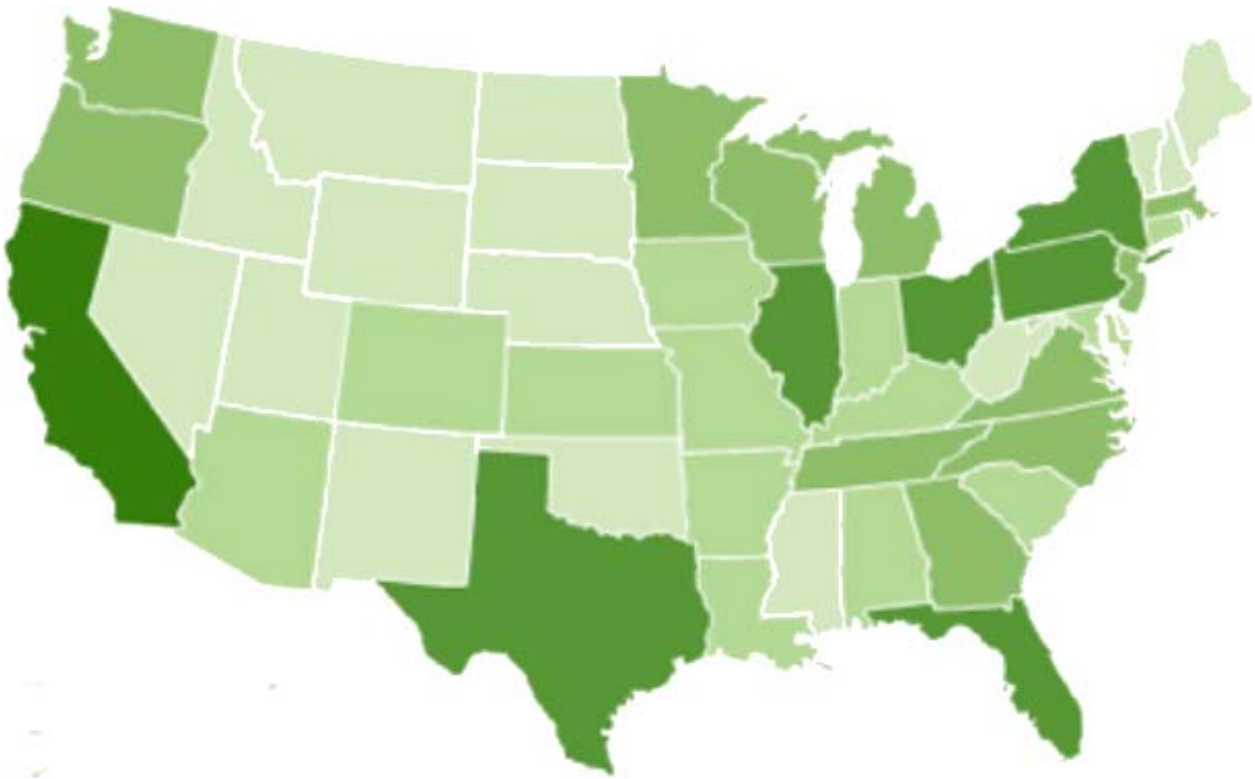
ENERGY MANAGMENT JOBS REPORT 2014

Survey of the Energy Industry

RELEVANT TRENDS, OPPORTUNITIES, PROJECTIONS & RESOURCES



Presented by

The Association of Energy Engineers
www.aeecenter.org

Energy Management Jobs: Survey of the Energy Industry

The Association of Energy Engineers (AEE), a nonprofit professional society of over 16,000 members, issued a survey to its members to determine the need for Energy Management Jobs, Energy Industry Potential, and Salary Data. The results represented are based on 2,967 responses and are outlined in this report. AEE was founded in 1977, and its mission is *"to promote the scientific and educational interests of those engaged in the energy industry and to foster action for sustainable development."*

