

# Metro Motors Collision

## GreenWrench Technical Assistance Case Study

### Overview

The GreenWrench Technical Assistance Program (GreenWrench) provides free pollution prevention guidance and training to mechanics and automotive repair businesses in the District of Columbia (District). This voluntary program is offered free of charge by the District Government's Department of Energy and Environment (DOEE) thanks to grant funding from the U.S. Environmental Protection Agency. GreenWrench is designed to help businesses become compliant with local and federal environmental regulations, protect the environment, and improve their bottom line by encouraging pollution prevention.

The GreenWrench program encourages practices that reduce, eliminate, or prevent pollution before treatment or disposal (also known as source reduction). These case studies highlight pollution prevention actions that participating facilities have implemented in order to demonstrate the impact of the actions on the environment and their cost-effectiveness. It is hoped that by highlighting these success stories, others are inspired to take similar actions that are both good for the environment and good for businesses.

DOEE, along with their contractor DesignGreen, LLC, worked with Metro Motor Collision to assess their energy consumption, hazardous waste accumulation, and overall contribution to pollution. The automotive repair shop was given a pollution prevention plan (P2 Plan) with recommendations as to how they can comply with local and federal regulations, reduce their carbon footprint, and save money. While implementation of the P2 Plan was optional, Metro Motor Collision decided to implement many recommendations provided by DOEE. Prior to implementing suggestions in the P2 Plan, Metro Motors generated approximately 1,013 pounds of non-recyclable waste per month, used approximately 500 gallons of water per month, and generated approximately 1.24 metric tons of carbon dioxide equivalents (MTCO<sub>2e</sub>). Recommended actions from the P2 Plan include ensuring 100% of the lights in the shop are LED, using biodegradable soap, and reducing water usage for car washing. These actions may reduce MTCO<sub>2e</sub> by 1.27 metric tons, reduce water consumption by 297 gallons, and reduce volatile organic compounds (VOCs) by 907 pounds per month.

Implementation of specific actions recommended in the P2 Plan will qualify the facility to be considered for GreenWrench certification, recognizing the facility as committed to reducing pollution and using environmentally friendly practices in the District.

### GreenWrench Impact

The goal of GreenWrench is to encourage auto shops to be more mindful of their environmental impact and to then recognize the shops that took strides in implementing the actions highlighted in their P2 Plan through the GreenWrench Certification. GreenWrench provides an opportunity to protect both human and environmental health, ensure compliance with DC Government regulations, and try environmentally friendly products free of charge. Implementation of their personalized P2 Plan helps the shop to become more environmentally friendly by reducing their contribution to air and water pollution while increasing savings on their water and electric bill.



# GREEN WRENCH

TECHNICAL ASSISTANCE

DEPARTMENT OF ENERGY & ENVIRONMENT



# Metro Motor Collision

**Location:** 1225 W St NE, Washington, DC 20018  
**Type of Business:** Auto Body Collision Repair Shop  
**Number of Employees:** 8

## About The Shop

Metro Motor Collision is one of the many Metro Motor locations in the Washington, D.C. Area. While the other shops in the franchise perform general auto repair services, this particular shop focuses on auto body collision repair and paint jobs. The shop is owned by Karim Rouiller with Lili Behpou as the Director of Collision. With the help of seven other employees, Metro Motor Collision has received numerous positive reviews online.

After moving to their current location in February 2021, the management at Metro Motor Collision improved the facility and are continuing to make upgrades. Behpou described the shop as “falling apart” when they first moved to the W St property in Northeast D.C. Since then, there have been considerable strides not only regarding the structure of the building, but also in their commitment to sustainability and environmental stewardship. After learning about the GreenWrench program from the P2 outreach team, Rouiller and Behpou decided to participate in the program as part of their sustainability efforts.

## Background

Before the GreenWrench Technical Assistance program connected with Metro Motor Collision, the shop already had LED lights installed (reduces energy usage and costs), one low flow toilet (reduces water usage), used water-based cleaning products, and had haulers for both trash and recycling. This shop, as well as every other shop that participates in the program, was given a personalized P2 Plan. The plan pinpointed steps that could be taken to become more environmentally conscious and save money. Prior to implementing suggestions in the P2 Plan, Metro Motors generated approximately 1,013 pounds of waste per month, used approximately 500 gallons of water per month, and generated approximately 1.24 metric tons of MTCO<sub>2e</sub>.

