



# National Fenestration Rating Council Update

JUNE 2007

## CHAIR'S MESSAGE

### Executive Director's Message



**JIM BENNEY**  
NFRC Executive Director

#### *Fenestration Certification and Global Climate Change*

Some may wonder how a fenestration certification program and global climate change could be connected.

All one has to do is look at how certification of residential products has contributed to a dramatic improvement in fenestration energy efficiency to understand.

Since the National Fenestration Rating Council began rating and labeling windows, doors, and skylights in 1991, the energy performance of residential products has improved significantly with the introduction and use of more energy efficient components such as low emissivity glazing, warm edge spacers, and thermally efficient framing materials. Much of this improvement came after the introduction of the U.S. Department of Energy's ENERGY STAR Windows Program® in 1997. NFRC certification is the engine that drives the program.

NFRC is performance neutral; our goal is to make sure that every product is rated and certified in the same way so architects, builders, consumers, and others can compare products on an apples-to-apples basis. Nevertheless, it's clear that when provided accurate and credible *Continued*

## Industry Targets Carbon Neutral Buildings

### *Industry Organizations Announce Partnership to Develop National Green Standards*



An artist's rendering of the Solar 2 Green Energy Arts and Education Center, which New York City planners hope will be the city's first carbon neutral building. (Courtesy of SolarOne)

While gas prices continue to rise and more is written each day about the need for eco-friendly cars, many lose sight of the impact buildings have on the environment.

According to the U.S. Green Building Council, buildings account for 38 percent of the carbon dioxide

emissions in the United States – more than either the transportation or industrial sectors. Buildings also consume 70 percent of the nation's electricity load.

The building design industry has taken notice, and is taking dramatic steps to reduce carbon emissions over the next two decades. Several organizations, including the U.S. Green Building Council, the American Institute of Architects, and the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), jointly finalized a memorandum in May that establishes a goal of making carbon-neutral buildings a reality by 2030.

This memorandum, which is supported by the U.S. Department of Energy (DOE), focuses on net zero energy buildings, buildings with a net energy consumption of zero over a typical year. Zero energy buildings remain uncommon, but they are gaining in *Continued*

### NFRC Moves to New Office Space in June

The National Fenestration Rating Council is relocating to a new space in Greenbelt, Md. The new office space is located at 6305 Ivy Lane, Suite 140, Greenbelt, MD, 20770. During the move, scheduled for June 28 and 29, staff phones, fax, and e-mail may be down. However, the NFRC Web site and Certified Products Directory will be operational through this time of transition.

### Executive Director's Message – continued

information about energy performance, window buyers naturally migrate to more efficient products and window manufacturers bring new, energy efficient technologies to that market.

In turn, more efficient fenestration translates into reduced energy use – less heat escapes a home in the winter, and less heat gets into the home during the summer. Less energy use means fewer fossil fuels burned, which means fewer greenhouse gases.

### Same Process Can Work in Commercial

Data shows that commercial fenestration has fallen behind residential fenestration in terms of energy performance. There are many reasons for this. In part it's because the commercial sector does not have a user-friendly counterpart to NFRC's residential rating and labeling system. The discrepancy can also be attributed to the fact that commercial building architects, contractors, and builders are not invested in the energy efficiency of the project they are working on because the building is sold soon after it is built.

NFRC is working with stakeholders in the commercial sector to develop what's known as the Component Modeling Approach, which will help bring the benefits of NFRC certification to the commercial sector.

As policymakers increasingly look for ways to reduce greenhouse gas emissions as a way to combat global warming, the building envelope – of which fenestration is a crucial component – should be right at the top of the list.

For information about NFRC and the role it can play in combating global climate change, please visit our Web site at [www.nfrc.org](http://www.nfrc.org). ■

### Industry Targets Carbon Neutral Buildings – continued

importance and popularity. The ultimate goal of this joint effort is to develop carbon neutral buildings, which use no energy from external power grids, produce no net contribution to carbon emissions, and can be built and operated at fair market values.

"The task we face is daunting," said Edward Mazria, founder and executive director of Architecture 2030, an environmental advocacy group that helped to create the memorandum. "Working separately, we could accomplish something significant in each of our respective spheres. But by working together, we actually have a chance to influence the course of history – and we will."

To reach the energy reduction goal, the participating organizations agreed to define the baseline starting point for their common target goals as the national average energy consumption of existing U.S. commercial buildings as reported by the 2003 Commercial Building Energy Consumption Survey (CBECS). CBECS data is a set of whole-building energy use measurements gathered by DOE's Energy Information Administration. They can be used to determine a national energy use intensity using kBtu/sqft-yr as the metric.

