

Wellesley College Sustainability Report 2012 February 2013

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This report was written to provide an update on the progress of sustainability goals and initiatives during 2012. There have been a number of noteworthy projects on campus that enhance environmental benefits and foster a more sustainable community. This year is the last year of our four aspirational goal commitment. Some of the goals we have reached, and some we have not. It is important to recognize the achievements as well as shortfalls so that we can better map the future of enhanced environmental pathways at the College. With the implementation of these foreseeable goals and new initiatives for this year, sustainability on campus has expanded greatly, and there has been more community involvement than ever before.

2012 has been a major growth year for sustainability at Wellesley. The Director of Sustainability, the Sustainability Coordinator, rotating interns, and eco-rep coordinators have been working for the Office of Sustainability on various projects and programs on a large scale. The office, the student-run environmental super group Green Umbrella, faculty, staff, and other administration have all worked to institute new projects and policies in the areas of landscape, water conservation, waste reduction and energy use reduction in

conjunction with our aspirational goals. In addition, there have been many community-oriented events that have encouraged the entire campus to get involved in environmental projects on campus. These achievements correlate strongly with our sustainability mission as we continue to work towards a reputation for excellence in this area. However, the College still needs a sustained effort to meet its 2013 goals by the end of this year and to become a leader in sustainability among liberal arts colleges in the country. These next few months will be the last opportunity to complete these benchmarks before the Office of Sustainability and new Sustainability Committee, a branch of Academic Council, guides the College on enlisting a new set of aspirational goals for this year and beyond. We will do our best to honor these resolutions by meeting and hopefully going beyond these specific metrics within the year's end.

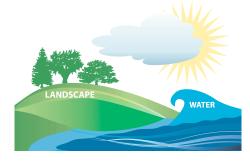
Decisions about the development of policies and programs and the expenditure of resources are similarly guided by these four goals that were established in 2008. They were presented to the Landscape and Building Committee of the Board of Trustees at its January 2008 meeting:

- Landscape: Our goal is to utilize cutting-edge techniques in our landscape, to promote our efforts actively and to generate interest nationally as a model institution.
- Water Conservation: Building on past success, our goal is to reduce water consumption by an additional 25% by 2013 (for a total reduction of 50% between 1999 and 2013).
- Waste Reduction: Our goal is to increase the amount recycled to 25% of the waste stream while decreasing our total solid waste stream by 20% by 2013.
- Energy Use Reduction: Our goal is to further reduce our consumption of electricity by 13% by 2013 (for a total reduction of 25% between 2003-2013) and to reduce our consumption of other energy by 15% as buildings and systems are upgraded.

The establishment of these objectives has provided a paramount framework for bringing greater coherence and coordination to the various initiatives that are pursued by departments and

organizations on campus. The Office of Sustainability continues to work with students, faculty and staff across campus to raise awareness about environmental problems and what the College can do to mitigate them. Under our Office's leadership, the College is continuing to develop practices and policies that reflect Wellesley's commitment to sustainability. Keeping our four aspirational goals in mind, as well as the wellbeing of the

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Wellesley community, we will continue to reach higher towards more sustainable practices, awareness, and involvement at the College. The Office of Sustainability and the new Sustainability Committee will guide new initiatives and policies by the end of this year, 2013, to work towards as we evolve as a more environmentally focused campus.

General Highlights for 2012

The new Bike Share Program has begun! Funded by the Class of 1957 Green Fund, this pilot program has 15 bikes located in the Davis parking facility, the main garage on campus, adjacent to the Campus Police station. Students can sign up by signing a waiver, register their cards, and check out bikes for 24 hours at a time at no cost. So far, it has been successful, and we will expand the program to the east side of campus, while also updating the check out software by the end of the 2013 academic year.



The Koehane Sports Center has made a serious commitment to ban bottled water purchasing for their departments. Go Wellesley Blue! Because of their fastidious dedication to sustainability in this regard, we have awarded them multiple environmentally friendly water filtration stations to replace existing outdated water fountains. Encourage your department to go waterless and get an awesome water station!



