Watchlist Investing

Patiently finding and following great public companies

Issue #28 | August 2023



"One person said to me, 'I have a list of 300 potentially attractive stocks, and I constantly watch them, waiting for just one of them to become cheap enough to buy.' Well, that's a reasonable thing to do. But how many people have that kind of discipline? Not one in 100." – Charlie Munger

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Link to Utility Spreadsheet

Companies in this issue: Berkshire Hathaway (BRKA/BRKB); Dominion Energy (D); OGE Energy Corp. (OGE); NextEra Energy (NEE); Xcel Energy (XEL); Pinnacle West Capital Corp. (PNW); IDACORP (IDA); Hawaiian Electric Industries (HE); MDU Resources Group (MDU); Otter Tail Corporation (OTTR); American Electric Power Company (AEP); Alliant Energy Corp. (LNT).

Deep Dive

Electric Utility Industry

(Tickers: See listing | Disclosures: Long BRKB)



Electricity is probably second on the list of things you'd miss most if it suddenly disappeared (the first being oxygen). Electricity is ubiquitous and easy to take for granted, yet we're increasingly reliant on it. Almost everyone has a computer, smartphone, and other "smart" things around their home. The continued boom in electric vehicles and cloud computing (including artificial intelligence) is going to require vast amounts of electricity our grid is not quite ready to make or move – some estimates put the need at 2x to 3x our current capacity. The US is just waking up to these realities. The job of investing hundreds of billions (perhaps trillions) of dollars to improve the electrical grid falls to the electric utility companies, many of which are investor owned and publicly traded.

I'm intrigued enough to put three utilities on the Watchlist to follow more closely. **Otter Tail Corp.** (**OTTR**) has a nice utility as a base coupled with a related but separate manufacturing business. **MDU Resources** (**MDU**) is a potential spin-off / pure-play situation. And **NextEra Energy**, **Inc.** (**NEE**) seems currently overvalued, but I like the business.

¹ Industry has put the figure at around 50% to 70% more. The higher estimate of 3x comes from Elon Musk. I'm inclined to believe him as I don't think industry is fully accounting for the nonlinear adoption of electric vehicles, heat pumps, etc.



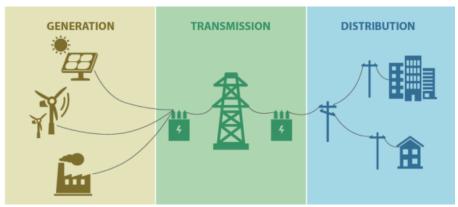
INDUSTRY OVERVIEW:

The history of electricity and how our grid came to be is fascinating. It dates back to the late 19th century and includes dramatic battles between Thomas Edison, Nicola Tesla, and others. A full account would take up many pages even to summarize. I recommend Gretchen Bakke's 2015 book, *The Grid* if you're interested in this history and a full explanation of the problems we face today.

It's important to understand what exactly "the grid" is, how it functions, and how electricity moves through it before jumping into the ownership landscape.

All electrical grids regardless of size contain three physical parts:

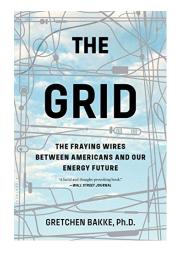
- 1. Generation: the production of electricity
- 2. Transmission: moving it over long distances
- 3. Distribution: the final mile lines to homes and businesses

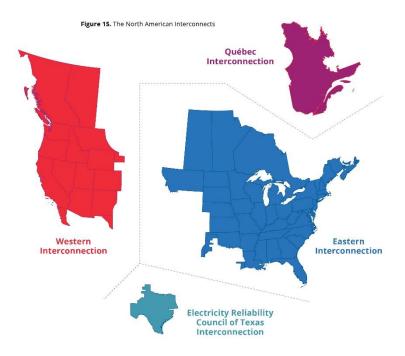


The grid as it exists today in the contiguous United States is really four separate grids or interconnections that operate mostly independently and include most of Canada. Substantially all electricity in these regions is produced and consumed within the same borders (see the graphic on the next page).

The whole grid is overseen by the Federal Energy Regulatory Commission or FERC, in conjunction with the Canada Energy Regulator or CER. Within these major interconnections are smaller regions delineated for purposes of regulation and management of resources.

Governmental and non-profit balancing authorities and systems operators oversee these territories and coordinate the production and distribution of electricity to meet the demands of consumers. Balancing the grid is literally a second-by-second job because power cannot be stored. It must be consumed the instant it's produced.





Source: Mackinac Center for Public Policy

It's necessary to understand a bit of history to understand today's functioning and ownership of the grid.

- The very beginning was the Wild West with many different electric companies selling different types of power (the classic direct current vs alternating current battles) and even myriad different voltages and frequencies. Eventually 110-volt, 60 hertz alternating current won out, but challenges remained with too many producers of power. Centralized generation of power allowed larger, more efficient plants which could be operated throughout the day, thus increasing utilization of the asset.²
- Problems with shady business practices and shoddy accounting remained a part of the
 system until Franklin Roosevelt's administration tackled the problem. The Public Utility
 Holding Company Act of 1935 (PUCHA) made utilities public goods and regulated them
 as such. The result was to create government-sanctioned vertically integrated monopolies
 that produced, transmitted, and distributed electricity.
- The Public Utility Regulatory Policies Act of 1978 (PURPA) allowed non-utility companies to produce power and sell it to the utilities at their "avoided cost" rate (that is, the cost that they would have paid to produce the power themselves). PURPA set the stage for increased sources of electrical supply outside of the utilities with the utilities required by law to transmit the power.³

² Sam Insull's name is almost lost to history. He was an apprentice of Thomas Edison who went on to perfect the model of vertically integrated utilities that offered tiered metered rates to customers.

³ I learned a new word reading *The Grid*. Monopoly is a common word that means to be the only supplier of a product or service. Its inverse is monopsony, which is to control demand, an equally powerful position. In other



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- The Energy Policy Act of 1992 sought to introduce sources of clean energy to the industry by partially deregulating the utilities, separating generation from transmission and distribution. This sprung open a competitive market which allowed the wholesale trading of power.⁴
- The Energy Policy Act of 2005 repealed the Public Utility Holding Company Act of 1935 and provided for tax credits for renewable energy, including wind and solar. One consequence was to allow holding companies like Berkshire Hathaway to own controlling stakes in utility companies.