Profile of Respondents

- Eighty-five percent (85%) have graduated from a four-year accredited college
- Forty-one percent (41%) have a post-graduate degree from an accredited college
- Thirty-seven percent (37%) are registered Professional Engineers or Architects
- Eighty-three (83%) are certified in one or more of the following categories:

1. Certified Energy Manager (CEM®)
2. Energy Manager in Training (EMIT™)
3. Certified Energy Auditor (CEA™)
4. Certified Sustainable Development Professional (CSDP®)
5. Certified Green Building Engineer (GBE®)
6. Business Energy Professional (BEP®)
7. Certified Lighting Efficiency Professional (CLEP™)
8. Certified Power Quality Professional (CPQ®)
9. Certified Building Commissioning Professional (CBCP®)
10. Distributed Generation Certified Professional (DGCP™)
11. Certified Measurement & Verification Professional (CMVP®)
12. Certified Energy Procurement Professional (CEP®)
13. Certified Indoor Air Quality Professional (CIAQP™)
14. Certified GeoExchange Designer (CGD®)
15. Certified Carbon Reduction Manager (CRM®)
16. Certified Building Energy Simulation (BESA™)
17. Certified in the Use of RETScreen® (CRU™)
18. Certified High Performance Building Professional (HPB™)
19. Certified Building Energy & Sustainability Technician (BEST™)
20. Government Operator of High Performance Buildings (GOHP™)
21. Certified Energy Efficiency Practitioner (EEP™)

2014 AEE Member Survey

Is there a shortage today of energy management professionals?		
Answer Options	**Response Percent**	**Response Count**
Yes	66.1%	1663
No	33.9%	853

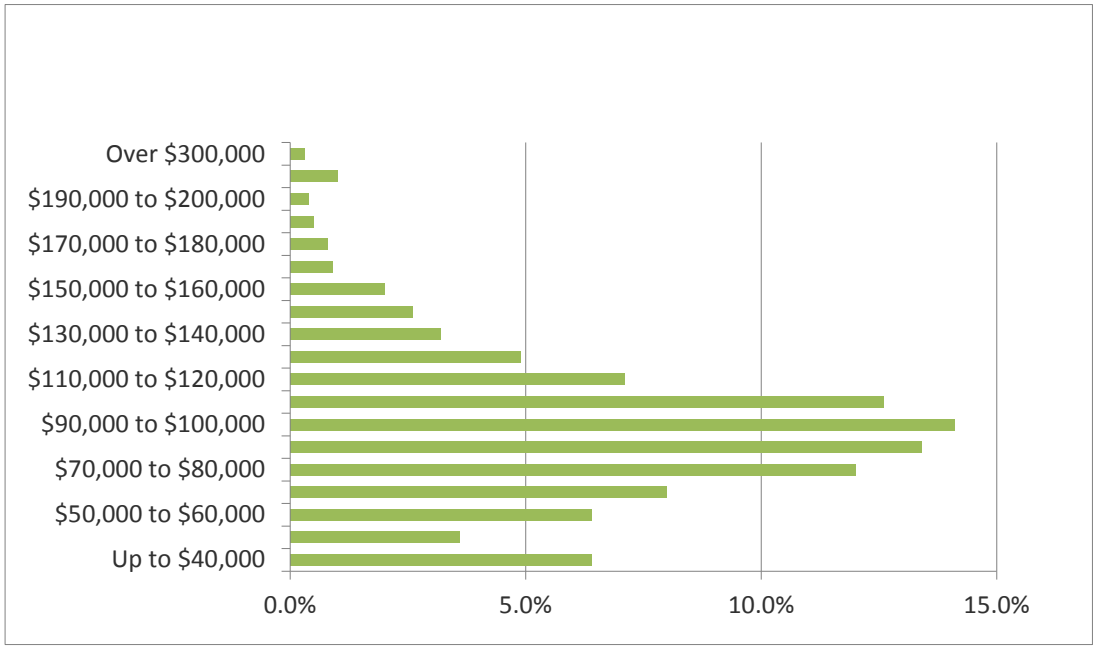
Do you plan to retire within the next five years?		
Answer Options	**Response Percent**	**Response Count**
Yes	16.2%	412
No	83.8%	2127

