

PRACTICAL APPLICATION OF ENERGY MANAGEMENT SYSTEMS AND REVIEWING THE CONNECTIONS BETWEEN:

Energy Management Systems And Higher Energy Costs
Energy Management Systems And Decarbonization
Energy Management Systems And ESG goals.



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Expertise includes:

Facility Design/Maintenance

Operations Management

Strategic Planning/Development

ISO Management Systems



Renee Rambo

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Expertise includes:

Strategic Energy Management

Industrial Energy Procurement

Regulatory/Legislative

Six Sigma Black Belt

Energy Efficiency

ISO 50001 Energy Management



ATTENDEE SURVEY

Is GHG or CO2 reduction tied to Energy Efficiency at your company?

Is there a heightened focus on Carbon Emissions at your company?

How many working on implementing an Energy Management System of some sort? (ISO50001, 50001Ready, SEM...)

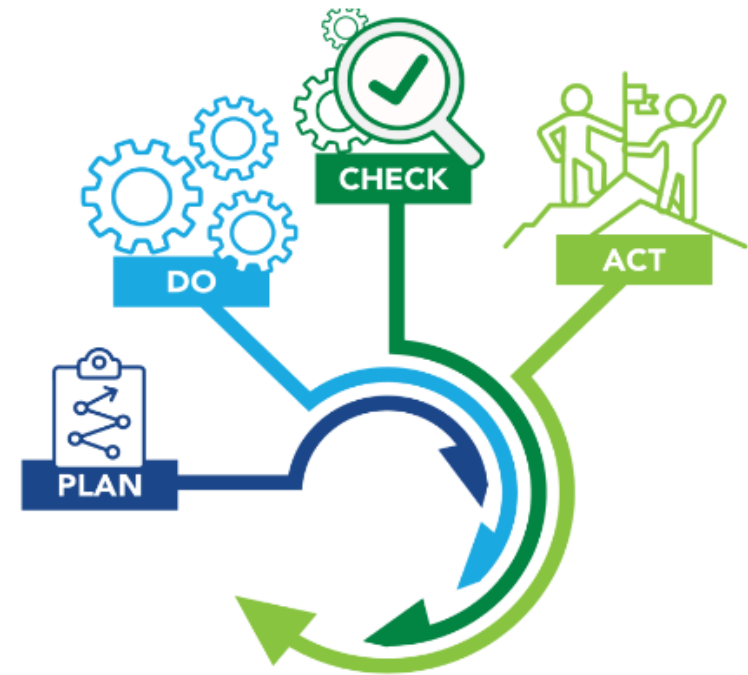
Any directives to move to all electric?

Any efforts centered on Natural Gas or Hydrogen?

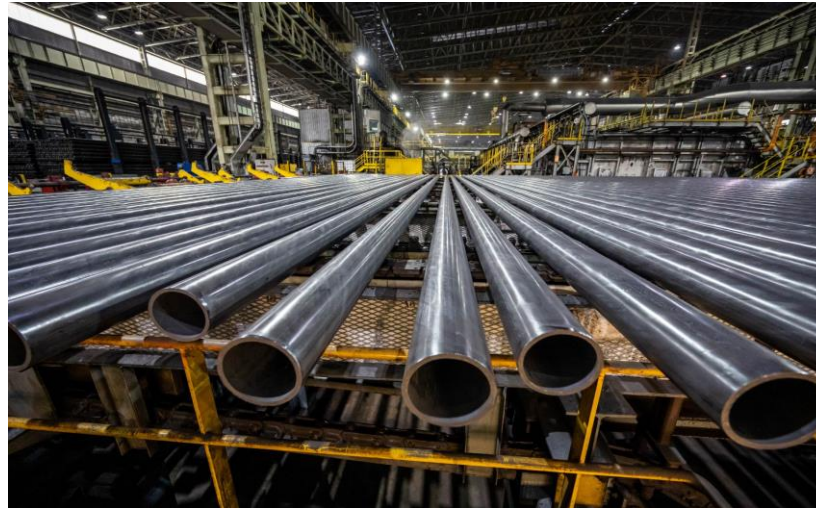
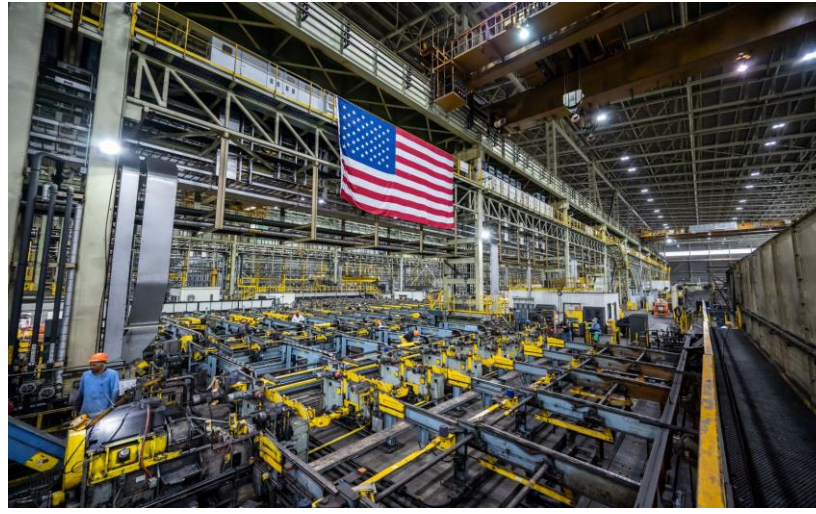
Are ESG goals a focus outside of your EHS department?

