

Midland School's Environmental Action Plan

Action Step	Current Status, Spring 2009	Goals	Educational Value
<p>1. Carbon Neutrality</p> <p>See CEC Report <i>Midland School: Carbon Neutral by 2020</i></p>	<p>Through photovoltaic installations, shower fires, energy conservation, garden, grazing, land conservation and restoration, and careful consumption, we hope to be a rare and inspiring example of a community striving to become carbon neutral.</p>	<p>In ways that align with Midland's mission and budget, we will follow the guidelines in the Community Environmental Council's report, <i>Midland School: Carbon Neutral by 2020</i>.</p> <p>We will always move forward toward this goal incrementally rather than be paralyzed by the scale of the problem.</p>	<p>This work reinforces responsibility to community and environment.</p> <p>Students see that their work matters and they can contribute to solutions.</p> <p>These hands-on projects are developmentally appropriate for teenagers.</p> <p>Working to meet one's basic needs fosters treating resources as precious.</p>
<p>2. Electricity Needs Met Renewably and On-site.</p>	<p>Sophomores have installed a solar array on campus every year since 2003-04. As of 2009, over 15% of our campus electricity needs (not including faculty homes) are met by the sun, and each additional 3-kW system meets another 3-3.5%.</p>	<p>Continue installing a renewable energy system every year until most of the campus is powered by the sun. Continue seeking grants and outside funding to achieve this. Our next multi-year project (to begin in 2009-10) is to solarize our well pumps and campus water supply.</p>	<p>The annual incremental approach reaches ALL our students, who take ownership of their class's array and who learn the science behind it. It is empowering. It shows students that this kind of work is something <i>they</i> can do and understand; it's not just about calling in the professionals.</p>
<p>3. Energy Conservation</p>	<p>We promote a culture of turning off lights when not in use.</p> <p>Computers are set to energy-saving hibernation mode; the ice machine is on a timer.</p>	<p>Maintain and monitor appliances.</p>	<p>Promoting personal and community responsibility works towards motivation that is internal rather than external. We want students to act responsibly even when no one is watching.</p>
<p>4. Energy Efficiency</p>	<p>All lights are fluorescent or CFL.</p> <p>Student washing machines are Energy Star front-loaders. In 2005, students wrote proposals to the Head of School (based on their own data on water and electricity savings) to buy them.</p>	<p>In summer 2009, when Midland renovates the kitchen, we will replace the appliances and the 1950s Korean War Era walk-in refrigerator with the most energy efficient commercial appliances available within budget.</p>	<p>Consumer education – students learn through dialogue and through contact with the school's appliances that their institution values quality and will make upfront expenditures that will save money over the lifespan of our electric appliances.</p>

	The library and dining hall were insulated in summers 2007 and 2008.	Add insulation to buildings where feasible. As appliances wear out, replace them with Energy Star or the equivalent for commercial use.	Students build well-supported cases to make informed consumer choices. The Midland administration listens.
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5. Food - a healthy and ecologically benign food economy	<p>We produce:</p> <ul style="list-style-type: none"> organic vegetables and fruits in our garden (beets, broccoli, cabbage, carrots, garlic, lettuce, onions, peas, pinto beans, squash, tomatoes, zucchinis, apples, black berries, grapes, peaches, pumpkins, strawberries, watermelons) organic beef from grass fed cattle in our pastures. <p>In 2006-07, we began grinding our own peanut butter.</p>	<p>We aim to produce at least 50% of certain vegetables, fruits and beef from our garden and grass-fed cattle.</p> <p>We will monitor the nutritional value and distance that food and goods travel. Where economically feasible, we will buy local and organic, and make choices that support a healthy and sustainable food economy.</p> <p>We explore the literature of Michael Pollan, Bill McKibben, and the Center for Ecoliteracy.</p>	<p>Healthy bodies and minds allow more productive schoolwork.</p> <p>Students learn that consumers vote with their wallets.</p> <p>Students learn that food consumption is a major factor in per capita energy consumption, and they see benign alternatives to the industrialized food economy.</p>
6. Garden and Compost	<p>Midland's 8-acre organic garden is tended by staff and students. Students have the option to work in the garden in the afternoons as a sport alternative during one season of the year.</p> <p>We maintain and use organic compost from manure and garden scraps.</p> <p>Kitchen scraps feed pigs maintained by students and faculty.</p>	<p>We will expand the educational value of the garden for more of our students in an intentional way in Midland 102, a holistic transition class that will begin in 2009-10 for our freshmen and new students. Part of this class will be the tending of individual student garden plots.</p>	<p>Garden workers see the fruits of their labor and we all see a closed loop food system from garden to kitchen, then back to compost and pigs.</p> <p>In Midland 101, our freshmen monitor, measure, and learn the garden mineral cycle and the tight cycling of nutrients from soil to plant to animals and back to the soil.</p> <p>Garden work is perhaps the most tangible thing we do for our students. It slows us all down to feel the soil in our hands, the smell of the plants in sunlight, the taste of fresh-picked strawberries, and the cycle of seasons. Students remember these things.</p>

