



ENERGY MANAGEMENT

Are you **pressured** to reduce **ENERGY COSTS?**

Want to **MINIMIZE** the impact your **business** leaves **ON** the **ENVIRONMENT?**

Is your equipment's **reliability** yielding **energy TAX CREDITS?**

COST SAVINGS. RELIABLE EQUIPMENT. ENERGY SAVINGS.

Did you know the Industrial Sector accounts for nearly 50% of all energy consumed? An effective Energy Management Program systematically manages the efficient and effective utilization of all energy sources, which leads to reduced usage, lower costs, and reduced environmental impacts. Reliable, defect free equipment saves energy through the efficient use of energy and resources

required in the manufacturing process. Allied Reliability Group provides real-world strategies and solutions to maximize energy efficiency by providing hands-on tools and resources for reducing energy consumption and its related environmental impacts (carbon footprint), as well as for improving Overall Equipment Effectiveness (OEE) in Industrial Manufacturing environments.

ALLIED RELIABILITY GROUP'S ENERGY MANAGEMENT PROGRAM

Real-world strategies and solutions to maximize energy efficiency by providing hands-on tools and resources for reducing energy consumption and its related environmental impacts (carbon footprint), as well as for improving Overall Equipment Effectiveness (OEE) in Industrial Manufacturing environments.

INTEGRATION:

Allied Reliability Group delivers integrated Condition Based Monitoring (CBM) applications as a part of an overall equipment maintenance strategy. Allied Reliability Group delivers world class service through a solid foundation of industry acclaimed technical advisors and analysts to deliver proven results through: People, Service, Training, Processes and Tools, Standards, Asset Health Management, and Reporting. Our experience shows us that equipment reliability and energy efficiency go hand-in-hand. The ability to understand how and why equipment fails is essential in understanding and developing energy-efficient strategies for the operation and maintenance of industrial equipment. The technologies and methods Allied Reliability Group utilizes to deliver CBM solutions to our clients are differentiators in the Energy Management field.

MARKET DRIVERS FOR ENERGY

80% Need to reduce manufacturing costs

46% Achieve or maintain competitive edge

20% Be a thoughtleader in sustainability

17% Economic / consumer uncertainty

Aberdeen Group
Survey of 240 manufacturers

WHEN IS AN ENERGY MANAGEMENT PROGRAM RIGHT FOR YOUR PLANT?

Finding Cost Savings and Production Gains: Energy Management efforts should address the realities of doing business in a manufacturing or industrial environment. Business leaders at the corporate level are focused on 'going green', but those in charge of operations are responsible for saving green – reducing production costs, maintenance expenditures, and other operational expenses. Only Allied Reliability Group approaches Energy Management in a way that integrates Proactive Maintenance activities, such as CBM, performed at a facility with the energy-focused efforts and initiatives to provide added value to the overall Energy Management Program.

Meeting Regulatory and Customer Expectations: Governments, consumers, activists, and the media have become adept at holding companies accountable for the social consequences of their activities. Corporate Social Responsibility (CSR) has emerged as an inescapable priority for business leaders around the world. With this increased global awareness of environmental concerns and the knowledge that organization's actions affect everyone's future, executives and business leaders understand that implementing effective Energy Management Programs that support operations and customer satisfaction are key to reaching their goals and affect their day-to-day business decisions.

Meeting Corporate Expectations: Most companies have developed and published a "Corporate Responsibility" or "Sustainability" statement that clearly identifies energy reduction targets and environmental goals: reduce energy consumption, improve waste management practices, reduce greenhouse gas emissions, optimize capital investment for energy efficiency, etc. Allied Reliability Group is positioned to quickly help you identify areas of improvement to move towards and achieve these targets and goals.

HOW DOES IT WORK? HOW DO WE DELIVER IT?

With our Energy Management deliverable, Allied Reliability Group makes direct links of applicable defects to potential energy savings opportunities. When a defect is present, not only does it put equipment at risk of operational failure, but it also:

- Performs less efficiently • Reduces quality
- Increases energy usage • Increases greenhouse gas emissions

To help our clients identify these opportunities, Allied Reliability Group (ARG) offers both one-off and combined services, including:

<h3>STEAM SYSTEM ANALYSIS</h3>	<h3>LEAK SURVEYS</h3>	<h3>HEAT TRANSFER ANALYSIS</h3>	<h3>BUILDING ENVELOPE ANALYSIS</h3>
<p>ARG uses PdM technologies like infrared thermography and ultrasound to identify system defects such as a faulty steam trap. We are able to identify such cases and quantify the cost of the defect both in dollars and greenhouse gas emissions.</p>	<p>ARG identifies leaks within your facility such as compressed air, gases, lubricants, and even product that, if left unattended, lead to the continuous waste of energy and product and potential safety risks.</p>	<p>ARG identifies and reports inefficient transfer of heat. Specifically, this deliverable focuses on transfer systems, piping, refrigeration, storage, etc., identifying and quantifying defects within these systems that both improve operational variability and increase energy efficiency.</p>	<p>ARG uses cutting-edge technologies to develop an accurate and detailed "big picture" of the facility's energy performance. Armed with this information, our customers are able to select the most appropriate and cost-effective strategies for repair and renovation.</p>
<h3>ENERGY AUDITS</h3>	<h3>ENERGY MANAGEMENT PROGRAM DEVELOPMENT</h3>	<h3>ENERGY MANAGEMENT TRAINING</h3>	<h3>FULL-TIME ENERGY ENGINEER</h3>
<p>Plant energy audits are comprehensive evaluations of the actual performance of a plant's energy-using systems and equipment compared against the designed performance level or the industry Best Practice. As a part of this audit, ARG incorporates PdM technologies and services to help companies identify immediate actions for improving energy performance, prioritizing projects, and tracking their Energy Management progress.</p>	<p>Energy Management efforts should be cohesive and work towards the same goal of minimizing energy costs, ensuring a reliable energy supply, and identifying energy savings opportunities. ARG helps our clients develop strategic and comprehensive Energy Management Programs that recognize industry standards such as ISO 50001, ISO 9001, and the like.</p>	<p>ARG has a robust training offering that covers all topics related to equipment reliability, operational excellence, and PdM technology uses and applications, as well as Energy Management training that identifies links between Operations and Maintenance.</p>	<p>ARG has the capability of supplying dedicated resources for your energy efforts, whether the need is identification of opportunities, leading projects, analyzing data, or training internal company personnel on the intricacies of Energy Management.</p>

