

National Residential Efficiency Measures Database Reduces Risk for Home Retrofit Industry

A new database of residential building measures and estimated costs helps the U.S. building industry determine the most cost-effective means of improving efficiency of existing homes.

Researchers at the National Renewable Energy Laboratory (NREL) have developed the National Residential Efficiency Measures Database, a centralized resource of residential building retrofit measures and associated estimated costs. Using this database, researchers and software developers can analyze the trade-offs associated with using various measures to improve the efficiency of residential buildings.

This database offers the following benefits:

- Provides information in a standardized format.
- Improves the technical consistency and accuracy of the results of software programs.
- Enables experts and stakeholders to view the retrofit information and provide comments to improve data quality.
- Supports building science research and development.
- Enhances transparency.

Data includes performance parameters for retrofit measure categories and a range of estimated costs that one might expect to find for the different measures. Measure categories include appliances, domestic hot water, building enclosure, HVAC, and lighting.

Full cost estimates—representing the total cost to implement the measure—are available for many different retrofit measures. A range of costs is provided for each measure, as the cost data can vary widely across climate zones, geographic regions, individual houses, and contractors.

The database is accessible via the NREL website, where users can view retrofit measures, download data electronically, provide feedback, and contribute to the database by uploading retrofit project and measure cost data. It is routinely updated to add new measures and properties and to update cost data.

NREL encourages industry participation and contribution of data, which researchers will examine to provide input for the database and inform future research activities.

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Reference: National Residential Efficiency Measures Database. NREL website. www.nrel.gov/ap/retrofits/index.cfm



Key Research Results

Achievement

NREL's Residential Buildings Research Group developed a publicly available database of energy retrofit measures containing performance characteristics and cost estimates for nearly 3,000 measures.

Key Result

The database provides a single, consistent source of current data for DOE and private-sector energy audit and simulation software tools and the retrofit industry. The database will reduce risk for residential retrofit industry stakeholders by providing a central, publicly vetted source of accurate, consistent, and up-to-date information.

Potential Impact

Through access to accurate and consistent performance and cost data for home energy efficiency measures, researchers and the building industry can determine the most cost-effective means of improving the approximately 116 million existing homes across the nation.

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