

P2: POLLUTION PREVENTION

Tennessee Project Highlights



Did You Know?

Tennessee has over 300 food manufacturers. With high energy, water and wastewater needs, these facilities offer opportunities for pollution prevention as well as cost savings from these efforts.

This fact sheet highlights the pollution prevention achievements of three voluntary programs operated by the Tennessee Department of Environment and Conservation (TDEC) and the University of Tennessee with grant support from USEPA Region 4's Pollution Prevention Program:

- The Tennessee Green Star Partnership
- Tennessee Sustainable Spirits
- University of Tennessee Center for Industrial Services



Green Star Partnership

The Tennessee Green Star Partnership is an environmental leadership program facilitated by TDEC. The partnership recognizes Tennessee manufacturers that are committed to sustainability and exhibit continuous improvement throughout their operations, with the mission is to provide manufacturers with networking opportunities and current pollution prevention and sustainability information.

P2 RESULTS: During 2017 and 2018, manufacturers in the Tennessee Green Star Partnership reduced their energy use by 200,000 megawatt-hours, reduced greenhouse gas emissions by over 200,000 tons of CO₂ equivalents and prevented 450,000 tons of solid waste. The companies' sustainability practices also resulted in over \$38 million in cost savings.

ECONOMIC DEVELOPMENT:

This public/private partnership helps stimulate economic development in Tennessee by reducing operational costs for manufacturers.



Sustainable Spirits

Tennessee Sustainable Spirits is a new voluntary program from TDEC that seeks to reduce operational costs and environmental impacts for wineries and wine growers, breweries and distilleries as well as serve as a gateway to sustainability education through popular brands. Sustainable Spirits will help member companies improve their sustainability by promoting best practices, providing technical assistance and offering networking opportunities.

SUSTAINABILITY STEPS:

Participating companies complete at least 25 activities from the Sustainable Spirits checklist such as reusing industrial process water, using locally sourced materials and sustainably managing byproducts such as spent grain and crushed fruit.

ON-SITE REVIEWS: Applicants conduct a self-assessment using the Sustainable Spirits checklist and provide annual production and utility data. TDEC staff then conduct an on-site review to confirm the sustainability measures.



Food Manufacturing Technical Assistance

The University of Tennessee Center for Industrial Services has over 50 years of experience providing energy efficiency and wastewater technical assistance to its industrial customers. EPA's Pollution Prevention program leveraged this experience to provide a no-cost energy efficiency and greenhouse gas assessment to a food manufacturer. The assessment identified 20 opportunities for savings and greenhouse gas emission reductions through energy efficiency improvements and changes in wastewater operations, with a total potential cost savings of \$544,000 a year. Based on this success, EPA is now supporting assessments – with an additional focus on reducing chemical use – for another four food manufacturers.

RETURN ON INVESTMENT:

The Center for Industrial Services identifies projects with a high return on investment (a payback period of less than three years) because these projects are the most economically-feasible and offer the greatest financial value to companies. In the 2017 assessment supported by EPA, the nine most-promising projects had a payback period of less than two years, with a total cost savings of \$515,000 a year.

Pollution Prevention Across the State

These three voluntary programs are helping Tennessee's manufacturers and food-and-drink makers become more environmentally and economically sustainable.



By the Numbers

Tennessee Green Star Partnership – 2017 and 2018



\$38 million
dollars saved.



198 million
kilowatt-hours of
energy saved.



325,000
tons recycled.



644 million
gallons of
water saved.



451,000
tons of waste
prevented.



446
tons of air pollution
prevented.

Tennessee Sustainable Spirits

During its launch phase:

- Initiated private-public partnerships with the Tennessee Farm Wine Growers Alliance, the Tennessee Craft Brewers Guild, the Tennessee Distillers Guild, three breweries, two wineries and two distilleries.
- Worked with five initial members to document over 100 sustainable actions implemented through the program's checklist and on-site evaluations. Utility usage and production data reported by the members will be used to monitor their P2 achievements.

