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After the metamorphosis

At the start of 2020, the LafargeHolcim Foundation was busily promoting the LafargeHolcim Awards competition and poised to conduct five Awards jury meetings and a further five regional Awards presentation events all around the globe. With the declaration of a global health emergency by WHO, the Foundation's plans for 2020 needed to be radically changed.

To make the competition accessible to everyone, the process for entering the LafargeHolcim Awards competition has always used an online form for submissions since the first competition opened for entries in 2004. Although the technology and process has been improved across each cycle, we couldn't have predicted that this

decision would be a strength in a global pandemic. The LafargeHolcim Awards competition attracted almost 5,000 entries from 134 countries when entries closed in March 2020.

It soon became clear that physical meetings for juries or prize handovers would not be possible in 2020. The

Foundation announced that the jury meetings would take place as virtual jury panels (page 4 to 10), and prize handovers would be postponed until 2021 (page 15). The pandemic has re-confirmed the relevance of the "target issues" for sustainable construction developed by the Foundation; and the importance of a built environment that accommodates social impact, environmental challenges, economic parameters and demands innovation and transferability.

A global impetus for sustainable construction

As the scale of the pandemic started to unfold, questions started to emerge. How would Covid-19 affect the built environment? Will we have to rethink concepts such as urban



"We need courage and creativity to achieve innovation and to work towards the transformation to a sustainable economy. At the risk of sounding cliché, the pandemic may well be an opportunity for far-reaching global change."

Maria Atkinson

Co-founder of the Green Building Council of Australia.



"I am very concerned that we may be moving not towards consolidation but dispersion – back to the car, suburban sprawl, and long commutes. That would suck all the energy and vitality out of our cities."

Enrique Norten

Founder of TEN Arquitectos, Mexico/USA.



"The Internet made many things possible during the pandemic that would have been unthinkable before, but we shouldn't rely too heavily on technology all the time. Creativity, spontaneity and the resulting innovation require people to work together physically."

Marilyne Andersen

Professor of Sustainable Construction Technologies, EPFL Lausanne, Switzerland.

densification and public transport – or will we simply return to “business as usual” once the crisis abates?

“We decided to ask our network of global thought leaders for a report on the status of the pandemic in their location: Our questions included how could architecture and sustainability be affected; and what the profession might learn from a crisis of this kind,” explains **Mona Deluc**, Communications Manager of the LafargeHolcim Foundation. A series of 20 short videos were released by the Foundation via social media in April and May, generating discussions, further video submissions and sharing experiences.

While the simple answer to many questions was “we don’t know – yet!”, monitoring such developments and anticipating future trends has been a core activity of the Foundation since it was created in 2003. American architect and urban planner **Mitchell Joachim** summed up many of the contributions: “Architects and urban planners are going to have to carefully rethink the structure of our cities.” We must examine the concepts of how we move from A to B, how we treat proximity, transportation, and space. He also sees a bright side: “Now that more people understand just how essential the basic needs really are, it should be easier to



“Ultimately, it’s all about resilience: More sustainable cities would have shown more resilience to the consequences of the coronavirus.”

Meisa Batayneh Maani
Founder of Maisam Architects & Engineers, Jordan.

successfully implement sustainable projects of all sorts.”

To be more resilient in a pandemic, build more sustainably!

In parallel with the video blogs, **Maria Atkinson**, Member of the Foundation’s Board, and **Kevin Jones**, Head of Communications of the LafargeHolcim Foundation, conducted a series of in-depth interviews with members of the Board of the Foundation. The experts anticipated that the pandemic shock will act as a catalyst for the implementation of new sustainable concepts for the built environment. Extracts from their responses to how the current crisis might become an opportunity for furthering sustainable construction are displayed below.

The interviews also triggered the first LafargeHolcim Materials Talk LIVE webinar in June. The online expert panel featured the Foundation’s Board members **Maria Atkinson**, Co-Founder of the Green Building Council of Australia, and **Brinda Somaya**, Somaya & Kalappa, India, together with **Lord Turner**, Chairman of the Energy Transitions Commission, an international think tank, focusing on economic growth and climate change mitigation. The webinar was hosted by LafargeHolcim and moderated by **Cédric de Meeûs**, Head of Public Affairs & Government Relations at LafargeHolcim.



“The challenge is to rethink concepts such as densification and adapt them to the present set of conditions. It’s also important to use available space more flexibly than in the past.”

Stuart Smith
Managing Director of Arup, Germany.

The success of the webinar prompted the second LafargeHolcim Materials Talk LIVE in September to coincide with LafargeHolcim’s Net Zero Climate Pledge. An expert panel of LafargeHolcim Awards jury members **Nirmal Kishnani**, National University of Singapore, and **Karen Scrivener**, EPFL Lausanne, together with **Martina Otto**, Global Alliance for Buildings and Construction, examined how the construction, industry will envision, plan, design, build and manage our built environment to align to the 1.5°C trajectory.

