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Enhancing Industrial Sustainability by Improving Resource Efficiency

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Enhancing Industrial Sustainability by Improving Resource Efficiency
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INDUSTRIAL ASSESSMENT CENTER BACKGROUND
- Sponsored by U.S. Department of Energy (DOE)
  - Began during 1970’s “Energy Crisis”
  - 24 Centers at universities throughout the U.S.
  - 20 no-cost assessments per year for mid-sized manufacturers.
- Goals
  - Help industry be more resource-efficient and competitive
  - Train new engineers in industrial best practices
  - Develop new, innovative solutions for energy and resource efficiency

RESOURCES UTILIZED TO ACCOMPLISH THE GOAL
- Rutgers System
  - Identify and classify Resource efficiency Assessment Recommendations.
- UD-IAC Audits
  - Resource Efficiency ARs from Audits
- EPA Report, Equipment Literature
  - Collected data on new technologies and methodology to improve resource and energy efficiency.

INTEGRATED RESOURCES PLUS PRINCIPLES MATRIX
- IRPM provides a roadmap to increase industrial resource efficiency and provides comprehensive, and repeatable method for identifying resource efficiency opportunities.

RESOURCES SAVINGS PRIORITY AND ITS ANALOGY
- These principles are prioritized according to the magnitude of resource saving opportunity.
- Moreover, the magnitude of resource saving opportunity is also proportional to the energy saving, pollution reduction, and cost saving potential.

RESOURCE EFFICIENCY GUIDEBOOK (REG)
- REG is a free, publicly-available and regularly updated Excel based tool. Figure below shows the main menu of REG; each icon represents a resource and links to best practices and examples.

WATER RESOURCE PAGE AND BEST-PRACTICE PAGE
- The water resource page, includes example recommendations such as install pH sensor, use skimmer to prevent tramp oil.
- Water best practices page, which includes best practices such as fix leaks and counter-flow rinsing.

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