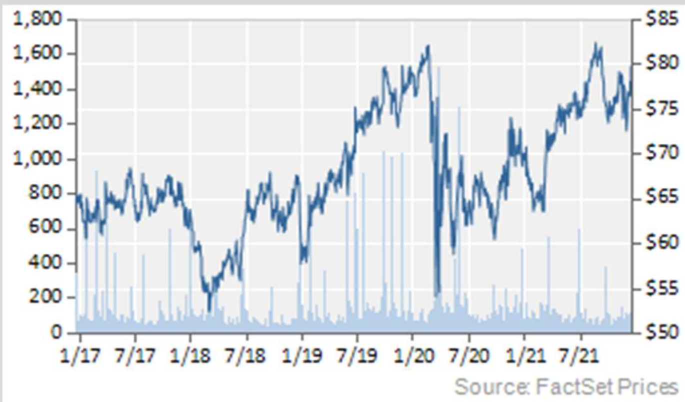
Recommendation: Sell				
Current Price	**$77.78**	---	Ticker	MGEE
1 Year Bear	$47	*-25%*	Sh. Out. (M)	36.16
1 Year Base	**$63**	***-23%***	M.Cap. ($B)	2.85
1 Year Bull	$91	*45%*	EV ($B)	3.34

Utilities, Energy & Natural Gas Utilities

MGE Energy, Inc.

Price History



	5Y	3Y	2Y	LTM	YTD	3M	1M
Return	10.5%	16.6%	-0.4%	10.9%	12.6%	2.9%	6.5%

Summary

I recommend a sell rating with a target of $63. Although MGE is currently increasing its regulatory asset base through renewable energy initiatives, declining authorized rates of return and overvalued multiples represent significant headwinds. This uncertainty offsets my optimism that the core business can continue delivering higher than average sales growth. The stock is overvalued based on relative and DCF analysis.

Financials

	2017	2018	2019	2020	2021	2022F	2023F
Sales($Th)	**563099**	**559768**	**568855**	**538633**	**58766**	**614113**	**633765**
Gr. %	3.4%	-0.6%	1.6%	-5.3%	9.1%	4.5%	3.2%
v. Cons.	-	-	-	-	-	0.7%	-0.1%
Industry	2.9%	4.2%	4.3%	-5.8%	10.1%	1.7%	3.4%
EPS	**$2.82**	**$2.43**	**$2.51**	**$2.60**	**$2.95**	**$2.67**	**$2.76**
Gr. %	29.4%	-13.7%	3.2%	6.4%	15.3%	-9.4%	3.3%
v. Cons.	-	-	-	-	-	-0.3%	-8.3%
Industry	17.5%	9.35%	6.26%	2.4%	0.3%	9.1%	7.5%

Ratios

	2017	2018	2019	2020	2021	2022F	2023F
NPM	**17.3%**	**15.0%**	**15.3%**	**17.2%**	**18.1%**	**16.4%**	**15.7%**
Industry	10.1%	13.7%	9.0%	8.2%	8.2%		
ROE	13.0%	10.6%	10.4%	10.1%	10.6%	10.5%	10.5%
Industry	9.1%	12.0%	-10.4%	3.7%	3.7%		
ROA	5.3%	4.4%	4.3%	3.3%	3.3%	3.3%	3.3%
Industry	2.4%	3.3%	0.4%	1.5%	1.5%		
A T/O	0.30	0.30	0.21	0.20	0.20	0.20	0.20
A/E	2.40	2.41	2.43	2.37	2.27	2.31	2.39

Valuation

	2017	2018	2019	2020	2021	2022F	2023F
P/E	22.4	24.7	31.5	23.8	23.1	23.6	22.4
Industry	20.62	15.16	23.31	22.40	18.40	20.20	19.60
P/S	3.9	3.7	4.8	3.95	3.77		
P/B	2.8	2.5	3.2	2.70	2.80		
P/CF	16.4	13.6	20.9	11.70	13.50		
V/EBITDA	13.20	14.70	18.00	16.6	18.00		
D/P	2.0%	2.2%	1.8%	2.1%	2.0%		

Key Drivers

- Capital Investment: Investments in the core utility business raise the regulatory asset base, which drives EPS growth. In the near term, above average capital spending should support earnings growth, but should be offset by inflationary pressures in the short term.
- Favorable Regulation: MGE operates in a favorable regulatory environment. Support from legislators and regulatory commissions should continue to drive earnings growth; however, declining authorized rates of return may impact future performance.
- Renewable Energy Initiatives: MGE is heavily investing in renewable energy projects with a pipeline of projects of about $430M through 2023. Rising demand for clean energy should continue to drive future growth, although rapid depreciation could affect earnings.
- Growth Rate of Geographic Area: MGE is in one of the largest growing cities in the Midwest with a population growth rate of 12.4% compared to 3.1% for the Midwest.

Valuation

Using a relative valuation approach, MGE Energy appears to be overvalued in comparison to the utility industry. DCF analysis implies that the stock is worth $59.87. A combination of the approaches suggests that MGE is overvalued, as the stock's value is about $63 and the shares trade at $77.78.

Risks

- Regulatory lag may impact MGE's ability to achieve authorized ROE
- Weather may impact energy demand
- Recovery of costs may be limited or not occur.

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MGE Energy has reduced its greenhouse gas emissions by 20% since 2005 and plans to reduce them by 40% by 2030. MGE plans to invest close to $200 million annually in renewable energy projects to reach that goal.

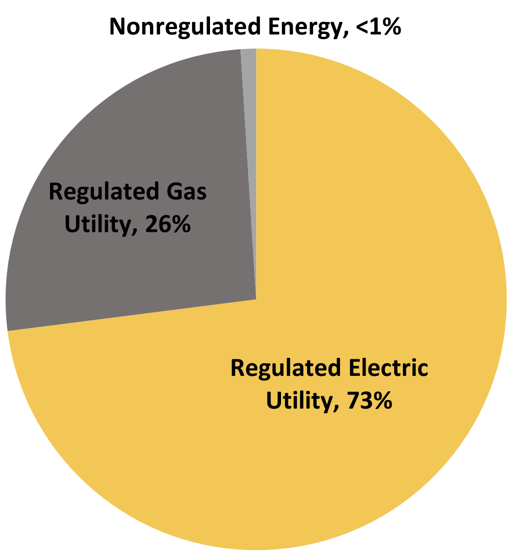
Company Overview

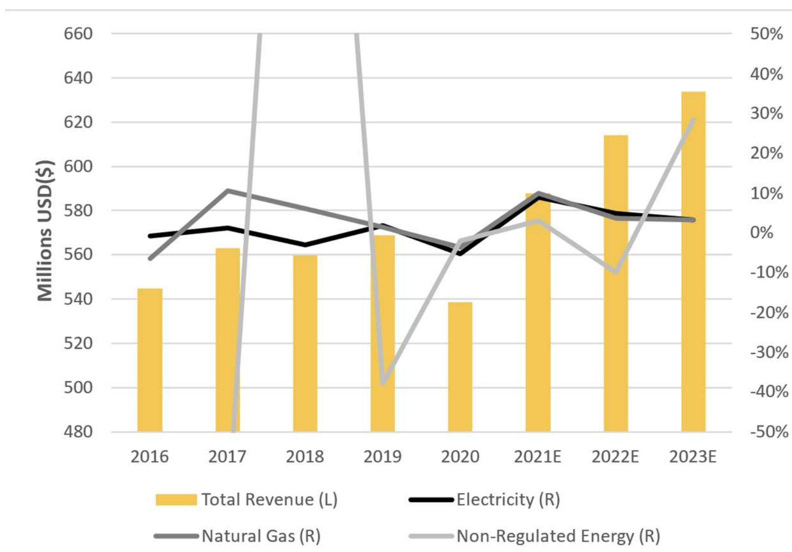
MGE Energy is an electricity and natural gas utility service provider. MGE Energy primarily operates in the south central and western Wisconsin region and is headquartered in Madison, WI. MGE also owns wind farms in Saratoga and Kensett, Iowa. It generates, purchases, and distributes electricity to approximately 157,000 customers and natural gas to 166,000 customers. MGE is focused on providing a reliable energy supply to support economic and business development for its customers as well as investing in clean renewable energy sources. Currently, renewable sources generate 14.5% of the energy demands and MGE plans to grow that to 100% by 2050. Electricity sales account for 73% of revenues while natural gas makes up 26% of revenues.

MGE Energy generates 100% of its revenue from utility operations. MGE Energy generates or purchases electricity and supplies natural gas to customers through its five business segments below:

1) Regulated electric utility operations – generating, purchasing, and distributing electricity.
2) Regulated gas utility operations – purchasing and distributing natural gas.
3) Nonregulated energy operations – owning and leasing electric generating capacity that assists MGE through MGE's wholly owned subsidiaries MGE Power Elm Road and MGE Power West Campus.
4) Transmission investments – represents an investment in American Transmission Company LLC, a company engaged in the business of providing electric transmission services primarily in Wisconsin, and its investment in ATC Holdco LLC, created to facilitate out-of-state electric transmission development and investments.
5) All other – investing in companies and property that relate to the regulated operations and financing the regulated operations, through its wholly owned subsidiaries CWDC, MAGAEL, MGE State Energy Services, North Mendota, and corporate functions.

Figures 1 & 2: Revenue by segment in 2020 (left) and total revenue (in millions $) & YOY revenue growth since 2016 (right)





Source: Company Reports

Note: Transmission Investment and All Other segments do not produce revenue for the company and have no material effect on its financials.

Business/Industry Drivers

Though several factors may contribute to Madison Gas and Electric's future success, the following are the most important business drivers:

1) Capital Investment
2) Favorable Regulation
3) Renewable Energy Initiatives
4) Growth Rate of Geographic Area
5) Macroeconomic Environment

Capital Investment

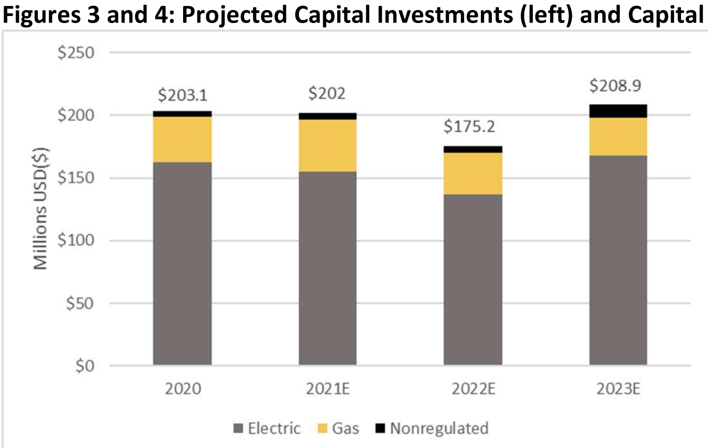
Total capital investments over the next three years may increase EPS by $0.57, all else being equal

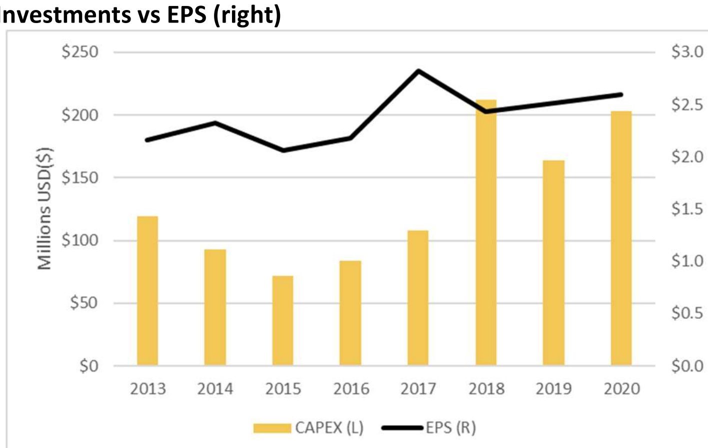
Investments in energy generating infrastructure is probably the most important driver to any utility business. By investing in new infrastructure, MGE can increase its rate base which is a primary determinant in a utility company's net income. Regulated utility revenue is determined by the revenue requirement formula. The formula used is net fixed assets multiplied by the regulated return on equity plus all expenses. MGE has a project pipeline to invest over $586.1 million in new infrastructure through the end of 2023. EPS Growth projections are shown below:

$586.1M **x** 43.75% (current owner's equity) **x** 9.8% Regulated ROE **-** 17.4% (most recent historical tax rate **=** $20,756,585/36,163,370 (shares outstanding as of 06/2021) = $0.57 EPS increase

By 2023, MGE plans to spend more than $460 million in renewable energy generation projects further growing its asset base. To further its goal and satisfy its customers demand to provide carbon free electricity, MGE must invest heavily and rapidly in new infrastructure. Proposed projects will create 212 MW of electricity generation capacity and 35 MW of battery storage capacity increasing the generation capacity by 19.5% (from 1,086 MW currently). It must be noted; however, that some of this generation capacity will replace older carbon-emitting units. Some of these projects are already approved or completed.

