



American Electric Power Company (NASDAQ: AEP)

Utilities & Renewables Sector
Sector Head: William Hofving
Lead Analyst: Max Grossberg

Buy: \$90



Target: \$106



Upside:
17.8%

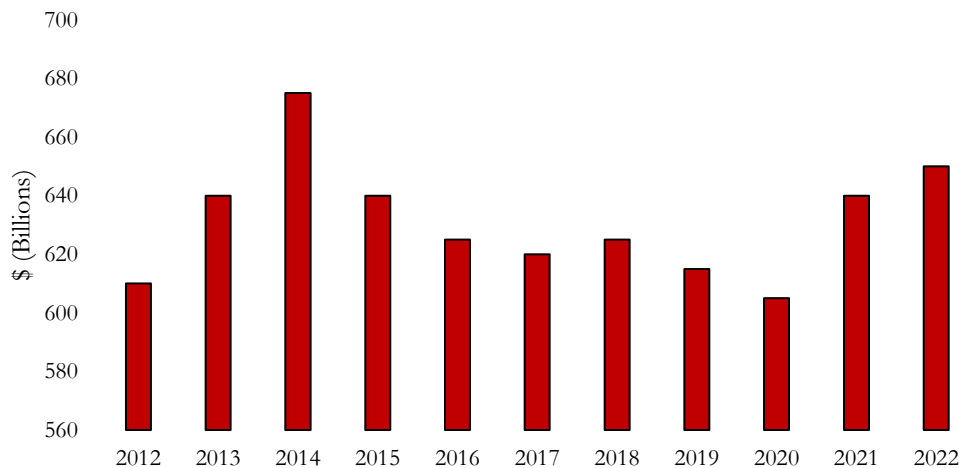


Industry Environment

Industry Summary

The electric power industry is a segment of utilities which generates, distributes and transmits power across a given network

US Utility Market Size



Key Trends

Sustainability

- 46 out of 54 investor-owned utilities committed to reduce carbon emissions, many by 2050

Resiliency

- There has been an uptick in extreme weather events in 2021, has led many power utility companies to plan for the unpredictable future

Digital Transformation

- 5G has enabled power utility companies to move data from smart meters and sensors to the cloud where power output can be more effectively monitored

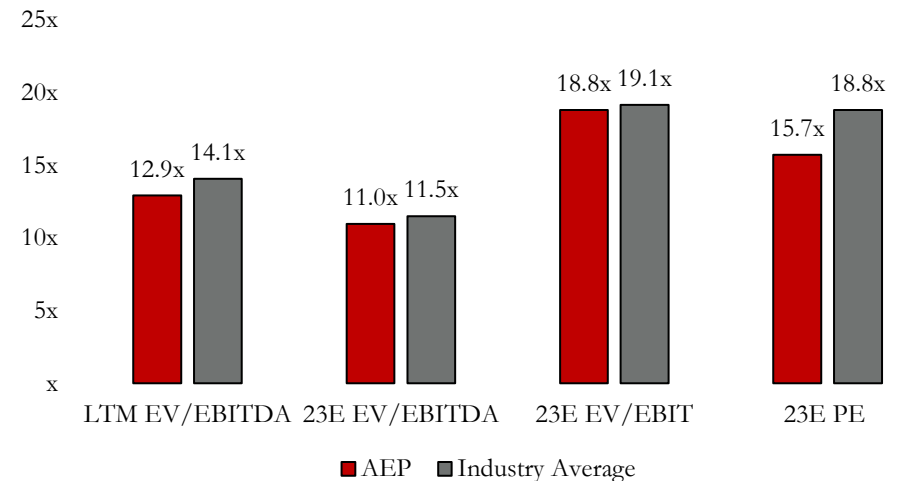
Smart Grid Operations

- Utilities are increasingly turning to flexible load programs

Electrification

- Building electrification is impacting future utility planning

Industry Multiples



Company Overview



Short Summary

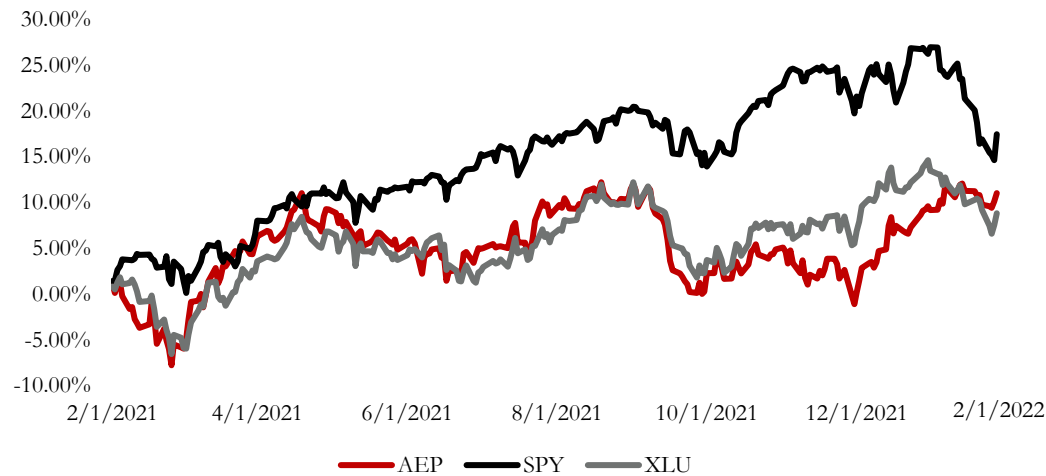
American Electric Power Company is the one of the largest regulated public utility companies in the United States

Their main revenue segments are Vertically Integrated Utilities, Transmission and Distribution and Generation and Marketing

Information Overview

Headquarters	Columbus, OH
CEO	Nick Akins
Year Founded	1906
# of Employees	16,700
Power Generating Capacity (GW)	25
Distribution Lines (Miles)	224,000

