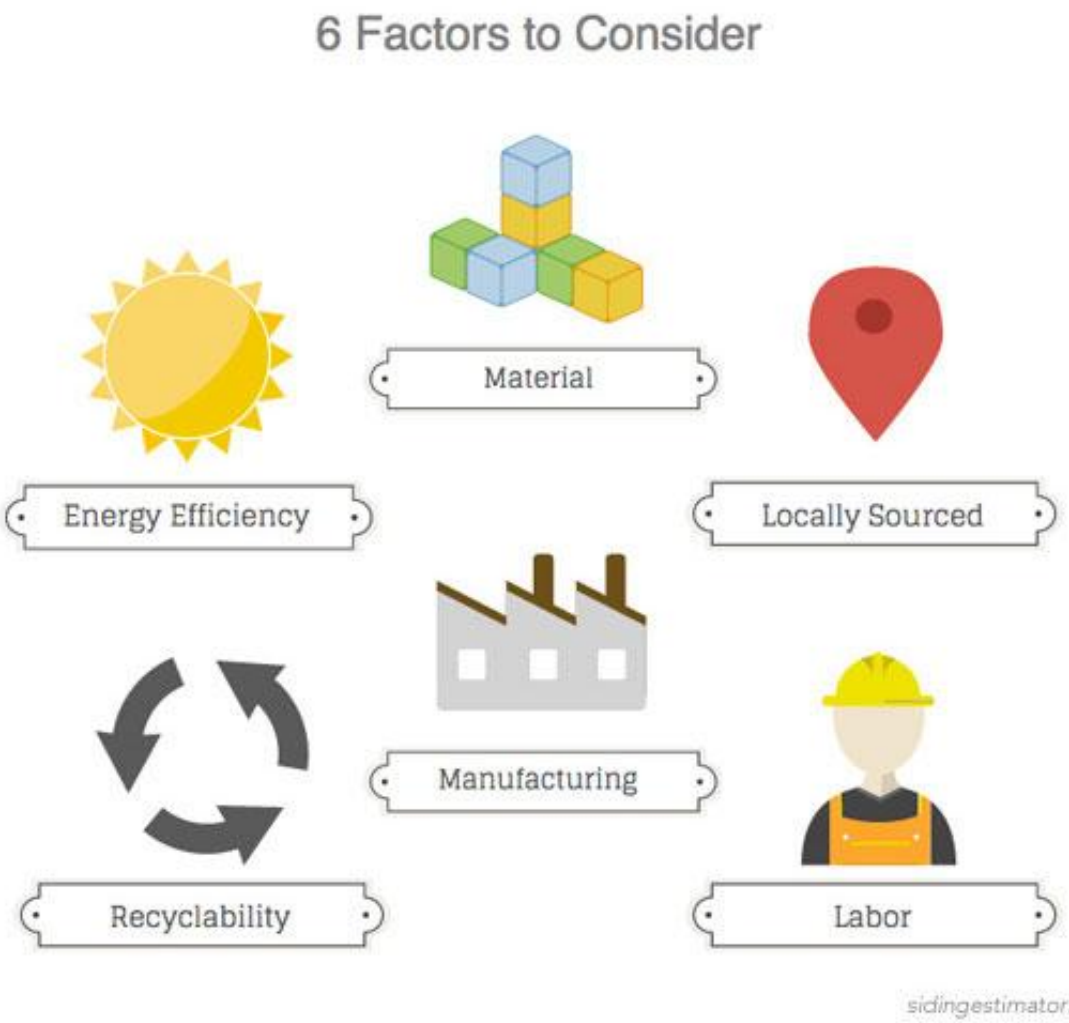
Most Eco-Friendly Siding? Green Siding Options

Are you a responsible citizen concerned with the environment and looking for green & **eco-friendly siding**?

Choosing the best sustainable siding is not always clear cut and dry to say the least. While at face value a material like wood siding would seem to be the most green, in reality it may not always be the case.

When researching what type of siding (http://www.sidingestimator.org/types-of-siding/) you will purchase don't just look at the material. Besides material, there are 5 other factors to consider when picking an eco-friendly siding, check out the graphic below:



Material: Is the material of the siding you choose toxic or biodegradable? Is it a man-made material or does it come straight from nature? Simple questions to ask when going green. Is it **certified green**? (more on this later)

Labor: While natural stone is a rare beauty to behold, it takes lots of intensive labor to move those stones around. The more complex, heavy, and rare material you use, will consume and output more energy to install.