Figures 3 and 4: Projected Capital Investments (left) and Capital Investments vs EPS (right)





Source: FactSet, Company reports

2021 capital investments should increase EPS by $0.20. This does not account for any future equity issuances, increased tax rates, or regulatory changes in ROE.

$202M x 43.75% (current owner's equity) x 9.8% Regulated ROE **-** 17.4% (most recent historical tax rate **=** $7,153,780/36,163,370 (shares outstanding as of 06/2021) = $0.20 EPS increase

Capital Investment in 2021 is projected to increase EPS by $0.20 all else being equal

Figures 5: Projected Capital Investments Breakdown (Millions USD$)

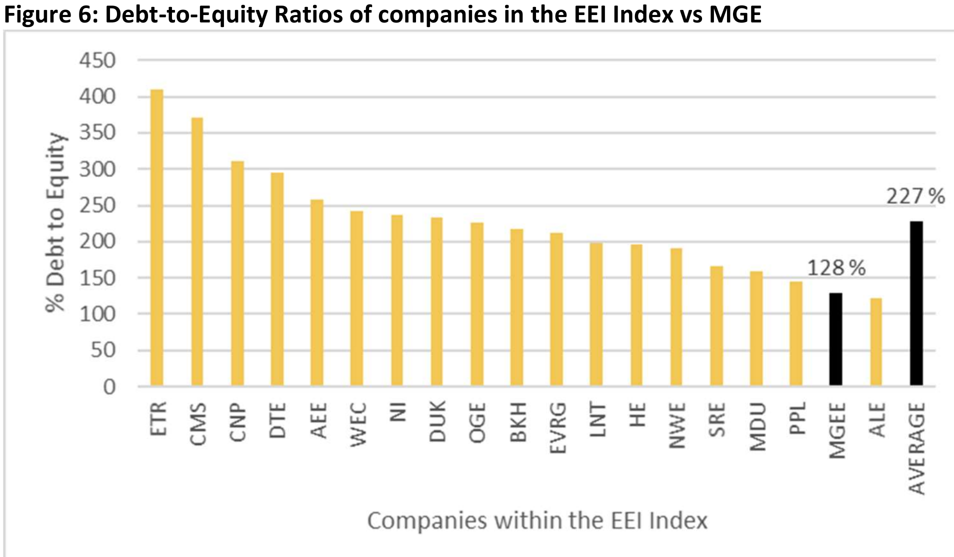
	2020	*2021E*	*2022E*	*2023E*
Electric	$162	$155	$137	$168
Gas	$37	$41	$33	$30
Nonregulated	$4	$5	$5	$11
Total	**$203**	**$202**	**$175**	**$209**

Source: Company reports

Based upon projected capital investments through 2023, MGE has the potential to increase EPS by $0.57. Any tax credits the firm may receive for its investments in renewable energy generation projects could improve this number as well. This also does not account for any new equity issuances over this period and is not expected at this time. If anything, MGE is likely to issue new long-term debt. In 2020, MGE issued an additional 1.5 million shares raising $79.6 million and currently has a debt/equity ratio of 128.5% compared to its peers in the Edison Electric Institute who have an average debt/equity ratio of 227.51%. As a result, I estimate that MGE will fund its future capital investments with long term debt, which will increase interest expense but also increase its rate base.

MGE has one of the lowest D/E ratios allowing it to expand its CAPEX in the coming years compared to its peers without issuing equity.

Figure 6: Debt-to-Equity Ratios of companies in the EEI Index vs MGE



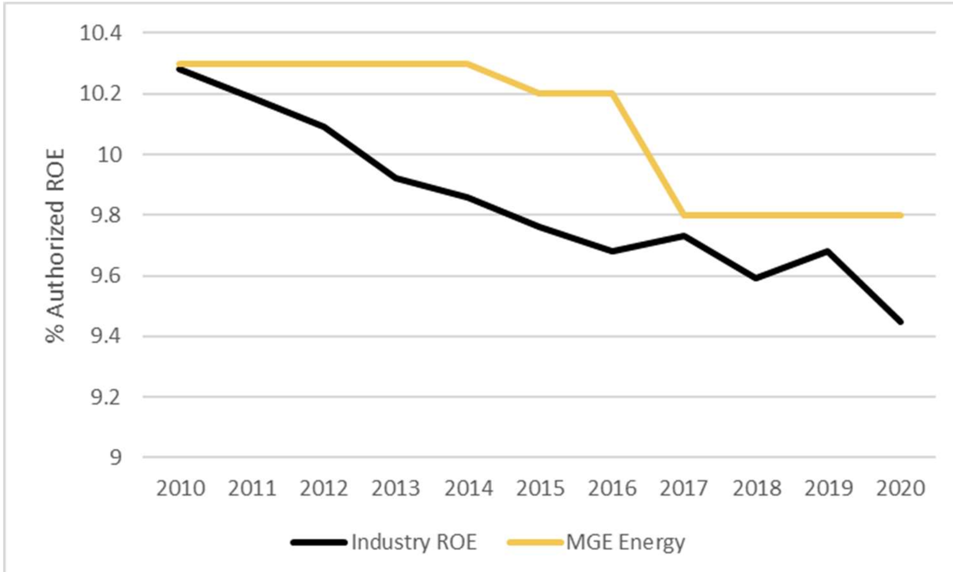
Source: Company Reports, Edison Electric Institute

<u>Favorable Regulation</u>

MGE Energy is a mostly regulated business and operates in a favorable regulatory environment which drives greater earnings growth compared to its competitors. The Public Service Commission of Wisconsin (PSCW) regulates MGE and has certain policies in place that are favorable to utility companies that are not widespread. These policies include the use of forward test years, revenue decoupling, and the inclusion of CWIP (construction work-in-process) in its rate base. Forward test years allow MGE to establish and charge customers a rate based on projected and expected fuel, operating and maintenance, and capital project costs. The year following the test year, the PSCW implements a final rate order. By using a forward test year, rates reflect current business conditions better and there is less operating risk involved. Revenue decoupling allows utilities to charge customers based on the full cost of operating and maintaining the power generation facilities and not just on a per kWh or therm basis. This creates less risk to revenue from customer energy efficiency and reduction initiatives. Customers are still charged based on their portion of fuel expenses, but facility maintenance and operating costs are charged regardless. MGE is allowed to include CWIP in its rate base which increases its earnings unlike some other utilities. 23 of the 50 states allow utilities to use forward test years and nine, including Wisconsin, commonly use forward test years.

The PSCW uses favorable industry rate-setting practices allowing MGE to maintain a higher authorized ROE than its peers.

Figure 7: MGE Energy authorized %ROE vs Utility Industry



Source: S&P Global Market Intelligence, PEG Research, LLC, Company Reports

Since 2010, MGE has maintained a higher authorized ROE relative to the industry, benefitting from a favorable regulatory environment. The most recent average authorized ROE for the industry was 9.45% in 2020, while MGE enjoyed a 9.80% ROE. By having a higher ROE compared to its peers, MGE is more attractive to investors and being able to attract capital allows MGE to invest in newer better generating equipment and provide continual service with less interruptions. Too small of a return does the opposite. MGE is awaiting approval from the PSCW for its rate case that it filed in May 2021. MGE seeks to increase electricity rates by 5.16% and natural gas rates by 2.15% in the forward test year 2022.

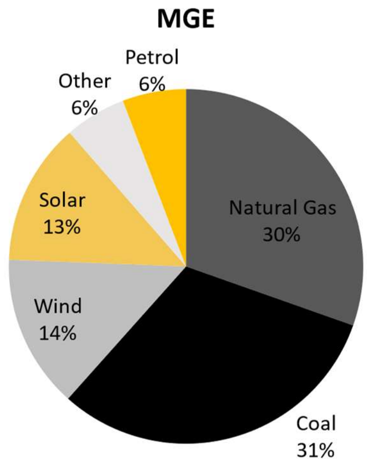
Current and planned renewable energy initiatives will increase MGE's EPS by $0.42 over the next three years.

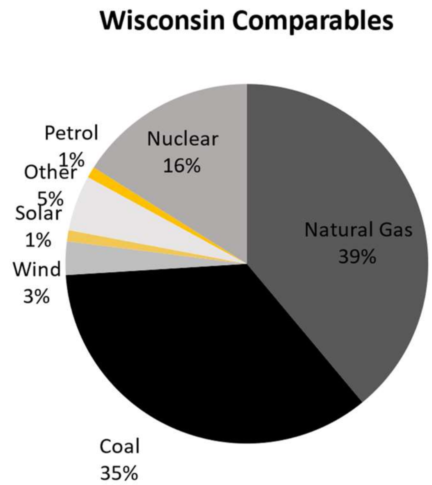
<u>Renewable Energy Initiatives</u>

Investment in renewable energy projects is beneficial to MGE in the form of reduced operating costs, tax incentives, and an increased rate base. MGE recently completed Badger Hollow Solar Farm I and O'Brien and Hermsdorf Solar Fields adding 78 MW, more than doubling its solar energy generating capacity. It plans to complete Badger Hollow Solar Farm II next year and has three more solar projects in its pipeline pending PSCW approval. These projects will add another 75 MW of generating capacity and 35 MW of battery storage capacity. MGE also owns 153 MW of wind energy generating capacity from its Top of Iowa, Rosiere, Forward Energy Center, and Saratoga wind farms. As stated earlier, MGE plans to invest $430 million in renewable generation projects through 2023. MGE and its co-owners of the Columbia Energy Center have committed to retiring the coal fired facility by the end of 2024. MGE's aggressive investing in renewable generation projects will benefit earnings as these costs increase its rate base. By investing in renewables, MGE will be able to generate an additional $0.42 EPS over the next three years.

> $430M x 43.75% (current owner's equity) x 9.8% Regulated ROE **-** 17.4% (most recent historical tax rate **=** $15,228,342/36,163,370 (shares outstanding as of 06/2021) = $0.42 EPS increase

Figure 8 and 9: MGE MW Capacity Energy Mix (left) & Comparable Wisconsin Utility MW Capacity Energy Mix (right)





Source: Company Reports, US Energy Information Administration

As you can see, MGE is more heavily invested in renewable projects than its peers. I compared MGE to its comparable utility companies in Wisconsin because weather patterns and ecological environments across the nation affect how easily electricity can be generated from various sources and, Wisconsin and our northern climate rely heavily on coal and natural gas during winter months when generation by other means is limited given current technology. I believe that since MGE is investing in renewable projects at an accelerated pace compared to its peers, it will be able to enjoy higher earnings growth in the near term. By the time other utilities have caught up to MGE, it will be positioned to invest in newer technologies that exist at that time.

In the long term, renewable energy initiatives could negatively impact MGE's earnings. After renewable assets are fully depreciated, electricity will be almost free. The PSCW doesn't allow a return on fully depreciated assets. However, it is difficult to know how long these renewable assets will last and when or if better technology will become available for MGE to invest in.

