The ChallengeX Competition is a collegiate design competition sponsored by the Department of Energy, General Motors and a number of other sponsors. 17 Universities were given a stock 2005 Chevrolet Equinox to turn into an effective hybrid that reduces emissions, improves fuel economy and maintains or exceeds the performance and drivability of the stock vehicle.

This is a four year competition, Year 1 was modeling the drivetrain with computer simulations, Year 2 was the primary build, and Year 3 is a refining stage leading to vehicles that are 99% ready for the showroom floor. The format for Year 4 is being developed.

UT’s Strategy

UT Automotive Engineering prides itself on being a leader in both hybrids and alternative fuels.

Team Tennessee has chosen to use a through the road hybrid and a diesel engine running a B20 blend of biodiesel.

The stock Chevy Equinox is an all wheel drive vehicle so a through the road hybrid made the most sense.

The team has installed a 150 HP 1.9L turbo diesel. The diesel runs B20, a blend of 20% biodiesel, to help with emissions and well to wheel energy use.

To further help with emissions, the students are designing an advanced aftertreatment system that combines technologies to reduce unburned hydrocarbons, soot and NOx emissions.

By showcasing combinations of alternative fuels and hybrid technology, we hope to inspire a revolution in design. This is why we named our vehicle the Revolution X
Team Tennessee is composed of a faculty advisor, graduate student team leaders and seniors in mechanical and electrical engineering. Students work in teams to solve design problems.

Faculty Advisor: 
Dr. David Irick - dki@utk.edu

Team Leaders: 
Courtney Lindwurm - clindwur@utk.edu
Shaun Hinds - shinds1@utk.edu

For team or sponsorship information please email the team leaders or visit the website at apcsi.tennessee.edu