It's important to note that even with significant deregulation compared to fifty years ago, regulation still exists. For example, public utility commissions exist in all 50 states to oversee various aspects including pricing, reliability, and approving mergers/acquisitions.

How big is the market for electricity?

Electricity production (and demand) in the US has been relatively flat since the year 2005.

In 2022, the US (excluding Alaska and Hawaii) generated 4.1 petawatt hours of electricity. Such large numbers are outside of the realm of everyday use. Said another way it is:

- 4,143 terawatt-hours
- 4,142,901 gigawatt-hours
- 4,142,901,000 megawatt-hours
- 4,142,901,000,000 kilowatt-hours

The average household in the US used 10,600 kilowatts, or 10.5 megawatts. No matter how you express it that's a lot of electricity.

Before going on I need to pause and clear up a potential source of confusion. The statistic above represents the total output of electricity. It differs from the nameplate capacity of the assets used to produce it. To use actual numbers: according to EEI, the total nameplate generating capacity in the United States is 1,270 gigawatts. Those electrical generators produced 4,142,901 gigawatt-hours above. The key here is the term hours. A one-gigawatt source operating 24/365 would generate 1 x 24 x 365 = 8,760 gigawatt-hours' worth of electricity. The math doesn't work out when substituting the 1,270-gigawatt figure because plants don't always run at full capacity, downtime takes them offline, and because of the intermittent nature of certain assets. Most oil plants remain only as "peaking plants" to fill periods of unusually high demand, and onshore wind, for example, is expected to operate just a quarter of the time, at best.

words, the utilities were the only buyer of electricity and they protected themselves by refusing to buy power from other producers in their regions. PURPA broke these monopsony powers.

⁴ This led to some unfortunate but predictable consequences. The utilities, no longer in sole control of profitable generation assets, changed maintenance schedules such as tree trimming. Overgrown trees and other vegetative growth led to increased blackouts. An additional result was the rise of larger traders like Enron.

U.S. Electric Output (GWh)



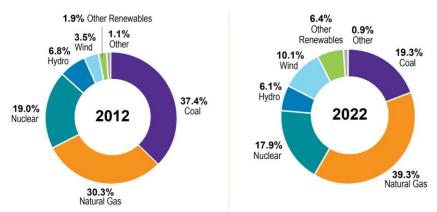
Nameplate capacity translates into output:

All Utility/Owner Types

Nameplate capacity, in megawatts

				Periods Ending	December 31	
iel Type	MW	Percent of Total	Region	2022	2021	% Chai
		IOLAI	New England	115,781	115,930	(0.1%
S	561,457	45.2%	te Mid-Atlantic	419,466	418,296	0.3%
	226.004	40.20/	Central Industrial	657,622	651,041	1.0%
al	226,984	18.3%	West Central	341,836	335,136	2.0%
nd	133,460	10.7%	Southeast	1,036,554	1,014,838	2.1%
-	,		South Central	840,535	778,018	8.0%
ro	101,990	8.2%	Rocky Mountain	296,141	292,947	1.1%
clear	99,960	8.1%	Pacific Northwest	161,364	158,170	2.0%
L	64.002	F 00/	Pacific Southwest	273,602	268,259	2.0%
ar	61,892	5.0%				
	32,387	2.6%	Total United States	4,142,901	4,032,635	2.7%
her Renewable	17,982	1.4%	Note: Represents all pov does not include Alaska		distribution to end cust	omers;
her	5,468	0.4%	Source: EEI Business Ar	alytics.		

The past decade saw big changes in the composition of generating sources. Coal declined 55% from 1,986 GWH in 2008 to just 900 GWH in 2021. Most coal plants are scheduled to be taken offline by 2050. Note that hydro is not always considered renewable because it includes pumped hydro, which might originate from non-renewable sources.



Note: The figures in this table differ slightly from the one presented above.

According to the US Department of Energy, in 2023 non-fossil fuel sources will account for 86% of new electric generation capacity in the US. The US is slated to add 56.1 GW of generating capacity in 2023 or 41.6 GW net of 14.5 GW of retirements (mainly coal and natural gas).

Who owns the grid?

The grid is owned by thousands of different entities, both public and private. According to the US Department of Energy⁵, 192 investor-owned utilities (i.e., direct public companies or holding companies like Berkshire Hathaway) supply 38% of net generation, 80% of transmission, and 50% of distribution.

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⁵ Source: US DOE

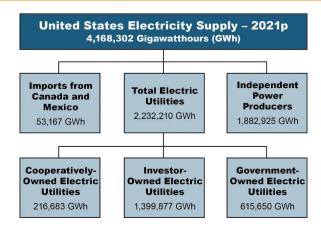


Here is the full list:

	Number	Generation	Transmission	Distribution
Investor-Owned	192	38%	80%	50%
Public/Coop	2,900	15%	12%	50%
Independent Power Producers	2,800	40%	0%	0%
Federal Government	9	<u>7%</u>	<u>8%</u>	<u>0%</u>
		100%	100%	100%

Sources of Electric Generation (by type of ownership)

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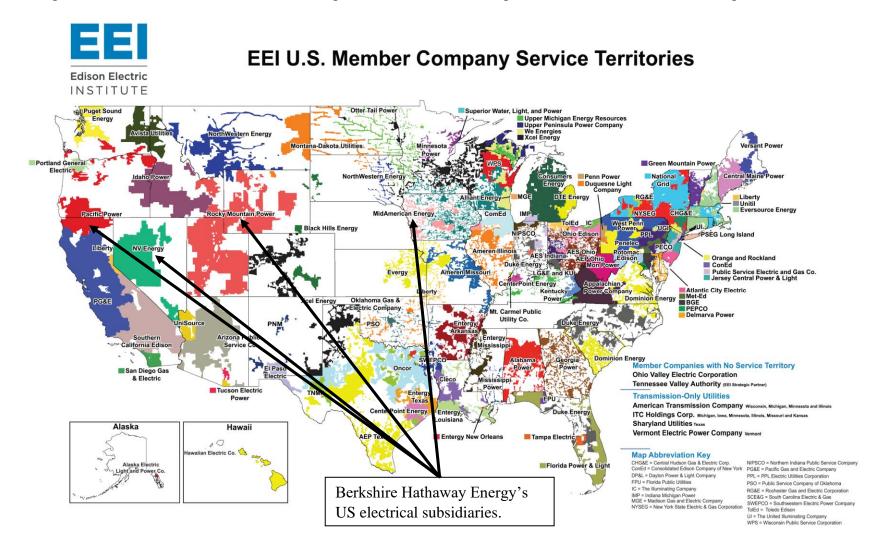


Number of Customers by Utility Type

	Full-Service Customers	Delivery-Only Customers	Total	Percent of Total
Investor-Owned Utilities	90,766,884	15,677,969	106,444,853	66.1%
Public Power	24,624,724	391	24,625,115	15.3%
Cooperatives	21,310,467	6,968	21,317,435	13.2%
Federal Power Agencies	39,485		39,485	0.0%
Behind-the-Meter	999,091		999,091	0.6%
Power Marketers	7,623,046		7,623,046	4.7%
TOTAL	145,363,697	15,685,328	161,049,025	



A map of the service areas of EEI's member companies. Note that most are public, however, a handful are non-public members.



