



# 45L Federal Tax Credit Overview

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## How can you qualify for the \$2,000 45L Federal Tax Credit? Easily with Rheia!

Since 2006, the United States IRS has offered a \$2,000 tax credit incentive for builders to build more energy efficient homes, specifically as it applies to heating and cooling energy consumption. Bringing ducts into conditioned space using Rheia can get you much of the way there. This program has been extended through 2021.

### Who is eligible?

Any builder may claim the credit for new energy efficient homes that are acquired by sale or lease by an individual during the tax year for use as a residence. Energy efficient homes must be certified to meet the following requirements by an independent party authorized by RESNET or an equivalent rating network.

### What are the requirements?

To qualify, homes are required to have an annual level of heating and cooling energy consumption of at least 50% below the annual level of energy consumption of a comparable dwelling unit. An equivalent dwelling unit is a home modeled to meet the 2006 IECC residential standards. 10% of the reduction in energy consumption must come from prescriptive improvements to the building envelope. The remainder is achieved by other energy improvements as evaluated by a certified third-party energy rater using approved software. Moving ducts into conditioned space, as part of these changes, has more impact on energy efficiency gains than any other single improvement<sup>1</sup>.

	Houston	Phoenix	Las Vegas
Reduction in Required A/C Capacity	24%	24%	23%
Reduction in Annual Cooling Electricity Usage	17%	16%	14%
Reduction in Peak Cooling Demand	22%	23%	22%

### How does Rheia Help?

Research has shown that ducts in conditioned space can reduce annual energy consumption by around 27% through the reduction in the required cooling capacity<sup>2</sup>.

When the equipment and Rheia ductwork are located entirely in the conditioned space, these savings can be easily realized. Rheia's more compact ducts make routing within walls and floors easy using various architectural methods to optimize material and labor costs when compared to a full attic installation.

	Ducts and AHU installed above attic insulation	Ducts and AHU installed in conditioned space
Energy Savings, Jacksonville, FL	0% (baseline)	26.8%
Energy Savings, Baltimore, MD	0% (baseline)	27.8%

Source: HVAC Ducts Buried within Ceiling Insulation in a Vented Attic, HIRL, 2017

### How can you get your homes qualified for the 45L tax credit?

By today's standards, the 2006 IECC had easy-to-achieve requirements for the building envelope. Any home built to the 2012 IECC standard or later should easily meet the requirement's mandatory 10% building envelope portion.

**Adopt Rheia's compact solution to get your ducts in conditioned space, and you're most of the way there!**

To determine what, if any, additional changes need to be made, hire a third-party energy rater to review your building specifications and make recommendations. Odds are, bringing ducts in conditioned space will get you over the finish line to hit the 50% reduction number. The third-party energy rater will also be the ones to certify your homes, and some offer services to prepare the required documentation.

<sup>1</sup> Ducts in the Attic? What Were They Thinking? Roberts, D and Winkler, J, NREL. 2010

<sup>2</sup> Compact Buried Ducts in a Hot-Humid Climate House, Mallay, D, HIRL. 2016