

# EE Investments Crush Dow Jones Performance in both 10-year & 20-year Comparisons

Eric A. Woodroof, Ph.D., CEM,  
Joshua A. Moote,  
Isabella P. Woodroof

## Abstract

Similar to previously published comparisons<sup>1</sup>, annual returns on investments (ROI%) from Energy Efficiency projects (EE) have outperformed the Dow Jones Index (DJI) during the past 10-year and 20-year comparison periods. Because the average annual return of the EE projects was about double the DJI's performance for each year, over a 20-year period; an investment in EE would grow to become 38 times the investment, versus the DJI only growing to 4.5 times the initial investment.

## Introduction

Although the Dow Jones Index has more than doubled during the past 10 years, and quadrupled during the past 20 years, it's volatility impacts performance when compared to the consistent and low-risk performance of Energy Efficiency investments. Energy Efficiency (also called "energy management") projects are typically investments that reduce energy consumption, such as retrofits to lighting, HVAC, motors, controls and other facility systems, or demand side management techniques, which may reduce costs but not necessarily energy consumption. It is very common to find EE projects that have a 5-year simple payback, or 20% return on investment each year. These energy savings (also called "avoided costs" paid to a utility) are very low risk, because they would occur as long as the building is operational and conducting routine maintenance.

In contrast, any investment in the stock market carries significantly more risk. For example, during 5 of the past 20 years, the DJI had a negative annual return, thereby reducing value for the investor. In contrast, EE projects don't usually have such volatility. In fact, the primary variance for an EE project is if the utility's energy price increases, then so do the savings (which further benefits the EE project's return on investment/year). Compared to most investments (which involve product manufacturing costs, distribution, sales costs, product volume, product pricing, competition and other market factors) EE project investments just don't have as much risk.

---

<sup>1</sup> Woodroof, E. (2018), "Energy Efficiency Investments Out-Perform Dow Jones Index", *Buildings Magazine*, January 2018

In this paper, we compare the results of investing in the DJI versus a typical EE project. Because we live in a free market society, the investment performance is the ultimate and transparent result that matters.

**Methods & Results (needs to be updated with the final 2025 DJI return on 12/31)**

Table #1 below compares the Dow Jones Index’s performance for the past 10 years versus a typical energy efficiency project that yielded a conservative 5-year simple payback (or 20% Return on Investment), which is highly probable.<sup>2</sup>

Table #1 presents the year-by-year comparison of value if you invested \$1 and then re-invested the gains each year (either into additional energy projects or the Wall Street Fund):

At the end of 10 years, the Energy Project would have yielded \$6.19 for every dollar invested (net gain of \$5.19), while the DJI would have yielded only \$2.76 for every dollar (net gain of \$1.76).

Table #1

10 Year Comparison:					
Year	Energy Project Performance		DJI Performance		
	Annual Return	Account Value	Annual Return	Account Value	
12/31/15		1			1
12/31/16	20%	1.20	13.42%		1.13
12/31/17	20%	1.44	25.08%		1.42
12/31/18	20%	1.73	-5.63%		1.34
12/31/19	20%	2.07	22.34%		1.64
12/31/20	20%	2.49	7.25%		1.76
12/31/21	20%	2.99	18.73%		2.09
12/31/22	20%	3.58	-8.78%		1.90
12/31/23	20%	4.30	13.70%		2.16
12/31/24	20%	5.16	12.88%		2.44
12/31/25	20%	<b>6.19</b>	12.97%		<b>2.76</b>
<i>Average Annual Return over 10 years</i>		<b>20%</b>	<b>11%</b>		

<sup>2</sup> Woodroof, E. and Morgeson, S. (2026) “Financial Performance of CEM Training Program Graduates - CEM Course Graduates have an 90% Probability of Generating Projects with at least a 24.4% Return on Investment per year with an average ROI of 92%”, Buildings Magazine January 2026

Table #2 compares the Dow Jones Index’s performance for the past 20 years versus a typical energy efficiency project that yielded a conservative 5-year simple payback (or 20% Return on Investment), which is typical. *To be conservative (and not overestimate savings), we assume the EE investment would only last 10 years, so a re-investment of another dollar at the end of year 10 (2014) was applied (and this reduced the account value for the EE project by 1 in that year).*

