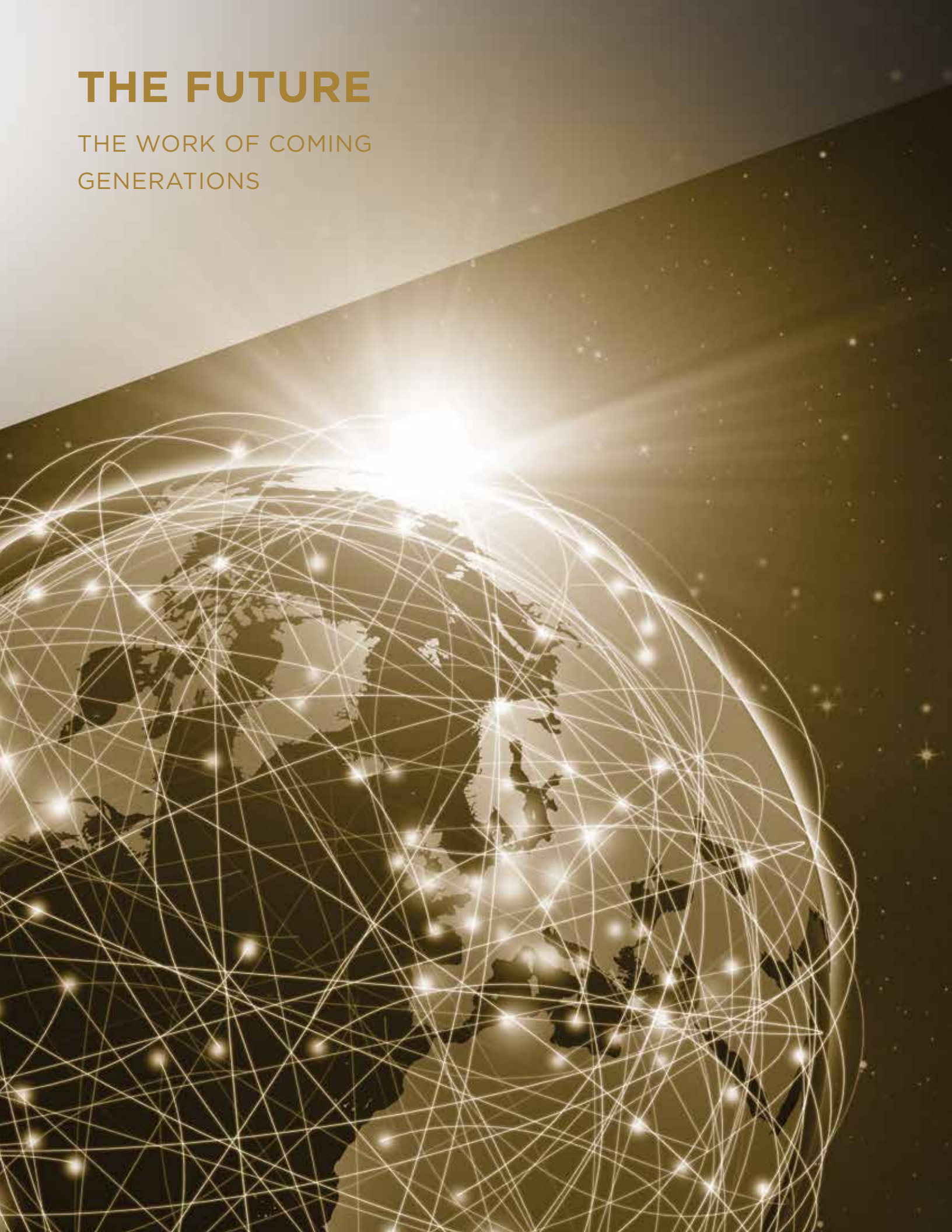
THE FUTURE

THE WORK OF COMING GENERATIONS



Much of the work Blackstone Ranch Institute had been supporting was based on relatively new approaches to a lot of familiar challenges — how to design cities, how to protect nature, how to do things in more sustainable ways. Perhaps the newest approach was the emerging ethic of working *with* rather than *against* nature. Based on the realization that nature will have to be a partner rather than an adversary or victim, it is becoming fundamental to a number of initiatives that are systemic in their design.

