Students Leading the Way

Energy Saving Success Stories from Southern California 2010-2011

Alliance to Save Energy's

Green Schools Program

Empowering Schools Through Energy Efficiency

ALLIANCE TO SAVE ENERGY

Creating an Energy-Efficient World

Sponsors

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Special Thanks

Green Schools would like to thank our creative and energetic Green Schools teachers for submitting such thoughtful descriptions and documentation of their 2010-2011 activities to help fill this Success Book. And another special thank you to the thousands of Green Schools students whose optimism and perseverance to help build a more environmentally-conscious, energy efficient world is inspiring to us all!

Green Schools Students in the Newport Mesa Unified School District, testing diagnostic, energy auditing tools in their Green Schools Tool Kit during the 2010-2011 academic year.

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Introduction

The 2010-2011 academic year has been pivotal in refining best practices for the Alliance to Save Energy's Green Schools Program. With school districts in California continuing to face sharp budget cuts, families across the country shouldering ever-increasing energy costs, and the persistent environmental threats associated with climate change, the need for increased energy efficiency at school and at home could not be greater. Green Schools participants have been hard at work in addressing all three of these hurdles by empowering students to tackle the environmental challenges of the future through energy efficiency education and awareness opportunities today.

The Green Schools Program goals are twofold:

1. **To educate students about energy efficiency, and**
2. **To save energy in schools.**

To reach these two overarching goals, the program focuses on empowering school staff and students to:

- Save money by reducing energy costs,
- Build pathways to green jobs for students of all backgrounds,
- Integrate energy efficiency into science and math lessons that encourage student leadership,
- Protect the environment through cooperative, school-wide behavior, operations, and maintenance changes, and
- Promote retrofits of more efficient equipment and appliances.

Students have proven to be the true leaders in forging the way to enact positive change, finding creative and effective ways to engage their schools, families, peers, and the greater community in saving energy while reducing the financial and environmental burdens that accompany wasteful energy consumption. During the 2010-2011 school year, students participating in the Green Schools Program have spread the message of energy efficiency in a number of ways, including giving presentations at school assemblies, organizing poster contests with innovative award incentives for smart energy behavior, producing skits to perform in front of peers and parents, and supporting each other to grow into articulate energy leaders.

During the 2010-2011 academic year, the Green Schools Program significantly ramped up efforts to increase awareness and exploration of green careers that help to protect the environment. To spark interest in green jobs. Green Schools students were exposed to numerous and varied green career opportunities through presentations by green professionals in the field, career fairs, research exercises in the classroom, and experiential, hands-on learning. By carrying out Green Schools activities designed to reach every benchmark on the Green Schools Road Map, students gained practical and professional development experience by learning both the technical and soft skills needed to conduct an energy audit, calculate and analyze data, present the results and develop recommendations to share with a broader audience, and train and educate their peers, school, and local communities about important energy efficiency and overlapping environmental issues.

The California Green Schools Program began in Los Angeles County in 1999 and inducts 65 new schools each year into an "alumni base" of over 700 K-12 schools that have participated in Green Schools throughout Southern California. The Alliance to Save Energy commends the 2010-2011 Green Schools for their outstanding energy-saving accomplishments and for their contributions to *Students Leading the Way. 2010-2011: Energy Saving Success Stories from California.*

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California Green Schools Management

The success of the Green Schools Program is a testament to California Local Project Leaders Lorraine Gutierrez and Rick Thomason who diligently helped expand and enrich Green Schools programmatic efforts during the 2010-2011 school year. Green Schools Local Project Leaders are an vital part of the success of our Green Schools model, lending their time, encouragement, and endless support to teachers, students, custodians, and school administrators at each school and district, in-person and on-site.

California 2010-2011 Green Schools Management Team:

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Benchmark Activity Highlights from the Green Schools Road Map Guide

1. Expand Team and Add Students

Green Schools is primarily about **student leadership**. The most important part of getting schools excited about the year of energy-saving activities ahead is to cultivate student membership in the core Green Team, in accordance with the first benchmark on the Green Schools Road Map – "Expand Team and Add Students." During school-wide assemblies and creative presentations to new audiences at school, the following 2010-2011 Green Teams engaged with the school community – from fellow classmates, to faculty, to district administrators – to raise awareness about energy efficiency and spark involvement in reducing energy usage on campus.

Chino Valley Unified School District

Anna Borba Elementary School:

The Anna Borba Green Team took advantage of the opportunity to make a presentation about their goals to over 300 4th–6th grade students at the first awards ceremony of the school year. Green Team members provided immediate suggestions to save energy, such as keeping doors closed and turning off lights and appliances when not in use, while motivating their fellow classmates to join in long-term energy saving efforts over the year ahead. The Green Team also invited other students to apply to be on the Green Team, leading to 25 new, eager students who joined as active members.

Chino Valley students building Green Team membership while presenting energy saving tips and suggestions during Earth Day.

Liberty Elementary School:

At Liberty Elementary, the student council created a brand new Eco Manager position to take the lead on green activities campus-wide. This individual served as the liaison between the student council and two classroom Green Teams. The Eco Manager reported all the energy efficiency measures taking place at school to student council members, with the intention of trying to add a shade of "green" influence to all applicable student activities over the year – from carnivals, to bake sales, to dances. By creating the new Eco Manager position, all students groups were better connected to the wide array of Green Schools implementation opportunities over the year, especially related to attending Green Schools' popular "Energy Hog Assembly" that promotes energy efficiency awareness. With the student council involved, Liberty Elementary was able to get a larger group of students to actively participate in and remain excited about the ongoing work of their resident Green Team.

Lake Elsinore Unified School District

Earl Warren Elementary School:

At Earl Warren Elementary, the Green Team members continually involved new groups of students in their Green Schools activities! Every month, a new class took on the role of resident Green Team. They reviewed the previous group's focus on energy reduction strategies and awareness efforts and maintained any projects they developed, while adding their own personal touch to the program. The "Green Team of the Month" was entrusted with the responsibility to continue encouraging energy efficient practices and engaging fellow students to make sure news about upcoming school programs was shared. Through the expansion of the Green Team each month, a wide array of students gained exposure to the goals of Green Schools and was able to influence positive energy conservation trends throughout the year.

Mariners Elementary School Green Team promoting their presence at school.

Newport-Mesa Unified School District

Mariners Elementary School:

At Mariners Elementary School, students on the Green Team inspired all students to think of themselves as energy efficiency advocates. The Green Team not only included the Student Council, comprised of students from all grades, but the Student Body President, Vice President, and newly appointed 5th and 6th grade Energy Commissioners. Collectively, this cohort of student leaders helped to shape the Green Team's focus for the year. In total, about 35 student council members were trained to use the diagnostic, energy auditing tool kits and helped support the Green Team to promote energy conservation throughout the school. The student council's active participation in Green Team expansion and activities greatly reduced energy waste at Mariners, while instilling a culture of energy efficiency throughout the school!

Pomona Elementary School:

Thirty-five 4th and 5th English Language Development (ELD) students whose primary language is Spanish served on Pomona's Green Team. During four ELD classes a week, Ms. Rankin, the ELD teacher and lead Green Team faculty representative, successfully integrated energy efficiency topics into the curriculum while improving the students' language development skills. To get the message out about energy efficiency and encourage participation in this popular Green Team club, the team created an eco-friendly online blog to let the school and greater community know about its mission with constant updates on their progress. The Green Team students also made presentations to every class about how to use the Green Schools diagnostic, energy auditing tool kit, showing how everyone can save energy in their everyday lives.

