

# WVU POLLUTION PREVENTION NEWSLETTER

JUNE 2024

## INDUSTRY FOCUS: Metal Manufacturing and Fabrication

Welcome to the latest edition of the WVU Pollution Prevention Newsletter! In this issue, we are 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 metal manufacturing and fabrication industry. You will also find P2 tips that can be implemented at home or in the workplace. 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.

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# WHAT IS POLLUTION PREVENTION



**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** and within **disadvantaged communities** in West Virginia 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.

## Key Industries:

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. **Pollution Prevention 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. **Energy Audits/Assessments:** Applying for a USDA-REAP grant and need an assessment? Want to save money? The project team will visit your facility and identify opportunities to improve energy efficiency. A detailed report will be provided to the business, including estimates of implementation costs, energy use savings, energy cost savings, and simple payback period for each identified opportunity.
3. **Training Workshops:** Training workshops will be conducted to help businesses learn P2 Best Practices, tools, techniques, and resources available, and how to modify their process or site to improve energy efficiency, productivity, and environmental sustainability.
4. **Technical Assistance:** The project team can provide on-site or off-site technical assistance on a variety of industrial concerns related to topics including pollution prevention, energy efficiency, sustainability, environmental impact, and process improvement. Contact us for assistance!
5. **USDA-REAP Application Assistance:** Applying for grant funding can be a challenge, especially for the small businesses that do not have an expert at grant-writing on the payroll. Our project team can help you navigate the application process and assist with completing the application for USDA-REAP funding.

## P2 INDUSTRY FOCUS

### Tips for the Metal Manufacturing and Fabrication Industry

- **Implementation of Electrolyte Recovery Systems:** Electrolyte recovery systems help extract valuable metals from rinse waters used in metal finishing processes. The adoption of this strategic approach not only helps in the significant reduction of water pollution due to metal pollutants and protects aquatic ecosystems but also conserves precious resources.
- **Use Safer Degreasing Products:** Replace traditional degreasing agents, such as Trichloroethylene, with aqueous cleaners or high-pressure steam. This switch reduces the release of harmful chemicals into the environment and protects worker health by minimizing exposure to toxic substances, ensuring a safer and cleaner manufacturing environment.
- **Recycle & Reuse:** Implement a comprehensive scrap metal recycling program by collecting, sorting, and reprocessing all metal waste materials. This practice reduces the need for raw material extraction, conserving natural resources and decreasing the environmental impact of mining and processing, making the manufacturing process more sustainable.
- **Utilization of Regenerative Thermal Oxidizers:** Using regenerative thermal oxidizers is a great way to utilize waste heat generated during various manufacturing processes. Using waste heat in oxidizing harmful pollutants helps to generate cleaner and safer exhausts from the industrial facility and contributes towards improved air quality.

## P2 @ WORK

### Improve Sustainability at Work

- **Digital Over Paper - A Sustainable Shift:** Encourage a digital-first approach by minimizing paper use in the workplace. Utilize digital documents, e-signatures, and cloud storage. This transition not only saves trees but also reduces waste and operational costs associated with paper handling and storage.
- **Be an Energy Star:** By switching to ENERGY STAR office products such as computers, printers, faxes, etc., your workspace will become more energy efficient.
- **Promoting Remote Work Opportunities:** Providing employees with work-from-home opportunities where possible helps a lot in reducing emissions related to daily commutes. In addition, it helps in saving a huge amount of time for employees that would otherwise be spent traveling and also leads to a more flexible and environmentally conscious work culture.
- **Environmental and Sustainability Training:** Conducting training related to sustainability and environmental protection helps empower employees to make eco-friendly choices and implement sustainability practices. It helps in encouraging collaborative action for a sustainable future.

# P2 @ HOME

## Make a Positive Impact at Home

- **Clean Green with Homemade Solutions:** Make your own cleaning products using natural ingredients like vinegar, baking soda, and lemon. These homemade solutions are free from harmful chemicals, safe for the environment, and effective for household cleaning tasks.
- **Eco-Friendly Landscaping:** Adopt sustainable landscaping practices such as xeriscaping, which uses drought-resistant plants and minimizes water usage. Additionally, avoid using chemical pesticides and fertilizers, opting instead for natural alternatives to protect local ecosystems and water quality.
- **Solar-Power Your Home:** Invest in solar panels to generate renewable energy for your household needs. By harnessing the power of the sun, you can reduce reliance on fossil fuels, lower your carbon footprint, and contribute to a cleaner environment.