CATALYZING THE NATIONAL GEOGRAPHIC EXPLORERS

NATIONAL GEOGRAPHIC-BLACKSTONE CHALLENGE GRANTS

When the recession hit in 2008, National Geographic Society (NGS) lost some of the corporate sponsorships it had previously relied on for its most prestigious annual gathering, the Explorers Symposium. Every summer, explorers old and new, from around the world, gathered at NGS headquarters in Washington, D.C., to report on their work. It was a week of PowerPoints and receptions, as well as a good way to get a look at the unusual variety of innovative projects that characterized the National Geographic world. When we were asked if we would be willing to fill the gap created by lost sponsorships, we suggested that our grant money be used to help stimulate innovative action from the explorers.

Phillip Gibbs, the BRI advisor who had introduced us to NGS and was working as a consultant to them at the time, saw an opportunity to use the sponsorship grant as a way to help transform the gathering from a largely passive show of explorers' work into a catalytic moment for new initiatives. The most interesting and innovative ideas were often the spontaneous, interactive ones that were not part of the official program. Phillip saw a chance to tap the creative interactions among explorers that happen in hallways and the cafeteria between and after their presentations. He suggested that a key requirement of the grant be that at least two explorers work together on the launch of a new initiative, thus encouraging a collaborative ethos among them. Part of our sponsorship grant was offered as a National Geographic-Blackstone Challenge grant, for which we made a three-year commitment (2009-2011). Proposals were solicited from attending explorers.

It soon became clear that the explorers who would be most interested in and benefit the most from the grants would be the emerging explorers, those whom NGS selected each year to be inducted into the broader community of explorers. They were younger and less established than the more renowned senior explorers, a group that included globally recognized figures such as Sylvia Earle, Bob Ballard, Wade Davis, Jared Diamond, and others.

The offer of a $50,000 grant to the winning team, plus the backing of NGS, could be enormously helpful in attracting attention and additional funding for the winning team. We had already given a separate grant to Alexandra Cousteau, granddaughter of iconic oceanographer Jacques Cousteau and an emerging explorer in 2008, to bring together an advisory group of water experts and conservationists for Blue Legacy, her international campaign on the conservation of freshwater. She went on to do a series of documentaries on global water issues for the Discovery Channel.



Installation of solar heaters and chargers at Khumbu Alpine Conservation Center on Mount Everest, Nepal, before the April 2015 earthquake. The building was partially destroyed but has been rebuilt by local Sherpa. *Photo courtesy of Alton Byers*

We focused the grant on our mission parameters of environment and sustainability, which meant there would always be explorers doing work in archeology or certain areas of technological innovation who would not qualify. We received half a dozen proposals each year from different parts of the world. The projects were all innovative. They included an initiative to combine microbes from the arctic regions that functioned at extremely low temperatures into a biodigester process that converted household waste into usable fuel and made the process viable in cold climates; a solar-powered agricultural model in West Africa; and an initiative to restore alpine ecosystems in the Himalayas and Andes by fostering more ecologically responsible behaviors among the trekking community and the local communities that served them.

The biodigester initiative was conceived by emerging explorers Thomas Culhane and Katey Walter Anthony. It ultimately contributed to the further development of Solar Cities, an organization that Thomas had set up to spread the adoption of biodigester technology around the world. We later provided a grant, in 2013, that allowed Solar Cities to assemble a biodigester education team to offer demonstration projects to urban communities in different countries.

