

## MEETING MATERIALS

# HOWARD COUNTY RETIREMENT PLANS

March 25, 2021

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# REAL ASSET PORTFOLIO REVIEW

## HOWARD COUNTY

March 2021

NEPC Real Assets Research



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# EXECUTIVE SUMMARY

- **Howard County has a target allocation of 2% to real assets**
- **Current real assets exposure is 1.1% of total plan assets (\$14.5 million net asset value)**
  - \$14.4 million in uncalled commitments representing 1.1% of total plan assets
- **Total real assets exposure (NAV + uncalled) of 2.2% of total plan assets**
- **Current real assets exposure is weighted towards natural resources**
  - Exposure built through multi-manager approach likely to have longer fund life
- **NEPC has prepared a 2021 real assets pacing plan analysis calling for allocations to infrastructure to balance the exposure over time**
- **Howard County should commit approximately \$8 million in 2021 to private real assets to diversify exposure**
  - NEPC recommends Howard County consider a \$5 million commitment to IFM Global Infrastructure Fund and \$3 million commitment to Tiger Infrastructure Partners III
- **Pacing results in moderate over-allocation to real assets as funds mature**
  - Building in infrastructure allocations provide more direct exposures with different economic drivers while maintaining existing commodity-driven exposures that would benefit from increased commodity price inflation

# EXISTING REAL ASSETS EXPOSURE

- **The real assets portfolio consists of four multi-manager funds**
  - These funds are currently heavily-weighted towards natural resources
- **These funds have significant unfunded exposure remaining**
  - Positions are still being built and are likely to result in a longer holding periods

Private Real Assets NAVs and Exposures				
Investment Strategy	Current Valuation (NAV)	Capital to be Funded	Total Current Exposure	% of Total Exposure
Real Assets Multi-Strategy	\$14.5	\$14.4	\$28.8	100.0%
Total / Wtd. Avg.	\$14.5	\$14.4	\$28.8	100.0%

