

CSU energy lab preps for \$16M expansion



Written by

David Young
DavidYoung@coloradoan.com

11:18 PM, Jul. 30, 2011

Affixed to Bryan Willson's computer monitor in his office at the CSU Engines and Energy Conversion Lab is a Post-it note that reads, "It's the funding stupid."

The note is a blunt reminder for the director of the engines lab in recent months that the lab's future is largely tied to donors' generosity for a planned \$16 million expansion.

Integral to such innovative companies as Envirofit, Solix Biofuels, Spirae Inc., VanDyne SuperTurbo and Woodward, the lab at 430 N. College Ave., is reaching its limits in terms of space.

This is evident upon entering the 15,088-square-foot building that is lined with shelves of stoves and a loud massive natural gas Caterpillar engine that generates 1.8 megawatts, enough power to run 1,200 homes.

"For nearly 20 years we have grown the

program so that we are almost out of space," Willson said. "This building was designed for large noisy equipment, not people."

As a result, the engines lab is in the process of adding 50,000 to 60,000 square feet to the south end of the building that would include classrooms, labs, offices and some of the most innovative renewable building designs around.

The aim is to create a new center called the Engine Innovation Center that will attract both national and international companies to Colorado State University and Fort Collins creating more jobs and companies.

Innovation Center

Expansion of the engines lab, which will be renamed the Energy Innovation Center, still is in the design and planning stages.

Sandwiched between the Cache La Poudre

Advertisement

**Protect Your Home
with ADT!**

ADT AUTHORIZED DEALER

**Click Here
to Learn More!**

River and railroad tracks with College Avenue to the west, the current lab does not have a lot of room to work with.

Solix BioSystems Inc., 430B N. College Ave., east of the building would be relocated to make room. Solix representatives could not be reached for comment by deadline.

The new building, which Willson described as "revolutionary," would be three stories with a basement and include innovative new building practices that pay homage to the lab's heritage.

The basement would be for classrooms and mechanical systems, the first floor for lab space, the second floor allocated to offices and the third floor would be dedicated to private companies.

Some of the renewable energy designs the plan calls for include vertically integrated wind turbines designed to look like the plant's original smoke stacks.

"We are trying to honor historical heritage of the facility and look at the original building," Willson said. "We don't have the choice to not do energy right, so we are really pulling out the stops in doing some very innovative things related to energy."

Other tentative plans include: solar panels, heat rejection components, geothermal cooling, advanced lighting controls and growing algae on the rooftop, which is what Solix specializes in.

The total cost of the project is \$16 million

including about \$2 million to renovate the current facility that would be connected to the new building.

By and large the funding has come from private donors, mainly companies that have benefited from the lab's work, Willson said. He cited the need for an educated workforce as motivator for some donors. Willson declined to disclose the private donors who have helped fund the project because he is waiting for a formal announcement this fall.

"This is not the way we normally build buildings," said Willson, referencing his Post-it note. "This is the new reality now."

The tentative timeline calls for starting construction in early 2012 and completing the project within 14 months. The hope is to have the building open in 2013, he said.

Once completed the new Energy Innovation Center is expected to attract more companies and drive more jobs to the region.

Advertisement

An advertisement for ADT security services. The top half features the text "Protect Your Home with ADT!" in a bold, serif font. Below the text is a dark, low-key photograph of a person's silhouette in a doorway, looking towards a brightly lit room. At the bottom left is the ADT logo, which consists of a blue circle with "ADT" in white, followed by the words "AUTHORIZED DEALER" in a smaller font. At the bottom right is the text "Click Here to Learn More!" in a serif font, with "Click Here" in a larger, bolder font and "to Learn More!" in a smaller font below it.

**Protect Your Home
with ADT!**

ADT AUTHORIZED DEALER

**Click Here
to Learn More!**

"I expect we will attract new companies. We are in discussions right now with a company out of state and international companies are very interested in looking here," Willson said.

The city is currently in the process of renegotiating the lease for the building to allow for the expansion.

"I think one of the best ways for our economy to grow is for it to grow through CSU activities," said Josh Birks, city of Fort Collins economic adviser. "I think it is great news."

Engines and Energy Conversion Lab

In 1992, the CSU engines lab leased what was then an old abandoned power plant from the city for \$5 a year, Willson said.

There was no heat, electricity or bathrooms and Willson said the task of getting the lab off the ground seemed overwhelming.

"At that time it seemed huge," he said. "We thought what would we do with a building this large?"

Today, companies line up to use the lab's space.

In the '90s energy was relatively cheap and no one else in the country was attempting to do what CSU was with such a lab, Willson said. In retrospect, said the lab was planting the seeds for the innovations that have since been spearheaded in the lab.

"It took a risk to make the building available," said Willson of the city's move to lease the building in 1992. "It could potentially drive economic growth. I think it has been quite successful at that."

CSU's Engines & Energy Conversion Laboratory is exploring the global energy challenges with new research. The lab's aim is to create novel energy solutions and entrepreneurial models to solve current energy issues.

The lab has helped nurture Northern Colorado as an energy leader both with businesses as well as the university, Willson said.

Birks said the engines lab expansion is a great thing for the community and indicative of where the community is headed.

"I think the engines lab has been a great economic asset to the community and it will continue with that tradition," Birks said. "From the city's perspective a lease

Advertisement



**Protect Your Home
with ADT!**

ADT AUTHORIZED DEALER

**Click Here
to Learn More!**

agreement allows for use of the building ... by and large I think it has been a great economic asset. It has brought several companies to the community."

Over the years it has taken millions of dollars in upgrades to make the building what it is today, which is a key to launching new products and new technology for companies such as Fort Collins- based Prometheus Applied Tech.

Luigi Tozzi, president of Prometheus, 2537 Research Blvd., was working in the lab last week where he tests his company's ideas and concepts. Prometheus specializes in combustion optimization for stationary natural gas engines via passive chamber spark plugs.

Tozzi said the Engines and Energy Conversions Lab is valuable, but the space and noise levels are not comfortable.

Often there is a waiting list of other companies to use the space he said, which is where the expansion would help.

The proposed expansion would provide Tozzi more infrastructure and space for assistance and support, he said noting it would also be more comfortable and accommodating.



 Purchase Image

 Zoom

Bryan Willson, professor of Mechanical Engineering at CSU and director the Colorado State University Engines and Energy Conversion Lab holds an artist rendition Tuesday of the planned expansions to the lab . CSU mechanical engineering graduate student, Kristen Naber, left, and Tim Vaughn, a Ph.D mechanical engineering student, work Tuesday to put together a vacuum chamber to which studies flat flames in the Mechanical Engineering Advanced Biofuels Combustion and Characterization Lab at the CSU Engines Lab. / Richard Haro/The Coloradoan

Advertisement

**Protect Your Home
with ADT!**

**Click Here
to Learn More!**

ADT AUTHORIZED DEALER

ENGINES LAB CONVERSION

- » Size: 50,000 to 60,000 square feet addition
- » Cost: \$16 million investment
- » Height: Three stories
- » Depth: One basement
- » Space: Labs, classrooms and offices
- » Name: Renamed the Engine Innovation Center
- » When: Anticipated opening 2013

More

Advertisement



**Protect Your Home
with ADT!**

ADT AUTHORIZED DEALER

**[Click Here](#)
to Learn More!**

Print Powered By  FormatDynamics™