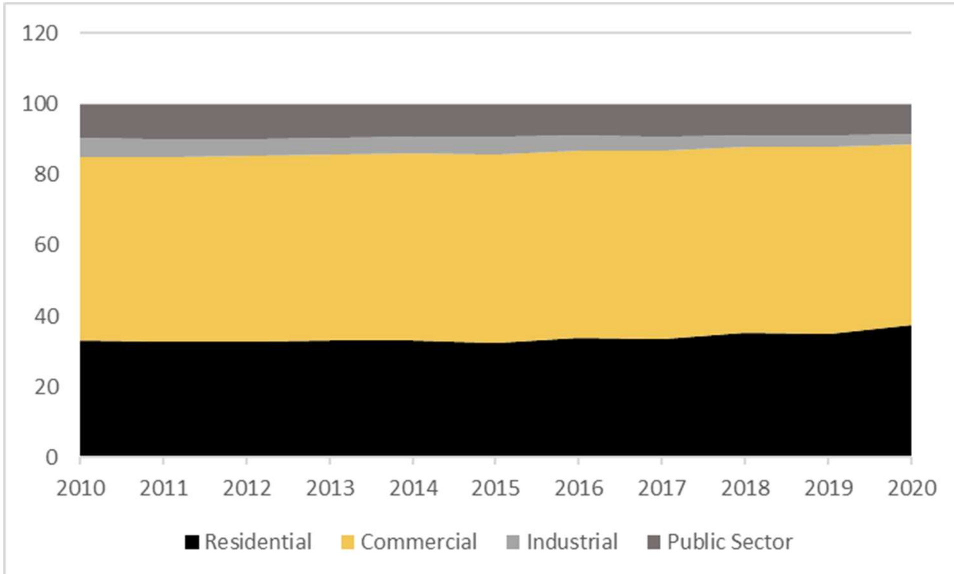
Growth Rate of Geographic Area

Madison's population growth of 12.4% is also helping fuel MGE's earnings growth

MGE operates in a regulated geographic monopoly. In Wisconsin, customers are unable to choose their electric and natural gas providers. To achieve higher growth and greater market share, utilities must expand through acquisitions or capital growth. Another way a utility can grow earnings that is often overlooked is population growth in a utility's geographic area. MGE's geographic area is the most attractive area in Wisconsin because of its growing population, increasing average household income, and an increased demand for electric vehicles. According to the 2020 Census, the Madison metro population increased by 12.4% over the past decade compared to the Midwest region's growth rate of 3.1% over the same period. In fact, Madison was the largest growing metropolitan area in Wisconsin since 2010.

Madison's growth in annual household income implies fewer residential customers have an energy insecurity

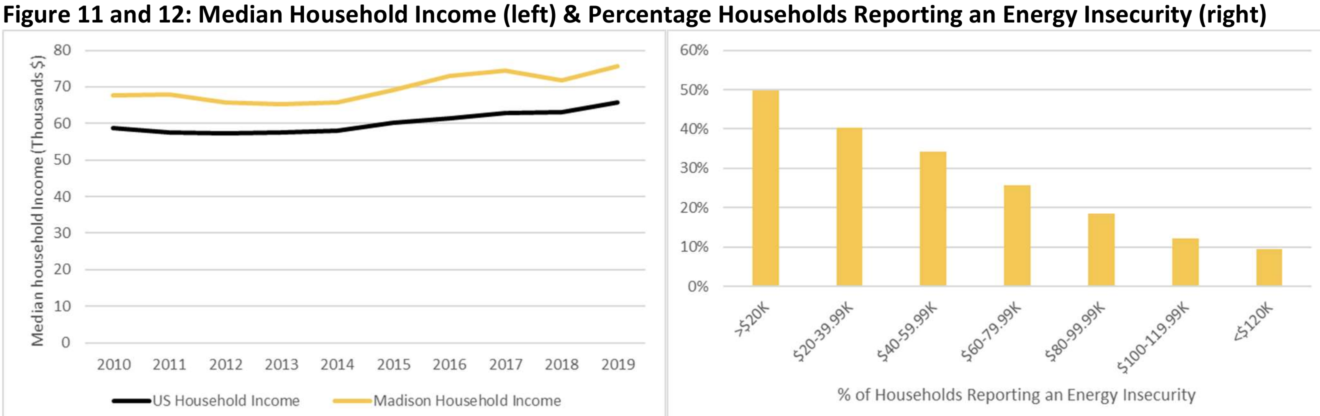
Figure 10: MGE electric revenues by category of customer



Source: Company Reports

MGE residential electricity sales as a percentage of electric revenues have been increasing since 2010, as evidenced by Madison's population growth. A larger population will of course lead to increased residential electric revenues. Industrial revenues as a percent to sales have been declining. Although 87% of MGE's customer base is residential, only 37.6% of its revenue comes from residential usage. If there is any material loss in the commercial/industrial customer base, that could hurt MGE even with the accelerating population growth.

Figure 11 and 12: Median Household Income (left) & Percentage Households Reporting an Energy Insecurity (right)



Source: US Census Bureau, US Energy Information Administration Residential Energy Consumption Survey

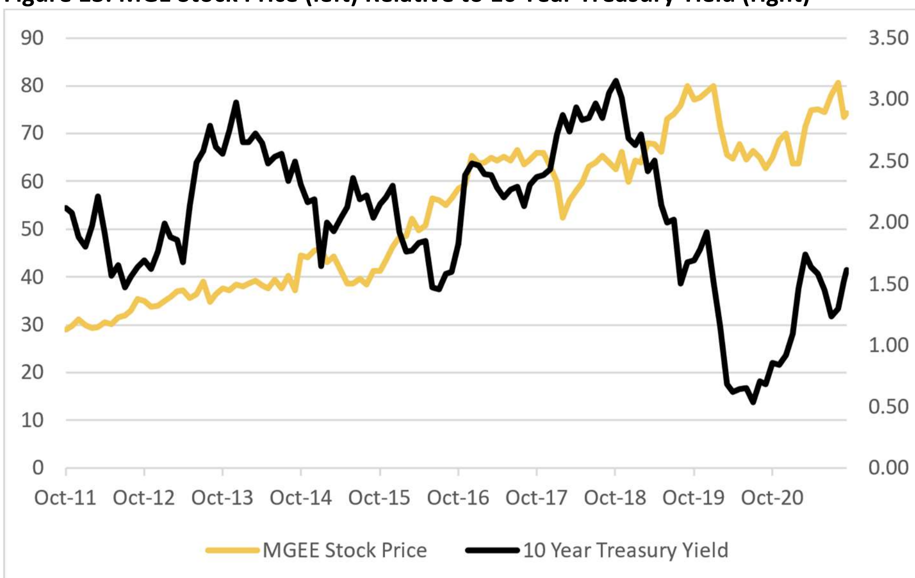
Median household income in Madison is greater than the median household income in the US and has been steadily growing over time. As of 2019, the median household income in Madison was $75,545, which was $9,833 greater than the median household income in the US. Also, a survey conducted by the US Energy Information Administration shows that households with a higher income level tend to have less concerns about their energy bill and don't report having an energy insecurity. According to the survey, having an energy insecurity meant individuals intentionally reduced their consumption for lack of income. These insecurities include purposely not using heating or cooling equipment, leaving home at an unhealthy or unsafe temperature, and/or receiving disconnect or stop notices. From this information, there is a correlation between an increase in household income driving an increase in energy usage which in turn drives earnings growth. However this holds true up to a certain point.

Macroeconomic Environment

MGE's dividend yield and payout ratio are 2.08% and 55.77% respectively

The utility industry is negatively correlated to US Treasury yields. High dividend yields make utilities an attractive investment during periods of decreasing interest rates. Decreasing interest rates occur typically during an economic downturn, wherein the Federal Reserve decreases the Fed Funds rate in an attempt to spur economic activity. MGE's dividend yield and payout ratio are currently at 2.08% and 55.77% respectively. This is lower than the industry average dividend yield of 3.6% and average payout ratio of 65.8%. I anticipate the utility industry to continue providing moderate returns compared to the market due to low interest rates and the inflationary environment.

Figure 13: MGE Stock Price (left) Relative to 10 Year Treasury Yield (right)



Source: Factset

As you can see here, MGE's stock price moves inversely with the 10-year Treasury yield. As the Treasury yield declines, MGE tends to outperform, and the opposite tends to occur as yields rise. With 10-year Treasury yields at such extreme lows, it can be inferred that MGE should underperform the market in the coming years as the 10-year Treasury yield reverts to its long-term average. Investors tend to flock towards more stable investments like utilities when market conditions look to be bearish. As the economic outlook improves, investors will likely look for greater opportunities elsewhere. On the other hand, economic growth is set to slow in 2022, which would favor utilities. So, changes in yields are a headwind, but changes in growth in the economy is a tailwind next year.

Financial Analysis

2021E EPS:

- *$2.95*

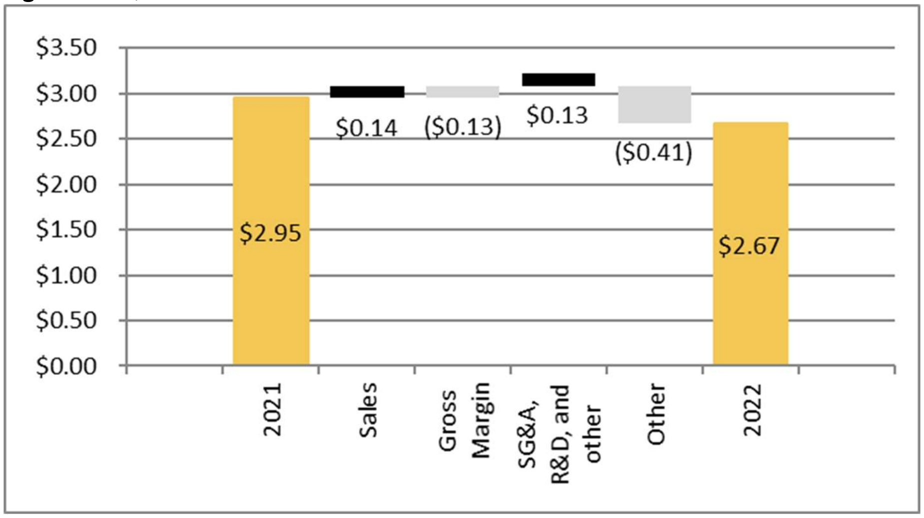
2022E EPS:

- *$2.67*

I anticipate EPS to fall to $2.67 in FY 2022 from $2.95 in FY 2021. MGEE has maintained an above average revenue growth compared to its peers because of aggressive capital expenditures. Since CAPEX will be declining in 2022, I expect revenue growth to decline from 9.1% in 2021 to 4.5% in 2022, increasing sales by $0.14 as shown in figure 14. I expect gross margin to decline as fuel costs and inflationary pressures rise in 2022. I expect gross margin to decline from 71.3% to 70.5% decreasing earnings in 2022 by $0.13.

Increased efficiency in sales, general, and administrative expenses should increase EPS by $0.13 in 2022. The potential loss of renewable energy tax credits could also cause a decline in earnings in 2022 by a staggering $0.41 as well as subsequent years. Combined this should cause a decrease in EPS of $0.28 in 2022.

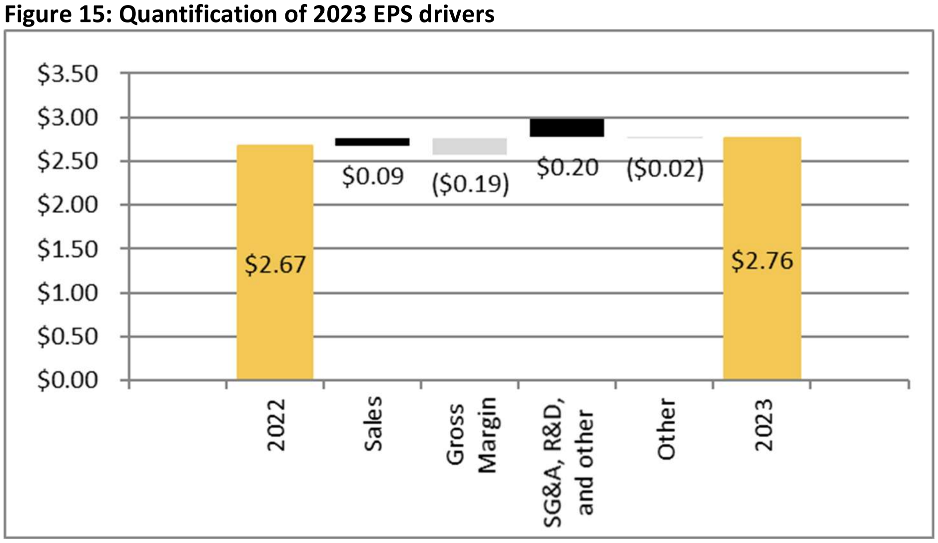
Figure 14: Quantification of 2022 EPS drivers



Source: Company Reports, IMCP

I expect EPS to increase from $2.67 to $2.76 in FY 2023. Revenue growth should slow further as inflation slows in 2023, but still add $0.09 to EPS. I expect gross margin to decline another 1.3% in 2023 as direct costs slightly increase from 2022. These increased costs should decrease EPS by $0.19. Sales, general, and administrative costs should fall further as a percent of sales in 2023 and add $0.20 to EPS. These decreased SG&A costs to sales will be caused by a continued effort to increase renewable generating resources which will have lower operational costs. EBIT margins will also increase by 0.1% in 2023. An increase in debt and subsequent interest expense from capital expenditures should slow EPS growth by $0.02 in 2023. The overall result is a modest increase in EPS in 2023 of only $0.09.