Portfolio Exposure

100.0%

Real Assets Multi-Strategy

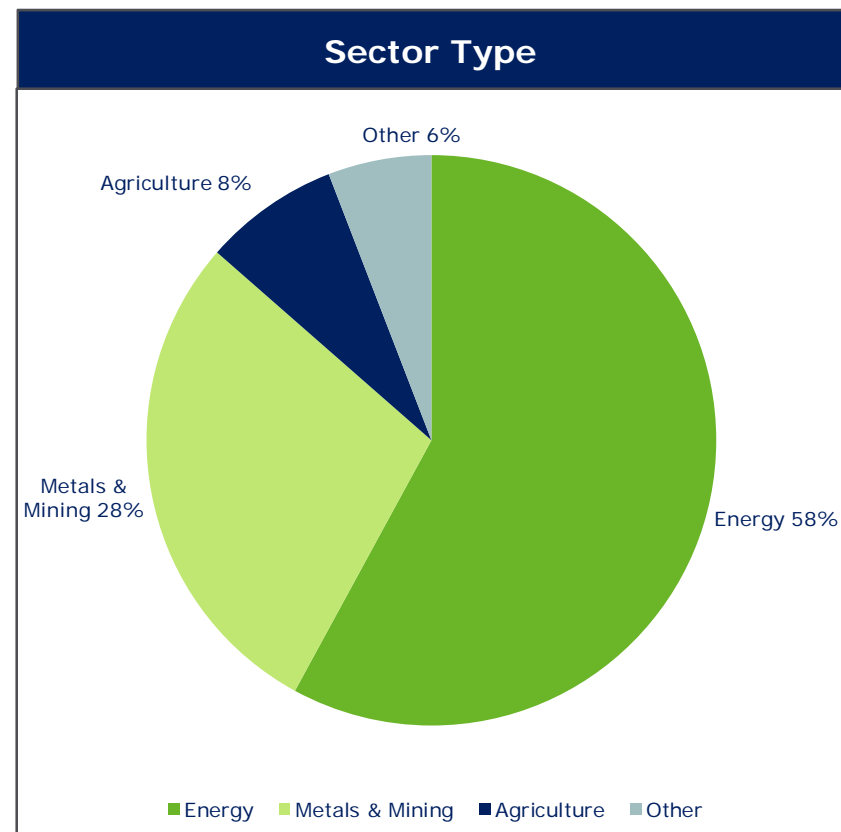
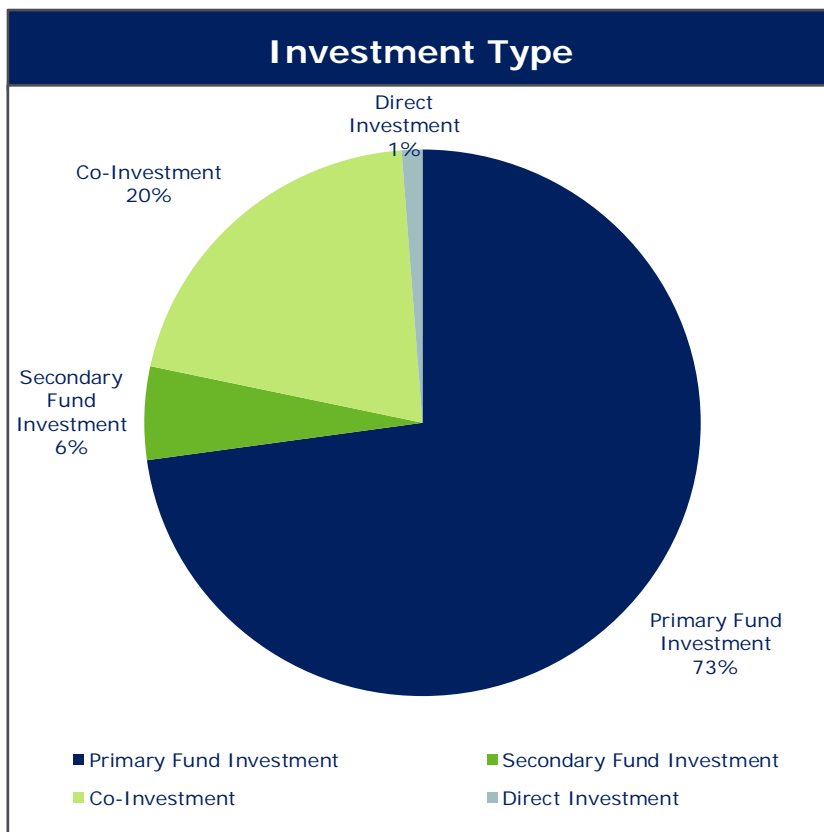
Investments by Vintage Year										
Vintage Year	Commitment	Paid In Capital	Capital to be Funded	Cumulative Distributed	Current Valuation (NAV)	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio
2015	\$15.0	\$11.2	\$3.8	\$1.9	\$10.2	\$12.1	\$0.9	74%	0.17x	1.08x
2018	\$15.0	\$4.4	\$10.6	\$0.0	\$4.3	\$4.3	(\$0.1)	30%	0.00x	0.97x
<b>Total</b>	<b>\$30.0</b>	<b>\$15.6</b>	<b>\$14.4</b>	<b>\$1.9</b>	<b>\$14.5</b>	<b>\$16.4</b>	<b>\$0.8</b>	<b>52%</b>	<b>0.12x</b>	<b>1.05x</b>

Existing Private Real Assets Investments										
Real Assets Multi-Strategy										
Fund Name	Vintage Year	Committed	Paid In Capital	Capital to be Funded	Cumulative Distributed	Current Valuation (NAV)	Total Value	Net benefit	DPI Ratio	TVPI Ratio
Aether Real Assets IV	2015	\$7.5	\$5.6	\$1.9	\$0.0	\$5.9	\$5.9	\$0.2	0.00x	1.04x
Commonfund Natural Resources X	2015	\$7.5	\$5.5	\$2.0	\$1.9	\$4.3	\$6.2	\$0.7	0.35x	1.13x
Aether Real Assets V	2018	\$7.5	\$2.1	\$5.4	\$0.0	\$2.4	\$2.4	\$0.3	0.00x	1.15x
Commonfund Natural Resources XI	2018	\$7.5	\$2.3	\$5.2	\$0.0	\$1.9	\$1.9	(\$0.5)	0.00x	0.81x
<b>Total Real Assets Multi-Strategy</b>		<b>\$30.0</b>	<b>\$15.6</b>	<b>\$14.4</b>	<b>\$1.9</b>	<b>\$14.5</b>	<b>\$16.4</b>	<b>\$0.8</b>	<b>0.12x</b>	<b>1.05x</b>