Thanks to levels of flexibility that would have a yoga master envious, and the incredible commitment of the network of the LafargeHolcim Foundation, a year that should have been about many events and opportunities to come together at locations around the world has been successfully transformed. The Foundation has continued to support and promote sustainable construction – with a strong online focus.

What lies ahead might still be a little up in the air, but will be the result of a growing drive for a hybrid approach: where we truly appreciate physical events, but also leverage more fully the possibilities of an online network.



“Many informal settlements lack adequate drinking water and sanitation systems, which are essential in coping with pandemics. I hope to see the pandemic will drive an improvement of health infrastructure.”

Brinda Somaya
Founder of Somaya & Kalappa Consultants, India.



Time differences of up to twelve hours

For the first time, the jury meetings for the LafargeHolcim Awards were held virtually. One of the biggest challenges was that the jury members were located in many different time zones.

Sustainable construction does not mean the same thing everywhere in the world. That is one of the reasons why the competition for the LafargeHolcim Awards initially takes place on regional level: In five regions, individually composed juries meet to evaluate the entries from each region. The juries mainly consist of experts who are well acquainted with the respective region, but who are usually from different countries within it. In the first five competition cycles, the meetings were hosted by local associated universities. In the 6th cycle, too, regional jury meetings were planned and prepared. In the wake of the Covid 19 pandemic, it was no longer possible to envisage meetings of internationally composed expert panels.

The obvious decision was to hold the jury meetings via video conference. "But this wasn't as easy as it sounds," says **Edward Schwarz** on behalf of the LafargeHolcim Foundation. "Virtual business meetings, which many of us have become accustomed to in recent months, cannot be compared to a jury meeting lasting several days, which is strongly focused on personal exchange and characterized by hours of technical discussions in a large group."

Even though most of the jury members have a special relationship to a particular region, they are often spread all over the world. When the pandemic broke out, experts of African origin were lecturing in the USA, while architects with experience

in the Asian context were temporarily stuck in Europe. This led to the challenge that members of each jury were located in different time zones. The situation was most extreme for the jury for Asia Pacific, where the time difference was up to twelve hours. This meant that individual members had to be active in the middle of the night. And while some were having dinner during the break, others were enjoying breakfast.

2,000 projects evaluated

The Foundation decided to set up a central office for all jury meetings – at the LafargeHolcim cement plant in Eclépens, Switzerland (see pages 8 and 11). This is where the jury members from the surrounding area met and from where the meetings were administratively supported. Up to six clocks indicated the time zones in which the participants were located. The meetings took place across consecutive weeks, each of which lasted two to three days. The nine jury members – independent and renowned representatives of society, business and science, including experts from the LafargeHolcim Innovation Center in France –



Five regional Awards juries evaluated a total of almost 2,000 projects in more than 100 hours of meetings across up to six time zones. Right: **Marilyne Andersen**, Head of the Academic Committee of the LafargeHolcim Foundation, left **Benno Hossbach**, Director of [phase eins], a company specialized in architectural competitions based in Berlin.

discussed a selection of projects in small groups. They then presented the best entries to the plenary, which judged the projects' qualification for the next round.

The last half-day of the meeting was dedicated to intensive discussions on who would win the main prizes, who deserves an Acknowledgment Prize – and how the best entries would be ranked in the “Next Generation” category. The discussions were extremely lively, but also as disciplined as required by the special form of the virtual meeting. In total, the five juries dealt with nearly 2,000 projects that met all formal entry criteria – although there were considerable differences in numbers between the regions. Added up, the jury meetings lasted over 100 hours.



Nirmal Kishnani, Associate Professor of Architecture in the School of Design & Environment at the National University of Singapore.

Nirmal Kishnani **Head of the jury for Asia Pacific**

“The members of our jury worked from three regions of the world: Europe, Asia and the USA. This made it difficult to find a convenient time slot for everyone. In face-to-face meetings, we walk around and look at many submissions at once, which are printed out and displayed for all to see. The virtual format forced us to work in a linear sequence; we could consider only one project at a time. What’s more, we no longer had the informal discussions that are often very fruitful, such as during a meal or over coffee. This made the discussions less spontaneous. But I don’t think that the overall quality of our discussions suffered.

The quality of the entries in the Asia Pacific region was generally very good, and a range of scales and contexts was addressed. I was pleased to see many projects tackling challenges that are particularly pressing in this region, like social inequity and ecological impact. In the “Next Generation” category there are many well thought-out ideas, although I would have liked to have seen more ambitious and visionary entries.

In our discussions, we focused on several concerns. For example, we assessed architectural systems: What forms emerge from the climatic, social, cultural and economic considerations of the authors – and what sort of performance, impact and language result? What transformations are triggered? We also found nature-based solutions important, which often appeared in combination with water and public space.”



