Daimler Trucks North America, Mt. Holly, NC – 50001 READY

BACKGROUND

Daimler Trucks North America LLC (DTNA), headquartered in Portland, Oregon, operates multiple manufacturing facilities in the United States and Mexico. Collectively, these plants produce heavy-duty trucks and buses, engines, chassis, and cabs under the Freightliner, Western Star, Thomas Built and Detroit nameplates. As part of their Environmentally Conscious Operations (ECO) and 2030 Green Production Initiative, DTNA is committed to shrinking the environmental footprint of its operations. The initiative focuses on using resources (air, water, and waste) sustainably and investing in renewable energy and efficiencies.

DTNA has been proactive in sustainability for several years: its headquarters building in Oregon is certified under the global Leadership in Energy and Environmental Design (LEED) program, while many of the plants have received state environmental awards (including Mt. Holly Truck Manufacturing Plant (TMP)) and all are certified to the ISO 14001 standard for effective environmental management systems. The company's Green Production Initiative has also established key performance indicators to quantify progress toward its main energy goal of 33% reduction per vehicle compared to its 2013–2014 energy baseline by 2030.

To achieve its 2030 goal, DTNA saw the opportunity to upgrade its internal mechanisms for improving energy management. Mt. Holly TMP now reports strong benefits from its certification to the global ISO 50001 standard for energy management systems and the U.S. Department of Energy's (DOE's) Superior Energy Performance 50001 (SEP 50001) program—including ongoing energy improvements, benchmarking, and sharing best practices with other manufacturing plants.

DTNA decided to make its 41-year-old Mt. Holly plant in North Carolina the test case for ISO 50001 and SEP 50001. All plants began using 50001 Ready and the 50001 Ready Navigator tool as a foundation for setting up robust energy management systems, and Mt. Holly began preparing for the independent, third-party audits required for certification.

"With SEP 50001, our energy works harder, which makes our plant more productive, competitive, and sustainable."

– Craig Redshaw,
General Manager, Mt. Holly

Daimler Trucks North America LLC (DTNA) achieved 50001 Ready recognition in January 2021. *Photo credit: Daimler Trucks North America*

Mt. Holly achieved its SEP 50001 certification in early 2020 (certification to ISO 50001 is a requirement) and received Platinum-level DOE recognition in late 2020. The nearly 640,000 square-foot facility primarily produces Freightliner trucks, and implementing an SEP 50001 certified energy management system helped improve energy performance more than 19%, saving $300K per year. As with past sustainability initiatives, plant employees (880 as of December 2020) actively contributed to the plant's success in achieving both certifications and recognition.

SOLUTIONS

- **Sustainable savings enable sustainable operations.** DTNA recognizes that an economically sustainable approach is required to achieve its long-term goal of carbon neutrality. DTNA's SEP 50001 energy management system is producing the continuous cost savings needed to enable increased investment in renewable energy and energy efficiency.
- **Experience with ISO standards.** Mt. Holly TMP was already certified to ISO 9001 and ISO 14001, so its prior experience with the ISO process was helpful. The energy team found they could adapt some existing corporate and plant-level documents for environmental management to address up to half of the documentation requirements for energy management systems.

- **Energy Team.** Even before the energy team was officially formed, the plant manager, supervisors of maintenance and paint facilities, and plant controller served as a de facto energy team. Their work caught the attention of DTNA's corporate energy manager, which is why Mt. Holly was selected to initiate the process. The inclusion of the procurement specialist on the energy team provided critical skills to run regression models, validate savings, and determine returns on investment (ROI), including emissions, environmental stewardship, and cost savings—even as the production mix was changing.
- **Credentialed Consultants.** DTNA initially hired a consulting firm, which successfully helped Mt. Holly map its energy use, apply the 50001 Ready Navigator tool, and prepare for the energy management audits. In response to new challenges in 2020, the company began using North Carolina-based Advanced Energy Corporation (Advanced Energy) through the strategic energy management (SEM) program funded by TMP's electric utility, Duke Energy. Both the initial consultants and Advanced Energy employ experienced experts certified as 50001 Certified Practitioners in Energy Management Systems (50001 CP EnMS). This credential lets manufacturers know that the consultants possess the skill and specialized training required to set up systems that will capture the greatest savings and sustain those savings over time in today's market.
- **Training.** Advanced Energy's local connections and awareness helped DTNA connect with energy management training opportunities available through Duke Energy and in-state universities. The company obtained funding from Duke Energy to get training/assistance for four other facilities in the state; these plants participated in eight webinars over a six-month period covering the 50001 Ready Navigator tool.
- **Other networking activities.** The North Carolina Department of Environmental Quality (DEQ) has a voluntary stewardship program that promotes energy management in about 40 industries. Mt. Holly TMP meets with this group quarterly to share resources, successes, and information and has been a Partner level member since 2017.
- **Focus areas.** Mt. Holly achieved significant savings by improving operating procedures for its HVAC, lighting, compressed air, and automated precision painting systems.
- **Time investment.** The process itself took approximately one year, building on the improvements in energy efficiency the plant had achieved over the previous three to four years.
- **Certified Verification Body.** To conduct the rigorous audits required for certification, DTNA hired DEKRA, a fully accredited verification body for SEP 50001, ISO 50001, and other global standards.
- **Platinum recognition.** After achieving SEP 50001 certification, Mt. Holly submitted the SEP 50001 Scorecard Declaration, a spreadsheet describing its specific improvements in energy performance and the actions, processes, procedures, or advanced technologies implemented beyond those required by ISO 50001 and SEP 50001. Based on the completed scorecard, DOE determined that Mt. Holly had earned more than the 75 points needed to qualify the plant for Platinum-level DOE recognition—designating the highest level of sustained excellence through an energy management system.

BENEFITS

Prior to implementing ISO 50001, Mt. Holly TMP had already undertaken a range of analyses and projects to improve the plant's energy efficiency and reduce costs. The new energy management infrastructure helps make sure that these savings will continue and grow. In addition, the new certifications elevate industry and customer awareness of DTNA's multi-level commitment to sustainability.

KEY TAKEAWAYS

Mt. Holly's implementation of SEP 50001 produced tangible and intangible benefits. In addition to capturing $300k initial cost savings, Mt. Holly TMP formally added an energy component to its decision-making process, elevated employee awareness of energy usage, and increased employee engagement in finding new opportunities for energy savings. While the system supports the company's long-term sustainability and carbon neutrality goals, it also highlights the positive outcomes from recent projects. This awareness of immediate benefits has expanded the focus of energy projects to include practical, lower-cost solutions that quickly add up to greater savings. Mt. Holly's energy team credits 50001 Ready for providing the tools - specifically the guidance and resources found in the 50001 Ready Navigator - that facilitated the journey to ISO and SEP certification.