# EXISTING REAL ASSETS EXPOSURE CONT'D

- **The portfolio is heavily concentrated in natural resources exposure**
  - 85%+ of current NAV through energy & metals & mining exposure
- **These funds have significant unfunded exposure remaining**
  - Positions are still being built and are likely to result in a longer holding periods



# EXISTING MANAGER TRACK RECORD

- **The real assets portfolio began in 2015 but remains relatively new**
  - Multi-manager approach takes longer to build exposure
- **Early performance has been mixed**
  - Commodity pricing has been a headwind

Fund-Level Returns									
Fund	Vintage Year	Capital Committed	Capital Funded	Reported Value	Amount Distributed	Total Value, Net of Carry	TVPI Multiple	DPI Multiple	Current Net IRR
Commonfund Natural Resources X	2015	\$269	\$194	\$155	\$77	\$231	1.2x	0.4x	9.0%
Commonfund Natural Resources XI	2018	\$118	\$59	\$52	\$1	\$53	0.9x	0.0x	(9.3%)
Aether Real Assets IV	2016	\$258	\$209	\$199	\$18	\$216	1.0x	0.1x	1.5%
Aether Real Assets V	2018	\$268	\$79	\$85	\$5	\$89	1.1x	0.1x	13.8%

## Vintage Year Benchmarking Analysis

Net IRR		Commonfund			Vintage Year Benchmark Net IRR Comparison			
Vintage Year	Fund	Current Net IRR	Quartile	# Funds	Upper Quartile	Median	Lower Quartile	
2015	Commonfund Natural Resources X	9.0%	2	18	9.5%	3.5%	(6.5%)	
2018	Commonfund Natural Resources XI	(9.3%)	4	13	10.9%	(5.2%)	(7.9%)	
2016	Aether Real Assets IV	1.5%	3	25	11.5%	5.6%	(8.7%)	
2018	Aether Real Assets V	13.8%	1	13	10.9%	(5.2%)	(7.9%)	

DPI Multiple		Commonfund			Vintage Year Benchmark DPI Multiple Comparison			
Vintage Year	Fund	DPI Multiple	Quartile	# Funds	Upper Quartile	Median	Lower Quartile	
2015	Commonfund Natural Resources X	0.4x	1	18	0.4x	0.3x	0.1x	
2018	Commonfund Natural Resources XI	0.0x	2	13	0.0x	0.0x	0.0x	
2016	Aether Real Assets IV	0.1x	3	25	0.3x	0.2x	0.0x	
2018	Aether Real Assets V	0.1x	1	13	0.0x	0.0x	0.0x	

TVPI Multiple		Commonfund			Vintage Year Benchmark TVPI Multiple Comparison			
Vintage Year	Fund	TVPI Multiple	Quartile	# Funds	Upper Quartile	Median	Lower Quartile	
2015	Commonfund Natural Resources X	1.2x	2	18	1.2x	1.1x	0.9x	
2018	Commonfund Natural Resources XI	0.9x	4	13	1.1x	0.9x	0.9x	
2016	Aether Real Assets IV	1.0x	3	25	1.2x	1.1x	0.8x	
2018	Aether Real Assets V	1.1x	1	13	1.1x	0.9x	0.9x	

Note: The data included in the analysis above was provided by the Managers and represents the total fund level performance and not necessarily Howard County's actual returns. Fund level performance data as of 9/30/2020. Benchmark data as of 09/30/2020. Benchmark is the CJA Thomson One Global Natural Resources Closed-End fund benchmark.