The challenge grant also contributed to conversations within NGS about how best to inculcate a culture of innovation and collaboration that would yield imaginative responses to the many global challenges that it had done such a good job of explaining to its extensive and diverse global audience. NGS was always looking for ways to encourage the diversity of scientists and explorers in its networks to come up with novel and meaningful ways to protect the world's natural endowment, and to develop technologies that were more sustainable, less harmful, and would advance the cause of scientific discovery and innovation.

After our three-year commitment came to an end, NGS wrapped BRI's grant program into the ongoing explorer program, which was one way to be more

inclusive than our criteria had allowed. We continued a conversation with them about how we could position another catalytic BRI grant that would help them further develop their efforts to stimulate innovation. We had several tentative conversations with them about our potential role, small as it would be; but beyond some general ideas, there was nothing that was yet coherent enough to work for either of us.

Within a couple of years, they were ready to offer some major challenge prizes to their diverse global community. "You will be pleased to know that the Explorers Challenge prize which you funded has given rise to a very robust prize competition program here at NGS," wrote Terry Garcia in an email letter to Pat in October 2014. "Your early support was absolutely critical to its success."

ASK NATURE

BIOMIMICRY INSTITUTE
GLOBAL DESIGN CHALLENGES

At the same time, the Biomimicry Institute was forming a relationship with National Geographic Society after their executive director, Bryony Schwan, had met Terry Garcia at a gathering of our early grantees at Cavallo Point Lodge in Sausalito, California, in December of 2009. The Biomimicry Institute emerged out of a growing movement of educators, scientists, and visionary environmentalists that had been activated by Janine Benyus's pioneering book on the subject in the 1990s. The Biomimicry Institute was designed as an educational nonprofit that would spread the biomimicry meme; it now generates substantive proof of its potential applicability through its design challenges.

They first devoted themselves to building a database of examples that ultimately took the form of AskNature, an extensive online catalog of nature's varied and ingenious practices. At the time, there was a rapid increase in biomimicry patents and Google searches for "biologically inspired innovation." The institute was also getting requests from a small but growing number of teachers who needed content to teach biomimicry to their students.

As they developed the institute, Bryony Schwan and Megan Schuknecht, who managed education outreach and the design challenge, began to realize that until the ideas they were featuring on AskNature and in other venues were being applied to the actual design of products, biomimicry would not be able to change the way the world worked by producing better, more sustainable, and ecologically healthier products of all kinds. Then, and to a large extent now, "biomimicry is still in that sort of wonderful idea phase," Bryony noted in a 2014 interview.

In 2008, we helped bring the effort to life by providing a small grant to convene a gathering of biologists to plan the first challenge in what eventually evolved into the institute's student design challenge program. They initially partnered with Ashoka Changemakers to challenge those in their networks to come up with a form of green cement for the building trade. But they found out shortly after they started that renowned innovation funder Vinod Khosla was already working on it, and the initiative died. At that point they pivoted from the green cement challenge to a student design challenge, for which we provided a first grant. This was partly in response to a growing demand they were getting from students around the world for information on biomimicry.

COUNTRIES OF BIOMIMICRY DESIGN CHALLENGE WINNERS AND FINALISTS, 2011-2015

Belgium
Canada
Chile
Egypt
El Salvador
Italy
Iran
Lithuania
Mexico
Netherlands
Slovakia
South Africa
Sweden
Thailand
United States

Their first global student design challenge was focused on energy, for which they received more than 50 applications in 2011. They promoted it on their website, in their newsletter, and among their growing network. The first winners were announced in 2012. Over the next few years challenge winners were student groups from countries as diverse as Iran, Lithuania, Egypt, Belgium, and Mexico. The challenge allowed them to reach students and teachers in universities in a way and in places that would never have been possible if they'd had to deal directly with academic bureaucracies. By then, regional biomimicry networks were emerging in northeast Ohio, the Netherlands, and South Africa. Just a few years later, in 2015, with roughly 30 such networks around the world, nearly 2,000 people registered for the renamed Biomimicry Global Design Challenge, which was open to both students and professionals representing 72 countries.



