



Maryland  
Green Registry  
**MEMBER**

*The Maryland Green Registry promotes and recognizes sustainable practices at organizations of all types and sizes. Members agree to share at least five environmental practices and one measurable result while striving to continually improve their environmental performance.*

## GM Baltimore Operations Plant



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Automotive Manufacturer  
Member since October 2009

### Management and Leadership

#### Environmental Policy Statement

*The GM-Baltimore Operations Environmental Policy is endorsed and authorized by the Plant Manager. This policy is relevant to the nature, scale and environmental impacts of the activities, products or services at the facility and is consistent with GM Corporate Environmental Principles and ISO 14001:2004 as described below:*

*As a responsible corporate citizen, GM-Baltimore Operations is dedicated to protecting human health, natural resources and the local and global environment, in accordance with the Environmental Principles of General Motors. This dedication reaches further than compliance with the law to encompass the integration of sound environmental practices into our business decisions. This Policy is based on the integration of risk-based cost-effective management practices into site activities with the aim of continually improving environmental performance.*

*The site is committed to assess the environmental impacts of its activities and products to base its environmental management programs, and to reduce these impacts through the establishment of appropriate objectives and targets. In particular, GM-Baltimore Operations will strive to achieve the following objectives through continued execution of our Environmental Management System's Policy:*

- 1. Comply with all applicable environmental laws and regulations, and other requirements.*
- 2. Assign management responsibility for the environment in all areas of the facility and ensure that all employees are aware of their individual*

*responsibilities for acting in accordance with this policy, while providing effective information and training to encourage individuals to contribute effectively toward our goal of continual improvement.*

- 3. Implement effective pollution prevention practices in accordance with a hierarchy giving top priority to waste prevention at the source, elimination or reduction of wasteful practices, and recycling.*
- 4. Maintain good communications with our local community and cooperate with legislators, regulators and other organizations with an interest in our environmental performance.*

*The policy provides the framework for setting and reviewing GM-Baltimore Operations environmental objectives and targets. The policy is reviewed periodically by the Plant Staff, communicated to all persons working for or on behalf of General Motors Baltimore Operations and available to the public as specified in the Environmental Communication procedure.*

**Annual Goals**

*Annually, the GM Baltimore Operations Environmental staff and plant management set environmental goals or objectives to achieve. The objectives for 2011 and 2012 included reducing energy consumption by 5% compared to previous year levels, develop and implement environmental projects that promote sustainability and environmental outreach, and increase the amount of materials being recycled by 50% to an overall plant wide percentage of 60%. Methods to achieve the objectives and targets are set and reviewed monthly with the Plant Management to discuss progress.*

**Environmentally Preferable Products and Services**

*Starting in 2013 the facility will manufacture electric motors a core technology for hybrids and electric vehicles.*

**Environmental Restoration or Community Environmental Projects**

*In 2011, Baltimore employees helped local 5<sup>th</sup> graders plant over 200 Maryland native trees on our grounds to enhance our Wildlife Habitat. The 5<sup>th</sup> graders also got a lesson on dumpster diving to sort recyclable materials and brainstorm ideas for reusing materials.*

*In 2011, the Baltimore Operations facility achieved Wildlife Habitat Council Wildlife at Work certification for the work done with local school children and enhancing the wildlife habitat around the plant grounds by planting over 200 native trees and shrubs.*

*With the help of GM Baltimore Operations employees, the Baltimore plant partnered with a local boy scout troop to build bird houses for the habitat area to protect eastern bluebirds. The Boy Scout troop learned about protecting wildlife habitat while earning a carpentry badge.*

*In 2011, GM Baltimore Operations started their own GM GREEN program. The GM GREEN (Global Rivers Environmental Education Network) program engages plants, partners, educators and young people to clean up America's rivers. GM employees became volunteers in 2011 and 2012 to work alongside EarthForce and BioEyes our local environmental partner to help Baltimore students protect rivers, lakes and streams. To date, GM Baltimore Operations Employees have volunteered to teach 200 middle school students from Baltimore City schools about water quality testing such as pH, nitrates, phosphates and fecal coliform in addition to looking for macro invertebrates in local streams as an indicator as to how healthy the stream is.*

*In 2012 GM Baltimore Operations employees worked with the National Aquarium in Baltimore to assist in the rehabilitation of various species of sea turtles recovered by the New England Aquarium. Employees also participated in local stream water quality testing with local elementary school students as well as work with Morgan State University students and Blue Water Baltimore to help clean various waterways in the Baltimore area.*