A listing of all 39 stand-alone public investor-owned utilities and their tickers is below (from EEI). The full list includes:

- Berkshire Hathaway Energy owned by Berkshire Hathaway (BRKA / BRKB)
- Cleco Corporate Holdings, LLC (privately owned holding co.)
- DPL, Inc. owned by AES Corp (AES)
- IPALCO Enterprises, Inc. (owned by AES Corp)
- Puget Energy, Inc. (privately owned holding company)

As seen in the table to the right, the industry saw substantial consolidation beginning in 1995.

Additionally, it should be noted that these entities also own other utility assets, such as natural gas pipelines and distribution. Most of their business is electricity, however. In 2022, they had \$1.5 trillion invested in regulated electricity assets and generated \$310 billion or 73% of revenues from regulated electricity.

Merroe	r Impacts 1	1005 2022
	<u> </u>	CTRIC UTILITIES
Date Date	No. of Utilit	
12/31/95	98	_
12/31/96	98	_
12/31/97	91	(7.14%)
12/31/98	86	(5.49%)
12/31/99	83	(8.79%)
12/31/00	71	(14.46%)
12/31/01	69	(2.82%)
12/31/02	65	(5.80%)
12/31/03	65	-
12/31/04	65	-
12/31/05	65	-
12/31/06	64	(1.54%)
12/31/07	61	(4.69%)
12/31/08	59	(3.28%)
12/31/09	58	(1.69%)
12/31/10	56	(3.45%)
12/31/11	55	(1.79%)
12/31/12	51	(7.27%)
12/31/13	49	(3.92%)
12/31/14	48	(2.04%)
12/31/15	47	(2.08%)
12/31/16	44	(6.38%)
12/31/17	43	(2.27%)
12/31/18	42	(2.33%)
12/31/19	40	(4.76%)
12/31/20	39	(2.50%)
12/31/21	39	-
12/31/22	39	-
		by 60% since Dec.'95
Note: Based on co of electric utilities.	mpleted mergers	in the EEI Index group
Source: EEI Finance	e Department.	

Mark	cet Ca	apital	ization	ı at I	Decem	ber 31	, 2022	(in \$MM)

U.S. INVESTOR-OWNED ELECTRIC UTILITIES							
Company Name	Ticker	Market Cap.	% of Total	Company Name	Ticker	Market Cap.	% of Total
NextEra Energy, Inc.	NEE	164,901	16.49%	CMS Energy Corporation	CMS	18,340	1.83%
Duke Energy Corporation	DUK	79,302	7.93%	AVANGRID, Inc.	AGR	16,622	1.66%
Southern Company	SO	77,266	7.73%	Evergy, Inc.	EVRG	14,468	1.45%
Dominion Energy, Inc.	D	51,055	5.11%	Alliant Energy Corporation	LNT	13,858	1.39%
American Electric Power Company, Inc.	AEP	48,779	4.88%	NiSource Inc.	NI	11,146	1.11%
Sempra Energy	SRE	48,637	4.86%	Pinnacle West Capital Corporation	PNW	8,609	0.86%
Exelon Corporation	EXC	42,711	4.27%	OGE Energy Corp.	OGE	7,918	0.79%
Xcel Energy Inc.	XEL	38,420	3.84%	MDU Resources Group, Inc.	MDU	6,170	0.62%
Consolidated Edison, Inc.	ED	33,797	3.38%	IDACORP, Inc.	IDA	5,465	0.55%
PG&E Corporation	PCG	32,309	3.23%	Hawaiian Electric Industries, Inc.	HE	4,581	0.46%
Public Service Enterprise Group Inc.	PEG	30,451	3.05%	Black Hills Corporation	BKH	4,563	0.46%
WEC Energy Group, Inc.	WEC	29,572	2.96%	Portland General Electric Company	POR	4,374	0.44%
Eversource Energy	ES	29,117	2.91%	PNM Resources, Inc.	PNM	4,201	0.42%
Edison International	EIX	24,303	2.43%	ALLETE, Inc.	ALE	3,684	0.37%
FirstEnergy Corp.	FE	23,948	2.40%	NorthWestern Corporation	NWE	3,341	0.33%
Ameren Corporation	AEE	22,977	2.30%	Avista Corporation	AVA	3,247	0.32%
Entergy Corporation	ETR	22,888	2.29%	MGE Energy, Inc.	MGEE	2,546	0.25%
DTE Energy Company	DTE	22,683	2.27%	Otter Tail Corporation	OTTR	2,442	0.24%
PPL Corporation	PPL	21,513	2.15%	Unitil Corporation	UTL	822	0.08%
CenterPoint Energy, Inc.	CNP	18,879	1.89%				
Source: FFI Finance Department and S&	P Global N	Market Intellige	ence	Total Industry		999,904	100%



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BUSINESS MODEL:

Prior to major deregulation most utilities were vertically integrated owners of generation, transmission, and distribution assets. That isn't necessarily the case today. However, in my view, the basic economics haven't changed because of deregulation. It's only illuminated how utilities in the days of old operated their assets with huge inefficiencies. Deregulation has thrown a spotlight on each component of the business and forced operators to do better.

No matter what aspect of the business you look at (generation, transmission, distribution) it's still a very capital-intensive business. Long-lived assets are put in place that are expected to generate cash flows over many decades.

The phrase "assets are put in place" makes it sound easy. Reality features years (sometimes decades) of planning and negotiation with regulators, communities, and activist groups, an investment in time and money that is not immediately recouped, if at all if the project fails to gain approval.

I said earlier that electricity cannot be stored. That's true in the literal sense that once made it must be used immediately. But it is stored in chemical form, for example in coal, oil, natural gas, and nuclear fuel. In the case of pumped hydro, it is stored via kinetic energy in an elevated reservoir using previously generated electricity. A utility in Alabama even uses a cavern with compressed air to store a few hours' worth of power. Modest amounts of inventory, therefore, must be secured in the case of these generation assets.

