

## Reducing Our Carbon Footprint – and More

A common purpose to mitigate the impact of human activity on climate change unites governments, organizations, and individuals around the world. As the President's Commission on Carbon Neutrality (see box) creates a road map for the University of Michigan, the Tauber Institute produces graduates with the expertise to make significant contributions to sustainability efforts, including reducing carbon emissions, at organizations throughout the United States and beyond.

Applying their expertise in operations management is a hallmark of the Tauber student experience. For more than 25 years, Tauber Team Projects have provided students with the invaluable opportunity to address complex, real-world issues, and sponsor companies with teams grounded in both the business and engineering components of manufacturing.

Increasingly, issues that have an impact on climate change are taking priority: How do we reduce the use of water in our manufacturing process? How do we cut levels of greenhouse gas emissions in our processing lines? Larry Seiford, Goff Smith Co-Director of the Tauber Institute, notes that, "In the early days, many projects were manufacturing-focused and addressed problems found within the four walls of the plant. Today's focus on global operations opens up possibilities for the entire supply chain. This coupled with an increased awareness of environmental impact has not only refocused their emphasis but increased the impact manyfold."

Like the PCCN at U-M, many of our sponsors have departments or initiatives dedicated to environmental and sustainability issues, and they publicly commit to measures that will reduce their carbon footprint. A sampling of Tauber Team projects over the last few years demonstrates some of the innovative approaches to the complex, multi-faceted challenges facing organizations.

In 2015, The Boeing Company brought in a Tauber Team to jumpstart a zero waste-to-landfill initiative at the 777X Composite Wing Center under construction at the time. The plan included determining the types and volumes of carbon fiber waste; creating a collection and segregation process; and piloting current and future reduction and recycling opportunities through both internal and external markets.

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### President's Commission on Carbon Neutrality (PCCN)

In early 2019, the University of Michigan President Mark Schlissel established the President's Commission on Carbon Neutrality (PCCN). The work plan states that, "The PCCN's ultimate goal is to contribute to a more sustainable and just world by creating approaches and solutions regarding U-M carbon emissions that are sustainable (environmentally, socially, and economically), involve the regional community, and can be scaled and replicated beyond the university." Going beyond U-M's current goals to cut greenhouse gas emissions, the PCCN has a scope that includes carbon emissions and sequestration; energy sourcing; technology development and policy change; physical facilities, operations, and mobility; and behavioral change. PCCN issued an interim progress report in June; the final report due by the end of 2020 will include reports and recommendations from the wide range of analysis teams that comprised the commission.

## Reducing Our Carbon Footprint – and More *(continued)*



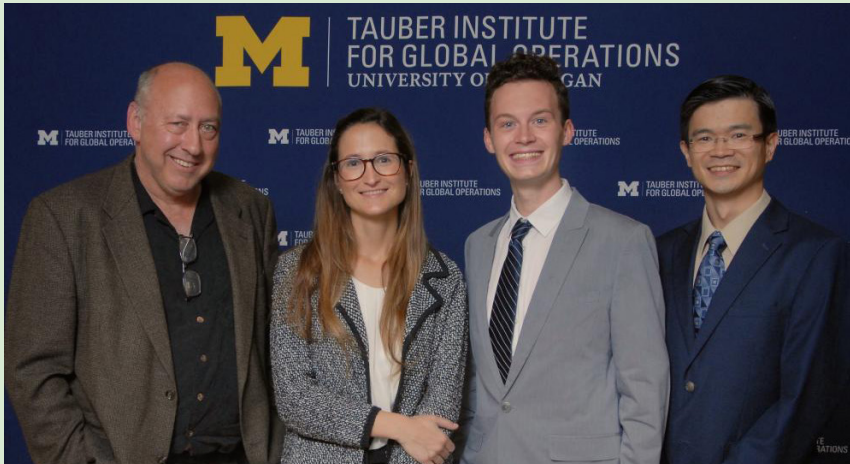
Verizon Wireless challenged its 2015 Tauber Team to improve efficiency in the cartonization process used to ship roughly 20 million cartons per year. Implementing the teams recommendations, which included standardization of distribution center processes, was projected to save 5% in shipping costs and reduce the number of boxes used annually by an equivalent of 2,200 trees.

Dow Chemical began developing sustainability goals more than a decade ago. In 2016, they turned to a Tauber Team to evaluate opportunities for further reductions in transportation CO2 within its global supply chain. The team delivered a three-tiered strategy that included comprehensive communication with external stakeholders on the need to address transportation emissions; measurement and active management of Dow's CO2 emissions footprint; and external activities that Dow could leverage to drive and promote emissions reduction initiatives.

In 2017, Dell Technologies presented a Tauber Team with the challenge of developing an Asia-based ocean plastics supply chain for product packaging, designed to significantly reduce the total landed cost of ocean plastic by 73% over the current state. The Tauber Team's solutions included reducing manufacturing costs by \$350,000 in one year by co-locating manufacture of the packaging with sourcing. The project earned Dell a spot on Fortune magazine's 2017 list of 50 companies that are changing the world. Dell's 2019 Tauber Team developed strategies to scale production of Pollution Ink—which uses harmful PM2.5 black carbon harvested from fossil fuel emissions—as pigment, thereby keeping it out of the ecosystem. They also developed an innovation incubator for suggestions for new sustainable solutions that can be used by any team or individual at Dell.







At PepsiCo, the 2018 Tauber Team recommended system modifications projected to yield both cost savings of \$660,000 annually and environmental benefits at a Gatorade plant in Atlanta, while the 2019 Tauber Team performed a technical and financial feasibility analysis for more than 600 sites across the US and Canada to identify attractive solar projects. The 2020 PepsiCo Tauber Team has already created savings at the Dallas Gatorade plant by implementing water projects, and they developed a plan for future initiatives by mapping water usage, analyzing process data, engaging with technical stakeholders, and modeling future water use projections.

This year, Anheuser-Busch InBev brought in a Tauber Team to advance progress on meeting their 2025 sustainability goals by addressing issues in their global barley supply chain: identify technological solutions that will result in a higher percentage of the barley meeting ABI's quality standards, thereby reducing waste.

Stoneridge brought in a Tauber Team this year to create value and eliminate waste in the production of MirrorEye, its innovative Camera Monitor System. The team developed Value Stream Maps to increase process visibility, and they examined logistics and plant operations for opportunities to create long-term value and improve sustainability for Stoneridge and its customers.

The fundamental drive to improve efficiency and effectiveness is at the heart of operations management. As these Tauber Team projects demonstrate, it is a critical discipline in the quest to reduce the impact of human activity on climate change and to achieve a broad range of sustainability goals.