THE JOURNEY

- A continuous improvement mindset
 - Plan, Do, Check, Act
- Management support is critical
- An Energy Champion
- Online tools that will help
 - DOE website
 - 50001 ready navigator



WHO IS VALLOUREC?



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GaMEP
Georgia Manufacturing
Extension Partnership

SINCE LAST YEAR

Vallourec's Journey

- Achieved 50001 Ready Recognition
 - Dec 2022
- Increased attention to carbon reduction
 - Aligning carbon reduction and energy efficiency
- Helpful Tools
 - Enhancing data systems
 - Prioritization of projects
- Next Step:
 - 50001 Ready recertification
 - Then ISO50001



Vallourec Star LP

Is recognized as an Energy Management Leader for instituting DOE's 50001 Ready program across its manufacturing facility in Youngstown, Ohio

UNDER THE LEADERSHIP OF

Renee Rambo Energy Manager Eric Shuster President

Recognized by the
United States Department of Energy

December 13, 2022



HELPFUL TOOLS: PRIORITIZATION MATRIX

Priority Criteria Scoring					
Score	Project Type	Savings Opportunity	Utility Cost	Environmental Impact	Capex
1	Capex	< \$10,000/yr.	<1%	negative	payback >1 year
2	NA	>=\$10,000/yr., <\$25,000/yr.	>=1%, <5%	NA	NA
3	Operational	>=\$25,000/yr., <\$50,000/yr.	>=5%, <10%	neutral	Payback <1yr
4	NA	>=\$50,000/yr., <\$100,000/yr.	>=10%, <25%	NA	NA
5	Maintenance	>=\$100,000/yr.	>=25%	positive	no



WHY IS AN EnMS VALUABLE?

- Managing future costs
- Accurate budgeting/forecasting
 - Reduce variability of energy costs
- Minimize impacts of volatile energy markets
- Predictability based on understanding your relevant variables
- The consumption and cost connection
- The consumption and Carbon connection



THE FINANCIAL VALUE OF AN EnMS

Cost savings

- Energy as a raw material
- Identify the costs associated with your energy usage
- Bring energy costs into cost of product
- Impact on profitability – Energy costs directly impact the bottom line
- Mitigate the risks of increasing energy costs
- Accelerate savings