Newport-Harbor High:

At Newport Harbor High School, students joined forces to combat energy waste around school, delivering a message students and faculty would remember and be able to take home as well. The Simply Green environmental club and AP Environmental Science class jumped at the chance to take on the Green Schools Program, enfolding the Green Schools activities into their core mission of saving energy and staying informed about great ways for multiple school stakeholders to stay involved. The team took the lead conducting energy audits in all classrooms throughout the school, sharing best practices on energy efficiency, focusing on both technical and financial perspectives with their fellow classmates and teachers. The "Simply Green" Green Team also spearheaded an energy efficiency awareness week, during which they announced daily energy tips along with school-wide announcements on the intercom. Every day, the team kept track of the progress being made to become a more energy efficient school, enabling them to celebrate energy saving successes and increase student team participation.

2. Carry Out Immediate Energy-Saving Plan

Once the Green Team is formed, informed, and ready to make a difference in the school's current energy usage, a plan is made to carry out immediate measures to reduce energy and save money during the process. Often, with the help of an energy expert on staff, most notably a custodial team member or district energy manager, the Green Team performs a school walk-through to identify areas of energy waste. During the walk-through, students keep track of possible building upgrades or behavioral measures that will lead to immediate energy savings, such as changing lighting fixtures and encouraging teachers to turn off all appliances at the end of the school day. Here are some of the highlights of a year full of great energy-saving ideas that found their start with the Green Schools' "Carry Out Immediate Energy-Saving Plan" benchmark.

Students measuring energy use of school appliances on-site with the Green Schools Energy Auditing Tool Kit.

Chino Unified School District

Chaparral Elementary School:

At Chaparral Elementary School, the Green Team enthusiastically learned how to use diagnostic, energy auditing tools to identify energy waste at their school. The

team conducted a school-wide energy audit and shared their findings, along with energy-saving techniques, with the entire Green Team club. Green Team students then toured the entire school several more times during the year, unplugging nonessential appliances and turning off lights in vacant areas. Students worked hard year-round to combat energy waste by implementing holiday energy shut downs over breaks longer than two days. Initiating these simple energy saving measures through their immediate energy-saving plan helped reduce energy use at Chaparral Elementary, shrink their electricity bill, and make school operations more sustainable.

Country Springs Elementary School:

The student-led Green Team at Country Springs Elementary School became a permanent, sustainable part of the school's student council this year when their team efforts helped influence the creation of the school's first Office of Ecology. Spurred by their initial energy-saving plan, the Office of Ecology took responsibility for consistently checking classrooms to make sure lights and equipment were off when not needed, and to make sure that doors remained closed when the heat or air conditioning was on. "Officers" placed stickers on light switches to remind teachers and students to turn off the lights when not in use. This Green Team may have focused on small ways to reduce energy consumption, but collectively they were able to show big results!

Don Lugo High School:

Students at Don Lugo High School presented their energy audit findings at a faculty meeting and described ways in which students, staff, and custodians can all work together to decrease energy waste on campus. Among their recommendations for immediate savings, the students strongly encouraged consolidating multiple electrical cords onto a single power strip to make it easier to turn off lights, appliances, and computers. To further ensure energy conservation when school was out, the Green Team assisted faculty members in turning off all electronics and appliances before campus closed for holiday breaks.

Doris Dickson Elementary School:

At Doris Dickson Elementary School, students came up with a combination of ways to promote energy efficiency. Using recycled paper, students created "Green Memo" checklists to highlight simple ways that each classroom could conserve energy. After measuring and evaluating overall energy use on campus through a school-wide audit and introduction to reading energy bills, students determined that lighting in the portable classrooms could easily be reduced if the window blinds were rolled up to allow natural light in. As another component of their immediate energy-saving plan, students addressed the fact that many electronics that were powered off may still be using energy if they remained plugged in to an outlet. To combat this "vampire" energy waste, students posted reminders for teachers to turn off their lights and unplug any and all items using electricity when they were out of the classroom.

Howard Cattle Elementary School:

Just like the Doris Dickson Green Team, Howard Cattle Elementary School students also focused on slaying vampire loads. Students learned about energy "vampires" by pointing out different appliances that "suck" or constantly use energy at home and at school, even when they are powered off. They created "Anti-Energy Vampire" posters to educate the school about energy "suckers" like DVD/VHS players, stereos, and chargers. Green Team members diligently hung the posters all around campus as part of their immediate energy-saving plan to promote awareness and reduce energy usage by eliminating vampire suckers as a first stage in their overall energy-savings priorities.

Liberty Elementary School:

Green Team students at Liberty Elementary made energy conservation personal. Taking the energy efficiency message a step further than school awareness efforts to the larger student body, the Green Team met with each individual classroom to personally introduce themselves and encourage each group of students to support energy efficiency efforts. Each classroom was given an "Energy Saving Tips" poster, which included easy steps to actively participate in the initial energy-saving plan, such as turning off all lights and appliances when not in use and brainstorming ways to substitute energy-using appliances for their non-electronic counterparts (e.g. replacing electric pencil sharpeners with manual pencil sharpeners).

Lyle S. Briggs School:

The first stage of the Lyle S. Briggs Green Team's energy-saving plan was to create handouts to place in each teacher's mailbox, reminding them to unplug appliances before long weekends and holidays. Next, all classrooms on campus replaced electric sharpeners with manual models. Ultimately, these immediate measures led to the most notable energy reduction efforts on campus by motivating teachers to remove all unnecessary electrical appliances from their classrooms and commit to using a power strip for any appliances required for teaching purposes. These quick and easy ways to take action built off each other, helping Lyle S. Briggs use less energy and save money on their electricity bills.

Magnolia Junior High School:

Students, teachers, and custodians made saving energy part of their daily routine at Magnolia Junior High School. Working closely with custodial staff, the Green Team determined one of the best ways to save energy is to keep all doors to the media center closed when the heat or air conditioner is on. They accompanied this action by designing colorful labels for each door to coordinate foot traffic and maximize air flow efficiency. Additionally, every other light was removed in the Media Center. After the initial energy-saving plan sparked greater campus awareness and participation for Green Team efforts, students participated in weekly walk-through audits with teachers and custodians in order to regularly identify energy-saving opportunities. Teachers caught saving energy were rewarded with a "sweet treat" and public recognition for their efforts in the school's daily bulletin.

Newman Elementary School:

Newman Elementary School hit the ground running to conserve energy. At the start of the school year, posters with easy energy-saving recommendations to use "half-lights" (half of available lighting), unplug unused appliances, and keep doors closed were hung in each classroom. Meeting another Green Schools benchmark to "Involve the Whole School," older Green Team students taught the younger students about the importance of saving energy while informing the student body about immediate energy-saving plans tied to computer usage. As part of their plan, Green Team students checked all campus computer labs daily to make sure all monitors and modems were turned off. In addition to multi-grade student collaboration to promote the energy-saving plans, the Green Team recognized energy savings by giving awards to the top "energy-saving classes" of the week.

Students conducting weekly walk-through audits throughout classrooms on campus.

Ramona Junior High School:

Ramona Junior High School students made major strides toward making their school savvier about energy efficiency. As part of their immediate energy-saving plan, Green Team students incorporated weekly, school-wide walk-through assessments to rate classrooms on their energy efficiency behaviors and give each classroom a red or green card to indicate their energy behavior performance. Red "vampire" cards were placed on the white board explaining the identified poor energy-use practices, with tips for what to improve in preparation for the following week's walk-through. Green "energy star" cards were placed in exemplary classrooms to celebrate their efficiency efforts, such as unplugging appliances and turning off lights when not in use. These distinctive visual notices encouraged competition throughout the school to maintain the most energy efficient classroom routines.

