

WVU POLLUTION PREVENTION NEWSLETTER

FEBRUARY 2024 EDITION

FEBRUARY 2024 INDUSTRY FOCUS: AUTOMOTIVE MANUFACTURING AND MAINTENANCE

Welcome to our latest newsletter edition! In this issue, we're excited to introduce the dedicated members of the WVU Pollution Prevention Team, committed to environmental stewardship. Explore valuable insights as we share industry best practices for enhancing energy efficiency and sustainability in the automotive manufacturing and maintenance industry. Additionally, we're proud to share our recent achievements, securing grants awarded by the EPA and USDA. Lastly, discover the range of services we offer to support Small and Medium-sized Enterprises and businesses throughout West Virginia. Stay informed, inspired, and engaged with our commitment to environmental excellence and community impact.

WHAT YOU CAN FIND IN THIS EDITION:

1. Page 2: Introducing you to the WVU P2 Project and the services we provide.
2. Page 3: Trailblazing progress: WVU pollution prevention team receives recognition with two prestigious grants.
3. Page 4: Empowering Change: Meet WVU's Pollution Prevention Team. Continued on Page 7 and 8.
4. Page 5: P2 at home and work: Best practices to improve energy efficiency and prevent pollution at home and work.
5. Page 6: February 2024 Feature: P2 Best Practices for the Automotive Manufacturing and Maintenance Industry.
6. Page 9: Contact us: Scan the QR Codes provided to reach out to the WVU P2 team or learn more about us on our website.





Pollution Prevention (P2) is one of the key approaches towards an initiative to improve the energy efficiency and productivity of key industries while prioritizing environmental sustainability. The initiative focuses on reducing or preventing pollution at its source.

The primary objective of our Pollution Prevention program is to provide technical assistance to Small and Medium Enterprises in key industries by assisting with identification, development, and implementation of P2 methods. The recommendations provided to the industries are designed to help the business lower operational costs by reducing expenditures, water and energy usage, waste, and disposal costs, while at the same time maintaining, and often improving productivity.

The key industries we focus on are:

1. Food and Beverage Manufacturing and Processing
2. Chemical Manufacturing, Processing, and Formulation
3. Automotive Manufacturing and Maintenance
4. Aerospace Product and Parts Manufacturing and Maintenance
5. Metal Manufacturing and Fabrication

OUR SERVICES

1. **On-site energy audits and P2 assessments:** The project team will make a planned visit to your facility to assess and gather data on energy, water, material, and personnel use. Assessment data along with input from the facility managers will be used to develop P2 recommendations. A detailed report based on the findings will be submitted to the facility shortly after the on-site assessment.
2. **Training workshops:** Training workshops will be conducted to help businesses learn P2 Best Practices, tools, techniques, and resources available, and how to make changes to their process or site to improve energy efficiency, productivity, and environmental sustainability.
3. **Virtual energy audits and consultations:** Scheduled virtual audits will be available on demand for off-site/remote technical assistance on energy efficiency improvements and P2 Best Practices applicable to your industry.

TRAILBLAZING PROGRESS: WVU POLLUTION PREVENTION TEAM RECEIVES RECOGNITION WITH TWO PRESTIGIOUS GRANTS



USDA REAP TAG Program: As part of the REAP TAG Program, the WVU P2 Team will conduct energy audits and provide technical assistance to Agricultural Producers and Rural Small Businesses for applying for grants to the Rural Energy for America Program (REAP).



EPA P2 Disadvantaged Communities Grant: West Virginia University's P2 Team was awarded the EPA P2 Disadvantaged Communities Grant. WVU's P2 team will provide technical assistance to industrial facilities in disadvantaged communities in West Virginia to encourage businesses to promote source reduction activities such as updating procedures, processes, and equipment. Technical assistance provided by WVU will include onsite and remote assessments and assistance with P2 recommendations, training, and development of P2 best practices, toolkits, training videos, self-guided modules, and interactive media. The proposed project will improve human health and the environment in disadvantaged communities by improving energy efficiency, minimizing waste streams, and reducing air pollution and the facilities' carbon footprint in communities identified using EPA's EJ Facility Mapping Tool.



