

Is there a long, green line at West Point?

Commentary by Mike Strasser
Assistant Editor/Copy

The Army has recognized October's National Energy Awareness Month with the theme "Empowering Defense through Energy Security."

The *Pointer View* is starting a series to explore our own energy and environmental security initiatives here at West Point.

Going green is nothing new these days. For some it has become subconscious habits in recycling plastics, reducing water waste or judicious use of the thermostat. Army installations have gotten into the act, whether it's been a mass conversion to energy-efficient light bulbs, a renovated recycle center or expanding the fleet of electric vehicles.

Beyond these green initiatives, a grassroots effort to tackle the issues of energy efficiency and environmental security has occurred almost stealthily at West Point.



- Did you know there is a West Point Energy Council, organized in September 2009 to develop and execute energy and environmental security initiatives?

- Did you know that the first cadet brigade officer position was created this year—an Energy and Environmental officer—to promote these standards within the Corps of Cadets?

- Did you know hundreds of cadets are working on departmental projects in support of energy efficiency, alternative energy exploration and for West Point?

- Did you know the West Point Environmental Management website promotes the organizational vision of becoming "the Greenest Post in the Army" through responsible

environmental action and policy?

The *Pointer View* will cover these topics and more in the coming months, as projects take shape, programs are developed and positive impacts are made. Lt. Gen. Rick Lynch, the Installation Management Command's commanding general, recently highlighted the vegetative roof project at Tobyhanna Army Depot, the methane gas project at Fort Knox and the first wind turbine on an active Army installation at Tooele Army Depot.

These and other projects are listed in the IMCOM Energy portfolio to provide ideas and inspire the IMCOM community to action. As Lynch said, the focus on energy programs is non-negotiable, the energy portfolio also offers resources to find innovative ways to solve energy challenges. This can be found at <http://army-energy.hqda.pentagon.mil/>.

In our next feature, we'll report on the origin of the West Point Energy Council, what they've proposed and the initiatives they support.

Around the Army

The following are self-generating renewable energy projects implemented and operating on Army installations:

Fort Stewart, Ga.—generates high-pressure steam using wood chips at the central energy plant.

Fort Knox, Ky.—converted barracks to geothermal.

Fort Huachuca, Ariz.—has photovoltaic, solar and wind generation.

Rock Island Arsenal, Ill.—generates electricity from its hydroelectric plant.

Red River Army Depot, Texas—consumes renewable energy through burning wood scrap.

In addition, Redstone Arsenal purchases steam from the City of Huntsville that is produced from municipal solid waste. Fort Carson is purchasing electrical power generated from renewable sources from Colorado Springs Utility. These purchases assist the Army in achieving the goals which mandate that of the total amount of electric energy the federal government consumes during any fiscal year, not less than 3 percent in fiscal years 2007 through 2009, not less than 5 percent in fiscal years 2010 through 2012, and not less than 7.5 percent in fiscal year 2013 and each year thereafter, be renewable energy.

Aiming to win



Mike Nielsen, West Point Hunt Club vice president, draws back his bow and takes aim at a bear target Oct. 9 during a bowhunting tournament at area J-3 behind the Victor Constant Ski Slope. The competition was held by the West Point Hunt Club to develop camaraderie, confidence and proficiency in bowhunters' abilities. Club participation is open to all Department of Defense and West Point personnel and all others with sponsorship by a community member. Bowhunting season started Oct. 16 and runs through mid-December. For more information about the club and sport, contact Ray Parrot, archery committee chair, at 863-4573; John Bennett, West Point Hunt Club president, at 859-4939; or Nielsen at 845-222-3825.

By SGT. VINCENT FUSCO/DIR. OF PUBLIC AFFAIRS AND COMMUNICATIONS

Developing a Long, *Green* Line

West Point's Energy Council works toward energy, environmental security

(Editor's Note: This is the second in a series about West Point's ongoing efforts to provide energy and environmental security. This week, the Pointer View focuses on the origin of the Energy Council.)

**Story by Mike Strasser
Assistant Editor/Copy**

In the summer of 2009, the West Point Energy Council was formed, uniting leadership from the academy and garrison to implement an energy and environmental security strategy.