Rolling Ridge Elementary:

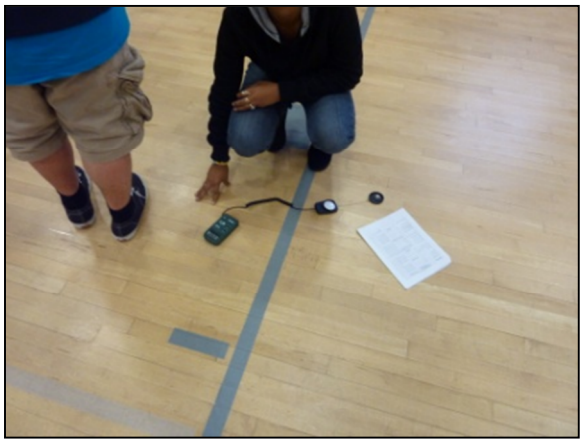
Rolling Ridge Elementary created an immediate energy-saving plan to use less energy during school breaks and holidays. Before weekends and long breaks, the Green Team and the "Commissioner of Energy" walked through every classroom with a list of items to be unplugged and helped to identify a chain-of-command for ensuring that appliances were actually turned off before school closures. Getting the message out started by notifying teachers about the need to unplug all electronic devices. Later, the Green Team worked with the custodial team members who would perform a final clean of campus before breaks to ensure that appliances were, in fact, unplugged. Through effectively articulating

the need to use less energy campus-wide, Green Team school break recommendations led to the long-term reduction of lighting in all restrooms by 50% for the duration of the full school year.

Lake Elsinore Unified School District

Canyon Lake Middle School:

At Canyon Lake, teachers and students partook in a joint effort to make sure their computers were not wasting energy. Included as a part of the Green Team's focus area for the year in their initial energy-saving plan, every class was assigned a computer or group of computers to be checked and turned off at the end of every day, before the weekend, and before any school breaks. In tandem with this focus on computers, custodial staff ensured that the HVAC system was turned down at the end of half-days or before long periods when school was not in session. By delegating responsibility to different groups in the school, these energy saving opportunities were easier for students and staff to manage and made a big difference in the amount of energy saved by Canyon Lake Middle School!



High school students analyze the overhead lights in their multipurpose room.

Donald Graham Elementary School:

The Green Team at Donald Graham took a firm stand against the energy wasted by numerous vending machines in their school. As part of their immediate energy-saving plan, they successfully got rid of old soda vending machines and replaced them with one mini-fridge for drinks. Any money used to purchase drinks out of the new mini-fridge went directly to the Green Team in order to further their efforts to reduce energy across school.

Elsinore High School:

The Green Team at Elsinore High School realized that lighting is where energy savings get illuminated! During the creation of their immediate energy-saving plan, they discovered that the school auto body shop, wood shop, and school library were not using lighting efficiently. Using funds returned to them by the district for their savings during their first year as a Green School, the Green Team replaced the older, higher wattage halogen light bulbs in each of these areas with more energy efficient lighting. Users are now able to dim lights at certain periods of the day and have much more control over the lighting schedule in these areas. The Green Team also noticed that some restrooms were locked and not for student use, but remained lit throughout the day. The Green Team initiated a new protocol for lighting these areas by requiring that the lights remain in the "off" position unless a staff member needs to access the restricted and less-frequented facilities.

Newport-Mesa Unified School District

Eastbluff Elementary School:

At Eastbluff Elementary, 4th-6th grade Green Team students worked closely with the custodian and staff to accomplish their energy savings goals. During an initial staff meeting, Green Team Students announced their involvement in the program, and encouraged the whole school to adopt a half-light policy, turning on only half of available lighting in the classrooms. Noticing the lights in the multi-purpose room were left on during the whole school day, the students identified this large space as a huge energy-drain and worked closely with the custodian to keep the lights off when the room was unoccupied. The students also recommended that any old or unused appliances like microwaves or vending machines be removed.

Harbor View Elementary School:

Green Team students focused their immediate energy-saving plan on fighting phantom loads – the "load" or amount of energy still being consumed by appliances even when they're powered off. The third-graders leading the Green Schools efforts at Harbor View Elementary reminded teachers and students to unplug appliances completely, or plug appliances into a power strip and turn them off at the end of the day. As the anti-phantom load campaign began to catch on, students realized that computer monitors in computer labs were always left on, even when they weren't in use. With

momentum from the anti-phantom load awareness they had already cultivated, Green Team students made announcements reminding occupants to turn all computers off at the end of the day as well.

Newport Harbor High School:
After discussions that arose from their immediate energy-saving plan, students and staff were passionate about reaching their goal to make Newport Harbor High more energy efficient. At the beginning of the school year, Green Team students conducted an energy analysis of 30 classrooms throughout the school. After identifying myriad ways in which classrooms were losing or using too much energy (e.g. leaving computers on with screensavers running all weekend, leaving chargers for laptops plugged in when not in use), the Green Team announced its objectives to reduce energy consumption and spur conservation efforts through energy tips during staff meetings. The school's day and night custodial staff worked to ensure that lights were switched off and appliances were unplugged.

Pomona Elementary School:
At Pomona Elementary School, students took energy matters into their own hands. Green Team students were divided into seven groups (five students per group) to create and present their own PowerPoint presentations on immediate energy-saving ideas to internal and external school stakeholders. Students made presentations to students and teachers in each classroom on campus and shared findings with senior administrators across the district. Green Team students provided the school community with their energy saving recommendations, including using half-lights, turning off electronics when not in use, closing windows and doors when the air conditioner or heater is being used, and using power strips. By taking the lead to educate the school population, Pomona students were able to increase their school's overall energy efficiency throughout the school year.

Rea Elementary School:
The Rea Elementary Green Team kicked off the school year with two major energy-saving initiatives that focused on lights and appliances. Realizing many classrooms were over-lit, the team based their immediate energy-saving plan on a recommendation to use half-lights or day lighting, when possible. After assessing classroom appliance usage, students noted that many teachers used personal coffee makers, microwaves, or mini-fridges in their classroom as well. To cut down on this excessive energy use and its associated costs, the Green Team encouraged teachers to get rid of their personal appliances, inspiring faculty to use the coffee maker, microwave, and refrigerator provided in the staff lounge.

Creekside High School student using a temperature gun to analyze where energy may be lost in the school library.

3. Train Students to Identify Energy Savings Opportunities

As the Green Teams work to carry out their immediate energy-saving plans, they and their fellow students are primed to learn more about energy-saving opportunities from a technical, financial, and behavioral perspective. Building off of terminology students are exposed to early in the year, Green Schools supports teachers and energy experts to "Train Students to Identify Energy Saving Opportunities" under this benchmark. Using diagnostic, energy auditing tool kits during in-school audits, students gain more advanced, hands-on experience conducting energy audits and analyzing data in order to make thoughtful recommendations for efficiency, including potential energy and cost savings numbers, to fellow classmates and adults alike.

Lake Elsinore Unified School District
William Collier Elementary School:
After creating their immediate energy-saving plan, the Green Team at William Collier Elementary School focused on understanding the complexities of where and how energy gets misused around school. Using the teachers' lounge as their learning laboratory, students monitored and measured the energy being used by a soda machine that was constantly running. Identifying an opportunity to reduce energy usage while still keeping the soda machine available for

teachers, students concluded that reducing the lighting in the machine would save significant energy. Result: The vendor was contacted, and the lights in the vending machine were permanently turned off!

Murrieta Valley Unified School District

Creekside High School:

Miles TenBrinke, a UC Berkeley student and Green Schools graduate, instructed the Green Team at his high school alma mater, Creekside High, on how to use the Green Schools energy auditing tool kit and assisted students in conducting energy audits of the whole school. As a result of the audit, students gained invaluable knowledge related to understanding billing data, analyzing energy usage in different types of school environments, and strategizing ways to reduce energy use based on direct testing. Mr. TenBrinke has been coming back to Creekside High School since he graduated in 2007 to teach new students how to become effective advocates for energy efficiency.

Newport-Mesa Unified School District

Ensign Intermediate School:

Forty 7th grade Green Team students at Ensign Intermediate School participated in the Green Schools Student Energy Audit Training (SEAT), an intensive, all-day energy audit course, which culminates in a report that charts energy saving opportunities. Students conducted a school-wide energy audit and learned basic energy efficiency concepts as they became familiar with diagnostic tools, including the water meter, flicker checker, and temperature gun. After analyzing the data collected from the school-wide audit, the students concluded that using half-lights and plugging appliances into power strips in order to unplug them faster at the end of the day would save the school money, while also helping to reduce their carbon footprint! The students will present their final analysis and recommendations to the district in the fall of 2011.

