



# Residential Energy Efficiency



Accounting for nearly a quarter of total U.S. energy consumption, the residential sector has an immense and largely unrealized potential to generate energy savings. Whether the goal is increasing profit margins and product and service sales, improving energy security and independence, achieving state mandates, maximizing returns on investment portfolios, or improving our environment—government agencies, utilities, businesses, and investors all stand to benefit from increasing energy efficiency.

The challenge that organizations face is understanding how to tap into that potential and how to do so in a cost-effective way. This involves considering many questions: What technologies and policy options are available? How do regional characteristics affect strategies? What are the steps to building an infrastructure of credible resources and services? How do you assess the potential impacts and viability of new technologies? Who are the key stakeholders that can influence success?

With more than 15 years experience in the residential sector, ICF International has developed a deep understanding of energy efficiency markets—including how these markets work, which business strategies have been successful and which ones have failed, and most importantly, why they have succeeded or failed. Our passion and expertise has driven our clients' success on national and regional levels for both public and private sectors.

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## Our Approach

ICF draws on its unparalleled experience leading both national and regional energy efficiency programs to develop solutions that address the unique characteristics of each engagement. We use strategies that accelerate the development of initiatives and lay the foundation for a sustained presence while allowing for the flexibility to evolve as market forces change. Many of ICF's innovations have become key strategies and components used in energy efficiency programs today.

ICF's breadth and depth of experience in the residential sector provides direct and immediate access to consultants with specialties in program design, business and marketing strategies, energy and demand modeling, training, technology assessments, and asset valuation and optimization. Our staff are active in the Home Energy Rating (HERS) industry, providing guidance in the development of the HERS methodology and playing a key role in the Residential Energy Services Network's (RESNET's) long term strategic planning. Our broad service offerings also enable us to provide expertise in key areas such as strategic communications and information technology, with many of our staff bringing experience in residential-focused projects. With our experience in multifamily simulation and ongoing efforts in India, China, and the EU, ICF is also poised to offer our comprehensive experience to support emerging markets.

# Featured Solutions

## U.S. Environmental Protection Agency's (EPA) ENERGY STAR Residential Programs

ICF was instrumental in the design of EPA's national New Homes Program and our team works with builders across the country to increase their profits and customer satisfaction by promoting and educating consumers on the value of an energy-efficient home. This involves developing national and regional strategic plans, providing marketing, sales, and technical support services, and building and fostering strategic alliances with all stakeholders in the residential sector.

ICF provides support to the EPA in the development and implementation of Home Performance with ENERGY STAR (HPES) and other home improvement initiatives designed to encourage homeowners to make cost-effective energy efficiency improvements. The HPES program focuses on the development and delivery of the whole-house approach to improving residential energy efficiency, comfort, and safety.

## TXU Electric Delivery Homes Program

ICF is responsible for all aspects of TXU's regional ENERGY STAR Homes Program including developing program strategies, implementing program activities, and conducting public education and outreach. ICF's strategic approach to transforming markets has resulted in a significant increase in the construction of high-performance homes, surpassing TXU's energy savings goals. Our program design includes establishing and fostering a competitive HERS rater infrastructure, delivering technical and sales trainings to homebuilders and trade contractors, leveraging key market allies, applying unique motivational tactics, administering innovative approaches to improve the program's cost-effectiveness, and implementing a marketing communications campaign to increase consumer awareness and demand for energy-efficient homes.

## Builder Energy Solutions Calculator

For Owens Corning, a leading manufacturer of insulation and home construction products, ICF developed the Builder Energy Solutions Calculator, a tool to help builders design and build more energy-efficient homes. Sophisticated yet simple to use, this desktop software enhances the ability of builders to:

- Find out how to meet the criteria for earning tax credits of \$2,000 on any single-family new home
- Build energy-efficient homes in a cost-effective way
- Estimate potential economic benefits to homebuyers

## Energy Modeling and Policy Analysis

ICF analyzed the energy savings and cost-effectiveness of the increased insulation R-values in the 2004 International Energy Conservation Code. Examining 324 house configurations and five wall insulation-upgrade scenarios in five climate zones, ICF used its proprietary DOE-2 based energy modeling tool to run 1.25 million simulations of home energy performance. The analysis took into account regional variations in utility costs, material and labor costs, housing starts, and housing characteristics and was conducted on behalf of North American Insulation Manufacturers Association and Polyisocyanurate Insulation Manufacturers Association.

## Residential Sustainable Design Program

ICF created a residential sustainable design program for the Massachusetts Technology Collaborative. The goal of the program was to create guidelines that would balance economic, social, and environmental values and result in affordable, healthy, attractive and highly desirable communities. This was accomplished through the creation of a point-based checklist that assigns and assesses the relative value of green and sustainable building practices, renewable energy technologies, and number of affordable units in a development.

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## About ICF International

ICF International (NASDAQ: ICFI) partners with government and commercial clients to deliver consulting services and technology solutions in the energy, climate change, environment, transportation, social programs, health, defense, and emergency management markets. The firm combines passion for its work with industry expertise and innovative analytics to produce compelling results throughout the entire program life cycle, from analysis and design through implementation and improvement. Since 1969, ICF has been serving government at all levels, major corporations, and multilateral institutions. More than 3,000 employees serve these clients worldwide. ICF's Web site is [www.icfi.com](http://www.icfi.com).

For more information, please visit [www.icfi.com](http://www.icfi.com) or contact:

David Meisegeier  
1.703.934.3119 (p)  
1.703.934.3740 (f)  
[dmeisegeier@icfi.com](mailto:dmeisegeier@icfi.com)

ICF International  
9300 Lee Highway  
Fairfax, VA 22031