



NC STATE UNIVERSITY

M mechanical and aerospace
A E ENGINEERING



More Information on Energy Assessment Partners

NCSU Industrial Assessment Center (IAC)

IAC is managed by the [North Carolina State University Mechanical & Aerospace Engineering Department](#). It is funded by the [US Department of Energy \(DOE\) Energy](#). It is one of 24 such centers around the country. Since the IAC is federally funded, energy assessments are available at no cost to qualifying facilities.

Engineers from NCSU IAC program conduct a one-day assessment of the facility. Data on plant operations and energy costs are collected and analyzed to determine potential conservation measures. This may also involve taking engineering measurements of various systems or processes. These measures are compiled into a technical report detailing the recommended action, the potential savings, the estimated cost of implementation, and simple payback period.

Within 60 days, a confidential report, detailing the analysis, findings and recommendations of the team is sent to the plant. In six months, follow-up phone calls are placed to the plant manager to inquire which recommendations the facility will implement.

Recommendations from IAC audits have averaged about \$55,000 in potential annual savings for each manufacturer.

Qualifying manufacturers must meet three of the following four criteria under the IAC Program:

- Have gross plant sales (at that location) of less than \$75 million,
- Have fewer than 500 employees on-site,
- Have combined energy costs (electricity, gas, oil, coal, etc.) of between \$100,000 and \$2 million annually,
and
- Have no full-time energy expertise.

NCSU Energy Management Program (EMP)

Another program run out of the NCSU Mechanical & Aerospace Engineering Department is the Energy Management Program (EMP), which is funded by the [North Carolina State Energy Office](#). An EMP energy assessment is similar to an IAC assessment, except that it is not limited to the four qualifying IAC criteria. It can serve industrial, commercial, institutional, and governmental facilities. The cost of this service is not free, but is quite affordable and will vary with the size of the facility.

A typical energy assessment will cover all major equipment including the following:

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| <i>Boilers</i> | <i>Motors & Pumps</i> |
| <i>Steam Systems &</i> | <i>Lighting</i> |
| <i>Steam Traps</i> | <i>Electric Rate Schedule Analysis</i> |
| <i>Compressed Air</i> | <i>Preventative Maintenance</i> |
| <i>HVAC Systems</i> | <i>Energy Management Systems</i> |
| <i>Chillers and Cooling Towers</i> | |

A Targeted System Survey includes the following system-specific activities:

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| <i>Survey of existing equipment,</i> | <i>Identification of opportunities,</i> |
| <i>Measurement & data gathering,</i> | <i>Savings and cost analysis report, and</i> |
| <i>Interview O&M personnel,</i> | <i>Client review of report.</i> |

An EMP assessment also provides data analysis and reporting products such as return on investment (ROI), simple payback, life cycle costing, cost to benefit analysis, net present value (NPV), and internal rate of return (IRR). Lastly, there is a follow up with the facility manager to discuss implementation of the recommendations.

Waste Reduction Partners (WRP)

The WRP conducts on-site assessments and provides consulting services to small industrial and commercial businesses and public facilities throughout North Carolina. Highly-experienced volunteer engineers, scientists and staff provide clients with innovative cost-saving strategies and resources to meet their goals.

Waste Reduction Partners is a partnership program with NCDENR's Division of Environmental Assistance and Outreach. Services are provided at no-cost to the client. Assessments are funded by NCDENR, the State Energy Office and other local sources.

WRP engineers have recommended more than \$25 million annual savings in energy efficiency strategies to businesses, industries, and public facilities in North Carolina.

WRP can help a facility identify energy efficiency opportunities and better understand and manage utility costs through an energy efficiency survey. WRP engineers provide clients with written reports highlighting project opportunities, energy-use benchmarks, cost/benefit analysis, financing strategies, and technical resources.

WRP engineers address the following energy opportunities:

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|--|-----------------------------------|
| <i>Utility Bill Analysis</i> | <i>Motor Efficiency</i> |
| <i>Walk-through Audits</i> | <i>Building Envelope Analysis</i> |
| <i>Process Energy Uses</i> | <i>Demand Reduction</i> |
| <i>Lighting Improvements</i> | <i>Energy Management Systems</i> |
| <i>HVAC Operations and Maintenance</i> | <i>Energy-Use Benchmarking</i> |

WRP can assist in strategic planning and make energy policy recommendations to your facility. Lastly, WRP can also discuss financing options that are available to your facility. WRP provides a written report detailing all the data collected, technical information, recommendations for improvement, and cost information.

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To submit pre-application form, go to:

http://www.ncair.org/monitor/eminv/gcc/energy_assessment_pre-application.doc