



Environmental Stewardship Awards

GM Powertrain Toledo Plant

In 2009, GM Powertrain Toledo Plant received a Governor's Award for Outstanding Achievement in Environmental Stewardship. The award recognizes Ohio companies and organizations committed to environmental compliance and reducing pollution.

The GM Toledo has been in operation since 1916 and in its current location since 1956. The site has produced more than 63 million transmissions for a variety of vehicles in its history. GM Toledo production and support activities occupy approximately 2.2 million square footage of building space on 156 acres of property. GM Toledo currently employs approximately 1,000 employees.

Commitment to Environmental Stewardship

GM Toledo was certified to the ISO 14001 standard in 2000. The environmental management system (EMS) provided the foundation required to achieve the environmental performance improvements seen at the site. The formalization of an EMS has strengthened environmental performance and improved environmental awareness.

The Drive-to-Zero program was developed as a voluntary commitment to minimizing the impact of site operations on the environment and is part of General Motors Environmental Principles. The Drive-to-Zero Program has resulted in measurable and intangible improvements in environmental performance.

Energy consumption has declined 70% since the inception of the site's energy conservation program in 2002. Air emissions (CO₂ and NO_x) have declined 43% since 2005 as a result of energy conservation activities. Water emissions have also decreased with the elimination of stand-alone machining operations as part of the new 6-speed rear wheel transmission operation. Wastewater pretreatment discharges to the POTW have declined by 56% since 2005.

Non-recycled waste has been reduced by 62% since 2000 as a result of the Drive-to-Zero Program and is rapidly approaching zero. Hazardous waste generation has also declined by 69% since 2005. The Drive-to-Zero program has resulted in annual cost reductions of \$10,000,000 compared to 2005.

Resource Conservation

The site has a resource management program in place with the sole purpose of focusing on waste and by-product management. The on-site resource manager reviews all waste and by-products generated and operates under the pollution prevention hierarchy.

The resource management program has helped GM Toledo to achieve zero-landfill status and significant reductions in non-recycled waste, with cost reductions of more than 10% since 2005. In 2008, approximately 97% of all waste materials were directed into recovery and recycling activities. GM Toledo also uses landfill gas in lieu of natural gas and/or fuel oil in two of its boilers.

GM Powertrain Toledo Plant is recognized for:

- Implementing a Drive-to-Zero program with a long-term goal of no negative environmental impacts on the community
- Annual cost reductions of \$10,000,000 compared to 2005
- Reduced raw material consumption by 60%
- Reduced energy consumption by 70%
- Reduced non-recycled waste by 62%

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In partnership with DTE Energy, an energy conservation engineer is on staff to identify and assist with energy conservation initiatives. The energy conservation engineer has established an energy conservation committee to implement energy conservation initiatives. A key piece of the energy conservation program is equipment shutdown during non-production periods. Energy shutdown placards have been developed and posted for each piece of equipment to ensure employees have a clear understanding of how to correctly shutdown equipment. Shutdown audits are conducted at the end of each production period or beginning of each non-production period to ensure that equipment has been shut down as planned. The energy conservation program has resulted in substantial energy consumption reductions and cost reductions by 55% since 2005.

GM Toledo's chemical management program has resulted in decreases in raw material consumption by 60%, wastewater effluent by 56% and more than a 50% reduction in related costs since 2005. In the past, cleaning products were purchased in 5 gallons pails and gallon jugs that were mixed in squirt bottles with water. Empty containers generally went in the trash. Today, GM Toledo purchases a line of products referred to as "Just Add Water System" (JAWS®). Small dispenser cartridges are purchased that fit into pre-labeled squirt bottles. The squirt bottles are re-used and the only waste is the small dispenser cartridge. This has also reduced the amount of product used since the dispenser is pre-measured.

Design for the Environment

Design for the Environment (DfE) activities included transmission design and component evaluation, chemical material evaluation, equipment design and building design. GM Toledo initiated a "get the lead out" for all Powertrain products. Today's transmissions contain no lead components or chromium VI plated components; resulting in the elimination of hazardous waste generation at the site and an improvement in the ease of recycling vehicle components at the end of the product life cycle.

A chemical material evaluation process allows GM Toledo to screen out materials that would result in toxic chemical releases, VOC emissions, hazardous waste, non-recyclable wastes and materials that are incompatible with the wastewater pretreatment process. As part of the new 6-speed rear wheel transmission operation, new equipment was designed to release zero air emissions and operate with a closed loop machining fluid system. The system also uses a "flat floor" design, significantly reducing the possibility of subsurface contamination in the event of a system leak. Fluid consumption for the previous transmission operations averaged 0.84 gallons/unit; the 6-speed operations average 0.30 gallons/unit, an improvement of more than 60%.

Finally, construction of the new transmission operation allowed for the installation of a storm water retention system beneath a new parking lot and a bio-infiltration swale. In the past, storm water run-off would have been routed directly to the City of Toledo's storm water sewer or to GM Toledo's on-site retention pond. A new bio-infiltration swale and wildflower meadow also support additional wildlife habitat.

For more information

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If you would like additional information about Ohio EPA's environmental stewardship award program, contact the Office of Compliance Assistance and Pollution Prevention (OCAPP) at 800-329-7518, or visit OCAPP's website at epa.ohio.gov/ocapp/ohioe3.aspx.