

The Tax Cuts & Jobs Act: Commercial Building Roof Replacements

The Tax Cut and Jobs Act, signed into law by President Trump on December 22, 2017, includes a provision that reduces the overall cost associated with reroofing and significantly improves the cost-effectiveness of commercial roof replacements that comply with building energy codes. The vast majority of state and local governments require minimum insulation levels for both new roofs and roof replacements (but not for roof repairs and recovers). These requirements apply to existing buildings because the most economical time to improve a roof's thermal performance is when the roof membrane is pulled off and replaced. Also, roof replacements are one of the best opportunities for improving energy efficiency in existing buildings, which account for 40% of U.S. energy use.

Starting in 2018, the new federal tax law (P.L. 115-97) expands the definition of "qualified real property" under the small business expensing provisions of Internal Revenue Code section 179 to include **improvements to existing nonresidential building roofs**. Section 179 allows businesses to fully expense (deduct) up to \$1 million (indexed for inflation after 2018) in one year for qualified business expenses, such as equipment purchases and specific building improvements. With this change, small businesses are now able to deduct – in the year completed – the full cost of replacing a roof on an existing non-residential building instead of depreciating that cost over a 39-year period, as was required under prior law. As a mechanism intended to limit the deduction to small businesses, the benefit is phased out for businesses that spend more than \$2.5 million (also indexed for inflation) on qualified equipment and real property. This change takes effect in 2018 and, unlike some provisions of the new law, is permanent.

A typical scenario under which a commercial building roof replacement is required to comply with a building energy code is one where an older building with a low-slope roof has R-12 insulation in the roof prior to the roof replacement. The R-12 assumption is based on a DOE study that evaluated the level of existing insulation in commercial building roofs. For most of the country, current building energy codes require roof replacements to have a minimum level of R-25 or R-30, depending on climate zone.

The average simple payback period for meeting the energy code is 11.6 years, according to a comprehensive energy modeling study conducted by Covestro in 2009.¹ The payback period is the amount of time it takes for the energy savings to equal the cost of installing the additional insulation. By allowing a building owner to deduct the full cost of the roof replacement, including the cost for installing additional insulation, **the net cost of the entire project is reduced by 25% to 30%**, depending on a tax payer's tax rate.² **More importantly, the deduction shortens the average payback period on the cost of installing additional insulation to 8.1 years**, making the investment in energy efficiency even more cost effective for the building owner.

¹ Energy and Environmental Impact Reduction Opportunities for Existing Buildings with Low-Slope Roofs, 2009. This report, produced by Covestro (formerly Bayer MaterialScience), is still the most comprehensive analysis available evaluating the cost-effectiveness of roof insulation upgrades in existing buildings. Ten different DOE commercial building prototypes in 13 locations and 5 climate zones were modeled using DOE's EnergyPlus software and RS Means construction cost data. The EnergyPlus software simulates the energy use and interactions for the entire building, not just the performance of the roof.

² The Tax Cuts & Jobs Act reduced the corporate tax rate to 21%, but the pass-through rates (more relevant to small businesses) are closer to 30%, which increases the impact this new deduction will have.