**Independently-Audited Environmental Management System**

*GM Baltimore Operations is ISO 14001:2004 compliant.*

**Waste**



**Solid Waste Reduction and Reuse**

*Since 2007, GM Baltimore Operations has achieved landfill free status and produced no non-recycled waste. This means that all wastes generated from manufacturing processes are not disposed of by landfill. The wastes are eliminated by reducing the amount of materials used or changing processes, reused on site, returned to suppliers for re-use, recycled off-site or recovering energy from unneeded materials. For example, in 2011, the plant returned 2,185 tons of containers to our vendors for re-use. The plant has also installed an ultra filtration unit that filters wastewater and discharges it to the sanitary sewer rather than sending it off site for treatment. This has reduced the amount of wastewater being sent off site for treatment by 90% at a cost savings of \$100,000 per year.*

**Recycling**

*Since 2007, GM Baltimore Operations has produced 0 kg of non-recycled waste. Since May 2011, GM Baltimore Operations has implemented a single stream recycling program that has reduced the amount of materials going to waste to energy by 78% sending 57 tons of cardboard, aluminum cans, and plastic to be recycled. In 2011, GM Operations recycled: 63 tons of wood pallets, 15 tons of general plant compactor waste, 13 tons of sludge from filters, 127 tons of used oil, 58 tons of wastewater, 9 tons of empty drums and totes, 3 tons of office paper, 282 tons of steel chips, 187 tons of aluminum chips, and 131 tons of scrap steel, aluminum and other metal. In CY 2012 GMBO recycled 79 tons of wood pallets, 57 tons of general plant compactor waste, 27 tons of sludge from filters, 165 tons of used oil, 51 tons of wastewater, 2 tons of empty drums and totes, 2 tons of office paper, 252 tons of steel chips, 204 tons of aluminum chips, and 173 tons of scrap steel, aluminum and other metal.*

**Hazardous Waste/Toxic Use Reduction**

*GM Baltimore Operations eliminated the purchase of aerosol cans, which are disposed of as a hazardous waste when empty, and are using products that can be bought in bulk and utilized in reusable spray bottles. So far, Baltimore Operations has reduced the disposal of aerosol cans by 16% and saved \$3,200 per year.*

**Energy**

**Energy Efficiency**

*GM Baltimore Operations has implemented the following initiatives to reduce energy consumption: utilize an Energy Management System to turn on and turn off plant lighting during non-production times and have maintenance turn on only the lights they need during down time, reduce electric use during down time hours and weekends by shutting off equipment and reducing air compressor settings, eliminate unnecessary lighting, utilize a real time electric meter to monitor energy use at all times, shutdown air handling units and chillers when possible and shut off outside perimeter lighting. In 2011, GM Baltimore installed more energy efficient plant lighting throughout the entire plant for a savings of \$87,000 per year and 1.3 MWh.*

**Renewable Energy**

*In 2011, GM Baltimore Operations installed 5,376 solar panels on the roof of its manufacturing facility. The rooftop solar panel array has the capacity to generate 1.23 Megawatts of energy and generate about 9% of the annual energy consumption of the facility. This project will save \$330,000 over its lifetime and*

will offset 1,103 metric tons of carbon dioxide from entering the air per year – equivalent to the emissions from 216 passenger vehicles.

In addition to the rooftop solar array installed, GM Baltimore Operations also installed a solar powered vehicle charging stations at both the A1000 and new E-Motor building. The solar charging systems were installed to allow employees and visitors to charge their Chevrolet Volts. The system is also designed so that it can charge other vehicles such as the Nissan Leaf. When the charging system is not being used to charge Volts, the solar array will back feed electric power into the plant. The amount of power generated by the array is approximately 9 kilowatt hours.

Plans are currently being reviewed to install a solar array on the roof of the new E-Motors facility but a timeline has not been finalized as of the start of 2013.

## Water

### **Water Conservation**

GM Baltimore Operations has implemented the following water conservation initiatives: reduce fire hydrant flushing saving 150,000 to 200,000 gallons of water per year, eliminate irrigation of landscaping, reduce cafeteria water and minimize process water use. The new E-Motor facility has been fitted with low flow flush valves to reduce the amount of water used in restroom operations.



## Other

- The GM Baltimore Operations Plant was awarded the Maryland Green Registry Leadership Award in 2010 and 2012. In 2009, the plant was awarded the Green Leadership in Business Award by the U.S. Green Building Council, Maryland Chapter. In 2011, the plant received first place in the Green Products/Services division from the Baltimore Business Journal and also received Wildlife Habitat Certification for the Wildlife at Work program from the Wildlife Habitat Council.



**Profile Updated January 2013**



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