THE CONNECTION BETWEEN ENERGY EFFICIENCY AND DECARBONIZATION

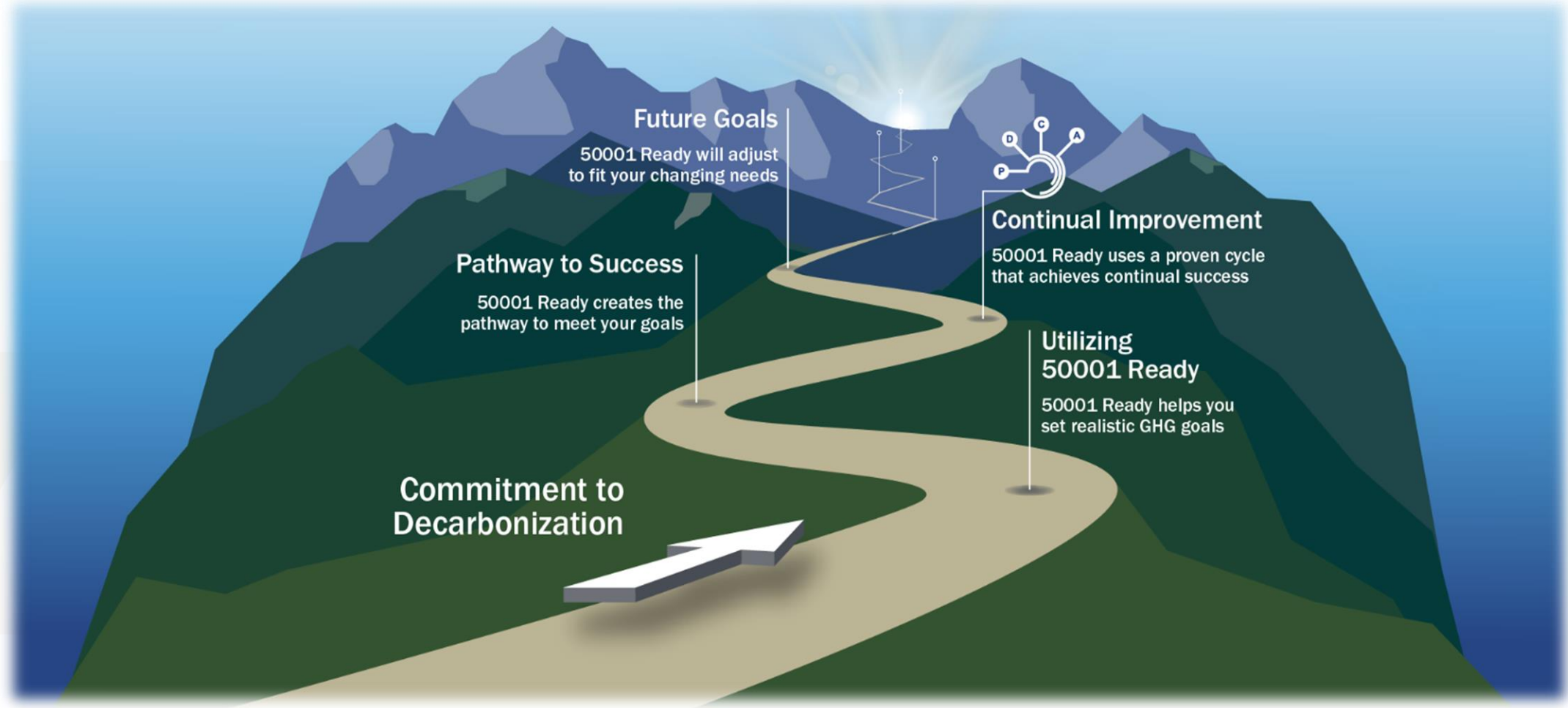
Environmental(EHS) SEES

- Decarbonization focus and not necessarily tied to energy efficiency
- Historically, the “Squeaky wheel”
- EHS funding is to reduce CO2 footprint

Energy Management (Facilities/Maintenance)

- Focus on Energy Efficiency
- Result is Carbon Reduction
- Historically difficult to fund project on energy efficiency

PATHWAY TO DECARBONIZATION



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A FUNCTIONING EnMS SUPPORTS ESG/CO2 GOALS

CO2/GHG Reduction

- Outcomes of a properly functioning Energy Management System
- Metrics can tie MMBTU or Kwh saving directly tied to CO2/GHG footprint