PASSIONATE MINDS, SUSTAINABLE SOLUTIONS: INTRODUCING OUR WVU P2 TEAM

Meet the dynamic team behind our Pollution Prevention (P2) Program, where a synergy of expertise and dedication thrives. The esteemed faculty of the WVU Department of Industrial and Management Systems Engineering, known for their pioneering work in environmental sustainability, lead our team of graduate students to innovate solutions that make a lasting impact. This multidisciplinary approach ensures that our team not only tackles environmental challenges head-on but also pioneers innovative solutions at the intersection of industrial engineering, smart manufacturing, human factors, and energy efficiency. Together, they bring a wealth of knowledge, fresh perspectives, and a shared commitment to advancing pollution prevention strategies for a greener, more sustainable future.



Dr. Ashish Nimbarte, PI, Chair, and Professor of Industrial and Management Systems Engineering at WVU, collects data with his team from a facility to identify opportunities for process improvement. Pictured from left to right are Austin Harper, graduate research assistant; Nimbarte; Farzana Islam, graduate research assistant; Raygen Jackson, undergraduate student worker; Chris Moore, project manager and research associate. (Submitted Photo)

P2@Home

Insulate your home! Here are some ways to insulate your home while saving your money and the environment:

1. **Seal Leaks:** Identify and seal air leaks around doors and windows to prevent drafts, reducing the need for heating or cooling.
2. **Upgrade Windows:** Install double-pane windows or add window film to improve insulation and reduce heat transfer.
3. **Insulate Your Home:** Ensure proper insulation in your walls, attic, and floors to maintain a comfortable temperature and reduce the workload on heating or cooling systems.
4. **Install Energy-Efficient Appliances:** When upgrading appliances, choose ones with the ENERGY STAR label, indicating they meet strict energy efficiency guidelines.
5. **Maintain HVAC Systems:** Regularly service and clean your heating, ventilation, and air conditioning (HVAC) systems to ensure they operate efficiently.

P2 @Work

Consider the Climate!

1. **Install Smart Thermostats:** Use smart thermostats that can be programmed and remotely controlled to optimize heating and cooling based on occupancy and usage patterns.
2. **Conduct Energy Audits:** Regularly assess the workplace's energy usage through audits to identify areas for improvement and implement energy-saving measures.

January 2024 Industry Focus

P2 @Automotive Manufacturing and Maintenance Industry

Rev Up Energy Efficiency! Boosting energy efficiency in the automobile industry not only contributes to cost savings but also reduces the environmental impact. Implementing the following strategies can drive positive changes:

1. **Engine Optimization:** Enhance engine efficiency and performance to maximize fuel economy. Regular maintenance and tuning can ensure that vehicles operate at peak efficiency, reducing fuel consumption and emissions.
2. **Supply Chain Sustainability:** Collaborate with suppliers to ensure sustainable and energy-efficient practices in the production of automotive components. Assess and optimize the energy footprint of the entire supply chain to minimize environmental impact.