## HIGHLIGHTING OUR IMPACT

The WVU Pollution Prevention (P2) team takes great pride in the impact we have within the borders of West Virginia since January of 2023. From energy savings to CO<sub>2</sub> reduction, the recommendations we develop for these businesses not only help these businesses improve their sustainability, but also their bottom line!

**Look at the impact of the opportunities we have found! →**

**19** Energy Efficiency/P2 Assessments

**38** Recommendations

With Annual Savings of...

**\$368,343** in Energy Costs

**2,623 MWh** of Electricity

**11,102 MMBtu** of Natural Gas

**2,451 Metric Ton** CO<sub>2</sub> Equivalent

## WHAT'S NEW?

- We are excited to announce that **Farzana Islam** completed her Master's Degree in Industrial Engineering and is officially transitioning from a Graduate Research Assistant to a full-time Research Engineer at West Virginia University and with our WVU P2 Team. Farzana played an imperative role in the success and growth of the WVU P2 Team since she first joined the team in Spring of 2023.
- We will be holding a 6-hour training workshop in August of 2024. Stay tuned for more information!  
**Topics will include:**
  - **Energy Billing** – Energy billing for industrial facilities can be confusing. Learn the ins and outs of energy and energy billing. A deeper understanding of your energy bills can help you find ways to save!
  - **Energy Efficiency and Industrial Systems** – Learn about the different industrial systems and simple changes you can make to increase energy efficiency and lower energy costs.
  - **Pollution Prevention** – Discover source reduction techniques that can save valuable resources and improve your environmental impact

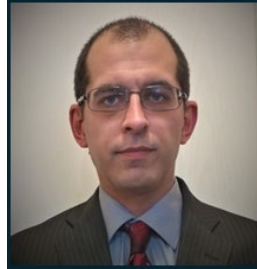


# THE P2 TEAM

## Faculty & Staff



Dr. Ashish Nimbarte PhD, PE, CEM  
Principal Investigator



Dr. Christopher Moore PhD, CEM  
Project Manager, Co-PI



Farzana Islam  
Research Engineer



Dr. Thorston Wuest PhD

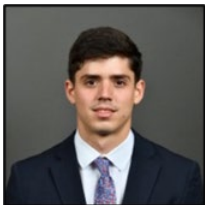


Dr. Imtiaz Ahmed PhD



Dr. Avishek Choudhury PhD

## Students



Juan Marino



Sagar Timilsina



Akshay Patel



Tilak Bhusal



Ryan Stas



Connor Davis

## CONTACT US

### ASHISH NIMBARTE, PHD, PE, CEM

Principal Investigator,  
Department chair,

Industrial and Management Systems Engineering, WVU

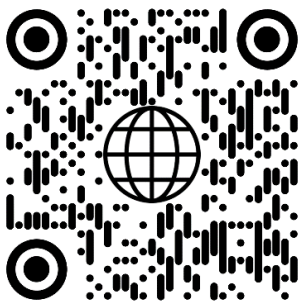
Email Address: [ashish.nimbarte@mail.wvu.edu](mailto:ashish.nimbarte@mail.wvu.edu)

### CHRISTOPHER MOORE, PHD, CEM

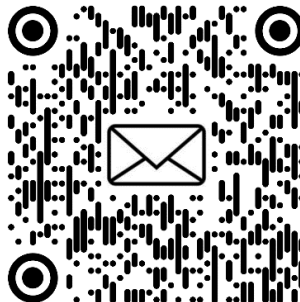
Co-PI, Project Manager,  
Research Associate,

Industrial and Management Systems Engineering, WVU

Email Address: [chris.moore@mail.wvu.edu](mailto:chris.moore@mail.wvu.edu)



P2 Website



Inquire about Services



Questions or Comments?