Energy Efficiency: Don't forget the R-value (http://en.wikipedia.org/wiki/R-value_%28insulation%29). This represents how well it preserves thermal heat, the higher the R Value the more insulated the material is saving on heating and cooling costs.

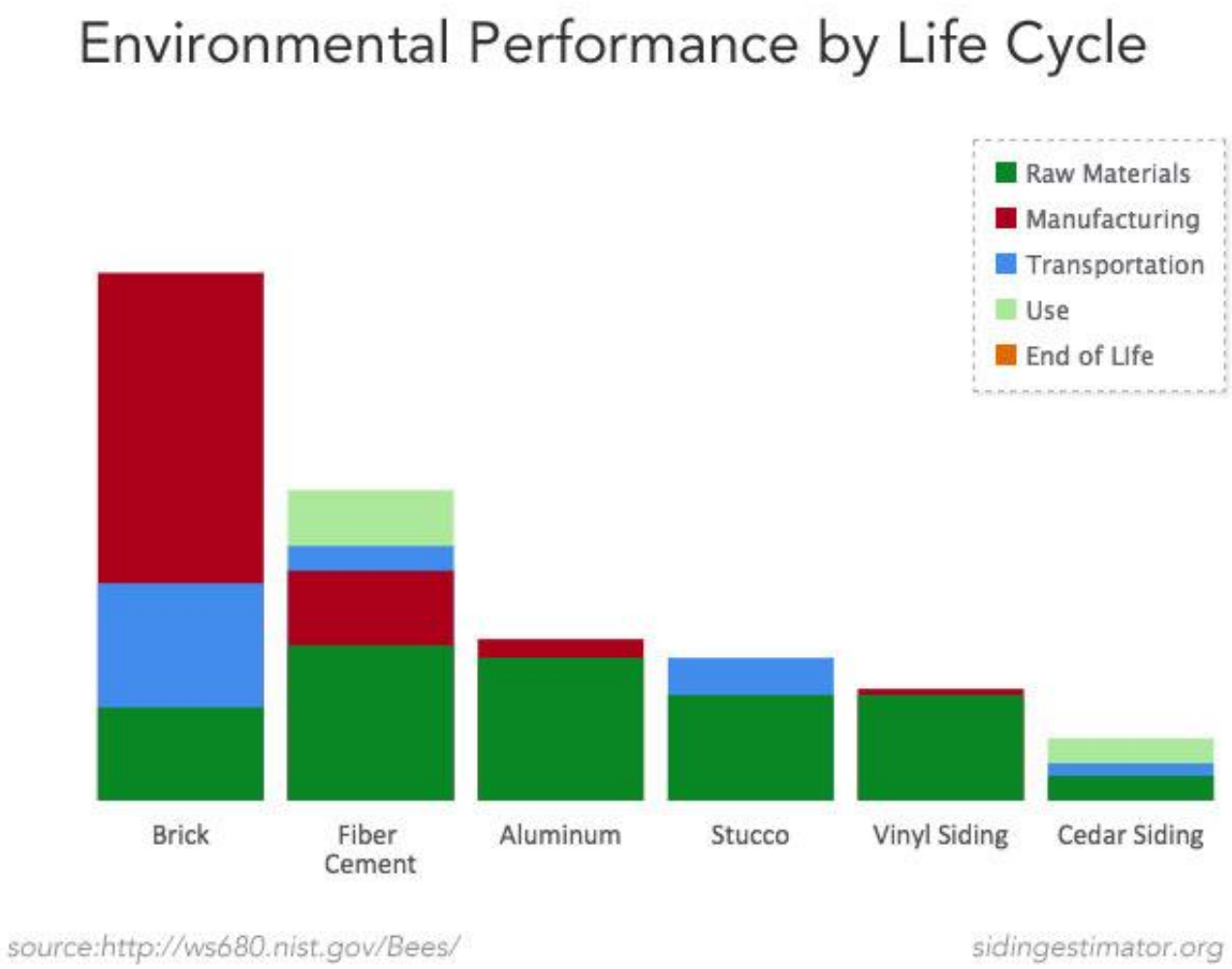
Recyclability: Does the siding you're considering come from **recycled or salvaged material**? Also, what about the waste product, it is estimated a good 10-15% of siding material will go unused after installation for waste. Can you recycle this?