Figure 15: Quantification of 2023 EPS drivers



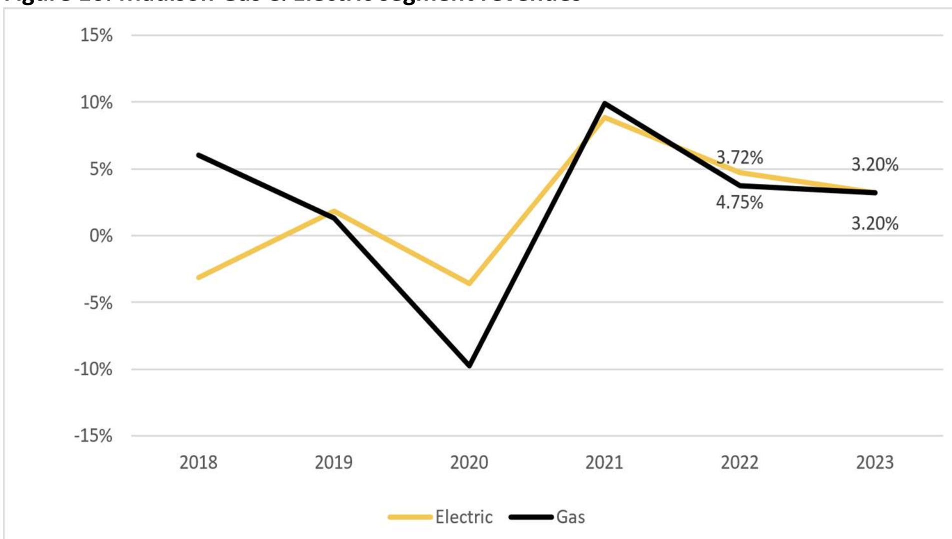
Source: Company Reports, IMCP

Revenues

I project all revenue segments' growth will slow as we progress beyond the COVID-19 pandemic.

MGE Energy grows revenues through ambitious renewable energy focused capital investments. MGE has realized an average of 1.7% increase in revenue year over year since 2009. In 2018, natural gas prices were at an all-time high due to higher demand for natural gas fired electricity generation capacity coming online as well as the increased exportation of liquified natural gas. This created a strong growth in MGE's revenues. The demand for power generation declined in 2020 with the COVID-19 pandemic, then it roared back in 2021, and is expected to stabilize in 2022 and beyond. I omitted nonregulated energy segment because it is only 0.1% of revenues and distorts the graph below to a point where gas and electric revenue growth is not seen.

Figure 16: Madison Gas & Electric segment revenues



Source: Company Reports

Investments in utility system upgrades and renewable energy generation projects should benefit the electric utility segment in the long run as they continue to add generating capacity and recover the cost of those projects in rates. Industrial and commercial manufacturing facilities coming back online post-COVID should continue to boost demand for gas and electric, but I expect that demand to slow as inflationary pressures are subdued.

Revenue and EPS Estimate

Figure 17 highlights my less optimistic view of EPS and EBIT growth versus analyst expectations. My revenue growth estimates surpass analyst expectations only by a small margin. Consensus estimates expect revenue growth to slow in 2022 and 2023 as the COVID-19 pandemic passes. I am slightly less optimistic in 2023 because of slowing inflation. I do, however, expect inflation to persist through 2022. This will likely impact EBIT and EPS. I project a 9.5% decline in EPS in 2022 as a result of rising fuel costs. Natural gas, which is a significant part of its business, including for electricity generation, has increased by 48% since this time last year and 67% since December 2019. This is the primary reason why my EPS estimates differ from consensus. The last time natural gas rates were this high in 2018, MGE's net income declined 13.7%. MGE will eventually be able to recover these costs in a future rate case and is why I estimate a rebound in earnings in 2023.

Figure 17: Revenue (in thousands USD$), EPS, EBIT, and YoY growth estimates vs consensus

	2021 E		2022 E		2023E	
	Estimate	Consensus	Estimate	Consensus	Estimate	Consensus
Revenue	$ 587,668	$ 586,100	$ 614,113	$ 609,300	$ 633,765	$ 634,400
YoY Growth	9.1%	8.8%	4.5%	4.0%	3.2%	4.1%
EPS	$ 2.95	$ 3.00	$ 2.67	$ 3.08	$ 2.76	$ 3.46
YoY Growth	15.2%	17.2%	-9.5%	2.7%	3.3%	12.3%
EBIT	$ 115,698	$ 124,700	$ 120,980	$ 142,500	$ 125,485	$ 164,100
YoY Growth	5.2%	13.4%	7.4%	14.3%	7.8%	15.2%

Source: Company Reports, Factset

Return on Equity

Historically, MGE Energy has generated a higher return on equity relative to its peers. The average authorized ROE for the industry in 2020 was 9.43% compared to an authorized 9.8% for MGE Energy. Since 2018, profit margins have steadily increased due to approved rate cases and improvements in operational efficiency, but this has been offset by a declining asset turnover ratio. Asset turnover for MGE has been declining due to the extended building cycle and continuous investments in renewable generation projects. These assets being added to the balance sheet have played a role in suppressing asset turnover and keeping return on assets from improving. As operations have become more efficient over time, ROE has been declining in lockstep and will be arbitrarily high in 2021 because of heightened demand post-pandemic. In 2020, the equity multiplier dipped further as MGE issued an additional 1,495,000 shares and raised $79.6 million. Figure 18 reveals that MGE has maintained an ROE above its peers mainly through profit margin improvements.

Figure 18: 3-stage ROE Breakdown

3-stage DuPont	2018	2019	2020	2021E	2022E	2023E
Net Income/Sales	15.00%	15.30%	17.20%	18.10%	15.70%	15.70%
Sales/AVG Assets	0.29	0.28	0.25	0.26	0.25	0.25
ROA	4.40%	4.30%	4.30%	4.70%	4.00%	3.90%
AVG Assets/AVG Equity	2.41	2.43	2.37	2.27	2.31	2.39
ROE	10.60%	10.40%	10.10%	10.60%	9.20%	9.30%

Source: Company Reports, IMCP

The average authorized ROE for the industry is 9.43% while MGE is authorized 9.8%

I expect profit margins to shrink in the near term because inflationary costs will hit MGEE's bottom line. I also expect return on assets to continue declining as MGE has a massive backlog of capital investment projects to construct renewable power generation plants. ROE is regulated by the Public Service Commission of Wisconsin which helps in reducing downside risk to ROE but also limits upside. However, even with a slight decline in ROE in the short term, favorable regulation from the PSCW should keep ROE higher than industry average.

Free Cash Flow

The utility industry generally produces negative free cash flows before considering increases in debt because of its significant capital investments required to grow the business. MGEE's free cash flows have been volatile due to wide changes in NOWC and NFA. MGE has produced negative free cash flow to firm (FCFF) over two of the last four years and I anticipate being negative in 2022 as well. MGE's annual increase in CAPEX has driven NFA growth at a faster pace than NOPAT. FCFF will fall to a five-year low in 2022 as NFA rises and NOPAT declines.

Figure 19: FCF Analysis FY 2017-FY 2023E

Free Cash Flow	2017	2018	2019	2020	2021E	2022E	2023E
NOPAT	$101,622	$86,145	$90,337	$90,894	$109,814	$99,930	$103,651
Growth		-15.2%	4.9%	0.6%	20.8%	-9.0%	3.7%
NOWC	448,334	412,595	363,824	408,450	332,613	452,883	489,084
Net fixed assets	1,341,357	1,509,437	1,642,683	1,769,385	1,896,087	1,981,010	2,044,402
Total net operating capital	$1,789,691	$1,922,032	$2,006,507	$2,177,835	$2,228,700	$2,433,892	$2,533,486
Growth		7.4%	4.4%	8.5%	2.3%	9.2%	4.1%
- Change in NOWC		(35,739)	(48,771)	44,626	(75,837)	120,270	36,202
- Change in NFA		168,080	133,246	126,702	126,702	84,923	63,392
FCFF		-$46,196	$5,862	-$80,434	$58,949	-$105,263	$4,057
Growth			-112.7%	-1472.1%	-173.3%	-278.6%	-103.9%
- After-tax interest expense		1,926	3,463	(1,524)	3,287	3,364	3,926
+ Net new short-term and long-term debt		86,054	48,112	33,327	43,892	173,156	68,753
FCFE		$37,932	$50,511	-$45,583	$99,554	$64,529	$68,884
Growth			33.2%	-190.2%	-318.4%	-35.2%	6.7%
FCFF per share		($1.33)	$0.17	($2.22)	$1.63	($2.91)	$0.11
Growth			-112.7%	-1415.3%	-173.3%	-278.6%	-103.9%
FCFE per share		$1.09	$1.46	($1.26)	$2.75	$1.78	$1.90
Growth			33.2%	-186.5%	-318.4%	-35.2%	6.7%

Source: Company Reports, IMCP

I expect NOWC to be a bit volatile as the company is transitioning its generating capacity into more renewable projects that emit less carbon dioxide. FCFF should be low or negative as MGE continues aggressively investing in new renewable fixed assets. I anticipate FCFF to turn slightly positive in 2023 as their finished projects turn cash flow positive and the company begins spending less on new projects.

Aside from 2020, the year in which the coronavirus pandemic hindered growth in the economic cycle, free cash flow to equity has remained positive because of net new borrowing in short and long-term debt, which I expect to continue in future years. My analysis shows FCFE declining in 2022 caused by a decrease in net new borrowings as well as increased fuel expenses.

Valuation

Target Price:

- *$62.54*

Recommendation:

- *Sell*

MGE was valued using one-year EPS outlook, detailed 3-stage DCF model, and relative valuation analysis. Overall, my valuation approach focuses on industry relevant multiples such as P/B, P/E, and dividend yield. I also use ROE and EPS weights in the relative valuation section to reflect the influence of regulated earnings. LTM P/E and 2022E EPS reveal a 1-year discounted price of $62.54, a 21% discount from today's price. Using a 2.4 P/B terminal value, I calculated an absolute valuation within the 3-stage DCF pricing MGE at $59.87, a 23% discount from today's price.

Trading History

MGE's LTM P/E is currently trading slightly above the S&P 500. This is caused by the reduced interest rate environment. MGE's current LTM P/E is 26.6 compared to its 5-year average of 26.7. Although it is expensive, there is low risk to its growth. I expect that as interest rates are projected to rise in the future, the P/E multiple for MGE should decline.

