

Goin' Green: Company aims to cut pollution

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A Windsor man and his business partner are taking renewable energy on a whole new ride.

Chris Turner, 37, of Windsor and his business partner Guy Babbitt have big dreams. The two are the founders of CZero, a startup company working with Colorado State University to develop a new engine kit aimed at helping developing countries reduce their carbon emissions.

Guy Babbitt and Chris Turner, of Windsor, work on an engine model that could help developing countries reduce carbon



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emissions.

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Turner and Babbitt are developing a new hydraulic engine that they want to retrofit onto city buses and other vehicles in places such as India, Singapore and the Philippines in hopes of increasing fuel efficiency and reducing greenhouse gases.

"I think everyone recognizes a lot of problems with foreign dependence on oil — energy is costly — and pollution is up," Turner said. "I don't think it matters what your position is on global warming. I think everyone would agree that cleaning up the environment can't be wrong."

Turner and Babbitt have both been in the business for a while now, formally working for Sturman Industries in Woodland Park. But they wanted to take the existing

technology and build on it. So last year they broke away from Sturman, and by Jan. 8, CZero was born.

The company just recently moved into CSU's Engine and Energy Conversion Laboratory and is working with the university's engineering department and Global Social Sustainable Enterprise Program.

In addition to the students from GSSE program, the men have signed on nine mechanical engineering students and four electrical engineering students who all receive college credit to help them in their venture.

"It was a little scary," Turner said about quitting his job with a wife and two children to care for. "But we decided it would not be any easier to do this later. We're both very employable if something did go wrong, but I don't think we ever thought we would fail. My partner and I are the most ambitious people we know."

The hydraulic engine kits that CZero is trying to develop work similarly to how a hybrid engine works. But instead of electricity, the hydraulic pump stores energy by way of pressure in accumulators instead of wasting the energy as heat through the braking system. The vehicle then uses that energy, instead of gas, when it accelerates again.

Turner equated that in a city bus to a 20 to 30 percent increase of fuel efficiency.

"In like a trash truck, you could see a 50 percent improvement in fuel economy," Babbitt said.

Though the technology isn't new, the application of it is, Babbitt said.

The problem, he points out, is that in developing countries around the world, people drive vehicles typically 15 years older than people in the United States. Those vehicles are often more polluting.

The hope is to introduce a kit that could be retrofitted onto those vehicles while making it cheap enough to be marketable.

"Our whole model needs to be sustainable without government subsidies," Babbitt said. "We need to get people to choose to do this. If you start to make vehicles 20 or 30 percent more efficient, you really can have a significant impact, you can start to add to the reductions of CO2 gases."

Though the kit would presumably have long-term cost saving measures, Babbitt said it's hard to convince people who already have a tough time making ends meet to spend more on their transportation.

This summer, Turner and Babbitt along and several of the students from CSU will travel to some of the countries the company is targeting to get a feel for what they want and how CZero could make it work.

The company is less than a year old but has the backing of not only CSU but the Rocky Mountain Innovation Initiative, a regional company incubator.

They hope to get their cooperative effort with CSU to a point where the college gets a share of the profits.

"We really want it to be a win-win situation for everybody," Turner said.

Of bringing the company to Fort Collins and Northern Colorado, Babbitt said it was the area's progressive thinking environment that made him decide to do it.

"Everyone is interested in seeing this technology," It's a great environment."

Though introducing a workable product to the market is years away, the company hopes to see

progress soon, with its short-term goal to drive a vehicle with the kit installed by the end of April, Turner said.

"Saving energy has a lot of meaning," Turner said. "Anything we can do to make the technology more efficient, that's our place. That's where we have most of our experience and where we enjoy this the most."