Mariam Kamara, Principal & Owner of atelier masōmī, Niamey, Niger.

Mariam Kamara **Head of the jury Middle East Africa**

“A main challenge of the virtual meeting format was dialog – because the interpersonal touch was missing. It was my first jury for the LafargeHolcim Awards, but I can imagine that the virtual format probably made the process more efficient. We were very single-minded in going through the different entries as efficiently and thoroughly as possible.

The overall quality of the entries in our region was good, with some really engaging and inspiring projects. The quality was noticeably lower from sub-Saharan Africa. The Foundation has already made great efforts to involve this area more, and I expect it to be more represented in future cycles.

In our evaluation of the projects we focused squarely on the “target issues”: progress, people, planet, prosperity and place. These were incredibly useful guidelines for us to use in the selection process. Many projects demonstrated great sensitivity to local, social, historic and environmental conditions. In this region, sustainability is still more in the discussion realm than in the application realm, but things are slowly changing. Dialog about sustainability is becoming more frequent. Hopefully, this points to a much more sustainable future!”



Jeannette Kuo, Founding Partner of Karamuk Kuo Architects, Switzerland; and Assistant Professor in Practice, Harvard University Graduate School of Design in Cambridge, USA.

Jeannette Kuo
Head of the jury for Europe

“Besides the huge CO₂ savings from not having to travel, virtual meetings may also have the advantage of being a bit more efficient... although I'm not sure that's really an advantage. A virtual meeting lacks spontaneity and informality, everything is very concentrated and sequential. In physical jury meetings it's easier to compare projects because we have them displayed side by side in front of us.

In Europe, the entries covered a wide range of themes, but I found few projects to be really surprising or groundbreaking. Europe is already one of the world's leading regions in terms of sustainability, so the expectations are higher here. The entries in the Next Generation category were much more visionary – and that's how it should be!

Basically, our jury wanted to shed light on areas of Europe that were under-represented in previous cycles of the competition. Projects that dealt with the periphery and rural communities were important to us. Social sustainability was an important issue, and we also focused on construction processes and reuse. We were also interested in projects that went beyond what is already common practice in terms of recycling and upcycling. Sustainability goes far beyond energy and resource issues. Circular flows must be achieved: the entire life cycle of a building must be considered holistically.”



Reed Kroloff, Rowe Family Dean, College of Architecture, Illinois Institute of Technology, Chicago, USA.

Reed Kroloff
Head of the jury for North America

“Since the evaluation process was virtual, it lacked some of the wonderful collegiality that comes from face-to-face interactions. Nevertheless, the group of jurors quickly found a way to coalesce and to make the most of the circumstances. It is also somewhat more awkward dealing with drawings in a virtual environment, as everyone is seeing them on different kinds of displays – but even this did not create significant problems. Of course, conversation becomes somewhat more formal because casual interactivity is more constrained. The advantage of the virtual approach was certainly that we all saved a significant amount of time.”

Living up to sustainable construction

The LafargeHolcim Foundation is committed to the underlying principles of sustainability, which assert that long-term development of the built environment requires a mutually-reinforcing interplay of responsible economic, ecological, social, and aesthetic objectives. Additionally, the Foundation places a premium on the reduction of global greenhouse gas emissions in all construction-related activities throughout the entire use-cycle of built structures, including a clear commitment to enabling a circular economy.

Submissions in the LafargeHolcim Awards are evaluated by the independent juries using the five “target issues” for sustainable construction:

- Progress:** Innovation & transferability
- People:** Ethical standards & social inclusion
- Planet:** Resource & environmental performance
- Prosperity:** Economic viability & compatibility
- Place:** Contextual & aesthetic impact



Loreta Castro, Founder & Design Director, Taller Capital; and Professor of Architecture, Universidad Nacional Autónoma de México.

Loreta Castro
Head of the jury for Latin America

“The main challenge with the virtual approach was the lack of informal exchange. It's enriching to get to know the other jury members personally – then you can more fully grasp the reasoning behind their input. I really missed learning more about these well-known and experienced colleagues and their clear visions of how quality of life can be improved.

In our region, about a quarter of all entries in the Main category were very good, while the share of outstanding projects in the Next Generation category was somewhat lower. Our main focus was on public projects that promote education and/or social development and that help protect or improve the environment. We also had important discussions about housing prototypes, water management through urban design, and spaces for work and culture in rural areas.

Most structures in Latin America are not designed by architects and have very reduced budgets. That's why sustainable construction is not a widespread practice here. However, there is a strong commitment from professional designers to push these issues forward, and that's why there are emblematic projects in the region that build their DNA through a deep understanding of the context – natural, urban, social, cultural, and political – responding to it through architecture and design.”