Transmission and distribution assets require ongoing investment in maintenance. Some physical upkeep is necessary, of course (unless you're PG&E in California⁶). But most maintenance comes in the form of the war on nature: trees and vines growing around lines that threaten to short-circuit or take down lines, and animals that unwittingly meet their demise as conductors.

The stability of utilities' businesses means they can safely operate with more debt. According to EEI, the group of investor-owned utilities operate with a capitalization structure of 44% equity (including 3% noncontrolling interests) and 56% debt – or a debt/equity ratio of 1.27x.

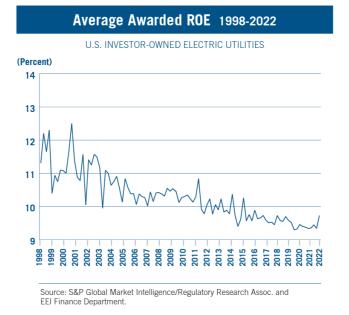
Regulation

About a third of the generating capacity and most transmission and distribution rates are regulated. Typically, regulators will allow a certain return on equity and set boundaries for how much debt can be used. Regulations can also include provisions for what are known as stranded assets, such as an old coal plant taken offline prior to the end of its useful life. Essentially this means ratepayers subsidize the return of shareholders.

⁶ California's Pacific Gas & Electric famously (and shamefully) neglected basic system maintenance. Some parts were found to be over 100 years old, and tree-trimming routines were pushed out or neglected. This is an example of extreme mismanagement of utility assets that ultimately cost the lives of many due to fires and outages.

But regulation is two-sided. Warren Buffett has talked about this social compact before. The utilities must do their part to make necessary investments for the long-term viability and strength of the grid. In exchange, regulators and lawmakers should allow a reasonable return on capital employed. Most regulatory bodies allow somewhere in the range of high single digits to very low double digit returns on equity. In some cases, higher returns are allowed if a portion is passed back to customers.

Here are Buffett and Munger <u>talking about</u> <u>regulation</u> at the 2001 Berkshire Hathaway AGM.



KEY VARIABLES-METRICS:

The key metrics listed below are how I assess a utility company. The first gets to an overall understanding of the area in which the company operates and the last two provide a sense of efficiency. Utilities are almost like banks in the sense that leverage is a part of the normal business model, though nowhere near the extent of a bank. But returns on equity capital can be artificially inflated with lots of debt. The best utilities generate satisfactory returns for shareholders without undue use of debt. Monopoly does not always mean satisfactory economics.

I hesitated to add a fourth key variable which is the general outlook for demand. Utilities are largely wedded to the area that they serve. Long-term changes in population and per capita use of electricity will determine the ability of any utility company to grow profitably.

Key metric #1: Type and amount of assets in place: Utilities come in so many different "flavors" – involved in adjacent and sometimes totally different businesses – it's important to understand what exactly the company does. One utility holding company I came across had a construction company and an aggregates business; another owned a very large bank.

Within the utility industry proper, key questions include:

- 1. In what type of utility businesses does the company operate? Electric, natural gas, water, steam, etc.
- 2. In what segment(s) of the market do they operate? Generation, transmission, distribution.
- 3. How much generating capacity do they have and of what type (nuclear, coal, natural gas, solar, wind, etc.)?
- 4. Do they operate in regulated or unregulated markets? Do they have long-term power purchase agreements in place?

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Key metric #2: How much leverage does the company employ, both at the holding company and subsidiary level?

Key metric #3: What is the long-term track record of generating returns on equity capital for shareholders?

FINANCIAL ANALYSIS:

Investor-Owned Utility Industry:

The Edison Electric Institute provides wonderful data on the 44 investor-owned utilities' aggregated financials⁷. The numbers are staggering. Taken as a group, they manage \$2 trillion worth of assets, have over half a trillion dollars' worth of shareholders' equity, and leverage the balance sheet with \$840 billion of debt. They generated revenues of \$424 billion and earned \$44 billion in net income in 2022.

Below are several metrics I thought provided a good overview of the group. The after-tax return on equity of 8% reflects the fact that this is largely a regulated monopoly industry. Add on a percentage point for the cash benefits of deferred taxes, a reality that's likely to continue as the industry invests 2x depreciation charges in capex.

Looking at the sustainable growth rate (ROE x retention ratio) leads me to conclude that the industry is in for an awakening of sorts. One of three things will need to happen if the industry is to invest the massive sums needed to improve America's grid: (i) leverage will have to increase, (ii) payouts will have to come down, or (iii) they will need to issue additional equity capital.

Selected metrics	2022	2021
Return on average common equity (AT)	8.17%	
Pre-tax return on capital employed	6.02%	
Payout ratio	71%	71%
Debt/equity (avg.)	1.51	
ROE with deferred tax adjustment	8.96%	
Sustainable growth rate (ROE x retain)	2.58%	
Depreciation/amort. % revenues	14%	16%
Capex % revenues	35%	37%

⁷ I confirmed with the Senior Director of Financial Analysis at the Edison Electric Institute that these numbers *include* the five utilities owned by holding companies, such as Berkshire Hathaway Energy.

US Investor-Owned Electric Utilities Balance Sheet		
\$mil; FYE Dec. 31	2022	2021
Current assets	180,901	157,857
PP&E, net	1,418,389	1,335,697
Investments	109,004	120,117
Other assets	310,526	326,970
Total assets	2,018,820	1,940,641
Short-term debt and CMLTD	100,400	75,840
Other current liabilities	152,297	137,756
Deferred taxes	113,287	109,099
Long-term debt	740,215	694,027
Other liabilities	333,109	358,360
Total liabilities	1,439,308	1,375,082
Noncontrolling	28,036	25,939
Preferred stock + mezzanine	11,651	13,483
Common equity	539,825	526,137
Total liabilities and equity	2,018,820	1,940,641

tric Utilities	
2022	2021
nues 424,428	366,615
ost 112,572	87,125
26,083	16,910
nance 101,242	93,854
zation 61,458	57,193
ses 49,050	42,493
74,023	69,040
e 8,052	12,182
851	(1,430)
26,987	26,112
e-downs 9,324	8,012
3,045	3,390
43,570	42,277
n 43,569	42,227
31,016	30,075
	2022 nues 424,428 ost 112,572 26,083 nance 101,242 zation 61,458 ses 49,050 74,023 nee 8,052 851 26,987 e-downs 9,324 3,045 43,570 n 43,569

Capital Allocation \$mil; FYE Dec. 31	2022	2021
Net income	43,570	42,277
Depreciation/amortization	61,458	57,193
Capital expenditures	(147,748)	(134,063)
Net asset sales	3,714	17,805
Change in debt	75,486	50,487
Common dividends	(31,409)	(30,279)
Change in working capital	(12,490)	(7,381)
Issuance of shares	10,957	9,432
Share repurchases	(1,158)	(2,100)
*Note some figures differ from the o	ther financial sta	tements.

