



D.L. STEINER, INC.
ENERGY CONSULTANTS AND ENGINEERS

Energy Management Services

*Innovative, Effective Programs &
Systems That Deliver True Energy
Efficiency to Your Operations*



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Maximum Benefit from *Every* Energy Unit Used

Recently compiled data by the Lawrence Livermore National Laboratory indicate that nearly one-fourth of the energy consumed by U.S. industrial plants, commercial firms, and public facilities ends up as “rejected” (nonproductive) energy. With D.L. Steiner’s *energy management services*, you can stop—and even *reverse*—this inefficiency, reducing your facility’s energy consumption while getting more from each energy dollar you spend.



Energy Audits

The first step in energy efficiency is knowing where you stand: How much energy are you presently using? Is this good or bad? How does it compare to similar operations? D.L. Steiner’s energy auditing services provide a clear, accurate, progressively detailed profile of your facility’s energy usage so you can answer these and other key energy management questions.

Level I Basic Audit

D.L. Steiner’s *Level I Basic Audit* helps you know where you are, energy-wise—and where you can go. We begin with a “walkthrough” of your facility to become familiar with its energy-using systems, their typical operation, and the maintenance practices used to keep them running. Information we collect during this time is integrated with your facility’s recent utility billing histories (for electric, gas, water, etc.) to help analyze your energy use and patterns.

Wherever possible, we then compare this analysis with recognized energy performance indexes to create a benchmark profile of your facility: how it compares with facilities of a similar size and function. Is your energy efficiency above average, average, or below average in relation to these operations?

Finally, we use these results to develop a basic list of *energy conservation opportunities* (ECOs) available to you—along with estimates of their potential savings, implementation costs, and projected paybacks.

With our Level I Audit, you get the information you need to prioritize energy projects and to decide if completing a *Level II Standard Audit* is warranted.

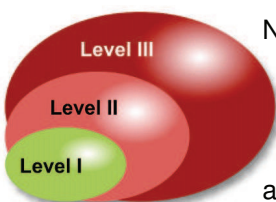
Level II Standard Audit

D.L. Steiner's *Level II Standard Audit* builds on the Level I Audit to provide a more extensive, *quantified* analysis of your facility's energy-using systems. The result is an energy management "roadmap" that will enable you to reach your most critical efficiency goals.

For the Level II audit, we collect additional data about your energy-using systems in order to baseline their energy usage and operating characteristics. This includes performing limited measurement and verification (M&V) at selected locations and conducting interviews with designated facility personnel.

We then use this expanded data set to complete a series of engineering calculations that help us:

- Quantify your facility's energy efficiency (its uses and losses)
- Identify specific *energy conservation measures* (ECMs)—retrofits, updates, and additions—that, if implemented, *will* reduce your energy consumption and associated costs



Next, we calculate the cost and savings of all ECMs in order to quantify their capital investment requirements and the ROI you can reasonably expect.

Our Level II Standard Audit delivers the analysis you need to determine *with assurance* (1) the ECMs your facility should incorporate and (2) the proper timetable for implementing them so you can pursue your most cost-effective project financing options.

Level III Investment Grade Audit (IGA)

D.L. Steiner's *Level III Investment Grade Audit* provides a comprehensive, function-specific analysis of your facility's total energy use to *guarantee* the cost savings and the ROI of proposed ECMs *before* they

are implemented. This provides the financial assurance necessary to satisfy the expectations of both management and lending institutions.

We begin by thoroughly researching not only your energy-using systems, but also the facility, itself: its footprint, envelope, the climate it operates in, and its usage pattern (hours of operation and types of processes performed). During this phase, we conduct extensive M&V as well as in-depth interviews with all key facility personnel.

We then use this information to create a computer-simulated baseline model of your facility



that mirrors its actual physical conditions, operating characteristics, and energy usage. We calibrate this model with such information as utility-supplied data, data from engineering studies, details from facility maintenance programs, and your facility's "people factor" (the profiles of those who occupy and use it). Our goal is to build a computerized basis for comparison that is completely consistent with actual facility use.