In 2013, we offered the institute a third initiating grant to pair the student design challenge with Startup Nectar, a biomimicry incubator in the San Francisco Bay Area, and Forest Fractal. A team of five young Egyptian women and one man won first prize for their design of an irrigation system for Egyptian farmers, which they modeled on the hydraulic dynamics of a giraffe's neck and a camel's hump.



The grant helped to inaugurate a new operational paradigm for the Biomimicry Institute to push designs toward actual applications in the world. By 2015, the design challenge was at the core of the Biomimicry Institute's work in the world, and our initial support had come to an early stage of fruition. "I just wanted to let you know what a difference you and Blackstone are making by supporting the Biomimicry Institute," the new executive director, Beth Rattner, wrote in an email in early August. "You were one of the very first to see the promise of our Design Challenge, which started as a small competition for a couple of universities and is now a global platform for students and professionals alike. Last year we realized that we get amazing submissions, brilliant ideas that should go to market. Your early money allowed the competition to grow, and now the Ray Anderson Foundation is supporting us with even more funds to help the finalists get to real prototypes that can become commercialized one day. The Challenge has grown from a way to teach biomimicry to a way to 'learn by doing,' which results in real products and real services. We are finally poised to really start scaling."

REVITALIZING THE COLORADO RIVER

BIOMIMICRY INSTITUTE AND NATIONAL GEOGRAPHIC SOCIETY

By 2014, the relationship between the Biomimicry Institute (now renamed Biomimicry 3.8 after the close to 4 billion years nature has spent refining its practices) and National Geographic Society had matured to the point where they were ready to collaborate. The content that the institute had been amassing would complement the already vast amount of information on the natural world that existed in National Geographic's various media platforms. BRI provided a planning grant to the two organizations to sketch out the mission and mechanics of a design challenge that built on the earlier National Geographic-Blackstone Challenge grant program for the explorers.

The inaugural challenge would focus on the Colorado River system in the American West and fit into an existing campaign on the river that NGS was developing in its media worlds. The challenge would be deliberately open and was intended to solicit proposals that would offer biomimetic ways to regenerate the river system. It was particularly timely given the punishing effects that Western drought was having on farmers and on the state of



California. The partnership with NGS would help scale biomimicry to another level, giving it a global platform and credibility it had not yet enjoyed; ultimately, it would start to engage a greater variety of stakeholders that would include conservationists, governments, engineers, and ranchers.It would give the emerging field of practice a chance to demonstrate ways in which its application would truly matter. It would also give NGS a flexible paradigm that would fit easily with a number of its existing initiatives and future ambitions.

The project was ultimately abandoned in late 2015 during a period of major management change at National Geographic Society. The institute and NGS continue to talk about areas for collaboration, particularly around AskNature, as NGS's immense photo library and community of explorers are eager to see their work in the natural world provide new guidance for design practitioners.

THE CHALLENGE OF SYSTEMIC CHANGE AND FUTURE LEADERS

ACADEMY FOR SYSTEMIC CHANGE
NEXT GENERATION LEADERS

One of the pioneers of contemporary systems thinking — particularly as it applies to organizational learning and development — has been MIT scholar Peter Senge. His 1990 book, *The Fifth Discipline*, established a galaxy of insights, exercises, and metrics for how organizations could be more effective through a systemic understanding of their work. His 2010 book, *The Necessary Revolution*, summarized many of the challenges and opportunities at hand for developing more sustainable practices in managing our natural resources, and suggested ways of organizing society. It was an important book for us when we read it, enough to feature a quotation from it on our website.

When we had our first conversations in 2012 with Darcy Winslow, former sustainability director at Nike and a longtime collaborator of Peter's, we were hopeful that we could do something together. At the time, she was working with Peter and other colleagues as managing director of the Academy for Systemic Change, a projected ten-year effort to work with young social change leaders on ways to make their work in the world more systemic in its approach and hopefully more effective as a result. Peter and his colleagues had been offering seminars and retreats through their Society for Organizational Learning for several years by then. The academy was a response to the growing challenges posed by resource depletion, the effects of climate change, and social and economic systems that no longer seemed up to the job of meeting such challenges.