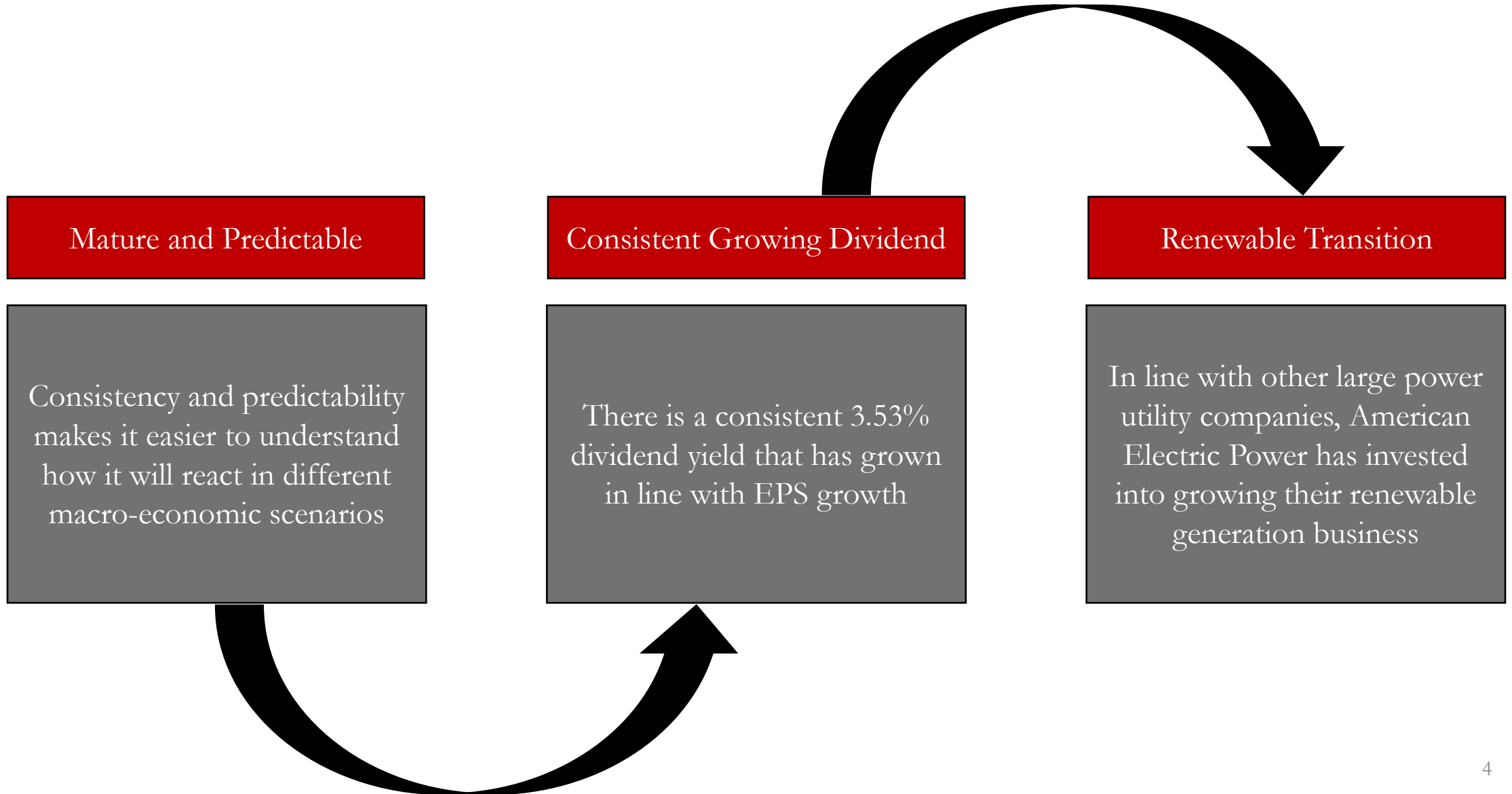
AEP vs. S&P vs. XLU



Key Financials

Market Capitalization (\$Billions)	45.426
52 Week Range (\$)	74.80 - 91.66
2023E PE	15.72x
2021 Q3 Net Debt/EBITDA	5.89x
LTM EBITDA/Interest Expense	5.14x
2021 Q3 Debt/Equity	2.83x

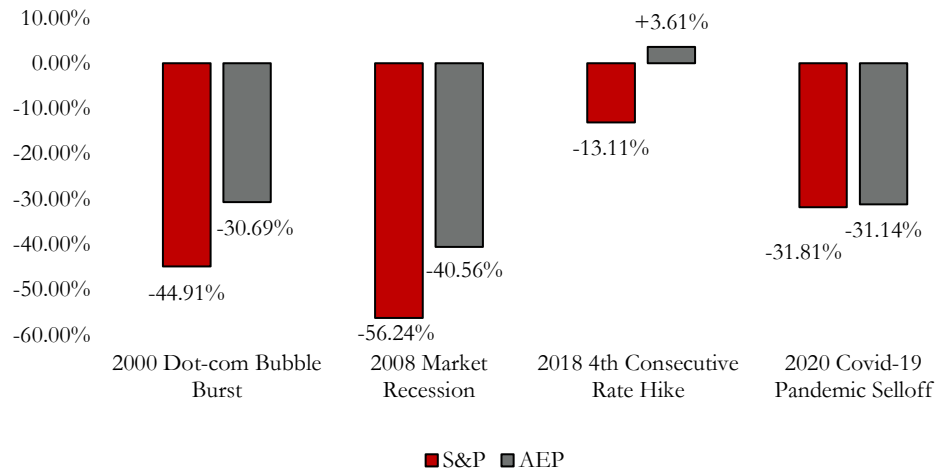
Investment Thesis





Mature and Predictable

AEP Reaction to Major Macro Events



AEP Post-Event Recovery

Dot-com Bubble Burst Recovery

- S&P 5 Years (Jul. 2007) vs. AEP 2 Years (Jun. 2004)

2008 Market Recession Recovery

- S&P 4 Years (Feb. 2013) vs. AEP 4 Years (Feb. 2013)

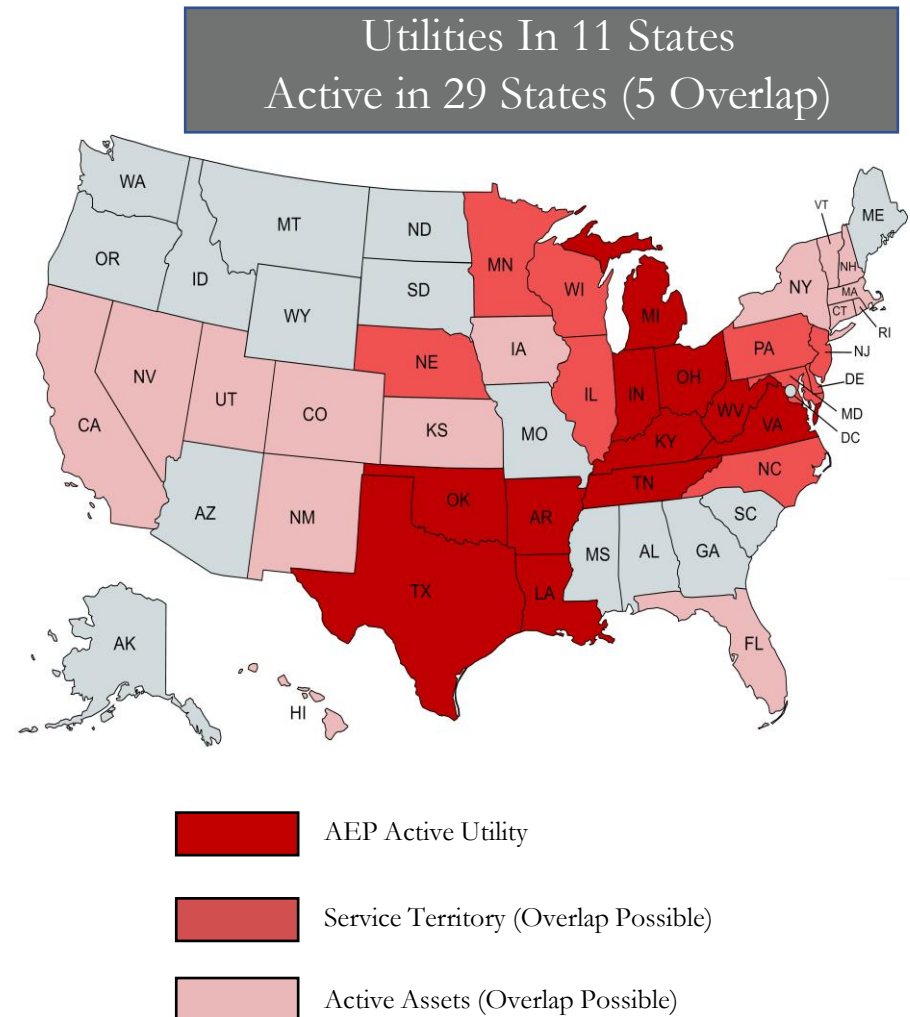
2018 4th Consecutive Rate Hike Selloff Recovery

- S&P 6 Months (May 2018) vs. AEP N/A

Covid-19 Pandemic Selloff Recovery

- S&P 6 Months (Aug. 2020) vs. AEP (Has Recovered 25%)