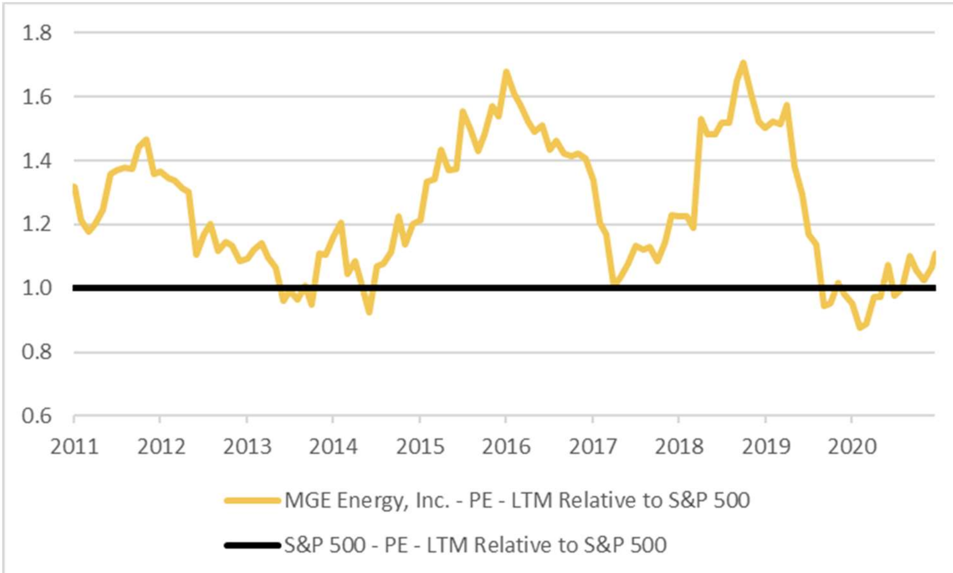
Assuming the P/E multiple drops to a modest 24.5 times earnings by the end of 2022, it should trade at around $65.42

- Price= P/E x EPS =24.5 x $2.67= $65.42.

Discounting this 1-year price estimate back to today would yield a current price expectation of $62.54 assuming a cost of equity of 4.6% which is explained in the discounted cash flow section.

- Price(today)=Price(2022E)/(1+WACC)^1= $65.42/(1+0.046)^1= $62.54

Figure 20: MGE LTM P/E relative to S&P 500



Source: Factset

Relative Valuation

In today's low interest rate environment, investors are purchasing utilities as a substitute, pushing up prices in the broader sector.

Figure 21 provides an illustration of MGE's past performance within its peer group. MGE is currently trading at a higher TTM P/E than its peer group average with a TTM P/E of 26.6 compared to an average of 23.3. Utilities' strong performance this year is partially credited to the aggressive P/E expansion across the market caused by low interest rates. MGE's TTM P/E is higher relative to its peers, the utility sector, and the S&P 500. The utility sector has an average P/E of 21.9 and the S&P 500 has an average TTM P/E currently at 24.07. MGE currently has the highest P/B ratio of all its peers with a P/B ratio of 2.81. The average of its peers is 2.22. With MGE's ROE only slightly above peer group average of 10.2%, MGE is the highest priced of any of its peers. Some of MGE's ROE is supported by a temporarily low tax rate due to its investments in renewables.

In today's turbulent markets and the uncertainty surrounding the COVID-19 pandemic, investors have fled to safety and utilities are a way to provide that safety. MGE's dividend yield and payout ratio is the lowest of its peer group. MGE is currently at a 5.36, compared to an average of 3.62. MGE also has one of the highest net profit margin amongst its peers, but has a lower than average operating margin. Considering all this information MGE is overvalued relative to its peers.

Figure 21: MGE comparable companies as of 12/16/2021

	Current	Market	Price Change						Earnings Growth								LT Debt/	S&P	LTM Dividend	
Ticker	Price	Value	1 day	1 Mo	3 Mo	6 Mo	52 Wk	YTD	LTG	NTM	2019	2020	2021	2022	Pst 5yr	Beta	Equity	Rating	Yield	Payout
MGEE	$79.79	$2,885	2.9	1.1	1.6	3.6	9.4	13.9	5.9	0.2%	3.3%	3.6%	13.5%	-9.2%		0.66	61.6%	A-	2.09%	49.9%
LNT	$60.49	$15,144	1.6	7.6	2.1	3.0	15.5	17.4	6.1	-3.0%	6.5%	5.2%	8.2%	4.2%		0.47	111.8%	A-	2.94%	62.6%
WEC	$96.98	$30,591	2.3	7.1	5.4	4.2	4.4	5.4	6.5	-5.1%	7.2%	5.9%	7.4%	5.7%		0.26	116.2%	A	3.12%	64.1%
DUK	$103.82	$79,860	1.0	3.2	1.8	0.6	12.7	13.4		35.3%	7.2%	1.2%	2.1%	4.6%		0.39	124.7%	B+	4.02%	99.8%
EVRG	$67.83	$15,554	1.0	3.4	4.7	5.1	24.1	22.2	6.6	-11.8%	8.2%	7.3%	14.2%	0.0%		0.39	124.7%	B+	4.02%	99.8%
AEE	$88.43	$22,780	1.4	3.1	3.6	2.7	12.3	13.3	8.0	5.8%	-0.6%	4.5%	9.4%	5.5%		0.27	205.8%	A-	2.96%	56.9%
CMS	$64.88	$18,796	2.2	6.1	3.3	7.2	8.1	6.3	6.0	-11.8%	6.9%	7.2%	-0.7%	8.3%		0.59	110.2%	A+	4.45%	66.4%
NWE	$56.28	$3,094	1.8	(3.7)	(9.4)	(13.0)	(2.1)	(3.5)	3.7	-9.8%	0.9%	-2.0%	5.4%	-3.1%		0.59	110.2%	A+	4.45%	66.4%
DTE	$119.60	$23,170	1.8	5.7	2.3	2.1	12.6	15.8	7.0	30.0%	0.0%	14.2%	-3.8%	0.3%		0.79	198.4%	A-	3.77%	90.4%
Average		$23,542	1.8	3.7	1.7	1.7	10.8	11.6	6.2	3.3%	4.4%	5.2%	6.2%	1.8%		0.49	129.3%		3.53%	72.9%
Median		$18,796	1.8	3.4	2.3	3.0	12.3	13.4	6.3	-3.0%	6.5%	5.2%	7.4%	4.2%		0.47	116.2%		3.77%	66.4%
SPX	$4,710		1.6	0.6	5.1	10.9	27.5	25.4			1.1%	-14.0%	33.6%	12.1%						

	2021		P/E							2020	2020				EV/	P/CF	Sales Growth			Book
Ticker	ROE	P/B	2018	2019	2020	TTM	NTM	2021	2022	NPM	P/S	NM	OM	ROIC	EBIT	Current	NTM	STM	Pst 5yr	Equity
MGEE	10.4%	2.81	32.8	31.8	30.7	26.6	26.6	27.0	29.8	17.5%	5.36	17.2%	20.7%	6.3%	27.4	15.6				$28.43
LNT	11.0%	2.53	28.1	26.4	25.1	23.9	24.6	23.0	22.1	17.8%	4.43	18.3%	21.7%	5.3%	27.3	12.2	-12.4%			$23.94
WEC	11.8%	2.80	29.4	27.5	26.0	23.3	24.6	23.8	22.6	16.5%	4.22	16.6%	24.2%	5.5%	24.8	12.2	-5.4%			$34.58
DUK	8.5%	1.69	22.1	20.7	20.4	26.7	19.7	19.9	19.0	16.5%	3.35	5.7%	23.2%	1.3%	24.3	8.8	3.7%	5.9%		$61.57
EVRG	11.8%	2.80	29.4	27.5	26.0	23.3	24.6	23.8	22.6	16.5%	4.22	12.6%	23.3%	3.5%	20.0	9.1	-5.4%			$34.58
AEE	8.5%	1.69	22.1	20.7	20.4	26.7	19.7	19.9	19.0	16.5%	3.35	15.0%	22.4%	4.7%	23.8	11.4	3.7%	5.9%		$61.57
CMS	8.7%	1.67	25.5	23.6	22.0	17.7	20.1	19.2	19.2	14.5%	3.17	11.3%	20.4%	4.2%	24.3	9.6	3.7%	5.9%		$40.64
NWE	8.3%	1.32	16.5	16.4	16.7	15.2	16.8	15.9	16.5	15.4%	2.58	12.9%	19.7%	3.6%	22.7	7.7	-3.8%	9.7%		$42.71
DTE	13.3%	2.70	22.4	22.4	19.7	26.5	20.4	20.3	20.2	9.7%	1.90	11.1%	17.1%	4.6%	20.3	8.1	-10.8%	8.3%		$44.22
Average	10.2%	2.22	25.4	24.1	23.0	23.3	21.9	21.4	21.2	15.7%	3.62	13.4%	21.4%	4.3%	23.9	10.5	-3.4%	7.2%		
Median	10.4%	2.53	25.5	23.6	22.0	23.9	20.4	20.3	20.2	16.5%	3.35	12.9%	21.7%	4.6%	24.3	9.6	-4.6%	5.9%		
SPX			29.4	29.1	33.8			25.5	22.8											

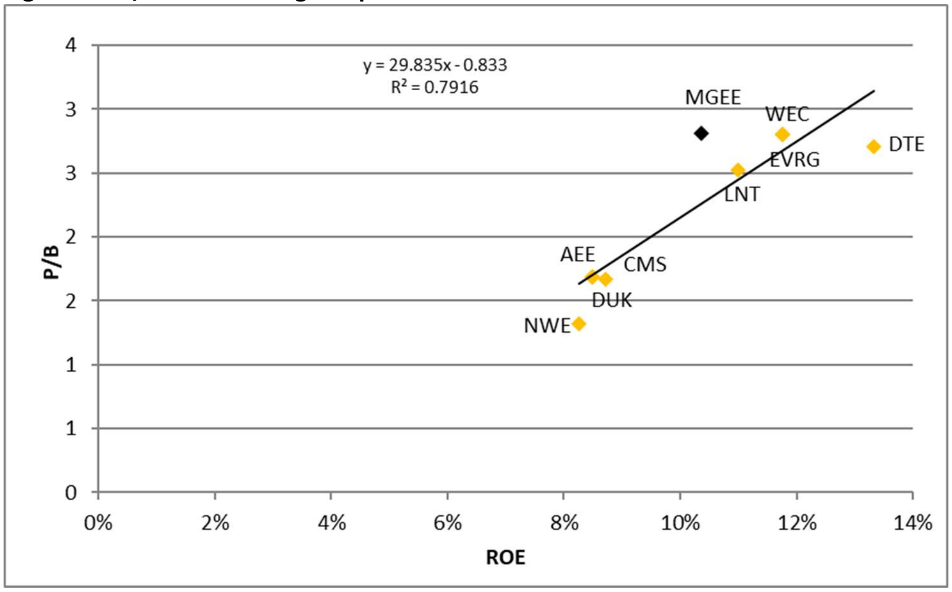
Source: Factset, IMCP

A more thorough analysis of P/B and ROE is shown in figure 22. The calculated r-squared of the regression indicates that over 79% of sampled firms P/B is explained by its 2021 ROE. MGE has the highest P/B, but a slightly higher than average ROE relative to its peers. The regression analysis implies that MGE's P/B is overvalued, indicating downside risk of the stock price.

- Target P/B=Estimated 2022 ROE (9.2%) x 29.835-0.833=1.91
- Estimated P/B depreciation=1-(Target P/B (1.91)/Current P/B (2.81))=32%
- Target Price=Current Price ($77.78)-(Current Price($77.78) x Estimated P/B depreciation(32%)=$52.89

Discounting back to the present at the cost of equity of 4.6%, leads to a target price of $51.97 using this metric.

Figure 22: P/B vs ROE alongside peers



Source: IMCP, Factset

For a final comparison, I created a composite ranking of several valuation and fundamental metrics. Since the variables have different scales, each was converted to a percentile before calculating the composite score. A 64% weight was applied to 2021 ROE to reflect high importance of return on equity in the utilities industry. The other 26 % was applied to the payout ratio as that is of fundamental importance to investors in utility companies. I applied 5% to 2021 earnings, and a combined 4 % to 2022 earnings growth as well as the next 12 months. In terms of valuation, I placed 90% towards P/B as it is tied to ROE and is useful in valuing net fixed asset intensive businesses. The remaining 10%, I applied to 1/Yield with low yields implying high value.