"Collectively, our programs, initiatives, and goals now have an agreed-upon baseline to operate from in our common quest to achieve a sustainable future," said ASHRAE President Terry Townsend. "The challenge is now upon each organization to make good on their commitments." ■

## NFRC Moves to New Office Space in June



The National Fenestration Rating Council is relocating to a new space in Greenbelt, Md. The new location is strategically located near the Capital Beltway and is only 30 minutes from both the downtown Washington and Baltimore areas. It is also located just across the street from the Greenbelt Metro station on the Green Line.

The new office space, at 6305 Ivy Lane, Suite 140, Greenbelt, MD, 20770, has a solar-influenced architectural design and a computer-controlled energy management system designed to save energy.

During the move, scheduled for June 28 and 29, staff phones, fax, and e-mail may be down. However, the NFRC Web site and Certified Products Directory will be operational through this time of transition. Phone numbers and fax will remain the same.

# Home Energy Consumption Can Be a Real Drain

As summer approaches and the temperature starts to increase, so too do many homeowners' utility bills. Here are some tips on how to beat the summer heat and not sweat the cooling bills.

## Conducting a Home Energy Audit in Your Home

Many homeowners conduct home energy audits to assess how much energy is actually consumed in the home and to identify ways to conserve. Once a job for a professional auditor is now customized for the do-it-yourself type. There are a variety of interactive tools available on the Web to help guide you through the process and provide instant feedback on various ways to save energy.

A great place to start is to do a simple walk-through of your home with a checklist. First, evaluate possible air leaks or drafty locations. Look for gaps around electrical outlets, window frames, baseboards, fireplaces, and weather stripping around doors. If you can spot daylight around the door or window, then it is likely air is leaking.

It is important to evaluate the insulation in your home as well. Depending on the age of your home, the insulation could be a huge energy drain on your home. Check that attic vents are not blocked by insulation, and ensure that your water heater, hot water pipes, and furnace ducts are insulated. Finally, evaluate some of the more obvious energy sources like lighting and heating/cooling. It is estimated that compact fluorescent light bulbs consume one-third less energy than incandescent lighting.

To conduct a more thorough audit, visit the following Web sites: Alliance to Save Energy ([www.ase.org](http://www.ase.org)), U.S. Department of Energy ([www.eere.energy.gov](http://www.eere.energy.gov)), and Lawrence Berkeley National Laboratory (<http://hes.lbl.gov>). You can either browse recommendations for improving energy efficiency in a typical house or you can go on to customize the

recommendations by inputting specific information about your house. Each site offers different ways to audit the energy consumption in your home, taking into account the climate and specific neighborhoods.

## Reduce Solar Heat Gain

Cooling a home can also be made more difficult – and thereby more expensive – by not properly keeping cool air from escaping and outside heat from entering the home. First, make sure that everyone in the family is diligent about keeping windows tightly closed and shutting the door behind them when they enter or leave the home.

In addition, more energy efficient doors and windows can reduce drafts, block UV rays, keep cool air inside, and keep hot air outside. This can significantly reduce energy bills and the upgrades often pay for themselves. In replacing windows and doors, check for the National Fenestration Rating Council's solar heat gain rating, ranging from 0.01 to 0.99. The lower the rating, the better the product is at keeping solar gain out of the home. If replacing windows and doors isn't a possibility, there are still steps that one can take to make them more efficient. Certain types of blinds reduce solar heat gain, as does the application of window film. Both are cost effective and long lasting. ■

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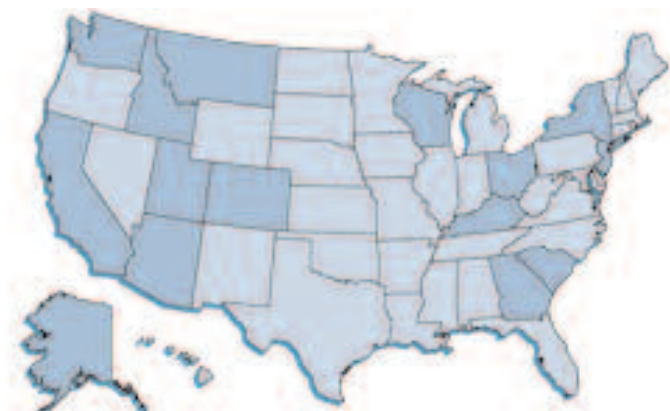
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# New Codes Take Effect Across the Country



Since January 2007, several states have adopted new energy codes. Additionally, many other states have formed task forces or committees to determine whether or not to formally adopt the 2006 IECC – which includes language referencing the use of NFRC certification and/or labeling.