“Virtual meetings create more balance between the jury members”

Marilyne Andersen, Professor of Sustainable Construction Technologies at EPFL Lausanne, in her role as head of the Academic Committee of the LafargeHolcim Foundation, was a member of all five regional LafargeHolcim Awards juries. She found the differences between the juries substantial – and important.

You were the only juror participating in all five meetings. What was your role?

I did not want to be the unofficial jury head. We had excellent moderators everywhere who did not need leadership. But everyone was probably also happy that I had an overarching perspective. It is important that someone consistently represents the Foundation’s values on all juries. Furthermore, I was also able to carry experiences made by one jury into the next, for example with regard to the procedure. I thus saw it as my job to create a certain unity in terms of values and procedures.

Creating unity - does that mean that the five jury meetings were all the same in the end?

Not at all, the differences between the juries were actually substantial - also because the focus of the projects were quite different in the various regions. The juries for Europe and North America, for example, judged very academically, often dealing with architectural theory and methodology. As we had fewer projects to assess in North America, there was more time for debates on principles. The jury for Europe debated about how construction should develop in general, but we had to move faster because of the higher number of submissions.

Marilyne Andersen, Head of the Academic Committee of the LafargeHolcim Foundation: “Convincing architecture and sustainability are still far too seldom merged.”

In Latin America the social influence of the projects played a particularly large role, we were looking for concrete answers to real challenges; thus, the projects and discussions in Latin America were very contextual. I also noticed that the Foundation is very important in Latin America. There are architectural offices there that develop their projects based on our five “target issues”!

What about the juries for Middle East Africa and Asia Pacific?

The conversations of the Middle East Africa jury were emotional, there were pronounced local sensitivities – which did not occur anywhere else.

In the case of Middle East Africa, I was particularly shown how important it is that the juries consist primarily of people from the region. They look at projects from a perspective that others cannot take; for example, they know the economic and political framework conditions exactly. Finally, in Asia Pacific there were – hardly surprising in such a large and diverse region – groups with very different agendas. For example, one group focused more on social influence, while another was primarily looking for impressive innovations. However, the jury head managed to create a balance between the groups.

Each jury also included a representative from the LafargeHolcim Innovation Center (LCR) in Lyon. What was their role?

First of all: They impressed me very much because they were extremely committed and competent. One might expect them to argue mostly technically, but that was not the case. They are all scientists and got involved in discussions as scientific thinkers.

Are they particularly interested in projects using a lot of concrete?

On the contrary: sometimes they even spoke out against such projects because they were not innovative enough for them. The employees of the LCR are of course up to date and have high expectations.

For the first time, the jury meetings were held virtually. What are the advantages of such an approach – besides the fact that there is no need to travel?

I believe a virtual meeting creates more balance between the jury members. Professionally, everyone is very strong, but of course the presence and appearance are very different. Body language, for example, also plays an important role in face-to-face meetings, and besides the actual discussions, informal chats during coffee breaks can also have an influence on jury members' decisions. In a virtual meeting, the importance of personal appearance takes a back seat; people with a strong personality cannot prevail so easily, the technical argument gains weight compared to the convincing demeanor.

So are virtual meetings the future?

I hope not! What I dearly missed were the informal discussions. They are important in understanding the attitudes of other members. In many cases I would have liked to know more about the backgrounds of the others. It was hardly possible to exchange ideas with a single colleague, everything happened in plenary. If there are virtual meetings again, we must certainly offer more technical options to enable these exchanges.

Were there any innovations due to the special format that you would keep at future face-to-face jury meetings?

Two things come to mind. First: The jury members received project submissions early on. In previous meetings, the documents were ready for jury members in their hotel room when they arrived for the meeting. This time the jurors had time to deal with the projects beforehand. This

reduced the importance of beautiful visualizations that impress on the surface and increased that of the content. The discussions therefore started on a different level.

And second?

Previously, when we nominated the potential winners, we openly distributed points to the projects. If three jury members already voted for a project, this already influenced the attitude of the others. In the virtual meeting, the administrator collected the votes, and at first nobody knew how the others voted. On the one hand, that was very exciting, and on the other, I am convinced that this objectified the voting. In the future we should rely more on such approaches to voting.

How do you rate the quality of the projects in the sixth cycle in general?

It was very broad, but the number of outstanding projects is still not very high. Convincing architecture and sustainability are still far too seldom merged; a lot of efforts are still required in this regard.

Are you satisfied with the results that the juries produced?

Very! The projects that impressed me were awarded. I am also very satisfied that the jury meetings were so fair. The downside is that virtual meetings are simply less fun than face-to-face meetings because the human touch is less pronounced. And finally we all became members of a jury also because we want to have fun!



