

# TENNESSEE GREEN STAR PARTNERSHIP MEMBER HIGHLIGHT



## Tennessee Tech University Industrial Assessment Center

By: Vaughn Cassidy

Tennessee Green Star Partners are leaders in sustainability. The mark of a true leader is to know when to seek the expertise of others. Launched in 2006, the Tennessee Tech University-IAC (Industrial Assessment Center) has provided many Green Star Partners and other businesses and institutions in the state with expertise in energy, productivity, and waste assessments. The TTU-IAC program has conducted assessments for six Tennessee Green Star Partners in the last two years, including Bates Rubber, Whirlpool, Bridgestone, La Z Boy, American Snuff, and Tuff Torq. Since the beginning of the program, the Tennessee IAC assessments have resulted in \$63 million in persistent savings and nearly 8 million BTUs (British Thermal Units) of energy savings.

The national IAC program is a Department of Energy funded network comprised of 32 universities across the country that provide services similar to TTU and is headed by Rutgers University. In addition to providing on-site technical assistance, the IAC's develop case studies, produce research, and provide training to the next generation of engineers and EHS managers. To qualify for an assessment, an industry must meet the following basic criteria, although exemptions can be requested:

- Fewer than 500 employees
- Gross annual sales of less than \$150 million
- Annual utility bills between \$100k to \$2.5 million
- No professional in-house staff to perform the assessment

"The assessment provides a tremendous suite of opportunities for industry," said Glenn Cunningham, PhD, P.E. IAC Director in the Mechanical Engineering Dept. Tennessee Tech University. "Our team makes recommendations from lighting upgrades to very technical suggestions like installing variable speed drives and capacitor banks to reduce overall power factor for the facility." The IAC teams are made up of engineering undergraduate and graduate students that are well trained and intensely focused on providing the most thorough assessment possible. That is why the commitment to the assessment must be from the facility manager to the employees on the floor for the best outcome. Students often spend an entire day or more in a facility and require access to employees and process managers with intimate knowledge of operations and procedures.

Beginning with a detailed application submitted by the company, the IAC team conducts a preliminary analysis, schedules a meeting and plant tour to gather data from equipment use and operations. They also conduct interviews with personnel and then have an initial debriefing at the end with plant management. The facility then will receive a report detailing the recommendations of the IAC team which will include suggestions on equipment upgrades or changes, operational changes and an energy

## FEATURED THIS MONTH:

- Established in 2006 by the US Department of Energy
- Completes average of 15 assessments a year
- Assessments are free of charge
- Confidential
- Assessed 6 Green Star Partners since 2018



La-Z-Boy provided a great learning experience for the IAC students.

Significant leaks in the compressed air system at Tuff Torq, a Tennessee Green Star Partner in Morristown, were discovered during the assessment. "The air leaks that were detected and repaired after the TTU assessment have been monitored mostly during shutdown periods and weekends to ensure they remain fixed," said Mike Haag, Corporate Social Responsibility Coordinator for the Morristown facility. "The TTU engineering group did a very good job with the monitoring phase, report and follow up." American Snuff Company in Memphis implemented several recommendations from installing LED lighting fixtures, to adjusting flue gas, to air ratios, and even installing a meter to measure how much water was being recycled and not going to the sewer. "There were several small things we were just missing out on," said Jaimie Bright, Lead Manager of the Environmental Health and Safety group for American Snuff. "The savings were well worth the effort."

"We only make suggestions and the information we gather is completely confidential," said Jeff Marchetta, Assistant Director for the IAC. Jeff is located at the University of Memphis. Jeff's IAC team conducts their own assessments or comes in to assist with large facilities such as La-Z-Boy in Dayton, a Tennessee Green Star Partner.

"Dr. Cunningham's team was extremely thorough and instrumental in properly assessing the state of energy consumption at the La-Z-Boy campus," said Cody Buell, EHS and Sustainability Manager for La-Z-Boy. "We were proud to have partnered with the Industrial Assessment Center to form a mutual relationship, fostering hands on learning for the students while getting a second look at our internal energy management practices. Their team was an asset to our location and provided valuable insight into efficiency improvements, big and small, that we could make that would improve our campus sustainability."

Tennessee industries are not the only ones benefiting from the IAC program. We employ students from electrical, chemical and civil engineering students, both undergraduates and graduate students, are paid for their efforts and gain invaluable hands on experience. They learn how to profitably manage an industry's energy footprint: saving money and benefiting the environment. The Office of Policy and Sustainable Practices and the TTU-IAC continue to work together to help the Tennessee Green Star Partners and other manufacturers in the state.

If your facility would be interested in having an assessment.

<https://www.tntech.edu/engineering/research/cmr/iac/>

***"Tennessee Green Star Partners are not just looking to save costs but to gain a competitive edge. By helping manufacturers reduce energy cost, the TTU-IAC program helps them become more competitive."***

***– Glenn Cunningham, PhD, Director of the Industrial Assessment Center, Tennessee Tech University.***



Compressed air leaks were detected and repaired during Tuff Torq's industry assessment.

The [Tennessee Green Star Partnership](#) is a voluntary environmental leadership program designed to recognize industries in the state that are committed to sustainable practices. If you are interested in joining other sustainable industries in Tennessee by becoming a member, please contact us.