Do you plan to retire within the next ten years?		
Answer Options	**Response Percent**	**Response Count**
Yes	36.0%	896
No	64.0%	1595

Do you feel that there will be a shortage of qualified professionals in the energy efficiency and renewable energy field within the next five years?		
Answer Options	**Response Percent**	**Response Count**
Yes	61.6%	1549
No	38.4%	967

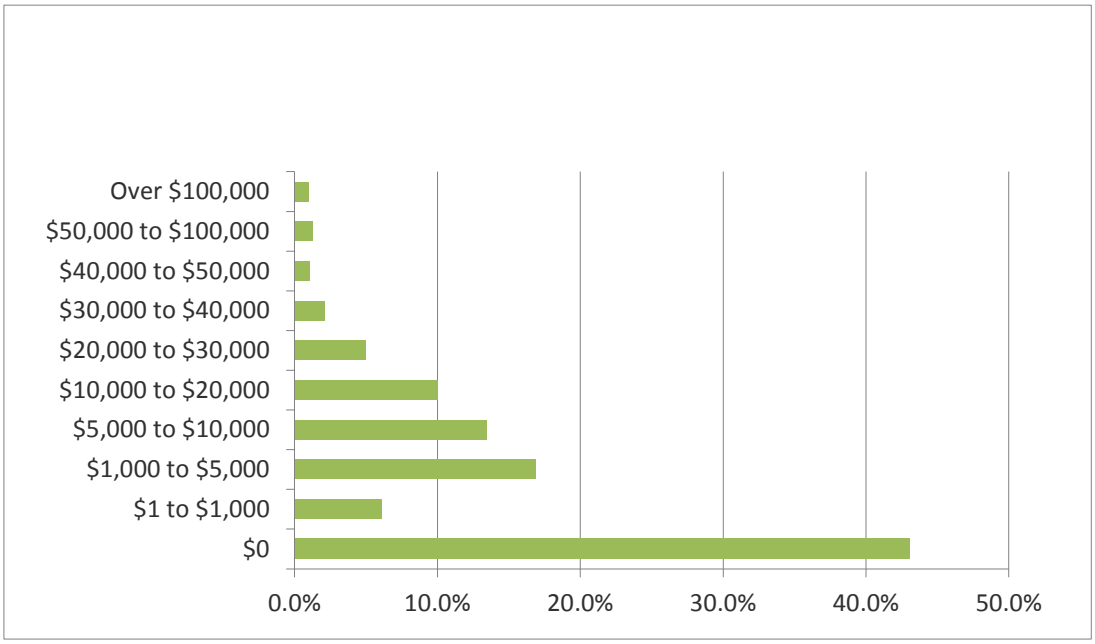
Please input your base salary as of January 1, 2014		
Answer Options	**Response Percent**	**Response Count**
Up to $40,000	6.4%	156
$40,000 to $50,000	3.6%	88
$50,000 to $60,000	6.4%	155
$60,000 to $70,000	8.0%	194
$70,000 to $80,000	12.0%	293
$80,000 to $90,000	13.4%	326
$90,000 to $100,000	14.1%	344
$100,000 to $110,000	12.6%	308
$110,000 to $120,000	7.1%	172
$120,000 to $130,000	4.9%	119
$130,000 to $140,000	3.2%	78
$140,000 to $150,000	2.6%	63
$150,000 to $160,000	2.0%	48
$160,000 to $170,000	0.9%	21
$170,000 to $180,000	0.8%	20
$180,000 to $190,000	0.5%	12
$190,000 to $200,000	0.4%	9
$200,000 to $300,000	1.0%	25
Over $300,000	0.3%	7

