

SPONSORED CONTENT

SUSTAINABILITY

A New Mindset: Developing More Sustainable Practices



SPONSORS



When a tree falls in the city, the cords of wood are likely headed to a private dumping ground to be burned. It's an unpromising ending to a natural resource that could have provided so much more value.

Damon Barron, founder of Carolina Urban Lumber, works to find those fallen assets and connect them with businesses so they may live on as custom furniture or even dimensional lumber for a building project.

"I want to create small business operations that turn waste into commodities within the city," says Barron. "I feel like we have changed the narrative in this city in the last 10 years to where the norm is that we don't throw trees away."

Developing more sustainable practices requires a change in narrative within the community about how buildings are designed, how communities are conceived, and how a profit model for business can fit within the scope of making communities sustainable and equitable for all residents.

Barron made his comments as part of a panel discussion on sustainability presented by the Charlotte Business Journal. Joining Barron on the panel were Kristina Held, co-owner of Insight Architects, Sol Haroon, director of renewables with McKim & Creed, and Erin Stanforth, sustainability and resiliency manager for Mecklenburg County government. Shannon Binns, executive director of the nonprofit, Sustain Charlotte, moderated the discussion.

ON A DEFINITION OF SUSTAINABILITY

Someone finding new uses for what was once considered waste is one definition of a sustainability. Panelists from design, engineering and government described how the concept of sustainability directs their work.

Held, the first Passive House-certified architect in Charlotte, says sustainability in architecture is about creating spaces where people live

SHANNON BINNS | Executive Director | Sustain Charlotte



Shannon is the founder and Executive Director of Sustain Charlotte. Prior to moving to Charlotte in 2007, Shannon worked at The Nature Conservancy in Washington, DC where he was part of their climate change science and policy team. Shannon has also served as an agroforestry volunteer with the Peace Corps in Senegal, helped found a tsunami relief organization in Thailand, and served communities across the country as a member of AmeriCorps' National Civilian Community Corps. In the private sector, Shannon has worked as an industrial engineer for Motorola, General Motors, and Trane. He holds a Bachelor of Science in Industrial Engineering from Iowa State University and a Master of Public Administration in Environmental Science and Policy from Columbia University. He has served as a Supervisor on the Mecklenburg County Soil and Water Conservation Board and as an adjunct professor in the Sustainable Technologies program at Central Piedmont Community College. He currently serves on the North Carolina Advisory Board for Environmental Defense Fund (EDF). In 2015, he was named one of Seven to Watch by the Charlotte Observer and one of the Charlotte Business Journal's 40 Under 40. In 2018, Charlotte's NPR affiliate, WFAE, named him one of The Most Powerful Voices in Charlotte. Contact Shannon at shannon.binns@sustaincharlotte.org.

KRISTINA HELD | Co-Owner | Insight Architects



Born and raised bilingually, (German and Serbian) in a historic house on the Adriatic Sea in Montenegro, Kristina developed a love for life and nature that would guide her career. Kristina studied architecture at the University of Belgrade and received her professional degree in architectural engineering from The University of Kaiserslautern in Germany in 2000. The same year she moved to Charlotte, NC where she completed her MA in Architecture focused on Organic Architecture in 2004. Kristina has a passion for design and an expertise in sustainable architecture. She has been involved in designing many unique buildings in the Charlotte area and has acted as a sustainability consultant and designer on LEED and Passive House certified projects. She excels in designing buildings that organically integrate with the site and the environment. Kristina believes in the power that the built environment has on the quality of life for current and future generations, and sees great value in providing unique design solutions for projects of any size and type. Kristina Held is a member of the USGBC and PHIUS (Passive House Institute of US), and has served as an advisory board member for the development of the Charlotte Mecklenburg Unified Development Ordinance. Kristina Held is also a member of the Charlotte CREW chapter and the South Chapter of the German American Chamber of Commerce. Kristina is the co-owner of Insight Architects, PC and lives in Charlotte NC with her husband Bojan, her two daughters Zeta and Mila, dog Bella and Olivier the cat.

DAMON BARRON | Founder | Carolina Urban Lumber



I had a career in the supply chain to the Furniture and Cabinet Manufacturing industry that spanned 20 years. After a diverse career in the industry for two decades, I left to start Treecycle America which later spawned Carolina Urban Lumber. Before all that I grew up in the Dallas/Fort Worth area and I was not particularly connected to trees. Moving to NC in 1995 after school changed the way he saw the common tree and how it plays a part in the Urban area. After learning more about what happens to Urban Trees in a city, I started a company that spoke to the common interest of mankind and to my personal passion that grew from those years in my career. Urban Forest and Re-Defining what that means became my focus. I now have a vision, plan and goals backed up by conscious capitalism in action to change the way we interact with our Urban Canopy.

