Composite Wood Decking:
Common Sense Sustainability

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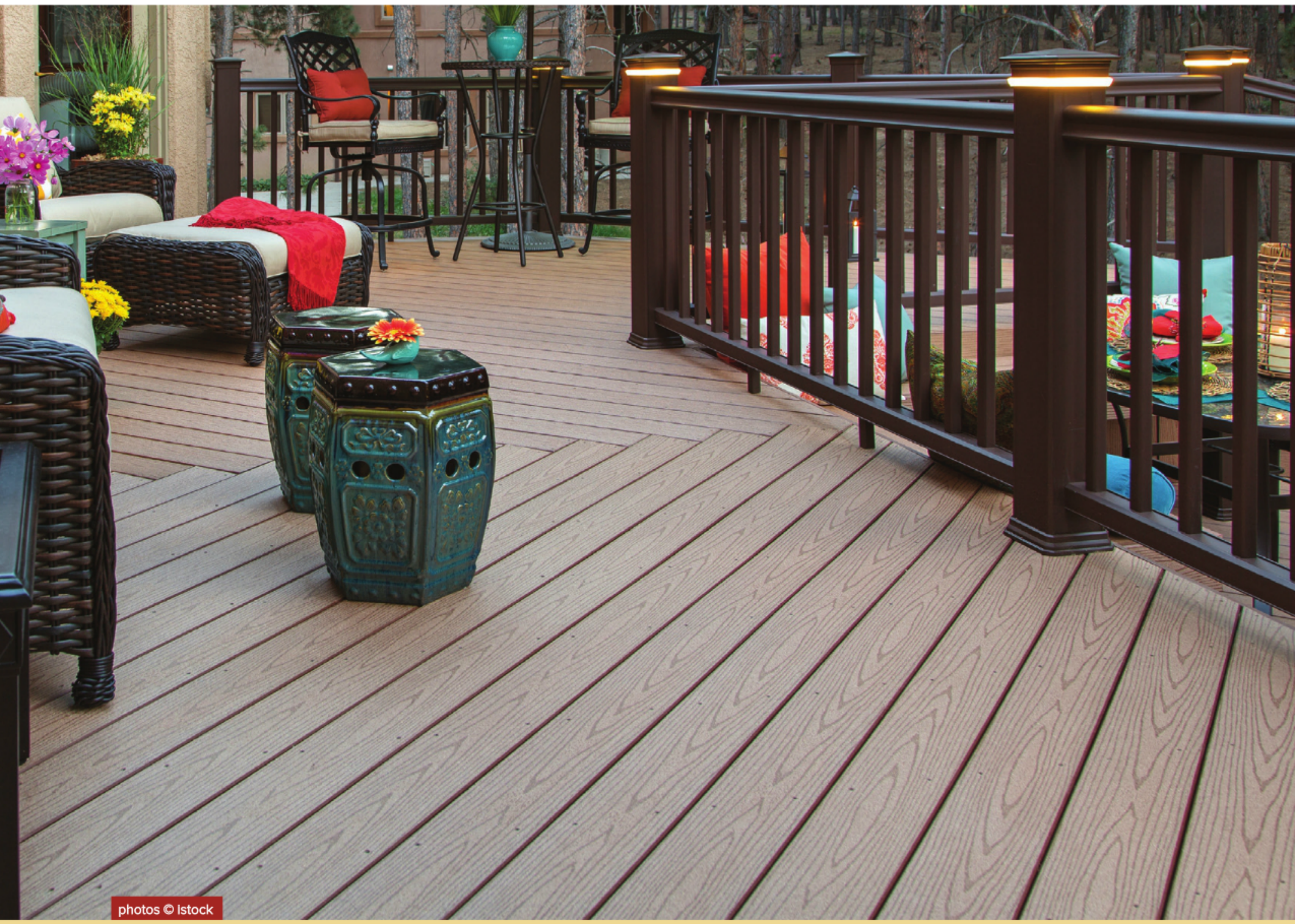
The trend towards sustainable building practices, including the use of composite lumber in our buildings, is an inevitable result of the growth of our civilization. For millennia, we have constructed our dwellings from the materials at hand; using timber, stone, adobe, animal skins, or whatever materials were readily available to build our homes made the most sense. The introduction of steel and concrete as building materials in the nineteenth century made bigger, taller and stronger buildings possible, and with the availability of electricity led to the development of our modern cities. High performance windows and advanced insulation products allowed us to reduce the energy consumption of our buildings, but with concerns about limited natural resources, something had to give. Whether resources were necessary to construct buildings, or to provide the energy to power buildings, it has become clearer that effective management of those resources is the best way to sustain the built environment.