The Office of Sustainability instituted a Sustainable Move Out/Move In program in 2010 that attempted to reduce waste and material consumption by collecting clothes and dorm furnishings. During the third annual Sustainable Move Out last spring, over 7,000 pounds of clothes were collected and donated to Big Brother Big Sister. Enough dorm furnishings were also saved to fill 2, 40x10x10-foot storage containers, which is more than 2011's inventory. These dorm items were re-sold at the beginning of the academic year as part of the annual Rummage Sale. Almost \$6000 collected from the sale went directly into offsetting associated costs and sustainability fund to fund future projects on campus. We also donated any left over items to Safe Haven, a halfway house in Boston, so that there was zero waste at the end of the event. The success of this program was extremely widespread, considering that almost the entire student body participated in this event. Still, this program would not work without the help of generous Wellesley volunteers, and as the Sale becomes increasingly more popular every year, we need you more than ever!



As a charter participant of AASHE's STARS green rating system, Wellesley College received a Silver rating and a total of over 59 points out of 100 in 2012. This rating system is becoming a standard for higher education, and we are continuing to work on increasing Wellesley's grade by 6 more points to earn Gold status! For more information regarding the College's rating, please visit: https://stars.aashe.org

Association for the Advancement of Sustainability in Higher Education



• In the fall of 2012, the Office of Sustainability worked with AVI Food Services on a composting pilot project at the Bates dining hall location. Because of these extensive efforts, Bates is now collecting all of its preconsumer waste and sending it to a composting facility off-site. This pre-consumer composting will be implemented throughout all of the dining locations on campus during the spring 2013 semester. It is our goal that by the beginning of the fall 2013, the College will begin to send post-consumer waste to a composting in general, and specifically, post-consumer collection. Wellesley is definitely a leader in waste diversion among institutions within the state and nationwide. For more detailed information regarding this initiative, please go to this report: http://new.wellesley.edu/sites/default/files/assets/departments/environmentalscience/files/ es300-2012-wastenotwantnot.pdf

Landscape

Top 14 most beautiful college campuses in the world Number 7 in the country



Articles from Forbes.com and college-admission-essay.com

The largest project for Wellesley coming up is the Wellesley 2025 Renovation Plan. This plan outlines major renovations to happen by the year 2025 on the Wellesley campus. So far, 65% of the campus' building spaces will be targeted for renovation. While the 2025 planning committee is still in the

planning phase of this important initiative, we are aware that the first building to be renovated will be Schneider, which was the former campus center before the Lulu Chow Wang was built in 2004. The Office of Sustainability has already begun working with project managers in order to ensure that sustainability be a factor for the Schneider renovation project. They have committed to a LEED Silver rating, which is extremely good news for the Wellesley environment. We are encouraging the committee to make sure that all of the building renovations are LEED certified, and if not, sustainable and efficient. The Office of Sustainability worked on a document that we sent to the Wellesley 2025 committee, stating how the institution should sustainably move forward with this massive, multi-million dollar project. Hopefully, the institution will be able to make a strong commitment to this ideal and implement environmentally savvy policies and efficiencies within the building renovations to come.

- This past year, masonry work was performed on the stone columns and adjacent walls at Fiske Gate, which was one of the original entrances to campus and is the College's primary face to the Town of Wellesley. Thanks to a generous gift, multiple trees and shrubs were planted in this overall area as well. Plant choices were made to compliment the historic nature of this once gated entrance. Our decisions regarding landscape attempt to reflect the overall architecture of the College, while also complementing new renovations with emphasis on sustainable horticulture practices.
- The College continued to restore the shoreline of Lake Waban from the Boat House area to Tupelo Point. This restoration included erosion control, upgrades to the worn pedestrian paths by the lake, and extensive plantings of native species. Once established these trees and shrubs will not only be aesthetically pleasing, but will also play an extremely important role in storm water management and stabilize the steep slopes to Lake Waban.
- The overall Wellesley campus still needs attention in regards to exotic invasive plant species, especially in the wetland areas. This is a long term initiative since invasives are difficult to control in many ways. Galerucella beetles, which feed only on Purple Loosestrife, continue to be a good biological control mechanism to prevent the invasive plant from spreading. Other major targeted invasive plant species include European Alders and Phragmites in the wetlands and European Buckthorn in the transition areas between wetlands and uplands on the campus.