Here are the latest code developments as recorded by the Building Codes Assistant Project (at [www.bcapenergy.org](http://www.bcapenergy.org)):

On April 1, 2007, **Alaska** formally adopted the Alaska Building Energy Efficiency Standard (BEES) for all residential construction. This standard includes provisions of the 2006 IECC with Alaska-specific amendments.

**Arizona** introduced a bill in January that would require all cities and towns to adopt and implement the IECC.

In May, the **California** Energy Commission announced it held two workshops to discuss the draft of the 2008 Building Energy Efficiency Standards. The workshops were held on June 13 and 15. The standards are anticipated to be adopted by January 2008 and become effective in 2009. For more information on the workshops, visit [www.energy.ca.gov/title24/2008standards/documents/index.html](http://www.energy.ca.gov/title24/2008standards/documents/index.html)

The **Colorado** legislature passed a bill that will establish a minimum energy code requirement for any jurisdiction in the state that has adopted a building code. It is currently awaiting the governor's signature. The minimum energy code will be the IECC 2003 or any updated edition.

The **District of Columbia** Building Code Advisory Committee is working on changes to D.C.'s current building code. These changes will be submitted to the D.C. City Council by the end of the year and will comply with the Green Building Act passed by the Council last year.

In April and May, **Florida** held a comment period for the 2007 Florida Building Code. These comments will be reviewed by the Florida Business Commission during its June meeting.

In January, the **Georgia** State Codes Advisory Council formed a task force to review the 2006 IECC. Since Georgia currently uses the 2000 IECC, the task force is charged with determining the differences between the two codes.

In February, **Idaho** introduced a bill in the legislature that will mandate the adoption of the 2006 IECC on January 1, 2008. It was passed by both houses of the legislature in March, and is currently awaiting the governor's signature.

The **Illinois** House passed the Energy Efficient Building Act in April. The act would require all jurisdictions to use the 2006 IECC. Jurisdictions that adopted the 2000 IECC prior to January 2007 would be allowed to continue with those codes.

In April, **Kansas** Gov. Kathleen Sebelius signed a bill that established the 2006 IECC as the commercial code.

**Kentucky** announced in May that they are considering adopting the 2006 IECC. The effective date for these codes would be July 2007.

The Southern **Nevada** Energy Code went into effect May 1, 2007, for the southern section of the state. The Northern Nevada IECC Review Committee submitted its recommendations for adoption in May. Those recommendations are scheduled to go into effect in 2008.

The **New Hampshire** Senate passed a bill in May that proposes the adoption of the 2006 IECC. The bill is currently under consideration by the House. If passed, it will become law after 60 days.

**New Jersey** adopted the 2006 IECC in February. For a six month period, both the previous and new code may be used.

**New Mexico's** Construction Industries Commission is working to adopt the 2006 IECC. The process is expected to be completed later this year.

# Windows and Doors Make the 'Perfect Home'

What makes a home perfect? On behalf of JELD-WEN, Knowledge Wave International conducted an online survey of nearly 1,000 homeowners from around the country to find out just that. The answer? For many homeowners, windows and doors that are attractive and energy efficient play a major role in their satisfaction with their homes.

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## Ditching the Draft

Nearly one-quarter of survey respondents indicated that their windows or doors were drafty. Many incentives exist for homeowners to replace these fixtures beyond simple personal comfort – energy efficient windows and doors have been shown to reduce energy costs and, this year, homeowners can take advantage of a tax credit to upgrade them.

The survey revealed that half of the homeowners who participated in the survey were aware of the tax credits available for windows and doors under the Energy Tax Incentives Act. And, 43% indicated that they would “definitely” or “probably” undertake projects this year to qualify for the tax credit. Respondents also:

- Recognized some of the other benefits that replacement windows and doors offer. Nearly half said that noise was a problem in their home, and they're not alone – noise was the number one neighborhood complaint in the most recent U.S. census. Most revealed that they would benefit from noise-reducing products, including certain types of windows and doors that block racket from the exterior as well as other parts of the house.
- Indicated that door upgrades also appeal to consumers' personal taste. According to the survey, 68 percent of respondents said they had not selected their front door and 58 percent said that they would have chosen something different. Furthermore, 87 percent of

## New Codes Take Effect Across the Country – continued

The **New York** Code Council formally voted to adopt the 2003 IECC for commercial provisions and the 2004 IECC for residential provisions. An implementation date of August 1, 2007, is anticipated.

The **Ohio** Residential Code Advisory Committee and the Board of Building Standards are discussing whether the current effective date of July 1, 2007, should be delayed. The most recent committee meeting was held May 30, 2007.

