

# Electric Snowmobile: Sled-Necks, Tree-Huggers Unite

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Utah State University Electric Snowmobile

Eleven Utah State University engineering students designed and built an electric snowmobile that runs so clean the National Science Foundation will use it this summer to conduct research in Greenland's polar ice caps without polluting the sensitive area.

“When the technology improves and electric snowmobiles become more common, it could really make a big difference in cleaning up our nation's backcountry areas that are popular with conventional snowmobilers,” said Nathan Hansen, senior mechanical engineering student and team leader. “In fact, Yellowstone National Park donated the chassis of our snowmobile because they wanted to see where this research takes us.”

Hansen said the advantages of an electric snowmobile include zero on-

site emissions as well as a considerably quieter motor than a conventional snowmobile.

“Our snowmobile is clean and quiet and could really help cut down on air and noise pollution in areas where snowmobile use is common, especially for utilitarian purposes,” said Hansen. “Our snowmobile could easily get around a snowy town in Michigan.”

Utah State students won the best design award and the zero-emissions division in the seventh annual Clean Snowmobile Challenge in Michigan where they competed against 15 other schools. The Clean Snowmobile Challenge was started by the Society of Automotive Engineers as an effort to build environmentally friendly machines that will meet the 2012 federal emissions standards.

As a recreational vehicle, the electric snowmobile wasn't favored — the Utah State sled tops out at a speed of 20 miles per hour. But Hansen said there is hope for the future and, as technology grows, an electric sled could easily compete with a conventional sled.

SAE challenged students to take a stock snowmobile and re-engineer it to reduce emissions and noise while maintaining or improving performance. The snowmobile was one of only three electric snowmobiles to compete in the competition. Hansen said working on the project with a group of classmates has made the sled what it is today.

“Collaborating with a group improved the snowmobile because so many different viewpoints and ideas were brought together,” said Hansen. “Hands-on projects are so much better than sitting in a classroom. I have learned so much, and as a group we are having fun.”

For information on Utah State's electric snowmobile, visit [www.engineering.usu.edu/mae/projects/es](http://www.engineering.usu.edu/mae/projects/es).

Source: Utah State University

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