

**Isaac G. "Zack" Lilienfeld, PE, CEM**  
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**CORE COMPETENCIES:**

- High-level understanding of National and regional energy/utility industry issues from both the consumer and utility perspectives, developed through a 31 year career in the energy field.
- Adept at all types of business communications; accomplished and experienced presenter, public speaker and business writer.
- Proficient at analyzing processes and systems to evaluate and improve operations.
- Organizational skills as demonstrated in developing and running a successful private consulting practice.
- Experienced at curriculum development, training and instruction to technical and business audiences.
- Competent supervisor/manager and experienced team builder with proven interpersonal and negotiating skills.

**EXPERIENCE:**

**Integrity Engineering, LLC/Endpoint Consulting, Margate, NJ and Wayne, PA (March 2000 – present)**  
**Consulting Engineer/Owner**

- Independent energy consultant, offering private consulting services to energy end-users, as well as serving as a contract consultant to regional utility & energy consulting firms, focusing on energy supplier and end user markets.
- Energy services include providing technical assistance, evaluating energy usage, negotiating with utilities on clients' behalf, utility bill analysis, investigating energy-efficient equipment and alternate fuel/supplier options, performing energy audits, researching of energy suppliers, and preparing written reports.
- Additional services include residential structural evaluations and consultations (no design work performed)

**Commercial Utility Consultants, Inc., West Chester, PA (1995 – March 2000)**  
**Vice President, Energy Services**

- Provided technical/engineering/utility tariff solutions to serve client energy cost reduction needs.
- Evaluated electric marketers for client base to aid in selection of appropriate alternate electric supplier.
- Participated in strategic planning and market analysis to assist in guiding the direction of the company.
- Responsible for developing new business areas to improve profitability and broaden range of services.
- Performed utility bill analysis for clients, developed spreadsheet-based tariff analysis tools for in-house use.
- Performed energy audits and equipment surveys for clients; evaluated alternate energy technologies.
- Consulted with the US GSA on electric supply issues to aid in utility cost reductions for government agencies.

**Pennsylvania Power & Light Co., Allentown, PA (1978 – 1995)**  
**Last position – Key Account Manager, Chemical & Pharmaceutical Sector**

- Primary responsibilities included electric service consultation, marketing planning, consultive selling of electric applications to business & industry, utility account management of small commercial to large industrial accounts.
- Supervised 5 industrial/commercial account representatives with direct customer responsibilities.
- Managed multiple high-impact projects including coordinating electric service to major customers.
- Participated on various planning task forces relating to company operations and customer activities.
- Budgeted, planned and implemented utility conferences for major utility customers and design professionals.
- Accomplishments included facilitating the installation of the first total thermal storage educational facility in the US.

**EDUCATION & TRAINING**

- Wilkes University, **Masters in Business Administration**, Concentration in Finance and Marketing, 1986
- Lehigh University, **BS Mechanical Engineering** and **BS Civil Engineering**, 1978
- Association of Energy Engineers continuing education courses including "Fundamentals of Energy Management", "Performance Contracting" and Measurement and Verification"
- Attended AIA/AEE "Tectonics of Sustainable Design 2-day workshop, 2006
- Attended the Ground Water Trust's Ground Source Heating & Cooling Workshop, 2008
- Certified Building Science Thermographer by the Infrared Training Institute

**PROFESSIONAL DESIGNATIONS AND AFFILIATIONS**

- Registered Professional Engineer, State of NJ (24GE03494000) and Commonwealth of PA (PE-033361-E)
- Senior Member, Association of Energy Engineers  
Certified Energy Manager, Certified Business Energy Professional, Certified Green Building Engineer
- Member and past local chapter President, American Society of Heating, Refrigeration and Air Cond. Engineers
- Member, Environmental Solutions Association

## ABOUT ZACK LILIENFELD



Zack Lilienfeld is a New Jersey native and graduate of Pleasantville High School, Class of 1973. Graduating 5th of 238 students and with high honors in the college preparatory track, Zack was awarded both the Mathematics and Science awards in his graduating class. Following high school graduation, he attended Lehigh University in Bethlehem, PA, where, in 1978, he was the first Lehigh graduate awarded concurrent Bachelor of Science degrees in both Civil and Mechanical engineering.

Zack's energy career began in 1978 upon graduation, being hired by Pennsylvania Power & Light Company into the position of Energy Management Associate in the corporate Energy Conservation Department.

Here, among other support duties, he developed an energy conservation training manual for field energy engineers. From this energy support position, he rapidly advanced into the position of Energy Management Consultant in the Lehigh Division office, where he supported the energy conservation efforts of Division engineers handling customer energy conservation and service matters. Several years later, he was promoted to the position of System Customer Engineer, where he was responsible for energy and service issues with the corporate offices of major utility customers. Responsibilities included energy program development, conference planning, customer relations, technical support, communications and related activities.