From virtual to tangible

It was not a coincidence that the Eclépens cement manufacturing plant was chosen to host the Awards jury meetings and set the frame for evaluating the level of sustainability the potential prize-winning projects live up to. The plant sets international benchmarks with regard to sustainability (see page 11). **Marilyne Andersen** (center) and **Philippe Block**, Professor of Architecture and Structure at the ETH Zurich, and newly elected member of the Board of Directors of LafargeHolcim Ltd (left), took advantage of the opportunity to visit the cement production facility. Plant manager **François Girod** (right) enabled the two representatives of the Academic Committee of the Foundation to switch from a virtual jury environment to a tangible site tour. They were pictured before changing into PPE and entering the plant.



Jury work as valuable learning experience

In every regional LafargeHolcim Awards jury, the LafargeHolcim Innovation Center (LCR) in Lyon was represented by one of their specialists. Their task: to consider sustainability from a building materials perspective, and to introduce alternative points of view.

Five competition regions, five LCR representatives – did the experts meet in advance and discuss how they should proceed with evaluating the projects? “We met, but we did not discuss any strategies or areas we want to focus on,” says **Edelio Bermejo**, LafargeHolcim Head of Research and Development (pictured above). Not all of them had participated in jury processes like this before, so this meeting was more about discussing what might be expected of them. Since the nature of the projects vary greatly from one competition region to the next, it would hardly have been possible to apply a global assessment strategy. Edelio: “And let’s be clear: Our objective was not to push for concrete.”

Quality time with architects
For Edelio, who was part of the jury to evaluate projects in **Latin America**, this was his first assignment with the Awards competition. “All in all, it was a very good experience,” he says. The disadvantage of the online meetings was that the jury members were located in different time zones. “When the working day in Mexico ended, it was already midnight in France, and when I had lunch, they were having breakfast,” he recalls. But why do LCR members need to be on the competition juries at all? “To gain insights into the trends influencing the construction industry,” explains Edelio. “And this, in turn, influences our work in Research and Construction.” But also the evaluation process of the juries, which consisted mainly of

architects, benefited from the contributions of the LCR representatives. “I have never spent so much quality time with architects before,” says Edelio and laughs. That was a bit scary at the beginning, he said, even though he has 25 years of experience in the construction industry.

But he quickly realized that he could actually contribute valuable input: aspects from practice. “More than once I had to step in and say: ‘Wonderful project, I agree, but have you seen the cost of it?’ Or: ‘Do you really think the material can be local in this location?’” Sometimes, says Edelio with a smile, it takes an engineer to curb the architects’ dreams a little. “They soon called me the guardian of the temple of technical and economic feasibility!” In Latin America in particular, feasibility is a crucial point, because the willingness to realize sustainable projects is high in this part of the world. And these projects use concrete? “I would say 70 percent of the entries were using concrete in one way or another,” says Edelio, “but not all of it was sustainable low-carbon concrete.” One reason for this, he says, is that sustainable concrete is not readily available everywhere. “But at least all of the projects aimed to use concrete as sustainably as possible.” His participation in the jury process has given him important feedback, he states, as to how and, above all, why the LafargeHolcim Research and Development program could be adapted to better reflect the current focus of sustainability in the construction industry.

Customization is crucial
H el ene Lombois-Burger, Digital Design & Fabrication R&D Project Manager, represented the LCR on the jury for **Europe**. Many good projects were submitted in this region – a sign that the sustainability standard in Europe is high. “I really liked the concept that we had a lot of time to go through and discuss the entries in detail,” she says. She had already participated in several competition juries and experienced much faster selection processes. The LCR, she says, is also unique in that it can benefit from the Awards competition. “We don’t only research new and better materials, we look for an open approach to sustainability,” she explains, “and having the opportunity to discuss so many projects really helps with this philosophy.”

Before the jury meeting, she had hoped to discover new, unconventional solutions proposed in the competition entries. And by that she does not mean that the wheel has to be reinvented: “You can have unconventional solutions by putting together already existing elements in a clever, customized and innovative way, too!” She was not disappointed by the entries in this respect. Surprisingly, she found even more projects using wood than she had expected. “Wood can of course be a smart and sustainable solution,” she says, “but sometimes it feels that projects use wood because it’s expected that today’s designs incorporate wood in some way.” H el ene was also a representative of the rational and measurable in the jury. “I tried to gauge the footprint of the projects, not only in terms of construction, but over their entire lifespan,” she explains. She added that it is always important where a project is located. “There is no one-size-fits-all solution!” This is also evident in Lyon, where 180 people with different backgrounds are working on developing customized solutions. →



Social sustainability is important

Christophe Levy is proof that LCR representatives do not sit on juries to promote LafargeHolcim products. "There was one project that used Ductal, which was developed at the LCR," recalls the Scientific Director and Concrete & Aggregates R&D Director, who was on the jury for **North America**. "So I stepped back from this particular discussion to avoid any kind of bias. I really wanted to act as a neutral judge and not as a member of LafargeHolcim." He should have already participated in a 2017 jury but had to cancel for professional reasons. Was it worth the wait? "It was brilliant," he says enthusiastically, "and it was a lot of fun!" The meetings were very well prepared and were conducted efficiently – partially since there were fewer entries for the region North America. Is sustainable construction of such little interest in this region? "North America consists only of two countries," says Christophe, "and they can hardly be compared." Canada is much more active in its efforts to promote sustainable construction projects. In the USA, he says, it depends on which state you look at. "You can't compare Texas to California or Illinois. Some states are really pushing sustainable construction, others simply don't care."