Lt. Col. Mark Smith, environmental science assistant professor in the Department of Geography and Environmental Engineering, has been a proponent for West Point's green movement. A few class trips in 2005-06 to the Recycle Center and Waste Water Treatment Facility provided a catalyst which began his campaign for support.

"I spoke with the managers of these operations and saw some needs for improvement. I thought maybe there was a way we could combine the academy and garrison efforts and get something established where we would continue to develop everything in a green way," Smith said.

Many meetings would follow, ideas forwarded through command chains—some approved, others rejected.

"We need some sort of graphic"

Smith recalled a conversation with Col. Russell Lachance, Chemistry and Life Science professor, defining the synergy needed between the academy and garrison to achieve their goals.

"He said 'You know, we need to have some sort of graphic,' something that covers our mission," Smith said. "And we came up with a graphic out of that little vision we scratched out together. I think it's very succinct and truly captures the focus on how the academy and garrison can help each other get to the center."

Lachance, who received his doctorate in chemical engineering from MIT, met Smith months earlier. Lachance had been investigating an alternative energy project at West Point and was interested in backing Smith's proposal.

The Super Secret Energy Society

By the spring of '09, Smith had enough support from the academy to discuss ways to move forward. A small group of academy professors to include Smith, Lachance, Gunnar Tamm (Civil and Mechanical Engineering) and Aaron St. Leger

(Electrical Engineering) were calling themselves in jest, "The Super Secret Energy Society" due to the fact they weren't an official organization yet, but also to motivate themselves to keep pushing beyond the concept phase.

In May 2009, the academy group began meeting with garrison officials Frank Bloomer, Geri Wildenberg and Paul Simihtis.

Further support came from Greg Jones and Kevin Kirkpatrick from the garrison, Dave Bosco from the Office of the Staff Judge Advocate, Sherry Dao from the Directorate of Contracting, and Lt. Col. Brian Tribus and Linda Mastin from the Public Affairs Office, to name just a few of the 40 academy and garrison staffs that volunteered to be a part of the West Point Energy Council.

During a June meeting among academy and garrison staff, Smith proposed the Center for Energy and Environmental Security, garnering enough support to move ahead on its goals.

Wilfred Plumley Jr., deputy to the garrison commander, originally served as council chairman and saw the potential synergy from a garrison-academy partnership.

"West Point is one team in everything we do," Plumley said. "We have an opportunity here to be good stewards for the environment and also be on the leading edge and become an example for the rest of the Army."

Members were divided into core and support teams which created an official organizational chart for this fledgling group. A name change soon followed, per garrison request, to reflect the Army concept and it became the West Point Energy Council. Smith conceded, but he still favors the original title.

"I think it's important not to forget the environmental aspect, and it's still in our approach," Smith said.

The center concept would have required funding to assemble a group of environmental experts to concentrate on solving West Point's energy and environmental needs. It would still involve garrison and academy leaders providing vision and oversight on projects, but not the all-consuming time and manpower required.

"I see the council as a conduit ... DPW still runs the energy program here, but the council can be a key contributor to how we can improve it," Plumley said.

Five of the six goals established by the West Point Energy Council reflect the Army-issued guidance for increasing energy security, the Army Energy Security Implementation Strategy. These five goals are:

- Reduced energy consumption;

- Increased energy efficiency across platforms and facilities;
- Increased use of renewable/alternative energy;
- Assured access to sufficient energy supply;
- Reduced adverse impacts on the environment.

As all participants are volunteers, Smith said there's still a lot of figuring out left on how to make the council successful in its objectives without overtasking people in a way that may negatively impact their regular duties.

"There's still a lot of motivation in the group, but we all understand how we're stretched thin for time," Smith said.

Part of that motivation stems from West Point's tradition of leadership. While other installations, universities and the nation as a whole have adopted green initiatives, it only makes sense for West Point to take the lead, rather than follow the course of others.

"West Point is driven by leadership; why not lead in energy and environmental security? And the question therefore for us is how are we going to do that, and what support do we need to do that?" Smith said.

The Sixth Goal

The Council added another goal which supports West Point's unique mission.

"The Army is becoming interested in finding ways to educate officers in the green way," Smith said.

