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There’s no sense in starting your sustainability journey from anywhere other than where you are. 2018 is high time to get started, to pick up the pace, or both.

So, where am I? I’m on an island. More precisely, I represent a portion of the most populous of the ancient Hawaiian volcanic mountaintops that are suspended in the lonely Pacific. I encourage you to come visit! And while it’s idyllic in many ways, it’s not always sunny in paradise.

In Hawaii, we are especially aware of the fragility of our human-built world against the backdrop of strong—and changing—natural forces. We’ve survived near misses from over a dozen recent hurricanes, and just this year we had a close brush with disaster that gave us yet another a wake-up call, even if it was ultimately a false alarm.

In Hawaii we know that a sustainable future requires both comprehensive and urgent attention to our long list of risks. We need to be resilient in the face of all potential shocks, whether natural, man-made, or any hybrid of the two.

The core of every effort to comprehensively address sustainability and resilience revolves around systems. These include built infrastructure, the economy, society, our natural world, and much more. Our system of representative democracy is also one of those systems and, when harnessed for good, we can make important progress.

I am proud to have led the legislature’s effort to become the first state to commit to 100 percent renewable energy. Our new law requires us to get there by 2045, and now that everyone is aligned and working together it looks like we may even beat 2040. We’ve also committed all Hawaii public schools and universities to generate 100 percent of their own renewable energy by 2035, and every county in the state has committed to 100 percent clean ground transportation by 2045.

Most of all, I remain dedicated to the ongoing improvement of our K-12 building stock because where our kids learn matters. In 2016, my colleagues and I passed an initiative to make Hawaii classrooms more comfortable and suitable to learning through our “cool schools” initiative, leveraging solar energy to power fans, vents and air conditioning. These efforts will save billions of taxpayer dollars in the years to come and create hubs for community resilience.

We are proud to place fourth on the recently released Top 10 States for LEED list, with 3.32 square feet of LEED-certified space added per resident in 2017! Increasingly, building owners and developers are prioritizing green building certification because it clearly communicates their commitment to environmental stewardship in our fragile world.

This issue of USGBC+ contains stories full of resolve and innovation similar to our urgent work in Hawaii. The cities, communities, companies and individuals showcased in the pages ahead are wonderful examples of what is possible when you start where you are, take the first step, and embrace positive change. As 2018 gets underway in earnest, these stories remind us to push boundaries and to continually redefine what is possible in order to pave a new way forward.

LEED ON,

Chris Lee
Hawaii State Representative
Chair, House Committee on Energy & Environmental Protection
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We LEED in the classroom.

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Toyota’s new corporate campus in Plano, Texas, is a physical manifestation of the company’s deep commitment to environmental sustainability and human well-being. The $1 billion Toyota Motor North America’s (TMNA) headquarters is the result of the “One Toyota” initiative to bring all of the company’s entities—engineering, sales, marketing, financial services, and corporate functions—together in one location with one vision.

Why Plano? “We carefully evaluated a wide range of factors before selecting Plano,” says corporate communications director Aaron Fowles, noting that their strategic rationale considered economics, geography, climate, transportation, cost of living, and educational opportunities. They also wanted a neutral site that did not already have a Toyota entity. “With manufacturing locations in many U.S. states, Canada, and Mexico, we chose a location that better supports our diverse geographic footprint, in a time zone that allows us to communicate better with most of our operations, and has direct flights to all our operations,” Fowles explains. It was important, too, that the campus be in a position to benefit the local residents. “We considered what our team members could gain from the local community and what we could contribute to that community,” says Kevin Butt, general manager of environmental sustainability.
Design Decisions

“The design came out of strong premises,” notes Chuck Armstrong, design director at Corgan, the architectural firm responsible for the project. “The first of which was to create a new environment for people who had never officed together—they were coming from California and New York and Kentucky into one place, so there were cultural differences in terms of what they were used to for work environments. We had to come up with something that was amenable for everyone. We also wanted to create a strong sense of place.” The team took cues from the topography to come up with the split-level arrangement between the common amenities building and the office buildings. “That gave us an opportunity to create unified spaces that connect all of the buildings together visually, symbolically, and metaphorically,” says Armstrong. Their idea was to replicate a natural wooded environment—which will be evident once the trees fill in—and native meadows and creeks. Allowing for views from nearly every interior space drove much of the design program as well.

Kirk Johnson, Corgan’s director of sustainable design, describes the campus as “a beacon and a magnet,” noting, “It was to be more than a campus located in North Texas, and more than a campus located in the United States. It was to be global in its outreach and perspective—design decisions were made with that in mind.”

Model Maker

The two-million-square-foot, 100-acre Leadership in Energy and Environmental Design (LEED) Platinum campus accommodates 4,500 employees and comprises seven buildings, a large central courtyard, and dining, fitness, and conference facilities. Multidisciplinary charrettes helped inform its design. “Rather than justify what we should do, we threw everything up on the board and went about justifying why we wouldn’t do something. It was a deductive kind of design process,” Butt explains, noting that energy efficiency and water use reduction were top of mind. The campus is meant to serve as a model for how the corporation, as a whole, will move into the future—with...
Left: Façades at Toyota’s Plano headquarters are clad in the same automotive glass the company uses on windshields.

Right: Chuck Armstrong is the design director at Corgan architectural firm.

Bottom: Drought-resistant landscaping and an artificial creek are reflected in the glass exterior of the Commons building. Lantana grows along the creek fed by harvested rainwater.
sustainability at the fore of all operations. "As a company, it’s part of our internal DNA to provide a product that is sustainable through its manufacturing as well as its use," says Butt.

Notable campus features include an 8.79MW array of more than 20,000 solar panels that produce up to 33 percent of the campus’s daily electric needs; electricity not generated by the panels is purchased from Texas wind farms. Additionally, a flexible energy contract preserves and resells excess power generation back to the grid. The reduction in fossil fuel–driven carbon emissions is estimated at 7,198 metric tons annually.

A cistern water storage system has the capacity to hold 400,000 gallons of harvested rainwater, which will provide three months’ worth of water for landscape irrigation; and excess drain water will be collected and repurposed for sanitary facilities. A green roof also helps manage rainwater as well as reduce heat gain and insulate the buildings. All told, Toyota anticipates saving 12 million gallons of water annually—an important contribution in a drought-prone region.

Indigenous North Texas plants that grow in savanna conditions and wildflower meadows feature in the landscape—providing habitat for pollinators and Monarch butterflies. They’ve also protected four acres of native wetlands on the northeast corner of the campus, and are giving thought to using it as an insect garden. More than 80 mature trees were saved or relocated on site, including a 100-year-old oak tree, and approximately 1,300 trees were planted. A living wall serves as a popular lunch spot, and features a courtyard with a running stream and signage explaining indigenous plantings. "We are trying to encourage people to use these outdoor spaces and come into contact with the nature that is here," Butt explains.
All structures have high-performance envelopes and high-efficiency lighting to reduce energy usage. Butt notes that the buildings enjoy a lot of natural light—even the innermost spaces—thanks to daylighting strategies, high-performance glass with low-E coating, and architectural eyebrows that help reduce solar heat gain. They also designed for collaboration. “We wanted this building to be a friendly environment that would encourage people to move into the open spaces to work together,” says Butt. The usual ratio of “me” to “we” space is 80:20. At TMNA, it’s 50:50—to support occupants’ well-being while increasing productivity.

Community Engagement
Part of the effort to employ sustainable systems includes increasing awareness. To that end, they’ve introduced an environmental sustainability program, Terra. The all-volunteer organization encourages interested individuals to help educate the rest of the campus and the greater community about their conservation efforts. “We are finding that it is a very hot topic for a lot of people,” notes Butt.

Since opening in May 2017, they have also partnered with Dallas’s On the Road Lending, an organization that provides low-interest auto loans and long-term financial mentoring to extend mobility to underserved populations. To help On the Road Lending scale up, Toyota developed three grants totaling over $1 million to improve the nonprofit’s processes, IT infrastructure, and service reach. In time, Toyota will also share its own operating principles to help the agency maximize resources and productivity.

