

The background of the slide is a deep blue color with a pattern of concentric, overlapping ripples, resembling water droplets hitting a surface. The ripples are lighter blue and create a sense of movement and depth.

CONSEQUENTIAL QUESTIONS OVERCOMING PERCEPTIONS

DesignIntelligence®
MEDIA
December 2024



CONSEQUENTIAL QUESTIONS OVERCOMING PERCEPTIONS

Lynn Simon

Principal and Americas West Climate &
Sustainability Services Leader, Arup

Lynn Simon discusses resilience in the pursuit of systemic solutions.

DesignIntelligence (Michael LeFevre, DI:) We're talking with Lynn Simon, FAIA, LEED Fellow, a principal and the West Sustainability Services Leader in global sustainable development consultancy Arup's Americas region. Welcome, Lynn.

Thank you for taking time from your busy schedule to speak with us. Our theme for Q4, and for our Q1 summit event in La Jolla in January, is consequential questions. In your role, you must face this topic on an ongoing basis. I'm guessing that you may be someone not only charged with asking such questions, but also with determining which ones to ask. Am I on track?

Lynn Simon (LS:) You are. On a regular basis, clients come to us with consequential questions about the effects of potential outcomes of a particular sustainability action. For instance, when we are talking about integrating operable windows into a project and discussing that occupants generally prefer environments where they can adjust conditions to their liking, we still get resistance and pushback. In the appropriate climate, there can be significant benefits for installing operable windows including decreasing heating and cooling loads resulting in potential energy and cost savings. There can also be psychological benefits to the connection to nature often leading to reduced stress while promoting overall well-being.

DI: What are some of the significant current and emerging questions you are facing, either forced upon you or self-developed within your personal or firm value system?

LS: The ones we're seeing most often include:

- **Material innovation**
For example, how can architects and engineers reduce reliance on high-emission materials like steel and concrete and promote alternatives such as bio-based materials, such as mass timber, that are often lower in embodied carbon?
- **Policy and systemic change**
What role should architects and engineers play in sustainability-oriented policymaking to catalyze systemic change?
- **Energy efficiency**
How can architects and engineers design net-zero buildings that generate as much energy as they consume?
- **Adaptive reuse**
How can existing structures be retrofitted to meet sustainability standards and preserve cultural heritage while reducing waste?
- **Climate resilience**
How can buildings be designed to withstand extreme weather and contribute to enhancing urban climate resilience?
- **Overcoming perceptions**
How can design professionals address the misconception that sustainability involves trade-offs with other goals like cost savings or cultural preservation?

DI: That's a thought-provoking list. I imagine you can examine such questions from multiple perspectives: your clients, design and construction partners, your own staff, and then, in the larger sense, your constituents—those with whom you may not have direct or contractual relationships with but who are affected by your work?

LS: Yes. People spend approximately 87% of their time indoors and an additional 6% inside vehicles, which means that on average, individuals spend about 93% of their time in enclosed environments.¹ Given this, most people are affected by how residential and commercial buildings are designed, constructed, and operated. In addition, since the building

“
I believe it begins by understanding why there is resistance. Why are many architects, engineers, and other building industry professionals still resistant to integrating performance, sustainability, resilience and social elements into their projects? And how do we avoid or eliminate those barriers?”

industry is a major contributor to global greenhouse gas emissions (over 40% including both building operations and embodied carbon) we not only have a responsibility but an imperative to design, construct, and operate our buildings as sustainably and resiliently as possible.

DI: Our unstated assumption is that the questions are becoming tougher and are carrying greater consequences than ever, as systems and responsibilities converge. That is, the responsible designer now must assume a larger role in the environmental outcomes of their design and other related decisions. That we must work to optimize the consequences. Do you agree?

LS: Absolutely. And I believe it begins by understanding why there is resistance. Why are many architects, engineers, and other building industry professionals still resistant to integrating performance, sustainability, resilience and social elements into their projects? And how do we avoid or eliminate those barriers?

DI: Can you give us some examples of the kinds of resistance you have faced in recent projects?

LS: People are often hesitant to move forward with approaches that they are not familiar with. For example, certain client types may not be as conversant in the modality of engineering and sustainability. We all tend to want to translate the subject at hand to the language we speak in our personal professions and the paradigms in which we live. This way of thinking keeps us inside our comfort zone and enables us to add our particular kinds of value. That translation is where the hurdles arise, as well as the magic in instances where you can overcome the challenges.

On a recent project, a client did not initially understand the value of decarbonization. It was only after we led an extensive internal and external stakeholder engagement process that we were able to demystify the challenges and elevate the benefits, which include reducing energy bills while also contributing to the company's climate action goals.

DI: How are you succeeding in instilling ownership of larger issues (social, environmental, economic, et al.) in your staff? Or have we crossed the line where your employees bring this passion to their careers on their own?

LS: At this point, many of my colleagues at Arup have embraced ownership of these larger problem sets. There is seldom a need to articulate the problems internally or motivate our staff to seek and find solutions. At Arup, sustainable development is everything, and this ethos is demonstrated in how we communicate with our clients and how we deliver our projects. It is very gratifying when I am in a client meeting and Arup's structural engineers are talking about embodied carbon with our clients and highlighting opportunities to use mass timber or specify low carbon concrete.