AEP Utility Map





Consistent Growing Dividend

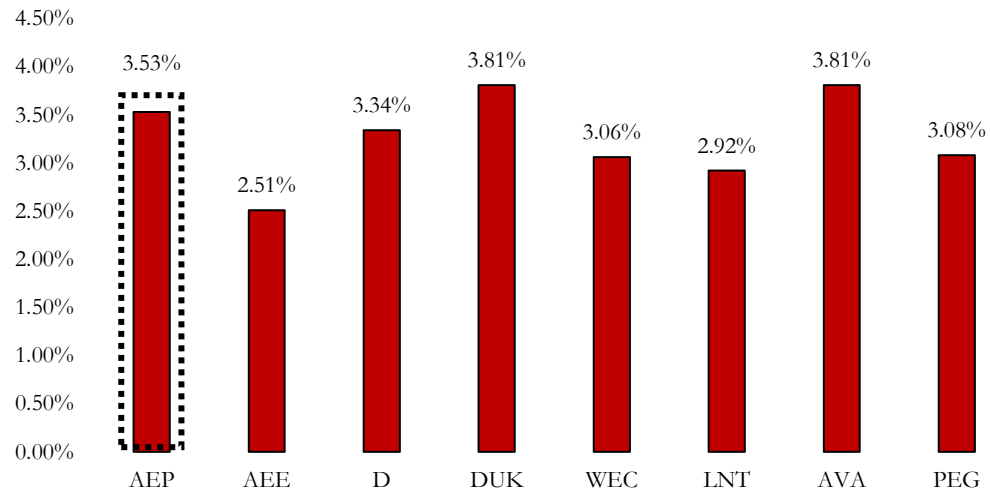
Dividend Information

111 Years of Consecutive Quarterly Dividends

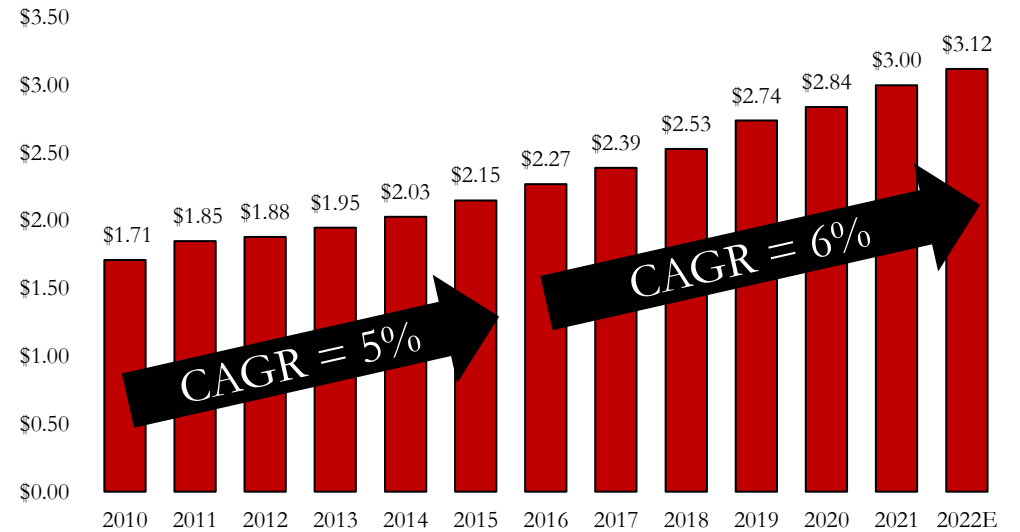
Annual Dividend Growth Since 2002

Dividend Growth Is In Line With Earnings Growth

Dividend Yield Comparison



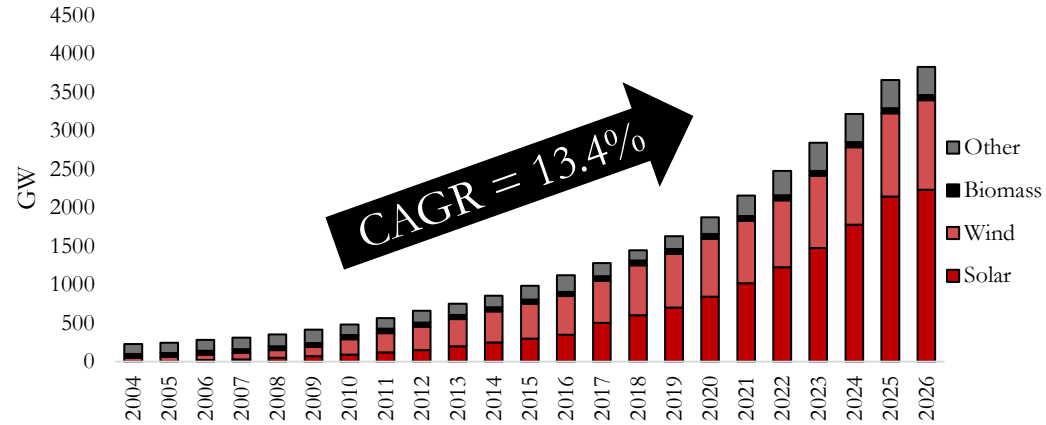
Dividend History



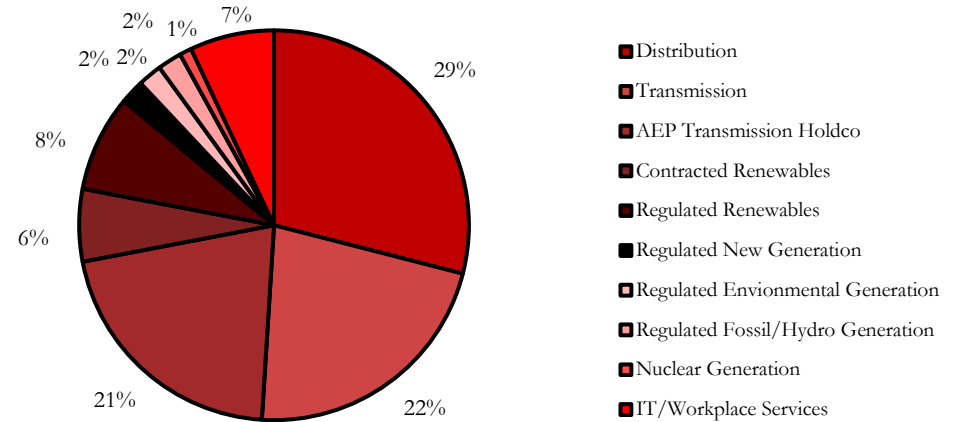
Renewable Transition



Renewable Energy Capacity



Capital Forecast (2021-2025)



Recent Projects

Request For Proposals

6 Total

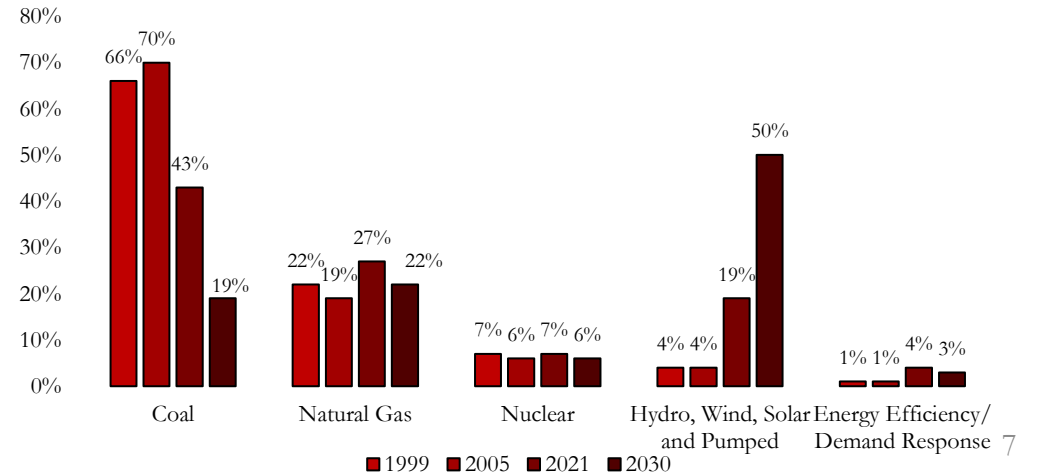
- Across 4 States (LA, OK, MI, VA)
- Wind, Solar, Storage
- All to be in service by 2024-2025

Owned Projects Seeking Regulatory Approval

4 Total

- Across 3 States (WV, IL, VA)
- Wind, Solar
- 409 Total MW Capacity
- In service dates range from Q4 2022-Q1 2025

Power Generation Distribution



ESG Outlook

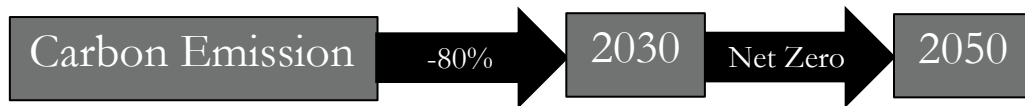


ESG Summary

MSCI Rating: A (7.1)