Food Manufacturing Technical Assistance

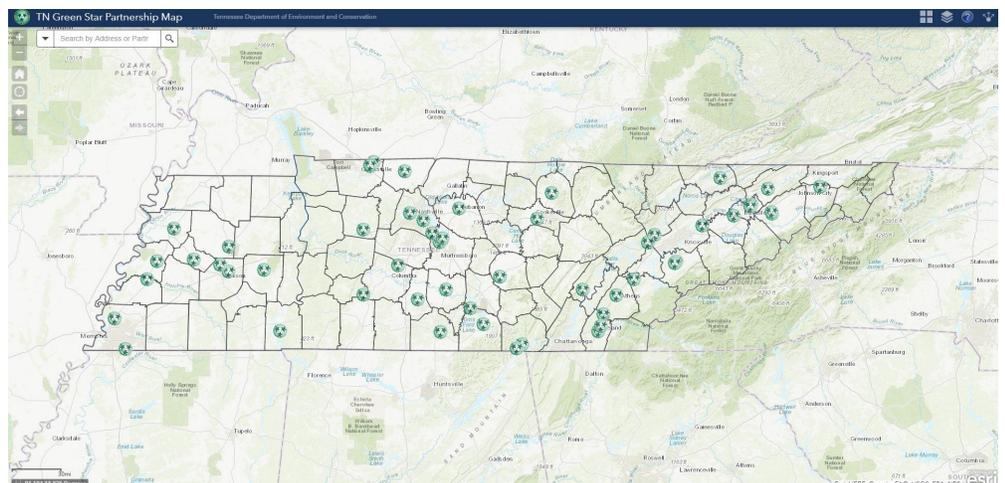
Twenty projects to improve energy efficiency, reduce carbon emissions and improve wastewater operations.

Nine highlighted
projects with a
**return on
investment of 56%.**



4,471 tons
of CO₂ emission
reductions.

The Tennessee Green Star Partnership's interactive online map allows manufacturers to find information about other Green Star Partners. To date, 53 manufacturers from across Tennessee are participating in the partnership.



Resources

Tennessee Green Star Partnership

www.tn.gov/environment/program-areas/opsp-policy-and-sustainable-practices/

The website summarizes the benefits of being a member of the partnership and provides an interactive map with information about member companies.

Tennessee Sustainable Spirits

www.tn.gov/environment/program-areas/op-sp-policy-and-sustainable-practices/

The website provides information on program highlights, how to apply and a sustainability checklist.

Catalyst Newsletter

www.tn.gov/environment/program-areas/op-sp-policy-and-sustainable-practices/

This publication from TDEC's Office of Policy and Sustainable Practices highlights the voluntary sustainability efforts of public and private entities in Tennessee.

University of Tennessee Center for Industrial Services

www.cis.tennessee.edu/energy-efficiency-environmental-management

The website describes the Center's diverse services, including its focus on energy efficiency and environmental management.

“EPA's Pollution Prevention Grant has allowed the Tennessee Department of Environment and Conservation to develop a number of programs which work with industry across Tennessee to share best practices and support the adoption of pollution prevention, sustainability and energy conservation measures. As an approach, pollution prevention is an incredibly important way to balance economic growth and output while protecting our environment.”

- Matt Taylor
Senior Policy Analyst, TDEC Office of Policy and Sustainable Practices

“Since 1987, the University of Tennessee Center for Industrial Services has provided environmental technical assistance to its industry customers. Grant opportunities like these from EPA help us identify profitable opportunities to reduce greenhouse gases, help industry conserve natural resources, help industry reach their sustainability goals, and help the Center meet our public service mandate to provide consulting and training programs to industry.”

- Keith Ridley
Program Manager, University of Tennessee Center for Industrial Services

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For more information:
EPA Pollution Prevention www.epa.gov/p2