

## LEED Fellow and Mechanical Engineer from the Middle East - Ibrahim Kronfol

Introduction ([00:01](#)):

Welcome to Green Building Matters. The original and most popular podcast focused on the green building movement. Your host is Charlie Cichetti, one of the most credentialed experts in the green building industry and one of the few to be honored as a LEED Fellow. Each week, Charlie welcomes a green building professional from around the globe to share their war stories, career advice, and unique insight into how sustainability is shaping the built environment. Settle in, grab a fresh cup of coffee and get ready to find out why Green Building Matters.

Charlie ([00:34](#)):

Hi everybody. Welcome to the next episode of the Green Building Matters Podcast. I'm your host, Charlie Cichetti and I'm honored to have a LEED Fellow with us today. I have Ibrahim Kronfol, he's coming to us from Beirut Lebanon. Ibrahim, how are you doing today?

Ibrahim ([00:50](#)):

I'm doing great. How are you, Charlie?

Charlie ([00:53](#)):

Really excited about the green building movement and now the healthy building movement, bodied carbon, and , net zero buildings, just so much going on out there and kind of our industry. I've already called it the green building industry. I can't wait to learn more about your background and some of the cool projects you're working on. Let's start. Where'd you grow up and where'd you go to school?

Ibrahim ([01:16](#)):

Actually, I grew up in Beirut and I went to West Beirut Elementary School. I completed intermediate and secondary school at the international school of Choueifat. It was a great admiration for some of my teachers, especially the directors [inaudible].

Charlie ([01:43](#)):

You're from Beirut and you're still there. Have you ever moved away for any part of your career or have you been there pretty much most of your career?

Ibrahim ([01:51](#)):

No, I've traveled a lot. I worked for two years in Saudi Arabia and since 2014, I've been working, designing the Dubai airports. We fly frequently to Dubai almost two weeks in Beirut and two weeks in Dubai for the past six, seven years. After the COVID I started back in Beirut.

Charlie ([02:25](#)):

Okay, good. I'm glad that you're back. Tell us about some of your university, some of your additional schooling, because as I look at your profile and mechanical engineering and then also a master's in aerospace engineering. Why did you go those routes, mechanical and then aerospace? What kind of influences did you have at the time?

Ibrahim ([02:49](#)):

I grew up at school, I wasn't interested too much into math and sciences. I got the passion and engineering that I chose to specialize in mechanical engineering. I accomplished my masters degree in aerospace engineering, from my passion to be a designer, aerospace designer, aircraft design. Throughout the period I spent in college I was curious to look into energy and conservation in that respect.

Charlie ([03:29](#)):

Aerospace on top of the mechanical and now you mentioned you had some excellent teachers along the way, but I'm kind of curious about sustainability or energy efficiency. Ibrahim, when did you first recognize, "Wow, I'm going to do more with green buildings."

Ibrahim ([03:48](#)):

I'll tell you a small story from university in 2003. At my parents' home in Beirut, we used to have a gas powered, instantaneous water heater. The heater was installed near the kitchen in a small laundry room. Once the heater is running, this heater used to heat up the room and the part of the kitchen causing us to suffer severely during the summer season. In my mind, I was always keen on how to get through this heat loss. I took the advantage and solved the problem during my bachelor degree, at the first stage of my mechanical degree. I worked on a custom made heat exchanger to preheat the cold water before it enters into the heater. It was back then a great achievement to improve the efficiency of a German made heater. By 20%. This small project was my first actual practical interface with

energy and thrive to tailor clinical systems to fit for purpose. The passion came from there.

Charlie ([05:06](#)):

The important parts of our upbringing or training and then you knew, "Hey, I'm going to do more with this." Was there anyone else that maybe had some extra influence on you or opened the door? Someone you looked up to? Anyone you might call a mentor as you built your green building career?

Ibrahim ([05:24](#)):

I started at the university. I worked with the Dean of Engineering to start the ASHRAE University Chapter. I have served as the ASHRAE student president between 2004-2005. After that I started my career in international and multidisciplinary consultancy. Dar Al Handasah, a company where I got the chance to grow by getting exposure to hyper complex projects and to communicate with colleagues and experts from all over the world. I'm mentioning here some like Perkins and (inaudible). I've worked with other international designers. This is what's good about working within the international consultants. During my early days, I had the chance to meet Dr. [inaudible], the founder of Star and got influenced by his strategic business approach and how he built the smart national company from a small office in Beirut. Now, the company is being looked at by (inaudible) and it has a great presence in over 60 countries with 300 offices and 18,000 employees.