Green Team student showcasing her research on ways to reduce energy use in a populated city.

4. Lead Curricular Activity

The Green Schools Program strengthens students' knowledge of the link between energy, the environment, and the economy. Through hands-on lessons that are aligned to California educational standards, students engage in energy-saving activities that link classroom learning to real world issues. Green Schools lessons are multidisciplinary, affording academic learning in STEM (Science, Technology, Engineering and Math), as well as Language Arts and even Social Studies. Teachers are asked to select lessons that can be integrated into their curriculum in order to achieve the "Lead Curricular Activity" benchmark. Many teachers went even further to develop and present original lessons, which have been posted on the Alliance website so that teachers across the country can benefit from using them too!

Chino Valley Unified School District

Alicia Cortez Elementary School:

Green Team lead teacher Marcia Staunton taught her 5th grade class a language arts lesson that incorporated energy efficiency concepts into their assignment. Ms. Staunton asked her students to describe what "being efficient" meant to them and then write stories about how to save energy at Alicia Cortez Elementary School. Students wrote stories about turning off lights, keeping doors shut, and informing their teachers about the energy savings from using a power strip. Inspired by the curricular overlaps, Paul Larson assigned his 6th grade language arts class an assignment to write scripts for movies that had a theme of going green!

Chino Hills High School:

Chino Hills High School launched a new class entitled "Green Ambassadors." The class addressed the technical, financial, and social issues related to promoting sustainable communities. In addition to learning that the big picture of energy efficiency overlaps with a variety of different fields, students in the Green Ambassadors class learned how to use various energy auditing tools to put their emerging understanding of sustainability into the context of long-term job

opportunities. As a final project, students launched their own media campaign to urge students, staff, and custodians to be more conscious of energy waste and to take energy efficient actions.

Don Lugo High School:

At Don Lugo High School, sustainability became a frequent topic of discussion in all classes. Green Team students in the leadership class first helped identify ways to conserve energy throughout campus. Taking their initial assessment a step further, students organized their energy-saving ideas into a flow chart showing potential engagement and curriculum opportunities that they could help champion throughout the school year. Each semester, the leadership students led the whole school through the flow chart to ensure energy reduction targets were being reached and that the Green Schools Road Map benchmarks were achieved.

Energy Hog assemblies supplement lessons on campus and shared with the greater community about the importance of reducing energy use.

Doris Dickson Elementary:

The science fair at Doris Dickson afforded an opportunity for students to get creative about saving energy and encouraging other students to learn from their innovative approaches. Students developed and carried out original experiments in energy reduction, while aspiring to be recognized as "energy leaders" at the fair. Students chose their own topics to dive into, conducted their own research, developed a working hypothesis, collected data, and analyzed their results. The science fair gave students the freedom to come up with their own green ideas about alternative energy, energy efficiency in existing environments, and what energy efficient products may look like in the future. These projects encouraged energy-saving activities that could be carried out at home or at school, helping students gain hands-on experience investigating a problem while also discovering and sharing new energy saving techniques!

Eagle Canyon Elementary:

Eagle Canyon students learned about many different forms of energy over the course of the year. During science class, students applied their growing knowledge of thermal, solar, and kinetic energy to their understanding of how to use energy more efficiently. During their lunch breaks, students learned to use the diagnostic, energy auditing tool kit to gain practical experience in collecting data, measuring energy use in their classrooms, and calculating the overall cost of avoided energy use. Ultimately, Eagle Canyon students took their scientific knowledge into the field by conducting audits on campus, applied scientific concepts to make recommendations to bolster efficiency, and reduced energy use.

Edwin Rhodes Elementary School:

Teachers at Edwin Rhodes Elementary School incorporated an evolving discussion about environmental degradation and energy efficiency into their English classes. English classes created flow charts to show the negative effects of fossil fuels on the environment, requiring them to analyze energy use and articulate new ideas to save energy. Students then wrote summaries describing their flow charts to bring home a lesson on "cause and effect" in descriptive writing.

Newman Elementary School:

Teachers at Newman Elementary School performed unique case studies to enrich their energy curriculum. Students in science class measured the differing levels of heat emitted from regular and fluorescent light bulbs, and observed that the hotter the bulb gets, the more energy it wastes in the form of heat. To test whether or not this held true with different sources of heat, the students compiled compost heaps and measured the heat they produce. This led to the discovery of the potential to harness the heat of decomposing biowaste that could be used as an alternative source of energy. These experiential lessons on energy production allowed students to reconsider their understanding of energy sources and discover new ways to save and potentially recapture energy around school.

Lake Elsinore Unified School District

Ortega High School:

Students at Ortega High School applied their homework to their home lives. Science teachers challenged students to formulate an estimate of how much energy their families used, based on what they learned about the average energy consumption of a typical American home and the typical appliances in a home. Based on that data, the students went on to estimate the financial costs of their home energy usage. Then, they reported on ways they could conserve energy at home. The students submitted monthly reports on how much their families were cutting down their energy use. As a result, students reported energy use could easily be reduced by simple practices, such as using more efficient lights and appliances, setting thermostats to a reasonable temperature, keeping the doors and windows closed when the AC is in use, and unplugging appliances when they're not in use.

Newport Mesa Unified School District

Ensign Intermediate School:

Ensign Intermediate students took the energy saving message home to their families. Using the Energy Hog campaign's Scavenger Hunt and Vampire Hunter lessons, students identified vampire loads and energy-saving opportunities in their homes. Students calculated the average load and cost of typical home appliances, such as televisions, stereos, or microwaves, and then surveyed the number of each appliance in their homes to determine the annual cost of running their home appliances.

Lincoln Elementary School:

Green Team students at Lincoln Elementary used the Socratic Method to identify energy vampires through the school facilities. Among the various vampires they identified, the students noted the importance of shutting down all school laptops once they are fully charged within an hour, rather than keeping them plugged in all night in order to be energy efficient. One proposed solution was to plug the laptops into timers that will automatically shut the chargers and computers down after they've been fully charged. As a result of the students' findings, the team plans to purchase timers during the next school year, using the savings from their first year in the Green Schools program.

5. Compile Data & Upload to the Web

As each Green Team begins to cobble their individual school's energy data together, figuring out a streamlined way to synthesize data and upload it online to better share with the entire school community is essential before real analysis can begin. While meeting the "Compile Data & Upload to the Web" benchmark, the Green Teams below used technology to make a difference in how others viewed their own energy use, from customizing their Green Schools website to creating new ways of cataloguing data that is most relevant to each school.

Chino Valley Unified School District

Magnolia Junior High School:

The on-line energy tracking system provided by the Green Schools Program allowed Magnolia students to see that their energy-saving efforts had truly been paying off! Historically, September had been the school's peak month of energy use during the school year, but during 2010-2011 school year, the school's energy costs in September were reduced by a whopping 33%, a 1-month savings of over $6,000! After sharing this dramatic reduction in costs with a larger audience of stakeholders, the Green Team was better prepared to use other calculations to try and determine whether the percentage of financial savings translated to the same amount of energy savings.

Murrieta Valley Unified School District

Vista Murrieta High School:

Vista Murrieta High School Green Team students surveyed teacher and staff facilities to encourage faculty to be more energy efficient. Students walked through each room and office on campus and took note of what appliances and electric fixtures were present, while interviewing the teacher or staff member who occupied the area about the frequency of use of the various appliances. Looking at how much time each appliance was in use during the day, students then determined how much energy was used during the operation of the appliance over the full year –

including any energy used for items that still "suck" energy, even when supposedly powered off. The energy data for each individual appliance was then aggregated to determine the total energy used throughout the entire school year, uploaded to the school website, and shared with the whole student body.