Average Salary: $98,847



Please indicate any bonus you received last year		
Answer Options	**Response Percent**	**Response Count**
$0	43.1%	1033
$1 to $1,000	6.1%	146
$1,000 to $5,000	16.9%	405
$5,000 to $10,000	13.5%	324
$10,000 to $20,000	10.0%	239
$20,000 to $30,000	5.0%	119
$30,000 to $40,000	2.1%	51
$40,000 to $50,000	1.1%	26
$50,000 to $100,000	1.3%	30
Over $100,000	1.0%	23

Average Bonus: $9349



Are you a graduate from a 4-year accredited college?		
Answer Options	**Response Percent**	**Response Count**
Yes	85.4%	2155
No	14.6%	369

Do you have a post-graduate degree from an accredited college?		
Answer Options	**Response Percent**	**Response Count**
Yes	40.9%	1035
No	59.1%	1493

Are you a registered Professional Engineer?		
Answer Options	Response Percent	Response Count
Yes	35.7%	901
No	64.3%	1624

Are you a Registered Architect?		
Answer Options	Response Percent	Response Count
Yes	0.8%	20
No	99.2%	2431

Do you hold a valid certification from AEE (i.e. CEM, CEA, BEP, CBCP, CMVP, etc.)?		
Answer Options	Response Percent	Response Count
Yes	83.1%	2115
No	9.1%	232
In process of obtaining	7.8%	198

Are you a Certified Energy Manager® (CEM®)?		
Answer Options	Response Percent	Response Count
Yes	71.3%	1809
No	28.7%	728

If you are a CEM, what would best describe your field of work:		
Answer Options	Response Percent	Response Count
Energy Manager at a Company/End User	10.6%	192
Energy Manager in a Government Facility	10.6%	192
Facility Manager	4.9%	88
Industrial Energy Manager	3.4%	62
Contractor	3.0%	55
Institutional Energy Manager	2.2%	39
Consultant or Contractor to End User	24.7%	447
Project Management/Engineer	13.1%	238
Utility Account Manager	7.0%	126
ESCO	9.3%	168
Energy Executive	1.9%	35
Other	9.3%	168

Do you feel that you have a need for any additional training?		
Answer Options	Response Percent	Response Count
Yes	83.3%	1510
No	16.7%	303

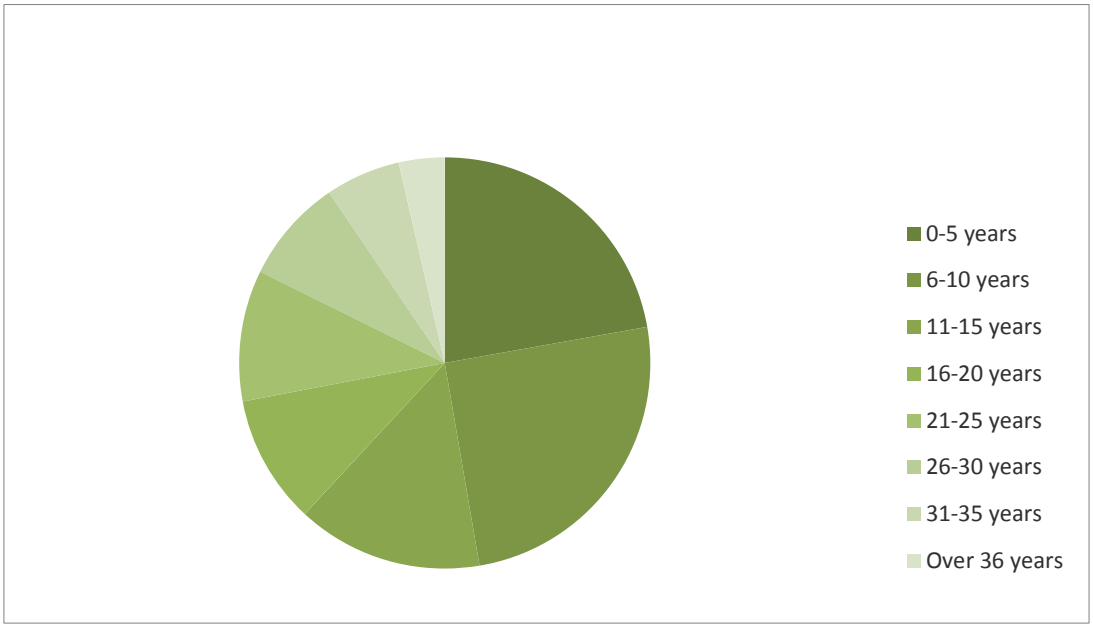
If yes, what kind of additional training do you require?		
Answer Options	Response Percent	Response Count
Skills update for energy managers	25.5%	396
Advanced courses in auditing	11.0%	171
Advanced courses in building commissioning	12.7%	198
Alternative energy & renewables	9.7%	151
Smart grid/demand response	7.5%	116
Measurement & verification	12.2%	189
Carbon reduction and GHG management	4.2%	66
Performance contracting and project financing	8.4%	131
Other	8.7%	135