Charlie ([07:06](#)):

You've been there awhile now what, 16 plus years. You've really seen that growth, big projects, big infrastructure, but do you work on projects of all types and sizes? Tell us for those that aren't familiar with Dar and in your region, they're in the middle east. I think you have partnerships with even companies to kind of form a DAR group. There's ties with Perkins will and other engineering architecture firms. Tell us a little more about DAR and maybe some of the projects you're working on.

Ibrahim ([07:36](#)):

Actually, I have been working for the airport. I started working with if you want the most proud project I've worked on is (inaudible) international. We were aiming to build the largest airport in the world at that time with almost 250 million passengers per year, but this was 2013. The design is still spent now for

this. I was the main coordinator of the mechanical team. There were almost a large number of engineers. I was looking over the mechanics and I have participated in the chariots. How to set an engineering solution towards sustainability to achieve targets that they want platinum and almost zero waste, zero energy. At the start of the project, Perkins and duel were the sustainability consultants.

Charlie ([09:00](#)):

You're looked at as one of the larger companies that can pull that off in the region. With sustainability that's what we talk about here on the podcast. The Green Building Matters Podcast. Ibrahim, LEED, I know there's other programs in the region. How does that conversation go with clients? Do they have some sustainability goals and then you and your team try to figure out which program is best or say on certain high-profile projects? Is LEED still very popular? Like how does that conversation go on? Should we do certifications? If so, which certification?

Ibrahim ([09:34](#)):

Actually, I'm not leading the LEED administration. I'm a mechanical engineer. I'm looking over the solutions and helping to implement the sustainability targets. There are other teams that look over administration of the LEED project. I can tell you for me, I'm now a LEED Fellow. A High honor and a responsibility, and we're looked at as LEED ambassadors here, especially for international fellows. This means to be having more servicing, I'm working more with the Lebanon rebuilding council and other colleagues across the region in the middle east to push for LEED. I see the future is one of the most advanced, there's a lot of research. I am a member of the technical advisory group, the tag, a water efficiency. I present the voice of the Middle East. I see how a lot of effort is being put on.

Charlie ([11:04](#)):

For those listening that don't know that's the place to volunteer as these technical advisory groups, these tags, these committees, because LEED, while it's a US program, it's being used all over the world now, and it may be different in the region. I think we're hearing here it's obviously water conservation, the technologies it's very important. It sounds like you're passionate about that side of a project. Congrats on your LEED Fellow. It is a high honor. What else, if you were

to look back on your career, especially, but just looking back in general, what else are you really proud of?

Ibrahim ([11:40](#)):

I will tell you three things. Throughout my career I feel proud that every project that I designed or participated in is now operational. Running with what was planned of green building concepts exactly. The high-performance energy and water systems in global energy. When I pass through these buildings, I really feel these buildings are part of me. I'm connected to these buildings. This is my first accomplishment and satisfaction that I looked at. The technical advisory group, the work we're doing. I see my participation and conveying the professional perspective to engineers or water designers will help make LEED internationally fit. Something that I feel proud of is a sustainability movement. I founded the sustainability movement in 2012 and the environment awareness campaigns and educational projects in schools across the Middle East and India, mainly Lebanon, Egypt, UAE, Jordan, and (inaudible). Actually, whenever we have a design office, a big design office, I created a group of volunteers and serviced the annual program as part of the green apple day of service, a global volunteering event with the USGBC center for green schools. Sustainability movement is also a commitment to serve the community. I have worked throughout the past 10 years with almost 500 plus volunteers and have an impact of 55,000 students throughout the use.

Charlie ([13:55](#)):

Those are really good accomplishments and things to be proud of. Thank you for sharing those stories. Let's talk about sustainability and green buildings and what's next. If you had a crystal ball and could see the future Ibrahim, what are you reading up on? What do you, think's coming at us as in this industry as the green building movement evolves?

Ibrahim ([14:18](#)):

I can see more awareness among the individual corporations and governments. People are shifting towards sustainability and I see the buildings are becoming more SMART now, installing SMART systems and SMART metering is a great transformation towards wellness. By monitoring fresh air, for example, and pollutants, as well as meters or other sensors, you can control the energy, the demand, and the global act as well. Paris agreement focus towards a net zero net zero challenge is what makes me feel we are heading towards the right direction.

