

Sustainability Initiative Comprehensive Plan Summary

Phase 1: 2009-2010: Laying the Foundation
Phase 2: 2011-2013: Hitting our Stride
Phase 3: 2014+: Leading the Way

Goals	Strategies	Tactics	Branch or HQ Led?	
Conservation and Reduction	Conserve and Reduce Energy Use	Establish Systems to Measure and Track Energy Use	HQ	
		Identify and Implement Facility Energy Efficiencies and Reductions	Branch	
		Explore Alternative Energy Options	Branch	
		Reduce and Green Business Travel	HQ	
		Green NOLS Meetings and Events	HQ	
	Facility Based Conservation	Establish Systems to Measure and Track Water Use	Branch	
		Identify and Implement Facility Water Efficiencies and Reductions	Branch	
		Establish Systems to Measure and Track Solid Waste Diverted from Landfill	Branch	
		Improve and Expand Recycling	Branch	
		Properly Dispose of Cleaners and Other Toxics	Branch	
		Green New Building Construction and Remodels	Branch	
		Promote Sustainable Grounds	HQ	
		Responsible Procurement	Establish Systems to Measure and Track Paper Procurement and Use	HQ
			Establish a Paper and Printing Procurement Policy	HQ
			Reduce Paper Used	HQ
	Establish a Electronics and Appliances Procurement Policy		HQ	
	Establish a Clean Green Policy		HQ	
	Establish Green Food Policy; Measure and Track Organic and Locally Sourced Food		Branch	
	Identify Opportunities to Increase Organic and Locally Sourced Food in Rations and Kitchens		Branch	
	Research and Establish Criteria for Green Gear Procurement	Branch and HQ		
Education	Curriculum	Integrate Sustainability into a Student's Branch Experience	Branch	
		Integrate Sustainability into a Student's Field Experience	Branch	
	Resources	Develop Sustainability Resources for Internal Audiences (faculty and staff)	HQ	
		Develop Sustainability Resources for External Audiences (students, communities, partners, etc)	HQ	
Outreach	Integrate Sustainability into NOLS Culture	Identify a Sustainability Liaison for each department	HQ	
		Promote sustainability participation and visibility	HQ	
	Communication and Transparency	Establish a plan for clear internal and external communications (i.e., methods, frequency, branding)--HQ	HQ	
	Communities	Provide Sustainability Learning Opportunities for Local Communities Based on NOLS' Sustainability Efforts	Branch	
Suppliers and Providers	Identify and Cultivate working partnerships to promote sustainability upstream of NOLS	HQ		
Outdoor Industry and Partnerships	Identify and Cultivate working partnerships to promote sustainability outside of NOLS	HQ		

Conservation and Reduction:

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Strategies	Tactics	Tactics	Deliverables
Conserve and Reduce Energy Use	Establish Systems to Measure and Track Energy Use--HQ	<p>Establish Carbon Footprint Boundary</p> <p>Implement Carbon Tracking software to track and monitor carbon use at headquarters, branches, and travel. Measure Carbon Footprint annually to measure progress and promote awareness and continuity</p>	
	Facility Efficiencies and Reductions--Branch	<p>Adopt Pure Strategies recommendation of the 2% Solution. Reduce school-wide carbon emissions 2% annually until 2050, for an overall reduction of greater than 80%. Our baseline year is 2006.</p> <p>Set facility specific goals. Branches are responsible for reduction goals as an independent entity. Headquarters is independently responsible for meeting reduction goals.</p>	<p>Interim Goals: 10% reduction by 2010. 30% reduction by 2020. Interim goals are steeper in order to reduce aggregate carbon emissions from NOLS</p> <p>For Phase 1 Reductions (initial 10%), follow efficiency plan.</p> <p>Create branch and HQ specific reduction plans to meet the 2020 and 2050 goals.</p> <p>Carbon emissions reporting will be in absolute and normalized formats to reflect both our total emissions and carbon efficiency. See Reduction Goals worksheet for specific recommendations.</p> <p>Establish Carbon Reduction Planning Committees Assess, catalog, cost and prioritize ways to meet carbon reduction goals on a facility level Identify and implement carbon reduction priorities Manage Carbon Offsets</p>

Alternative Energy--Branch	Review suitability of branch properties for alternative energy projects. Implement projects as identified in branch Carbon Reduction Plans	Grant funding research and writing support from NOLS Development
Travel--HQ	Establish a Green Business Travel Protocol Plan efficient travel (most visits/events for each flight or car trip taken) Reduce travel as possible	Participate in web-based trainings Work within staffing plan to contract courses with efficient travel in mind When possible utilize conference calls instead of traveling to a face-to-face meeting
Events--HQ	Assess potential use of carbon offsets Identify ways to reduce waste and potentially offset travel to meetings and events	
Carbon Offsets--HQ	Eliminate wide use of carbon offsets Establish a Carbon Offset Policy, focused on use for special events and travel	

**Facility Based
Conservations**

Water **Some branches may not have access to water use information, or water use may be an irrelevant concern due to location.