What is most challenging about your job?		
Answer Options	Response Percent	Response Count
Getting projects approved by top management	36.3%	658
People management skills	14.3%	260
Approval of new and innovative energy management	27.4%	496
Other	22.0%	399

What professionals do you think are qualified to verify a building or facilities Portfolio Manager score for the purpose of applying for an EPA Energy Star Rating?		
Answer Options	Response Percent	Response Count
Professional Engineer	41.3%	1043
Registered Architect	7.3%	185
Certified Energy Manager	50.6%	1279
All of the above	43.3%	1094
Other	4.7%	118

Is your company currently?		
Answer Options	Response Percent	Response Count
Adding energy management staff	25.9%	654
Downsizing energy management staff	5.6%	142
Not changing energy management staffing levels	68.5%	1730

How many years of energy management experience do you have?		
Answer Options	Response Percent	Response Count
0-5 years	22.2%	566
6-10 years	25.1%	640
11-15 years	14.6%	372
16-20 years	10.1%	258
21-25 years	10.3%	263
26-30 years	8.2%	208
31-35 years	5.9%	151
Over 36 years	3.6%	93



Are you currently an AEE certified professional?		
Answer Options	Response Percent	Response Count
Yes	82.8%	2015
No	17.2%	418

Earning an AEE certification credential has helped or will help my career?		
Answer Options	Response Percent	Response Count
Yes	85.7%	1759
No	14.3%	294

Since you have received your AEE certification, are you receiving higher compensation than before?		
Answer Options	Response Percent	Response Count
Yes	35.9%	729
No	64.1%	1299

Since you have received your AEE certification, are you receiving higher visibility?		
Answer Options	Response Percent	Response Count
Yes	59.4%	1206
No	40.6%	823

Since you have received your AEE certification, are you in a better position for advancement?		
Answer Options	Response Percent	Response Count
Yes	60.5%	1219
No	39.5%	797

Earning an AEE certification has benefited or will benefit my firm?		
Answer Options	Response Percent	Response Count
Yes	85.9%	1739
No	14.1%	286

Earning an AEE certification has given my firm a competitive edge in respect to requests for proposals?		
Answer Options	Response Percent	Response Count
Yes	60.1%	1175
No	39.9%	781

Information & Resources

"We're in a competition all around the world, and other countries …know that clean energy technology is what is going to help spur job creation and economic growth for years to come." – *President Barack Obama*

The Bureau of Labor Statistics (BLS) defines green jobs as either "jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources [OR] jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources."

