Expert Interview Series: Sofia Siegel of Verdical Group on the Benefits of Green Buildings

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Sofia Siegel, project manager with Verdical Group, is a Green Building Consultant and an Environmental Advocate in the Los Angeles area, working with USGBC-LA and LBC-LA on local initiatives.

We recently asked Sofia about the benefits of green buildings from both an environmental and health standpoint. Here's what she had to say:

How did you become so passionate about green building?

I have been passionate about scalable environmental solutions for my entire career, and green building is a powerful lever in the fight for social and environmental justice. Climate change and compromised natural resources (air, water, soil) are social justice issues, and the most vulnerable communities are typically the most negatively affected among us. We have a responsibility to all communities and to future generations to treat our resources and planet responsibly.

Can you tell us about one of your favorite green buildings? What sets it apart in your mind?

Lately I have been fascinated by Bjark Ingles' ARC (Amager Resource Center) in Copenhagen. This waste-to-energy plant is being built in an industrial area of Copenhagen, and is designed with the additional functional use as a recreational ski slope. The integration of a waste facility (generally hidden from the public eye) into the lives of residents emphasizes awareness about our waste, and challenges the standards to which we can hold these types of spaces. This type of project challenges us to be more creative with all buildings, and to reimagine the potential of the built environment. You can see the project here.

What impact does a poorly designed building have on the environment?

Poorly designed buildings tend to reinforce most negative systems we (as a society) grapple

with, but I have pulled out a few:

- They are inefficient, requiring more resources in a resource-constrained era and reinforcing the damaging global practice of pursuing fossil fuels (and the feedback loop of climate change).
- They are physically and psychologically isolating: they encourage driving and disincentivize public transit which contribute to diminished physical health. The isolation associated with a badly integrated built environment plays a huge role in issues of mental health, from depression to anxiety and mood disorders. Isolated communities are also much less resilient, and bounce back much more slowly from stressors and shocks than more integrated, connected communities.
- They literally make us sick: bad HVAV systems and poor daylighting negatively affect our health (Sick Building Syndrome), and wet-applied products that offgas harmful chemicals are often carcinogenic and cost us all in quality of life.

We spend 90 percent of our lives in buildings, and when they are not well-thought out, we all suffer.

How do buildings affect our health for good or bad?

That totally depends on the building, the way it's built, and what we put in it. This is why we have a responsibility to design and build new spaces that emphasize human health and wellness. A badly designed building, with harmful products specified, will put occupants at risk and negatively affect output (people in badly designed buildings will use more sick days and be less productive during an average workday, etc.). A well-designed building has good air quality and does not put us at risk.

What do you think are the biggest misconceptions we have about green buildings?

People misjudge the return on investment and overestimate costs through short-term thinking – lower operating costs and longer life-cycles reduce the overall costs of a green building. Additionally, green buildings show, year after year, real improvements in human health, resulting in fewer sick days, improved performance and a reduction in turnover, all of which are efficient ways to improve profits for a company.

What are the financial benefits of green building?

There are so many financial benefits, but the most significant include: short pay-back periods on many energy efficiency improvements; increased rent potential (tenants are willing to pay more for green buildings without affecting vacancy rates); and improved results in eventual building sale.

As previously mentioned, reduced operating costs and improved productivity also provide substantial returns to building and business owners.

What about other potential benefits? What are some harder-to-quantify pros of going green?

The true reach of improved human physical and mental health is difficult to quantify, especially as those benefits are extended to families and communities and spur change. The educational benefits of integrating green practices into the buildings where we live and work result in behavior changes in other areas of our lives as well. When people see sustainability emphasized at work, those habits can be extended into their personal lives, and effects ripple through their communities.

What are the most interesting or exciting innovations in green buildings today?

I am currently most excited about the emphasis on biophilia we have been seeing in the field. Daylighting and tubular daylighting devices, green walls and water features, and views to nature improve the experience of being in a built space. We are calmed by the connection to nature, perform better and live healthier lives.

What is the current climate/market for green buildings?

We are apparently at a transition point at the Federal level, but on a State level there is a strong market for green buildings. California continues to be a leader in the space, from the Governor on down, and our building codes reflect this. To build in California requires attention to green strategies, and is improving our cities and towns, while improving lives.

What do you think is the future for green building initiatives?

The sky is the limit! (An urban density joke?) In all seriousness, I think the future for green building initiatives is very bright. We have many rating systems that challenge us to do better (LEED, Green Globes, WELL, Living Building Challenge), and there are more to come. We will continue to hold each other to higher standards, to improve our performance and to integrate social justice into our goal-setting. Green building initiatives make good financial sense when all costs are properly assessed, and they are a way we participate in building a better world.