3. Green Manufacturing Practices: Integrate eco-friendly practices into the manufacturing process. Implement energy-efficient technologies, recycling initiatives, and waste reduction programs to minimize the overall environmental impact of automobile production.
4. Employee Training Programs: Develop training programs to educate employees about energy-efficient driving practices and the benefits of maintaining vehicles in top condition. Encourage responsible driving habits to optimize fuel efficiency.
5. Smart Facility Management: Implement intelligent energy management systems in manufacturing facilities. Monitor and optimize energy usage, lighting, and heating, ventilation, and air conditioning (HVAC) systems to minimize energy waste.
6. Vehicle Recycling Initiatives: Establish or support initiatives for the responsible disposal and recycling of end-of-life vehicles. Encourage the use of recyclable materials in vehicle design to promote a circular economy.
7. Research and Development Investment: Allocate resources to research and development efforts focused on creating more energy-efficient and sustainable automotive technologies. Support innovations that align with the industry's commitment to reducing its carbon footprint.
8. Consumer Education Campaigns: Launch campaigns to educate consumers about the environmental impact of their vehicle choices. Provide information on fuel-efficient models, eco-friendly driving practices, and the long-term benefits of choosing energy-efficient automobiles.
9. Good housekeeping practices:
 - 9.1. Place liquid containers outdoors on a covered, paved surface within a secondary containment to avoid hazardous waste discharge into storm drains during rainfall.
 - 9.2. Ensure that container lids are securely fastened when the product is not in use to prevent chemical loss through evaporation or spills. This practice also safeguards against contamination from water, dirt, or other substances.
 - 9.3. Avoid mixing different types of waste, as this may hinder recycling efforts or increase waste disposal expenses.
 - 9.4. Accumulate waste indoors or in covered areas to prevent moisture infiltration.
 - 9.5. Separate waste streams to simplify recycling, minimize waste generation, and reduce disposal costs.
 - 9.6. Post written spill procedures in spill-prone areas and train employees on response protocols.
 - 9.7. Clean small spills with rags; caution with absorbents, as used ones may be hazardous waste.
 - 9.8. Consider wet/dry shop vacuums for spill cleanup, avoiding use with volatile fluids like gasoline or solvents.
 - 9.9. Utilize hydrophobic mop or squeegee for cleanup; dispose of absorbed waste in appropriate container.
 - 9.10. Refer to hazardous materials response plan for spills beyond the facility; keep the plan filed with the fire department or Haz-Mat authority.
 - 9.11. A "sealed" concrete floor or a floor with an oil-resistant coating is easier to clean and maintain.

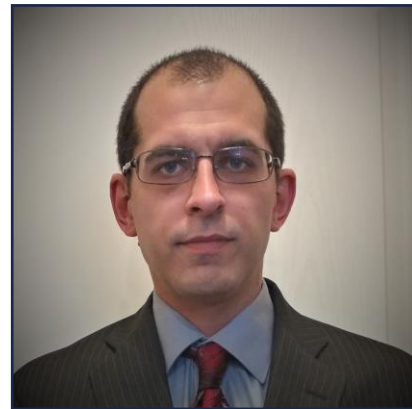
By incorporating these energy-efficient practices, the automobile industry can accelerate towards a more sustainable and environmentally friendly future.

MEET THE WVU POLLUTION PREVENTION (P2) TEAM



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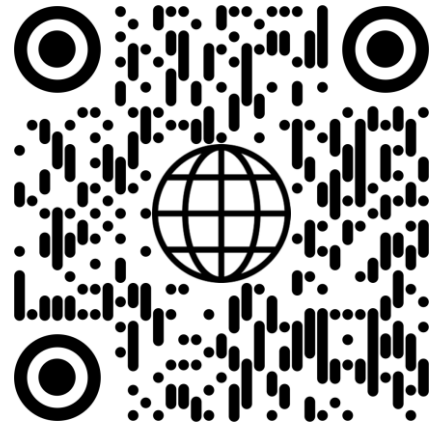
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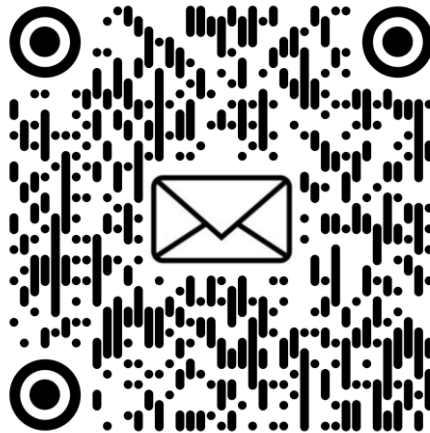
WVU POLLUTION PREVENTION (P2) WEBSITE

Website: <https://epawvppp.faculty.wvu.edu/>



INQUIRE ABOUT THE SERVICES WE PROVIDE

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HAVE ANY QUESTIONS AND COMMENTS?

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