Peter and his colleagues had spent parts of the previous five years volunteering their time to lay the foundation for the academy's Next Generation Leaders launch, which would take place in early 2015. We provided their first grant, which was quickly matched by a founding member and another foundation. This gave them enough money to gather together 20 young leaders from different disciplines at Devil's Thumb Ranch in central Colorado in January. Much of their initial work was spent building a community among the faculty and fellows. They introduced a variety of capacity-building tools and frameworks, developed individual and collective learning journeys, and together designed the balance of their gatherings in 2015 in ways that would solidify the bonds between all members of the academy. Their ambition is to have successive cohorts of leaders mentor their successors, and in so doing develop an expanding community of social change work based on systemic approaches that could serve as a model for others. The potential for ripple effects seemed quite high.

In late 2015, we offered the academy another grant to help them develop, in different parts of the world, a system of hubs that would replicate and refine their approach and, ultimately, generate their own initiatives. The first three have emerged in China, British Columbia, and Mexico and cover a variety of areas that include education, business, food and agriculture, health care, sustainable building, and others that will emerge as the hubs evolve. The hubs will be unique to their particular societies and geographies but will continue to be part of the academy network. As the academy develops, other geographical hubs will likely emerge, giving it an increasingly global impact across a broad diversity of global systemic challenges.

ACADEMY FOR SYSTEMIC CHANGE AREAS OF FOCUS

Agriculture
Business
Ecology
Education
Education/Systems Consulting
Finance
First Nations
Fisheries
Food
Higher Education
Marine Ecosystems
Systems Consulting
Tropical Rainforest
Women Empowerment & Technology



Launch of Academy for Systemic Change at Devil's Thumb Ranch in central Colorado in January 2015. *Courtesy of Academy for Systemic Change*

MOVING AHEAD

PRESIDIO GRADUATE SCHOOL ONLINE EDUCATION PROGRAMS, SUSTAINABLE PURCHASING LEADERSHIP COUNCIL MEMBERSHIP CHALLENGE, AND RMI URBAN MOBILITY INITIATIVE

A few initiatives we had agreed to fund in the latter half of 2015 were scheduled to launch in 2016. They represented efforts that would have been highly unlikely when we started a decade earlier, because their times had not yet come. These efforts symbolized the advance of innovation that we continue to support.

The Presidio Graduate School in San Francisco, which had matured from its beginnings in 2003 to become the leading business school in the country in sustainable management, was ready to take its educational degree programs online to expand the school's reach beyond its residency programs. Their decision to do so reflected the increasing availability of quality educational offerings in an online format — something we had seen a few years earlier when we funded the online environmental medicine module at the Center for Integrative Medicine. We provided Presidio with an initial grant to launch the effort.

We also provided an initial grant to the Sustainable Purchasing Leadership Council — our second grant to them — to help them launch a challenge to their broad membership of purchasing businesses and organizations to act collectively in some carefully chosen areas that would serve as major leverage points for change in entire economic sectors. We saw this as a major developmental step for the organization, one that had the potential to increase their impact exponentially by moving from a focus on the behavior of individual member companies to collective action.



We provided yet another grant to the Rocky Mountain Institute to launch a daring initiative on urban mobility. The organization selected Denver and Austin as prototype cities in which they would work with varied interests to formulate new ways to manage the rapidly diversifying ways in which people move around — touching on the increasing viability of electric cars, rideshare services, bicycles, public transport, and the smart management of traffic flows. Those cities will become testing laboratories for similar mobility management efforts in many other cities in years to come.

As we look back on our first ten years, we derive great satisfaction from having been able to help launch new networks, campaigns, and organizational programs. Some of them have become foundations for important work on the frontiers of environmental sustainability work around the world — an abundant fulfillment of our initial intent to seed catalytic change.