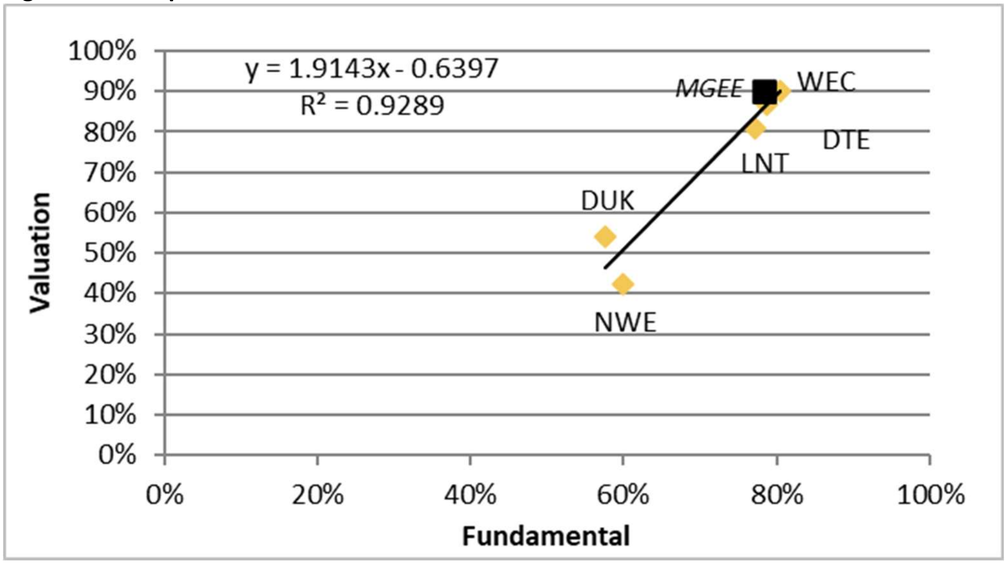
Figure 23: Composite valuation, percentage of range

							Fundamental					Valuation	
						Weight	2.0%	5.0%	2.0%	26.0%	64.0%	90.0%	10.0%
		Rank		Target	Weighted		Earnings Growth			1/	2021		1/
Ticker	Name	Diff	Diff	Value	Fund	Value	NTM	2021	2022	Payout	ROE	P/B	Yield
MGEE	MGE ENERGY INC	1	20%	110%	78%	90%	0%	95%	-110%	100%	78%	100%	100%
LNT	ALLIANT ENERGY CORP	4	27%	108%	77%	81%	-9%	58%	50%	80%	82%	90%	71%
WEC	WEC ENERGY GROUP INC	2	22%	112%	80%	90%	-14%	52%	68%	78%	88%	100%	67%
DUK	DUKE ENERGY CORP	5	35%	89%	58%	54%	100%	15%	55%	50%	64%	60%	52%
NWE	NORTHWESTERN CORP	6	49%	91%	60%	42%	-28%	38%	-38%	75%	62%	47%	47%
DTE	DTE ENERGY CO	3	23%	110%	79%	87%	85%	-26%	4%	55%	100%	96%	55%

Source: IMCP, Factset

Figure 24 demonstrates that MGE is somewhat expensive relative to peers

Figure 24: Composite Relative Valuations



Source: IMCP, Factset

<u>Discounted Cash Flow Analysis</u>

A three-stage discounted cash flow model was used to value MGE.

For the purpose of this analysis, the company's cost of equity was calculated to be 6.1% using the capital asset pricing model. The underlying assumptions used in calculating this rate are as follows:

- The risk-free rate, as represented by the 10-year treasury bond yield, is 1.41%.
- A beta of 0.58 was utilized since the company has lower risk than the market.
- A long-term market rate of return of 9% was assumed, since historically, the market has generated an annual return of about 9%.

Given the above assumptions, the cost of equity is 6.1% (1.41%+0.62(9.0-1.41)).

Stage One - The model's first stage simply discounts fiscal years 2022 and 2023 free cash flow to equity (FCFE). These per share cash flows are forecasted to be $1.80 and $2.54, respectively. Discounting these cash flows, using the cost of equity above, results in a value of $3.97. Thus, stage one of this discounted cash flow analysis contributes $3.97 to value.

Stage Two - Stage two of the model focuses on fiscal years 2024 to 2028. During this period, FCFE is calculated based on revenue growth, NOPAT margin, and capital growth assumptions. The resulting cash flows are then discounted using the company's 5.8% cost of equity.

I assume a 2.0% sales growth in 2024 through 2028. NOPAT margin is expected to rise 0.1% per year from 2024 to 2028. I projected that NFA turnover will remain similar to 2023 in 2024 through 2028 which is 0.31 as a result of slower sales growth in future years as well as sustained heavy investments in renewable projects in future years. Lastly, I expect after-tax interest to continue rising but at a slower rate as MGE reduces net new debt in coming years.

Figure 25: FCFE and discounted FCFE, 2022-2028

	2022	2023	2024	2025	2026	2027	2028
FCFE	$1.80	$2.54	$10.70	$0.13	$0.16	$0.18	$0.20
Discounted FCFE	$1.70	$2.27	$9.03	$0.11	$0.12	$0.13	$0.14

Source: IMCP

Added together, these discounted cash flows for stage 2 equate to $9.52.

Stage Three – Book value equity for the years 2024-2028 is calculated based on the same margin and growth assumptions used to determine FCFE in stage two. BVPS is expected to grow from $29.36 in 2022 to $34.41 in 2028. Dividends should see slower growth in the future as net income growth slows as well as expiring tax credits.

Figure 26: BVPS estimates for 2022-2028

	2022	2023	2024	2025	2026	2027	2028
BVPS	$29.36	$30.21	$30.98	$31.79	$32.63	$33.50	$34.41
Growth		*2.9%*	*2.6%*	*2.6%*	*2.6%*	*2.7%*	*2.7%*

Source: IMCP

Stage three of the model requires an assumption regarding the company's terminal price-to-book ratio. For the purpose of this analysis, price-to-book was determined as the best valuation multiple because it normalizes negative cash flows or net income and is common in the utility sector because of its capital-intensive nature. Also, it is generally assumed that as a utility's capital growth slows, its P/B will decline. MGE's current P/B is 2.81 and the 10-yr average is 2.51. Moving for the average suggests a P/B of 2.57 is appropriate in 2028.

Factors such as expected payout ratio, risk, growth, and ROE were considered in determining MGE's P/B terminal value. As the economy was rattled by the COVID-19 pandemic, utilities were rewarded by investors' appetite for dividend income in a market with historically low interest rates. I believe all the valuation multiples across the sector, including P/B are inflated. Investors are currently not pricing in the risk of weaker future dividend growth for MGE or other utilities for that matter. The market is projecting MGE's strong revenue growth to continue well above its historical and industry average. While favorable regulation should support MGE's high ROE relative to peers in the future, I forecast growth rates to revert as regulated capital growth diminishes alongside decreasing CAPEX after the renewable build cycle.

Given the assumed terminal book value per share of $34.41 and a P/B ratio of 2.57, a terminal value of $68.82 is calculated. Using the 6.74% cost of equity, this number is discounted back to a present value of $46.38.

Total Present Value – given the above assumptions and utilizing a three stage discounted cash flow model, an intrinsic value of $59.87 is calculated as seen in figure 27. Given MGE's current price of $77.45, this model indicates that the stock is overvalued.

Figure 27: DCF Summary

Summary (using P/B multiple for terminal value)		
First stage	$3.97	Present value of first 2 year cash flow
Second stage	$9.52	Present value of year 3-7 cash flow
Third stage	$46.38	Present value of terminal value P/B
Value (P/B)	**$59.87**	

Source: IMCP, Factset

Scenario Analysis

Bull Scenario:

- *$91.32*

Bear Scenario:

- *$47.35*

Defensive companies such as MGE Energy generally do not diverge much from long term trends. However, MGE has historically shown greater volatility relative to its peers in the market. Changes in the economic cycle, regulatory body or future price of natural gas are difficult to predict. Therefore, I valued MGE under a bull and bear case scenario by changing the combinations of five key factors: sales growth, gross margin, S/NFA ratio, terminal P/B, and beta.

Bull: Assuming a lower beta of 0.4 in my CAPM equation reduces the cost of equity to 4.45% yielding an $0.08 improvement to the first stage present value. Sustaining strong sales growth assumes that the regulatory body will continue to support capital investments and reverse to above average sales growth by 2025 with sales increasing 3.5%-4.0% through 2028. My base scenario projects NOPAT margin to be sustained at around 5% through 2028. In contrast my bull scenario forecasts a continued expansion of the current NOPAT margin through 2028 at around 16.3%. This is with the expectation that MGE sees continued tax benefits for their renewable investments. The bull scenario also assumes a slight growth in the S/NFA to 0.32 in 2025 and then another slight increase in 2027 to 0.33. This is in comparison to the constant 0.31 assumption in the base scenario. The combination of these assumptions resulted in $21.29 second stage present value. Lastly, a higher terminal P/B assumes investors will continue to expect higher than average growth but at a lesser extent, placing the terminal P/B at 2.65 rather than 2.57 by 2028 as forecasted in the base scenario. This yields a $65.98 third stage present value. The combination of these variables gives MGE a bullish value of $91.32.

Figure 28: Bull Scenario

Summary (using P/B multiple for terminal value)		
First stage	$4.05	Present value of first 2 year cash flow
Second stage	$21.29	Present value of year 3-7 cash flow
Third stage	$65.98	Present value of terminal value P/B
Value (P/B)	**$91.32**	

Source: IMCP

Bear: Assuming a higher beta of 0.8 in my CAPM equation increases the cost of equity to 7.48%, yielding a $3.87 first stage present value, or $0.10 less than the base scenario. Lower than average sales growth assumes that the political landscape within MGE operates may turn unfavorable to business growth, and earnings to deteriorate as a result. The bear scenario projects NOPAT margins to remain at 5.0% through 2028 versus a slight 0.1% growth annually through 2028. This would reflect continued operational inefficiencies as well as sustained heightened natural gas prices with slow to no recovery through rates. This scenario suggests inflationary pressures remain high for an extended period. In a bear case scenario, I could see a slowdown in S/NFA and have assumed that S/NFA will decline to 0.3 in 2024 and 0.28 in 2025 through 2028. The combination of these assumptions yields a $4.02 second stage present value. Lastly a lower P/B assumes investors will begin to expect lower than average growth placing the terminal P/B at a 1.9 versus a 2.57 in the base scenario. This lower terminal P/B yields a $39.46 third stage present value. The combination of these variables' places MGE at a bearish value of $47.35.

Figure 29: Bear Scenario

Summary (using P/B multiple for terminal value)		
First stage	$3.87	Present value of first 2 year cash flow
Second stage	$4.02	Present value of year 3-7 cash flow
Third stage	$39.46	Present value of terminal value P/B
Value (P/B)	**$47.35**	

Source: IMCP

Business Risks

Government regulation:

The PSCW and FERC regulate MGE's business to include rates, terms and conditions of service, various business practices and transactions, and financing of its operations. Regulations adopted by state and federal agencies affect how the firm does business. The ability access capital markets depends in part by its ability to obtain a fair return from the PSCW. Recovery of costs above and beyond what was expected or anticipated depends upon timely regulatory action. MGE may be subject to unexpected costs with regards to legislative action concerning greenhouse gas emissions (GHG). Changes in federal income tax policy may adversely affect its profitability.

Growth strategy based on large CAPEX:

MGE is heavily engaged in the development of renewable energy generating projects. There are various risks including cost overruns and/or delays in completion. These additional costs may not be recoverable in rates approved by the PSCW. Additionally, revenues and cash flows may not immediately increase following their expenditure of funds on a particular project, which could affect liquidity and financial position. Lastly, without the ability to attract new capital, many of the planned CAPEX projects may be at risk.

Energy demand:

Widespread energy efficiency initiatives and mandates as well as economic deindustrialization have hindered secular electricity demand growth. Growth in demand for electricity has been essentially flat for the past decade. Increased residential demand seems to be helping displace the loss in demand from industrial customers. Any material decline in demand from residential customers may affect MGE's financial condition. My analysis suggests that Madison's population is growing faster than most metropolitan areas around the country, which should mitigate this risk slightly.

Weather:

The demand for electricity and gas is affected by weather. More moderate weather patterns may have an adverse effect on demand for electricity and/or gas throughout the seasonal changes. A significant portion of the demand for gas is for heating of homes, and with milder winters, the demand for gas may be reduced. Weather patterns resulting in less wind and/or sunlight may inhibit MGE's ability to collect and store energy for future or current use. Extreme summer conditions or storms can stress electricity generation systems and result in increased maintenance costs and affect its ability to meet customer demand.