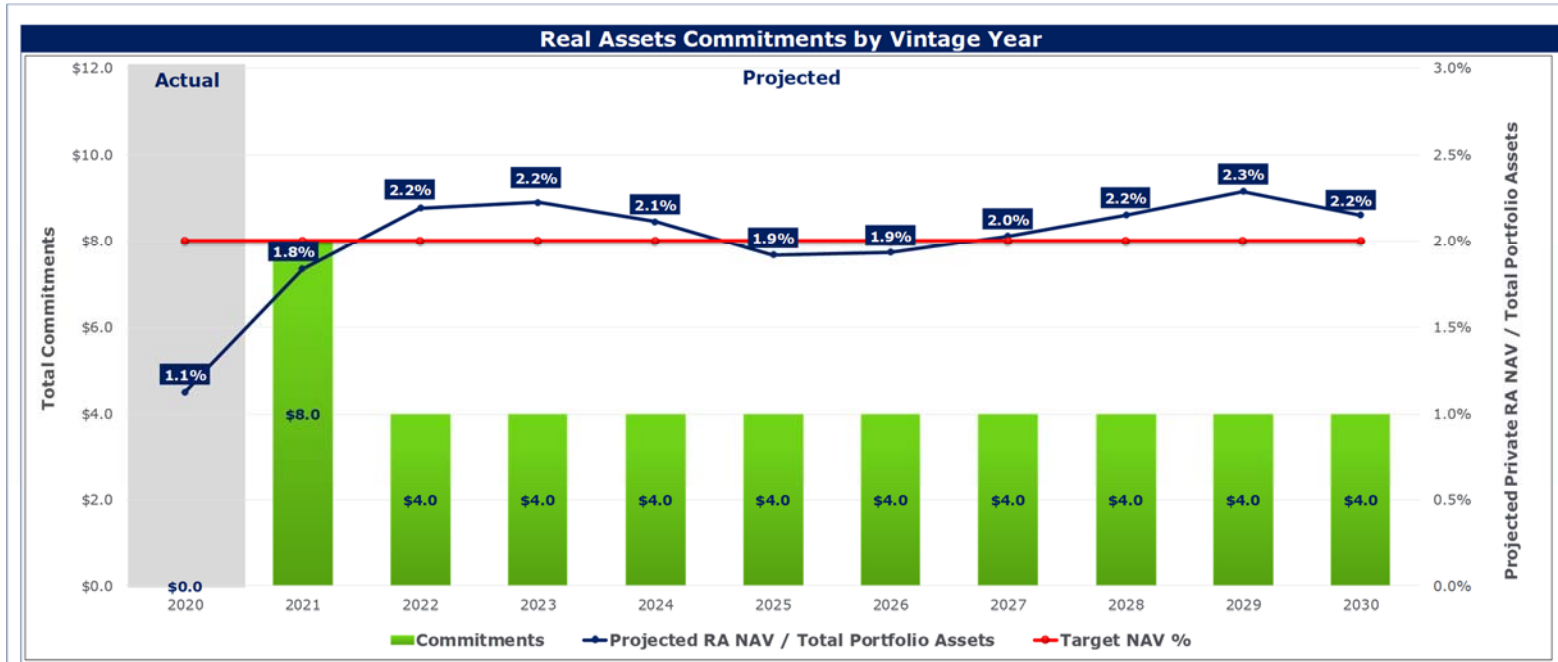
# PORTFOLIO CONSTRUCTION THOUGHTS

- **Consider allocating to infrastructure to diversify existing exposures**
- **Commitment pacing anticipates \$8 million in 2021 commitments**
  - NEPC recommends Howard Country consider a \$5 million commitment to IFM Global Infrastructure Fund and \$3 million commitment to Tiger Infrastructure Partners III
- **Pacing results in moderate over-allocation to real assets as funds mature**
  - Building in infrastructure allocations provide more direct exposures with different economic driver while maintaining existing commodity-driven exposures that would benefit from increased commodity price inflation
  - Existing exposure has significant uncalled commitments
  - Commodity price tailwinds are likely to benefit existing portfolio due to natural resources exposure
- **Plan is to make commitments on an annual basis**
  - Amount and frequency can be revisited on an annual basis; open-end infrastructure commitment can be thought of as a rebalancing tool in later years should exposure grow faster than expected
  - Allocations may be shifted should increased natural resources or other types of exposure become attractive for new investments, especially as the infrastructure allocations reach sub-targets



# COMMITMENT PACING OVERVIEW

- Core commitment to open-end infrastructure; build closed-end exposure over time
  - Focus on managing moderate over-exposure over medium term as multi-strategy investments mature