Water



Almost every year, Wellesley reduces its potable water supply consumption that helps us step towards our goal of 50% reduction in potable water use by 2013. Every year combined from 1999-2011, we have reduced our potable water consumption by over 36 million gallons total. This achievement is enough to fill over 66 Olympic sized swimming pools. For the year 2012, Wellesley's total water consumption between potable usage and irrigation was 99,871,747 gallons. In comparison to the 124,769,000 gallons consumed in 1999, 2012 had consumed 20% less water. Although we have made enormous strides in our overall water consumption from the advent of these goals in comparison to the baseline year, 2012's data still shows a 5% increase from last year's consumption, which was a 6% increase from 2010's consumption. The highest monthly totals of 2012 were in July and August. Even though students aren't on campus, Camp Exploration uses the facilities. These are also the highest irrigation months for our landscape. Regardless, this trend of water consumption slowly increasing again needs to stop in order to progress this goal. Because we have invested a lot of resources into repairing irrigation lines and updating controls to ensure that no water is wasted on this account, we are going to investigate the potable water system to make sure that we are not wasting or over-consuming this precious resource.

Briefly mentioned in the highlights section of this report was the Keohane Sports Center bottled water ban throughout the building. This was a commitment made by the staff that works in this facility, as they are more proactive about going green than ever. Because of their dedication to this sustainable initiative, the Office of Sustainability has awarded them with chilled filtration units to be installed in all of the locations where fountains previously existed. These units by Halsey Taylor come complete with a filtration system, bubbler and a reusable bottle/cup hydration station. This will greatly reduce the department's dependence on vendors such as Monadnock, Poland Springs, and Belmont Springs and also reduce the plastic waste from these larger water bottles. Every year, the College spends approximately \$85,000 on bottled water purchasing for individual departments, based on our 2010 research. This is an unnecessary cost that generates excessive plastic waste adds to green house gas emissions. If we installed filtration units to replace water bubblers in buildings around campus, the College would receive the return on investment within a very reasonable timeframe, and these units would last for many years to come. Making the commitment to this ban is worth it financially and environmentally, and we encourage departments to make the switch so that the entire campus can be bottled water free!

An individual well was installed in 2012 for irrigation use by Nehoiden Golf Course. It will be up and running by the beginning of the 2013 golf season during the spring. This new well will take the water usage off the potable water supply for the Wellesley campus, and much of the water for irrigation utilized will be "recycled" as it will return to the aquifer. This will reduce the College's potable water consumption, which will hopefully move us towards our goal of 25% reduction from 1999 by the end of the year this year.



Waste Reduction

The largest waste initiative that has come out of Wellesley College in 2012 is organic food composting on campus. As the Office of Sustainability and AVI worked together in fall 2012, Bates became the first dining location to compost pre-consumer food waste in the kitchen. We partnered with a waste hauler, EOMS Recycling, that picks up the waste during the week and sends it to We Care, a commercial composting facility in Marlborough. The success of this pilot program has sparked the motivation to implement pre-consumer food composting in all of the dining locations on campus during the spring 2013 semester. It is our hope that once pre-consumer is successful in every location, Wellesley will begin to compost post-consumer waste as well. This has already diverted so much waste from the landfill, and will continue to do so as the program expands. The Massachusetts Department of Environmental Protection has mandated that institutions in the state that generate large quantities of waste compost their organic waste by June of 2014. This bill will mandate that colleges, universities, and commercial enterprises in the state of Massachusetts to begin diverting their organics from the landfill towards more sustainable methods. The Office of Sustainability already began a composting program at campus wide events in 2010 due to a student class project and maintained a strong

partnership with AVI because of it; so implementing pre-consumer collection at Bates was a smooth and efficient operation.

