

# Teens Take On Quest for Gas Car Alternative



Chris Torres, left, and Jay Wellman chase Alexandra Scherbl in Stapleton's Greenway Park. She is riding in a solar car that the three DSST seniors made as a senior project.

By Nancy Burkhart

Fill-ups at the gas pumps are depleting our wallets, and Mother Nature is complaining about how car emissions are affecting the ozone layer. While talks are taking place at government levels, three 18-year-olds at the Denver School of Science and Technology (DSST) in Stapleton have taken action with their senior project – designing and building a solar powered car.

Last year, DSST juniors were instructed to think about what they would do for their senior project. Most students went to work as individuals. But Alexandra Scherbl, Christopher Torres and Jay Wellman fell on an idea that would make them a team.

“Over the summer Christopher and I were in engineering programs, and Jay worked in a bike shop,” said Scherbl. “We all had an interest in engineering, so we got together.”

None of the DSST projects were given funds, so the team had to get creative about obtaining construction materials. The University of Colorado at Boulder donated a recumbent tricycle frame from last year's human-powered contest.

“We based our solar car design off of what we had as a frame,” Scherbl said.

“We were trying to figure out where the solar panels were going to come from,” said Torres. “One of our classmates has a neighbor who owns a solar panel company. The company loaned us panels.”

Wellman explained that the company, Starfire Energy, is a solar power consulting company that installs panels.

“Nobody gets a budget, so we borrowed the panels,” Scherbl said. “They (Starfire Energy) have helped us, giving us a lot of advice (and) watching our progress.”

The team started doing project research and obtaining materials in December. Physical work on the project began in late February.

“On the whole, the actual building took 10 weeks,” Scherbl said. “We first had the frame in Jay's backyard. We took off unnecessary parts, took off the rust and painted the frame. Then we worked in the school's fabrication lab.”

“It's a workshop. We have power tools and

welding tools,” Torres said.

“It (solar car) is finished,” Wellman said. “We had a couple of problems. It goes 18 mph for 25 to 30 minutes. Then the power exhausts until it has time to reaccumulate the charge from the panel. We could add more panels, but, since they're expensive, we have a lack of funds for that.”

“We could also add more batteries,” Torres said. “It could have a longer charge.”

The project was not readily accepted as doable by the team's friends and teachers.

“People told us that a solar project would be too big for us,” Scherbl said. “I think we proved to a lot of people that we could do it.”

While proving their abilities and intelligence, each member of the team has decided to go into mechanical engineering.

Next fall, Scherbl will be at Wesleyan in Connecticut. Wellman will attend the University of Colorado at Boulder, and Torres will study at Stanford University.

What will happen to the car?

“We still haven't really decided how we're going to do that,” Torres said. “Since we're all going to different colleges and have to give back the solar panels, we're thinking about donating it.”

Has such a stellar performance with a senior project upped the standards for next year's seniors?

“Most definitely,” said Wellman. “They kind of felt that a small project was more manageable. This solar car project gives the message to kind of do what you want.”

“It impacts interest because we've been working on it in the hallway, so a lot of students saw our progress,” Scherbl said. “A lot of other projects weren't as visible.”

“The project could be an individual one,” Torres explained. “Everyone was supposed to come up with an idea like writing a book or doing an analysis. We all were kind of individual in the beginning.”

“We had to write project proposals and we did a really good job explaining why we had to work with other people,” Scherbl said.

Along with the physical part of the project, each team member had to write a 10-13 page paper. Scherbl's was on solar energy. Wellman's was about the nation's sustainable energy policies vs. those of the states and cities. Torres focused on global warming and how solar powered vehicles could reduce our carbon footprint.

So, what did the team learn from building a solar car?

“I think it is just a big introduction for us in the engineering field – car designs, alternative energy designs, integration in technology,” Torres said. “It wasn't an invention kind of thing. It was learning.”

“The focus was on coming out with a new way to do something, not a new project, but a new way,” Scherbl said.

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