He says that he learned a lot from this and from the intensive discussions with the other members of the jury, which could also be useful for his daily work at the LCR. He was pleased that so many entries focused on social sustainability. He also understands the concept of the LafargeHolcim Awards better now. He was surprised to see that, for example, projects were awarded at the design stage rather than after construction has been completed. "Now I understand better why the Awards don't focus exclusively on concrete projects," says Christoph and laughs: "Although I still think it's a pity".



Data required

Sandra Boivin, Head of R&D Department – Solutions and Products, was one of the nine jury members for **Asia Pacific** – the region where typically far more projects of wood and bamboo rather than concrete are submitted. "So I tried to keep an open mind throughout the process and hoped to be inspired by the entries." She was impressed by the profiles of the other jury members and it was clear to her that, as a non-architect, she would be working outside of her comfort zone. "What I didn't anticipate, though, was that the workload in advance of the meeting would be so heavy," she says. Nevertheless, she says it was valuable to be involved in this process. "This way, we get an understanding of how sustainability evolves in different parts of the world." In her day to day work at the LCR, she is so busy developing new materials and technologies that this global approach is often neglected, especially from an architectural perspective. "Therefore the jury discussions were quite unique, very rewarding – and fun."

But what about the materials she was unfamiliar with? "I firmly believe in the future of concrete for construction," says Sandra, "because even normal concrete can be very sustainable if it is used correctly!" And some projects have done this very well. Even low-carbon concrete has been used here and there. But materials are not the only criterion when it comes to innovative sustainability. A project is not automatically sustainable because it uses bamboo, nor is it automatically less sustainable if it relies entirely on concrete. "It's all about how the materials are used." She said the hard data wasn't in the focus enough. "I think we should consider the lifecycle analysis of projects more," she says. With her engineering background, she is used to making decisions based on data.



More details, please

Mohsen Ech, Research & Development Program Manager for Mining & Roads and Business Development, recalls that in terms of quality, most of the projects in the **Middle East Africa** region were at a very high level of sustainability, including social aspects. "But as an engineer, I also expect a more quantitative approach," he says. "It is one thing to say: This is sustainable. But it is another thing to say: This is sustainable, and here is the calculation to prove it." Technical information about the materials came also a little short for his taste. "Maybe we should demand more details from authors," he voices, such as more detailed information about the exact composition of concrete. At least that would suit the engineers on the respective juries very well.

Mohsen was already part of the jury for Middle East Africa in 2017, so he knew what to expect. "I had some reservations if it would work as well in an online environment, but at the end of the day I was happy with the results – even if I would have preferred a discussion in person." Mohsen was aware that although concrete is strongly represented in this competitive region, earth-based material also plays a major role. But he was very curious to see how strongly and in what ways the idea of sustainability is represented in the entries. All in all, he was satisfied. "And, what's more, whenever concrete was used, it was used in an appropriate way." In any case, Mohsen finds it extremely important that the LCR is present on the juries for the LafargeHolcim Awards. "We work on new materials and new construction solutions. So it is important for us to see what architects are designing, how they use building materials and so on." After all, one has to know where the challenges lie in practice in order to be able to research solutions at the LCR in Lyon.



“Looking into a cement kiln is almost emotional”

The physical headquarters for the virtual Awards jury meetings was Holcim Switzerland’s Eclépens cement plant. The location was especially fitting since the facility in the French-speaking part of Switzerland is one of the most sustainable cement plants. A team from the LafargeHolcim Foundation enjoyed a special tour of the site.

Commissioned in 1953, the Eclépens cement plant is Holcim Switzerland’s most important site in the French-speaking part of Switzerland. The plant is centrally located and well connected by rail, in very close proximity to the Mormont (limestone) and Côtes de Vaux (marl) quarries. The plant’s workforce of 115 people produces up to 820,000 tonnes of cement per year.

