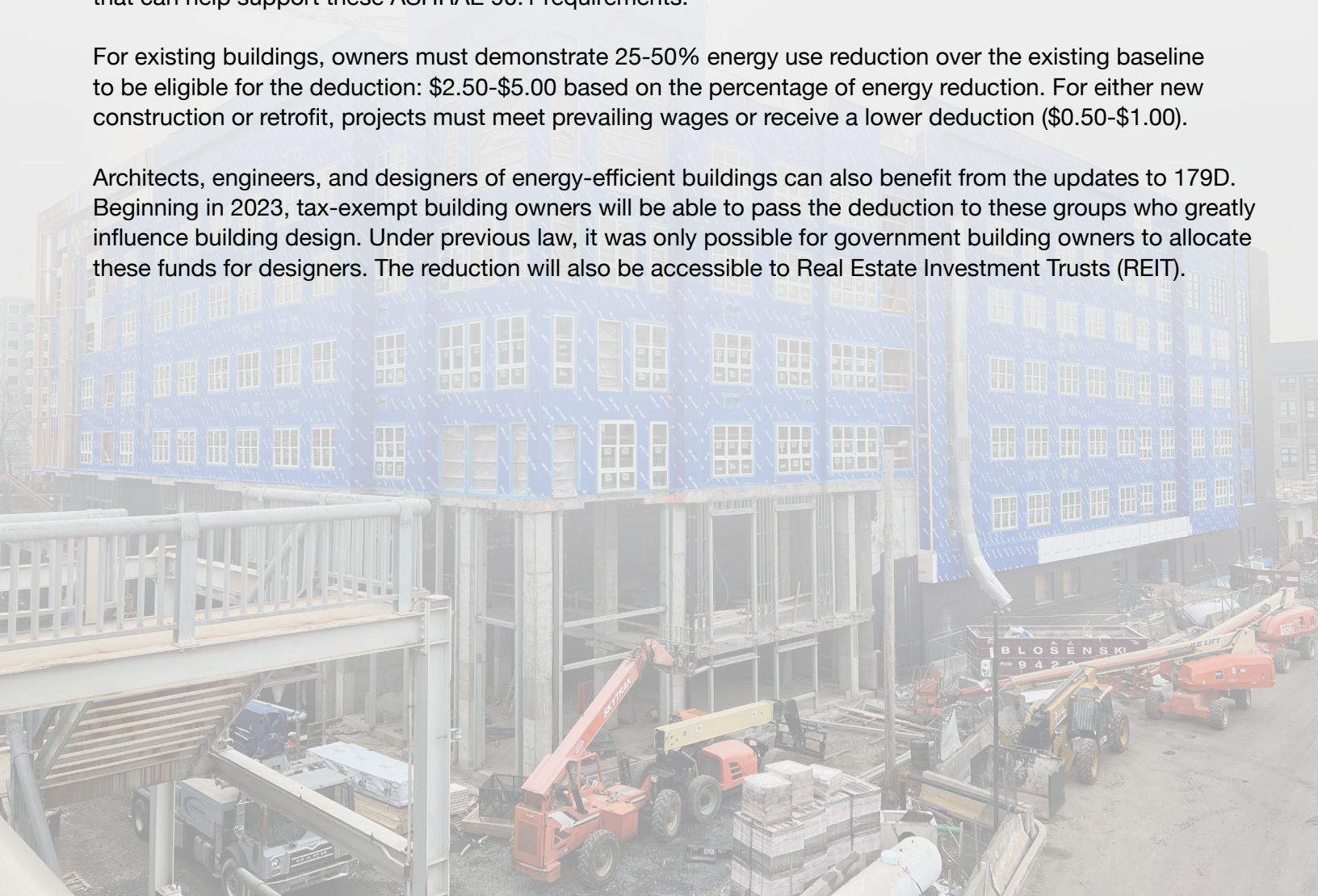
Section 179D | Deductions for Energy-Efficient Buildings

The Inflation Reduction Act also extends and expands [Section 179D](#), tax deductions for energy-efficient buildings. This deduction applies to new construction and now makes it easier for existing building renovations and retrofits to be eligible. Commercial buildings account for 18% of U.S. primary energy use, and on average, 30% of the energy used in commercial buildings is wasted, according to the U.S. Environmental Protection Agency⁴. To combat climate change, improving energy efficiency is critical in commercial spaces.