Newport-Mesa Unified School District

Estancia High School:

Estancia High School's Environmental Awareness Club recognized the value of providing hard data to support their energy saving recommendations as a Green Schools Green Team. Targeting lighting and appliances as the most opportune areas for savings, the team completed an assessment of the light fixtures and appliances in typical classrooms throughout the school. Their immediate analysis concluded that using only one bank of lights in classrooms would be sufficient for many rooms with windows and an ample amount of natural lighting, and could save 50% in associated energy costs. The Green Team also identified that unplugging or connecting appliances to a power strip would also save thousands of dollars for the school throughout the year. The team then shared a PowerPoint presentation they put together online that used their data findings to support their recommendations for all school faculty and staff. Through sharing information about the high costs of running appliances and keeping lights on, students were able to get people's attention and build momentum to adopting strategies to be more energy efficient.

6. Interpret Data and Develop Recommendations to Save Energy

Learning how to make meaning of the influx of energy data related to the school is a key component of Green Schools, but figuring out how to share and encourage behavior change informed by the data is just as important! After the data gathered from student energy audits is compiled, organized, and uploaded to each school's website, students then set about analyzing the data in order to make thoughtful recommendations for changes to save energy and money. The Green Teams below demonstrate that the best foundation for getting others to pay attention, understand, and heed their recommendations for curbing energy appetites is solid data!

A student at Ortega High School calculates a computer's energy use in "sleep mode" in preparation for developing recommendations on easy ways to save energy on campus.

Chino Valley Unified School District

Ruben S. Ayala High School:

Based on their interpretation of historic energy tracking data, Ayala High School students discovered that their school was the highest consumer of electricity in the whole school district. The Green Team knew something had to be done to change this situation and decided to take charge. Before every weekend and any long break, staff received emails that detailed specific steps to save energy when school was not in session. Teachers unplugged all unnecessary appliances over the break, and made sure lights were turned off. Ayala High School was so successful in implementing their energy saving recommendations that they won the title of "Most Energy Efficient High School" during the district's energy challenge over winter break!

Murrieta Valley Unified School District

Vista Murrieta High School:

The Vista Murrieta High School Green Team put their analytical skills to use to determine potential financial and energy savings across school. Using the Green Schools Appliance Cost Analysis Worksheet, the students first calculated the amount of energy being used by appliances in each classroom and office, based on duration of use. After calculating how much energy would be saved if staff used power strips for their personal appliances and turned off those power strips at the end of the day, students shared this valuable data analysis with school staff. Next year, Vista Murrieta students are optimistic that all teachers and staff will use power strips as a result of the saving opportunities students were able to showcase.

Newport-Mesa Unified School District

Estancia High School:

Estancia High School's Environmental Awareness Club recognized the value of providing hard data to support their energy saving recommendations as a Green Schools Green Team. Targeting lighting and appliances as the most opportune areas for savings, the team completed an assessment of the light fixtures and appliances in typical classrooms throughout the school. Their immediate analysis concluded that using only one bank of lights in classrooms would be sufficient for many rooms with windows that provide ample natural lighting, and could save 50% in associated energy costs. The Green Team also determined that unplugging or connecting appliances to a power strip would also save thousands of dollars for the school throughout the year. The team then shared with the whole school community a PowerPoint presentation that they put online, showing their data findings to support their recommendations for all school faculty and staff.

Adams Elementary School

Adams Elementary's Student Council took on its role as the Green Team with gusto! After compiling and analyzing energy data that reflected the average use of energy in particular environments of their school, the Green Team focused on reducing the energy use of classroom lights and computers by recommending that only natural lighting be used on sunny days, half-lights be used on dark days, and that all computers be programmed to hibernate or sleep rather than left on in screen saver mode. The Green Team encouraged their fellow classmates to support their recommendations during a school assembly during which they taught the whole school to use the energy audit tools. With an action plan informed by their school's energy data, students organized random energy patrols in different classrooms every other Friday to investigate classroom behavior. Every Monday, the Green Team would celebrate the classes that were successfully saving energy!

7. Refine and Carry Out Energy-Saving Plan

Once the first half of the year is complete, it's a good time for the Green Teams to revisit and refine their initial energy-savings plans, and come up with ways to ramp up their savings in the spring. Now that they're more experienced, the teams can identify new energy-saving areas of focus, such as scheduling HVAC or appliance use, encouraging computer power-down routines, or assessing potential lighting retrofits. Here are some examples of ways Green Teams took their energy saving plan up a notch in the second semester!

Murrieta Valley Unified School District

Vista Murrieta High School:

After completing the initial school-wide energy audit at the beginning of the school year, Vista Murrieta Green Team students decided to select a small group of students in the class to review their audit calculations in an effort to make sure information was being shared and accurately maintained. The Green Team students trained the new student energy auditors how to use the tool kit to calculate energy use and potential savings. Once trained, the new semester's student energy auditors made sure that all the measurements and calculations were made carefully and accurately. Once the calculations were verified or corrected, the team held a seminar to train their teachers on how to set up classroom appliances so that it would be easy to turn everything off using power strips. The students even set a goal for next year to have every teacher trained to use the power strip effectively, defining success as 70% of all teachers trained to use power strips and successfully implementing the new habit throughout the whole school year.

Newport-Mesa Unified School District

Eastbluff Elementary School:

In the fall, the Green Team identified the energy waste caused by the lights that were left on all day in the multi-purpose room. After reassessing the school's energy consumption in the first half of the year, the Eastbluff Green Team saw even greater potential savings in the multi-purpose room when they realized that the air conditioning unit was also working to maintain a constant temperature for an unoccupied room. Working with the district HVAC technician, the team was able to readjust the temperature in the multi-purpose room to a lower, but still comfortable, level.

8. Involve the Whole School

With energy savings activities in full swing and energy use data collected and analyzed, it's time to share energy findings with the whole student body and inspire everyone to get involved. Here are a few of the countless ways that Green Schools involved their school community in their efforts to save energy.

Posters were designed and hung at almost all Green Schools to motivate the whole student body to use energy and other resources wisely.

Chino Unified School District

Chino Hills High School:

The "Green Police" Green Team at Chino Hills High School kept busy all year patrolling the school for energy savings practices. The Green Police students created stickers to remind teachers to turn off the lights when leaving the room at lunch and at the end of the day. The Green Team informed students, staff, and custodians of ways to be more conscious of their energy use by creating a plan with energy efficient practices, such as unplugging unnecessary appliances, keeping doors closed when the AC is on, and using half-lights wherever possible. The SEAL (Sea, Earth, Land, Air) Academy, a student-led energy savings team, incorporated the Green Team's energy saving ideas into the SEAL plan to continue saving energy for years to come. Now that's sustainability in action!

Don Lugo High School:

Students at Don Lugo High School stepped up to the plate and encouraged the whole school to get involved in reducing energy consumption. By creating their own calendar of upcoming activities, students were able to better illustrate their energy-savings plan to fellow students, staff and custodians. The plan included having a suggestion box for everyone to make energy recommendations, posting energy saving tips and methods online, and creating flyers to pass out at school and community events. The Green Team determined that the best way to communicate with the campus community was through emails for staff and through announcements for students. By getting the whole school involved, they were successful in saving money and conserving energy!

Gerald F. Litel Elementary School:

Gerald F. Litel Elementary School's message of energy efficiency reaped huge rewards. Classrooms chose a "green" student-of-the-week to be in charge of turning off lights, unplugging electronics, and closing classroom doors. Rotating these duties to different students got the entire student population involved in energy savings. Teachers also unplugged one of the two refrigerators in the teacher's lounge and replaced the microwaves with new energy efficient models. During one memorable, school-wide event, the Green Team held their first "Earth-Color Day" where students wore blue, green, or brown shirts to school to signify different messages: "'blue' for keeping the sky clean, 'green' for the nature that surrounds us, and 'brown' for the soil that is essential to the earth's survival." The school was able to spread awareness about sustainability while significantly reducing the amount of energy being used on a daily basis.