Additionally, the company has entered into a multi-year partnership with the Texas Rangers as their official truck sponsor. Part of the agreement includes helping to implement more sustainable methods for maintaining their baseball field “and provide education tools for people who use the park,” Butt explains.

Global Efforts
To go beyond zero environmental impact and achieve a net positive impact, Toyota has set six challenges for itself, which together comprise the 2050 Environmental Challenge. The campus is approaching the year 2050 with five-year environmental action plans in place to realize sustainable development goals, which include: reaching zero emissions from vehicles, supply chain, and facilities; reducing water usage by maximizing efficiency; expanding recycling-based systems; and establishing a future society in harmony with nature.

Currently, they are taking measures to get on track with their goal of zero emissions—a significant challenge given their product. “We are constantly battling expansion versus total reduction of CO2,” notes Butt, pointing to the solar array as a step in the right direction. “We are looking at every aspect we can—from products to manufacturing to corporate operations to the greater business community, as well as more far-reaching communities such as the Galapagos Islands,” says Butt, explaining that Toyota and World Wildlife Fund have been working together for more than a decade to transform those islands into a model of community-based conservation and sustainable development.

With respect to future expansion of the Plano campus, they have considered pushing the envelope to include Living Building Challenge certification—something they are supporting with a $1 million donation to the Yellowstone Park Foundation for its new Yellowstone Youth Campus, a place for immersive youth programming meant to develop future conservationists. “What better place to educate the youth of the world about sustainability?” Butt muses.
From the two-mile walking path that winds around HP’s campus in Boise, Idaho, it’s only natural to see wild grass instead of a manicured emerald lawn—after all, it’s the high desert. Fed by the Snake and Boise rivers, the capital city is an otherwise arid place at the edge of the Rocky Mountains, registering just 12 inches of rain each year. It’s also home to one of HP’s largest campuses, a 200-acre research and development facility that the information technology company built in the 1970s where some 3,500 employees spend their working hours. And that wild grass represents one of HP’s latest innovations, a newly sustainable landscape that requires a fraction of its predecessor’s resources.

Last October, HP’s Boise campus achieved Sustainable SITES Initiative (SITES) Gold, becoming the first corporate campus in the world to be certified under SITES v2 as well as the first SITES-certified project in Idaho. That meant replacing a nonindigenous lawn with native grasses and shrubs, along with reducing yearly water usage by the equivalent of 33 Olympic-sized swimming pools and drastically reducing emissions. The reimagined campus benefits local wildlife, fosters biodiversity, takes an urgent step toward addressing concerns of water scarcity, and preserves a restorative landscape for employees. HP’s efforts also reinforce a fundamental fact: Creating a sustainable built environment transcends a building’s four walls.

HP’s offices are nestled among grassland, ponds, recreational fields, and working farmland. It’s a place that thrives on pushing the limits of technology: The first desktop laser printer was conceived here more than 30 years ago. Sustainability and environmental stewardship are woven into company culture with ambitious carbon emissions and water consumption targets, and sustainability measures employed throughout its supply chain. In fact, in 2017, HP was one of only 25 companies to score an “A” rating on both the Climate Change and Water “A” lists developed by Carbon Disclosure Project (CDP), an international nonprofit that assesses major corporations on their efforts to reduce greenhouse gas emissions, safeguard water
resources, and protect forests. "We're not here just for profit: Bettering society was one of HP’s objectives from our very founding," says Erin McNichol, HP’s global energy and sustainability program manager.

Overhauling the landscape in Boise began two years ago with a business-minded motivation: saving money while keeping splendid scenery. "I was trying to figure out how I could reduce my costs, and I saw the lawnmowers going," says Steve Birch, HP’s corporate real estate and workplace services manager for the West region. The site included a 40-acre lawn comprising Kentucky bluegrass and rye, a common nonnative grass mixture that requires an abundance of water to thrive. Landscaping crews often worked five days a week during the summer, while a leaky, 40-year-old watering system sprayed the equivalent of an Olympic-sized swimming pool each week, all in service of a lawn that employees seldom walked on, and at a time when southwest Idaho’s dryness verged on drought.

Soon after, Birch had an epiphany at a city-sponsored seminar about xeriscaping, or landscaping with elements that don’t demand supplemental irrigation. His preconceptions—that xeriscaping in Boise meant swapping rocks, cacti, and other pedestrian scenery for interesting vegetation—changed when the seminar host showed pictures of a road median bursting with flowers. "There was no water being added. They were just growing on their own," Birch says. "I left the meeting and thought, 'Would that median translate to 40 acres of grass?’” Through the campus’s general contractor, Birch spoke with Stack Rock Group, a Boise-based sustainable landscape architecture firm, and explained his half-formed idea. Will Howard, president of Stack Rock Group, visited the campus and saw it as a logical fit for a SITES-certified design. “We looked at him and said, ‘Why don’t we take the grass out?’” Howard says.

Working with Birch and HP, Stack Rock Group drafted a plan that reimagined the site, focused on replacing the nonindigenous lawn with native grasses and shrubs that require little or no water. The project team recruited input from at least 10 local and national groups including the City of Boise’s sustainability office, the Bureau of Land Management, and Idaho Fish and Game’s MK Nature Center, as well as HP employees, landscape ecologists, biologists, and civil engineers. “All of the ideas on the HP campus have been done before—the rangeland ecologist we talked with uses [these practices] all the time," Howard says. "But no one’s ever done it to a campus." Some feared that ripped-up grass would destroy the landscape and flatten employee
morale. "It took a lot of engaging employees and gaining trust to say it's not going to look great at first, that it'll still need another year or two to reach maturity," McNichol says. "It's like when you first get a haircut." After a series of meetings, Howard says, "Everyone bought in." Many HP employees even helped install test beds, a preliminary step to get a glimpse of what the project would look like.

From April to September of 2016, the transformation process began by removing the lawn and composting it on site, then infusing it into existing plantings. Next, heavy machinery was used to re-seed the soil while avoiding trees and their root systems. "We planted a variety of grasses that aren't all good in shade and aren't all good in full sun," Howard says, "but through the whole mix, they'll push each other and move around with natural succession. Different grasses that will do better on different slopes and sunlight.

The design also used the stormwater that was retained on site for some of the irrigation needs. The project generated no construction waste; everything was either reused or kept on site, and all materials were sourced locally. And to calm employees who feared that a lawn stripped to dirt was a sign of grim company fortunes, HP and Stack Rock Group released the particulars of what they were planting and why.

While the new landscape won't fully mature for another two years—once nature takes its course—the native bunch grasses will be supplemented with native forbs to create a natural grassland and wildflower mix. Shrubby penstemon, bluebunch wheatgrass, woolly sunflower, and other plantings accent the entrances and other high-traffic areas. A variety of what Birch calls "happy accidents" dot the campus: A recent monitoring report revealed that, despite planting only seven species of vegetation, 15 species have grown across the campus, the cumulative effect of birds, insects, soil, and the mysteries of ecology. Beneficial plants—like milkweed, essential for monarch butterflies—have popped up on their own, luring an array of similarly beneficial bugs. Meanwhile, noxious weeds are nearly absent. And in the age of colony collapse, HP's onsite bee club has had remarkably good news: Honey production has grown, year over year, by 50 percent. "What's interesting about that is the grass we planted only provides habitat—it doesn't provide pollen or any nutrients—and yet obviously it's helped them," Birch says.

It's a boon to HP's bottom line as well. The 32 inches of water applied in the summer was reduced to four for the time being, saving 82,900 cubic meters of water each year, an
81 percent reduction in landscape water usage. Landscaping costs have dropped by half, emissions have been reduced by 90 percent, and the use of herbicides, fertilizers, and other chemicals has fallen drastically.