DI: With project pressures as they are, I can imagine raising tough questions— even on occasion beyond scope—goes against one's economic grain. What you referred to earlier as “overcoming perceptions”. By that I mean, they could cost you, your firm, your partners or clients more money or time to address, but are the right thing to do, even at the risk of alienating other team members. Can you relate? As an industry leader, what strategies do you employ to cope with such challenges? Persuasion? Education? Because the conventional answers have been: “That's not my job...” “That's outside the project scope...” “We're only dealing with first cost budget...” and many other similar, wrong-thinking responses. And if we're in our customer service mindset, where the customer is “always right”, how do we win them over when they may not be right?

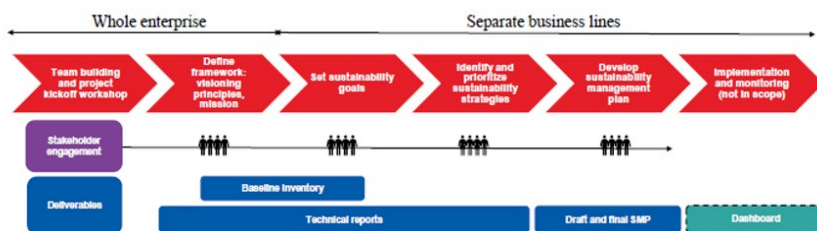
LS: At this point, I believe we have many of the solutions and technologies to accelerate meeting our climate goals. The issue is: How do we shift mindsets and influence behaviors? Change management has not typically been a discipline embedded in the culture of many design organizations, yet as architects and engineers, we are constantly dealing with evolving dynamics and trying to be change leaders. Many organizations assume that creating goals and a roadmap is the solution, rather than focusing on the foundations of a project. Frankly, success requires treating the change management process as a “design” problem, intentionally engaging clients strategically, from the beginning and throughout the process, to ensure buy-in early on so that climate and sustainability goals are embedded and become standard practice.

DI: Have you had any success in changing the rules of the game or incentivizing thinking and actions in new ways to reward those taking on greater risks or larger issues? Can you share an example of a project or an aspect that was transformed because someone asked the “unasked” questions or reframed them? How did those come about?

LS: One way to change the rules of the game is through policy and codes. While these “rules” may not be fully implemented across sectors and geographic regions, when sustainability becomes part of code or policy, efforts are accelerated. One example is when LEED certification is required by municipalities, there are significant increases in energy and water operational efficiencies, improved indoor air quality, and reduced waste to name a few sustainability improvements I’ve seen on projects.

Another example of how codes can accelerate sustainability efforts is evidenced by the 2024 Cal Green Code which introduced requirements for reducing embodied carbon in non-residential buildings over 100,000 square feet and school buildings over 50,000 square feet. When working with this code, the project team has the freedom to comply with one of three pathways to address embodied carbon: building reuse, whole building life cycle assessment (WBLCA), or a prescriptive approach for specific products.

And one more example that also started in 2024, is that cities, counties and state agencies with fleets of more than 50 vehicles must ensure that 50% of all new vehicle purchases are zero-emission. By January 2027, the zero-emission requirement increases to mandate 100% of new vehicle purchases.



Decarbonization Process, diagram courtesy Arup

DI: Clearly, changing policy and requirements changes results. Beyond reframing the questions, I’d like to dive into the decision-making process at Arup. Once you have framed the questions, can you share the mechanics, the process the firm uses to weigh, evaluate and resolve weightier issues? As a global firm you are blessed with resources, people, systems and brainpower most don’t have access to. As our problems have become more wicked, the need for more sophisticated tools seems greater than ever. Are there any systems-thinking related tools you can share?

LS: At Arup, when addressing decarbonization, for example, we take a staged, systematic approach that helps our client start where change is easiest and most affordable. Diagrams like the one below help our clients visualize where we are in the process. As a result, they can better understand and minimize their impacts by preparing baselines and net-zero strategies and targets, while developing whole life cycle reduction pathways and supporting implementation. Further, when it makes sense, we can also introduce new technologies and digital solutions to accelerate and manage the complexity presented by the decarbonization process.

DI: What is the one question that drives you? The question I’ve forgotten to ask that you’d like to speak to?

LS: How can I effectively balance integration of sustainability practices with organizational change to achieve long term environmental, social, and economic benefits?

DI: Well, chosen. A question that has the potential to keep you engaged throughout the rest of your career. I’ve really enjoyed the discussion, Lynn. Thank you!

LS: It’s been a pleasure to have this opportunity to share my thoughts and contribute to the conversation around consequential questions. When we summon the courage to discuss the hard, complex challenges, the more likely we are to achieve our climate and sustainability goals in the near and long term.

¹ The National Human Activity Pattern Survey (NHAPS): A Resource for Assessing Exposure to Environmental Pollutants, by Neil E. Klepeis and others, and published by the Lawrence Berkeley National Laboratory.

Lynn N. Simon, FAIA, LEED fellow is a principal and Arup's Americas West Climate and Sustainability Services leader. Based in San Francisco, she has over two decades of experience influencing behaviors and shifting mindsets to reach climate, sustainability and equity goals across tech, real estate and AEC sectors. Lynn's role is market focused, advocating for sustainable development practices from decarbonization to resilience. Lynn serves as the chair of the AIA California Climate Action Committee. She holds a Master of Architecture from the University of Washington and earned a Bachelor of Arts in Environmental Design from University of California, Berkeley.