Sources & Uses 2022	\$mil	% total	% NI
Sources:			
Net income	43,570	22%	100%
Depreciation/amortization	61,458	31%	141%
Net asset sales	3,714	2%	9%
Change in debt	75,486	39%	173%
Issuance of shares	10,957	6%	25%
Total sources	195,185	100%	448%
Uses:			
Capital expenditures	(147,748)	77%	339%
Common dividends	(31,409)	16%	72%
Change in working capital	(12,490)	6%	29%
Share repurchases	(1,158)	1%	3%
Total uses	(192,805)	100%	443%

Proceeds from Issuance of Common Equity 2013–2022



Source: S&P Global Market Intelligence and

EEI Finance Department.

Taken as a whole (worse cases can be found in specific companies), the industry is terribly capital inefficient. It sends out 72% of earnings as dividends and then issues shares equal to 25% of earnings, a circuitous route that sends money to Uncle Sam for the feel-good of dividends. Still, it improves the net retention ratio to 47% and increases the sustainable growth rate to about 4%.

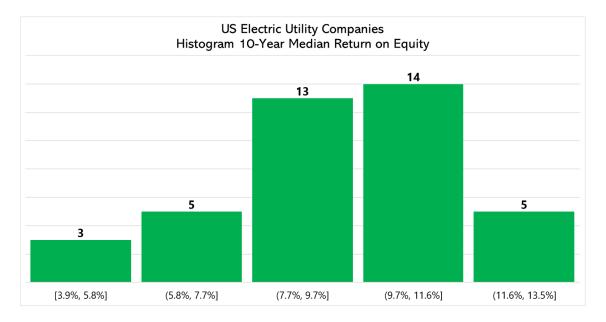
AKA Capital
Destruction Mechanism

Surveying the list:

What follows is my culled list of electric utility companies in the US. Included are those I thought important to note because they were large/important operators, ones I saw as well operated and potentially good candidates for investment, and other oddities like the utility that owns a \$10 billion bank and another that has an aggregates subsidiary. It's also largely a first pass, meaning I haven't gone as deep into each of them as I typically would with an individual company.

While not a huge list, it took a considerable amount of time to go through the list of investor-owned utilities and pick out my version of the best of them. <u>Click here</u> to download my spreadsheet containing all 40 publicly traded companies.

The chart below shows a histogram of the companies by 10-year return on equity. This was a major filter for me. I looked at most of the companies in the top two buckets (i.e., \geq 9.7% ROE) and included others just below that threshold that looked interesting or had unusual consistency.



***Note: Market Cap Data as of Mid-August Unless Specified ***

Company:	Berkshire Hathaway Energy
Ticker:	Parent = Berkshire Hathaway (BRKA / BRKB)
Market cap:	N/A – owned by holding company
10-year median ROE:	10.9%
Debt/equity:	1.04x
Current price/book:	N/A – owned by holding company
Total capacity:	34,951 MW
Regulated capacity:	29,633 MW

I set BHE as the standard by which to measure all the other utilities. It's a business I know well through Berkshire Hathaway and am coming to appreciate more and more as time goes on.



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BHE has grown from a base in the Midwest to become one of the largest, most respected, and most efficient operators in the United States. On the electrical front BHE has 5.2 million US customers and 3.9mn end users in England, and 210,850 miles of electric transmission and distribution lines. On the natural gas side BHE Pipeline Group transports 15% of all US natural gas with assets in 27 states. It has 48,800 miles of natural gas transmission and distribution lines with 21.1 Bcf (billion cubic feet) of transportation capacity.

Here is an overview of the major segments of the company:

- MidAmerican Energy Company: Regulated electric and gas utility
- PacifiCorp: Regulated electric utility
- BHE US Transmission: Regulated electric transmission
- NV Energy: Holding company for:
 - Nevada Power Company: Regulated electric utility
 - o Sierra Pacific Power Company: Regulated electric and gas utility
- Northern Powergrid: Holding co. for two United Kingdom-based electric distributors
- Altalink: Alberta, Canada-based regulated transmission
- BHE Pipeline Group:
 - o Kern River: Regulated natural gas transmission
 - o Northern Natural Gas: Regulated natural gas transmission
 - o BHE GT&S: Various natural gas assets acquired from Dominion Energy

BHE operates with about a 1:1 ratio of debt-to-equity and earns a respectable nearly 11% ROE. Its ROE averaged slightly higher than that on a cash basis because of deferred taxes, a result of its huge capital investment program.

The company has some unregulated assets; however, the capacity is spoken for under long-term power purchase agreements, mitigating risk. Additionally, its gas portfolio is limited to toll-like transmission assets and so it doesn't face the volatility that upstream or downstream operators experience. BHE's breadth means it benefits from diversification among regulatory bodies too.

Company:	Dominion Energy
Ticker:	D
Market cap:	\$41.6 billion
10-year median ROE:	12.0%
Debt/equity:	1.80x
Current price/book:	1.60x
Total capacity:	31,000 MW
Regulated capacity:	28,102 MW

Dominion has 31.0 GW of electric generating capacity, 10,600 miles of electric transmission lines, 78,500 miles of electric distribution lines and 93,500 miles of gas distribution mains and related service facilities, supported by 4,000 miles of gas transmission, gathering and storage pipelines. It operates in 15 states and serves approximately 7 million customers. 90% of earnings



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come from state-regulated electric and natural gas operations. Estimated nonregulated electric based on \$1,249mm revenues vs. \$12,111mm regulated electric sales.

In 2020, Dominion agreed to sell its gas transmission and storage assets to Berkshire Hathaway Energy to position itself as a pure-play and sustainability-focused utility. Berkshire paid \$9.7 billion for the assets, which included a 25% interest in the Cove Point liquified natural gas facility in Maryland. Then in July 2023, Dominion sold its remaining 50% stake to Berkshire for \$3.3 billion, with Brookfield Infrastructure Partners holding the remaining quarter interest.