The landscape has been a respite for the 3,500 employees who spend their working hours on the campus. One of Birch’s colleagues, who regularly needled him about all those dusty acres before the grass started growing, finally came around after she lost herself in the landscape during a lunch-hour ramble. “You’re providing [employees] with a reprieve from work, somewhere where their minds can wander, where they can get a little relaxation, reset, and go back in,” Birch says. “That’s clearly what we did.” He’s spoken with other HP campuses on the West Coast about Boise’s site design and how sustainable landscaping projects might fit into their own local ecologies: Birch says the landscape redesign will pay for itself in under three years, without requiring grants or outside funding.

The first SITES v2-certified corporate campus has been a sweeping success for the rating system. “Through this process we have learned a great deal on how to take an existing campus and make it more sustainable,” Howard says. “Information is key. When approaching the construction processes of a project like this we have it in our mind of how to do it, but in the end we were able to adapt and complete it in a much more efficient manner. We are also able to utilize the monitoring plan information so we can make accurate assumptions in the future. While we could expect some results such as reduced water usage, we had no idea that our species diversity would go from two to 15 in plant materials. That in itself is amazing as we only planted seven new species of grass in the initial seeding.”

It’s even inspired some HP employees to think about their own landscaping practices, a crucial bit of viral marketing considering the scarcity expected in the future. Last year, the Idaho Water Resources Board commissioned a study showing the demand for water in the Treasure Valley—the southwest slice of the state that encompasses Boise—will triple in the next 50 years as population increases. “HP doing this isn’t enough,” Birch says. “We need everyone to start thinking about this.” In that regard, HP’s Boise campus is 200 acres of inspiration.
THE NEXT
BIG THING
With its new LEED for Cities and LEED for Communities certification programs, USGBC encourages innovation in sustainability on a broader scale than ever before.

For more than two decades, building owners have been proudly displaying their Leadership in Energy and Environmental Design (LEED) plaques as proof of their sustainability efforts. Just over a decade ago, LEED for Neighborhood Development launched, guiding green building planners to think on the scale of entire neighborhoods, or even multiple neighborhoods.

It’s time to think bigger. December 2016 saw the kickoff of the pilot programs for LEED for Cities and LEED for Communities, initiatives to help municipalities and other communities enhance quality of life for their residents, improve their sustainability performance, and verify their leadership. Only a few months later, cities and communities began earning their certifications. Today, the new certification programs are poised to spur the same sort of innovation that LEED has been driving for years—but on a whole new level.

“We want to bring as many cities on board as possible,” says Vatsal Bhatt, director for cities and communities at the U.S. Green Building Council (USGBC). “Cities have been sustainability leaders all these years in various different ways, whether we’re using the language of healthy cities, or equitable cities, or smart cities, or sustainable cities. We hope that these new certification programs will become an engine that brings these communities together to push the envelope and do more and more over time.”

Scot Horst, chief executive officer of Arc Skoru Inc., creators of the Arc online performance platform, says the new initiatives are not merely a natural extension of existing certification programs but also a way to generate conversation and encourage progress by capitalizing on the competitive spirit of civic leaders. Arc, created by Green Building Certification Inc. (GBCI), provides users with the ability to submit and manage their sustainability data, which is necessary to participate and certify in the LEED for Cities and Communities programs.

The value we see in having this very simple certification score is in helping people to see whether a place is improving or not,” Horst says. “But we think the real value is going to come in making those numbers more standardized over time, and of higher quality.”

A Holistic View
Roger Platt, senior vice president for strategic partnerships and growth at USGBC, says that the birth of LEED for Cities and LEED for Communities is partly a reflection of the growing role that sustainability officers have already come to play in city halls across the U.S. and around the globe.

“A very substantial portion of the initial directors of sustainability offices, for the first cities that had those, were experts in green building,” Platt notes. “They often pushed to make buildings LEED certified,
and there was a way the sustainability director role in cities grew up along with LEED certification. But if you fast-forward 15 years, we’re finding that that role of sustainability director has been far more professionalized, and these people have very ambitious goals. They’re looking at greening their entire city and not just their city buildings.”

LEED for Cities and LEED for Communities are performance-based—as opposed to credits-based—certification programs, meaning that cities and communities earn points for achieving a level of performance on certain metrics, rather than engaging in a particular set of sustainable practices. Users submit their data to GBCI through the Arc platform for a set of sustainability metrics around energy and water use, waste, and transportation (see inset, “Know the Score”). The programs also track and score metrics in “human experience” categories such as education, health, safety, equitability, and prosperity, helping to paint a more holistic picture of cities, rather than focusing solely on factors directly related to environmental sustainability.

Horst says that the performance-based model gives cities and communities more flexibility in their sustainability approaches. Rather than pursuing a standardized list of green projects—some of which may not be suited to their demographics, climate, or geography—users can do what’s going to work in their own communities. This approach, Horst says, also curbs any potential temptation to “game” the system or “chase” LEED points, by ensuring that certification levels accurately reflect reality.

“People love to be told what they need to do to get a designation,” Horst says. “This is much more about getting a designation based on what’s already happening, and then using the data to show what works best.”

Urban Pioneers
Last August, less than nine months after the program launched, Washington, D.C., was named the world’s first LEED Platinum city. Already, around 25 cities have registered with the LEED for Cities program and another two dozen are in discussions about registering.

“Us getting LEED Platinum, and being the first in the world, was a huge recognition that we’re extremely proud of,” says Archana Vemulapalli, who recently completed a two-year stint as chief technology officer...
for Washington, D.C. “We knew we were doing the right things, but we wanted to show other cities what we’re doing and how seriously we take it, and also to set an example for other cities that wanted to follow suit. Getting confirmation that we were on the right track was really reinforcing for us.”

Across the Potomac River, Arlington County, Virginia, has also earned LEED for Communities Platinum certification. “The LEED Platinum certification acknowledges to others that Arlington has an ongoing commitment to sustainability and resilience,” says Joan Kelsch, green building programs manager at Arlington’s Department of Environmental Sciences. “Many businesses want to move to communities that have a commitment to sustainability. USGBC is a well-respected organization, and LEED is something that people understand. The certification is proof that we’re meeting those standards. You could spend five pages explaining why Arlington is a sustainable community, or you can show them the LEED Platinum certification. That third-party evaluation is very valuable.”

Phoenix received LEED for Cities Platinum certification in November. Mark Hartman, chief sustainability officer for the city, is hopeful that different cities can learn from each other’s successes. Phoenix, for example, recycles 85 percent of its water and uses less water per capita than many northern cities, and Hartman says the fact that the city “has been thinking about water for 100 years” presents an opportunity to share best practices with other communities that may be just beginning to think seriously about water conservation.

“It’s good getting some recognition,” Hartman says. “But the biggest thing is that we all need to work together to make these things happen. Rather than saying, ‘We’re better than you,’ the message is, ‘This is easy, and you can do it, too.’ It used to be that cities would very much keep everything a secret. Now it’s about what we can do together to make an impact.”

Savona, Italy, is the first European municipality to participate in the LEED for Cities program, and received precertification in October. “We enthusiastically took the chance to participate in the LEED for Cities project because we believe that sustainability is a crucial challenge for the future of communities,” says Mayor Ilaria Caprioglio.
“By collecting and analyzing data, we can measure the sustainability level of Savona from every point of view and intervene accordingly, in order to improve performance in each sector. It is our desire to give the new generations an increasingly green, smart, and environmentally friendly city.”

One consequence of the data-based approach to certification, says Platt, is that surprises sometimes pop up when the numbers are crunched. Cities that might typically be neglected in conversations about sustainability can nevertheless be certified at the highest level, depending on what their numbers show. Now, with their data public, these communities aren’t only a part of the conversation. They’re in a position to lead it.

“Some may be surprised by cities that receive Platinum,” Platt says. “LEED for Cities is really going to take us where the data takes us. What it tells us is that these cities have done a tremendous job, both in terms of their environmental footprint and tracking progress toward their goals.”