Next, we use the model to run various scenarios in order to identify all short- and long-term ECMs appropriate for your facility. Each ECM is evaluated in terms of these critical factors: (1) interaction/impact on other systems, (2) initial cost to implement, (3) energy savings (increased efficiency or reduced consumption), (4) possible risks, and (5) cost-effectiveness (payback period or lifecycle cost analysis).

From these, we develop a comprehensive final list of ECMs, each quantified in terms of the real-world energy and cost savings it will deliver if implemented. This provides the reliable, up-front data that planners need for confidently making investment decisions involving capital-intense facility changes.

Other Energy Services

Utility Optimization Services

Reliable, well-planned energy delivery is critical to energy efficiency. D.L. Steiner's *Utility Optimization Services* ensure the links between your utilities and your energy-using systems are as good as they can be so you can achieve this level of performance.



From spotting utility feed design flaws and opportunities for delivery improvement (e.g., combining electrical services) to accurately tracking each energy unit consumed, we can help your facility receive maximum benefit from all energy resources entering your door.

Demand Control Services

For the electricity utility, exceeding predetermined kW demand rate levels can result in expensive demand charges that send monthly electric bills through the roof! D.L. Steiner's *Demand Control Services* help you stay on top of your kW demand rate—keeping it consistent and low—to reduce your electricity charges *plus* increase your system's electrical capacity without upgrading or adding equipment.

Whether you need a simple monitoring application or a whole-facility software- and meter-based control system, D.L. Steiner can design a custom demand control solution that will help you smooth your electrical demand—and lower your electric bills.

Alternate, Cogeneration, and Renewable Energy Services

Sometimes, better energy management requires a non-conventional approach. From CHP (combined heat and power) systems to auxiliary generators to solar panels, D.L. Steiner's *Alternate, Cogeneration, and Renewable Energy Services* help you incorporate supplemental energy solutions that cut your total energy costs.

Achieve Energy Efficiency

No matter how well you do on the energy efficiency scale, chances are your rating can be *even better* with the right energy management solutions. D.L. Steiner's energy management services help you implement these solutions to bring true energy efficiency to *your* operations.* Call us today—(419) 222-6048—for more.

* D.L. Steiner's energy management services are performed and supervised by engineers who have earned the CEM (Certified Energy Manager), CEA (Certified Energy Auditor), CMVP (Certified Measurement and Verification Professional), and CDSM (Certified Demand Side Manager) credentials through the Association of Energy Engineers (AEE), Atlanta, Georgia.



About D.L. Steiner

In business since 1988, D.L. Steiner, Inc. is a full-service energy engineering and consulting firm, specializing in energy systems for industrial, commercial, and public facilities.

Our vision is to help our clients implement and maintain energy systems that are well designed, reliable, efficient, safe, and environmentally responsible.

With our years of experience, you're sure of high-performance energy systems that will meet your needs now—and as your company grows!

In addition to energy management, we offer a wide range of other services designed to keep your energy systems operating at their peak. Let D.L. Steiner Assist You with...

- *Electrical Safety Management Services*—Safety studies and analysis (short circuit, protective device coordination, arc flash hazard analysis); safety labeling (of electrical devices); safety assessments, audits, and program development; safety training and resources (electrical, lockout/tagout, fall prevention, confined spaces, hazard communication)
- *Electrical Maintenance and Reliability Management services*—ReBEEMS (*Reliability-Based Electrical Equipment Management System*) EPPM database program; reliability studies; electrical preventive maintenance program assessment and development
- *Power Quality Services*—Power studies; disturbance/harmonic analysis; power factor analysis, power factor correction and filtering; load studies
- *Electrical Design and Engineering Services*—Power system design; project management; CAD services



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