S&P Global ESG Rank: 60

Utilities Weighted ESG Rating: 6.84



Social

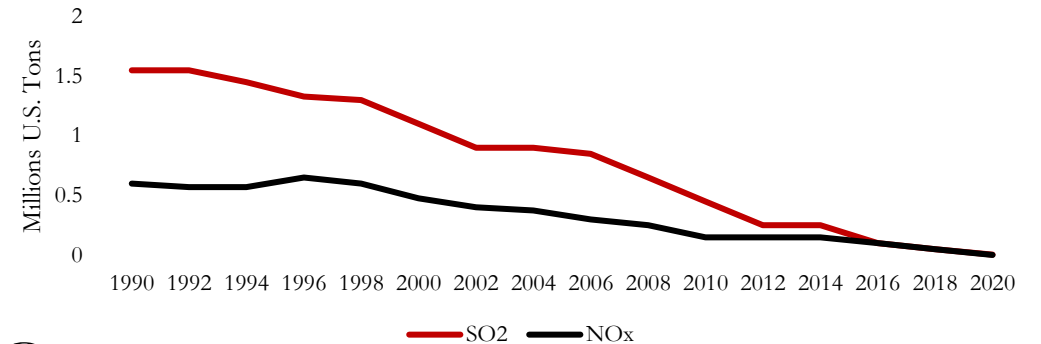
Donated \$39 Million in 2020 to Support More Than 1200 Community Organizations

Focus on Economic and Business Development in Service Territories

Launched a \$5 Million Social and Racial Justice Grant Program in 2021

Environmental

~\$9B Spent on Environmental Controls Since 2000
47% Reduction in coal capacity of total capacity by 2030



Governance

50% Board Diversity

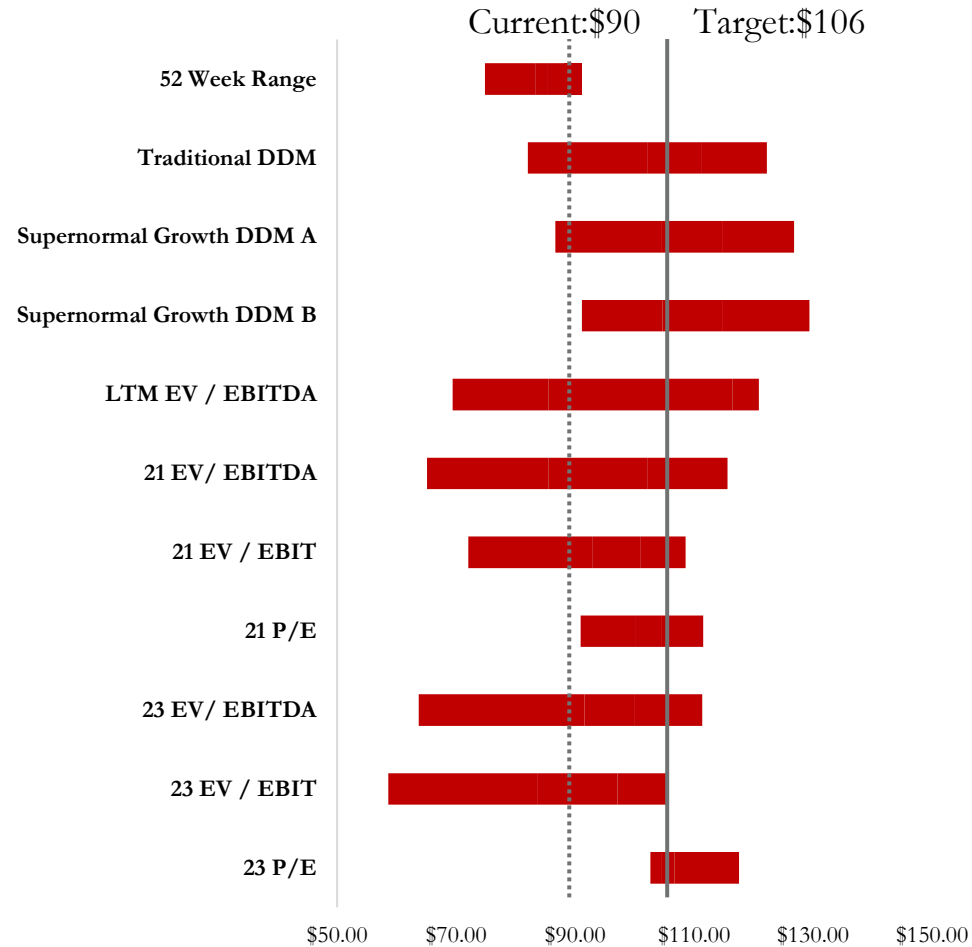
9 Year Average Board Tenure

12 Board of Directors

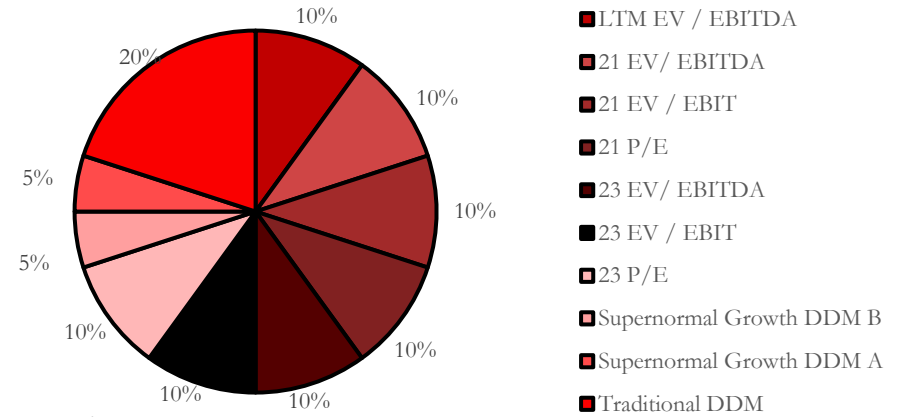
Valuation



Football Field Analysis



Weighting and Sensitivity Tables



Traditional DDM Sensitivity Analysis

	Cost of Equity					
	5.09%	5.34%	5.59%	5.84%	6.09%	
3.29%	\$ 173.08	\$ 152.00	\$ 135.50	\$ 122.23	\$ 111.32	
3.04%	\$ 152.00	\$ 135.50	\$ 122.23	\$ 111.32	\$ 102.21	
2.79%	\$ 135.50	\$ 122.23	\$ 111.32	\$ 102.21	\$ 94.47	
2.54%	\$ 122.23	\$ 111.32	\$ 102.21	\$ 94.47	\$ 87.82	
2.29%	\$ 111.32	\$ 102.21	\$ 94.47	\$ 87.82	\$ 82.05	

Supernormal Growth DDM Sensitivity Analysis A

	Cost of Equity					
	5.09%	5.34%	5.59%	5.84%	6.09%	
3.29%	\$ 173.69	\$ 152.86	\$ 136.55	\$ 123.44	\$ 112.66	
3.04%	\$ 154.25	\$ 137.79	\$ 124.54	\$ 113.67	\$ 104.57	
2.79%	\$ 139.03	\$ 125.66	\$ 114.68	\$ 105.49	\$ 97.70	
2.54%	\$ 126.80	\$ 115.70	\$ 106.43	\$ 98.56	\$ 91.80	
2.29%	\$ 116.74	\$ 107.38	\$ 99.43	\$ 92.60	\$ 86.67	

Supernormal Growth DDM Sensitivity Analysis B

	Cost of Equity					
	5.09%	5.34%	5.59%	5.84%	6.09%	
6.00%	\$ 149.25	\$ 134.83	\$ 122.97	\$ 113.07	\$ 104.66	
5.00%	\$ 144.07	\$ 130.18	\$ 118.77	\$ 109.23	\$ 101.13	
4.00%	\$ 139.03	\$ 125.66	\$ 114.68	\$ 105.49	\$ 97.70	
3.00%	\$ 134.14	\$ 121.27	\$ 110.70	\$ 101.87	\$ 94.37	
2.00%	\$ 129.38	\$ 117.01	\$ 106.84	\$ 98.34	\$ 91.12	

Supernormal Dividend Growth

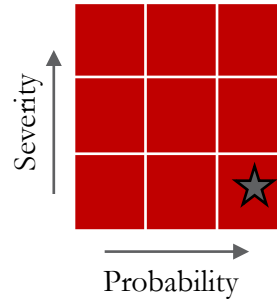
Risks & Mitigations



Risks

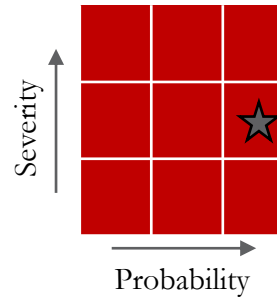
Mitigations

Delays in capital investments decreasing projected revenue



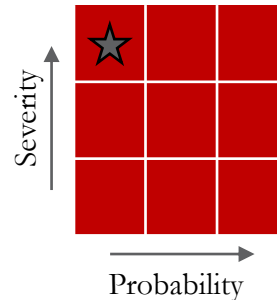
There are several projects and if one is delayed it shouldn't create a major adverse reaction

Hurricanes and/or Winter Superstorms taking out power for weeks



After Winter Storm Uri, AEP has invested in rebuilding and upgrading powerlines and other infrastructure

Increases in debt and interest expense start impacting overall corporate performance



LTM EBITDA/Interest expense is at a very respectable 5.14 and AEP should be able to pay off any future expenses

Summary



Investment Thesis

- AEP is very consistent and predictable when it comes to its reaction towards macro-economic events
- AEP offers a reliable and growing dividend
- AEP has had continued investment into renewable energy generating investments



Thank You

Questions?