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<p>7. Grazing</p>	<p>Midland holds a cattle grazing lease on ~ 2,600 acres with an expert rancher held in esteem for conservation-minded rotational grazing practices.</p> <p>Midland raises organic grass-fed cattle in its 28-acre pasture for consumption by the school community. We raised 5 cows in 2006-07, 5 in 2007-08, and 7 in 2008-09, balancing the scale of our needs with the size of our pastures.</p> <p>With exclusion fences we restore grazed areas for natural ecological succession, especially riparian areas.</p>	<p>Our goal in our grazing regime, both with the leasee and our school's cows is to be ecologically and economically sustainable.</p> <p>We hope to extend the grazing season by rotational grazing to maximize the seasonal extent of perennial and annual grasses on our property.</p>	<p>Freshmen in Midland 101 monitor, measure, and learn about water and mineral cycles in the field, and how they are affected by grazing regimes.</p> <p>Students are involved in the upkeep of the ranch infrastructure. Midland's ranch manager helps build and maintain fencing with students.</p>
<p>8. Hazardous Waste Minimization and Removal</p> <p>See <i>Midland's Hazardous Waste Policy</i></p>	<p>In 2006-07, we shifted from conventional to green cleaning products.</p> <p>We avoid purchasing or using toxic materials for class or lab, unless there are no alternatives.</p> <p>In 2006-08 we safely disposed of many years of accrued lab chemicals, paints, and electronics at Santa Ynez Valley Hazardous Waste pickup events.</p>	<p>Do not bring new toxic materials onto campus in the form of cleaning products, excess paint, solvents, or lab chemicals.</p> <p>Do not tolerate pockets of accrued hazardous material on campus. Sort and legally dispose of such materials (batteries, paint, fluorescent lights, chemicals, electronics) at least every 6-12 months through Santa Barbara County Hazardous waste events.</p>	<p>We provide an environment that is healthier for our students. Students are not exposed to hazardous cleaning products.</p> <p>Although the students do not take part in the removal of accrued chemicals, we feel secure knowing our students won't find hidden closets from by-gone eras.</p>
<p>9. Land and Conservation Ethics</p> <p>See <i>Conservation Importance of Midland</i></p>	<p>Conservation easement: In 2008, Midland completed negotiations for a conservation easement held by the Land Trust for Santa Barbara County and the Trust for Public Lands on 2,727 acres, which will preserve valuable watershed and oak habitat and protect rare and endangered species in perpetuity.</p>	<p>Maintain the accessibility of Midland's trails to hikers and horse riders so that the students and the community can enjoy the property.</p> <p>We will expand the educational value of Midland's land resource for our students. A new transition course (Midland 102) is being designed to</p>	<p>Rather than simply learning from books, students do fieldwork in ecology, geology, water and soil chemistry, creek geomorphology, and orienteering.</p> <p>Access to the immensity of the outdoors instills inspiration and a sense of wonder.</p>