Manufacturing: What processes are needed to create the siding material of choice. For example, the process of creating a clay brick uses up a lot of energy by baking the bricks at over 2,000F for several days!

Locally Sourced: Installing locally sourced cedar clapboard is more environmentally friendly than trucking it across the continental USA. Know where your material comes from.

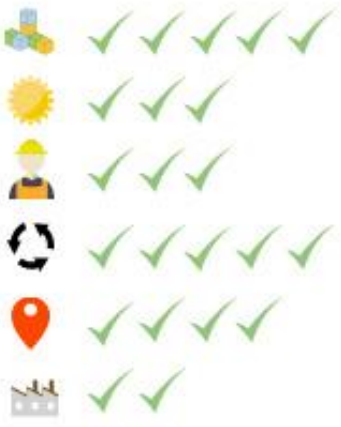
A national standard in green buildings and homes is the US Green Building Council LEED certification (http://www.usgbc.org/articles/getting-know-leed-homes-design-and-construction). This is a building certification that gives points for building sustainable, eco-friendly, and environmentally safe construction.

Below is a chart that compares a handful of siding options by their environmental performance of the life cycle. This data is given by NIST (http://ws680.nist.gov/Bees/), the National Institute of Standards and Technology. It gives ratings on 5 factors of the material, vinyl siding does surprisingly well offering a low environmental impact:



Wood

Wood is the essence of eco-friendly siding. It is **sustainable, recyclable, renewable**, and comes direct from nature so what more can you ask for in exterior cladding? There are also many different wood options: cypress, Douglas fir, redwood, pine, & cedar. Just looking at the chart above by NIST, you can see that cedar siding beats out vinyl, stucco, brick, and aluminum siding in environmental performance.



Amongst all the wood options, Cedar is a top choice because cedar wood is extremely lightweight giving transportation and labor a small footprint. Furthermore, cedar comes naturally insect and moisture resistant and will only need to be painted & stained if you want to retain its natural look.

Take a look at the video below to get an idea on some common myths involving cedar siding:

That being said, sourcing cedar from the Pacific Northwest, is far from local if you live in Tennessee. With wood the key is to get locally grown and sourced wood. And every area of the US produces different wood siding options.

To ensure that the wood you choose for your home is being responsibly managed and harvested, you will want to make sure it is certified. Two bodies that certify responsibly harvested wood are the Forest Stewardship Council (https://us.fsc.org/certification.194.htm)

(FSC) and the Sustainable Forestry Initiative (http://www.sfiprogram.org/getting-certified/benefits-of-sfi-certification/) (SFI). Both offer certifications to give you peace of mind when buying wood products that are safe for the environment.

Another option is to look for **salvaged or reclaimed wood**. While it will take more due diligence on your part, using reclaimed wood will go a long ways in building a green home. You will have to identify a contractor/company that works with this type of wood but the benefits to the environment unmatched. For example, here is a company (http://www.elmwoodreclaimedtimber.com/) that uses reclaimed barn siding for all sorts of uses.

Reclaimed Barn Siding

Two trendy options that have become more and more popular amongst green enthusiasts are **bark siding and burnt wood siding**. Bark siding is made from different tree barks with poplar bark being a recommended option. One such company that are pioneers in this field is Barkhouse (http://barkhouse.com/). This is truly a sustainable and maintenance free siding option.

Bark Siding

On the flip side, **burnt wood siding or charred siding** is a unique cladding option that has its roots in Japanese tradition. Named ‘Shou Sugi Ban’ by the Japanese, it is a literal charring of wood used in ancient Japan for centuries in the building of houses and temples. It is then finished with a wood oil such as Tung. This leaves the wood with a deep burnt look with exquisite beauty not to mention its extreme durability as it becomes rot, insect, and weather resistant. Ironically charring the wood makes it fire-resistant! It can also last upwards of 100 years without maintenance or painting! Check out the video below to get a look at how it is made.