Following this, Zack took on direct customer accountability after being promoted to Power Engineer in the Lehigh Division office, serving the needs of the utility's medium-sized customers located in PP&L's BuxMont region. This led to a promotion to Energy Management Engineer, a senior support position in the Lehigh Division office. During this time, Zack received extensive training on energy auditing, lighting, HVAC systems, cogeneration, life cycle cost analysis, geothermal heat pump installation, along with marketing and consultative selling training. He helped develop an energy training curriculum at the utility, and was selected as instructor in the company's training program for Division customer contact personnel.

In 1986, while working full time, Zack completed an evening MBA program from Wilkes College (now Wilkes University), graduating with a 3.9 grade point average. His coursework concentrated in finance and marketing. He was an active participant in the Junior Achievement classroom and evening programs in the Lehigh Valley and was recognized by being chosen as the region's "Consultant of the Year" in 1991. On the professional side, he was an officer in the Lehigh Valley Chapter of the Association of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), ultimately advancing to President of the chapter for 1993-94. And, he served as an adjunct instructor at Bethlehem Area Community College, teaching Marketing and Management courses in the evening.

During this period, Zack was instrumental in working with an outside design engineer in promoting the specification of the first all-electric thermal storage elementary school in the country, an achievement that resulted in Zack receiving a national marketing award from the Edison Electric Institute as well as a state award from the Pennsylvania Electric Association in 1992.

As the utility organization transitioned from an energy conservation stance to one promoting the efficient use of electricity, Zack was assigned to the duties of Senior Power Engineer, with supervisory responsibility for five individuals handling energy and service matters in the Bethlehem area of PP&L's service territory. Zack's responsibilities included being the main point of contact with PP&L's largest energy users, including Bethlehem Steel, BOC Gases and Liquid Carbonic,

among others. In this position, Zack handled negotiations on energy matters with senior management of his major customers. As the individual with the responsibility of the largest share of PP&L's high-impact interruptible power customers, he participated in policy meetings and task forces on matters of electric service and energy supply. In early 1995, PP&L underwent a major reorganization, at which time Zack was selected through a competitive process for the position of Key Account Manager in the Chemical and Pharmaceutical sector.

In March of 1995, Zack left PPL to accept a senior management position with Commercial Utility Consultants, West Chester, PA. During his five year tenure as Vice President of Energy Services, Zack performed a variety of technical and managerial duties. Among his responsibilities was performing equipment audits, managing customer relations with major national multi-account clients, developing analysis tools for utility account auditing and managing client information, negotiating with utilities on clients' behalf, and assisting clients on deregulation issues. In 1998, Zack developed an RFP for alternate energy supply for Conrail, the former major Northeast freight railroad based in Philadelphia. As a direct result of his efforts, Conrail saved over \$600,000 annually.

In March, 2000, Zack left Commercial Utility Consultants to become an independent energy consultant, forming Endpoint Consulting in Wayne, PA. Following a move to Southern New Jersey in 2002, he formed Integrity Engineering, LLC. In his capacity as Consulting Energy Engineer, he provides energy services to commercial, institutional, municipal and industrial clients in the Northeast and Mid-Atlantic region. Most notably, Zack assisted Allentown School District, Pennsylvania's 3rd largest, in a variety of energy-related areas, including crafting an RFP for an energy performance contract, negotiating gas and electric energy supply agreements, studying energy impacts of new technology introduction and food service operations, identifying utility bill irregularities and negotiating refunds for utility billing errors. He also worked with the Director of the City of Philadelphia's Municipal Energy Office, developing an RFP for the City's Bureau of Prisons. And, he was hired by the City of Margate, NJ, to determine the viability and economic return expected from the installation of solar photovoltaic systems proposed for the city's three elementary schools. In 2006, he presented a workshop on cutting energy costs in schools for South Jersey school district decision-makers.

Zack's client work has been varied and across a broad spectrum of energy end-users. In 2007, he performed a thermographic scan of a large steam distribution system for a major DuPont research facility in Philadelphia. More recently, Zack performed energy audit work for Princeton Senior Living, an affiliate of Presbyterian Homes of New Jersey, and the corporate headquarters of the Lenox Group in Bristol, PA. Additionally, he has provided ongoing energy consulting services in support of the corporate energy team at Johnson Matthey, a major manufacturer of pollution control equipment in Devon, Pennsylvania. He recently completed projects with JAMAC Frozen Food Corporation, the Institute of Management Accountants, Oasis Foods, and Lenox Corporation.

Zack currently resides in Margate, NJ with wife Sherri and their four young children. He is a Senior Member of the Association of Energy Engineers, where he has attained the designations of *Certified Energy Manager*, *Certified Business Energy Professional* and most recently, *Green Building Engineer*. He remains a long-standing member of the Association of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE). And, he has received certification as a Building Sciences Thermographer from the Infrared Training Institute. Zack's outside interests include participation in a variety of outdoor activities, as well as renovating declining residential properties.