Establish Systems to Measure and Track Water Use--Branch

Use carbon tracking tool to track monthly water use

Efficiencies and Reductions--Branch

Set facility based water use goals
Assess and catalog ways to reduce water usage

- Create signage around facilities to promote ways to reduce water consumption
- Replace old water fixtures with low flow fixtures
- Utilize timers for watering gardens or landscaping
- Xeriscape where possible
- Utilize grey water/capture rain water where possible

Increase rain water capture at each location where feasible

- Determine where rain water capture is appropriate
- Research best practices for capturing rain water
- Research costs of rainwater capture systems and determine priority
- Budget for rainwater capture systems
- Implement and maintain rain water capture systems

Solid Waste

Establish Systems to Measure and Track Solid Waste--Branch

Develop an estimate system for amount of solid waste recycled, composted, and sent to the landfill

Recycling and Reductions--Branch

Expand recycling at all NOLS locations and make it easier and more intuitive for staff and students to participate
Improve recycling education for staff and students

Conduct Recycling Information Sessions, Recycling Competitions, etc.

Expand what NOLS can recycle beyond local programs
 Educate and promote proper disposal of cleaners and other toxics
 Work with transportation departments and any others involved to identify substances of concern and research possible alternatives
 Properly dispose of contaminants i.e. motor oil, old vehicles and computers

Buildings
 Adopt LEED standard for the remodel of existing facilities and construction of new facilities--Branch

Scrutinize new and existing Long Term asset building and improvement projects for maximization of energy efficiency and LEED standards--Branch

Grounds
 Establish a Sustainable Grounds Policy--HQ

Strive to landscape and plant only native vegetation
 Eradicate invasive species

Responsible Procurement Paper

Establish Systems to Measure and Track Paper Use--HQ

Track use of post-consumer recycled and FSC certified paper, externally and internally sourced

Establish Paper and Printing Procurement Policy--HQ

Improvements and Reductions--HQ

Set branch based paper reduction goals
 Clean mailing lists

Electronics and Appliances
 Establish Electronics and Appliances Procurement Policy--HQ

As needed, replace electronics and appliances with efficient and sustainable models

Cleaners

Establish a Clean Green Procurement Policy--HQ

Food

Establish Green Food Policy; Measure and Track Organic and Locally Grown Food--Branch

Identify opportunities in our rations and kitchens to increase the procurement of organic and locally grown foods--Branch

- Determine organic alternatives for rations and kitchen food and costs
- Determine financial feasibility of incorporating more organics and locally grown food
- Increase rations and food budgets to accommodate more organic and locally grown food
- Purchase organic and locally grown food within budget limitations

Gear-tracking

Research and establish criteria for "greening" the product line we purchase for use in the field--Branch and HQ

Education

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Strategies

Tactics

Deliverables

Curriculum

Integrate sustainability into a student's branch experience--Branch

Create signage around branch about branch's sustainability story, and sustainable projects around the branch such as solar, school gardens and composting
 Include sustainability initiatives and branch features in student tours
 Student service projects focused on sustainability i.e. weed removal, tree planting and watershed restoration

Integrate sustainability into a student's field experience--Branch

Create sustainability briefing topics
 Increase emphasis on transference
 Create fact sheets and class outlines for classes on sustainability, how to calculate your carbon footprint and renewable energy, etc

- Calculate emissions "saved" by running a NOLS course
- Quantify energy NOLS generates via renewables

Resources

Educate Internal Audiences--HQ

Develop training tools for staff that demonstrate sustainability practices for the office and home
 Offer instructor and in-town staff seminar or webinar on sustainability
 Make carbon footprint calculator available to staff via internet
 Develop Rendezvous as a branch and staff sustainability resource

Seek external grants to fund sustainability projects

Educate External Audiences--HQ

Develop NOLS website into a resource on sustainability
 Encourage students to consider sustainable travel choices during the application process

Outreach

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Strategies

Tactics

Deliverables

Integrate Sustainability into NOLS Culture

Promote sustainability participation and visibility--HQ

Identify a Sustainability Liason for each department--HQ

Create and lead "what you can do" presentations for departments
Nurture Satellite Projects

Communication and Transparency

Establish a plan for clear internal and external communications (i.e., methods, frequency, branding)--HQ

Publish a NOLS Environmental Responsibility Report (or another title) and determine a schedule for regular publication
Post Comprehensive Plan and other pertinent documents (procurement policies, scope 3 boundary, Sustainability Story, etc) on website--HQ

Communities

Provide learning opportunities for our local communities based on tangible outcomes of our internal sustainability program--Branch