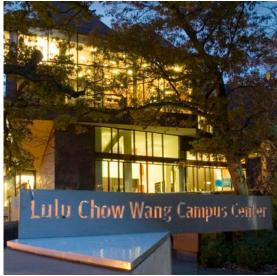
- In 2012, the College recycled 354,660 pounds of materials, including co-mingled, paper, cardboard, metals, white goods, Styrofoam and electronic waste. In 2011, the college recycled 385,800 pounds of materials. While we recycled less for this year than the previous year, this can also mean decreased consumption overall, which is a positive change on campus. Recycling is important, but less waste in general is even more imperative. Also, being one of the only colleges in the country that recycles Styrofoam due to a class project in 2010, Wellesley recycled over 1000 pounds in 2012.
- During the third year of Wellesley's post-consumer waste-composting program for special events, 700 pounds of food waste and other organic materials were composted at the 2012 Tanner Conference and sent to We Care, a composting facility in Marlborough, Massachusetts. At Ruhlman, we also composted 300 pounds of food waste. The reduction in the amount in comparison to Tanner was due the fact that there was less food thrown away towards the end. We will continue to run this program, and it will become even more of a standard once we commit to organics composting throughout the entire campus.
- Wellesley participated in Recyclemania at the beginning of 2012, which challenges the College to decrease the amount of waste coming from campus. This national competition compares recycling statistics from over 600 participating colleges over an eight-week period. 2012 was our second year in a row that we challenged Smith College and won! We hope to recycle even more in 2013. If you would like to track our Recyclemania participation, please follow this link: <u>http://recyclemaniacs.org/</u>.



Energy



- In September of 2012, the Massachusetts Senate officially congratulated the Town of Wellesley and its "partners" on achieving the Environmental Protection Agency's (EPA) certification as a Green Power Community. This certification would not have been possible without the participation of the three colleges located in the town, Mass. Bay Community, Babson and Wellesley. Wellesley is the first town to be granted Green Power Community status by the EPA in Massachusetts and is one of the only towns to have all institutions of higher education participate. To qualify as a partner Wellesley College has committed to purchasing 5% of its total electrical consumption from renewable energy sources.
 - The Office of Sustainability, in conjunction with Facilities and Custodial Services, has made sure to reduce energy usage to provide financial savings for the College during winter session when students and faculty are rarely on campus, while also conserving electricity and heat thus reducing our carbon footprint. By doing simple tasks such as closing shades and windows, turning off computers, unplugging appliances, turning lights off, and turning the thermostat down, last year, we saved a total of \$73,000. We were aiming to reach for even higher savings for 2012. While we do not have this data yet, we will fill in this gap in the report when we receive the numbers.



- The College's 10kw photovoltaic solar array • has generated generated 12,865 kWh alone in 2012. It is important to note that a few months of the year, the array was generating electricity but the meter was unable to report the data, so our numbers are actually higher than these. The solar renewable energy can be tracked at: <u>http://</u> www.sunwatchmeter.com/home/day/ welleslev-college# These panels have also generated a total of 22,253 kWh of renewable electricity since installation in September of 2010, for a total of 35,244.39 pounds of CO2 avoided! That is the equivalent CO2 emissions as:
- Using 665.37 propane cylinders at home barbeques.
- Sequestration of 3.4 acres of pine or fir forests.
- Driving a car 35,509 miles.
- · Consuming 37.16 barrels of oil.
- Sending 10,770.49 pounds of recycling to the landfill.



• The College's energy data for electricity consumption, oil and natural gas consumption, and green house gas emissions is unavailable at this time. When the power plant is able to format and provide these numbers, as well as analyze the annual totals, we will replace this section of the report with the final energy information.

Student Initiatives and Class of 1957 Green Fund

When the Outing Club was awarded a Class of 1957 Green Fund grant for the Revolution bike-sharing program to promote sustainable travel on campus and locally in 2010, we knew that it was time to invest in a more safe and efficient method of bike sharing within the Wellesley College community. In 2011, we looked to supplement the recycled pink bikes on campus with an even more comprehensive program with brand new bicycles. We wanted the program to work much like ZipCar, where bikes can be

checked out with a key-swipe after students sign up for the program. Right now, we have 15 bikes located at the campus center garage and are utilizing the KeyWatcher box at Campus Police to store keys for systematic and secure electronic check out and return purposes. The program is currently free and we have almost 200 users participating. The bikes can be checked out for 24 hours at a time by anyone in the community who would like to sign a waiver and register their cards. The bikes we chose have an internal gear system and drive shaft, so there is little maintenance required. Due to the program's popularity, we are going to be expanding it to the east side of campus with another station sometime in 2013. The Green Grant completely funded this \$15,000 project, and it will continue to be a resource as we order more bikes and update the software in the future.