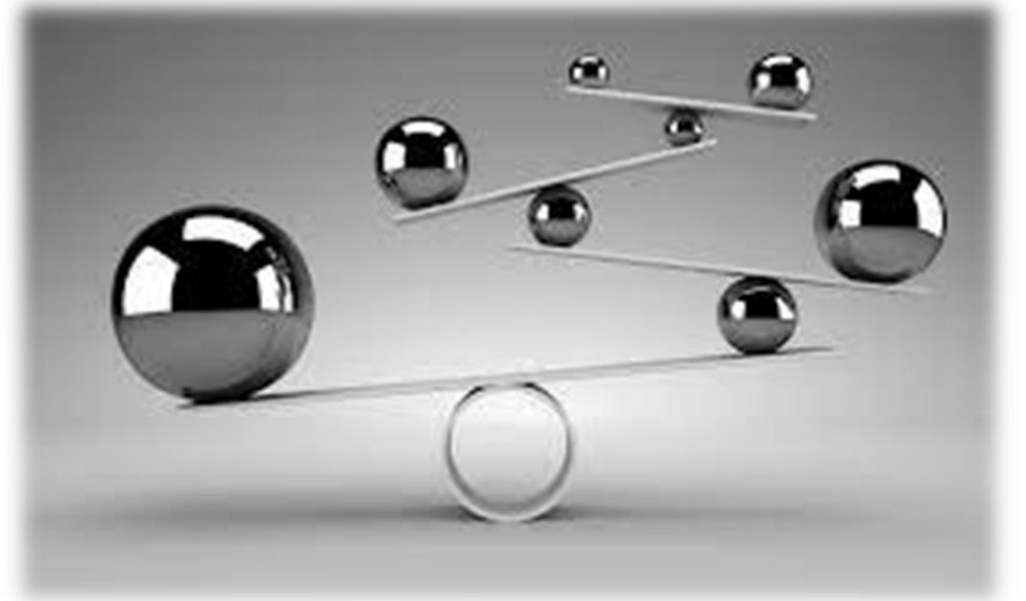
ESG Goals

- EHS departments/groups are often not knowledgeable on the direct impact of energy efficiency to ESG goals.
- This makes alignment with corporate social responsibility strategies and sustainability goals a language barrier between operational units



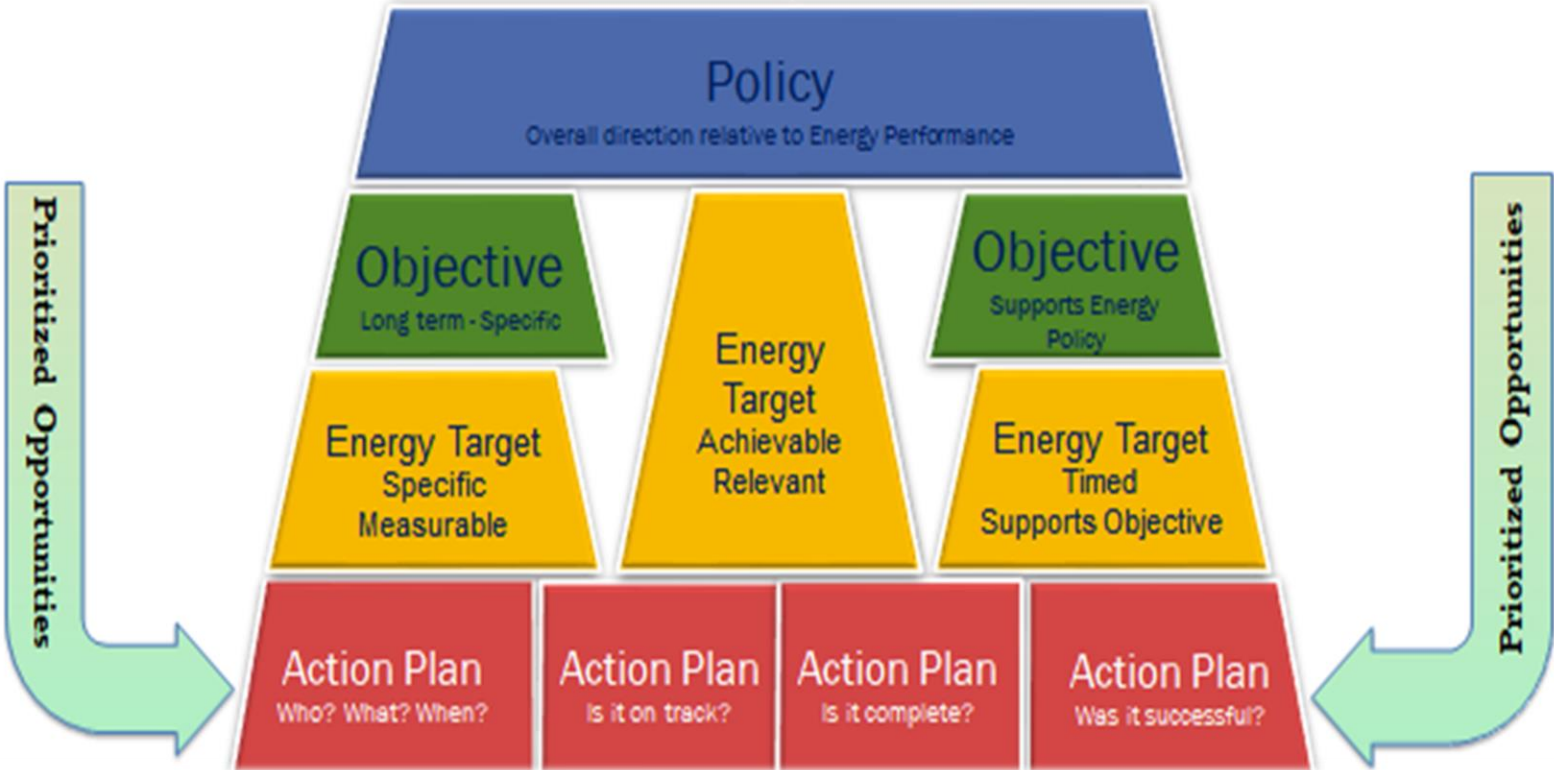
A BALANCED STRATEGY

- What makes sense for your business
- Carbon reduction reality
 - Increased energy consumption
 - Increase energy costs
- Energy Efficiency
 - Reduce costs
- Consider a blend of options
 - Multiple energy sources
- Short, mid, and long term actions
- Prioritization methods