SOL HAROON | Director of Renewables | McKim & Creed



Mr. Sol Haroon serves as the Technical Director – Electrical Systems at McKim & Creed where he collaborates with a diverse team to bring full scope engineering services to create client-centered solutions. His experience in renewables and the energy sector spans over 20 years. In 2018, Sol was responsible for an energy model for the Georgia Tech KBISD Living Building and for its PV+ESS design allowing the building to be 30%+ net positive. In addition, he serves as an adjunct/consulting instructor at the Georgia Institute of Technology. As a graduate of both the University of Waterloo (Electrical and Computer Engineering) and the Georgia Institute of Technology (Masters in High Performance Building Science in Architecture), Sol is frequently engaged in speaking engagements and panel discussions on energy, on electrification of vehicles, and on the built environment.

ERIN STANFORTH | Sustainability and Resiliency Manager | Mecklenburg County Government



Erin Stanforth serves as the Sustainability and Resiliency Manager for Mecklenburg County. In this role, she is responsible for leading, guiding and coordinating the implementation of actions and projects that support the County's commitment to Environmental Leadership. Erin has over 12 years of progressive environmental sustainability experience to include serving as the Director of Sustainability at Virginia Commonwealth University in Richmond, VA as well as serving as the Sustainability Manager for Portland Community College in Portland, Ore. She holds a BA in Sustainable Development from Appalachian State University and an MBA in Sustainable Business with a concentration in Government, Policy and Law from Marylhurst University. A Gastonia native, Erin enjoys gardening, kayaking, and spending time with her family.

“WHAT YOU DO TODAY WILL HAVE IMPLICATIONS TOMORROW AND FOR GENERATIONS TO COME.”

SOL HAROON



better lives.

“It shouldn’t feel harsh or forced, and it’s not something that you have to sacrifice for,” Held says. “It’s voluntary and it makes life better.”

Haroon, who also teaches on the subject at Georgia Institute of Technology, says he views sustainability as meeting current needs for resources without compromising future generations to meet their own needs.

“What you do today will have implications tomorrow and for generations to come,” Haroon says. “Everything we do is in consideration of the environment that sustains us, but also in consideration of people and the economy,

creating a robust and sustainable triangle of people, planet, and profit.”

For Carolina Urban Lumber, Barron says his business model is sustainable by only using waste trees for second-generation products.

“When we have a developer that has a stand of trees that doesn’t need to come down but they want to take them down for the money, we won’t participate,” Barron says. “We will only upcycle trees that come down out of our control. That’s how we manifest sustainability in our day-to-day.”

In government, Stanforth says sustainability means citizens having current and future access to quality resources,

such as clean water and air, and safe places to live, work, play and go to school.

“Personally, I agree with a definition that takes it a step further to include mental health and individual wellbeing.”

ON CHALLENGES CITIES FACE

“Sustainability does entail conserving resources and protecting the planet. In addition, the definition has evolved to include social equity, and to ensure that underserved communities do not bear the brunt of pollution and injustice,” says Haroon. A 2018 study by the Environmental Protection Agency showed that facilities emitting air pollution disproportionately affected low-income communities and communities of color.

“Sustainability is not equally distributed or accessible to everybody,” Haroon says. “One of the things cities are working on is making sure what is done doesn’t just benefit the few or privileged but allows access to a broader group of people.”

Stanforth pointed to a federally sanctioned task force focused on environmental justice and how pollution affects different communities. A national example, she says, is the water crisis in Flint, Michigan. Contaminated water in Flint has resulted in the third largest outbreak of Legionnaires Disease in US history and elevated blood-lead levels have doubled in children, city-wide.

Charlotte and Mecklenburg County have teamed up to bring a consultant on board to develop shared and prioritized environmental justice recommendations rooted in data and feedback from the community.

Held, a native of Germany, says creating cities with access to parks, education, public transit and jobs is not an impossible formula. It happens in most European cities.

“It’s actually very simple. If you go to any European city, you don’t need a car. You can go to university and work and you can



Insight designs residential and commercial buildings to Passive House standards. Our energy efficient designs adapt to the site, climate and support the overall health and comfort of users.

Passive House is an internationally operated performance-based energy certification program with the goal of minimal energy consumption and rigorous comfort standards.

Passive House is versatile and will work in any climate, any site, and with any type of building.

What can Passive House do for you?

Provide big savings with low monthly energy use (75% energy saving compared to code minimum)

Create a hypoallergenic, healthier indoor environment, including a constant supply of fresh, clean air, leading to fewer sick days.

Hold constant, comfortable indoor temperatures, even during extreme weather.

Provide a quiet indoor environment.