Table #2

20 Year Comparison:					
Year	Energy Project Performance		DJI Performance		
	Annual Return	Account Value	Annual Return	Account Value	
12/31/05		1			1
12/31/05	20%	1.20	-0.61%		0.99
12/31/06	20%	1.44	16.29%		1.16
12/31/07	20%	1.73	6.43%		1.23
12/31/08	20%	2.07	-33.84%		0.81
12/31/09	20%	2.49	18.82%		0.97
12/31/10	20%	2.99	11.02%		1.07
12/31/11	20%	3.58	5.53%		1.13
12/31/12	20%	4.30	7.26%		1.22
12/31/13	20%	5.16	26.50%		1.54
Re-Investment in New Energy Project Probably required (-1 was applied to Energy Project only, not applied to DJI)					
12/31/14	20%	5.19	7.52%		1.65
12/31/15	20%	6.23	-2.23%		1.62
12/31/16	20%	7.48	13.42%		1.83
12/31/17	20%	8.97	25.08%		2.29
12/31/18	20%	10.77	-5.63%		2.16
12/31/19	20%	12.92	22.34%		2.65
12/31/20	20%	15.50	7.25%		2.84
12/31/21	20%	18.60	18.73%		3.37
12/31/22	20%	22.32	-8.78%		3.07
12/31/23	20%	26.79	13.70%		3.50
12/31/24	20%	32.15	12.88%		3.95
12/31/25	20%	38.58	12.97%		4.46
<b>Average Annual Return over 20 years</b>		<b>21%</b>	<b>9%</b>		

If you look objectively at the data... EE Projects beat the DJI in overall average returns, but also in 17 of the 20 years.

### Additional Considerations & Disclosures

If a company has projects or business processes that return greater than 20% per year, investments should be made “in-house” to maintain competitiveness. *However, it should be noted that by reducing energy consumption and costs, a company simultaneously reduces it’s risk and vulnerability to future utility price spikes.*

To provide a fair comparison, this paper also assumed that gains would be re-invested in either the DJI or additional EE projects (which would also return the nominal 20% return, which is conservative). The authors acknowledge that it is transactionally easier to re-invest gains in the DJI, while re-investment (or expansion of) energy projects may be more difficult to arrange.

Because the EE projects have superior financial performance, there should be motivation for investors/companies to find and fund EE projects... but perhaps there has been doubt that such EE projects could be identified. To resolve uncertainty, recent research revealed there is a 90% probability that qualified professionals can identify EE projects with returns greater than 24.4%.<sup>3</sup> *In addition, there may be externalities which further boost the benefits from EE projects, such as reduced pollution and other societal benefits.*<sup>4, 5</sup> *On occasion, some companies do also benefit by having an improved “sustainability image”, or other benefits which shareholders do recognize.*<sup>6</sup> *Note: only tangible energy and maintenance dollar savings were counted in this study, therefore additional benefits such as sustainability, societal or health improvements, etc., (if assessed) could further improve the financial performance of EE projects.*

## **Conclusion**

Over a 20-year period, an investment in EE would grow to become 38 times the investment, vs the DJI only growing to 4.5 times the initial investment. These results should motivate additional funding towards EE projects, especially when considering that recent research that shows a 90% probability that qualified professionals can identify EE projects with at least a 24.4% ROI per year.

## **About the Author**

Eric A. Woodroof, Ph.D. has received Department of Energy Awards and is also the youngest member ever inducted into 2 separate Hall of Fames in the energy industry. He has served as President of the Association of Energy Engineers, which has members in over 100 countries. He currently serves on several certification/advisory boards, and is the Chairman of the Energy Management Professional Council. He can be reached at: eric {at} ericwoodroof.com.

---

<sup>3</sup> Woodroof, E. and Morgeson, S. (2026), “Financial Performance of CEM Training Program Graduates - *CEM Course Graduates have an 90% Probability of Generating Projects with at least a 24.4% Return on Investment per year with an average ROI of 92%.*”, Buildings Magazine January 2026

<sup>4</sup> International Energy Agency (2014), Capturing the Multiple Benefits of Energy Efficiency

<sup>5</sup> Woodroof, E. (2012), "Energy Conservation Also Yields: Capital, Operations, Recognition and Environmental Benefits... which are Probable and Worth a Double-Digit Improvement to Energy Savings", Energy Engineering, Vol. 109 (5).

<sup>6</sup> Wingender, J. and Woodroof, E., (1997), “When Firms Publicize Energy Management Projects Their Stock Prices Go Up: How High? – As Much as 21.33% within 150 days of an Announcement”, Strategic Planning for Energy and the Environment, Vol. 17(1), pp. 38-51.