	<p>Camping and hiking: We encourage and facilitate camping trips, both for classes and recreation.</p> <p>Ecology and education: We use the property in field studies in science classes.</p> <p>Invasive Species: Freshmen have an interdisciplinary unit on native vs. non-native landscapes through Midland 101, art, and English classes.</p> <p>Landscaping: We use drought-tolerant and native (non-invasive at the least) vegetation for landscaping. We do plant colorful flowers around Main House and some other areas.</p> <p>Native oak restoration: We involve every student every year in planting native valley or blue oak acorns. We monitor and record survival. We are guided by local ecologists.</p> <p>Trails: We maintain hiking, biking, and horse trails open to the public.</p>	<p>begin 2009-10 for freshmen that will combine lessons of experiential education in the outdoors and garden with health and well-being, environmental sustainability, and intensive immersion in, and laying the groundwork for, a college preparatory curriculum.</p>	<p>We honor the ideas of Rachel Carson in <i>The Sense of Wonder</i>, “I sincerely believe that for the child, and for the parent seeking to guide him, it is not half so important to <i>know</i> as to <i>feel</i>. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil...”</p> <p>We honor the words of Senegalese conservationist Baba Dioum, “In the end we will conserve only what we love, we will love only what we understand, we will understand only what we are taught.”</p> <p>Place-based education provides a baseline and compass for ecological integrity, preservation, restoration, and ultimately empathy.</p>
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10. Maintenance of Common and Living Areas	Through our Jobs program, we keep common areas and living areas uncluttered, clean, and in good repair. We recognize and respect the messages our facilities send to students about community and simplicity.	Maintain vigilance in this area; the job is never done.	We strive to have our personal living spaces and common areas full of the inherent logic of being uncluttered, clean, healthy, thoughtful, and respected. (They are, however, teenagers...)
11. Needs not Wants	Midland’s Depression Era ethics of simplicity, self-reliance, and	Continue pushing this dialogue. The value of this ethic cannot be	Working to meet one’s basic needs fosters treating resources as precious

	distinguishing needs from wants are still upheld and modeled, despite the pressures of living in an era of consumption and excess.	overstated. Science has shown that to stabilize atmospheric CO ₂ levels, humans must reduce CO ₂ emissions (from electricity, transportation, and far-flung consumer culture) by 60-80%. This requires a MAJOR scaling back in lifestyles, supported by leadership and infrastructure. To become carbon-neutral, we need leaders with Squibbean sensibilities.	and finite. A conservation ethic is naturally reinforced when wasting resources translates into more work to procure them. Students learn both self-reliance and the necessity of strong communities.
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12. Paper Supplies and Compostable Dining Ware	<p>We use 30% recycled content office paper, recycled bathroom paper supplies, and recycled paper for promotional literature. We regularly reuse paper good-on-one-side.</p> <p>First of all, we rarely use disposable kitchen ware, limiting its use to only a few events each year when crowds are on campus. For these events, we use compostable starch-based plates and cups, which we compost on site in our garden.</p>	<p>Continue to use recycled paper for office, classroom, bathrooms, and promotional literature.</p> <p>Continue to green the student store with recycled, benign, and few products.</p>	<p>Students learn that they can vote with their wallets, and we provide them with some environmentally-friendly options.</p> <p>Upperclassmen in the Conservation and Agriculture elective learn through experimenting with temperature and moisture how best to compost the starch plates and cups in our compost piles. This is all the more remarkable because we have learned that the City of SB, even when they use this dining ware, do not have access to a public hot compost pile because of high land values in the city.</p>
13. Recycling	We hold recycling as a core value of our community and support its practice with a user-friendly infrastructure, including faculty and student jobs, sorting facilities in every cabin and yard, a center, and two recycling dumpsters.	Maintain vigilance in this area; the job is never done. This is a perennial challenge for us, as we find that teenagers are not at a developmental stage that inherently makes sorting a priority each time they dispose of their waste.	Personal responsibility - since “trash and recycling” is a student job that rotates crews each term and each Sunday, all our students experience cleaning and sorting the messes of others, which we hope translates into doing a better job sorting in the first place. Students learn there are real people (their friends) at the receiving end of their waste stream.