Limitations on MGE's ability to pay dividends:

The primary sources for MGE to pay dividends to its shareholders are dividends and distributions from its subsidiaries. Any disruption in its subsidiaries' ability to service debt and cover costs may inhibit the ability for MGE to pay the current dividend yield. The ability of MGE's subsidiaries to pay dividends is dependent on regulatory limitations, earnings, cash flows, capital requirements, and general financial condition.

Appendix 1: Porter's 5 Forces

Threat of New Entrants – Very Low

The regulated utility industry possesses significant barriers to entry. Operating as a natural monopoly, MGE thrives on substantial capital and regulatory requirements to satisfy its service territory. The likelihood of MGE losing customers is extremely low due to favorable regulation.

Threat of Substitutes – Low

The regulation authorities of Wisconsin support renewable energy solutions through the utility's capital investments. Although the government subsidies have decreased price points for self-generating solutions, MGE's customers are unlikely to go off-grid given the unfavorable climate condition for solar generation.

Supplier Power - Medium to Low

After technological advancements and a prolonged building cycle, the cost of generating electricity by solar, wind, or natural gas energy has become more affordable. MGE and all utilities have more control over prices paid for the highly commoditized resource.

Buyer Power – Medium

As a natural monopoly, the industry is heavily regulated. The regulatory body, the PSCW and FERC, enact strict profitability measures to protect customers. In Wisconsin, customers do not have the choice to switch service providers, but regulators limit what companies can charge.

Intensity of Competition – Low

MGE does not face any competition by the nature of its business. Due to geographical and regulatory limitations, the utility sector does not fight for market share. Low competition will continue but potential M&A activity could significantly impact the industry.

Appendix 2: SWOT Analysis

Strengths	Weaknesses
High ROE Relative to Peers Favorable Regulation High Net Margin	Negative Cash Flows Falling Demand Overvalued Multiples
Opportunities	**Threats**
ESG Profile Potential Acquisitions Strong Balance Sheet	Declining Allowed ROE Rising Interest Rates Small Acquisition Target

Appendix 3: Income Statement

Income Statement	2017	2018	2019	2020	2021	2022	2023
Sales	$563,099	$559,768	$568,855	$538,633	$587,668	$614,113	$633,765
Direct costs	188,363	191,916	173,203	148,264	168,733	181,163	195,200
Gross Margin	374,736	367,852	395,652	390,369	418,935	432,950	438,565
SG&A, R&D, D&A, and other	250,111	253,645	284,742	280,372	303,237	311,969	313,080
EBIT	124,625	114,207	110,910	109,997	115,698	120,980	125,485
Interest	4,925	2,554	4,252	(1,844)	3,463	4,073	4,753
EBT	119,700	111,653	106,658	111,841	112,235	116,907	120,732
Taxes	22,094	27,434	19,784	19,423	5,708	20,342	21,007
Income	97,606	84,219	86,874	92,418	106,527	96,565	99,725
Other	-	-	-	-	-	-	-
Net income	97,606	84,219	86,874	92,418	106,527	96,565	99,725
Basic Shares	34,668.0	34,668.0	34,668.0	36,163.0	36,163.0	36,163.0	36,163.0
Fully Diluted Shares	34,668.0	34,668.0	34,668.0	36,170.0	36,170.0	36,170.0	36,170.0
EPS	$2.82	$2.43	$2.51	$2.56	$2.95	$2.67	$2.76
EPS Fully Diluted	$2.82	$2.43	$2.51	$2.56	$2.95	$2.67	$2.76
DPS	$1.26	$1.32	$1.38	$1.43	$1.65	$1.78	$1.90

Appendix 4: Sales Forecast

Sales (in thousands)						Base Case		Bull Case		Bear Case	
	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-22	Dec-23	Dec-22	Dec-23
Sales	563,099	559,768	568,855	538,633	587,668	614,113	633,765	614,113	633,765	614,113	633,765
Growth		*-0.6%*	*1.6%*	*-5.3%*	*9.1%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*
Electric Revenues	414,274	402,001	408,980	394,372	433,741	453,259	467,764	453,259	467,764	453,259	467,764
Growth		*-3.0%*	*1.7%*	*-3.6%*	*10.0%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*
% of sales	*73.6%*	*71.8%*	*71.9%*	*73.2%*	*73.8%*	*73.8%*	*73.8%*	*73.8%*	*73.8%*	*73.8%*	*73.8%*
Gas Revenues	148,825	157,767	159,875	144,261	153,927	160,854	166,001	160,854	166,001	160,854	166,001
Growth		*6.0%*	*1.3%*	*-9.8%*	*6.7%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*	*4.5%*	*3.2%*
% of sales	*26.4%*	*28.2%*	*28.1%*	*26.8%*	*26.2%*	*2.0%*	*26.2%*	*26.2%*	*26.2%*	*26.2%*	*26.2%*

Appendix 5: Balance Sheet

Balance Sheet (thousands $USD)							
	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23
Cash	107,952	83,102	23,481	44,738	37,754	38,203	61,135
Operating assets ex cash	405,873	396,079	415,500	439,528	372,426	501,120	517,156
Operating assets	513,825	479,181	438,981	484,266	410,180	539,323	578,291
Operating liabilities	65,491	66,586	75,157	75,816	77,567	86,440	89,206
NOWC	448,334	412,595	363,824	408,450	332,613	452,883	489,084
NOWC ex cash (NWC)	340,382	329,493	340,343	363,712	294,859	414,680	427,950
NFA	1,341,357	1,509,437	1,642,683	1,769,385	1,896,087	1,981,010	2,044,402
Invested capital	*$1,789,691*	*$1,922,032*	*$2,006,507*	*$2,177,835*	*$2,228,700*	*$2,433,892*	*$2,533,486*
Marketable securities	-	-	-	-	-	-	-
Total assets	*$1,855,182*	*$1,988,618*	*$2,081,664*	*$2,253,651*	*$2,306,267*	*$2,520,333*	*$2,622,693*
S-T and L-T debt and financing leases	$426,613	$512,667	$560,779	$594,106	$637,998	$811,154	$879,907
Other liabilities	584,891	592,721	590,052	607,729	561,022	561,022	561,022
Debt/equity-like securities	-	-	-	-	-	-	-
Equity	778,187	816,644	855,676	976,000	1,029,680	1,061,716	1,092,557
Total supplied capital	*$1,789,691*	*$1,922,032*	*$2,006,507*	*$2,177,835*	*$2,228,700*	*$2,433,892*	*$2,533,486*
Total liabilities and equity	*$1,855,182*	*$1,988,618*	*$2,081,664*	*$2,253,651*	*$2,306,267*	*$2,520,333*	*$2,622,693*

Appendix 6: Ratios

	2017	2018	2019	2020	2021	2022	2023
Profitability							
Gross margin	66.5%	65.7%	69.6%	72.5%	71.3%	70.5%	69.2%
Operating (EBIT) margin	22.1%	20.4%	19.5%	20.4%	19.7%	19.7%	19.8%
Net profit margin	17.3%	15.0%	15.3%	17.2%	18.1%	15.7%	15.7%
Activity							
NFA (gross) turnover		0.39	0.36	0.32	0.32	0.32	0.31
Total asset turnover		0.29	0.28	0.25	0.26	0.25	0.25
Liquidity							
Op asset / op liab	7.85	7.20	5.84	6.39	5.29	6.24	6.48
NOWC Percent of sales		76.9%	68.2%	71.7%	63.1%	64.0%	74.3%
Solvency							
Debt to assets	23.0%	25.8%	26.9%	26.4%	27.7%	32.2%	33.5%
Debt to equity	54.8%	62.8%	65.5%	60.9%	62.0%	76.4%	80.5%
Other liab to assets	31.5%	29.8%	28.3%	27.0%	24.3%	22.3%	21.4%
Total debt to assets	54.5%	55.6%	55.3%	53.3%	52.0%	54.4%	54.9%
Total liabilities to assets	58.1%	58.9%	58.9%	56.7%	55.4%	57.9%	58.3%
Debt to EBIT	3.42	4.49	5.06	5.40	5.51	6.70	7.01
EBIT/interest	25.30	44.72	26.08	(59.65)	33.41	29.70	26.40
Debt to total net op capital	23.8%	26.7%	27.9%	27.3%	28.6%	33.3%	34.7%
ROIC							
NOPAT to sales	18.0%	15.4%	15.9%	16.9%	18.7%	16.3%	16.4%
Sales to NWC		1.67	1.70	1.53	1.78	1.73	1.50
Sales to NFA		0.39	0.36	0.32	0.32	0.32	0.31
Sales to IC ex cash		0.32	0.30	0.26	0.27	0.27	0.26
Total ROIC ex cash		4.9%	4.7%	4.4%	5.1%	4.4%	4.3%
NOPAT to sales	18.0%	15.4%	15.9%	16.9%	18.7%	16.3%	16.4%
Sales to NOWC		1.30	1.47	1.39	1.59	1.56	1.35
Sales to NFA		0.39	0.36	0.32	0.32	0.32	0.31
Sales to IC		0.30	0.29	0.26	0.27	0.26	0.26
Total ROIC		4.6%	4.6%	4.3%	5.0%	4.3%	4.2%
NOPAT to sales	18.0%	15.4%	15.9%	16.9%	18.7%	16.3%	16.4%
Sales to EOY NWC	1.65	1.70	1.67	1.48	1.99	1.48	1.48
Sales to EOY NFA	0.42	0.37	0.35	0.30	0.31	0.31	0.31
Sales to EOY IC ex cash	0.33	0.30	0.29	0.25	0.27	0.26	0.26
Total ROIC using EOY IC ex cash	6.0%	4.7%	4.6%	4.3%	5.0%	4.2%	4.2%
NOPAT to sales	18.0%	15.4%	15.9%	16.9%	18.7%	16.3%	16.4%
Sales to EOY NOWC	1.26	1.36	1.56	1.32	1.77	1.36	1.30
Sales to EOY NFA	0.42	0.37	0.35	0.30	0.31	0.31	0.31
Sales to EOY IC	0.31	0.29	0.28	0.25	0.26	0.25	0.25
Total ROIC using EOY IC	5.7%	4.5%	4.5%	4.2%	4.9%	4.1%	4.1%
ROE							
5-stage							
EBIT / sales		20.4%	19.5%	20.4%	19.7%	19.7%	19.8%
Sales / avg assets		0.29	0.28	0.25	0.26	0.25	0.25
EBT / EBIT		97.8%	96.2%	101.7%	97.0%	96.6%	96.2%
Net income /EBT		75.4%	81.5%	82.6%	94.9%	82.6%	82.6%
ROA		4.4%	4.3%	4.3%	4.7%	4.0%	3.9%
Avg assets / avg equity		2.41	2.43	2.37	2.27	2.31	2.39
ROE		10.6%	10.4%	10.1%	10.6%	9.2%	9.3%
3-stage							
Net income / sales		15.0%	15.3%	17.2%	18.1%	15.7%	15.7%
Sales / avg assets		0.29	0.28	0.25	0.26	0.25	0.25
ROA		4.4%	4.3%	4.3%	4.7%	4.0%	3.9%
Avg assets / avg equity		2.41	2.43	2.37	2.27	2.31	2.39
ROE		10.6%	10.4%	10.1%	10.6%	9.2%	9.3%
Payout Ratio		54.3%	55.1%	56.0%	56.0%	66.8%	69.1%
Retention Ratio		45.7%	44.9%	44.0%	44.0%	33.2%	30.9%
Sustainable Growth Rate		4.8%	4.7%	4.4%	4.7%	3.1%	2.9%