As participants in a pilot program, the first communities to participate in LEED for Cities and LEED for Communities had to learn about the process as they went along. For example, officials in Phoenix found it difficult to get data from third parties like private waste haulers who worked with the city. And officials in Arlington had never heard of a “Gini coefficient”—a metric designed to represent economic inequality. “Also, it was a bit of a challenge coming up with all the data, but once we got a team together and assigned tasks, it wasn’t difficult,” says Kelsch. “We did not realize at the beginning that we could submit roadmap information like planning documents. Knowing this helped us increase our score to the Platinum level.”

Cities will have to report their data on an ongoing basis to show that they continue to be sustainability leaders among local governments. “We’re hoping that, by creating more competition, these [early] cities will have to work as hard as any city to continue to get those kinds of scores in the future,” Platt says.

“We can’t rest on our laurels and say, ‘We’re LEED Platinum today, so we’re good,’” says Vemulapalli. “We have to consistently measure up to that level.”
streets, or when polluted air triggers asthma attacks that keep kids out of school, or when a warming planet leads to worsening urban heat islands, city leaders and residents are the ones who feel the impact.

“There is an ethical responsibility that institutions share with citizens,” says Caprioglio. “Sustainability generates well-being, improves quality of life, and contributes to the growth of the territory, with ever-increasing opportunities for development, investments, and the creation of new jobs. The goal is to deliver a better future to our children.”

Jay Wilson, green building program analyst for Washington, D.C.’s, Department of Energy & Environment, likewise emphasizes the role of sustainability in improving life for city residents. “LEED for Cities is an exciting tool that we hope is going to help us engage with residents,” he says. “It’s about greenhouse gas emissions on a global scale, but really, it’s about the people who live here, and making D.C. the healthiest, greenest, most livable city that we can. LEED for Cities is just one tool to help us get there, but it’s a robust tool, and the buzz around this is going to help us move more quickly than if we had to create these tools on our own.”

The opportunity to effect change at a citywide scale, says Platt, will be especially important in countries with developing economies, where the built environment is growing rapidly. “In the last four or five years, an increasingly substantial amount of the engagement that we’re involved with—in our efforts to green both individual buildings, as well as neighborhoods and cities—has come from emerging economies, especially in Asia,” he says. “They were advising us that we needed to think bigger than individual buildings. India and China are in the midst of creating cities at remarkable velocities. The idea that it’s going to be one building at a time is not as compelling in that part of the world.”

The programs have generated external excitement, as well. Bank of America Charitable Foundation
recently announced a grant program designed to recognize the sustainability and green building achievements of U.S. cities pursuing LEED for Cities certification, which will go toward educational resources, technical support, and financial assistance to aid in their pursuit of LEED for Cities certification. Six cities have already been selected: Washington, D.C., Phoenix, Atlanta, Denver, Chicago, and San Jose.

“As a financial services company, we work every day to help accelerate the transition to a low-carbon economy by deploying capital towards sustainable investments,” says Alex Liftman, global environmental executive at Bank of America. “We believe this program also has the power to facilitate this transition, and to effect broad and lasting environmental change, which aligns with our company’s focus on sustainable growth and environmental business.”

“LEED for Cities encourages and drives large-scale solutions by setting citywide goals which help mobilize all sectors connected to the built environment,” Liftman adds. “With urbanization increasing across the globe, cities need to be especially focused on growing sustainably, while incorporating resilience and potential climate change impacts into plans for the future. LEED for Cities provides a roadmap to do exactly that.”

Collaboration and Competition

During the pilot program, USGBC officials are trying to learn as much as possible from the data cities submit, and they’re hoping to arrive at some conclusions about which sorts of initiatives produce the best results. These findings, in turn, will theoretically spur the same sort of market transformation that LEED for buildings has brought to the architecture, construction, and materials industries.

“We’re in the business of trying to make sense out of data,” says Horst. “We haven’t really had a system in the past that included things like equity and prosperity, so we’re learning.”

Horst is especially interested in what can be learned from cities with common underlying circumstances but differing sustainability performance levels. “Two cities might be the same size with similar types of populations, but one has invested in a type of infrastructure that allows mass transit,” he says. “What’s the difference in terms of greenhouse gases? What’s the difference in the health and well-being of people? Instead of telling people they should be investing in mass transit, we want them to see what the difference is between two places in a variety of ways. We think that’s probably the best education.”

Horst and other stakeholders hope that the new certification programs result in common benchmarking and standards, so that cities will not only be tracking their sustainability data but will also be able to put that information in context and easily compare themselves with other municipalities.

“We’re trying to create that point of reference for a discussion about what’s actually working,” says Platt. “We think there’s a close relationship between tracking progress and actually making progress. These [pilot] cities are good models for evidence-based learning. Every year that they’re making progress, they’re also gathering data that helps them make adjustments to make even more progress.”

Wilson says that when Washington, D.C., passed an environmental benchmarking ordinance, the phrase “you can’t manage what you don’t measure” became a mantra for the city. “LEED for Cities is similar,” he says. “This gives cities a way to compare themselves against each other, and then pass policies to help improve things.”

Kelsch admits that a spirit of healthy competition helped spur Arlington County to pursue LEED for Cities certification on the heels of its neighbor to the east. “Competition is a great way to motivate people,” she says. “We thought, if D.C. can do this, I bet we can do this, too. There’s a little bit of ‘keeping up with the Joneses,’ but we also inspire each other and cooperate regionally on a lot of issues.”

Kelsch says she hopes that, in addition to encouraging information sharing between communities, the LEED for Cities and LEED for Communities programs will spur cooperation between different departments within the same community. “We have a lot of different components in our environmental and economic prosperity work,” she says. “We do green building, we manage open space. But we don’t look at them as a whole. We look at them individually.”

“This is an opportunity for us to look at everything as a package, and be able to show the community and ourselves that this is having a larger impact,” Kelsch adds. “I hope it motivates folks to see that this work shouldn’t be isolated. We’re all in this together.”

Opposite page: Jay Wilson, the green building program analyst for the Department of Energy & Environment, stands outside Paul Laurence Dunbar High School in Washington, D.C. America’s first public high school for African Americans, Dunbar bridges the past to the present as the highest rated LEED Platinum school project in the country.
Photo: Jeff Mauritzen
A pioneering developer builds 158 LEED Platinum homes.

WRITTEN BY LORNE BELL
Last September, as Hurricane Irma bore down on Florida’s west coast, Marshall Gobuty’s phone started ringing. Residents of the developer’s new Mirabella community in Bradenton, Florida, wanted to thank him for building homes that could weather a Category 4 hurricane.

“They said, ‘We sat in our homes and we were shocked—we didn’t even hear the wind,’” says Gobuty. In addition to meeting the latest hurricane construction standards, Mirabella’s homes achieve Leadership in Energy and Environmental Design (LEED) Platinum, the U.S. Green Building Council’s (USGBC) highest mark of sustainability. And while airtight building envelopes mean peace and quiet in a storm, Gobuty has accomplished something far more impressive.

Of the 5,823 projects that achieved LEED certification in the United States in 2016, 9 percent designated themselves as single-family homes. Many of those were custom-built homes for discerning buyers. In Mirabella, Gobuty pioneered a new paradigm: a production-built development of 158 single-family homes that achieve USGBC’s most rigorous benchmarks for sustainability. (The homes also achieve ENERGY STAR and Home Energy Ratings System certification.) From highly insulated walls and roofs, to high-efficiency HVAC and irrigation systems, to interior air quality, Mirabella offers sustainability and savings that few single-family home developments can deliver.

“It’s a phenomenal achievement,” says Marc Heisterkamp, vice president of strategic relationships at USGBC. “Mirabella has been able to bring scalability to the process and not just achieve LEED Certified, Silver, or Gold homes, but go all the way to LEED Platinum. And they got there through sheer determination and persistence.”