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14. Social Justice	<p>In daily activities and Student Council, we deliver consistent messages to our students about fairness, tolerance, and community conduct.</p> <p>Our interdisciplinary team-taught 10th and 11th grade English/History classes, World Studies and American Studies, explore issues of cultural diversity, justice, equality, and inequality.</p> <p>Through a two-way cultural immersion in 11th grade in Mexico, students learn intercultural respect and compassion.</p> <p>Students annually attend the NAIS People of Color Conference with faculty member Jose Juan Ibarra, who is an appointed faculty (former) of the NAIS Summer Diversity Institute.</p>	<p>Continue to promote and support faculty and students working in these areas.</p> <p>Continue to stretch our dialogue to recognize that the rights and respect given to the environment <i>and</i> to all humans are equally essential in sustainability and forever inhabiting a healthy planet.</p>	<p>Students learn the importance of, and accept our community expectation of, empathy, global awareness, tolerance, and responsibility.</p> <p>Sometimes students deeply internalize and work to rectify inequality. In 2008-09, inspired by their studies and by attending community meetings in Lompoc on the Darfur genocide, a senior and a sophomore chose to raise money for women in Darfur, upon learning that women who gather fuel wood are often at great risk for violent acts. They raised, literally in a glass jar, over \$1,000 to purchase solar cookers for Darfur women, greatly reducing the time women travel alone for wood. Funds were matched by an alum.</p>
15. Socially Responsible Investing	<p>There is no formal policy in place specifying that our school's investments must be socially responsible.</p>	<p>Our Finance Committee and Student Finance Committee must pass decisions through a filter, which asks whether Midland's investments are in line with Midland's mission.</p>	<p>Students have taken the initiative to find causes worth supporting, raise awareness, raise funds, and see their task through to completion, as with the Darfur fund in 2009 and with Play Pumps Int'l in 2008.</p>
16. Sustainable Building	<p>We explored building the most environmentally benign compressed earth block faculty house in a dedicated and mission-aligned way in 2004-06, but terminated the project when the difficulties with permitting and escalating costs pulled the project out of alignment with our mission.</p>	<p>Employ principles of sustainable design in future building projects. Make choices that enhance a building's performance and warmth using materials with low embodied energy and that require minimum energy to heat, cool, and light. Continue to build small earthen structures, like benches with students that enhance outdoor living space.</p>	<p>Midland's simple buildings reflect our lessons of simplicity of lifestyle.</p> <p>David Orr of Oberlin College says that, "<i>all</i> education is environmental education," and students learn values from the buildings they are taught in. Often, unfortunately, they learn that hypocrisy and energy wasting are norms (but not at Midland).</p>

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17. Technology	Midland chooses <i>how</i> and <i>when</i> to use technology to support our curriculum. While we need library access to high speed internet, we ban or limit access to many forms of technology and media (e.g., cell phones, tv, movies and games on their PCs) that can be distractions to learning and that can create more wants through advertisements. We avoid technology that hinders interpersonal interactions, distracts, or creates digital realities.	Our technology committee has an on-going dialogue about ubiquitous and rapidly evolving technology and how it should play into our Midland lives.	Kids that are relatively unplugged are more likely to resonate with precepts of Midland's Mission and Philosophy: ONE The essential ingredients of learning are a student, a teacher, and an idea. TWO A simple, self-reliant lifestyle, close to nature, teaches us to develop our inner resources, to distinguish between needs and wants, and to appreciate life's fundamental joys and challenges.
18. Transportation	We maintain one small fuel-efficient vehicle in the school's fleet of suburbans, and we try to avoid extraneous driving trips.	While we need vehicles that transport 7 or 8 students to athletic events, and at least two 4WD suburbans to access school property for classes, we could replace a 2WD suburban with a more fuel-efficient car or minivan for drives with fewer passengers.	Kids learn that large vehicles like suburbans only make sense when they carry full loads of passengers.
19. Water Conservation and Water Quality	Through science classes and announcements during fire season, students investigate water quality, monitor personal water use, and understand our water storage and delivery systems. Irrigation is timed and monitored.	More of the same, particularly tapping into faculty member Laurie Munger's expertise and passion for the subject of water in the west.	Students learn viscerally that water is a precious commodity. Students do real science by measuring water chemistry at 3 sites along our local Alamo Pintado Creek, linking water quality to land use patterns and writing a scientific report.
20. Water heating	For decades, students have heated shower water with shower fires, whose communal daily operation are completely run by students. There is probably no better way of engendering respect for and conservation of warm water than by working to get it.	Solar thermal water heaters on student bathrooms should be integrated to preheat water for shower fires. Valves should be simplified and labeled, and shower fire tanks insulated. While wood fuel is more benign than fossil fuels, our shower fire tanks can benefit from redesign for greater efficiency.	Working to meet one's basic needs fosters treating resources as precious and finite. A conservation ethic is naturally reinforced when wasting resources translates into more work to procure them. Students learn both self-reliance and the necessity of strong communities.