"The aggressive pursuit of comprehensive energy efficiency policies and initiatives could potentially save $1.2 trillion by 2020. Such substantial savings would stimulate the sluggish economy by freeing resources to bolster productivity and thus provide opportunities for job creation. Looking at the long term, it is estimated that by investing in and deploying existing and more advanced technologies, the United States' economy could support a net increase of 1.3 to 1.9 million jobs by 2050." *American Council for an Energy-Efficient Economy*

"The clean economy, which employs some 2.7 million workers, encompasses a significant number of jobs in establishments spread across a diverse group of industries. Though modest in size, the clean economy employs more workers than the fossil fuel industry and bulks larger than bioscience but remains smaller than the IT-producing sectors. Most clean economy jobs reside in mature segments that cover a wide swath of activities including manufacturing and the provision of public services such as wastewater and mass transit. A smaller portion of the clean economy encompasses newer segments that respond to energy-related challenges. These include the solar photovoltaic (PV), wind, fuel cell, smart grid, biofuel, and battery industries." *The Brookings Institution*

According to a report by Environmental Entrepreneurs (E2):

- **"Public transportation drove clean job growth nationwide**, clocking in at over 43,000 jobs over the course of the year. Power generation, most of which came from solar, wind, and geothermal, came in second with more than 30,000 jobs.
- **Solar power was a strong and steady job creator throughout the year**, and especially in the fourth quarter, providing over 19,000 jobs between the manufacturing and power generation sectors.
- **Investment in energy efficiency hit a record high** of $5.6 billion in 2012, according to E2's analysis of government data, thanks to the announcement of as many as 9,000 new jobs.
- **Uncertainty over the production tax credit hit wind energy**, leading to a decline in job creation announcements in the fourth quarter, even as capacity installation ramped up at the end of the year to get in under the anticipated expiration. But now that the "fiscal cliff" deal has extended the credit for another year, 2013 expectations show wind energy regaining some of its momentum."

"More than 190 organizations have taken the Better Buildings Challenge, representing more than 3 billion square feet of building space across diverse public and private sectors, more than 600 manufacturing facilities, and close to $2 billion in energy efficiency financing… Partners are continuing to demonstrate that improvements in energy intensity of more than 2.5% per year are achievable and cost effective. If all U.S. commercial, multifamily, and industrial buildings and facilities improve at this rate, savings would total more than $80 billion per year, after 10 years." *United States Department of Energy, Office of Energy Efficiency and Renewable Energy*

"From 2000–2008, green construction and renovation generated $1.3 billion in energy savings. Of that $1.3 billion, LEED-certified buildings accounted for $281 million. Forecasted energy savings are even more dramatic. From 2009 – 2013, the overall green construction market is expected to generate $6 billion in energy savings. Of that $6 billion, LEED-certified buildings may account for as much as $4.8 billion of the total." *United States Green Building Council*

"After modest growth in 2013, total installed wind power capacity in the United States now stands at 61 gigawatts (GW), which meets nearly 4.5 percent of electricity demand in an average year, according to the **2013 Wind Technologies Market Report**, released… by the Energy Department and its Lawrence Berkeley National Laboratory. The report also found that wind energy prices – particularly in the Interior region of the United States–are at an all-time low, with utilities selecting wind as a cost-saving option.

With utility-scale turbines installed in more than 39 states and territories, the success of the U.S. wind industry has had a ripple effect on the American economy, spurring more than $500 million in exports and supporting jobs related to development, siting, manufacturing, transportation and other industries."
United States Department of Energy

Training Opportunities

The Association of Energy Engineers offers a variety of professional training and re-training programs, including:

- Training seminars, conferences, and industry networking (energy, sustainability, energy auditing, power, green facilities, certification programs)
  - http://www.aeecenter.org/realtime (Online training seminars)
  - https://www.aeecenter.org/seminars/calendar.htm (Live seminar training)
  - http://www.aeecenter.org/shows (energy industry events)