Heisterkamp oversees the growth of residential (LEED for Homes) and community-scale (LEED for Neighborhood Development) programs at USGBC. He says several factors have hindered the adoption of LEED in the single-family production-building sector. First, LEED for Homes launched just as the housing market collapsed and production builders bore the brunt of the downturn. Heisterkamp says USGBC was forced to “pivot” to the mixed-use and multifamily sectors, which adopted LEED in earnest. Domestically, about 25 percent of new multifamily units now certify through LEED.

Scalability has also been a challenge. Production homebuilders’ emphasis on speedy construction is often at odds with the planning, design, testing, oversight, and documentation needed to achieve LEED certification. To address that challenge, USGBC recently streamlined the LEED for Homes certification ratings and process.

The rating system for single-family homebuilders now emphasizes energy and water use, the most in-demand features for buyers interested in sustainable homes. And while each production-built home must still be tested and verified, a new group certification process allows builders to test and certify model homes and then roll the process out to the entire project. The changes, says Heisterkamp, will increase efficiency and access to LEED certification for production developers, builders, and homeowners.

“With folks like Marshall leading the market, we’ve built those lessons learned into the process,” says Heisterkamp.
Platinum Profit and Principle

Gobuty hasn’t always been driven to develop sustainable homes. In the late 1990s, he and his family moved from Los Angeles to Israel after selling his garment company, Arizona Jeans, to JCPenney. It was in Israel—and later in Thailand and London—where the clothing mogul made his first moves as a developer. By the time he moved back to the U.S., he had developed commercial and residential property from England to South Asia.

The 57-year-old never considered himself a green homebuilder, or even an environmentally conscious citizen, until he purchased the Mirabella land in 2005. When he consulted with a developer friend and mentioned his plans for an active adult community of 160 single-family homes, the response was emphatic. “He said, ‘Don’t do LEED,’” Gobuty remembers. “So I thought, ‘I have to do it. I have to do something different.’ It was a marketing strategy.”

Gobuty’s firm, Koral & Gobuty Development Co., spearheaded the project, and Sarasota-based JKING Designs LLC was the architect for all 158 LEED Platinum homes. Gobuty acts as both developer and builder, allowing him to more closely oversee quality control.

And that marketing strategy? Some 130 homes at Mirabella have sold since construction began in 2015, and 36 of those sales are homes still being built. While LEED Platinum homes typically fetch a premium, Mirabella homes are deliberately priced within $5,000 of a traditionally built new home of comparable size and amenities. Two-bedroom houses start at $297,530, and three-bedroom houses start at $341,730.

Peggy Christ, owner of BEE Green Realty LLC in Bradenton and a member of the Myakka River branch of the USGBC Florida chapter, has listed several Mirabella homes for sale. She says they could easily sell for 15 to 20 percent more than new non-LEED-certified homes. “It’s an expense to Marshall, and he’s not passing that off to his buyers,” says Christ.

That’s largely because Mirabella’s target demographic of homebuyers is 55 and older, and many are on fixed incomes. Gobuty’s pitch to his cohort is simple: Reduce your energy consumption and utility bills, experience healthier indoor air quality, and increase your home’s long-term resale value.

Kenneth King embraced that vision. In 2016, King and his wife, Beth, bought their Mirabella home for $313,000. The 1,526-sq-ft house has two bedrooms and two bathrooms spread across one floor with an entrance foyer opening to a wide kitchen and great room. The home was a downsize from the couple’s 2,400-sq-ft home in Richmond, Virginia, and its price was a value compared to similarly sized homes in Florida.

“We didn’t find anything affordable that was comparable in quality,” King says. “The operating costs are also greatly reduced compared to what I was paying in Richmond, and the consistency of air
movement, air temperature, and air quality is even within the whole house.”

Last August, at the peak of Florida’s summer heat, King’s utility bills topped out at $105. It was less than half of the $225 he paid in August in Virginia. “It’s fantastic,” he says.

But Mirabella’s price point and savings are also about principle. What began as a marketing strategy for Gobuty has become a personal mission to spread LEED certification and sustainable design and construction across the production homebuilding industry.

“You can’t charge for LEED,” he says. “Believe me, I have the numbers and could. But if you do that, now you’re selling something that should be included. We’re supposed to be building green houses.”

Building LEED Platinum

For architect Justin King, Mirabella was more than an opportunity to design some of the most sustainable homes on the market. King’s firm works with production builders across the Sarasota region, and he says Gobuty’s vision of a development of single-family homes at the LEED Platinum level is “unheard of.” As the project’s architect, King saw the chance to create a blueprint for integrating LEED certification and sustainability across the production homebuilding industry.

“It’s exciting for us,” says King. “There’s an education that people aren’t familiar with, but the more we talk about the process and strive toward green building and LEED-certified homes, the more people will understand how simple it can be.”

At Mirabella, that process began with a streamlined home design, one that reduced the construction timeline by keeping floorplans simple and consistent with few modifications. Gobuty then sought out vendors with experience in green building practices, reducing costly training and potential construction mistakes.

What followed was a series of charrettes among the developer, designer, construction managers, subcontractors, and LEED certifiers. These meetings were part of the LEED requirements and focused on the products, installation, oversight, testing, and documentation needed to achieve LEED-certified homes. They reinforced the importance of using only preapproved materials—low- or no-VOC sealants, for example—and the risks of losing certification if substitutions were made.

Ongoing meetings keep the project’s processes consistent, and Jeremy Gary plays a leading role. As a building science consultant and LEED Green Rater at the third-party ratings company Calcs-Plus, Gary educates and provides guidance to Mirabella’s team and inspects, tests, and certifies every home.
“It’s a challenge to get LEED worked into a production building sequence—where inspections need to go, the sourcing of materials, multiple design charrettes and meetings,” says Gary. “But many developers would be surprised to see that with the right commitment and the right team, LEED certification isn’t nearly as difficult as they’d imagine.”

Part of that commitment includes daily construction site monitoring, something Gary can easily provide for clients building one-off LEED-certified homes. With a project as large as Mirabella, a team of site managers is needed to provide oversight, documentation, and accountability. It’s a lesson that Gobuty learned early on. During one of the first home’s blower door tests—a requirement for ensuring minimal air intrusion into the building envelope—subcontractors had to open up the home’s drywall to reseal gaps with caulking.

“While I could negotiate with DOW and other companies to reduce the costs of materials, we had to make sure they’re installed right,” says Gobuty. “We realized after the first few homes that we had to triple up on our supervision.”

Mirabella’s Director of Building Operations Jim Dick now oversees a team of construction managers. Each is assigned a set of homes and conducts daily onsite monitoring to ensure compliance with materials, installation, and testing that are essential to LEED certification. Dick admits that learning and implementing those processes “was a steep curve and very challenging at the outset.” Every detail—from caulking drywall at the top plates to paints and adhesives—had to be checked and documented to ensure that sustainable designs resulted in sustainable results and LEED-certified homes.

Now, with almost 100 homes completed, Dick’s team has found its way to consistent LEED Platinum certification on a production builder schedule. Homes are submitted for LEED certification in batches of 10, instead of one at a time, and each Mirabella home takes just five and a half months to build.

“It’s certainly more complicated and detailed than building a standard home,” says Dick, “but it’s exciting at the same time. It’s a very integrated, team approach, and having that integrative team is enjoyable.”

Living LEED Platinum

For most residents, the benefits of living in a Mirabella home became clear after they moved in: lower energy bills and water bills, improved thermal comfort, reduced humidity. But Don Viehman is not most residents. He’s a Florida home inspector, and he and his wife, Barbara, watched their Mirabella home as it was built.

“I came here every day and watched the process,” says Viehman, who owns a two-bedroom, two-bathroom Mirabella home. “All of the lumber was top quality. Any time a hole was drilled for a wire, it was sealed with spray foam. There’s no penetration of any moisture into these homes. And my attic has 12 inches of spray foam at the roof, so even in summer it’s just two degrees warmer than the house.”