SUPPORTING THE STRATEGIC APPROACH

Energy Policy, Objectives, Targets, and Action Plans



Resources

- Main website: [50001 Ready \(lbl.gov\)](http://50001Ready.gov)
- Ready Navigator: <https://navigator.lbl.gov/>
 - Resources, Tasks, Playbook
- [Industrial Technology Validation Pilot | Better Buildings Initiative \(energy.gov\)](http://energy.gov)
- [50001 Ready Program | Better Buildings Initiative \(energy.gov\)](http://energy.gov)



50001 Ready
U.S. DEPARTMENT OF ENERGY

Biographical Information

Renee L. Rambo
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Renee Rambo currently serves at the Energy Manager for Vallourec STAR in Youngstown Ohio. Renee attended Youngstown State University where she earned three degrees, Associates in Drafting and Design, Bachelors in Mechanical Engineering Technology and Masters in Industrial Engineering.

Over the course of her career, she has held many leadership roles in the Automotive, Utility and Steel industries.

Renee started her career at Delphi Packard Electric as an Intern in Purchasing and later became Buyer and Commodity Team Leader for Rubber products. She then moved into Connection Systems Engineering as a Program Manager and later transitioned into Sales focused on Device Connections later to become the Customer Manager General Motors representing Delphi Connection Systems.

After her departure from the automotive industry in 2005, Renee went back into Purchasing taking on a position in Corporate Services at FirstEnergy Corporation. She got her CMP/CPSM in 2007 to recommit to the Purchasing Profession. At FirstEnergy, she managed various commodities such as freight services, corporate credit cards, network services, including a special assignment on contract management and supplier development.

Renee came to Vallourec in 2008 as a Senior Technical Buyer. She was the lead buyer on the \$1Billion Fine Quality Mill built in Youngstown Ohio where she negotiated construction, equipment and service contracts for the green field project. Moving up in the Sourcing organization, Renee served as the Global Sourcing Manager for consumables for Vallourec worldwide. She led a Global Team of 30 people that manage strategic commodities such as Thread Protectors, Cutting Tools and Oils & Greases, Lubricants/Coatings, MRO and spare parts. In her Sourcing role, Renee also managed Energy, electricity and gas contracts for Vallourec in NA.

In 2017, Renee moved to the operations side of the business in Industrial Performance where she continued and expanded her role on Energy. With a focus on cash and cost she led Results Accelerator teams, continuous improvement teams and supported many six sigma initiatives as a Six Sigma Blackbelt.

As the need for increased focus on Energy becomes more important in our culture, Renee was well positioned to assume a newly created role of Energy Manager mid-2019. In this role Renee is responsible for utility and energy relationships, utility cost management including curtailment and regulatory impacts, and strategies for efficiency, sustainability, and carbon emissions. She recently led Vallourec Star to be 50001 Ready Recognized in December of 2022 by the Department of Energy. She has completed several courses at GaTech in Energy Management including Certified Practitioner in EnMS and ISO50001 Lead Auditor.

Renee is currently serving IEU-Ohio as the Chairman.

Biographical Information

Jason Clarke, CEM, Engineering Project Manager, Manufacturing Extension Partnership, Georgia Institute of Technology, Rock Spring, GA

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Jason Clarke uses his 20 years of experience working in operations, engineering, and project management to help manufacturers successfully implement continuous improvement and sustainability programs.

Expertise: Energy Management, Integrated Management Systems, Strategic Planning, Sustainability Strategy, Energy Systems, Plant Layout and Design, Plant Management, Technical Personnel Management, Plant Maintenance, Electrical Design, Innovation, Project Management, Problem Solving.

Education: MBA from Kennesaw State University, B.S. in Mechanical Engineering from San Diego State University. Certified Energy Manager, Distributed Generation Certified Professional, Existing Building Commissioning Professional. Certified Practitioner in Energy Management Systems.