

# Siding with the Environment



***vinyl*cladding**<sup>TM</sup>  
new zealand

## Green for Life

Green building can play a vital and growing role in the long-term health of our planet. Today's vinyl cladding, 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 its life cycle – manufacturing, transportation, installation, service life, and waste management – vinyl cladding scores well on tough environmental measures. Using recognized life cycle assessment tools and fact-based data, vinyl cladding beats fibre cement and brick, hands down in overall green performance.



The facts show how vinyl cladding sides with the environment. So be aware that selecting exterior claddings based on assumptions or “greenwashing,” rather than facts, can lead to unnecessary and avoidable environmental impact.



## The Natural Choice

Vinyl cladding begins with ingredients from nature. Production starts with two simple building blocks – chlorine (57%) from common salt and ethylene (43%) from natural gas. As a meticulously engineered material, vinyl cladding's durability and expected service life continue to increase as improvements are made to colour retention, impact resistance, and other key performance criteria. This means that vinyl cladding delivers reliable performance that can last a lifetime on the house, not in the landfill.

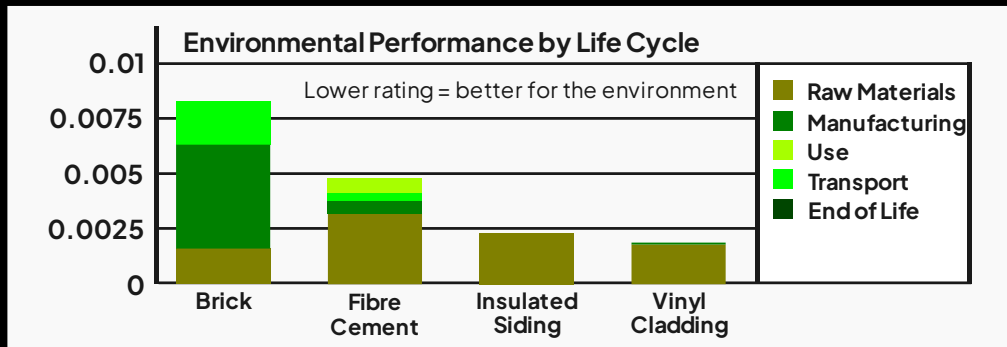
### Did you know?

Vinyl Cladding is one of the only non-absorptive cladding options. Absorptive claddings, including fibre cement, brick, and wood, can hold moisture, which creates stops that can accumulate more moisture and create the potential for penetration. This may lead to rot, mould, and/or poor air quality.

## Better Environmental Performance

Vinyl Cladding outperforms fibre cement and brick in all life cycle stages for environmental and economic performance when analyzed using the Build for Environmental and Economic Sustainability (BEES)<sup>®</sup> software, a life cycle analysis tool developed by the National Institute of Standards and Technology (NIST).

The graph below, produced using BEES software, shows how vinyl cladding compares to other options on a combination of important environmental criteria. This performance is why vinyl cladding contributes to achieving points for certification in the USGBC LEED for New Construction, LEED for Homes and LEED for Canada rating systems, as well as the 2012 ICC-700 National Green Building Standard<sup>®</sup>.



Even though the production of vinyl cladding and other vinyl products has grown considerably during the past 35 years, the level of dioxin released to the environment has decreased by more than 90% over the same time. Brick and mortar are responsible for almost 300 times the human health impact of vinyl cladding. fibre cement is responsible for more than 200 times the impact of vinyl cladding, as shown through analysis using BEES software.

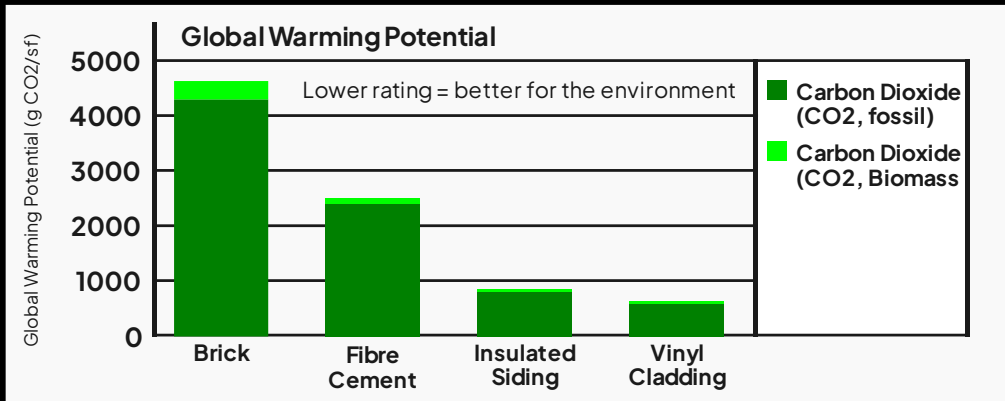


### Did you know?

Vinyl Cladding, unlike some other exterior cladding, provides exceptional rain-screening performance. It effectively enables moisture to drain out of an exterior wall assembly, dramatically reducing water accumulation that can lead to rot and mold.

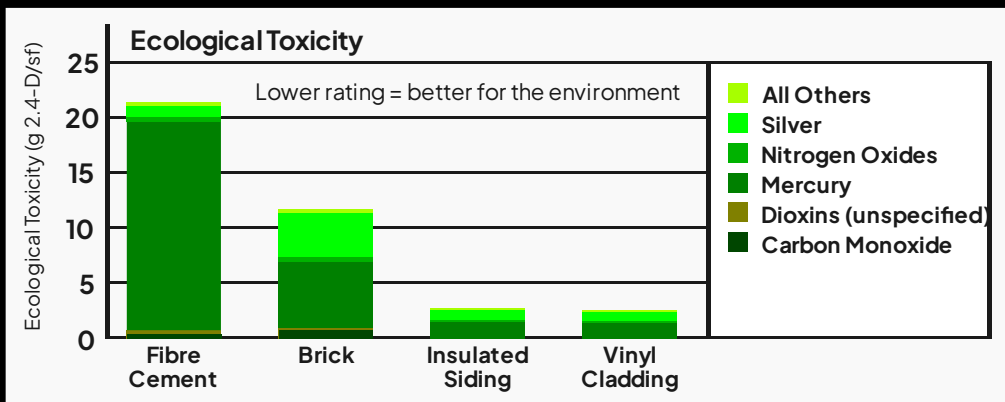
# Less Embodied Energy and Climate Change Potential

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



# Keeping Toxic Chemicals to a Minimum

Vinyl Cladding production emits 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 cladding certified through the VSI Product Certification Program must be free of lead.



## Did you know?

Vinyl Cladding can be recycled to create new products – including, piping, decking, flooring, and even more vinyl cladding.

## Vinyl Cladding Supports Carefree Living

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

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

## Greater Efficiency, Minimal Waste

Vinyl cladding manufacturing is an extremely efficient process. Production requires minimal raw material, and any scrap produced may immediately be returned to the manufacturing process, resulting in virtually no waste. Scrap from manufacturing fibre cement, on the other hand, is typically sent to landfills. During installation, vinyl cladding generates very little waste compared to other cladding. For example, average scrap rates from vinyl cladding installation are less than 1.9 percent of total construction waste from a typical 2000 square foot (185m<sup>2</sup>) home with vinyl cladding on three sides. By comparison, scrap generated from installing brick on only the façade of a typical 2000 square foot (185m<sup>2</sup>) home generates 1000 pounds (453kg), or 12.5% of the total construction waste.



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