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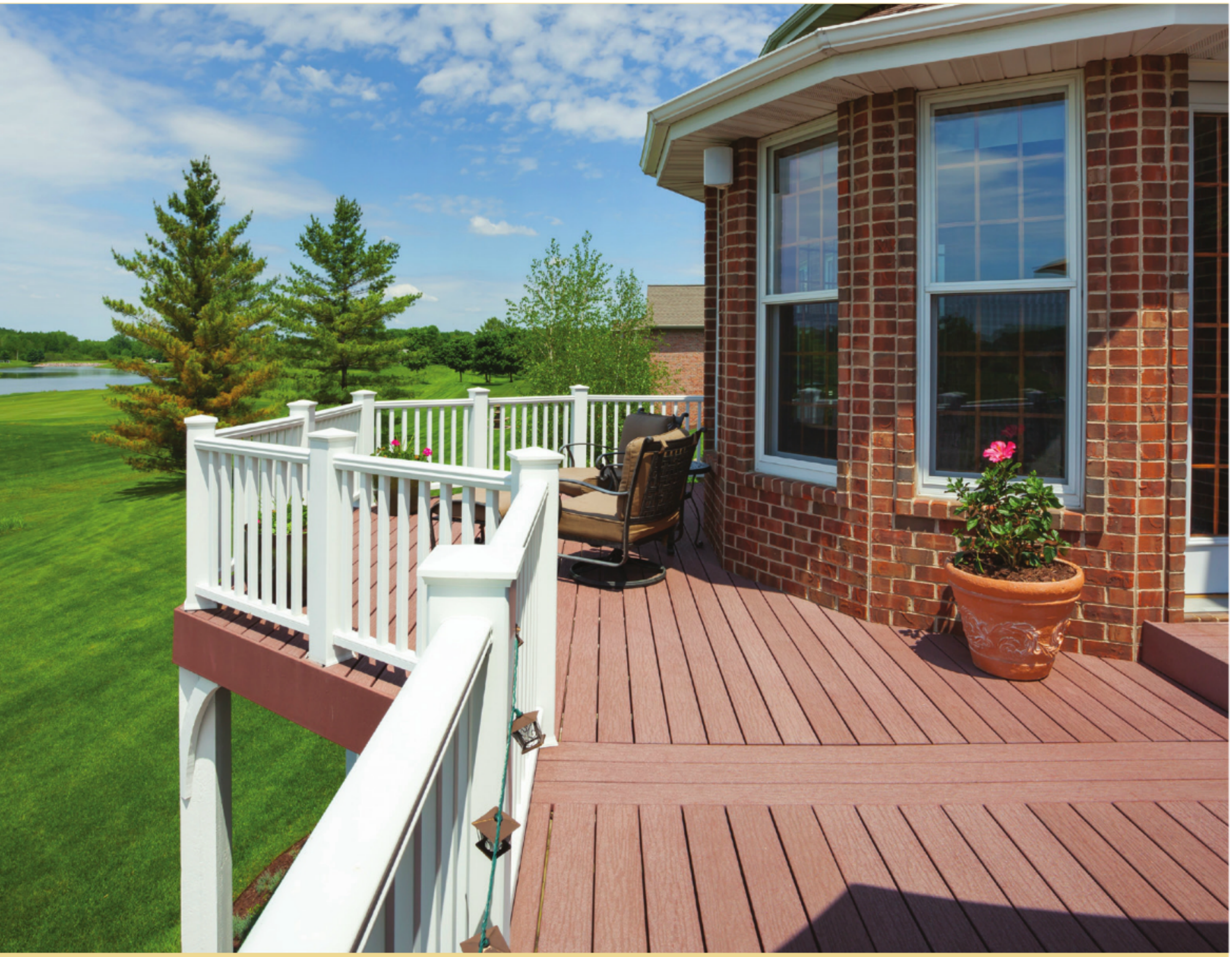
The latest buzz on sustainability involves using common sense as a cornerstone of sustainability. It can't be just about "going green" anymore because today's consumers (and homebuyers) are more sophisticated about most buying decisions. In the case of green building practices, there are a lot of misconceptions about just what actually IS green. As with most things in life, the simplest solutions are often the most effective. In fact, the decisions about what materials to buy, and how to use them, are ingrained in our construction practices. Optimizing lumber lengths to avoid jobsite scrap or buying local to save on freight costs? Common sense. Recycling or reusing construction materials? Common sense. Waste not, want not? Common sense. Selecting composite lumber for an outdoor living deck because it is made from recycled materials, and is a low-maintenance alternative to wood? Makes sense.

