

179D Commercial Building Energy-Efficiency Tax Deduction



Understanding Opportunities for Energy-Efficient Roof Improvements

The Inflation Reduction Act of 2022 modifies the tax incentive under section 179D of the Internal Revenue Code for energy-efficient improvements to existing commercial buildings (as well as new construction) with increased deduction limits and other changes. Beginning January 1, 2023, the energy savings targets mandated under the deduction effectively require retrofit projects to include multiple improvements in order to achieve the target reductions in energy use.



An energy-efficient roof improvement can be an integral part of a retrofit project that is designed to meet the 179D tax deduction requirements by significantly lowering whole-building energy use.

1. Key Provisions:

- Taxpayers receive a tax deduction of \$2.50-\$5.00 per sq. ft. depending on the amount of energy saved.¹
 - A \$2.50 deduction is available for meeting a 25% reduction in site energy use intensity² (EUI).
 - The deduction increases on a sliding scale by \$0.10 for each additional 1% improvement up to a maximum of \$5.00 per sq. ft.
 - Energy savings (i.e., EUI reduction) is based on a measurement of the building's actual energy use over the 12-month periods before and after the energy savings measures are installed.
- Projects must comply with (or demonstrate good faith efforts to comply with) certain prevailing wage and apprenticeship requirements to receive the full deduction. The deduction is capped at \$0.50-\$1.00 per sq. ft. for projects that do not meet the labor requirements.³

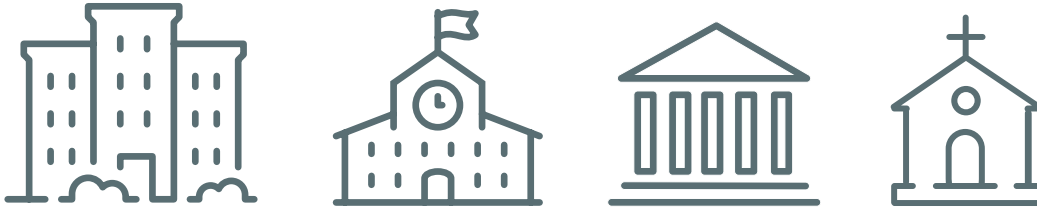
1 There are two compliance paths for improvements to existing buildings: (1) meet the energy use intensity metric discussed in this fact sheet; or (2) achieve an energy cost improvement that is 25% or better than a building complying with ASHRAE Standard 90.1-2007 (or ASHRAE Standard 90.1-2019 for buildings "placed in service" after December 31, 2026). See Internal Revenue Service [Announcement 2023-1](#) (Bulletin 2023-3) (January 17, 2023). The first option is expected to be the more common path for improvement projects.

2 The ENERGY STAR website provides a description of energy use intensity at: https://www.energystar.gov/buildings/benchmark/understand_metrics/what_eui.

3 The U.S. Treasury Department and Internal Revenue Service have issued guidance (Notice 2022-61; November 30, 2022) on the labor requirements. A copy of the guidance is available at: <https://www.govinfo.gov/content/pkg/FR-2022-11-30/pdf/2022-26108.pdf>.

2. Additional Details:

- Requires preparation of a retrofit plan and EUI measurements by a licensed architect, engineer, or similar professional.
- Buildings must be at least 5 years old.
- Deduction is available to Real Estate Investment Trusts.
- Deduction can be allocated by tax exempt entities, such as nonprofits and government building owners (federal, state, and local), to a person primarily responsible for the project design.



- The \$2.50-\$5.00 per sq. ft. deduction cap applies to a four-year time period, which allows for multiple opportunities to claim the deduction over the life of the building.
- Deduction is available for commercial and high-rise residential (4 stories or higher) buildings.

3. Going Beyond Minimum Required Improvement Levels:

Tenant behavior, equipment malfunctions, and other factors make it difficult to predict actual energy use following a retrofit project. Because of this uncertainty, prudent building owners will aim for more than the 25% minimum savings target to ensure the project qualifies for the tax deduction. Adding energy savings measures to a retrofit plan is also rewarded because of the deduction's sliding-scale structure (i.e., the deduction increases \$0.10 per sq. ft. for each additional 1% reduction in EUI). Therefore, there is little downside risk to designing a retrofit plan that includes improvements to reduce energy use beyond the 25% minimum.

4. Opportunities for Energy-Efficient Roof Improvements:

ICF International completed an analysis in 2021, Life-Cycle Benefits of Energy Code-Compliant Roof Replacement, quantifying the energy and carbon emission savings of roof improvements that meet the requirements of the ASHRAE Standard 90.1-2019 for roof replacements.⁴ It is common for existing low-sloped roofs installed prior to the widespread adoption of modern energy codes (e.g., 2015 IECC or later



editions) to be under-insulated by 50% or more compared to current energy code requirements. The ICF study found that upgrading a typical existing low-slope roof to a code-compliant roof results in whole building energy savings of between 2-11% depending on the building type and climate zone. The ICF analysis also documents the significant carbon emissions savings associated with the reduction in energy use and provides benchmark data for assessing the cost-effectiveness of the roof insulation improvements.

4. Information on the ICF analysis is available at: <https://www.polyiso.org/page/EnergyCarbonSavingsAnalysis>.

The study found that savings increase for colder climates and are highest for building types with large roof-to-floor ratios (e.g., schools, large retail).

The results of the ICF study demonstrate that energy-efficient roof improvements can contribute significant energy savings to existing buildings and should be included in retrofit projects designed to meet the requirements of the section 179D tax deduction. **Based on this analysis, a roof improvement project could increase the 179D deduction in a range of \$0.20 to \$1.10 per sq. ft. depending on the building type and climate zone (the average increase would be \$0.60 per sq. ft.).** Higher savings are achievable for projects that aim for “beyond code” outcomes.

5. Conclusion:

Adding insulation during a roof improvement project is a common practice that reduces energy use and lowers operating costs for building owners. The revised section 179D tax deduction offers an opportunity to include energy-efficient roof improvements as part of qualifying building retrofit projects that are designed to achieve the section 179D requirements.