The **Rhode Island** Energy Subcommittee met earlier this year to discuss the adoption of the 2006 IECC. The findings will be made public at a later date.

On May 9, the **Tennessee** Senate voted to formally adopt a state energy code. The bill states that 2003 IECC would be required and the 2006 IECC would be strongly encouraged. The bill is now being debated in the House.

On January 2, 2007, **Utah** formally adopted the 2006 IECC for all residential and commercial buildings.

**Virginia** is reviewing adoption of the 2006 IECC. Following the publication of regulations, there will be a 60-day comment period as well as a public hearing.

The **Wisconsin** Department of Commerce reviewed public comment on the proposal to adopt the 2006 IECC. The department will now direct the legislature on the proposed updates. Implementation would be no earlier than late summer. ■

respondents believed that a new front door would increase the aesthetic appeal of their home.

- Revealed that the garage is now the most-used entrance for American households, with more than 40 percent of men and women noting that they use the garage door most often to enter and exit their homes.

Respondents also had clear opinions about their preferred entrance. Nearly three-quarters believed that a new garage door would make their home more aesthetically appealing. When ranking the most important features in a garage door, durability came in first with 45 percent and aesthetics came in second with 22 percent. Additionally, 57 percent of respondents would like their garage door to let in more natural light and, when asked specifically, 55 percent identified energy efficiency as an “important” or “very important” characteristic of a garage door. ■

# 2007: A Great Year for Window Film

*Improve a Home's Energy Efficiency and Get a Little Something Back from Uncle Sam*

Window film is a completely invisible product that has many benefits for homeowners. It insulates a home—reducing heating and cooling bills, keeps furniture from fading, and, in the event of an earthquake, prevents glass from shattering. Now there's more good news about window film: it's tax deductible.

Under the Energy Tax Incentives Acts of 2005, window film is included in the "other" category of products that make homes more energy efficient. The credits went into effect in 2006, but it was not until a few months ago that the window film industry confirmed that its products were eligible. The "other" products section does not specifically mention window film.

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**"In addition to the benefits of the tax credit, window film reduces total heating and cooling costs by 10 to 20 percent,"**

**– Darrell Smith, executive director of the International Window Film Association (IWFA).**

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Homeowners installing window film on their windowpanes are eligible to claim a tax credit equal to 10 percent of the film material – up to a maximum of \$500 for qualifying products.

"In addition to the benefits of the tax credit, window film reduces total heating and cooling costs by 10 to 20 percent," said Darrell Smith, executive director of the International Window Film Association (IWFA). "An investment in window film usually pays for itself in five to six years on energy savings alone, even without the tax credit."

As with any piece of the tax code, there are some important details to note. First, in order to qualify, the purchased window film must qualify under section 25C of the Internal Revenue Code. Individual manufacturers may decide which of their products, as installed on which types of windows, they wish to certify for qualification for the tax credit.

The tax credit is available for all qualifying film purchased and installed between January 1, 2006, and December 31, 2007. It applies exclusively to the cost of the window film itself, and the deduction does not take into consideration the cost of labor. Consumers will need to retain a copy of the invoice for the film and the

manufacturer's certification statement in their personal records as documentation for taking the tax credit.

In order to help customers take advantage of this tax credit, many in the window film business are providing specific services and information. Several manufacturers have provided materials outlining which films qualify for the tax credit in each region, and some have made that information available on their Web sites. Furthermore, shops that directly sell window film have made an effort to provide the necessary paperwork to clients.

"This is a tremendous public relations opportunity for our industry," Smith said. "It adds credibility to the fact that window films are an extremely valuable energy-saving device."

Window film manufacturers are able to certify their products' energy performance ratings according to the National Fenestration Rating Council's certification process. NFRC developed a Window Film Energy Performance Label in 2006. For more information, visit <http://www.nfrc.org/documents/WindowFilmfactsheet.pdf>. ■



# Investment Banking Firm Conducts Fenestration Industry Survey

Competition from China is becoming more of a threat, especially to the door industry; Americans are looking to “go green,” but only if it positively impacts their wallets; and a large percentage of Americans are using the Internet to begin their home improvement projects, according to an annual survey conducted by an investment banking firm that specializes in the door and window industry.

Michael E. Collins of Jordan, Knauff & Company, a Chicago-based investment banking firm, presented the results of the firm’s annual industry survey in a webinar on May 16. The firm interviewed 24 industry companies for the survey.

The survey indicates that imports present a larger threat to American door suppliers and manufacturers than to window suppliers and manufacturers. According to Collins, many American window manufacturers are considering importing door products from China to sell these products through their existing channels.