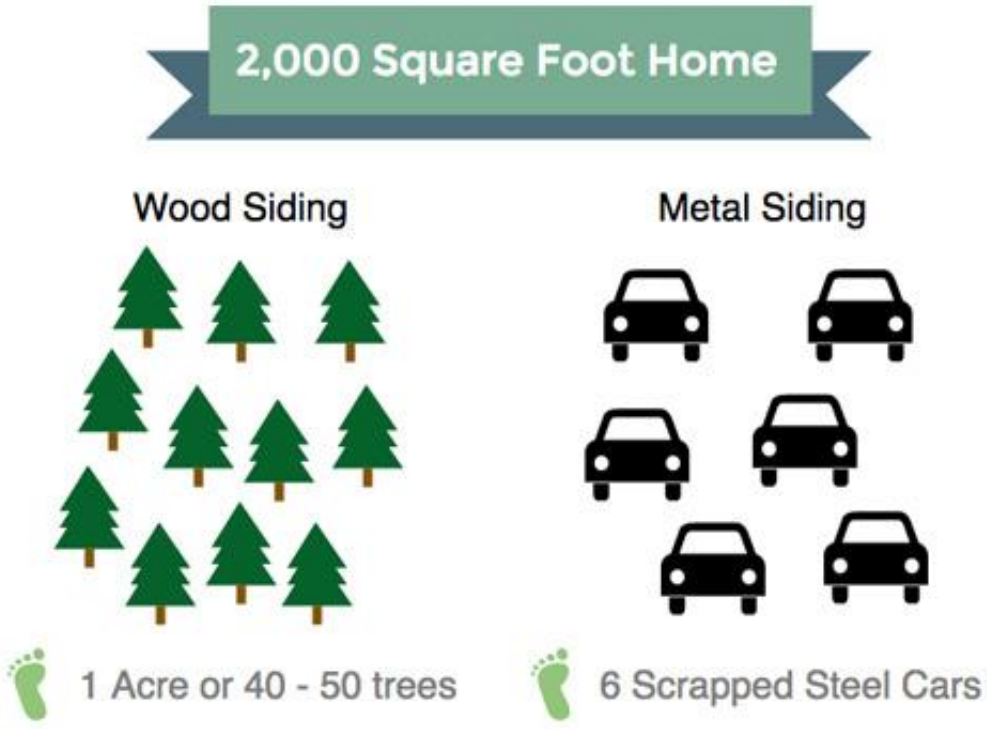
On the engineered wood side, Collins (http://www.collinsco.com/TruWood/) is an FSC certified company offering many engineered wood siding products in their Truwood line. This is a true family owned business operating since 1855. Another FSC certified wood cladding product is Ecoclad (http://www.kliptech.com/index.php/products/ecoclad), which is an award winning green product building with recycled paper and bamboo fibers.

Metal

Metal siding such as steel or aluminum get high marks for coming from recycled sources as well as recyclable when no longer in use. Steel is touted as the **#1 most recycled material** in the USA by the Steel Recycling Institute (http://www.recycle-steel.org/). This coupled with low maintenance for upkeep make it a good choice as a green siding option. Metal siding though is more prone to dents & a product such as steel is not lightweight making it labor intensive.

Of the 2, steel is considered the more greener than aluminum often having a percentage of recyclability. A company called Rollex (http://www.rollex.com/recyclability), claims 100% recyclability of its steel in house siding.

Revere Building Products (http://www.reverebuildingproducts.com/default/greenenvironment.aspx) states a typical 2,000 square foot house takes up to 40-50 trees or 1 acre to provide wood siding, where as to complete this same job with steel siding only requires about 6 scrapped cars of steel.



Stucco

Common stucco siding is a nice blend of portland cement, sand, water, & lime and is very popular in dry climate areas such as New Mexico, Colorado, and Arizona. For the most part this is a very eco safe mix of natural elements with little to no synthetics or chemicals involved.

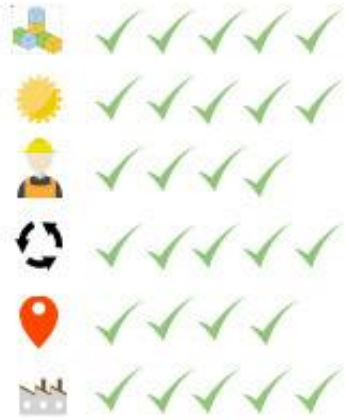
However, an even **friendlier green alternative is lime plaster** which removes the cement from the mixture using just limestone, water and sand. By removing the cement production from the mix, this cuts the greenhouse gas carbon dioxide (C02) from emission in the atmosphere making it more friendly to the environment.

One such company that does this well is EcoStucco (http://www.ecostucco.com/). They offer a range of stucco product in over 216 color tones in 4 different textures. Take a look below at all the color options for their eco stucco.

When used with brick, stucco is removable allowing the brick to be reused and recyclable for other building projects. This cannot be done with cement, rendering the bricks unusable after their life cycle ends.