ENERGY MANAGEMENT NEED BASED SERVICE PACKAGES

PROGRAM MATURITY	1	<ul style="list-style-type: none"> No explicit energy policy exists. No information system, monitoring activity to underpin review process, accounting for energy consumption, or reporting. No evidence of assignment of energy efficiency tasks and duties. No consideration is given to energy efficiency during working operations; no operational energy targets set. 	<ul style="list-style-type: none"> Foundational Energy Awareness Training. Energy Current State Assessment, including: <ul style="list-style-type: none"> Energy Usage Maps Evaluation of Operational and Maintenance Impacts on Energy Steam System Analysis Leak Detection 	1	SERVICE PACKAGES
	2	<ul style="list-style-type: none"> Only an unwritten or uncoordinated set of guidelines exists. Energy review activity is based on revenue costs. Reports only issued if prompted by a business need. Unwritten set of energy responsibility assignments. Energy-saving techniques are only adopted where they can be easily accommodated within traditional working practices. Operational energy targets set by default through budget setting procedures. 	<ul style="list-style-type: none"> Building Envelope Analysis. Heat Transfer Analysis. Development and Integration of Energy-Related Key Performance Indicators (KPI). 	2	
	3	<ul style="list-style-type: none"> An unadopted energy policy is set by energy manager or senior department manager. Occasional technical energy efficiency reviews; regular financial checks. Occasional issue of energy efficiency status reports. Some staff and departments have written energy responsibilities. 	<ul style="list-style-type: none"> Strategic and Tactical Energy Management Program Development Recognizing Standards such as ISO 14001 and 50001. Defined Energy Management Responsibility Assignments (Who is "Responsible, Accountable, Supportive, Consulted, and Informed"). Targeted Energy Management Training. 	3	
	4	<ul style="list-style-type: none"> There is a formal energy policy, but no active commitment from senior management. Frequent energy efficiency reviews using monitored consumption data. Current status reports issued annually to shareholders and staff; performance reports shared with staff. List of energy responsibilities and their assignment exist for key energy staff and all departments. Staff are aware of how they affect energy use and follow all good housekeeping measures to save energy. 	<ul style="list-style-type: none"> Developed PM and PdM Maintenance Strategies, Optimizing Equipment Reliability and Energy Efficiency. Continuous Energy Monitoring and Analysis. 	4	
	5	<ul style="list-style-type: none"> Formal energy policy, action plan, and regular review have commitment of senior management and are integrated with company goals and expectations. Comprehensive systems and reporting set targets, monitor consumption, identify defects, quantify savings, and provide budget tracking. Detailed energy RASCIs exist and are comprehensive and regularly reviewed. All staff have responsibilities. All staff understand that their roles impact energy efficiency. 		4	

Best Practice

BEST IN THE WORLD AT

TECHNOLOGY

Vibration Analysis | Infrared Thermography | Ultrasound | Motor Circuit Analysis
Energy Management | Power Quality Analysis | Oil Analysis
Reliability Centered Lubrication

PROCESS

5S | CMMS Management and Assessment | Reliability Assessments and Benchmarking
Asset Health Auditing and Management | Reliability Centered Commissioning Leadership
and Change Management | Lean and Lean Six Sigma
Reliability Engineering (RCM and RCA) | Operational Excellence | Outage Management
Equipment Maintenance Plan Development | Planning and Scheduling | MRO
Preventive Maintenance Evaluation and Optimization | Work Execution Management
Equipment Criticality and Hierarchy | Equipment Walkdown and Master Equipment List

PEOPLE

Talent Acquisition | Direct Hire Staffing | Succession Planning
Workforce Development | Public Training | Private Training
Blended Learning



ALLIED RELIABILITY GROUP GLOBAL HEADQUARTERS

4200 Faber Place Drive
Charleston, SC 29405
o. 843.414.5760
f. 843.414.5779

ALLIED RELIABILITY GROUP EMEA

Interleuvenlaan 64
3001 Heverlee, Belgium
o. +32(0)16.40.01.36
f. +32(0)16.40.01.37

ALLIED RELIABILITY GROUP CANADA

2572 Daniel Johnson, 2nd Floor
Laval, QC | Canada H7T 2R3
o. 450.902.2569
f. 450.902.2568

WWW.ALLIEDRELIABILITYGROUP.COM | INFO@ALLIEDRELIABILITY.COM