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Roundtable Sustainability Series: The Building Products Industry

We recently held an in-depth conversation about sustainability's impact on building materials with leaders in L.E.K. Consulting's Building & Construction practice: **Lucas Pain**, Managing Director and sector head; **Robert Rourke**, President of L.E.K.'s Americas region and former sector head; **Matt Korsch**, Managing Director; **Paul Bromfield**, Managing Director; and **Tim O'Neil**, Managing Director. Excerpts from our wide-ranging discussion can be found below.

What does sustainability mean in the building products and materials space? How do you define it? Is there debate about what it is?

Robert Rourke: Let's first of all define sustainability in the building and construction industry. In this space, by sustainability we mean not something vague like "preserving resources for the future," but rather something tangible: energy savings, water efficiency, CO₂-emissions reduction, improved environmental quality and stewardship of resources.

The implications of sustainability for the industry fall into three broad categories. The issues are, one, is the manufacturing

process used to make the products sustainable; two, is the construction process/value chain sustainable; and three, are there sustainability benefits from a more efficient building that, for example, uses less energy.

So first, you've got the question of the products in the building — were they made in a sustainable manufacturing process? Do they make use of renewables?

Then, there's how you actually build — the act of building — sustainably. So, how should the value chain work and how should building practices change so that those are actually more sustainable, so you limit waste all along the value chain?

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— Robert Rourke

Finally, how do you build something that's more sustainable so that when you have your home, or building, or commercial space, it actually functions more sustainably? It might have solar power. It might have products that help reduce water consumption such as efficient taps. It might have materials that actually insulate it better to reduce heating and cooling costs.

Roundtable Sustainability Series: The Building Products Industry was based on a conversation with **Lucas Pain**, **Robert Rourke**, **Matt Korsch**, **Paul Bromfield** and **Tim O'Neil**, Managing Directors in L.E.K. Consulting's Building & Construction practice. Lucas, Rob, Matt and Tim are based in Chicago, and Paul is based in New York. For more information, contact industrials@lek.com.

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These categories are very different. Right now, there's more traction in building sustainable structures and using products that help with that, particularly if they also have the benefit of being economically justifiable and not just sustainable. There's probably less progress on trying to cut waste out of the overall value chain of building.

It's important not to minimize the industry's impact. Buildings account for 28% of CO2-related emissions, with building construction representing an additional 11% of emissions. This sector is a big deal when it comes to sustainability.

Is the marketplace demanding sustainability? Is there a willingness to pay for it?

Lucas Pain: For the average residential home, sustainability hasn't been a major driver of decision-making, especially around product selection. There are some areas where it's a priority, such as for solar roof panels. But on the residential side, sustainability hasn't gotten traction without massive state subsidies to help underwrite it. There's more demand in commercial applications since architects care about LEED (Leadership in Energy and Environmental Design) points. And corporate mandates may require it, such as in the case of RE100 companies that have committed to achieving 100% renewable electricity over time.

Sustainability is a core value, one that many companies and individuals embrace.

— Lucas Pain

On the commercial side, a lot of building owners seek to differentiate themselves by having green buildings to pull in tenants, so I think there's more of a motivation to build that way. I think it's easier to be sustainable in commercial, particularly in higher-end commercial buildings where there are considerations other than whether it's economically justifiable. In residential construction, there's a small percentage of people willing to make investments in sustainable materials today when there's no short-term economic benefit.

Things are changing, though. In the [2020 National Association of Realtors survey](#), 17% of respondents said that a high-performance home (i.e., a home with improvements that increase indoor comfort, health, operational efficiency and durability) had an increase of 1%-5% of the dollar value offered compared to other similar homes. Furthermore, more than half of real estate agents and brokers found that the majority of consumers were either somewhat interested or very interested in sustainability.

What impact, if any, has COVID-19 had on the appetite for sustainability in this space?

Paul Bromfield: Our sense is that COVID-19 has had a mixed impact in terms of the importance of sustainability. Health goals, such as changes to HVAC and ventilation, now have a greater emphasis. That said, health goals naturally fit with sustainability goals — a healthy, safe, sustainable building — so the two can be implemented together. We have also seen that wildfires on the West Coast have elevated sustainability awareness, and that is going to have some impact on sustainability demand.