To be eligible for the deduction, commercial building owners must demonstrate that the building exceeds ASHRAE 90.1 by a minimum of 25% to receive a deduction of \$2.50 per square foot. The deduction varies based on a sliding scale; it increases by 10-cent increments for each percentage point improvement, up to 50%, or \$5.00 per square foot. Henry offers a complete portfolio of [fluid applied and self-adhered air barriers](#) that can help support these ASHRAE 90.1 requirements.

For existing buildings, owners must demonstrate 25-50% energy use reduction over the existing baseline to be eligible for the deduction: \$2.50-\$5.00 based on the percentage of energy reduction. For either new construction or retrofit, projects must meet prevailing wages or receive a lower deduction (\$0.50-\$1.00).

Architects, engineers, and designers of energy-efficient buildings can also benefit from the updates to 179D. Beginning in 2023, tax-exempt building owners will be able to pass the deduction to these groups who greatly influence building design. Under previous law, it was only possible for government building owners to allocate these funds for designers. The reduction will also be accessible to Real Estate Investment Trusts (REIT).



Opportunity for Commercial Building Owners

Section 179D | Deductions for Energy-Efficient Buildings — *continued*

Reduce Energy Usage with Commercial Roof Restoration

The new changes outlined in section 179D make it easier for existing building renovations to be eligible for the deduction. Commercial roof restoration – and implementing a cool roof system – can help building owners demonstrate significant energy reduction depending on roofing products used, location and climate, and roof and ceiling insulation.

Cool roofs are designed to reflect sunlight and emit absorbed heat to reduce the heat that enters a building. As a result, a cool roof can reduce peak cooling demand by up to 40% in warm climates, which lessens the impacts to the HVAC system.⁵ The average energy savings for a cool roof range between 7% to 15% of total cooling costs.⁶ A cool roof can also help prolong the life of an air conditioning system by reducing the strain on the system during hotter times of the day and year. Henry® [offers a full portfolio of cool roof solutions](#) that are rated by the Cool Roof Rating Council®.

Proven Life Cycle Benefits

A recent study by building envelope consulting firm Trinity|ERD compared the life cycle costs of a conventional roof replacement vs. a roof restoration with [Henry Pro-Grade 988 Silicone White Roof Coating](#). The firm's analysis found that over 40 years, the Henry Pro-Grade Silicone Roof Restoration System would deliver significant cost advantages.

4X

Four-times the cost savings



Provides energy savings up to 50%



Supports cool roof coating rebates and tax incentives



Prevents repair-related disruptions to the building and its occupants



Reduces landfill waste and impact on smog/air quality

Exceeding ASHRAE 90.1

Standard 90.1 addresses building envelope requirements for commercial buildings, multi-unit high-rise residential buildings and semi-conditioned spaces such as warehouses. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) raised the bar for energy performance in the 2019 update, focusing on conserving energy and reducing both carbon emissions and operating costs for owners. Standard 90.1 is not only part of Section 179D but is also the standard for USGBC's LEED® certification and is recognized in both the International Building Code and the International Energy Conservation Code. Credits and deductions outlined in the Inflation Reduction Act are dependent on exceeding ASHRAE 90.1 by a minimum of 25%.

Resources for Success

The goal of the Inflation Reduction Act is to combat climate change – and the building industry plays a critical role. Why? According to the U.S. Department of Energy, buildings account for about 76% of electricity use and 40% of all U.S. primary energy use and associated greenhouse gas (GHG) emissions. And 35% of the energy used within those buildings goes to heating, ventilation, and air conditioning. To incentivize action, the Inflation Reduction Act outlines several credit extensions and expansions that create significant opportunity for builders, installers, building owners, and homeowners.

Henry® is the most complete provider of Building Envelope Systems® that control the flow of water, air, vapor, and energy in a building. From the tallest commercial structures to small single-family homes, we have the right solutions for below grade, walls, and roofs.

You can trust us to deliver the expertise and solutions you need to help:

- ✓ Satisfy growing demands for energy efficiency
- ✓ Protect against moisture and mold
- ✓ Design effective, air-tight wall assemblies
- ✓ Accommodate extreme weather shifts

For resources to support you as you begin to navigate what the Inflation Reduction Act means for your business, visit [Henry.com](https://henry.com).

Success Stories



Blueskin VP100 Makes Buildings 30% More Airtight

[Read More](#)



Designing a Net-Zero Home with Blueskin VP100

[Read More](#)



Henry Building Envelope Systems are Part of a New Sustainable High School

[Read More](#)



Henry and Florida Quality Roofing Restore an Office Building Roof with a Sustainable Silicone Roof Coating System

[Read More](#)



Henry Acrylic Roof Coating System Helps Retirement Community Slash Costs

[Read More](#)

Did You Know?