But Viehman didn’t just buy a Mirabella home for its construction quality and green profile. While he enjoys the energy savings, the 61-year-old says he and his wife wanted a maintenance-free home. When he moved his fridge for the first time last January, the coils had hardly any dust on them.

“We joke that our home is the Igloo cooler,” he says. “Because the house is tighter, there’s no dust. The appliances don’t work as hard. A fan comes on to [circulate outside air]. We can program the air conditioning or heat. The house runs itself.”

That’s because Mirabella homes feature an impressive lineup of energy- and water-efficient technologies: Carrier heat pumps; GE ENERGY STAR–certified appliances; Rheem 0.95 efficiency water heaters; dual flush WaterSense toilets; low flow showers and faucets; Broan ENERGY STAR–certified bath exhaust fans with Honeywell smart controllers; LED fixtures and bulbs; and spray foam and R30 insulation throughout. Outside, Hunter micro-drip irrigation systems use recycled water to irrigate the landscape and employ high-efficiency nozzles, smart irrigation controllers, and sensors that turn off irrigation when it rains.

These features, along with sustainable designs, help Mirabella homeowners use 30 to 40 percent less energy each year compared to traditionally built homes. They also help earn LEED Energy and Atmosphere credits for exceptional energy
Mirabella homes offer a spray foam insulation that provides a barrier up to 50 percent tighter and more effective against moisture and allergens. High-end vinyl windows keep cool air indoors and drastically reduce bleaching of floors and furniture—which in turn help drive energy costs further down.
LEED: A LEGACY
Leaders across the globe have made LEED the most widely used green building program in the world. Leave your legacy today.

#LEEDlegacy
SUSTAINABLE CHILE
In a coastal Chilean city, the fuel and energy company COPEC SA is working hand in hand with the local community to turn a brownfield site into Chile’s first LEED for Neighborhood Development community.

Alongside a busy roadway in Viña del Mar, Chile, native plantings are beginning to bloom. Behind the vegetation, a 40-acre parcel used for industry for more than 100 years sits vacant, still undergoing brownfield remediation to clean up a century’s worth of chemicals. But alongside the road, birds are already nesting and hatching their eggs.

Even in this pre-development phase, the Las Salinas project has come to life.

On a typical development, landscaping might be the final task undertaken, rather than the first. But Las Salinas isn’t a typical project. The developer of the site, which has already earned Leadership in Energy and Environmental Design (LEED) for Neighborhood Development (ND) Gold for its master plan, is not a sustainability-focused builder but rather the Chilean energy giant COPEC SA, which is owned by Empresas COPEC. The company used the site for fuel distribution for decades, and when COPEC SA approached the Viña del Mar city government with detailed plans for redeveloping the land several years ago, company leaders considered their gesture a “contribution”—until they faced backlash from community groups who were fearful of exacerbating the congestion that has plagued the area in recent years. Instead of selling the land or letting it sit dormant, COPEC SA brought its opponents into the planning process, resulting in a master plan that company leaders now hope will revitalize civic life in Viña del Mar and spark a restoration of the city’s degraded landscape.

The plantings at the edge of the site are a promise of what’s to come, but they’re also a reflection of how the planning process has unfolded so far. The vegetation is not, in fact, the final landscaping for the project, but rather an experimental nursery that will help developers determine which plants are most likely to survive and thrive at the site.

“It’s not about selecting some random native planting,” says Ricardo Labarca Alcaínó, head coordinator for the Las Salinas project at Inmobiliaria Las Salinas, the development arm of COPEC SA. “We’re trying to figure out which plant relationship works on the site,” explains Esteban Undurraga, development manager at Inmobiliaria Las Salinas and LEED project administrator, who is managing the LEED process for Las Salinas. “We’re showing people that we don’t have all the answers, and that we’re working to find them.”

In other words, the Las Salinas team is listening to the land, gathering feedback, and altering their approach—the same way they changed course with their design process after community groups pushed back on the initial design. They know they made some missteps early on. Now, they’re determined to get things right.
What Is LEED ND?

LEED for Neighborhood Development (LEED ND) is a rating system that recognizes sustainable projects constituting whole neighborhoods, portions of neighborhoods, or multiple neighborhoods. The certification can be applied to already built projects or development plans. To qualify as a built project, a development must be near completion, or have been completed within the past three years. Projects can have their neighborhood-scale plans certified if they are less than 75 percent constructed.
A Downward Spiral

In Spanish, Viña del Mar means “Vineyard of the Sea,” and the city’s formerly lush landscapes earned it a reputation as Chile’s “Garden City,” used as a seaside retreat for residents of Santiago, which sits less than two hours away by car. In recent years, though, the city has failed to live up to either its name or its nickname, with views and access to the sea blocked by towering skyscrapers, and erosion and other factors degrading the vibrant ecosystems that helped turn Viña del Mar into a tourist magnet in decades past.

“You drive in, and you can see that something’s not working here,” says Bill Reed, president at Regenesis Group, a Boston-area firm specializing in regenerative development, and an advisor to the Las Salinas development team. “And everybody knows it. The trend lines are going downward: tourism, quality of life, agricultural productivity. The whole city is on a downward spiral.”

“When we went to Viña del Mar, we saw that a lot of the development today has turned its back to the public realm,” says Victor Eskinazi, a senior associate at Sasaki Associates, another Boston-area firm that is consulting on the project. “The city had become a very car-dominated environment, and that was really affecting people’s quality of life. Developers come in, they maximize their built-up area, and they completely neglect the ecological system.”

Perhaps it makes sense, then, that community groups initially viewed Las Salinas as a threat, rather than the “contribution” that project leaders wanted it to be. For years, residents watched their city’s coastline be gobbled up by development, and now here was an energy company proposing to redevelop its own parcel across from the sea.

“It’s a strange fit,” Labarca acknowledges. “I don’t know if there is another kind of company that has part of its holdings related to petroleum that is doing this kind of project around the world. When we started speaking to other companies in the industry in Chile, they said, “You’re crazy, going for this level of [LEED] certification.”

“We saw the chance to learn from the latest global trends in urban development and implement them in Viña del Mar, a city with which we have a historical
relationship,” says COPEC SA CEO Arturo Natho, explaining why the company decided to tackle the project. “It was never an alternative to leave the land as it was, or to develop a project without added value. We felt that aiming for a LEED certification would allow us to obtain solid standards from an independent, relevant third party to guide the initiative.”

The problem, says Labarca, is that the company initially approached the community with a final design already in hand. “We were saying, ‘We want to give this gift to you,’” he explains. “And they said, ‘Why is this street here, why is this plaza here, why are these buildings in these shapes?’”

Rather than go on the defensive, Labarca says, company leaders took a step back to rethink the project, and how they could better approach the Viña del Mar community. “It was about the fact that we were suggesting a gift for the city, without making the city a participant in defining what the gift should be,” he says.

The initial design did not incorporate LEED, and was focused on maximizing the development allowed by local regulations. The design also neglected the hillside at the back of the site, and did little to integrate with the citywide transit systems.

“We realized that, if we really wanted to give a contribution, we should work with the community and with the city to understand the potential of this place, and the role of the site to get [the city] to that potential,” Labarca adds. “That’s the contribution.”
Your Project Is Not the Project

Over the course of two weeks, Las Salinas representatives met with 18 activist groups that were initially opposed to development at the site. After the meetings, says Reed, virtually all of the groups “flipped 180 degrees.”

The development team got buy-in from the community by shifting its focus away from the development site itself, and onto the city as a whole. For example, the project team is working with community groups on projects such as the formation of a cultural foundation, the recovery of “natural beach formation dynamics” at a local beach, and improved ocean access from communities neighboring the project. Reed contrasts this approach with what he calls a “transactional” relationship, where developers agree to certain concessions in exchange for permission to build their projects. Instead, he says, the Las Salinas team treated community members as partners with common goals.

“We helped people to see that all of us are in this together,” Reed says. “What we found out is that almost everybody was interested in the health of the city. And so the surrounding ecosystem became the project.”