Appendix 7: 3-stage DCF Model

Year:		First Stage				Second Stage		
Year:	2021	2022	2023	2024	2025	2026	2027	2028
Sales Growth	*9.1%*	*4.5%*	*3.2%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
NOPAT / S	*18.7%*	*16.3%*	*16.4%*	*5.0%*	*5.1%*	*5.2%*	*5.3%*	*5.4%*
S / NWC	*1.99*	*1.48*	*1.48*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*
S / NFA (EOY)	*0.31*	*0.31*	*0.31*	*0.31*	*0.31*	*0.31*	*0.31*	*0.31*
S / IC (EOY)	*0.27*	*0.26*	*0.26*	*0.30*	*0.30*	*0.30*	*0.30*	*0.30*
ROIC (EOY)	*5.0%*	*4.2%*	*4.2%*	*1.5%*	*1.5%*	*1.6%*	*1.6%*	*1.6%*
ROIC (BOY)		*4.6%*	*4.3%*	*1.3%*	*1.6%*	*1.6%*	*1.6%*	*1.7%*
Share Growth	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Sales	$587,668	$614,113	$633,765	$646,440	$659,369	$672,556	$686,007	$699,727
NOPAT	$109,814	$99,930	$103,651	$32,322	$33,628	$34,973	$36,358	$37,785
Growth	*20.8%*	*-9.0%*	*3.7%*	*-68.8%*	*4.0%*	*4.0%*	*4.0%*	*3.9%*
- Change in NWC	-68853	119821	13270	-381775	923	942	961	980
NWC EOY	*294859*	*414680*	*427950*	*46174*	*47098*	*48040*	*49001*	*49981*
Growth NWC	*-18.9%*	*40.6%*	*3.2%*	*-89.2%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
- Chg NFA	126702	84923	63392	40888	41706	42540	43391	44259
NFA EOY	*1,896,087*	*1,981,010*	*2,044,402*	*2,085,290*	*2,126,996*	*2,169,536*	*2,212,927*	*2,257,185*
Growth NFA	*7.2%*	*4.5%*	*3.2%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
Total inv in op cap	57849	204744	76662	-340887	42629	43482	44352	45239
Total net op cap	2190946	2395690	2472352	2131465	2174094	2217576	2261927	2307166
FCFF	$51,965	($104,814)	$26,989	$373,209	($9,001)	($8,509)	($7,993)	($7,453)
% of sales	*8.8%*	*-17.1%*	*4.3%*	*57.7%*	*-1.4%*	*-1.3%*	*-1.2%*	*-1.1%*
Growth		*-301.7%*	*-125.7%*	*1282.8%*	*-102.4%*	*-5.5%*	*-6.1%*	*-6.8%*
- Interest (1-tax rate)	3287	3364	3926	4004	4085	4166	4250	4335
Growth	*-315.7%*	*2.4%*	*16.7%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
+ Net new debt	43892	173156	68753	17598	17950	18309	18675	19049
Debt	637998	811154	879907	897505	915455	933764	952440	971488
Debt / tot net op capital	*29.1%*	*33.9%*	*35.6%*	*42.1%*	*42.1%*	*42.1%*	*42.1%*	*42.1%*
FCFE w debt	$92,570	$64,978	$91,816	$386,803	$4,864	$5,634	$6,433	$7,261
% of sales	*15.8%*	*10.6%*	*14.5%*	*59.8%*	*0.7%*	*0.8%*	*0.9%*	*1.0%*
Growth		*-29.8%*	*41.3%*	*321.3%*	*-98.7%*	*15.8%*	*14.2%*	*12.9%*
/ No Shares	36163.0	36163.0	36163.0	36,163.0	36,163.0	36,163.0	36,163.0	36,163.0
FCFE	$2.56	$1.80	$2.54	$10.70	$0.13	$0.16	$0.18	$0.20
Growth		*-29.8%*	*41.3%*	*321.3%*	*-98.7%*	*15.8%*	*14.2%*	*12.9%*
* Discount factor		0.95	0.89	0.84	0.80	0.75	0.71	0.67
Discounted FCFE		$1.70	$2.27	$9.03	$0.11	$0.12	$0.13	$0.14
				Third Stage				
Terminal value P/B								
Book value	$1,029,680	$1,061,716	$1,092,557	$1,120,435	$1,149,528	$1,179,866	$1,211,485	$1,244,427
Growth	*5.5%*	*3.1%*	*2.9%*	*2.6%*	*2.6%*	*2.6%*	*2.7%*	*2.7%*
ROE (EOY book)	*10.3%*	*9.1%*	*9.1%*	*2.5%*	*2.6%*	*2.6%*	*2.7%*	*2.7%*
Net income	$106,527	$96,565	$99,725	$28,318	$29,543	$30,807	$32,109	$33,451
Dividends	$59,626	$64,529	$68,884	$440	$450	$469	$489	$510
Growth	*15.3%*	*8.2%*	*6.7%*	*-99.4%*	*2.3%*	*4.3%*	*4.2%*	*4.2%*
Shares	36,163.0	36,163.0	36,163.0	36,163.0	36,163.0	36,163.0	36,163.0	36,163.0
Price	$60.50	$60.50	$60.50	$17.18	$17.92	$18.69	$19.48	$20.29
Growth		*0.0%*	*0.0%*	*-71.6%*	*4.3%*	*4.3%*	*4.2%*	*4.2%*
Net issuance		$0	$0	$0	$0	$0	$0	$0
Terminal P/B								2.00
* Terminal BPS								$34.41
Terminal value								$68.82
* Discount factor								0.67
Discounted terminal value								$46.38
Summary (using P/B multiple for terminal value)								
First stage	$3.97	Present value of first 2 year cash flow						
Second stage	$9.52	Present value of year 3-7 cash flow						
Third stage	$46.38	Present value of terminal value P/B						
Value (P/B)	**$59.87**							

Appendix 8: Comp Sheet

Ticker	Current Price	Market Value	Price Change 3 Mo	6 Mo	52 Wk	YTD	Earnings Growth LTG	NTM	2019	2020	2021	2022
MGEE	$76.94	$2,782	(6.1)	1.9	8.8	9.9	5.9	0.2%	3.3%	3.6%	13.5%	-9.2%
LNT	$58.33	$14,604	(4.5)	1.3	10.6	13.2	6.1	-2.8%	6.5%	5.2%	8.2%	4.2%
WEC	$92.56	$29,197	(4.0)	0.7	(0.9)	0.6	6.5	-5.1%	7.2%	5.9%	7.4%	5.7%
DUK	$100.85	$77,576	(4.3)	0.3	10.2	10.1		34.8%	7.2%	1.2%	2.1%	4.6%
EVRG	$66.92	$15,345	(2.2)	6.9	20.7	20.6	6.6	-11.8%	8.2%	7.3%	14.2%	0.0%
AEE	$86.79	$22,358	(1.9)	2.4	12.3	11.2	8.0	5.9%	-0.6%	4.5%	9.4%	5.5%
CMS	$61.88	$17,926	(4.4)	2.6	2.8	1.4	6.0	-11.8%	6.9%	7.2%	-0.7%	8.3%
NWE	$56.65	$3,114	(13.3)	(11.1)	(0.4)	(2.8)	3.7	-9.8%	0.9%	-2.0%	5.4%	-3.1%
DTE	$114.52	$22,186	(5.6)	(2.1)	8.0	10.9	7.0	30.1%	0.0%	14.2%	-3.8%	0.3%
Average		$22,787	(5.1)	0.3	8.0	8.3	6.2	3.3%	4.4%	5.2%	6.2%	1.8%
Median		$17,926	(4.4)	1.3	8.8	10.1	6.3	-2.8%	6.5%	5.2%	7.4%	4.2%
SPX	$4,701		4.1	11.2	27.0	25.2			1.1%	-14.0%	33.6%	12.1%

Ticker	2021 ROE	P/B	P/E 2018	2019	2020	TTM	NTM	2021	2022	2020 NPM	P/S	NM
MGEE	10.4%	2.71	24.7	31.4	26.7	25.6	25.6	26.1	28.7	17.5%	5.17	17.2%
LNT	11.0%	2.44	19.5	23.7	20.9	23.0	23.7	22.2	21.3	17.8%	4.28	18.3%
WEC	11.8%	2.68	20.7	25.8	23.9	22.3	23.5	22.7	21.5	16.5%	4.03	16.6%
DUK	8.5%	1.64	18.3	18.0	17.7	25.9	19.2	19.3	18.4	16.5%	3.25	5.7%
EVRG	11.8%	2.68	20.7	25.8	23.9	22.3	23.5	22.7	21.5	16.5%	4.03	12.6%
AEE	8.5%	1.64	18.3	18.0	17.7	25.9	19.2	19.3	18.4	16.5%	3.25	15.0%
CMS	8.7%	1.65	21.3	22.5	17.4	17.5	19.8	18.9	18.9	14.5%	3.12	11.3%
NWE	8.3%	1.33	17.5	21.0	17.1	15.3	16.9	16.0	16.6	15.4%	2.60	12.9%
DTE	13.3%	2.59	17.5	20.6	16.6	25.4	19.5	19.4	19.4	9.7%	1.82	11.1%
Average	10.2%	2.15	19.8	23.0	20.2	22.6	21.2	20.7	20.5	15.7%	3.51	13.4%
Median	10.4%	2.44	19.5	22.5	17.7	23.0	19.8	19.4	19.4	16.5%	3.25	12.9%
SPX			15.8	20.1	27.0			25.5	22.7			

Ticker	Beta	LT Debt/ Equity	S&P Rating	LTM Dividend Yield	Payout	P/CF Current	Sales Growth NTM	STM	Pst 5yr	Book Equity	ROIC	EV/ EBIT
MGEE	0.66	61.6%	A-	2.09%	49.9%	15.0				$28.43	6.3%	27.4
LNT	0.47	111.8%	A-	2.94%	62.6%	11.7	-13.0%			$23.94	5.3%	27.3
WEC	0.26	116.2%	A	3.12%	64.1%	11.7	-5.4%			$34.58	5.5%	24.8
DUK	0.39	124.7%	B+	4.02%	99.8%	8.8	3.7%	5.9%		$61.57	1.3%	24.3
EVRG	0.39	124.7%	B+	4.02%	99.8%	9.0	-5.4%			$34.58	3.5%	20.0
AEE	0.27	205.8%	A-	2.96%	56.9%	11.2	3.7%	5.9%		$61.57	4.7%	23.8
CMS	0.59	110.2%	A+	4.45%	66.4%	9.2	3.7%	5.9%		$40.64	4.2%	24.3
NWE	0.59	110.2%	A+	4.45%	66.4%	7.7	-3.8%	9.7%		$42.71	3.6%	22.7
DTE	0.79	198.4%	A-	3.77%	90.4%	7.8	-10.7%	8.2%		$44.22	4.6%	20.3
Average	0.49	129.3%		3.53%	72.9%	10.2	-3.4%	7.1%			4.3%	23.9
Median	0.47	116.2%		3.77%	66.4%	9.2	-4.6%	5.9%			4.6%	24.3
SPX												

Ticker	Earnings (FY) 2018	2019	2020	TTM	NTM	2021	2022	Sales 2018	2019	TTM	NTM	1/Beta
MGEE	$2.43	$2.51	$2.60	$3.00	$3.01	$2.95	$2.68	$569	$539	$581		1.5
LNT	$2.17	$2.31	$2.43	$2.53	$2.46	$2.63	$2.74	$3,648	$3,416	$3,559	$3,098	2.1
WEC	$3.34	$3.58	$3.79	$4.16	$3.95	$4.07	$4.30	$7,523	$7,241	$8,048	$7,611	3.9
DUK	$4.72	$5.06	$5.12	$3.89	$5.24	$5.23	$5.47	$25,079	$23,868	$24,636	$25,541	2.6
EVRG	$2.67	$2.89	$3.10	$3.83	$3.37	$3.54	$3.54	$5,148	$4,913	$24,636	$25,541	2.6
AEE	$3.37	$3.35	$3.50	$3.82	$4.04	$3.83	$4.04	$5,910	$5,794	$7,164	$7,031	3.7
CMS	$2.33	$2.49	$2.67	$3.01	$2.65	$2.65	$2.87	$6,845	$6,680	$1,338	$1,287	1.7
NWE	$3.39	$3.42	$3.35	$3.71	$3.34	$3.53	$3.42	$1,258	$1,199	$1,338	$1,287	1.7
DTE	$5.36	$5.36	$6.12	$4.51	$5.87	$5.89	$5.91	$12,669	$12,177	$14,350	$12,821	1.3
Average												
Median												
SPX	$158.59	$160.41	$137.99			$184.39	$206.68					