Charlie ([15:07](#)):

I agree. You've been doing it a long time. Thank you for taking us there. Let's talk about some of the big projects you get to work on. What are some of the harder parts of sustainability with some of your large projects? You mentioned the airport, a massive amount of materials and sourcing. Is it educating the different trades? "Here's Why we're doing it, here's how you're going to do it.?" Tell us a little bit about what makes some of these large infrastructure projects, maybe even a little harder to do with sustainability.

Ibrahim ([15:40](#)):

A lot of coordination that needs to happen. The integrated design is the big stuff project successful in designing this project and you as a project manager. I'm a project manager for multiple projects at the XB. Now you need to have a global view more than looking into the details. The full understanding of sustainability engineers, when they have the full understanding that they can communicate the targets to reach with the help of the energy modelers and all the team. If it's a big coordination effort, especially for an airport project, or we've mentioned a lot of coordination efforts between the trades to reach what you're targeting, especially if you're thinking high, like LEED Platinum.

Charlie ([16:50](#)):

No, that makes sense. The coordination, the big goals on these projects now, thanks for answering that question. Let's talk a little more about you. What would you say is your specialty or gift?

Ibrahim ([17:02](#)):

Actually, I'm a blend of technical and strategic and eager to experience the micro details, but at the same time, I see the big picture and observe and analyze the indirect impact on the project to work on improving the process. My personality. My second gift is the time I spend volunteering, especially with the sustainability movement. I am a green building council. I'm sitting at the chair of education on awareness, and I'm also mentoring a big theme, helping them to be sustainability and to achieve the certifications here in Lebanon, and also across the Middle East. As a LEED Fellow I'm getting many requests from colleagues asking to help become involved in, in achieving LEED certification.

Charlie ([18:20](#)):

You're that additional green expert in house. Let's talk about good habits. Ibrahim, do you have any routines or rituals or good habits that you practice?

Ibrahim ([18:32](#)):

I love to travel. When I travel. I meet people from different cultures and this positive impact in boosting my creativity from my belief. The other habit is I love to spend time in nature, the untouched piece of nature in the mountains deserts. I like to spend time underwater, scuba diving to look at the reef, looking at untouched nature. It makes me go back and I reset and I relieve the stress throughout the week.

Charlie ([19:19](#)):

Excellent. I was able to recently spend some time with a good friend in the mountains of Spain in the Pyrenees, and here's a LEED platinum home and it's actually going for living, building status as a pretty unique space. But that nature, that connection to nature. I think you're absolutely right. It's so important. He was telling me that in some cultures like the Asian culture, they don't really have a word for nature because when you create a word for it, it provides the disconnect, right. If it were so it's just so important to find yourself, how can we just blend in and make it more of a to day life. I can tell you really recognize that way to go with your travels. That's awesome. Let's talk about a bucket list. I'm not sure if you understand that phrase, but essentially. What are some things you want to do before you kick the bucket? I'm a fan of you mentioned travel and adventure, who knows. You might even have some hobbies or you want to write a book. What are one or two things maybe on your bucket list

Ibrahim ([20:18](#)):

A professional perspective. I am looking to discover more about the next energy nexus. I am presenting at the Greenbuild 2021. A Session on the water with colleagues from the TAG or the efficiency TAG. And I will be speaking on the water, the resiliency and the energy for water, how much it will, you will be emitting CO2 for over when you're using the water and when you're using hot water, but you will be surprised with the numbers. I cannot check my attendance.

Charlie ([21:16](#)):

I'm going to Greenbuild in September, I'm excited.

Ibrahim ([21:20](#)):

We can meet that. I invite you to attend my session.

Charlie ([21:26](#)):

I will, I really enjoy unique sessions like this. I plan on being there and I look forward to meeting you and anyone listening here. August, September Greenbuild the conference They have some in different regions around the world, but San Diego, California this year.