Appendix A: Income Statement

American Electric Power										
Consolidated Statements of Income - USD (\$) \$ in Millions	FY 2018	FY 2019	FY 2020	Q4 2021E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E
Revenues										
Revenue from Contracts with Customers	16,195.7	15,561.4	14,918.5	3,912	16,642.6	17,182.7	17,876.3	18,410.3	18,820.9	19,078.4
Sales to AEP Affiliates	-	-	-	-	-	-	-	-	-	-
TOTAL REVENUES	16,195.7	15,561.4	14,918.5	3,912	16,643	17,182.7	17,876.3	18,410.3	18,820.9	19,078.4
Expenses										
Fuel and other Consumables Used for Electric Generation	5,786.5	5,106.1	4,369.7	1,063.1	5,189.2	5,013.9	5,037.6	5,004.0	4,927.3	4,804.0
% of sales	35.7%	32.8%	29.3%	27.2%	31.2%	29.2%	28.2%	27.2%	26.2%	25.2%
Other Operation	2,979.2	2,743.7	2,572.4	681.7	2,576.3	2,659.9	2,767.3	2,761.5	2,823.1	2,861.8
% of sales	18.4%	17.6%	17.2%	17.4%	15.5%	15.5%	15.5%	15.0%	15.0%	15.0%
Maintenance	1,247.4	1,213.9	1,010.4	303.3	1,120.3	1,156.6	1,203.3	1,239.3	1,266.9	1,284.2
% of sales	7.7%	7.8%	6.8%	7.8%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%
Asset Impairments and Other Related Charges	70.6	156.4	-	-	-	-	-	-	-	-
Depreciation and Amortization	2,286.6	2,514.5	2,682.8	718.6	2,822.5	2,914.1	3,128.4	3,313.9	3,387.8	3,434.1
% of sales	14.1%	16.2%	18.0%	18.4%	17.0%	17.0%	17.5%	18.0%	18.0%	18.0%
Taxes Other Than Income Taxes	1,142.7	1,234.5	1,295.5	336.2	1,397.6	1,442.9	1,555.2	1,638.5	1,675.1	1,698.0
% of sales	7.1%	7.9%	8.7%	8.6%	8.4%	8.4%	8.7%	8.9%	8.9%	8.9%
TOTAL EXPENSES	13,513.0	12,969.1	11,930.8	3,102.8	13,105.8	13,187.5	13,691.8	13,957.1	14,080.2	14,082.0
OPERATING INCOME (LOSS)	2,682.7	2,592.3	2,987.7	809.2	3,536.8	3,995.2	4,184.5	4,453.2	4,740.7	4,996.3
Other Income (Expense):										
Other Income	18.2	26.6	57.0	27	61.2	63.2	65.7	67.7	69.2	70.1
% of sales	0.1%	0.2%	0.4%	0.7%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Allowance for Equity Funds Used During Construction	132.5	168.4	148.1	45	148.6	153.4	159.6	164.3	168.0	170.3
% of sales	0.8%	1.1%	1.0%	1.1%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Non-Service Cost Components of Net Periodic Benefit Cost	124.5	120.0	119.0	32	121.3	125.2	130.3	134.2	137.1	139.0
% of sales	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Interest Expense	(984.4)	(1,072.5)	(1,165.7)	(381)	(1,276.9)	(1,490.2)	(1,639.7)	(1,780.8)	(1,914.6)	(2,036.2)
% of sales	6.1%	6.6%	7.2%	9.8%	7.7%	8.7%	9.2%	9.7%	10.2%	10.7%
INCOME BEFORE INCOME TAX EXPENSE	1,973.5	1,834.8	2,146.1	531.7	2,590.8	2,846.8	2,900.4	3,038.6	3,200.4	3,339.6
Income Tax Expense (Benefit)	115.3	(12.9)	40.5	57	242.6	101.3	105.4	108.6	111.0	112.5
% of sales	0.7%	-0.1%	0.3%	1.5%	1.5%	0.6%	0.6%	0.6%	0.6%	0.6%
Equity Earnings (Loss) of Unconsolidated Subsidiaries	73.1	72.1	91.1	26	102.2	105.5	109.8	113.1	115.6	117.2
% of sales	0.5%	0.5%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Net Income (Loss)	1,931.3	1,919.8	2,196.7	500.9	2,450.4	2,851.0	2,904.7	3,043.1	3,205.1	3,344.3
Net Income Attributable to Noncontrolling Interests	7.5	(1.3)	(3.4)	(1)	(6)	(6)	(6)	(6)	(6)	(6)
% of sales	0.05%	-0.01%	-0.02%	-0.02%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%
EARNINGS ATTRIBUTABLE TO COMMON SHAREHOLDERS	1,923.8	1,921.1	2,200.1	501.8	2,451.0	2,851.6	2,905.4	3,043.7	3,205.7	3,345.0
Earnings Per Share										
WEIGHTED AVERAGE NUMBER OF BASIC AEP COMMON SHARES OUTSTANDING	492,774,60	493,694,34	495,718,22		501,233,68	501,233,68	501,233,68	501,233,68	501,233,68	501,233,68
	0	5	3	501,233,680	0	0	0	0	0	0
Total Basic Earnings (Loss) per Share Attributable to AEP Common Shareholders	3.90	3.89	4.44	1.00	4.89	5.69	5.80	6.07	6.40	6.67
WEIGHTED AVERAGE NUMBER OF DILUTED AEP COMMON SHARES OUTSTANDING	493,758,27	495,306,23	497,226,86	502,606,836.0	502,606,83	504,606,83	506,606,83	508,606,83	510,606,83	512,606,83
	7	8	7	0	6	6	6	6	6	6
TOTAL DILUTED EARNINGS PER SHARE ATTRIBUTABLE TO AEP COMMON SHAREHOLDERS	3.90	3.88	4.42	1.00	4.88	5.65	5.73	5.98	6.28	6.53
Common stock, Dividends Per Share, Declared				0.78						
Vertically Integrated Utilities [Member]										