One alternative to stucco is **Exterior Insulation Finish Systems**, or EIFS. This product is made from less cement consisting of an insulation board coated with an acrylic finish which makes it more lightweight and durable. The selling point on EIFS is its continuous insulation increasing the R value and its overall energy efficiency.

Adobe and Earth Products



Very closely related to stucco is adobe clay or adobe bricks. Adobe in its basic form is clay and can be used as sun-dried mud bricks, which is a more earthy and natural form of brick as an exterior ‘siding’. It is a **mixture of earth, water, and mostly straw**, think Moses and the Israelites as slaves making bricks. After they are made they are left in the sun to dry and harden, so there is no manufacturing of the adobe.

Out of all the siding choices, **we would have to say this is the most eco-friendly siding and environmentally safe material that you can possibly use for your home**. It is straight from the earth, renewable, sustainable, with nothing to recycle.

Classic Adobe Home

Adobe is usually built from the ground up along with the home and although not very common and a rare site in modern suburbia, this type of home improvement is the true essence of a sustainable and green home.

Again with adobe, like stucco, **locale is a primary factor** in determining if you will have siding made of adobe. New Mexico is probably at the heart of all adobe homes and spreads somewhat from there. Building an adobe home in Maine or Florida is doable yet you will most likely have to have the bricks shipped long distances adding transportation and energy costs to your construction not to mention it will not be cheap!

One fine company that excels at adobe brick making is Clay Mine Adobe (http://www.claymineadobe.com/), which offers adobe, mortar, and clay paster. Another company that offers 'rammed earth' housing is Soledad Canyon (http://www.adobe-home.com/), located in Las Cruces, New Mexico. There are several companies that make 'adobe' paneling as a synthetic, but why would you want the unnatural in place of the natural?

Fiber Cement

Fiber cement is often proclaimed the **green alternative to vinyl** is made up of sand, cement, and wood pulp. During the manufacturing process, Fiber Cement emits fewer dioxins as well as there is no release of dangerous fumes when on fire as opposed to its close cousin vinyl siding which emits PCBs when burned up.

Fiber cement also doubles as the next best alternative to wood siding with its similar look and texture but without the high cost and maintenance. It is a very durable product with some warranties lasting 30-50 years on the material itself.

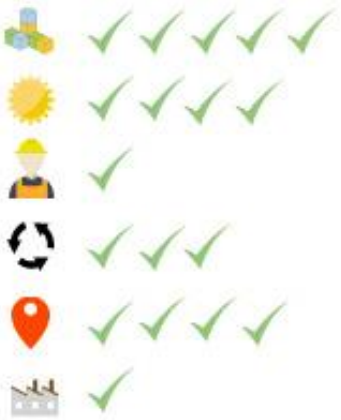
The most popular provider of Fiber Cement products is James Hardie (https://www.jameshardie.com/).

HardieShingle

A few drawbacks of Fiber cement is its manufacturing process which uses up more energy than most especially stucco, as well as the wood pulp it uses may travel long distances, so you will want to check the wood sources origins. Also, one of the more potent dangers on the individual level is that fiber cement planks and cladding have to be cut by saw. Since these boards contain silica, this cutting releases **dangerous crystalline silica dust** into the air. Breathing these particles for too lung can cause irreversible damage to the lungs and person involved. The CDC recently did a study on fiber cement (http://blogs.cdc.gov/niosh-science-blog/2013/03/26/silica-fibercementdust/) researching these particles that are emitted in the air.

If you are installing these yourself, be sure you wear proper protection and gear to minimize exposure to these particles.

Brick



Brick is another popular choice given its earthy, natural, and low maintenance siding option. Clay bricks will always be a contender for eco-friendly siding due to its **natural composition of clay, shale, and water**. It is extremely low maintenance with no caulking or repainting as well as it carries a long lifespan of over 100-200 years.

If you can find it, salvaged brick is the most green way to go as not all brick is recyclable. Most clay brick is kiln baked.

The biggest downside to brick is in its manufacturing process. It takes heavy energy and fuel to heat and manufacture the bricks, baking them at over 2,000F for several days to get them building ready.

Brick (clay, shale, water)

One innovative and responsible company is Calstar (http://calstarproducts.com/bricks/). They claim their brick manufacturing process uses less than 20% of the energy than conventional clay bricks by using fly ash, water, and sand. They state for a 100,000 brick project, using Calstar bricks will reduce CO2 emissions by 80,000 lbs as well as save 500 million BTU of energy!