Dominion boasts a strong ROE and should enjoy stability operating only in regulated markets. That nearly 2x leverage makes me uncomfortable.

Company:	OGE Energy Corp
Ticker:	OGE
Market cap:	\$6.9 billion
10-year median ROE:	11.7%
Debt/equity:	0.90x
Current price/book:	1.60x
Total capacity:	7,240 MW
Regulated capacity:	7,240 MW

OGE seems like a nice, simple business. It operates an integrated electric business in Oklahoma and Arkansas and has 889,000 electric customers, 92% of which are in Oklahoma. Also owns a midstream natural gas operation. The company had a negative blip in 2020, which I did not go deep enough to uncover. But on the surface, I like the simplicity and sub-1.0x debt/equity ratio.

Company:	NextEra Energy, Inc.
Ticker:	NEE
Market cap:	\$139.5 billion
10-year median ROE:	11.6%
Debt/equity:	1.20x
Current price/book:	2.80x
Total capacity:	60,085 MW
Regulated capacity:	32,100 MW

NextEra is the largest electric utility in the US based on market value. The company has two main segments:

Florida Power & Light is a regulated generation/transmission/distribution company with 5.8 million customers in Florida; 32,100 MW of generation, 88,000 circuit miles of transmission and distribution lines, and 871 substations. FPL also has a retail gas business serving 119,000 customers with 3,795 miles of natural gas pipelines. Its generating portfolio includes 76% natural gas, 11% nuclear, 11% solar, 2% other. The company's 10K states that it has an average authorized ROE of 10.60% with a range of 9.70% to 11.70%.

The second segment is NextEra Energy Resources (NEER). NEER holds a regulated transmission business and competitive energy business in 40 states and 5 provinces of Canada. It



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has 27,400 MW net generating capacity, 290 substations, and 3,240 circuit miles of transmission lines. Its generating portfolio includes 69% wind, 14% solar, 9% other, and 8% nuclear. NEER sells long-term power sales agreements with a weighted-average term of 15 years. The company says it has a 20.4 GW backlog of projects.

Reading the description of the business you might think 'great, this is a nice, understandable business', which is true. Then look at the price/book ratio and your understanding (mine anyway) goes out the window. I just don't understand how this business could possibly be worth nearly three times book value. Half the business is guaranteed *not* to earn more than 10.6%! Yes, FPL is in an area that's growing, and the other half of the business is unregulated with a nice backlog. But 3x book value for an entity selling a commodity product. What am I missing here?

Company: Xcel Energy, Inc.

Ticker: XEL

Market cap: \$32.9 billion

10-year median ROE: 10.5%

Debt/equity: 1.40x

Current price/book: 2.10x

Total capacity: 20,897 MW

Regulated capacity: 20,897 MW

XEL has 3.8 million electric and 2.1 million natural gas customers in Wisconsin, Michigan, Minnesota, North and South Dakota, Colorado, New Mexico, Oklahoma, and Texas. It has 110,000 miles of transmission and 213,000 miles of electric distribution lines. On the gas side it has 2,200 miles of natural gas transmission and 37,000 miles of natural gas distribution lines.

With an entire portfolio of regulated assets, half of which are renewable, including 33% wind, 13% nuclear, and 4% solar, XEL enjoys very consistent returns. This is another case where I find myself scratching my head. With regulated returns even a generous 11% ROE is cut to 5.5% by paying 2x book value. One can find Treasuries yielding that much today, and even the 10-Year is at 4%. One look at the cash flow statement has me scratching my head. Over the past five years the company paid out \$4.3 billion in dividends and issued \$2.2 billion in stock. Why!!! (I debated deleting this one but thought it'd be good to keep seeing how large it is.)

Company:	Pinnacle West Capital Corp.
Ticker:	PNW
Market cap:	\$8.8 billion
10-year median ROE:	9.7%
Debt/equity:	1.00x
Current price/book:	1.50x
Total capacity:	6,340 MW
Regulated capacity:	6,340 MW

PNW is the holding company for vertically integrated Arizona Public Service Company. APS has 1.3 million customers and operates in Arizona, except for half of Phoenix and the Tucson areas, and Mohave County. A quarter of its power comes from nuclear and gas, coal represents



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20%, renewables 12%, and purchased power / demand side management 8 make up the remaining fifth.

Company:	IDACORP, Inc.
Ticker:	IDA
Market cap:	\$4.9 billion
10-year median ROE:	9.6%
Debt/equity:	0.80x
Current price/book:	1.80x
Total capacity:	11,323 MW
Regulated capacity:	11,323 MW

IDA operates integrated regulated utilities in Idaho and Oregon. It has 618,000 customers. Its assets include a 33% interest in Jim Bridger Coal plant in Wyoming majority owned by Berkshire Hathaway's PacifiCorp and a 50% interest in a North Valmy, Nevada coal plant with BHE's NV Energy. It's also developing jointly a 300mi high-voltage transmission line between Boardman, OR and Boise, ID with BHE subsidiary PacifiCorp, and the Gateway West high-voltage transmission line project, a joint venture with BHE subsidiary Rocky Mountain Power.

All these joint ventures with Berkshire Hathaway Energy led me to think favorably toward IDA in terms of the quality of its business operations (it could even be a potential acquisition candidate for BHE). In fact, IDA's returns have been very consistent over the past decade. That might be one reason why it's selling for nearly 2x book value.

Company:	Hawaiian Electric Industries, Inc.
Ticker:	HE
Market cap:	\$3.9 billion as of mid-Aug (\$1.44 bn as of 8/29)
10-year median ROE:	9.8%
Debt/equity:	1.10x
Current price/book:	1.90x
Total capacity:	1,750 MW
Regulated capacity:	1,750 MW

I never expected to see an electric utility married to a bank, but that's the case with Hawaiian Electric. The holding company owns a regulated electric utility servicing 95% of the state of Hawaii's population, in addition to non-regulated electric assets. It also owns a \$9.5 billion bank.

The electric utility is comprised of Hawaii Electric Light Company and Maui Electric Company, which together operate five separate grids to serve the islands of Oahu, Hawaii, Maui, Lanai, and Molokai. In total the utility serves 1.4 million people and 12 US Army installations. Hawaii is unique in being isolated from the mainland US grid and between islands. As a result, it must

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⁸ Demand side management is when a utility can call on its customers to temporarily reduce their usage during peak periods of demand. These can be large industrial users or thousands of residential customers with smart appliances linked to the grid. Typically, there is compensation to the end user for these programs because it helps avoid the need for peaking plants.