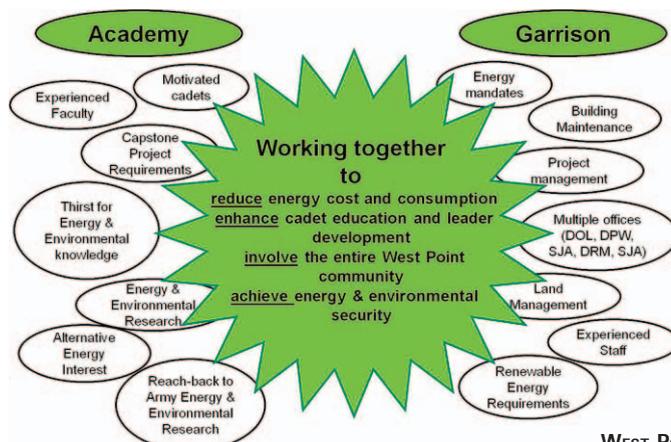
Where better, he thought, than West Point to provide that education to the future of the Army Officer Corps. The sixth goal, "Enhanced cadet education and leader development on energy and environmental security," focuses on meeting this interest.

"I think there's been a lot of movement in this area," Lachance said. "Certainly, I think we're touching a nerve with the Corps of Cadets, so that's a good start."

Under the umbrella of the West Point Energy Council, cadets have continued to conduct research and apply real world solutions to energy and environmental problems at West Point. Some of the projects are ongoing, and others have yielded moderate success.

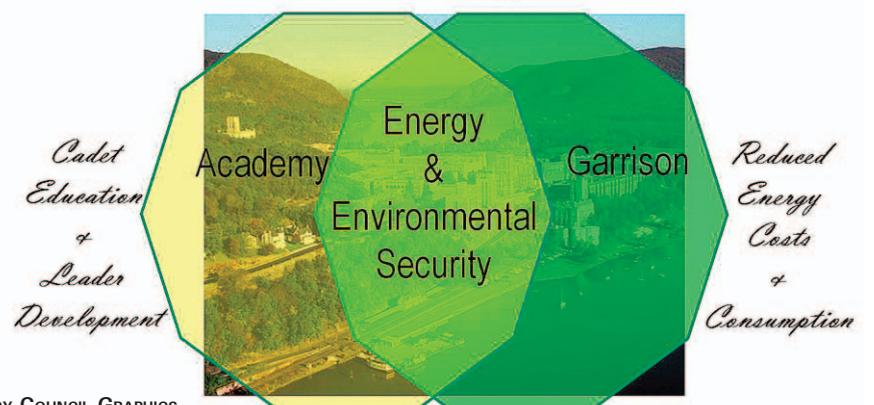
"We have the opportunity to provide cadets a real-world lab to do research, some of which can be implemented and others which is purely academic," Plumley said. "The cadets bring a lot of enthusiasm and excitement to the table, which is what we need ... and more than anything, that will help fuel the flame for the culture change we need at West Point and in the Army."

(Editor's Note: Part III of this series, scheduled for publication Dec. 2, will feature some of the energy and environmental-related projects that cadets are currently undertaking this semester.)



West Point's Energy Council combines Academy, Garrison efforts

West Point Energy Council



WEST POINT ENERGY COUNCIL GRAPHICS

Cadet projects promote a better West Point

Story and photo by Mike Strasser
Assistant Editor/Copy

By day's end, the stacks of brown binders on Lt. Col. Russ Schott's desk will tell the story of a semester's worth of labor for more than 100 cadets enrolled in the Systems Engineering 450 course.

But for now, deadline is several hours away and the pile is slim. With an appreciative laugh, Schott, the course director, said traditionally most cadet teams will wait until the last minute to submit.

It appears so. During the course of an hourlong conversation Dec. 8, the pile only begins to take shape, a physical representation of the accumulation of knowledge—and a real-world application of it—at the completion of the core systems engineering sequence.

The project linked 28 teams of cadets with clients throughout post to solve some of West Point's energy and environmental concerns. Some focused on the Corps of Cadets recycling program, electric metering and composting while others pitched viable controlled lighting solutions. The question of relocating or renovating the Water Treatment Plant fell on another two teams to resolve. Two teams tackled the issue of a commuter and shuttle system, with the hopes of one day providing a solution where people won't constantly be hunting down that elusive parking space.