Appendix B: Balance Sheet

American Electric Power												
	FY 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
Current Assets												
Cash and Cash Equivalents	234	228	211	349	247	1,555	349	410	393	273	313	1,373
Restricted Cash	210	135	179	141	186	116	156	54	46	51	47	54
Other Temporary Investments	159	169	176	198	203	185	192	209	201	199	222	218
Accounts Receivable:												
Customers	699	697	689	609	625	618	630	601	614	763	795	701
Accrued Unbilled Revenues	209	208	164	269	222	242	201	212	249	200	260	279
Pledged Accounts Receivable - AEP Credit	1,000	971	940	956	874	885	976	1,055	1,018	919	1,003	1,071
Miscellaneous	55	48	32	37	27	41	35	46	33	36	67	51
Allowance for Uncollectible Accounts	(37)	(41)	(44)	(45)	(44)	(45)	(51)	(63)	(71)	(60)	(50)	(52)
Total Accounts Receivable	1,927	1,882	1,781	1,825	1,705	1,742	1,792	1,851	1,843	1,858	2,074	2,050
Fuel	342	360	442	438	529	551	617	586	629	589	512	290
Materials and Supplies	580	586	593	614	641	645	663	681	681	683	676	688
Risk Management Assets	163	94	250	187	173	130	150	115	95	72	215	369
Accrued Tax Benefits						86		185	188	190	227	
Regulatory Asset for Under-Recovered Fuel Costs	150	123	110	99	93	81	58	61	91	130	180	307
Margin Deposits	141	136	87	54	60	68	55	54	62	91	44	73
Prepayments and Other Current Assets	209	200	234	262	156	219	242	317	127	125	134	135
TOTAL CURRENT ASSETS	4,114	3,915	4,061	4,166	4,078	5,292	4,273	4,338	4,352	4,258	4,606	5,785
Property, Plant and Equipment												
Generation	21,700	21,781	22,098	22,624	22,762	22,854	23,127	23,037	23,134	23,187	23,687	24,136
Transmission	21,531	21,774	22,455	23,083	24,809	25,314	25,922	26,539	27,887	28,360	29,214	29,555
Distribution	21,195	21,484	21,692	21,991	22,443	22,824	23,153	23,460	23,972	24,312	24,705	25,058
Other Property, Plant and Equipment	4,265	4,203	4,452	4,510	4,812	4,913	5,115	5,205	5,295	5,465	5,571	5,669
Construction Work in Progress	4,394	4,911	4,945	5,245	4,320	4,512	4,387	4,663	4,026	4,290	3,879	4,151
Total Property, Plant and Equipment	73,085	74,151	75,642	77,453	79,146	80,417	81,704	82,903	84,313	85,613	87,056	88,568
Accumulated Depreciation and Amortization	17,986	18,183	18,439	18,760	19,008	19,368	19,777	20,117	20,411	20,917	21,392	21,877
TOTAL PROPERTY, PLANT AND EQUIPMENT - NET	55,099	55,969	57,203	58,693	60,138	61,049	61,927	62,786	63,902	64,696	65,665	66,691
Other Noncurrent Assets												
Regulatory Assets	3,310	3,298	3,350	3,131	3,159	3,197	3,432	3,519	3,527	4,886	5,048	5,032
Securitized Assets	921	853	785	939	858	789	711	684	657	633	608	580
Spent Nuclear Fuel and Decommissioning Trusts	2,475	2,684	2,776	2,835	2,976	2,679	2,957	3,076	3,307	3,414	3,612	3,610
Goodwill	53	53	53	53	53	53	53	53	53	53	53	53
Long-term Risk Management Assets	254	250	314	299	267	324	247	243	242	265	241	278
Operating Lease Assets	-	1,045	1,017	990	957	927	913	881	866	819	798	780
Deferred Charges and Other Noncurrent Assets - Prepaid Benefit Costs	2,577	2,655	2,992	2,795	3,407	3,415	3,293	3,110	3,852	3,962	3,728	3,529
TOTAL OTHER NONCURRENT ASSETS	9,590	10,839	11,286	11,042	11,676	11,383	11,605	11,565	12,504	14,031	14,088	13,861
TOTAL ASSETS	68,803	70,722	72,550	73,901	75,892	77,724	77,805	78,689	80,757	82,985	84,358	86,337
Current Liabilities												
Accounts Payable	1,874	1,497	1,689	1,767	2,086	1,593	1,628	1,660	1,710	1,704	1,642	1,597
Short-term Debt:												
Securitized Debt for Receivables - AEP Credit	750	750	692	750	710	724	634	703	592	669	578	750
Other Short-term Debt	1,160	1,108	1,585	1,760	2,128	3,740	2,443	1,694	1,887	2,379	2,550	1,754
Total Short-term Debt	1,910	1,858	2,277	2,510	2,838	4,464	3,077	2,397	2,479	3,048	3,128	2,504
Long-term Debt Due Within One Year	1,699	1,529	1,257	1,328	1,599	2,110	2,138	1,912	2,086	2,130	2,459	2,522
Risk Management Liabilities	55	63	141	75	114	157	103	62	79	39	48	107
Customer Deposits	412	400	382	381	366	361	357	340	336	331	350	400
Accrued Taxes	1,218	1,157	1,046	883	1,358	1,255	1,213	943	1,476	1,398	1,244	1,047
Accrued Interest	232	306	241	305	244	308	261	331	268	324	274	350
Obligations Under Operating Leases	-	228	229	229	234	234	236	237	241	241	243	242
Regulatory Liability for Over-Recovered Fuel Costs	59	64	55	101	87	138	128	83	53	39	33	4
Other Current Liabilities	1,191	888	1,039	1,032	1,374	1,035	983	1,084	1,199	966	1,010	1,183
TOTAL CURRENT LIABILITIES	8,649	7,991	8,357	8,611	10,299	11,655	10,122	9,047	9,927	10,220	10,429	9,954
Noncurrent Liabilities												
Long-term Debt	21,648	22,898	24,174	24,554	25,127	25,783	26,638	28,156	28,986	30,215	30,659	32,057
Long-term Debt - Affiliated	-	-	-	-	-	-	-	-	-	-	-	-
Long-term Risk Management Liabilities	263	268	349	299	262	292	245	232	233	273	216	200
Deferred Income Taxes	7,087	7,193	7,294	7,428	7,588	7,669	7,811	8,011	8,241	8,350	8,382	8,645
Regulatory Liabilities and Deferred Investment Tax Credits	8,540	8,670	8,557	8,553	8,458	8,049	8,243	8,249	8,379	8,466	8,768	8,688
Asset Retirement Obligations	2,288	2,317	2,331	2,354	2,217	2,254	2,471	2,448	2,469	2,484	2,576	2,612
Employee Benefits and Pension Obligations	377	384	379	377	466	451	460	353	336	343	340	322
Obligations Under Operating Leases	-	860	797	801	735	736	689	691	638	625	568	587
Deferred Credits and Other Noncurrent Liabilities	783	798	763	790	720	710	715	795	728	734	725	673
TOTAL NONCURRENT LIABILITIES	40,986	43,388	44,644	45,154	45,571	45,944	47,272	48,935	50,011	51,490	52,235	53,783
TOTAL LIABILITIES	49,635	51,379	53,001	53,765	55,871	57,598	57,394	57,982	59,938	61,710	62,663	63,737
Rate Matters												
Commitments and Contingencies												
Redeemable Noncontrolling Interest	69	69	68	67	66	65	64	-	-	-	-	73
Contingently Redeemable Performance Share Awards	39	46	58	71	43	53	69	73	45	55	65	73
Total Mezzanine Equity	109	115	126	138	109	118	133	73	45	55	65	73
Equity												
Common Stock	3,337	3,339	3,341	3,342	3,343	3,350	3,355	3,358	3,359	3,376	3,383	3,405
Paid-in Capital	6,486	6,443	6,455	6,467	6,536	6,556	6,603	6,522	6,589	6,735	6,800	7,076
Retained Earnings	9,325	9,566	9,694	10,095	9,901	10,039	10,222	10,621	10,688	10,893	11,099	11,523
Accumulated Other Comprehensive Income (Loss)	(120)	(151)	(231)	(188)	(148)	(217)	(173)	(135)	(85)	(31)	97	275
TOTAL COMMON SHAREHOLDERS' EQUITY	19,028	19,196	19,260	19,716	19,632	19,728	20,007	20,366	20,551	20,973	21,379	22,278
Noncontrolling Interests	31	32	164	281	281	279	271	269	224	247	251	249
TOTAL EQUITY	19,059	19,229	19,424	19,998	19,913	20,008	20,278	20,635	20,775	21,220	21,630	22,527
TOTAL LIABILITIES AND EQUITY	68,803	70,722	72,550	73,901	75,892	77,724	77,805	78,689	80,757	82,985	84,358	86,337