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maintain excess generating capacity to meet peak demand. Hawaii also has a very large base of distributed solar (on homes and businesses). In 2022, solar powered 17% of demand.

American Savings Bank is a wholly owned subsidiary of Hawaii Electric. As of the end of 2022 it had total assets of \$9.5 billion and deposits of \$8.2 billion. It is a full-service bank serving consumers and businesses with 36 total branches. A cursory scroll through the uniform bank performance report shows a bank performing in line with its peers and earning an ROA of between 0.75% and about 1%. Its loan portfolio consists of \$5.1 billion in real estate loans (mainly 1-4 family and investor), \$0.7 billion in commercial loans, \$0.3 billion in loans to individuals, and another \$0.1 billion or so in other loans/leases. On the deposit side it has \$7.8 billion in core deposits, including \$0.3 billion in demand deposits, \$4 billion in money market accounts, and \$3 billion in savings deposits. Capital is at a scant \$495 million or just 5% of average assets. As of June 30, 2023, the bank had a HTM portfolio of mainly treasuries and agencies of \$1.2 billion. The HTM unrealized loss was \$103 million. Marking equity to market just on the HTM portfolio puts capital at 4%. My guess is it evaporates if the loan book were marked appropriately (\$2 billion is > 15 years maturity/repricing).

My takeaway: ASB is an average bank that management is squeezing for every drop of ROE with too much latent risk. This asset will likely be the subject of litigation as Hawaii Electric customers try to recoup losses after the recent fires. Caveat emptor!

Company: MDU Resources Group, Inc.

Ticker: MDU

Market cap: \$4.4 billion

10-year median ROE: 10.7%

Debt/equity: 0.80x Current price/book: 1.30x Total capacity: 648

Regulated capacity: 648

Here's another diversified electric holding company but one at least having a connection to the main business. MDU has 150,000 electric customers and 1 million gas customers. Its electric utility generates, transmits, and distributes electricity and natural gas in Montana, North Dakota, South Dakota, and Wyoming. Three other natural gas utilities distribute gas in Oregon, Washington, Minnesota, and Idaho. Its pipeline and storage business, WBI Energy, has 3,800 miles of regulated pipelines with 14 interconnecting points. Finally, MDU Construction Services Group provides electrical and mechanical and transmission and distribution specialty contracting services in most of the United States. Knife River is an aggregates business MDU spun off on June 1, 2023, and which now trades as a standalone company (Ticker: KNF). The company is also conducting a strategic review to determine if it should spin off its construction services business.

In 2022, the electric business earned \$57 million on \$377 million of revenues; natural gas distribution earned \$45 million on \$1.3 billion in revenue; the pipeline earned \$35 million on \$156 million in revenue, and the construction business earned \$116 million on \$2.5 billion in



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revenues (note that the contracting services were responsible for \$1.2 billion in revenues and \$100 million in gross profit).

Company:	Otter Tail Corporation
Ticker:	OTTR
Market cap:	\$3.8 billion
10-year median ROE:	11.0%
Debt/equity:	0.90x
Current price/book:	2.80x
Total capacity:	1,040 MW
Regulated capacity:	1,040 MW

Otter Tail Corp. is a very intriguing holding company with a regulated utility and a manufacturing segment. Its vertically integrated utility serves 133,000 electric customers in western Minnesota, eastern North Dakota, and northeastern South Dakota, and has 15,000 miles of electrical transmission and distribution lines.

The manufacturing division consists of four businesses under two segments. The manufacturing segment is engaged in contract machining, metal parts stamping, fabrication and painting, production of plastic thermoformed horticultural container, life science and industrial packaging, material handling components and extruded material stock. Facilities are in Georgia, Illinois, and Minnesota. In 2022, manufacturing had operating income of \$29 million on \$398 million in revenues, compared to \$24 million on revenues of \$336 million in 2021.

The plastics segment consists of two businesses producing PVC pipe in North Dakota and Arizona. In 2022, the plastics segment had operating income of \$265 million on revenues of \$513 million, compared to \$133 million on revenues of \$380 million in 2021.

Its manufacturing segment is growing rapidly and earns more than the utility segment, although management expects the manufacturing profits to wane going forward. Based on comments in the company's Q2 earnings call and elsewhere it's been something of a boom time for the plastics segment.

The company has a 5-year plan to invest over \$1 billion in its electric segment and \$179 million in manufacturing and plastics.

Here's a nice overview courtesy of the company's annual report:

ELECTRIC PLATFORM (\$ in thousands)	2022	2021	% Change	
Operating Revenues	\$ 549,699	\$ 480,321	14.4	
Total Retail Electric Sales (MWH)	5,592,368	4,789,879	16.8	
Operating Income	\$ 113,138	\$ 106,964	5.8	
Customers	133,414	133,304	0.1	
Gross Plant Investment	\$ 2,958,311	\$ 2,833,371	4.4	
Total Assets	\$ 2,351,961	\$ 2,283,776	3.0	
Capital Expenditures	\$ 147,869	\$ 140,031	5.6	
MANUFACTURING PLATFORM (\$ in thousands)				
Operating Revenues	\$ 910,510	\$ 716,523	27.1	
Operating Income	\$ 293,643	\$ 156,874	87.2	
Total Assets	\$ 372,187	\$ 413,609	(10.0)	
Capital Expenditures	\$ 23,199	\$ 31,730	(26.9)	

Operating income compared to total assets tells a compelling story. Here's another nice set of charts from the annual report:





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Company: American Electric Power Company, Inc.

Ticker: AEP

Market cap: \$41.8 billion

10-year median ROE: 10.1%

Debt/equity: 1.30x

Current price/book: 1.90x

Total capacity: 23,500 MW Regulated capacity: 23,500 MW

AEP operates vertically integrated utilities. Its ten public utility subsidiaries cover portions of the states of Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia. It has several joint ventures in transmission, including Electric Transmission Texas (ETT), which is 50% co-owned with Berkshire Hathaway Energy. It has 131,147 miles of overhead transmission and distribution lines in its vertically integrated segment plus 91,068 miles in its standalone transmission and distribution segment. Over the past two or three years the company has issued equity amounting to half to a third of its dividend.