Showpiece plant with visionary pilot projects

Eclépens cement plant is one of the most energy-efficient in Europe. Alternative fuels supply around 70 percent of the thermal energy required for its cement production. For instance, around 10,000 tonnes of tires are shredded in the brand-new recycling facility for mineral waste and delivered to the kiln every year. The initial steps to recover and reuse waste heat from the cement kiln and clinker coolers were taken back in 1983. Today, 22 GWh of thermal energy is recovered annually and supplied to the equivalent of 2,000 households. This year, a new turbine

that converts thermal energy into electrical power was put into operation. As a result, over 90 percent of the residual heat from the cement plant can now be recovered. The turbine generates 6.7 million kWh of electrical power – the equivalent of what 1,700 households use. The new turbine is a key element of the cement plant’s strategy to steadily reduce its energy consumption. Today, 100 percent of the electrical energy required by the plant comes from renewable sources. 3,650 m² of solar panels are installed on the premises. These generate up to 730,000 kWh of electricity per year, which is used exclusively on site, and they also power two charging stations for electric vehicles. The plant’s CO₂ emissions have been reduced by over a third since 1990. Eclépens is an impressive example of the important role that the building materials industry can play in the circular economy, and the plant is committed to following its strategy for the long term. Its current projects include a special kiln for sludge calcination, designed to produce cement additives from mineral waste. Once this kiln is approved, it will be operated as a pilot project for the LafargeHolcim Group.

Deeply impressed

Overall, the list of achievements is remarkable – and the three staff members of the LafargeHolcim Foundation were duly impressed when shown the special features of the cement plant during an exclusive guided tour given



Cyrille Roland, Environment and Raw Materials Manager of the Cement Plant in Eclépens, duly impressed the visitors from the office of the LafargeHolcim Foundation (from left): **Vania Burri**, **Mona Delluc** and **Luisa Pastore**.

in the context of the Awards jury meetings. Vania Burri, Mona Delluc and Luisa Pastore were led through the site by Cyrille Roland, Environment and Raw Materials Manager at the plant. "I was surprised by how much I liked it. I was really fascinated by this giant kiln, looking through the little window and observing the different heat zones," said Vania Burri. Luisa Pastore also found the view into the red-hot belly of the rotating kiln unforgettable: "As a structural engineer, I must say that being able to look into a cement kiln was almost emotional!" Mona Delluc was particularly amazed at the figures she heard: "The numbers are incredibly large: Whether it's the temperatures in the kiln, the tonnes of waste the plant recycles into cement every day, or the number of homes heated by thermal energy recovered from the plant."

"A clear win-win scenario!"

Vania Burri was surprised that "there is almost zero waste remaining at the end of the process." Luisa Pastore: "Most cement kilns today are fueled by coal and petroleum coke. By utilizing selected waste and by-products with recoverable calorific value and mineral content as primary fuels, the Eclépens plant considerably reduces the energy impact of the manufacturing process – and it serves as an incineration facility while providing electricity." Mona Delluc places the experience within a broader context: "Learning more about the international reputation this plant has in the elimination of waste definitely heightened my interest. The cement industry has potential like no other to actively contribute to the circular economy. This is being successfully done now and is sure to continue because it's a clear win-win scenario!"





Flooding and thirst

Hydropuncture: La Quebradora Waterpark in Mexico City is about to open. It provides important water infrastructure and strengthens the local community.

In 2017, La Quebradora Waterpark by **Manuel Perló** and **Loreta Castro** won the LafargeHolcim Awards Gold for Latin America. In 2018, the project also won the Global LafargeHolcim Awards Gold. The project, located in the borough of Iztapalapa, Mexico City not only impressed the competition juries; it also received funding and support from the Mayor of Mexico City. The concept is simple: Two roads also serve as storm water channels to carry the runoff water to La Quebradora. The water then seeps through a series of screens and filters into two permeable basins in the park that enable it to infiltrate the underlying soil and replenish groundwater. The park itself is open to the public and plays a role in community building by

providing civic amenities including an open-air theater and useable green spaces.

Elections were held in July 2018 which brought to Iztapalapa a new mayor and new administration. One consequence of this election was that many infrastructure projects were stopped, including La Quebradora. "This is one of the major problems with government transitions every six years in Mexico", says Loreta Castro. However, sometime later, the project designers were contacted by the authorities with the good news that the project could continue.

La Quebradora was even included in the new mayor's UTOPIA program.

This aims to create social, cultural, recreational and sports spaces and thus strengthen the social fabric and reduce inequalities in the population. In order to integrate it into the program, it had to be modified. For example, an outdoor public pool with roofed areas was added. Solar panels were installed on the roof to supply energy for heating the facility. The open-air theater is not shaded by trees as originally planned, but by a membrane roof, which gives this element more weight within the overall ensemble.

The authors are gratified that La Quebradora as a pilot project is already serving as a reference for many other projects in Mexico City – and will continue to do so in the future. "There are many efforts showing that the way to think about water management today must include soft infrastructures, the scale of the borough, and the involvement of the community," says Loreta Castro.





Introducing the Board of the LafargeHolcim Foundation to the Net Zero Climate Pledge of its sponsor company (from right to left): Jan Jenisch, Roland Köhler, Magali Anderson and Marilyne Andersen.