Since the SE450 course introduced the Green Initiative projects three semesters ago, approximately 92 cadet teams researched problems, crunched all the numbers, analyzed the data, interviewed clients and subject matter experts and shaped all that into slide presentations, charts and tech reports to brief their best-case recommendations and implementation for the betterment of West Point.

Firstie Steven Convery, member of Robot Unicorns, figured 100 hours or more were dedicated to working on the project, or mastering the techniques involved in it; dividing time in class and outside researching and designing the project. Perhaps the easiest task from all of this was thinking up a team name, which they were given 30 seconds to choose. After that, Team Robot Unicorns went to work on recommending and implementing an electric metering plan for Thayer Hall.

"Our final solution brought in nearly the most value (energy saved) for a fairly low amount of cost," Convery said. "I think implementing our solution would help a great deal toward meeting the new government mandated energy savings."

The project allowed cadets to apply all the knowledge acquired from the three course sequence. Some acquired a little more environmental appreciation in the process.

Firstie Kate Priebe and her team recommended a cheaper and more efficient way to cover Victor Constant Ski Slope with snow using untreated water.

During the interview and research process, she was surprised that snow production wasn't monitored more effectively.

"One thing that surprised me about this project was how outdated West Point water usage is," Priebe said. "However, throughout this project it became evident that decision-making is solely based in research. A little bit of hard work and research is really what helped us gain insight into the water processes at West Point."

For most cadets, the project was simply a grade—actually a series of grades which added up to 90 percent of their final average.

"It's mostly about the grades," Firstie Josh Krieter said.



Coming up with a team name, Robot Unicorns, was the easy task. After that, cadets enrolled in Systems Engineering 450 spent a semester researching, analyzing and offering solutions to some of West Point's energy and environmental issues.

"We tried to make the best project we could, and if (the clients) are interested in using it, I hope they (will). I felt it was just a good practical application of the stuff we've been learning in systems engineering and a good culminating project."

Krieter worked the controlled lighting issue at MacArthur Barracks with his team, which would project a savings of more than \$400,000 over a decade by simply installing sensors and timers throughout the building.

A good idea, Schott said, and there's a lot of potential in backing a controlled lighting solution at West Point. Chances are, there's more than just one doable proposal within that growing pile of binders.

Col. Russell Lachance, for one, believes so. He served as the client for a team proposing to rebuild a sustainable Camp Natural Bridge with solar panels.

"This was the 'good idea' machine cranking in my head about trying to do that, and I still think it's a great idea," Lachance said. "To make a difference out there, now I've got to turn around, take what they gave me, add to it and develop a sales pitch."

After another cadet team presented a recommendation to house recycle machines in a prime location in Washington Hall, he responded promptly, "Show me."

"I really enjoyed listening to the cadet presentations, and they came up with some good ideas," Lachance said. "The goals that we set out to educate them and get them excited about recycling, I think we achieved that. I think we've launched into a pretty quick solution."

That may turn out to be a good news story for 2011, Lachance said, as details are currently being worked out with the Directorate of Cadet Activities.

Schott said one of the steps involved is establishing a concrete standard operating procedure for the recycling program.

"The hook is making cadets aware that they can make some money from recycling. That gives them the incentive to expand on that sustainability perspective," Schott said.

From a training perspective, the Corps of Cadets is a good place to get future Army officers thinking about reducing their carbon boot prints.

"I'm an environmentally-conscious individual, but I also don't go too far overboard with it," Convery admitted. "Over the course of the past four years, I think the Corps of Cadets has made strides toward becoming more environmentally

conscious."

Spending a summer at Google headquarters in Mountain View, Calif., became a practical lesson on environmental stewardship for Convery.

"One of the things I saw there is how going green isn't just great for the environment, but it can also be a major help to the bottom line," Convery said. "Ultimately, I think there will be a large part of society going green in the future."

With three iterations of Green Initiative-based cadet projects in the books, Lachance looks forward to seeing what future teams will propose.

"It seems like we're moving in the right direction," Lachance said.