

NET-ZERO ENERGY PLANNING & CONSULTING

Peter Dahl, Ph.D., LEED AP BD+C & O+M, CEM
Principal – Energy and Infrastructure Group
612.859.0898 | PDahl@hga.com



STEP ONE: PRELIMINARY ASSESSMENT

- Assemble stakeholders
- Gather data on existing energy usage
- Benchmark building energy use
- Condition assessments on all major HVAC, lighting, and electrical equipment



STEP TWO: DRAFT RECOMMENDATIONS

- Determine energy reduction measures
- Cost analysis and capital spending plan
- Design standards



STEP THREE: IMPLEMENTATION PLAN

- Work with client on implementation of measures
- Plan details carbon reduction outcomes, costs, benefits, paybacks, risks



STEP FOUR: ONGOING SUPPORT

- Commissioning of all projects
- Ongoing energy monitoring and updating benchmarking metrics

GOING BEYOND EFFICIENCY

HGA is a catalyst for positive change, partnering with clients to secure a resilient, renewable and sustainable future. We work with a range of clients from initial advisory services to design and operation. Our approach gives clients tools and documentation on the advantages, disadvantages and economics of key options to help them make informed and educated decisions.

Our team employs an holistic approach to energy projects. We work closely with clients to help them understand their energy costs and set viable energy goals for the future. We assess the design and operation of current systems, identify opportunities to reduce the use of energy, and deliver forward-thinking energy plans that enable our clients to take cost-effective and strategic action. Our experience allows us to develop creative and viable solutions that align capital investments with long term costs, improve energy efficiency, control operating costs, minimize environmental impact, and enhance productivity by supporting occupant health.

THE CASE FOR SAVING ENERGY

MEETING CURRENT AND FUTURE NEEDS

A well-designed plan brings together a set of principles and goals to form a unified solution that is strong and flexible – meeting current needs while envisioning the future. Our work succeeds because it is built upon a foundation of insight into the unique needs of each organization. The drive for deep understanding shapes the way we collaborate with each client and deploy the diverse resources within our firm. It's how we deliver unexpected solutions that deliver added value.

UNDERSTANDING YOUR ENERGY COSTS

HGA brings focus to energy projects by asking the right questions. Our approach improves an organization's understanding of its economic, technical and social objectives, and enables our clients to be proactive, instead of reactive, in the long term. By demonstrating the importance of measuring and verifying energy usage, we help clients understand their energy costs and set viable energy goals for the future.

STRATEGIC PLANNING FOR THE BOTTOM LINE

Our team helps clients optimize current physical resources by assessing them for energy efficiency and reliability; reduce use of energy and resources, decreasing environmental impact and operating costs; plan for capital replacements of energy systems; define standards and procedures for new or retrofit projects; and protect financial resources by limiting exposure to energy market volatility.

KNOWING YOUR OPTIONS

Alternative equipment options can improve energy efficiency and reduce maintenance and operational costs. We consider the complexities of energy supply, energy generation and building loads in the context of our clients' present and future facility needs. We evaluate the feasibility and life-cycle cost of these alternatives to help owners justify the investment.

PROMOTING YOUR BUSINESS

Truly sustainable design must first and foremost be centered on the human experience. Improved indoor environmental quality enhances productivity and improves performance by supporting occupant health and well being.



MILWAUKEE AREA TECHNICAL COLLEGE INTEGRATED ENERGY MASTER PLAN MILWAUKEE, WISCONSIN

Milwaukee Area Technical College had a goal of reducing building site energy consumption by 50%, reducing greenhouse gas emissions from building energy use and related refrigerants by 100%, and improving occupant comfort. HGA was engaged to develop an integrated energy master plan and 10+ year capital spending plan, in order to achieve these goals from 2020 to 2030. This included necessary infrastructure investments beyond energy efficiency for old equipment deemed to be near its end of life time frame. The team worked in close collaboration with MATC staff throughout the process. The plan specifies operational savings from implementation and includes the integration of academic programs and student learning opportunities. HGA's team is currently providing measurement and verification services to verify ongoing performance of the buildings.