Accelerating the transition to greater sustainability

The latest Board meeting of the LafargeHolcim Foundation – virtual first – brought eleven members on five continents together and was coordinated in Zug, Switzerland by Chairman **Roland Köhler** and the Head of the Academic Committee, **Marilyne Andersen**, together with the two Board members representing the sponsor of the Foundation: **Magali Anderson**, CSO, and **Jan Jenisch**, CEO of LafargeHolcim.

For **Magali Anderson**, **Kate Ascher** and **Meisa Batayneh Maani** this was the first encounter with the Board; they joined in 2020 and increased the number of female members to six. The experts from around the world were deeply impressed by the performance of the Group with regard to People (Health and Safety first and community work during the pandemic), Planet (Net Zero Climate

Pledge and ground breaking new products) and Prosperity (economic performance against the backdrop of Covid-19) – the elements of the triple bottom line that are expanded in the “target issues” for sustainable construction of the LafargeHolcim Foundation by Progress (innovation and transferability) as well as Place (contextual and aesthetic impact).

The Board explored further ideas to accelerate the role of the Foundation in creating a more sustainable built environment and agreed on the outline of the 7th international LafargeHolcim Forum 2022 which will be dedicated to “Re-manu-facturing construction”. The symposium will examine both digital and traditional solutions, and ways to advance circularity in the production and (re)use of materials.



Meeting 2020 of the Board of the LafargeHolcim Foundation (from top left): Roland Köhler, Marilyne Andersen, Magali Anderson, Alejandro Aravena, Kate Ascher, Maria Atkinson, Meisa Batayneh Maani, Harry Guggler, Jan Jenisch, Stuart Smith, and Brinda Somaya.

“We will definitely keep the excitement of the Awards alive”

The highlight of 2020 for the Foundation should have been the regional LafargeHolcim Awards. However, the face-to-face jury meetings and the prize hand-over ceremonies in five regions of the world had to be cancelled. What's next for the competition? Edward Schwarz provides information.

Foundations: How has the Covid-19 pandemic affected the work of the LafargeHolcim Foundation?

The Foundation is a platform for the exchange of ideas and visions on the subject of sustainable construction, and one of our core tasks is to bring people around the globe together: architects, engineers, planners, contractors, builders, but also specialists and stakeholders of LafargeHolcim. This year, however, personal encounters across borders and continents are hardly possible; we were unable to properly fulfil one of our most important tasks. Of course, we have done everything we can to make the most of digital communication channels, but a video conference cannot replace direct contact between experts. In networking a lot happens informally and spontaneously. The restrictions linked to the pandemic also made us leverage digital in new ways and take advantage of the openness of our network to digital exchange, for example we found new ways to communicate about the impacts of Covid-19 in terms of architecture and contributed towards a number of webinars (see also page 2).

Between August and November 2020, the regional LafargeHolcim Awards should have been handed over at five Award ceremonies.

Yes, these five events would have been our most striking activities this year. However, it became clear early this year that the events could not take place. Award winners, jurors, Board members and others who should all have been present at the events, come from many different

countries. Even if only a few of them restrict travel, it is no longer possible to hold our events within the usual framework. We stopped the preparatory work already in February.

Only the Award ceremonies were cancelled, why not the competition itself?

Almost 5,000 authors or teams submitted projects for our competition – there was never a doubt that we would do everything possible to do justice to this enormous effort and to complete the 6th cycle of the competition. Doing this required a lot of flexibility. The jury meetings, for example, took place more or less on the scheduled dates, but virtually (see pages 4 to 10). Processes have to be completely re-thought and re-planned; in many respects we cannot draw on the experience of the first five cycles.

The juries have decided. What's next? When will the prize winners be announced?

Given the current situation, it is not possible to rely on a binding schedule. So far, prize winners were only announced at the Award events; the competition participants invited to the events knew that they would receive a prize, but not which one. The media and the public were only informed after the event. We must hand over the prizes in 2021. Currently, nobody knows in what context – whether there will be small individual events or larger gatherings. We want to enable personal encounters again as soon as this is safe to do so from a health point of view. At the moment it



Edward Schwarz, General Manager of the LafargeHolcim Foundation for Sustainable Construction: “There was never a doubt that we would do everything possible to complete the current cycle of the Awards competition.”

looks as if we will not be able to hold any events in the same framework as before for quite some time to come. If travel and uncomplicated encounters are not possible, we will have to find alternatives. That would be challenging, but unavoidable.

And what about the global competition that has been announced for 2021?

The procedure is similar to that at regional level: the meeting of the global jury planned for March will take place, either in Zurich or virtually. The global jury identifies the prize winners from among the regional winners in the Main category of the competition. This could be a bit special in 2021, as the regional prizes will probably not have been handed over when the results of the global phase of the competition have been decided. We will definitely keep the excitement alive and do our best to hand over the global prizes in person. There are many unknown factors indeed, but these affect everyone around the globe so we have no choice but to remain equally diligent and flexible – and prepared for all eventualities!

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