Standards for sustainable building materials and products have often focused on basic attributes that are easily understood. Deck boards manufactured from waste derived from wood processing operations are a prime example of building products containing recycled content. Producing these same deck boards in commonly used lengths to reduce scrap as a means to optimize material use on the jobsite is another. These simple attributes have shaped our basic understanding of what it means to be sustainable. Using materials with recycled content can reduce impact on landfills today, and developing easily recycled products can reduce the impact on landfills tomorrow. Buying materials from local or regional sources ("indigenous" materials) reduces the transportation impact on the environment and can also reduce freight costs. At the end of the day, however, it is about more than just buying wood waste. Consumers also look at the way manufacturers operate their plants, and this can influence buying decisions. Considering a company's commitment to environmental stewardship is another way to evaluate their "sustainability".

Producers of wood-plastic composite deck materials operate in a marketplace that demands accountability on their products and their plants. At TAMKO Building Products environmental stewardship is at the core of their corporate philosophy. David Humphreys, President and CEO of TAMKO, states "We are... proud of our recycling efforts as we are focused on waste stream reduction and utilizing recycled materials including more than 243 million pounds of recycled materials in our products in 2012."



At Fiberon, a producer of composite lumber decking and railing systems, water conservation is also a key tenet of environmental stewardship. Using a closed-loop water system means a zero-discharge rate from manufacturing. Producers of wood-plastic composites, rely on recycled materials such as polyethylene and wood sawdust for the raw materials that go into their decking and railing products. Transportation impacts are another facet of a holistic approach to protecting the future of the environment.

While wood sawdust is a biodegradable waste material, its use in wood plastic composites has a huge impact on sustainable forestry. Every deck built with composite decking instead of natural wood reduces lumber harvest while integrating waste plastics. It is this recycling of plastics, including disposed items like plastic milk jugs, shampoo and detergent bottles, that is perhaps the most compelling story.

Other manufacturers employ a three-pronged approach to environmental stewardship that includes a focus on clean manufacturing, product development and community involvement. Take for example, CPG Building Products – CPG boasts a 99 per cent rate of waste recovery during manufacturing. Additional manufacturing operations process improvements have resulted in an annual reduction of more than two million kilowatt-hours of electricity over the past five years. Water use and reuse is another focus; using a closed-loop water system for manufacturing means that the company captures 140,000 gallons
of water each day.

By using more than 100 million pounds of post-industrial wood flour and post-consumer plastic each year, CPG achieves an average recycled content rate of more than 50 per cent.

Production of wood-plastic composites, transportation impacts, use of recycled content including plastic bottles sounds like enough evidence to make the case for the sustainability of incorporating composite decking and railing. Selecting the deck materials is just the beginning. In order to get a true picture of the environmental footprint of composite lumber, it is important to consider what happens after the project is completed.

Materials

John Ferraro, Executive Director of the Washington, DC based Composite Lumber Manufacturers Association (CLMA) reminds of the need to look at durability and maintenance. "Production of composite lumber, like many man-made products, is an evolving science. The truth is that today's wood-plastic composites are a low-maintenance and long-lasting solution for outdoor living", said Ferraro. Citing the integrating of the wood fibers in a plastic binder, Ferraro notes that other than routine cleaning of composite decks, they are low maintenance. According to Ferraro, composite materials also resist splitting and splintering, making them a durable and comfortable option for outdoor living. "There is no need to apply stains every year or so, as with decks made from natural wood products, and common sense says I can use that time savings to enjoy the outdoor living experience."

Common sense also tells us that without the need to apply messy stains for maintenance even the post-installation environmental impact of composite wood decks makes sense. Perfect sense. SBD

By: **Michael Fischer,** *CLMA Director of Industry Affairs*

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