“Future-proof” your building investment.



insight
ARCHITECTS

Contact: Kristina Held
kheld@insightarch.com
(704) 344-0445
www.insightarch.com



find apartments where you don't have to be a billionaire to live in them. It's about connectivity and offering a variety of housing options close to parks, jobs, and public transportation. Once that happens, you can achieve a lot of equity."

SUSTAINABLE DEVELOPMENTS

Large-scale land developments have an opportunity to create more successful communities when sustainable architecture is part of the early planning, Held says. Instead, developers often approach new projects by working with a civil engineer to create a master plan to gain an early sense of the overall project cost. "It comes from a highly profit-driven perspective," Held says.

Engaging with an architect early on a master plan allows developers to achieve more sensitivity to how a development could increase the quality of the neighborhood.

"If they would involve architects or urban planners earlier and bring that perspective to the team, you get well planned places and a better quality of development."

ON SUSTAINABLE URBAN FORESTRY

Most trees planted in the city don't live long because they are hit by cars, are placed too close to utility work, or are removed for progress of some kind, Barron says.

Barron says he has become an advocate for planting and nurturing trees – including fruit trees that might support people – and hardwoods that provide wood for future uses once the tree has come down.

"You'd actually have a tree with a usable product when they are dead than some species that look pretty until they are removed," Barron says. "In the future, if we don't do this we will not have trees in the city. We just have to relearn this a bit."

ON MECKLENBURG'S COMMITMENT

Mecklenburg County commissioners recently updated their 2004 environmental leadership policy. The original plan focused on land acquisition and park development, Stanforth says. It now includes facilities, operations and planning.

"Our intent is to fully implement the plan by 2035," Stanforth says. "We are also committed to net-zero carbon emissions for county operations by 2035."

ON KEY SUCCESSES IN SUSTAINABILITY

Haroon says he has seen North Carolina lead the charge for renewables over the last decade. Located in Charlotte, McKim & Creed's Center of Excellence in Renewables has worked on over 120 solar projects spanning a capacity of 850 MW. Centrally based in Atlanta, Haroon helps the engineering firm's clients establish renewable energy projects consisting of solar PV, energy storage, and microgrids throughout the southeast's rapidly growing market encompassing NC, FL, GA, TN, AL, and VA. In addition, the firm's Raleigh office provides energy efficiency measures and modeling for the built environment – a vital complement to energy generation initiatives.



"We are committed to ensure that the greater Charlotte area and all of North Carolina is working with initiatives for more renewable and sustainability projects," Haroon says. In line with integrating energy efficiency with energy generation, He worked on the Georgia Tech's Kendeda Building for Innovative Sustainable Design (KBISD) which represents the first regenerative net-positive Living Future's Living Building Challenge-Certified building in the Southeast. "The building is part of an entire sustainable ecosystem", says Haroon, who worked on the design of its 330 kW PV array.

ON PASSIVE DESIGN

Held is the first Passive House-certified architect in Charlotte. The program is attractive, Held says, because the focus is on reducing the amount of energy a home needs to consume, even renewable energy.

The house does this with insulation and high-performance doors and windows to create a tight envelope that keeps energy inside. The orientation of the home is important as well as how trees and shade can keep the home cool in warmer months.

Held says passive homes are comfortable and much quieter than other less insulated homes.

"A passive house will perform 90% better than a conventional house," Held says. "We like it because it affects the architecture tremendously. It can last many years. The home is not a throwaway commodity but is here to stay."

Because utility bills are lower, such passive homes are a concept that work well in affordable housing.

"When you spend less on utilities, there's more money to put toward education and healthcare," Held says. "The emphasis is on the robustness of the building that doesn't have to be replaced and repaired in five to 10 years."

ON HABITS THAT ADVANCE SUSTAINABILITY

Panelists shared their thoughts for how readers can make changes in their daily habits to increase sustainability.

Buying local products is a sustainable practice that supports local business and decreases the impact of transporting goods, Held says. Ride your bike to get those local goods.

Stanforth recommended being an informed voter to support candidates who are invested in the health of the community.

Haroon agrees that awareness and education about sustainability are the best way to affect behaviors. Behavioral changes driven by awareness represent some of our most powerful tools especially when coupled with technology, standards, policy, and financial sensitivity. On a practical level, smart thermostats and data driven dashboards providing feedback can help us drive energy efficiency.

Finally, Barron says he tries to find higher quality products that he can use longer, which reduces waste.

"This mindset that cheap is good is something we need to grow out of," he says.



WE ARE **ENGINEERS** ENGINEERED **DIFFERENTLY**

Our team engineers and designs a brighter tomorrow... **TODAY**

**RENEWABLE ENERGY TURNKEY DESIGN,
ENGINEERING SERVICES, AND COLLABORATION FOR
SUSTAINABILITY LEADERS**

Engage with us for a collaborative experience from feasibility analysis to full design and engineering. Visit our website at www.mckimcreed.com