Since 2004, door and window industry shipments from China to the United States have grown 19 percent, while shipments from the U.S. to China have grown only two percent. Door imports from China, in particular, have grown much more quickly than Chinese window imports in recent years, and Collins says that will likely continue to be the case in the coming years. However, Collins

forecasts that China is headed for a full-blown banking crisis by 2009.

Although the green movement is clearly gaining momentum – in large part thanks to higher energy prices – the survey shows that Americans are not typically willing to pay extra money simply to “go green.” However, most consumers need to know that, although they are spending more money up front for an environmentally friendly product, they will ultimately save money due to lower gas or electricity expenses.

According to the survey, consumers are taking advantage of technology to plan their home improvements. Forty percent of all home improvement projects begin with an Internet search. No fewer than 1.2 million consumers conduct an online search for “replacement windows” each month.

The survey indicates that window suppliers and manufacturers are paying as much or more attention to water penetration as wind-borne debris in coastal areas. Also, window suppliers and manufacturers are beginning to sell their products exclusively on an installed basis in order to better control their customers’ experiences.

For more information, or to request a free copy of the webinar, visit <http://www.jordanknauff.com/webinar-request/>. ■

## Component Modeling Approach to Offer Many Benefits to Design Community

### *NFRC Continues to Advance New Nonresidential Program*

The National Fenestration Rating Council continues to advance a new procedure that will provide ratings for fenestration products used in nonresidential applications. The new program, called the Component Modeling Approach, is based on the three basic components of the fenestration product – framing, glazing, and spacer – and is intended to simplify ratings of non-residential products. CMA will yield accurate energy performance data for use in code compliance and will pave the way for meaningful building energy analysis.

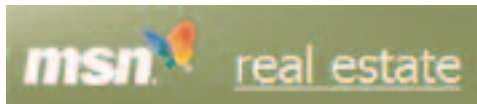
CMA is being designed to be a credible, cost effective, fair, uniform, and useful tool for all stakeholders. The overall process will be simplified, and there are many built-in

benefits for the architects and specifiers. It will facilitate bidding for manufacturers to show architects and specifiers that fenestration products meet bid specifications and code requirements. Furthermore, CMA will enable the design community to generate simulated ratings for different products quickly and simply.

Following the most recent NFRC Membership Meeting, held in Austin, Texas this past March, NFRC circulated the draft certification document to the Executive Directors of the Building Owners and Managers Association (BOMA), American Institute of Architects (AIA), and the Construction Specifications Institute (CSI) for their commentary on the proposed language concerning the specifying authority. In addition to seeking input on the language relevant to the design community within the CMA program documents, NFRC is working with all involved parties, including building officials, code bodies, architects, etc., on the label certificate format.

“CMA is a sustainable approach to rating nonresidential fenestration systems,” said NFRC’s Executive Director Jim Benney. “We are eager to work with the design community on the program because of the benefits it presents that segment of the industry.” ■

## NFRC IN THE NEWS



In its recent article, 'Best Green Materials for Your Home,' MSN dedicates a section to windows:

"The independent National Fenestration Rating Council rates windows on the basis of five different attributes: their level of insulation (known as "U-factor"), air leakage, condensation resistance, UV blockage and solar heat gain (a window's ability to block heat from the sun). You can also match a window's glazing to its exposure to the sun. For example, east- and west-facing windows can cause overheating, so get windows with low solar heat – rated about 0.6. South-facing windows, on the other hand, can help with passive solar heating, so keep the number above 0.75." ■

In the April 2007 issue of *Natural Home* magazine, reporter Misty McNally offers readers tips on how to choose windows that are both beautiful and energy efficient.



McNally writes, "Arguably your home's most direct meeting place with the outdoors, windows let in daylight and allow for ventilation – while enhancing the ambiance of your living space."

She instructs readers to evaluate the "writing on the window," with a guide on how to read the NFRC label. ■

## NFRC Summer Membership Meeting Set for Denver



NFRC's Summer Membership Meeting in Denver, Colorado will be here before you know it! The meeting will be held July 23-26 at the Grand Hyatt Denver. Registration is available both online and in an off-line form at <http://www.nfrc.org/meetingregistration.aspx>. The registration deadline is July 9, 2007.

The Grand Hyatt Denver is currently accepting reservations for NFRC members.

Reservations can be made online on the Hyatt's Web site at: <http://www.granddenver.hyatt.com/groupbooking/nfrc2007> or by calling 1-800-233-1234.

You can find the official meeting schedule posted to the NFRC Web site. Monitor NFRC's upcoming meeting page for additional information. ■



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