- Wellesley Energy and Environmental Defense (WEED) put on its third annual Communicating Science Symposium in the spring of 2012, with the theme of hazardous waste. The conference was a huge success, hosting various speakers in the environmental sector, as well as running workshops with the attendees. The three tier panel consisted of State Representative Lori Ehrlich, veteran science writer Wendy Hessler, and Professor of Tuft's School of Medicine's Douglas Brugge. The Keynote Speaker was Elizabeth Grossman, author of books such as High Tech Trash, Chasing Molecules, and Watershed. The event was open to the public, attended by mostly students, faculty, alumnae, and citizens from the Town of Wellesley.
- This is the second year, the environmental super group on campus called the Green Umbrella, is running. This organization is comprised of all green related organizations such as WEED, Slow Food, Regeneration, Revolution, El Table, SCOOP, and the Outing Club. The Green Umbrella holds a few meetings per semester as well as mixers with invitations to the Office of Sustainability, the ES department, and green groups from nearby colleges. This group has been effective in coordinating more successful efforts and initiatives on campus.
- Wellesley College, at the advent of Wellesley 2025, faced some focused concern at the beginning of the fall 2012 semester. The students on campus received information regarding the proposed multi-million dollar project, yet were not clear on whether sustainability would be a primary factor in the building renovation criteria process. This initiated a campus wide discussion, which was organized by Student Senate, that brought together a panel of Andy Shennan (Provost), Andy Evans (Vice President of Finance and Treasurer), Pete Zuraw (Assistant Vice President for Facilities Management and Planning), and Patrick Willoughby (Director of Sustainability), to assure the community that sustainability will be a priority, but that the planning for the 2025 initiative was still in the early stages, and specific details could not be determined at that time. We are looking forward to working with the 2025 planners and with a newly established academic council sustainability committee to promote sustainable priorities within this initiative. We have also made policy recommendations for building processes and criteria, which are currently under review by the 2025 committee.

The Environmental Studies 300 Class, a capstone seminar on environmental decision-making, put together a report on the entire waste stream on the Wellesley College campus. The class assessed the implications of the College's waste system by utilizing a targeted waste audit at one of the major dining locations to estimate the total amount of waste produced annually and the material content of the waste stream. They also analyzed the environmental impacts of the materials and disposal processes through a life cycle assessment. The class estimated that Wellesley College produces 1,072,395.68 kg of waste annually (487,452 pounds). Wow! Of this total, 41.8% is food waste and 25% is paper waste. Their primary recommendation is overall reduction of waste by decreasing consumption on campus. This report definitely sparked our interest in getting a food composting program going, the start of which we were able to implement in 2012. If you would like to read the class' full report, please follow this link: http:// new.wellesley.edu/sites/default/files/ assets/departments/ environmentalscience/files/es300-2012wastenotwantnot.pdf.



Our Office

2012 was the third year that the Office has been highly active with additional help. We have accomplished so much over these three years and are even more committed to sustainability with the support of our community, and especially the work we have accomplished with our student partners. Most of the initiatives mentioned in this report have been driven by our Office team in combination with other sustainability champions. We really appreciate the support of these groups and individuals, and look forward to flourishing partnerships in the future. Here are some new happenings directly within our Office:

- As previously mentioned, we constructed a detailed document including recommendations for the Wellesley 2025 committee, guided by LEED criteria. This included building criteria, policies moving forward, and processes for sustainable certifications and practices. Because of this effort, the Office has been included to be a part of the Schneider planning process, which will be the first renovation of the Wellesley 2025 projects on campus. We are excited that our efforts and dedication to green building will be implemented within this renovation. Hopefully, 2025 will commit to LEED and/or sustainable standards for all of their future renovation projects.
- The Director of Sustainability presented at multiple conferences over the course of the year. The first was the ERAPA Conference in Philadelphia on Education Through Restoration. The presentation was called, Campus Landscape as a Living Laboratory, and the Director co-presented with Chris Lovett from VHB. The second national presentation was at the AASHE conference in College Park Maryland. The Director co-presented with a student intern on Sustainable Move-In/Move-Out, focusing on community oriented programs with behavior change on campus. He also presented on sustainability initiatives on campus at the 2012 Wellesley College Reunion in June, with attendance from classes of 1932 2007, including the Class of 1957.
- 2012 was the second year that the part-time Sustainability Coordinator position has been active. Working alongside the Director, the Coordinator assists in all of the projects and programs mentioned in this report. The creation of this position was important in defining that environmental impact needs to be a collective effort, and Wellesley benefits from a team of dedicated individuals working towards this goal. This position has become critical to the Office of Sustainability's functionality, especially given the vast number of projects and programs that are continuing to grow.
- We hired our first ever marketing and media student intern, who has been working on updating our extremely out of date website and communicating our message across campus with promotional items and campaign materials. The website is available although work continues, and can be found at the following link: <u>http://www.wellesley.edu/AdminandPlanning/Sustainability/</u>.
- Our Office hosted our fourth annual Sustainable Roundtable on campus. Representatives from 30 colleges and universities were in attendance and discussed two prevalent topics regarding campus climate plans and organics composting. This has been highly successful for formal and informal conversation to address common problems in sustainability throughout higher education.
- A smaller yet still important project was recreating our image for the Office. We had a logo created, which you can see at the beginning of this report, based on a very Wellesley oriented image with a sustainable twist. Our logo is everywhere, and we hope that people see it around campus and are reminded that Wellesley is dedicated to making the environment and community a better place each and every day.