The shift speaks to one of Reed’s fundamental beliefs about sustainable development: that green buildings shouldn’t be islands of sustainability, but should rather promote the health of communities and the planet on a larger scale. “I tell architects, ‘Your project is not the project. Your project is the health of the ecosystem,’” Reed says. “Why else do we do green buildings? People couldn’t care less about your project. What they want to see is how it impacts them, and that’s the quality of life in the city.”

During conversations with community groups, Reed says, residents frequently expressed nostalgia for the city’s past. “People would talk about the gentility of life, or the wonderful seasonal variation of the pulsing tourism and then the quiet season. The quality of the air and the foliage, the jobs that were there,” Reed recalls. “It was about a way of living in a ‘Vineyard of the Sea’—Viña del Mar. They kept asking, ‘Why did that disappear?’ The streets have become a bit mean. And before, it was this genteel city. The way that’s going to be recovered isn’t because we come in with a lot of resources and building projects, but because we come in and we’re able to show people that, if we work together, we can get somewhere.”

Top: Physical and visual connections to the sea will be implemented to restore the local ecology and reengage the community with its seafront and public spaces.

Right: Sasaki’s multilayered approach to form and function takes into account connectivity and resilience of site systems, which in turn regulate stormwater, nutrients, carbon, microclimate, pollination, and species dispersal.
By bringing community members into the planning process, Reed says, the Las Salinas team didn’t merely quell the uprising against the development but also created a powerful ally. “They were going to spend all this time and money fighting the development,” Reed says. “Now their resources can go to something positive. You’re tapping into their energy. It’s pretty amazing.”

Still, certain obstacles remained. While the Las Salinas team now wanted to have an impact on the city as a whole, they still only controlled one 40-acre parcel. And while community members now felt that their voices were being heard, and were on board with the idea of working together to improve Viña del Mar, it wasn’t yet clear whether they all agreed on what, exactly, that would mean.

“What energized people was not the project itself or any specific element of the project,” says Eskinazi. “It was how to improve the health of the city. For us, the key question was, ‘How do you translate that into the site?’”

Building a Bridge
The Las Salinas team began implementing their new vision of a community—an ecosystem-regenerating project—with small steps. They put in the plantings. They learned that the site had become a draw for skateboarders during the years it had sat vacant, and they began having conversations about how to incorporate skating elements into the project. They tore down an opaque wall around the site—which was covered with fliers and ads, and which residents considered a blight—and replaced it with a transparent fence.

Over time, and with significant input from community activists, the team devised the LEED ND master plan. The mixed-use development calls for underground parking, green roofs, and hardscape materials designed to reduce the heat island effect; at least one recycling station, hazardous waste dropoff point, and compost station available for all occupants; bike storage, bus stops, and space for a potential light rail line; and rainwater capture features and requirements for efficient water systems in buildings. The intent is to also recycle and reuse at least half of the nonhazardous construction debris during the building phase.

While these features will reduce the environmental impact of development, the Las Salinas team has its eyes on a bigger goal: turning the project into a “bridge” that connects residents to civic life and ties together disparate ecosystems. The master plan calls for a community center, a cultural center, public open space, the preservation of seascape views, and an elevator to take people down from the hillside to the level of the sea—all of which will contribute to the
sense that the project is meant for the entire city. The plan also calls for increased soil depth to accommodate a tree canopy that will create a “biological corridor” between the hillside and the ocean.

“A lot of projects are very insular, very inward focused,” says Eskinazi. “They’ll create a park, but only for the residents. This project is very outward looking. A more aggressive developer might put the tallest buildings closest to the sea. At Las Salinas, that’s where a park will sit.”

Undurraga says the development will be a “stepping stone” between the ecologically rich (but currently degraded) hillside and the ocean. “We have these two starring systems, and they’re not connected,” he says. “The project becomes the bridge.”

The project team hopes that what they start at Las Salinas will become contagious, sparking ecological restoration throughout the city. “We want Las Salinas to be a catalyst,” says Labarca, noting that the development team is working to support external projects like water basin recovery and scientific advancements in remediation for contaminated sites. “We need other companies, community groups, and residents to feel a sense of ownership of what’s happening at Las Salinas. If not, it’s just going to be a very cool project. If we want to create an impact on the health of the city, we need to create this sense of ownership.”

Looking Ahead
For as far as the Las Salinas team has come, the project still has a long way to go. The site is still undergoing remediation, and although the master plan has been precertified, it won’t be formally approved by the city until the cleanup process is complete. A skeptic might wonder whether the goodwill the team has built up in the community might dissipate once shovels are in the ground, and once economic or other factors lead to one community group or another not getting what they want from the project.

But the team members say they’re confident that the collaborative atmosphere they established during the planning process will carry over into the construction—and beyond. “What we’re building is an energy field, and a field of energy is contagious,” says Reed. “It’s not us doing it. What we’re doing is organizing the community and building their capacity to work together.”

The idea that this capacity building will be able to spark transformation in Viña del Mar, Reed insists, isn’t fanciful or overly idealistic. “I think it’s actually a lot more ‘woo woo’ to think that a green building alone is going to work all this magic,” he says. “It doesn’t. It’s not the building. It’s how we engage the context, the people, the ecosystem.”

Similarly, Undurraga balks at the notion that the relationship between the development team and
community groups will deteriorate as the project moves forward. “I’m very confident it’s going to go the opposite way,” he says. “It’s going to flourish. We made the mistakes already, and we’re correcting them.”

The LEED certification, Undurraga says, does not represent a finish line, but rather a starting point for Las Salinas. “Some people may be afraid that that sets the project in stone,” he says. “It’s the opposite. This sets the baseline. It’s the lowest we can achieve. Now, we’re only going to move forward.”

Labarca says he expects community input to continue to shape the project through its completion. “We’ve learned that we can’t just shut the doors and shut our ears in the process and not communicate and engage with the community,” he says. “If we freeze right now the project; in three more years, it’s going to be obsolete. It has to keep evolving.”

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**GREEN CHILE, BY THE NUMBERS**

“Chile was one of the first countries in Latin America to start using LEED,” says Maria Fernanda Aguirre, a manager at Chile Green Building Council. “At first, most of the projects were commercial buildings, but during the last few years, many different types of buildings have joined this movement, choosing LEED as the tool not only for certification but also to improve the way buildings are designed and constructed.”

Among all countries in Latin America, Chile is the third most active green building market, with its number of LEED-registered and LEED-certified projects ranking behind only Brazil and Mexico:

| Total Projects | 410 |
| Total Gross Square Footage | 63.4 million |
| Certified Projects | 177 |
| Certified Gross Square Footage | 23.5 million |
| Total Residential Units | 3,292 |
| Certified Residential Units | 967 |
| LEED Professionals | 85 |

Data as of February 2018

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Left: Climate change has led to a dramatic reduction in rainfall in coastal Chile. Water-sensitive design strategies reduce potable water demand, increase rainfall infiltration, and prevent saltwater intrusion of the coastal aquifer.

Top: A fully accessible and interconnected public realm network promotes greater social integration among Viñañamarinos. A pedestrian spine and regenerated ravine trail draws the Santa Inés community to a new public park on the Pacific Ocean coastline.
The Valuation of Green Commercial Real Estate
by Timothy P. Runde, MAI, and Stacey L. Thoyre

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For a decade Rhode Island has pioneered sustainable design in the public sector. It was the first state in the nation to adopt the Leadership in Energy and Environmental Design (LEED) rating system, and the International Green Construction Code (IGCC). At their outset, however, those systems did not address real public property, which belongs to the state—that real public property became the domain of the 2006 Green Buildings Act, a policy requiring nonresidential public buildings to certify under the appropriate version of LEED.