Appendix C: Cash Flow Statement

American Electric Power	FY 2018	FY 2019	FY 2020	Q3 2021
Operating Activities				
Net Income (Loss)	1,931	1,920	2,197	797
Adjustments to Reconcile Net Income to Net Cash Flows from (Used for) Operating Activities:				
Depreciation and Amortization	2,287	2,515	2,683	700
Rockport Plant, Unit 2 Operating Lease Amortization	-	137	137	34
Deferred Income Taxes	104	(18)	196	104
Asset Impairments and Other Related Charges	71	156	-	(1)
Allowance for Equity Funds Used During Construction	(133)	(168)	(148)	(37)
Mark-to-Market of Risk Management Contracts	(66)	(29)	67	75
Amortization of Nuclear Fuel	114	89	88	22
Pension and Postemployment Benefit Reserves	(43)	(25)	(9)	-
Pension Contributions to Qualified Plan Trust	-	-	(110)	-
Property Taxes	(59)	(74)	(43)	248
Deferred Fuel Over/Under-Recovery, Net	190	85	(32)	(139)
Change in Regulatory Assets	354	50	(338)	-
Recovery of Ohio Capacity Costs, Net	-	-	-	-
Refund of Global Settlement	-	-	-	-
Change in Other Noncurrent Assets	(172)	(113)	(143)	21
Change in Other Noncurrent Liabilities	129	(116)	(55)	(1)
Changes in Certain Components of Working Capital:				
Accounts Receivable, Net	146	248	(129)	16
Fuel, Materials and Supplies	21	(248)	(143)	215
Accounts Payable	37	6	(35)	10
Accrued Taxes, Net	153	139	20	(234)
Rockport Plant, Unit 2 Operating Lease Payments	-	(148)	(148)	-
Other Current Assets	11	71	34	(44)
Other Current Liabilities	150	(206)	(256)	140
Net Cash Flows from Operating Activities	5,223	4,270	3,833	1,929

Investing Activities				
Construction Expenditures	(6,311)	(6,051)	(6,246)	(1,302)
Purchases of Investment Securities	(2,068)	(1,576)	(1,679)	(450)
Sales of Investment Securities	2,010	1,494	1,644	440
Acquisitions of Nuclear Fuel	(46)	(92)	(70)	0
Acquisition of Assets	-	(918)	-	-
Other Investing Activities	61	(1)	117	19
Net Cash Flows Used for Investing Activities	(6,354)	(7,145)	(6,234)	(1,676)
Financing Activities				
Issuance of Common Stock, Net	74	65	155	291
Issuance of Long-term Debt	4,946	4,537	5,626	2,007
Issuance of Short-term Debt with Original Maturities Greater Than 90 Days	206	-	1,397	-
Change in Short-term Debt with Original Maturities Less Than 90 Days, Net	271	928	(448)	(195)
Retirement of Long-term Debt	(2,782)	(1,221)	(1,340)	(552)
Make Whole Premium Extinguishment of Long-Term Debt	-	-	-	-
Repayments of Short-term Debt, Maturing in More than Three Months	-	-	-	-
Redemption of Short-term Debt with Original Maturities Greater Than 90 Days	(206)	-	(1,307)	(429)
Principal Payments for Finance Lease Obligations	(65)	(71)	(62)	(15)
Dividends Paid on Common Stock	(1,256)	(1,350)	(1,425)	(376)
Redemption of Noncontrolling Interest	-	-	(100)	-
Other Financing Activities	(26)	(26)	(89)	83
Net Cash Flows from Financing Activities	1,162	2,863	2,407	814
Net Increase (Decrease) in Cash, Cash Equivalents and Restricted Cash	32	(12)	6	1,067
Cash, Cash Equivalents and Restricted Cash at Beginning of Period	413	444	433	
Cash and Cash Equivalents at Beginning of Period			247	
Cash, Cash Equivalents and Restricted Cash at End of Period	444	433	438	
Cash and Cash Equivalents at End of Period		247	393	

Appendix D: Net Working Capital

American Electric Power																		
Current Assets		FY 2018	Q4 2021E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E	Current Liabilities								
A/R Days		43.42	44.80	43.58	43.43	43.43	43.43	43.43	43.43	A/P Days	97.26	102.01	94.85	112.60	112.60	112.60	112.60	112.60
A/R		1,927	1,921	1,987	2,045	2,127	2,191	2,240	2,270	Accounts Payable	1,874	1,527	1,640	1,903	1,925	1,926	1,911	1,878
Fuel % of Revenue		7.70	17.91	12.10	12.05	12.05	12.05	12.05	12.05	Risk Management Liabilities % of Revenue	1.24	2.44	1.63	1.62	1.62	1.62	1.62	1.62
Fuel		342	768	552	567	590	608	621	630	Risk Management Liabilities	55	105	74	76	79	82	84	85
Materials and Supplies % of Revenue		13.06	16.68	15.24	15.42	15.42	15.42	15.42	15.42	Customer Deposits % of Revenue	9.29	8.86	8.04	8.55	8.55	8.55	8.55	8.55
Materials and Supplies		580	715	695	726	755	778	795	806	Customer Deposits	412	380	367	403	419	431	441	447
Risk Management Assets % of Revenue		3.67	3.38	4.33	3.69	3.69	3.69	3.69	3.69	Accrued Taxes % of Revenue	27.45	35.79	28.97	28.48	28.48	28.48	28.48	28.48
Risk Management Assets		163	145	197	174	181	186	190	193	Accrued Taxes	1,218	1,534	1,321	1,341	1,395	1,436	1,468	1,489
Accrued Tax Benefits % of Revenue			4.33	4.33	4.33	4.33	4.33	4.33	4.33	Accrued Interest % of Revenue	5.22	6.46	6.70	6.63	6.63	6.63	6.63	6.63
Accrued Tax Benefits			186	198	204	212	219	223	226	Accrued Interest	232	277	306	312	325	335	342	347
Regulatory Asset for Under-Recovered Fuel Costs % of Revenue		3.38	2.32	3.86	2.97	2.97	2.97	2.97	2.97	Obligations Under Operating Leases % of Revenue	0.00	6.00	5.42	5.15	5.15	5.15	5.15	5.15
Regulatory Asset for Under-Recovered Fuel Costs		150	99	176	140	145	150	153	155	Obligations Under Operating Leases	-	257	247	243	252	260	266	269
Margin Deposits % of Revenue		3.19	1.55	1.49	1.94	1.94	1.94	1.94	1.94	Regulatory Liability for Over-Recovered Fuel Costs % of Revenue	1.32	1.76	0.86	1.62	1.62	1.62	1.62	1.62
Margin Deposits		141	66	68	91	95	98	100	102	Regulatory Liability for Over-Recovered Fuel Costs	59	75	39	76	79	82	83	85
Prepayments and Other Current Assets % of Revenue		4.71	3.58	3.02	3.72	3.72	3.72	3.72	3.72	Other Current Liabilities % of Revenue	26.83	32.49	25.12	27.42	27.42	27.42	27.42	27.42
Prepayments and Other Current Assets		209	153	138	175	182	188	192	194	Other Current Liabilities	1,191	1,393	1,146	1,291	1,343	1,383	1,414	1,433
Total CA			3,511	3,383	3,496	3,478	3,443	3,436	3,576	3,665	3,712	4,053	4,011	4,122	4,288	4,416	4,515	4,577
Total CL			5,040	4,604	4,823	4,774	5,862	5,081	4,908	4,739	5,361	5,548	5,139	5,645	5,818	5,935	6,009	6,032
NWC			(1,530)	(1,221)	(1,327)	(1,295)	(2,420)	(1,645)	(1,332)	(1,073)	(1,649)	(1,495)	(1,128)	(1,523)	(1,529)	(1,518)	(1,494)	(1,456)
Δ NWC				308	(105)	31	(1,124)	775	313	258	(576)	(707)	367	(395)	(6)	11	24	38

Appendix E: D&A/CAPEX



American Electric Power										
	FY 2018	FY 2019	FY 2020	Q4 2021E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E
Depreciation and Amortization	2,287	2,515	2,683	675	2,779	2,869	2,985	3,074	3,142	3,185
<i>% of Capex</i>	36.2%	41.6%	43.0%	23.0%	39.6%	39.6%	39.6%	39.6%	39.6%	39.6%
Construction Expenditures	(6,311)	(6,051)	(6,246)	(2,934)	(7,021)	(7,249)	(7,541)	(7,767)	(7,940)	(8,049)
<i>% of Revenue</i>	-39.0%	-38.9%	-41.9%	-75.0%	-42.2%	-42.2%	-42.2%	-42.2%	-42.2%	-42.2%