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To make a home or building sustainable, is it necessary to build that way from the start? Or can a project be modified after it's started or after it's built?

Matt Korsch: On the residential side, consumers can try to find homes that are more sustainable if that's what they prefer. But more of the effort is on the R&R (renovation and replacement) side, with people making sustainability-related updates or changes going forward.

There's a thought that if the payback is less than four years on the marginal cost of making something sustainable, then you're going to have a market for it. If it's more than four years, you're only going to get niche acceptance in the market; at that point, you're just appealing to people who are trying to do good and think that no matter what the cost, you've got to save the earth.

Tim O'Neil: You can come up with a ton of different examples and payback periods. With triple-glazed windows, the payback is measured in months. Sure enough, many people now do triple-glazed windows in the home, assuming they can afford them upfront. But at the other extreme, there are geothermal loops that use ground heat to offset your HVAC, and that's an 18-year payback. Those have very little acceptance.

When you speak with players in the building materials industry, to what degree are sustainability topics top of mind or a key consideration?

Paul: It's a key topic only to the extent there are economic benefits, things like using less water and energy efficiency.

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For a corporate entity, there may be an economic benefit, a public relations benefit and an employee motivation piece. Pursuing sustainability goals is often very consistent with hiring and supporting employees.

Another way companies talk about sustainability is in terms of “reduce, reuse, recycle.” Companies often think about building products in those terms. Where can we reduce the amount of material used? How do we enhance longevity of the product, which is a means of reuse? Here again, these sustainability drivers align with economic drivers.

And another resonant area in the industry is resilience. A key dimension of sustainability in building products is, if you think in terms of climate change, can you have products and designs that are going to be more resilient in extreme weather conditions (e.g., storm-resistant windows) — that will actually survive and won't be destroyed by the elements? This is definitely a factor in company thinking that is a little different from shorter-term economic considerations. It's making sure you have a building and materials that are going to be preserved. That's durability as sustainability.

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Can you elaborate a bit more on durability as sustainability?

Robert: The trend toward more durable structures is picking up. Building codes are only becoming stricter. The footprint of hurricane-resistant building codes is marching from the Southeast outward. It's going up the coast. It's been a front-and-center issue in Texas and Florida for obvious reasons. But it's migrating as severe weather becomes more widespread. Then, as you think about the West, you have standards and building codes that increasingly require fire-resistant and fire-retardant materials and construction, in both residential and commercial.

And codes and regulations are driving that?

Matt: The insurance industry is saying, “Unless you build for this specification, we're not going to underwrite the next home without charging a massive premium on it or enforcing a huge deductible.” This places pressure on the building products industry to change codes so that there's less insurance risk from

natural disasters, floods, hurricanes and fires. That's an entirely different set of drivers than saying, “I want to use recycled flooring so I don't have to cut down new-growth trees.”

Are there new risks or changes on the horizon that the industry should be planning for?

Lucas: More regulation and financing incentives are on the horizon. An example is Property Assessed Clean Energy (PACE) financing, through which you can get an upgrade on your windows, your rooftop solar panels — whatever it might be as long as it's sustainable — and you get to pay it off over time through a small increase in your property taxes. Bringing all that together requires some ingenuity in financing and government, and obviously, having the right sustainable building elements.

What other programs are there to advance sustainability?

Robert: A lot of the mandates around commercial construction are intended to help sustainability-solution providers move up the experience curve faster than demand would naturally allow. The goal is to make the solution more affordable to the rest of the market more quickly and benefit the rest of society. In short, this is to reduce the cost for customers who come in later.

We also need to talk about the value of transparency. Over the years, we've seen the building and construction industry focus increasingly on understanding markets and competitive landscapes. This is challenging because the industry does not always have a lot of data. But the drive toward sustainability supports greater transparency, and increased transparency in turn helps advance sustainability goals. It's a virtuous circle. For example, elements of sustainability such as low volatile organic compound (VOC) paints or reflective materials are now defined and measured more clearly. The solar industry has led on many of these initiatives and provided transparency models for the rest of the sector. As the industry compiles more facts, and values like payback for sustainability become more clearly defined, you are likely to see increased adoption of compelling solutions — and a shakeout for those that are less compelling.

What are some of the things they're requiring or subsidizing?

