

# Siding with the Environment



## The Natural Choice

**Vinyl siding begins with ingredients from nature. Production starts with two simple and abundant building blocks – chlorine (57 percent) from common salt and ethylene (43 percent) from natural gas. And vinyl siding is sustainable. As a meticulously engineered material, vinyl siding durability and expected service life continue to increase as improvements are made to color retention, impact resistance and other key aspects. Which means that vinyl siding delivers reliable performance that can last a lifetime on the house, not in the landfill.**

**Green for Life** Green building can play a vital and growing role in the long-term health of our planet. And today's vinyl siding, the most popular choice for exterior cladding in the United States and Canada, delivers recognized environmental benefits to help make and keep homes green.

Throughout the processes of manufacturing, transportation, installation, service life and waste management, vinyl siding scores well on tough environmental measures. The facts below show how vinyl siding sides with the environment. By using vinyl siding, communities can be greener.

**Green by Many Standards** Leading green building certification programs award points for the type of performance that vinyl siding delivers. In fact, vinyl siding has the potential to earn more points than other exterior cladding options.

For example, vinyl siding can contribute to obtaining points in the draft National Green Building Standard™ as a material that requires no additional finish resources, is termite-resistant, may contain recycled content, and may qualify as an indigenous material depending on the proximity of the building site to the manufacturing and extraction location. In addition, insulated vinyl siding may contribute points for building energy efficiency and creating a better thermal building envelope.<sup>1</sup>

Vinyl siding also can support certification through the LEED® for Homes<sup>2</sup> and LEED® for New Construction<sup>3</sup> Rating Systems from the United States Green Building Council (USGBC).

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VINYL SIDING INSTITUTE  
**America  
Sides with  
Vinyl™**

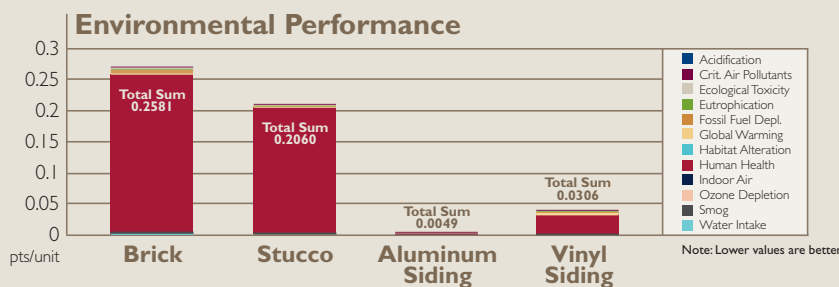


## DID YOU KNOW?

A 2006 poll by the American Institute of Architects showed that while 90 percent of U.S. consumers would be willing to pay to reduce their home's environmental impact, they would pay only \$4,500 to \$5,000 more. As the exterior cladding with the lowest installed cost, vinyl siding is an ideal choice to achieve both environmental performance and economic sensibility.



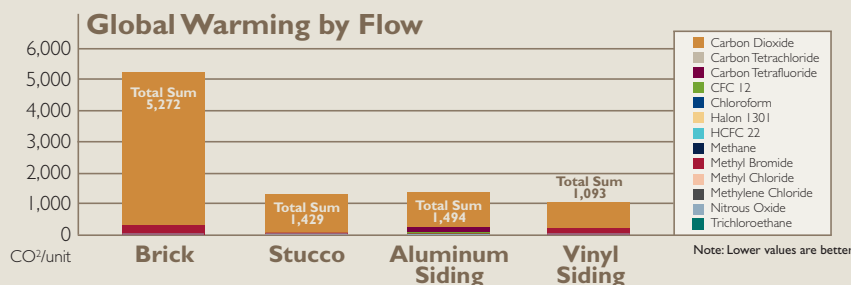
**Better Environmental Performance** According to Building for Environmental and Economic Sustainability (BEES®) software – a recognized and approved life-cycle analysis tool cited by the USGBC – vinyl siding offers excellent overall environmental performance compared to other exterior cladding. The graph below, produced using BEES software, shows how vinyl siding compares to brick & mortar and stucco on a combination of important environmental criteria. Furthermore, using a more environmentally preferable product, based on analysis through a life-cycle assessment tool like BEES, can potentially earn points for a home in the draft National Green Building Standard.



Even though the production of vinyl siding and other vinyl products has grown considerably during the past 20 years, the level of dioxin released to the environment has decreased by nearly 90 percent over the same time period. Production of brick & mortar generates almost 10 times the dioxin of vinyl siding production, as shown through analysis using BEES software.