Newman Elementary School:

Newman Elementary Green Team students kept the whole school involved throughout the year through their efforts to help the campus become more energy efficient. Every Wednesday was established as "Wear Green Day" to remind the student body they are a green school. A green shirt with Newman's own super hero, Captain Green, was created by a 2nd grade teacher for students to wear every Wednesday. Early in the school year, a primary (K-3) and elementary (4-6) contest took place to design a creative poster with an energy saving message, and the first prize winners' posters were displayed at the local Borders book store.

Lake Elsinore Unified School District

Elsinore Middle School:

Elsinore Middle School's Green Team introduced a fun and creative, student-led incentive program to get their teachers involved in their energy reduction efforts. The team created a "Green Buck" program, completely run by the students.

Year-round, the students looked for teachers who were saving electricity and using energy efficiently. When they saw a teacher doing something to conserve energy, they presented him or her with a "Green Buck" that could be redeemed at the end of the year for a variety of exciting prizes.

Machado Elementary School:
Students at Machado Elementary really make involving the whole school fun! At this year's Harvest Festival the Green Team set up a creative energy efficiency booth to show how energy is created and to encourage students to think of ways they can save energy. Many students stopped by the booth to peddle a stationary bike to produce enough energy to power a blender to make a smoothie. Students experienced how much energy it takes to use a common kitchen appliance like a blender and learned how different home appliances can "suck" energy continuously when plugged in, even when they're switched off.

Newport Mesa Unified School District

Adams Elementary:
The Green Team at Adams Elementary organized an assembly to train the whole student body to use the Green Schools tool kit. Donning green wigs and Green Schools t-shirts, the Green Team went through how to use each diagnostic tool, including the watt meter, light meter, temperature gun, and flicker checker. Wearing the same green outfit, the team conducted bi-weekly energy patrols in randomly selected classrooms, awarding an "energy star" certificate to classroom occupants who demonstrated they had successfully implemented energy-saving behaviors!

Green Team students and fellow classmates learning about different green careers at a career fair.

Ensign Intermediate School:
The Energy Patrol at Ensign Intermediate sparked school-wide participation by encouraging some friendly competition amongst the student body. Every student was challenged to design an Energy Patrol poster, and the winning design was posted in all classrooms to remind the whole school to conserve energy. The Energy Patrol also created a sticker design to post next to light switches to remind everyone to save energy. Students even created a video showing the difference between "good" and "bad" energy behavior, using two teachers as willing actors. The video was aired as a commercial in between daily, school-wide announcements and served as a great approach for motivating more students and faculty to adhere to the Green Team's energy reduction recommendations.

Mariners Elementary School:
At Mariners Elementary, students and teachers were rewarded for their efforts in conserving energy. Students conducted energy audits of each classroom twice a year and handed out individual recommendations to each class with possible ways each space could become more energy efficient. Awards were handed out to teachers who implemented the recommendations in their classrooms and showed outstanding energy savings. The Green Team's determination to encourage good energy behavior pushed the whole campus community to continue contributing to the schools progress toward reducing energy use.

Victoria Elementary School:
The Victoria Elementary Green Team brought their focus on energy efficiency to the whole school community during Friday Flag Deck assemblies. In March, Green Team students presented during Friday Flag Deck on how to "Think Green" with messages such as "Turn off the lights when you leave the room!" and "Remember to use power strips." During Earth Week, they hosted a school-wide poster contest to raise awareness about saving energy, and winners received reusable gift bags. The team compiled best ideas from the poster contest to share easy ways to save energy at home and at school during an assembly for the winners.

9. Involve Students in Green Career Activity

"Green" jobs that focus on environmental sustainability are increasing, and the time is ripe to train the next generation of energy professionals! Green Schools students of all ages learn about the variety of green career opportunities available to them, through speaker presentations and research projects that focus on such topics as energy efficiency, renewable energy, transportation, green building, and waste management. By engaging in hands-on energy-saving projects, students learn important technical and non-technical skills that help prepare them to enter the green workforce. Here are a few examples of how schools exposed their students to green career opportunities as they worked to achieve the "Involve Students in Green Career Activity" benchmark on the Green Schools Road Map.

Chino Unified School District

Michael G. Wickman Elementary School:

Michael G. Wickman Elementary School students learned about green careers throughout the school year. After conducting research, students created PowerPoint presentations and posters, describing career opportunities in different areas of the "green" industry – from utility provider roles to energy education and environmental policy positions. The students shared their presentations on the school website, as well as in person to students and staff, expanding awareness of green jobs to the whole school. Students also hung Green Job posters in the Media Center, further educating students about green career possibilities. Teaching the students and staff about the green industry got the whole school interested in energy-saving careers!

Lake Elsinore Unified School District

Cottonwood Canyon Elementary School:

Students at Cottonwood Canyon Elementary School were exposed to a multitude of new and exciting green careers. An environmental lawyer with experience working with the Environmental Protection Agency shared his work with the students, teaching them about his career and how he is making a difference by fighting environmental injustices. Students learned not only about his career, but what other kinds of professionals he works with in the environmental realm to get accurate data to support his cases – from toxicologists, to energy analysts, to climate scientists. The presentation emphasized the importance of having a strong understanding of science and analytical skills when entering any future career that has to deal with environmental or energy-related issues.

Ortega High School Green Team students present their research on green jobs at Open House night.

Ortega High School:

Green Team students at Ortega High School partnered up with the business class to investigate possible green careers. Students researched green careers and compiled their findings into reports that they presented at the school's annual Open House to parents, faculty, and fellow students. The reports included information on possible job training in the renewable resources field and emerging careers that are still being shaped by the current energy market. Students were able to see that having careers that allowed them to be advocates for smart energy use was not just a fantasy, but a present and future reality.

Railroad Canyon Elementary School:

At Railroad Canyon, students got the dirt on green careers. Students planted their own garden and placed birdfeeders around the school. These hands-on activities taught the students that it is possible to use less energy by growing crops locally. The teacher used the garden and birdfeeder as a link to expose the students to possible green jobs in sustainable agriculture, reminding students of the imperative role that energy plays in transporting water and fuel to transport food grown and shipped from farms across the country.

Newport Mesa Unified School District

Adams Elementary School:

Fifth grade Green Team students at Adams Elementary researched green jobs at the www.realcoolfutures.com website and shared their findings on position titles, responsibilities, and required training with the rest of the class. Creating a triangle-fold book, each student created a case study about one specific green job which they presented to the class, prepared to answer questions. .

Harbor View Elementary:

Students at Harbor View Elementary held a "Green Career" dress-up day to share their excitement about green jobs. After the 3rd grade Green Team members learned all about jobs like green architects, solar panel and wind turbine installers, and environmental lawyers, they wanted to share what they learned with the whole student body. To raise awareness about the many green jobs available, the Green Team encouraged their fellow students to dress up as their favorite environmental theme or green career. Students came to school dressed as a landscape architect, energy auditor, or wore t-shirts with a green message about an energy-related field, such as renewable energy or energy efficiency!

Lincoln Elementary School:

The Lincoln Elementary Green Team invited the Sustainability Representative from Sole Technology to talk to 4th grade students about ways the skateboard/surfing apparel company is implementing sustainable practices. Students learned about how Sole is recycling old shoes to insulate buildings and reuse in new products, and how smart energy meters are used to maximize energy efficiency within their facility.

Pomona Elementary School:

Pomona Elementary invited Newport Mesa Unified School District Energy Manager Kent Ramseyer to talk about his role in increasing energy efficiency throughout the entire district. Mr. Ramseyer thanked students for not only taking the lead to encourage their peers and teachers to save energy and money at school, but also for their work protecting the environment. He also shared how his job had similar responsibilities to the Green Team's role on campus and that their developing skills around energy auditing would definitely lead them to career opportunities in the future. Mr. Ramseyer's presentation made the students excited about their special role within the school community, and as part of a greater cause in their local community as well!