CalStar Brick

uses less than 20% of the energy for standard bricks

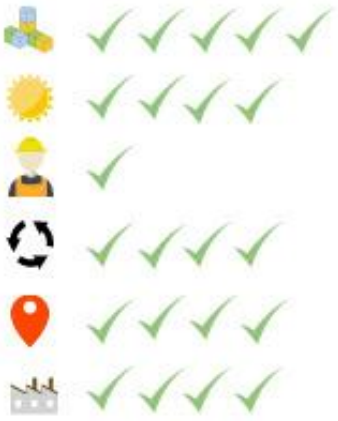
Another company is Green Leaf Brick (http://www.greenleafbrick.com/), this green company manufactures fired masonry brick that is sourced from 100% recycled materials, specifically designed for sustainable building construction.

If you go with a brick company you will always want to use local raw material to source your bricks as they are heavy and require lots of fuel for transport. Another option to cut the amount of raw material and manufacturing process is to use brick veneer or thin bricks. Tru Brix (http://www.tru-brix.com/default.asp), offer real brick veneers about half the thickness of a standard brick and is held together with real mortar on a metal railing.

Stabilized Adobe brick is another alternative to offer a environmentally sound brick siding. Stabilized brick is manufactured by high compacting of earth/soil and then adding a stabilizer such as lime. These bricks are then sun-dried instead of being baked in a fire, removing the

high fuel & energy demands made by standard bricks.

Stone



Next up is stone siding. While everlasting in beauty this is a nonrenewable resource (though quite abundant) and requires intense labor to transport and install. However, real stone siding is 100% natural and does not require any treatment before or after with chemicals or synthetics. You will want to work with your contractor to make sure your stone is locally sourced and mined.

Stone Wholesale Corp (http://www.stonewholesalecorp.com/sustainable_stone.php). offers sustainable stone materials that minimize impact to the land and environment when excavating natural stone. They state that after a quarry is located, dug, and complete, they leave the land in better condition than before it was mined and use only energy efficient machinery for excavation.

Stone gets bonus points for virtually no manufacturing, it's recyclable if torn down correctly, as well as energy efficient. Labor is the real burden that this type of siding carries with it.

Genstone Pillar Panel

Also very popular is stone veneer. This comes in much thinner than natural stone but still is natural and real. Glacier Stone Supply offers a Natural Lite Thin Veneer for a more greener alternative than full stone siding.

Other options is faux (fake) stone siding. This is just engineered panels and siding made to look like stone without the lengthy process of masonry and the culling of real stone. A leader in faux stone is Genstone (http://genstoneproducts.com/). Genstone claims to be

ecologically friendly by not demanding and extracting natural resources from the earth, redefining the definition of going green! We'll let you decide if this benefits the economy or not.

Vinyl

Finally, we have vinyl which is the most popular form of exterior siding installed in homes across the US. So how does it measure it terms of eco-friendliness? You will often hear both sides of this hotly debated, some calling it green while others crying foul. There is no escaping of the fact that it is made of Polyvinyl Chloride or PVC. Its chemical makeup is toxic both to the environment and to humans. The Healthy Building Network (http://www.healthybuilding.net/news/2007/03/09/usgbc-pvc-is-not-a-healthy-building-material) labels it **'not healthy'**.

However, on the flip side, there is little to no manufacturing waste in the material, it is very efficient in transporting the material to the work-site, and is lightweight making it not as labor-intensive as fiber cement or brick siding. Also, throughout its lifetime it does not have to be caulked, stained, or painted like other high maintenance exterior siding materials.

In addition to these benefits there is also the option of insulated vinyl siding, which adds a thick foam layer underneath each panel boosting the R value or its energy efficiency and retaining both heat and cold during the winter and summer months. All this combined, really adds to a strong argument that vinyl siding is more than meets the eye. The vinyl industry does have a strong lobby and does promote the 'greenness' of vinyl. Check out a video below by the Vinyl Siding Institute. You can be the judge if this is truly a 'green siding option'.

Vinyl Siding is Verifiably Green

All in all, there is one thing that vinyl will always have going for it is its **low cost**. That's probably the number 1 reason it is so popular. You can see for yourself by using our siding calculator (http://www.sidingestimator.org) to get an estimated cost for installation.

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