 We currently have 5 eco-rep coordinators that participate in our eco-rep coordinator program. They have been investing their time in projects regarding recycling on campus, poster campaigns, Recyclemania, working with eco reps at House Council, and other initiatives that involve the entire Wellesley community. They are truly our ambassadors to this Office, and we are so thankful that there are dedicated students who believe in our sustainable mission! Positions such as this are essential as we try to expand positive environmental impact within our overall community.

Looking Forward

Looking back at the last year of sustainability at Wellesley, we have celebrated some significant achievements and have made steps towards achieving our 2013 aspirational goals. Highlights include the new bike share program, generously funded by the Class of 1957, the annual Sustainable Move In/Move Out, the Keohane Sports Center's commitment to a bottled water ban, Wellesley College receiving a Silver rating in AASHE's STARS report, and the campus starting a food composting program in various dining locations. The champions and catalysts for many of these accomplishments on campus are the keys to a successful green operation, and we truly appreciate those dedicated players. Because 2013 is the last year that the aspirational goals will be in effect, the Office of Sustainability and the newly formed sustainability committee will help the College to envision how environmental efforts in the future will be set in motion, thus starting a new chapter in Wellesley's ever growing commitment to sustainability.

- The landscape at the College is undergoing continual improvements. While larger projects have been highlighted previously in this document it is important to note that day-to-day operations and improvements are bringing the landscape to a more sustainable state. Under the expert leadership of John Olmsted, many high maintenance lawn areas are being returned to a more naturalistic state, which includes native plantings. He is also constantly investigating more efficient operations and equipment to lessen environmental impact. Applications of fertilizers are now based on scientific soil analysis, applying fertilizers only as needed in specific formulations including organic. This is all balanced within the diverse needs of campus life, which includes athletics, recreation and useable open space while protecting and enhancing the more naturalistic areas of campus.
- While the College would like to meet its goal to reduce water consumption by 50% between 1999 and 2013, due to the increase in numbers over the past couple of years, this may not be a reality, though the campus has done an exceptional job in decreasing consumption as a whole. We will be investigating what areas of campus that potable water consumption has dramatically increased over the past several years in order to figure out how we can lessen our overall usage even further.

- We are getting closer to meeting the goal of increasing the amount recycled to 25% of the waste stream while decreasing our total solid waste stream by 20% by 2013. While recycling did not increase in 2012 in comparison to the year before, this is not necessarily negative, while it could mean that the campus as a whole is decreasing its consumption, which is the ultimate goal in waste reduction. With the advent and expansion of a campus wide composting program, we will definitely make a large impact on the waste stream while also being a leader amongst colleges and universities state and nation wide.
- Wellesley continues to reduce energy consumption to meet the goal of a total reduction of 25% between 2003-2013. While we still do not have the numbers yet for electrical, natural gas, and oil consumption, as well as greenhouse gas emissions, the Office of Sustainability always promotes less consumption by leading winter session energy savings initiatives and by getting the word out to the community on how to be mindful about conservation for every day living.

Lastly, thank you to everyone who has helped us make positive strides forward while instilling a sustainable mission within Wellesley College. While our Office has been the base for many environmental initiatives on campus, the sustainable pyramid will never be built without overall participation from the community at large. We look forward to ever-increased engagement in 2013 with the hopes of making even more progress as we invest in our future generations.