The recent passage of bill S-0952A/H-5427A, which amends the Green Buildings Act, is in keeping with the state’s long-standing commitment to sustainable building. The legislation has been in the works since 2014, when the Environmental Council of Rhode Island and the Green Infrastructure Coalition started talking more deeply about green infrastructure in the public sphere. (As the Ocean State, Rhode Island has a heightened appreciation for the need to protect its coastlines and waterways.) In late 2015, it was decided that there should be legislation in place to encourage the inclusion of green infrastructure in public projects. That idea resulted in an amendment to the Green Buildings Act that included the Sustainable SITES Initiative (SITES) and LEED for Neighborhood Development (LEED ND) as applicable standards for the construction of green infrastructure. After continual support from USGBC and USGBC Rhode Island Chapter, Governor Gina M. Raimondo signed the bill into law, making Rhode Island the first state to include SITES for the design and development of land that falls under the domain of public real property.

The updated legislation adheres to prior commitments while broadening sustainability and resilience measures to go beyond buildings. State and local governments taking on new public facilities projects that add public parks or landscapes that address the space between buildings will now apply SITES and/or LEED ND. “The Ocean State has taken a big step toward embracing sustainable development and landscapes,” says Jeremy Signon, USGBC’s Director of Technical Policy. “By using these rating systems for public projects, Rhode Island is creating healthier, more sustainable, and more resilient places for its residents.”

“I am enthusiastic not only for the legislation becoming law, but also for how the law can leverage and catapult a greater realm of sustainability,” adds architect and USGBC Rhode Island Chapter chair and co-founder Kenneth J. Filarski, who drafted the bill.

Right: The Save The Bay Center provides classrooms for their Explore The Bay educational programs, Save The Bay’s administrative offices, and community meeting space. The building itself represents Save The Bay’s approach to brownfields redevelopment and environmentally friendly shoreline development. The 15,042-sq-ft building is located on a 6.07-acre site in Providence, Rhode Island, on Narragansett Bay.

Photos courtesy of Save The Bay
Meg Kerr, senior director of policy at Audubon Society of Rhode Island and a member of the Green Infrastructure Coalition, concurs: “We are excited for the opportunity to have state and public investment in . . . green infrastructure as a way to demonstrate its importance and the benefits it provides to the community.”

The Law at Work in the Age of Climate Change

SITES and LEED ND are two more tools for building resilience into the state's fabric. SITES-certified projects create regenerative systems that not only help reduce water consumption, energy needs, and air pollution but also better bear catastrophic flooding events and sea level rise. The adoption of LEED ND will also play a role in addressing climate change. The state's small size coupled with the principles of New Urbanism make it well poised to significantly cut carbon emissions. “There are major areas including the Pastore Complex in Cranston, the Port of Galilee, and Quonset Business Park where LEED ND is applicable,” Filarski explains. “It [can] be used as a guiding framework for sustainable hazard mitigation, communities’ comprehensive plans, zoning works, subdivision works, and conservation development works.”

Among the law’s allies is the Rhode Island Builders Association, a 72-year-old nonprofit organization whose mission is to address the state’s housing needs. Its unanimous support is something of which president Dave Caldwell is quite proud. He values the coming together of the building sector with the environmental community, and notes that it hasn’t always been the case. Their capacity to do so, he feels, is something politicians respond well to, making the passing of advantageous bills like this one more likely. “This is a win-win piece of legislation. It saves money and is good for the environment in terms of energy and water resources, [which is important] in an estuary like Narragansett Bay,” says Caldwell, who advocates for expanding the realm of green infrastructure. “This legislation is a step toward increasing our awareness of our environment—it’s another piece. It’s not the end, and it’s not a standalone element. But as we think about sea level rise and water quality, [it’s vital] to build and adapt to a changing environment . . . [This new law] is another brick in the foundation of how we learn to build better.”

Governor Raimondo sees the big picture, too, noting Rhode Island’s position on the front lines of the fight against climate change. As part of its commitment to environmental leadership, the state has introduced net metering to make it easier for residents to invest in clean energy resources; it has partnered with other states to cut greenhouse gas emissions; and it is the only state in the nation with an offshore wind farm. “Thanks to this new legislation, we can build on these accomplishments to extend our building sustainability efforts to public lands,” says Governor Raimondo.

Broadening the Scope

According to Filarski, SITES has wider repercussions as well: “I think sustainable landscapes are more accessible and understandable than buildings are to the layperson. People have an intrinsic connection to any well-done landscape, but when it is a sustainable landscape, there is an affinity, a sort of sisterhood and brotherhood among people of all walks of life. SITES can bring in a whole new audience that will feel comfortable entering the notion of sustainability.”

Filarski sees the two rating systems working in tandem, noting that even if a SITES project doesn’t qualify for LEED ND, there is no reason some of its principles can’t be applied. “Our job is to nudge [the state]
to incorporate as many elements as possible," he says.

For Kerr, it’s a matter of demonstrating that SITES metrics add value to projects—and that they are a positive for the state. “[We want to show] there are more benefits than costs, so that people managing these projects moving forward are excited, and we see more applications of SITES.”

In addition to diversifying the audience supporting sustainable design and resiliency planning; building community structures, landscapes, and neighborhoods that improve environmental and human health; and addressing climate change, it also makes Rhode Island a fiscal steward of public funds while evidencing its commitment to sustainability in the built environment, which furthers its commendable reputation on the national stage.

**Moving Forward**

“Getting the bill passed is fabulous but the rubber hits the road with its implementation. I would like to see enthusiastic participation by state agencies,” says Kerr, adding that state stakeholders have expressed concern that the law’s implementation will require extra work for which they don’t have resources. However, Green Infrastructure Coalition affiliates intend to make themselves available to help with technical expertise and support.

Next up is a meeting of all agencies to determine which of the state’s upcoming projects would best be suited to pilot the newly amended Act. “We want to see this move from pilot to full implementation to standard practice,” says Kerr, who anticipates Rhode Island ultimately serving as a model for other states and communities around the country.

“I don’t want to do something that is easy just to make it look good,” Filarski concludes. “I want to have high-profile, high-impact projects that really prove the point—particularly pertaining to climate change.”
“We set out to build a venue that would not only exceed expectations but also push the limits of what was possible in terms of stadium design, fan experience, and sustainability. We set a goal of achieving the highest LEED rating because it was the right thing to do for our city and the environment, and with this achievement we have a powerful new platform to showcase to the industry and to our fans that building sustainably and responsibly is possible for a venue of any type, size, and scale.”

Arthur Blank, owner and chairman, Atlanta Falcons and Atlanta United
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What is your greatest fear? Cockroaches… Big or small, walking or flying… even plastic ones, I am really afraid of them! Having said that, I never think that we should “eliminate” the cockroach from the Earth as a matter of biodiversity. Which historical figure do you most identify with? Winston Churchill: “If the present tries to sit in judgment on the past, it will lose the future.” Which living person do you most admire? Stephen Hawking What is your greatest extravagance? Support from my wife. What is your favorite journey? Coming soon What do you consider the most overrated virtue? None! It is not a matter of virtue, it is just a matter of moderation. All virtues when pushed to the extreme will be harmful. Which words or phrases do you most overuse? “To be honest” and “to be frank”…. I am an honest guy. What is your greatest regret? Had not spent more time with my parents… who already passed away. Which talent would you most like to have? Sensitivities to colors and smells. What do you consider your greatest achievement? Grooming the next generation If you were to die and come back as a person or thing, what do you think it would be? The same person If you could choose what to come back as, what would it be? A person with a “big” appetite for new knowledge and things What is your most treasured possession? Some old photos of my parents going back to the 1940s. What do you regard as the lowest depth of misery? Separation from your loved ones. What is your favorite occupation? A chef. What is your most marked characteristic? Discipline Who are your heroes in real life? Firefighters. They are the ones fighting against disasters—consequences of climate change. What is it that you most dislike? Uncertainty… but at the same time it is also the thing I like the most! What is your motto? “We must look at the facts, nourish your hopes, but do not overlook realities.” —Winston Churchill. What will you have them put on your tombstone? “Call the doctor, I don’t want to die.”
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