



INDUSTRIAL EXTENSION PROGRAM



**MEP • MANUFACTURING
EXTENSION PARTNERSHIP**

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE



MINING AND INDUSTRIAL EXTENSION

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WV Manufacturing Extension Partnership - An Affiliate of the NIST Manufacturing Extension Partnership
Equal Opportunity/Affirmative Action Institution

What Does WVU Industrial Extension do?



What is E3?

A model for collaboration among manufacturers, utilities, local government, and federal resources intended to:

- Invest in local communities
- Address energy and sustainability challenges
- Provide valuable technical training and assessments
- Enable economic growth



What is an E3 Assessment?

- Energy Use Assessment
- Lean Process Assessment
- Carbon Footprint
- Overview of current energy usage and cost for each system
- Low cost, easy to implement changes to reduce use or cost
- Recommendations for long term, capital investment to further reduce cost and use

Energy Assessment

- **All systems that consume electric, natural gas, propane, fuel oil, and all other types of fuel or energy.**
- Lighting systems
- Motors and drives
- Compressed air systems
- Steam systems and boilers
- Fans and HVAC systems
- Pump systems
- Hydraulic systems
- Refrigeration systems
- Building envelope and condition

Process Assessment

- Gap analysis of 12 key lean process concepts
- In-plant observations of manufacturing operations
- In-plant observations of material processing and potential waste points

Who does the Assessments?

- All assessments are conducted by a team of personnel from the WVU Industrial Extension Service and the WVU Industrial Assessment Center.

Typical Finds

- Most businesses are spending too much on lighting.
- Most HVAC systems are inefficient or incorrectly sized, and waste energy.
- Most buildings are under insulated and lose substantial amounts of heat
- Many compressed air systems are operating inefficiently or are incorrectly sized
- Most equipment is operating with old electric motors and wasting energy

WV E3 Impacts

- In four years we have conducted 56 assessments
- Energy saving recommendations that would result in:
 - 12,486,378 KWH reduced
 - 122,468 mmBTU in natural gas
 - \$4,751,107 in processing/operations costs
 - 6,101,068 square feet of facilities assessed

For More Information

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