Seek out and develop partnerships in the community to teach about sustainability such as NOLS Alaska working with the local 4-H students in the NOLS Alaska gardens
Turn Long Term building projects into learning and community building i.e. "learn to build a straw bale in one weekend"
Publicly celebrate our sustainability projects
Host public info sessions on sustainability practices. i.e. NOLS RM Solar System tour and intro to solar power workshop

Suppliers and Providers

Identify and cultivate working partnerships with equipment and product suppliers who are willing to work toward greater sustainability in their supply chains.--HQ

**Outdoor Industry
and Partnerships**

Identify and cultivate working partnerships with outdoor industry members and other partners who are willing to work toward greater sustainability.--HQ

FY07 Carbon Emissions* does not include any air travel. 2009 numbers will include air travel. When we have 2009 numbers we will estimate 2006 air travel numbers and add those emissions to this chart.

Location Name	Electricity Purchased (kWh)	Natural Gas (therms)	Propane (gal)	Heating Oil (gal)	White Gas (gal)	Electricity	Natural Gas	Propane	Heating Oil	White Gas	Ground Transport	Total Tons CO2e (lb)
RM	243789	14076	3247	0	560	112	82	21	0	6	319	540
HQ	684797	7023	0	0	0	315	41	0	0	0	0	356
AL	68009	9596	252	0	650	43	56	2	0	7	85	192
PNW	20630	0	7092	0	209	10	0	45	0	2	79	136
Mexico	0	0	0	0	0	0	0	0	0	0	115	115
SW	44660	1394	0	0	98	28	8	0	0	1	77	114
PAT	29450	0	5229	0	396	11	0	33	0	4	55	103
TV	26195	0	1727	1375	223	12	0	11	15	2	58	98
Yukon	0	0	0	0	?	0	0	0	0	0	53	53
AU	16942	0	0	0	132	16	0	0	0	1	26	43
NZ	10290	0	0	0	145	2	0	0	0	2	26	29
India	0	0	0	0	?	0	0	0	0	0	0	0
TOTAL						549	188	111	15	25	892	1781

Target Emissions--Absolute Reduction Goals

Target Emissions for 2010 (10% reduction in tons CO2)	Target Emissions for 2020 (30% reduction in tons CO2)	Target Emissions for 2050 (80% reduction or greater in tons CO2)
486	378	108
321	250	71
173	134	38
122	95	27
103	80	23
103	80	23
93	72	21
89	69	20
48	37	11
39	30	9
26	20	6
0	0	0
1603	1246	356

Reduction Menu

Action	Annual Estimated Reduction	Estimated Cost	References
Replacing incandescent lightbulbs with CFLs	7% reduction in electricity needs-- 175lbs CO2/104 kWh/bulb	\$3.50/bulb	PNW, RM, YU, AK RM; http://www.environmentalleader.com/2009/02/03/6-
Replacing Fluorescent Tube lights with T8 or smaller		\$2.50/bulb	
Change lighting ballasts		\$35/electronic ballast (super approximate)	RM
Behavior Change Projects (turning lights off when not in use, etc)		free!	RM
Utilizing Smart Strip Power Strips	250lbs CO2/147 kWh/strip	\$30/strip	https://earthaidkit.com/buy/cat-smartstrips.php
Occupancy Sensors (for lights)	13-50% reduction in light energy use	\$20/switch	RM: http://www.smarthomeusa.com/ShopByManufacturer/Leviton/Item/PR150-1LX?adwatcher=3
Faucet Aeraters	57kWh/95 lbs CO2	\$3/faucet	https://earthaidkit.com/buy/cat-faucetaeraters.php
Use Vending Misers on Vending Machines	1000-1500 kWh	\$180 each	http://www.vendingmiserstore.com/
Cool Roof Insulated Windows Seal Ducts			http://www.consumerenergycenter.org/coolroof/
Transpo Efficiencies Energy Star Appliances			RM: Reducing miles driven
Alternative Energy Projects			RM Solar Array, Patagonia Geothermal, SW Solar heated showerhouse
White Gas: use backcountry ovens	15% increase in stove efficiency		RM, PNW
Good stove set up vs. poor set up (windscreen and reflector use)	15% increase in stove efficiency		

Reduction Example--NOLS RM Lumber Yard Electricity Usage

	kWh	Tons CO2	% Reduction from FY06	Reduction Strategies Implemented
FY06	99,580		45 n/a	change lighting ballasts, reduced amount of lights used all bulbs changed to CFLs or fluorescents, behavioral change
CY07	84,175		38	15% posters (turn off Solar Panels (installed 12/07, 43% online 2/08)
CY08 Reductions from Efficiencies Only	17,898		8	18%
Conversion Method	.902lbs CO2/kWh; conversion factor for WECC Northwest Area			

HQ Planned Reductions

We will put computers and/or displays to sleep when they are not in use and don't need to be active for backup or other purpose, and we will shut them down when possible

Increase energy efficiency of school servers