Paul: There are several, but some have had mixed results and subsidies still have to support an underlying strong economic case, such as increasing the penetration of renewables that still provide energy savings. One of the challenges we sometimes have in our industry is focusing on economical products that installers and distributors and the whole value chain can really

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use and benefit from, as opposed to curiosities. Garden roofs are extremely expensive, hard to install, and take up a lot of time for execution and oversight. And they have limited impact. On the other hand, getting people to put on reflective single-ply roofs can have a real impact, not just for the building, but also for the heat-island effect in the community.

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— Matt Korsch

What are more practical things that municipalities should consider, which might have a bigger role and impact later?

Matt: One thing is to look critically at codes and the standards and ask, "Are those codes and standards really about performance? Are they up to date?" Many codes require old materials, or too much material. And that's simply because the municipalities have never updated those codes.

Are there new technologies or new approaches or new developments in building materials that have the potential to enhance sustainability?

Robert: One of the things that I think about is 3D printing, basically additive manufacturing, but on-site. The idea is that if you do it on-site, you can accelerate the construction process and take labor out because the 3D printer is effectively a fancy robot. So, if you arbitrage labor, then you can potentially afford to put in what would ordinarily be a more expensive material as a substitute for that labor. Another good example is smart homes and energy management systems, where there is increasing consumer interest in finding savings.

There are other examples — 3D printing for prototyping, reduced-carbon concrete, carbon-eating plastic. But those are all in early days and it's hard to form a perspective on them.

Are sustainable materials always going to be more expensive?

Paul: Sometimes sustainability isn't about more expensive products, but there may be other trade-offs that have to be made. A specific example is in California. People love those gray/black roofs. But they want them to be reflective as well, and that's really challenging and expensive to do. The solution the state mandates is that you now have gray and black roofs that don't look quite as good as they used to, but they're meeting the reflectivity requirement at a similar price. And customers have been willing to accept that trade-off.

It sounds as though sustainability may not be the primary goal in building materials and construction, but there are a few trends that are increasing sustainability, whether that's the intention or not.

Lucas: Sustainability has and will continue to come into play as a function of certain circumstances. The circumstances that tend to cause it to matter more are when 1) the structure is a commercial building, 2) the economic payback on any residential decision is rapid, 3) government regulations are put in place that force a standard, or 4) there are subsidies. So, if one of those factors is true, things move toward sustainability. If multiple factors are true, then we move toward sustainability more rapidly.

Sustainability is a core value, one that many companies and individuals embrace. Here at L.E.K., we're passionate about sustainability. Multiple forces — often economic ones — can be needed to drive sustainability. But when they align — transparency, economics and sustainability as a value — major change can and will happen.

About the Authors



Lucas Pain is a Managing Director and Partner in L.E.K. Consulting's Chicago office, leads the firm's Global and Americas Building & Construction practice, and is a member of L.E.K.'s Americas Regional Management Committee. With more than 20 years of experience, Lucas works across the value chain in the residential and nonresidential building and construction sector

to identify high-potential growth opportunities and navigate industry challenges, including rising competition, pricing and margin pressures, labor shortages and uncertainty surrounding construction cycles.



Robert Rourke is President of L.E.K. Consulting's Americas region and is responsible for directing the firm's strategy and operations in the Americas region. Rob also chairs L.E.K.'s Americas Regional Management Committee and serves on the firm's Global Leadership Team. He advises clients in the industrials, building and construction, and retail sectors. Rob has more

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Matt Korsch is a Managing Director and Partner in L.E.K. Consulting's Chicago office. Matt advises clients on a range of strategic issues, including growth strategy,

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Paul Bromfield is a Managing Director and Partner based in L.E.K. Consulting's New York office. Paul, a member of the firm's Industrial practice, focuses on the building products

sector. With more than 20 years of experience, Paul has a strong record of helping companies accelerate growth and drive major change, including product and service innovation, multi-channel strategy, digital acceleration and diversification through M&A and new ventures. He brings particular expertise in growth strategy, marketing and sales, and organizational strategy.



Tim O'Neil is a Managing Director and Partner in L.E.K. Consulting's Chicago office and a member of the firm's Building & Construction practice. Tim advises clients

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About L.E.K. Consulting

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