## Less Embodied Energy and Global Warming Potential

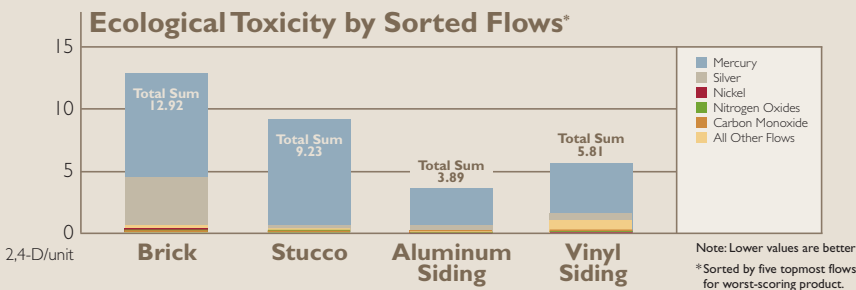
Compared to other cladding, vinyl siding uses modest amounts of energy for manufacturing. Vinyl siding requires less water and energy to manufacture per square foot than fiber cement. Also, analysis with BEES software confirms that vinyl siding manufacturing consumes less than half the energy and fuel necessary to manufacture brick & mortar. In addition, vinyl siding’s lighter weight – especially compared to brick and fiber cement – requires less fuel consumption for transportation. Thus, vinyl siding contributes significantly less to global warming, as illustrated in this graph produced using BEES software.



<sup>1</sup>To see a full draft of the National Green Building Standard™, visit [www.nahbrc.org/technical/standards/greenbuilding.aspx](http://www.nahbrc.org/technical/standards/greenbuilding.aspx). <sup>2</sup>For a copy of the Leadership in Energy and Environmental Design (LEED®) for Homes Rating System, visit [www.usgbc.org/leed/homes](http://www.usgbc.org/leed/homes). <sup>3</sup>For a copy of LEED for New Construction Rating System, visit [www.usgbc.org/leed/nc](http://www.usgbc.org/leed/nc). <sup>4</sup>James Hardie Building Products Material Safety Data Sheet. <sup>5</sup>NAHB Research Center, *NAHB Construction Waste Estimate of a Typical 2000 Sq. Ft. House*, 2001.

## Greater Efficiency Minimal Waste

**Keeping Toxic Chemicals to a Minimum** Vinyl siding production is responsible for the emission of significantly lower levels of toxic chemicals, including mercury and silver, than other cladding options. (See the graph below, produced using BEES software.) In addition, per the *ASTM D3679* standard, vinyl siding certified through the *VSI Vinyl Siding Product Certification Program* must be free of lead.



**Proper Installation Further Reduces Scrap** Led by the Vinyl Siding Institute (VSI), the industry's commitment to installer education and training means more efficient installations, resulting in less waste. The *VSI Certified Installer Program* includes a rigorous course of study and examination on the proper installation techniques for vinyl siding, soffit and accessories, based on the *ASTM D4756* standard. Certified Installers are trained in waste reduction techniques, including proper material estimating and installation to reduce waste generation. These techniques help ensure installation of vinyl siding produces as little scrap as possible.

**Vinyl Siding Supports Carefree Living** Economic performance and long service life are key factors in measuring sustainability. Vinyl siding delivers in both areas. It requires no painting, staining or sealing at installation or for ongoing maintenance. These attributes not only give vinyl siding a typically lower installed cost than wood, brick, fiber cement, stone or stucco – they prevent releases of toxins and maintenance-related substances from entering the environment.

By comparison, silica-based fiber cement, like James Hardie siding products, must be painted and caulked, and special tools are needed for installation, along with a dust mask or respirator. Silica-based fiber cement may potentially cause adverse health effects such as silicosis (an incurable lung disease) to installers who do not use respirators.<sup>4</sup> Vinyl siding does not utilize any materials that can cause adverse health effects to installers, homeowners or others.

In addition, vinyl siding is a durable, long-life product. NAHB has cited "Lifetime" as the estimated life expectancy of vinyl siding on a home in its *Study of Life Expectancy of Home Components* (February 2007).



Vinyl siding manufacturing is an extremely efficient process. Production requires minimal raw material and any scrap produced may be returned immediately into the manufacturing process, resulting in virtually no waste. Scrap from manufacturing fiber cement, on the other hand, is typically sent to landfills. During installation, vinyl siding generates very little waste compared to other cladding. For example, studies show that average scrap rates from vinyl siding installation are less than 1.9 percent of total construction waste from a typical 2,000 square foot home with vinyl siding on three sides. By comparison, scrap generated from installing brick on only the façade of a typical 2,000 square foot home generates 1,000 pounds, or 12.5 percent of the total construction waste.<sup>5</sup>



## Green Keeps on Growing

Innovations in vinyl siding continue to strengthen its performance as a truly green building material. One of the industry's newest product innovations is insulated siding, which helps increase the exterior wall's R-value and contributes to a home's energy efficiency.

More information and research documentation on vinyl siding is available at [www.vinylsiding.org](http://www.vinylsiding.org) and on vinyl at [www.vinylinfo.org](http://www.vinylinfo.org). The more you learn, the more you'll appreciate why green building sides with vinyl.

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For more information on why America sides with vinyl, visit [www.vinylsiding.org](http://www.vinylsiding.org).