Sonora Elementary School:

Seizing the opportunity to offer graduating students a chance to start thinking about courses to study during middle and high school, the Green Team organized a Green Career panel for the graduating 6th grade class at Sonora Elementary. Approximately 70 students heard presentations from green professionals from environmental fields including waste management, green building design, and energy efficiency. The panel was organized to help students try and answer the ever-evolving question of, "What do I want to do when I grow up?", encouraging students to see how a passion for the environment can shape their career choices. Because of the success of the assembly, the team plans to make the Green Career presentation an annual event!

Murrieta Valley Unified School District

Creekside High School:

Miles TenBrinke, a Creekside High School graduate and former Green Schools Club president who now attends the University of California, Berkeley and serves as a paid intern with the Alliance to Save Energy's Green Campus Program – gave a presentation to over 30 students on careers, education, and other directions students may follow in pursuit of green jobs after graduating from high school. He urged students to pursue their passion and highlighted his interest in the environment and how it led him to continue to be actively involved in his hometown and at his university.

10. Share Recommendations; Report on Savings and Achievements

As the school year comes to an end, there is no better time to celebrate the Green Team's accomplishments and report savings and achievements to the whole school community. Here are some creative and innovative ways Green Schools reported their successes and best practices from the school year while powering through the "Share Recommendations; Report on Savings & Achievements" benchmark.

Lake Elsinore Unified School District

Ortega High School:

Ortega High School did not hesitate to celebrate the achievements of the Green Team throughout the school year. The Green Team was featured prominently in the yearbook, with an entire page dedicated to their energy savings and success throughout the year. In addition, Green Team achievements were recognized and rewarded at the school's Award Ceremony. Sharing and recognizing the Green Team's accomplishments encouraged the whole student body to get involved and feel proud of their progress in saving energy!

Green Team Students presenting their energy savings at a school district meeting.

Newport-Mesa Unified School District

Mariners Elementary School:

At Mariners Elementary, the Green Team's achievements did not go unnoticed. The Green Team's success was shared in a Daily Pilot newspaper article and on the display bulletin board in the main hallway. Ongoing energy savings and final energy reduction results were reported in the student newsletter that all students received. The Green Team's constant efforts to save energy were appreciated by the entire school, encouraging more students to join the cause in the next year.

11. Educate and Engage Parents and Community Members

Once Green Schools students and staff have explored ways to save energy in school, they can take that information home and into the broader community, generating a powerful ripple effect for saving energy and money. Here are some ways that schools took their knowledge and skills into the community.

Chino Valley Unified School District

Chaparral Elementary:

Chaparral Elementary Green Team students reduced energy use at their school and then worked hard to incorporate sustainable practices into their home life. Green Team students created heating, safety, and holiday lighting tips for the HeatWave newsletter, a publication that students took home to share with their families. Students also posted the tips throughout their school, allowing both students and visitors to learn how to reduce energy throughout the school year!

Liberty Elementary School:

Liberty Elementary School shared the energy efficiency message with the greater community. Students and teachers put together a booth at the annual Fall Festival to educate the community about energy waste and the importance of energy efficiency. Students passed out fliers, bookmarks, and stickers with energy efficiency messages to over 300 people who attended the event. During Family Bingo Night, the Green Team passed out Home Energy Saving Tips pamphlets to the families in attendance to stress the importance of saving energy at home and at school.

Newman Elementary School:

Students and staff at Newman Elementary School got the whole community excited about energy efficiency. Students wore green every Wednesday to remind the school community about the importance of being a green school. Several stories were reported in the local newspaper describing how students and teachers promoted awareness of the energy saving measures at their school, such as passing out flyers at the ASB Winter and Spring Craft Nights and holding a green poster contest. Students at Newman are encouraged to check out the school's energy tool kit so that they can apply their newly acquired skills at home by using tools, such as the watt meter and light meter, to measure their home energy use.

Newman Elementary students wearing green to raise awareness about the Green Team!

Robert O. Townsend Junior High School:

The Robert O. Townsend Green Team encouraged the whole community to take part in energy-smart living. Green Team students borrowed the diagnostic, energy auditing tool kits to conduct audits of their own homes. Students then came up with ways to decrease the amount of energy used at home by switching incandescent light bulbs to compact fluorescent light bulbs and putting all appliances on a single power strip to make it easier to turn them off when not in use. Spreading the message of energy efficiency to students' families helped parents in the community save energy and money on their electricity bills!

Walnut Ave. Elementary School:

The Walnut Ave. Green Team worked very hard to identify and evaluate where energy was wasted at school and then devised ways to share their findings with their parents at home. At school, they designed stickers to place on light switches to remind users to make sure all lights are shut off at the end of each day and to shut down all computers in each lab. To help foster similar behavior at home, students designed a brochure to give to parents at every school function, reminding them of the importance of saving energy inside and outside the classroom!

Lake Elsinore Unified School District

Donald Graham Elementary School:

Green Team Students took tool kits home to complete home energy audits. They also asked parents to look over their utility bill with them. During their home energy audit, Green Team students provided their parents with recommendations for simple home retrofits (e.g., switching out incandescent bulbs for CFLs) and behavioral changes (e.g., using day-lighting until night-time) to yield significant energy savings at home. Each subsequent month, students and parents reviewed their utility bills to assess whether their changes resulted in actual energy savings.

Posters with energy efficiency tips were placed near school appliances at many Green Schools to remind teachers and students to stay energy smart.

Newport Mesa Unified School District

Adams Elementary School:

Green Team students at Adams Elementary celebrated their annual "Friday Fiesta" event by putting up posters with helpful hints to conserve energy and hosting a booth to educate parents and community members about the Green Schools Program. To entice people to stop by the booth, the students played short relay games, while Green Team students shared ways to save energy at home as families waited in line. Participants had fun while learning more about the Green Team's presence on campus and their drive to help everyone save energy at school and at home.

Harbor View Elementary School:

Harbor View Elementary hosted the first Green Planet Parent Education Night at the end of the year, inviting parents and students from local schools and the surrounding community to hear about how to live more sustainably. Environmental Scientist Max Isles shared ways to conserve energy and water at home, and informed the audience about

toxins that are found in make-up and home products. Participants walked away better informed about how to save money by reducing their energy and water use, and how to be more environmentally conscious in all areas of their lives!

Paularino Elementary School:

The Green Team students at Paularino Elementary took the energy efficiency message home to their families by conducting a home audit survey. As a group, the students investigated the types of energy consumed at home, and then brainstormed ways to address energy waste. Students brought their findings home to their parents, and pledged to make a plan to change the family's energy-using behavior.

Pomona Elementary School:

The Pomona Green Team created a blog to introduce the team's purpose to the greater community and share their progress toward reaching their energy efficiency goals. Energy tips, school events, and useful energy saving information were posted weekly on the blog. The blog became a platform for the whole school to discuss energy saving practices and motivated community members and parents to adopt more energy efficient behavior. By the end of the school year, Pomona's blog engaged over 8,000 visitors about the Green Team's activities and successes at saving energy at school and at promoting the same energy-smart philosophy at home.

Lake Elsinore Unified School District

Cottonwood Canyon Elementary School:

At Cottonwood Canyon Elementary School, students made grocery shopping an energy-education experience. Students designed and drew a variety of creative conservation and energy efficiency messages on paper bags. These bags were sent home with parents, along with a home energy-savings brochure provided by Southern California Edison. Parents were encouraged to reuse the grocery bags and share the messages with their local community.

Murrieta Valley Unified School District

Vista Murrieta High School:

Clever Vista Murrieta students saw the school's phone message system as an easy and accessible way to get the energy saving message out to parents! Students recorded energy saving tips and used the school's auto-dialer to send the message to each student's home phone. The messages included tips such as raising the thermostat during the spring and summer to reduce energy-use during warmer weather, using CFLs and LEDs instead of incandescent lights, and opening the windows in the morning to allow cool air in, then closing the windows and curtains to keep the heat out during the rest of the day. This innovative practice allowed Vista Murrieta students to reach thousands of families in the local community!

