Architects and home builders across Canada are increasingly interested in green building. Yet green building must not only be environmentally friendly — it must also be affordable.

Green products that are out of reach for the average consumer will remain niche products that have little chance to make a positive impact on the environment.

Moving green building beyond niche status and into the mainstream requires the use of affordable, widely available and environmentally friendly products. We know how to measure affordability and availability, but how do we determine what’s environmentally friendly?

Fortunately, tools are being refined that help builders and consumers choose. Life-cycle analysis (LCA) is the science of examining a product’s entire life from extraction of raw materials and manufacturing to transportation and installation to final disposal or recycling. Another tool is risk analysis. All activities, including making and using products of various materials, carry risks.

LCA shows that two of the most important environmental features of products are renewability and durability. Renewable materials and energy sources are green by nature. Durable materials last longer and require less frequent replacement and upkeep.

So, which materials perform well in life-cycle and risk assessments? Wood, of course, is abundant, renewable, requires far less energy to make than either steel or concrete, soaks up carbon dioxide and has diverse applications. It has a strongly positive life-cycle impact.

So does vinyl. More than half derived from common salt, vinyl is one of the most energy-efficient materials to make. Vinyl’s energy efficiency attributes are highlighted in the performance of products like windows. Vinyl is durable and lasts for decades with relatively little maintenance compared to other materials. At end of life, it can be managed in the same fashion as other building materials. There continues to be increased recycling of vinyl building products at the installation and even end-of-life stages.

Yet vinyl gets targeted by environmental activists.

The fact is vinyl’s environmental issues have been thoroughly studied and answered.

Vinyl scores well in life cycle tests. The U.S. Green Building Council, European Commission and the state of California all looked comprehensively at vinyl’s pros and cons and concluded the overall impacts were in line with those of other materials — and that vinyl could do better than the competition in some applications.

Vinyl products are constantly being improved and new products are being certified as environmentally sound by third parties under programs such as TerraChoice Eco-Logo, FloorScore, Green Label Plus, and Greenguard standards.

The best way to deliver affordable, safe drinking water is through a vinyl pipe. Drain waste and vent pipe made from vinyl has significantly displaced old cast iron pipes in the marketplace due to its lighter weight, easier installation and superior longevity.

The best way to insulate electrical wiring is with a vinyl coating. In hospitals, vinyl is used widely for floors and wall coverings because it is easily cleaned and disinfected. Vinyl is a durable, cost-effective siding for buildings because of its low maintenance and long life. Building with vinyl saves on energy and material costs.

And, in case you don’t think affordability has a place in this discussion, don’t forget the money saved up-front on energy-efficient materials like vinyl can be spent on other environmental add-ons, such as a ground-source heat pump that uses clean geothermal energy to make a home even more sustainable.

— Dr. Moore is a co-founder and former leader of Greenpeace and Chair and Chief Scientist of Greenspirit Strategies Ltd.