Carlisle Weatherproofing Technologies

Henry is owned by Carlisle Companies, Inc., and is part of [Carlisle Weatherproofing Technologies](#). Carlisle Weatherproofing Technologies is a leading supplier of building envelope solutions that effectively drive energy efficiency and sustainability in commercial and residential buildings. Products include advanced waterproofing and moisture protection systems, protective roofing underlayments, fully integrated fluid applied, self-adhered and sheet air/vapor barriers, sealants/primers and flashing systems, roof coatings and mastics, spray polyurethane foam and coating systems for a wide variety of thermal protection applications and other premium polyurethane products, block molded expanded polystyrene insulation, engineered products for HVAC applications, and premium rubber products for a variety of industrial surfacing applications.

Carlisle Weatherproofing Technologies is ready to support an integrated building envelope system to improve energy efficiency and help you access credits and deductions offered in the Inflation Reduction Act.



Henry is the most complete provider of building envelope systems that control the flow of water, air, vapor, and energy. From commercial structures to single-family homes, Henry offers solutions for below grade, walls, and roofs.



Carlisle Coatings & Waterproofing (CCW) has provided the commercial construction industry with high-performance, energy-efficient waterproofing and air and vapor barrier systems for decades. CCW also offers a full product line of continuous insulation for use in interior and exterior wall structures.



Insulfoam® solutions provide the highest R-Value per dollar over any other rigid insulation with the widest range of faced, laminated and standard high-performance EPS products. **R-TECH®** panels are **ENERGY STAR®** certified.



Carlisle® **Spray Foam Insulation** is a leading manufacturer of spray polyurethane foam systems in North America. The **SealTite™ Pro** product line provides the highest level of thermal protection in residential and commercial applications.



Carlisle® **HVAC** offers superior solutions to ensure the sustainability of HVAC systems. Well-known brands in the portfolio include **Hardcast®** duct sealing and **DynAir®** airflow management solutions. Carlisle HVAC products work together to deliver maximum efficiency, unparalleled quality, and unmatched savings.

Resources for Success

Here are a few resources from other **Carlisle Weatherproofing Technologies** brands to support you as you begin to navigate what the **Inflation Reduction Act** means for your business.

Literature & Resources

- EPS Insulation: [Insulfoam R-Tech Products are ENERGY STAR Certified](#)
- EPS Insulation : [Insulfoam Environmental Certifications](#)
- Spray Foam: [Specifier Resources – Architectural Details, GreenGuard, Product Literature & More](#)
- Spray Foam: [Why Spray Foam Your Home?](#)
- Wall Insulation: [R2+ Polyiso Continuous Insulation for Wall Applications](#)
- Wall Insulation: [Insulation Fundamentals](#)
- Air & Vapor Barriers: [Self-Adhering, Fluid-Applied Membranes & Flexible Flashings](#)
- Air & Vapor Barriers and Waterproofing Systems: [AIA Accredited Online Courses](#)
- Duct Sealing: [Mastic E-Learning Course](#)
- Duct Sealing: [DuctSense HVAC Efficiency Analysis](#)

Articles & Videos

- EPS Insulation: [4 Effective DIY Projects to Shore Up Home Energy Drains](#)
- EPS Insulation: [Increase Energy Efficiency with Continuous Insulation on Exterior Walls](#)
- EPS Insulation: [A Quick DIY Insulation Project to Lower Your Energy Costs](#)
- Spray Foam: [Why Spray Foam? Efficiency. Comfort. Value.](#)
- Spray Foam: [Trust Sealtite™ Pro for High Performance In Your Home](#)
- CCW's Wall System: [The Perfect Wall](#)

Project Profiles

- Air & Vapor Barriers and Waterproofing Systems: [Carlisle's NVELOP Program Helps Power Southern Maryland](#)
- EPS Insulation: [Wall Insulation Helps New Summit House Reach “Peak” Performance](#)
- Spray Foam: [The Flex House Demonstration Home](#)
- HVAC: [Sealing Existing HVAC Systems for Energy Efficiency](#)

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5. Energy Star Building upgrade Manual. (n.d.). Retrieved September 2, 2022, from <https://www.energystar.gov/buildings/tools-and-resources/building-upgrade-manual>
6. For Contractors: How to Talk About Cool Roofs and Walls to Your Customers. Cool Roof Rating Council. (n.d.). Retrieved September 2, 2022, from <https://coolroofs.org/resources/contractors>

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