Ibrahim ([21:47](#)):

Let me tell you, Charlie, I have a second point on my bucket list. I have a social responsibility to serve my capital here in Lebanon. Beirut. The city that was, is now suffering from the massive explosion that happened. Dust here. Add to that the country is suffering from the accumulated corruption and an economic crisis. I'm working on action plans. Last year I presented in 2020 with a group of colleagues from the Lebanon Green Building Council, in a session about it's time efficiency towards a net zero city, Beirut. I'm working now on how to help the city from our perspective, from our expertise. I see this as a responsibility,

Charlie ([22:53](#)):

Absolutely. What an important set of work you're doing. I mean, it's important to know our communities where we spend our time and what we can do with the skill sets. We had enough to help here and not just other places in the world. Good luck with that. It sounds like it's not easy. I'm sure you have a group there and you're going to get some things done. I'm glad that you shared that. I can tell you're very passionate about that. It's very important to you. What about a personal item? Is there you travel a lot, but is there a place you haven't been yet that you could share with us that you want to go to?

Ibrahim ([23:29](#)):

I've never been to Paris. I'd like to go and visit more Europe. I went to most of the Middle East and the US. I've traveled five times to the US and Canada, but Europe is on my list to discover more.

Charlie ([23:54](#)):

You've been flying over it. Paris, that sounds wonderful and other parts of Europe. Thank you for sharing. I think it's important that we share that with others. I really



do want to do this. We've got to be intentional about it. Let's talk about books. Is there a book you would recommend to the podcast listeners? It could be about green buildings, but it doesn't have to be, it could be just a fun book.

Ibrahim ([24:16](#)):

There's a great book of wisdom. It's called, The Prophet (A Borzoi Book): written by author Kahlil Ibram. He traveled to the US and I don't know exactly, but the book was published in 1923, a hundred years back book, I was especially heartened by that section on raising children. When your children are not your children, they are the sons and daughters of (inaudible) longing for itself. They came through you, but not from you. And though they are with you, they do not belong to you. It's a great book of all times in here, and you can find that now you can find it on the internet for free, and if you want the hard copy, you can buy it through Amazon.

Charlie ([25:38](#)):

Thank you for making that recommendation. I'll definitely send the link in the podcast, show notes. Everybody can scroll down and click over to this book and thank you for making that recommendation. It sounds really unique. As we start to come to a close here, I've got two more questions for you career wise. Is there any advice Ibrahim, you wish you would have known earlier in your career.

Ibrahim ([26:00](#)):

Think out of the box. Consider different solutions and methods for reaching your desired outcomes. No matter what step out of the classical system. Life has to evolve. I encourage everyone to try to go to SMART systems. The old style proven technologies are not a suitable option for sustainability, and we have to change it.

Charlie ([26:39](#)):

New systems thinking. It's important because we've done it one way. Doesn't mean that's the best way, right?

Ibrahim ([26:48](#)):

I shared with you one of our representatives. Whenever we asked him for a new technology, he loved the proven technology systems, the systems that are not efficient, they can stop that.

Charlie ([27:19](#)):

We've got to keep showing mine here's other options and that's, that's tough, but some are set in their ways. Well, Ibrahim, you've made a green building career obviously you're focused as a mechanical engineer. You got the aerospace training you're a LEED Fellow, congratulations. What words of encouragement do you have if there's someone listening to our podcast right here, and they're just now jumping in, what could you say to them?

Ibrahim ([27:45](#)):

We need everyone. Professionals, the experts, the non-experts. We need everyone to join the green revolution. I can look at this at two levels. The public needs to get involved. Everyone can have a small contribution by getting involved in the sustainability practices and creating change, especially for the younger generation at the personal level. Also for the professionals, I encourage the professionals to stand for that change. All the young professionals have very big potential to drive the change. I encourage them all to join the national green building councils and by uniting. We can make a big change.

Charlie ([28:42](#)):

Words of wisdom there. Well, everyone, this has been Ibrahim Kronfol, he's in Beirut, Lebanon. He's a project manager, a senior mechanical engineer, many more things, including a LEED AP and LEED fellow. If you're in the region, connect with him on LinkedIn, let him know what you thought of the podcast. Want to say, Ibrahim, thank you for the work you're doing for sharing . Really appreciate you being on the podcast today.

Speaker 4 ([29:09](#)):

I just want to say thank you to our loyal listeners. We are celebrating over one year here on the Green Building Matters Podcast. Me and the entire team were stoked and just so glad to continue to listen every Wednesday morning to a new interview with the green building professional here in this industry, or just some pro tips that we want to make sure that you are getting straight from us straight to you. Thank you for listening to this episode of the Green Building Matters Podcasts at gbs.com. Our mission is to advance the green building movement through best in class education and encouragement. Remember, you can go to gbes.com/podcast for any notes and links that we mentioned in today's episode. And you can actually see the other episodes that have already been recorded with

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