## Results

### Current Actions and Material Usage

Metro Motor Collision had already implemented many environmentally friendly practices, such as utilizing water-based solvents, having dry spill absorbent readily available, and using LED lighting in the facility. The P2 Plan recommended that Metro Motor Collision install an additional low flow toilet, switch to water-based paints, and use degreasers without VOCs which could harm human health.

**Table 1. Activities where reductions have been or can be achieved during GreenWrench Participation. Asterisk (\*) denotes recommended actions not yet implemented**

Activity	Before (per month)	After (per month)	MTCO <sub>2e</sub> Reduced (per month)	Gallons Water Reduced (per month)	Air Pollution Reduced lbs. VOC (per month)
Disposable rags*	100 rags	0 rags	N/A	N/A	N/A
Recycled shirt to replace rags*	0 shirts	50 shirts	N/A	N/A	N/A
Unregulated waste (trash containers)	8	6	0.0113	N/A	N/A
Recycling	40 lb.	50 lb.	0.0129	N/A	N/A
Fluorescent Lightbulbs disposed	1	0	0.0299	N/A	N/A
Low Flow Toilets*	1	2	1.15	97	N/A
Car Washing*	600	400	0.001	200	N/A
Solvent-based paint*	48 cars	0	N/A	N/A	-2160
Water-based paint*	0	48 cars	N/A	N/A	1253
<b>Total Reductions</b>	<b>-</b>	<b>-</b>	<b>1.207</b>	<b>297</b>	<b>907</b>

With materials provided by the GreenWrench Program, Metro Motor Collision was able to test environmentally friendly degreasers and cleaners, put stickers near light switches as a reminder to turn them off, install a no engine idling sign at the facility, and have their storm drains marked to remind employees to minimize discharge of contaminated water and other liquid products. Each of these actions contribute to a reduction in air and water pollution while saving money for the company by reducing electric consumption and amount of hazardous waste generated.

## Pollution Prevention

Before Metro Motor Collision's participation with GreenWrench, an estimated 1.24 MTCO<sub>2</sub>e were produced per month by the activities identified in the P2 Plan. Based on the actions that have been or will be completed, the amount was reduced by 1.207 MTCO<sub>2</sub>e per month (Table 1). This number can be attributed to the future installation of a second low flow toilet in the shop's restroom which reduces significant amounts of MTCO<sub>2</sub>e. The larger number means that there would be more CO<sub>2</sub> emissions reduced than produced by the activities identified in the P2 Plan. To put the amount into perspective, the reduction would offset 1,334 pounds of coal burned or 3,033 miles traveled in a passenger vehicle (EPA GHG Calculator, 2021).

If the facility also transitions from solvent-based paints to solely water-based paints, air pollution produced by the facility would be reduced by 58%. As for water usage, an additional low flow toilet would result in the reduction of approximately 97 gallons of water per month.

## Cost Effectiveness

The actions recommended in the P2 Plan lead to measurable financial savings for Metro Motor Collision and other shops that take these steps towards sustainability. Switching to a low flow toilet and motion activated faucet in the shop's restroom could result in savings

of about \$140 dollars a year (EPA, n.d.). The use of LED light bulbs provide savings through reduced electric costs per year and have much lower cost over ten years when compared to fluorescent and halogen bulbs. If 20 LED light bulbs are installed, savings could amount to \$1000 over a decade (CFA, 2017). Switching to environmentally friendly cleaners and degreasers could result in an average savings of \$11 per gallon of product used.

## Future Goals

Additional recommendations from the P2 Plan that have not already been implemented by Metro Motor Collision include the transition from disposable rags to recycled and reusable t-shirts, the installation of automatic setback thermostats (also called smart thermostats) to reduce energy consumption, install a second low-flow toilet and motion activated faucets to reduce water consumption, and the transition to the use of mechanical methods for paint stripping instead of chemical methods to reduce the amount of hazardous waste generated. In order to become GreenWrench Certified, Metro Motor Collision is currently working to manage their rags commercially and transition to the use of water-based paints.

## Conclusion

Overall, Metro Motor Collision is highly committed to the cause of sustainability. Though they are continuing to settle into this W St location, management still makes environmentalism a top priority. This level of commitment can also be achieved in facilities across the city. Other shops may not consider the installation of a new paint booth that supports water-based paints, but smaller steps could be taken like turning off lights and increasing recycling rates.

The GreenWrench program will continue to work with automotive businesses and provide guidance on actions they can take to protect the environment.

## Works Cited

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