Company: Alliant Energy Corporation

Ticker: LNT

Market cap: \$13.0 billion

10-year median ROE: 11.1%

Debt/equity: 1.20x Current price/book: 2.20x

Total capacity: 6,690 MW Regulated capacity: 6,690 MW

Alliant operates regulated electric and gas utilities in Iowa and Wisconsin and owns noncontrolling interests in transmission assets. It also owns Travero, a supply chain solutions company including a short-line freight service in Iowa, a Mississippi River barge, and a rail/truck terminal in Illinois. The company has a remarkably consistent ROIC of about 5% and ROE of around 11% since 2010. Which is probably why it sells for over 2x book value.

SUMMARY/CONCLUSION:

The electric utility industry is not one with a reputation for excitement. Flat volumes over the past decade and a half meant little aggregate growth potential. The prospect of electric vehicles, more industrial-scale computing power, and significant incentives to transform the grid have the potential to provide growth not seen in years. As a pure commodity product electricity is unlikely to produce staggering returns, though the opportunity to put huge amounts of capital to work is an offsetting factor.

I learned a lot more about the industry during this exercise, which will help me understand the landscape and opportunities available to Berkshire Hathaway. I'm intrigued enough to follow a few of these specifically by putting them on the Watchlist:



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- Otter Tail Corp. (OTTR): This is the most interesting one for me. It has a nice utility as a base coupled with a related but separate manufacturing business. The plastics segment might be cyclical, but management appears attuned to it. My reading of the annual letter, an earnings call transcript, and the 10K lead me to believe management are rational capital allocators.
- MDU Resources (MDU): I'd like to watch this potential spin-off / pure-play situation play out. The construction services segment, which has a focus on electric infrastructure, could benefit greatly from the coming boom in grid investment.
- NextEra Energy, Inc. (NEE): While it seems NEE is currently overvalued, I like the business. It combines a regulated utility in a growing state with a large and growing unregulated operation. At the very least it will be useful following NEE more closely to track industry developments.

Stay rational! —Adam

WHAT'S COMING NEXT ISSUE(S):

Next month I plan to issue a some "one-page" updates on various Watchlist companies. The first will be Hingham Institution for Savings which I've teed up as a two-sided one-pager — or should it be considered a two-pager? Anyway... I've loosely modeled it on the Value Line tear sheets. The idea is to provide an update on key figures with brief commentary on the important and/or timely stuff.

As always, I appreciate your thoughts, comments, feedback, and of course recommendations for companies to look at.

Don't be shy! Email me with your thoughts at watchlistinvesting@gmail.com



Watchlist

As of August 29, 2023

WATCHLIST	Count: 29				
Company Name	Industry =	Ticker =	Current Price	Market Cap =	See Issue =
Boston Beer Company	Alcoholic beverages	SAM	\$360	\$4,399,471,857	
Constellation Brands	Alcoholic beverages	STZ	\$260		,
Anheuser-Busch InBev	Alcoholic beverages	BUDFF	\$58		
Heineken	Alcoholic beverages	HKHHY	\$40		•
Hingham Institution for Savings	Banking	HIFS	\$195		
Plumas Bancorp	Banking	PLBC	\$34	\$199,113,150	4
Triumph Financial	Banking	TFIN	\$64	\$1,491,737,000	21
Thomasville Bancshares	Banking	THVB	\$61		
Jack Henry & Associates	Banking Software	JKHY	\$158	\$11,486,921,093	11
Vulcan Materials	Basic Materials	VMC	\$217	\$28,886,419,287	24
Martin Marietta Materials	Basic Materials	MLM	\$443	\$27,392,238,953	24
AAON, Inc.	Building Products	AAON	\$62	\$5,081,740,167	1
Monarch Cement	Building Products	MCEM	\$140	\$359,031,300	2
Berkshire Hathaway	Conglomerate	BRK.B	\$357	\$778,972,156,000	14
International Flavors and Fragrances	Foods/Seasonings	IFF	\$68	\$17,403,122,345	3
McCormick	Foods/Seasonings	MKC	\$82	\$22,135,034,780	3
Home Depot	Home Improvement	HD	\$329	\$328,631,345,000	18
Lowes	Home Improvement	LOW	\$226	\$131,590,158,332	18
Fastenal	Industrial Distributing	FAST	\$58	\$32,891,634,878	9
Old Dominion Freight Line	Logistics	ODFL	\$426	\$46,600,617,840	8
Saia, Inc.	Logistics	SAIA	\$422	\$11,206,156,263	8
Sherwin-Williams	Paint/coatings	SHW	\$269	\$69,046,946,246	19
Copart	Vehicle remarketing	CPRT	\$44	\$42,315,015,416	20
Waste Management	Waste Management	WM	\$157	\$63,711,790,306	6
Republic Services	Waste Management	RSG	\$145	\$45,895,723,672	6
Waste Connections	Waste Management	WCN	\$138	\$35,660,890,048	6
Otter Tail Corp	Utility	OTTR	\$84	\$3,489,085,061	28
MDU Resources	Utility	MDU	\$20	\$4,048,329,233	28
NextEra Energy	Utility	NEE	\$68	\$136,641,094,966	28

Click here to see the latest Watchlist and Suspect List on Google Sheets.

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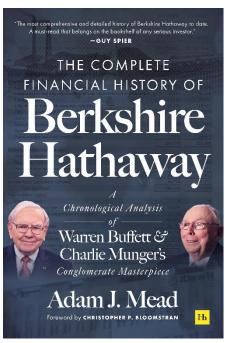
After nearly two decades as an individual investor, a decade in commercial credit at various banks, and a few years managing money for friends/family in the background, I decided to go full-time managing money for clients in 2020. Watchlist Investing is an extension—albeit separate and distinct—of what I do day-to-day as a practicing capital allocator. Inverting the margin of safety principle, I hope to add value to readers above and beyond the nominal cost of the newsletter.

My investing style is influenced by my background growing up in a family of business owners. I followed suit selling firewood through high school and founding a welding business in college. Looking at stocks as businesses is natural to me. My investing approach rests on fundamental value investing tenets, but it's adapted to suit my style. I'm 100% certain I'm not the best investor or analyst, but I hope to improve over time.

Between 2016 and 2021, I wrote a book on Berkshire Hathaway. *The Complete Financial History of Berkshire Hathaway* was and is my passion project. I hope it brings new shareholders up to speed on the company and provides a fresh look to long-time shareholders, in addition to serving as a resource/reference book. It can be purchased here. I also created www.theoraclesclassroom.com as an extension of the book, which includes an archive of a lot of BRK material.

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