Elementary students engage their entire school community during an assembly to "think green" and get smart about energy efficiency!

2010-2011 Energy Savings Data

Final Energy Savings Data Table:

School	Participation Period	Total kWh Saved	Metric Tons of CO2 Abated	Total $ Saved	Total % Energy Use Change
Chino Valley Unified School District					
Alicia Cortez Elementary School	9/2010-6/2011	19,881	11.78	$3,487	-6.3%
Anna A. Borba Elementary School	9/2010-6/2011	34,251	20.29	$6,771	-14.7%
Buena Vista High School	9/2010-6/2011	22,439	13.30	$4,058	-14.9%
Cal Aero Preserve Academy (K-8)	9/2010-6/2011	12,205	7.23	$1,811	-2.2%
Canyon Hills Junior High School	9/2010-6/2011	24,631	14.59	$4,151	-5.9%
Chaparral Elementary School	9/2010-6/2011	11,859	7.03	$2,027	-3.8%
Chino High School	9/2010-6/2011	96,013	56.89	$13,769	-8.9%
Chino Hills High School	9/2010-6/2011	71,145	42.15	$10,615	-4.8%
Country Springs Elementary School	9/2010-6/2011	13,853	8.21	$2,560	-4.9%
Don Antonio Lugo High School	9/2010-6/2011	165,178	97.87	$23,497	-11.3%
Doris Dickson Elementary School	9/2010-6/2011	36,483	21.62	$6,129	-11.3%
E.J. Marshall Elementary School	9/2010-6/2011	34,971	20.72	$6,907	-15.8%
Eagle Canyon Elementary School	9/2010-6/2011	31,846	18.87	$5,920	-13.9%
Edwin Rhodes Elementary School	9/2010-6/2011	67,598	40.05	$10,832	-18.7%
Gerald F. Litel Elementary School	9/2010-6/2011	39,125	23.18	$6,769	-17.2%
Glenmeade Elementary School	9/2010-6/2011	36,843	21.83	$7,720	-16.1%
Hidden Trails Elementary School	9/2010-6/2011	36,311	21.51	$6,120	-13.3%
Howard Cattle Elementary School	9/2010-6/2011	38,468	22.79	$7,914	-15.3%
Levi H. Dickey Elementary School	9/2010-6/2011	35,853	21.24	$6,768	-15.9%
Liberty Elementary School	9/2010-6/2011	65,970	39.09	$8,920	-16.4%
Lyle S. Briggs School (K-8)	9/2010-6/2011	13,443	7.96	$2,697	-5.0%
Magnolia Junior High School	9/2010-6/2011	32,536	19.28	$5,507	-9.2%
Michael G. Wickman Elementary School	9/2010-6/2011	38,339	22.72	$6,603	-10.2%
Newman Elementary School	9/2010-6/2011	39,108	23.17	$7,748	-18.7%
Oakridge Elementary School	9/2010-6/2011	16,498	9.78	$3,750	-7.6%
Ramona Junior High School	9/2010-6/2011	113,663	67.35	$19,159	-28.3%
Robert O. Townsend Junior High School	9/2010-6/2011	65,607	38.87	$11,807	-15.2%
Rolling Ridge Elementary School	9/2010-6/2011	27,881	16.52	$5,516	-12.3%
Ruben S. Ayala High School (9-12)	9/2010-6/2011	46,011	27.26	$6,895	-2.9%
Walnut Ave Elementary School	9/2010-6/2011	13,619	8.07	$2,491	-5.4%
Woodcrest Junior High School	9/2010-6/2011	67,247	39.84	$9,341	-11.1%
CVUSD TOTAL	**9/2010-6/2011**	**1,368,875**	**811.06**	**$228,259**	**-9.8%**
Newport Mesa Unified School District					
Adams Elementary School	9/2010-6/2011	6,852	4.06	$1,132	-4.9%
Davis Magnet School (4-6)	9/2010-6/2011	22,610	13.40	$3,222	-7.6%

School	Participation Period	Total kWh Saved	Metric Tons of CO2 Abated	Total $ Saved	Total % Energy Use Change
Eastbluff Elementary School	9/2010-6/2011	20,424	12.10	$3,385	-10.3%
Ensign Intermediate School	9/2010-6/2011	33,886	20.08	$4,572	-11.8%
Harbor View Elementary School	9/2010-6/2011	7,687	4.55	$1,029	-5.7%
Lincoln Elementary School	9/2010-6/2011	10,218	6.05	$1,751	-3.2%
Mariners Elementary School	9/2010-6/2011	22,423	13.29	$3,514	-12.2%
Newport Harbor High School	9/2010-6/2011	182,379	108.06	$21,692	-11.9%
Paularino Elementary School	9/2010-6/2011	17,390	10.30	$2,697	-8.9%
Pomona Elementary School	9/2010-6/2011	5,191	3.08	$1,079	-3.2%
Rea Elementary School	9/2010-6/2011	20,084	11.90	$2,804	-6.9%
Sonora Elementary School	9/2010-6/2011	19,872	11.77	$3,517	-11.1%
Victoria Elementary School	9/2010-6/2011	6,922	4.10	$1,144	-4.1%
NMUSD TOTAL	**9/2010-6/2011**	**527,767**	**312.70**	**$70,812**	**-9.1%**
Lake Elsinore Unified School District					
Canyon Lake Middle	9/2009-6/2011	144,100	85.38	$25,161	-17.8%
Cottonwood Canyon Elementary	9/2009-6/2011	98,329	58.26	$18,709	-22.9%
Donald Graham Elementary	9/2009-6/2011	92,068	54.55	$16,291	-19.4%
Earl Warren Elementary	9/2009-6/2011	53,196	31.52	$9,314	-13.2%
Elsinore Elementary	9/2009-6/2011	59,426	35.21	$12,408	-19.5%
Elsinore High	9/2009-6/2011	556,382	329.66	$98,986	-24.4%
Elsinore Middle	9/2009-6/2011	67,330	39.89	$11,510	-10.7%
Luiseno Elementary	9/2009-6/2011	84,705	50.19	$18,239	-24.3%
Machado Elementary	9/2009-6/2011	73,847	43.75	$14,675	-16.9%
Ortega High	9/2009-6/2011	26,495	15.70	$4,183	-7.5%
Railroad Canyon Elementary	9/2009-6/2011	47,313	28.03	$9,132	-13.0%
Rice Canyon Elementary	9/2009-6/2011	86,388	51.18	$16,658	-20.4%
Tuscany Hills Elementary	9/2009-6/2011	43,854	25.98	$9,104	-15.9%
William Collier Elementary	9/2009-6/2011	50,423	29.88	$9,247	-12.7%
Withrow Elementary	9/2009-6/2011	64,669	38.32	$11,903	-15.2%
LEUSD TOTAL	**9/2009-6/2011**	**1,548,525**	**917.50**	**$285,520**	**-18.5%**
Murrieta Valley Unified School District					
Creekside Alternative High	10/2007-6/2011	40,141	23.78	$8,366	-20.3%
Dorothy McElhinney Middle	10/2009-6/2011	176,699	104.69	$24,347	-16.4%
Vista Murrieta High	10/2007-6/2011	484,439	287.03	$69,178	-16.2%
MVUSD TOTAL	**10/2007-6/2011**	**701,279**	**415.51**	**$101,891**	**-16.5%**
TOTAL GREEN SCHOOLS PROGRAM CUMMULATIVE SAVINGS, 2010-2011					
65 Schools	**9/2010-6/2011**	**4,146,446**	**2,456.77**	**$686,482**	**-12.8%**

Note on Energy Savings Data

Electricity savings are calculated against a weather-normalized baseline of electricity use that is adjusted for changes in square footage, retrofits, and other factors that affect energy load at each school. Utility Management Services provides a well-documented model of possible savings based on actual utility bills, but it cannot account for all the differences between one year and the next.