Appendix F: Revenue Build

American Electric Power										
	FY 2018	FY 2019	FY 2020	Q4 2021E	FY 2021E	FY 2022E	FY 2023E	FY 2024E	FY 2025E	FY 2026E
Vertically Integrated Utilites	9,557	9,246	8,753	2,315	9,761	10,095	10,345	10,532	10,636	10,637
<i>% Growth</i>		-3.3%	-5.3%	-14.8%	11.5%	3.4%	2.5%	1.8%	1.0%	0.0%
<i>% of Total Revenue</i>	59.0%	59.4%	58.7%	59.2%	58.7%	58.8%	57.9%	57.2%	56.5%	55.8%
Transmission and Distribution Utilites	4,552	4,319	4,239	1,063	4,430	4,564	4,778	4,939	5,078	5,160
<i>% Growth q/q</i>		-5.1%	-1.9%	-11.0%	4.5%	3.0%	4.7%	3.4%	2.8%	1.6%
<i>% of Total Revenue</i>	28.1%	27.8%	28.4%	27.2%	26.6%	26.6%	26.7%	26.8%	27.0%	27.0%
Generation & Marketing	1,818	1,722	1,621	434	2,075	2,083	2,233	2,327	2,386	2,432
<i>% Growth q/q</i>		-5.3%	-5.9%	-29.8%	28.0%	0.4%	7.2%	4.2%	2.5%	1.9%
<i>% of Total Revenue</i>	11.2%	11.1%	10.9%	11.1%	12.5%	12.1%	12.5%	12.6%	12.7%	12.7%
Other Revenues	269	275	306	100	376	440	520	612	721	849
<i>% Growth q/q</i>		2.3%	11.2%	6.5%	23.1%	17.0%	18.2%	17.6%	17.9%	17.8%
<i>% of Total Revenue</i>	1.7%	1.8%	2.0%	2.6%	2.3%	2.6%	2.9%	3.3%	3.8%	4.5%
TOTAL REVENUES	\$16,196	\$15,561	\$14,919	\$3,912	\$16,643	\$17,183	\$17,876	\$18,410	\$18,821	\$19,078
<i>% Growth q/q</i>		-3.9%	-4.1%	-15.4%	11.6%	3.2%	4.0%	3.0%	2.2%	1.4%
<i>% of Total Revenue</i>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



Appendix G: WACC & Beta

American Electric Power	
WACC Calculation	
Beta	0.53
Risk Free Rate	1.76%
Expected Market Return	9%
Risk Premium	7.24%
Cost of Equity	5.59%
Pre-Tax cost of debt	3.69%
Tax Rate	21%
Cost of Debt	2.91%
Market Cap	\$45,456
Debt Outstanding	\$34,578
Total Capitalizaiton	\$80,034
Weight of Equity	56.80%
Weight of Debt	43.20%
WACC	4.44%

Covariance	7.56057E-05
Variance	0.000142788
Beta	0.53

Interest Coverage Ratio	3.65
Damodaran Spread	1.93%

Appendix H: Comparable Companies

American Electric Power																
Company	Ticker	Stock Price	Shares Out.	Debt	Cash	Enterprise Value	Market Cap	LTM EBITDA	LTM Interest Expense	2021 EBITDA	2021 EBIT	2023 EBITDA	2023 EBIT	2021 EPS	2023 EPS	
American Electric Power	AEP	90.19	504	34578.3	1372.7	78,661.36	45,455.76	6,088.20	1,183.80	6,315	3,537	7,169	4,185	4.88	5.73	
Amren Corporation	AEE	88.01	257	12501	7	35,112.57	22,618.57	2,570.00	398.00	2630	1471	3120	1796	3.85	4.335	
Dominion Energy	D	81.01	810	34786	180	100,224.10	65,618.10	6,656.00	1,219.00	6991	4649	8620	5730	3.863	4.373	
Duke Energy	DUK	105.43	769	62802	548	143,329.67	81,075.67	12,592.90	2,223.00	11348	6045	13197	7037	5.252	5.772	
WEC Energy Group	WEC	95.69	315	13174.8	26	43,291.15	30,142.35	2,812.20	475.40	2884	1826	3279	2068	4.086	4.579	
Alliant Energy Group	LNT	59.86	250	7075	20	22,020.00	14,965.00	1,423.00	254.00	1509	855	1692	977	2.634	2.912	
Avista Corp	AVA	44.26	71	2148	19	5,261.19	3,132.19	468.60	101.80	502	267	576	350	2.055	2.463	
Public Service Enterprise	PEG	67.09	506	16075	1811	48,188.93	33,924.93	2,765.00	584.00	4178	1773	4055	2613	3.609	3.682	

LTM EV/EBITDA	21E EV/EBITDA	21E EV/EBIT	23E EV/EBITDA	23E EV/EBIT	21 PE	23E PE	21 Q3 DEBT/Equity	21 Q3 NET DEBT/ EBITDA	LTM EBITDA/Interest Expense	Dividend Y
12.92	12.46	22.24	10.97	18.80	18.49	15.73	2.83	5.89	5.14	
13.66	13.35	23.87	11.25	19.55	22.86	20.30	2.53	5.08	6.46	
15.06	14.34	21.56	11.63	17.49	20.97	18.53	2.66	6.08	5.46	
11.38	12.63	23.71	10.86	20.37	20.07	18.27	2.26	5.2	5.66	
15.39	15.01	23.71	13.20	20.93	23.42	20.90	2.46	5.21	5.92	
15.47	14.59	25.75	13.01	22.54	22.73	20.56	1.96	5.18	5.60	
11.23	10.48	19.70	9.13	15.03	21.54	17.97	2.20	5.33	4.60	
17.43	11.53	27.18	11.88	18.44	18.59	18.22	2.51	6.57	4.73	

Minimum	11.23x	10.48x	19.7x	9.13x	15.03x	18.59x	17.97x	1.96x	5.08x	4.6x
Q1	12.52x	12.08x	22.63x	11.06x	17.97x	20.52x	18.24x	2.25x	5.2x	5.04x
Median	15.06x	13.35x	23.71x	11.63x	19.55x	21.54x	18.53x	2.49x	5.27x	5.53x
Q3	15.43x	14.46x	24.81x	12.45x	20.65x	22.79x	20.43x	2.57x	5.94x	5.73x
Maximum	17.43x	15.01x	27.18x	13.2x	22.54x	23.42x	20.9x	2.83x	6.57x	6.46x
AVERAGE INCL. AEP	14.07x	13.05x	23.47x	11.49x	19.14x	21.08x	18.81x	2.43x	5.57x	5.45x

Minimum	\$69.74	\$65.44	\$72.39	\$64.04	\$58.92	\$90.65	\$103.06
Q1	\$85.38	\$85.51	\$92.94	\$91.40	\$83.29	\$100.08	\$104.62
Median	\$116.01	\$101.41	\$100.50	\$99.51	\$96.44	\$105.03	\$106.24
Q3	\$120.56	\$115.36	\$108.23	\$111.20	\$105.57	\$111.15	\$117.16
Maximum	\$144.64	\$122.21	\$124.84	\$121.92	\$121.24	\$114.20	\$119.85

Appendix I: DDM Analysis



American Electric Power CAPM Calculation			
5 Year Beta		0.53	
Market Return		9.00%	
Risk-free Rate		1.76%	
Market Risk Premium		7.24%	
Cost of Equity		5.59%	
Traditional DDM		\$111.32	
Expected Dividend per Share		\$3.12	
Cost of Equity		5.59%	
Dividend Growth Rate		2.79%	
Supernormal Growth DDM		\$114.68	
Cost of Equity		5.59%	
Supernormal Dividend Growth		4.00%	
Terminal Dividend Growth		2.79%	
D0	\$2.84	0	\$2.84
D1	\$3.00	1	\$2.84
D2	\$3.12	2	\$2.80
D3	\$3.24	3	\$2.76
D4	\$3.37	4	\$2.71
D5	\$3.51	5	\$2.67
			\$98.06

AEP- American Electric Power Dividend Growth				
Year End	Dividend per Share	YoY Dividend Increase	YoY Growth	
	2012	\$1.88		
	2013	\$1.95	\$0.07	3.72%
	2014	\$2.03	\$0.08	4.10%
	2015	\$2.15	\$0.12	5.91%
	2016	\$2.27	\$0.12	5.58%
	2017	\$2.39	\$0.12	5.29%
	2018	\$2.53	\$0.14	5.86%
	2019	\$2.74	\$0.21	8.30%
	2020	\$2.84	\$0.10	3.65%
	2021	\$3.00	\$0.16	5.63%
	2022E	\$3.12	\$0.12	4.00%
Historical Average from 2012-2020			\$0.12	5.20%