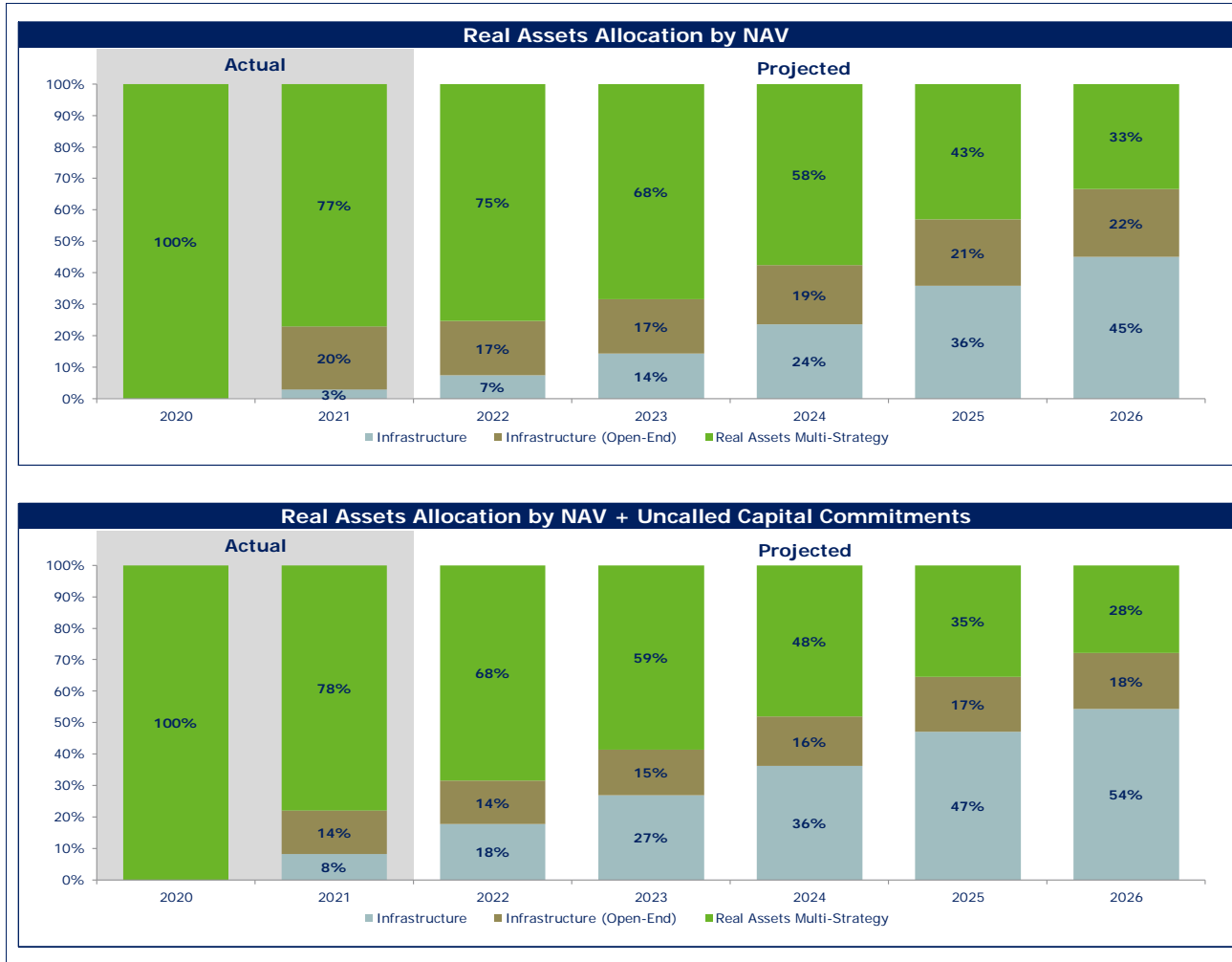
**Real Assets Commitments by Vintage Year**

Year	Commitments	Actual	More Certain			Less Certain						
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Infrastructure	0	\$ 3.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0	\$ 4.0
Infrastructure (Open-End)	0	\$ 5.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Real Assets Multi-Strategy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Commitments</b>	<b>\$0.0</b>	<b>\$8.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>	<b>\$4.0</b>
Projected RA NAV / Total Portfolio Assets		1.1%	1.8%	2.2%	2.2%	2.1%	1.9%	1.9%	2.0%	2.2%	2.3%	2.2%
Target Real Assets Allocation (%)		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%



# PORTFOLIO ALLOCATIONS OVER TIME

- Plan to diversify portfolio from current multi-strategy concentration
- Plan to be re-visited to ensure prudent portfolio construction

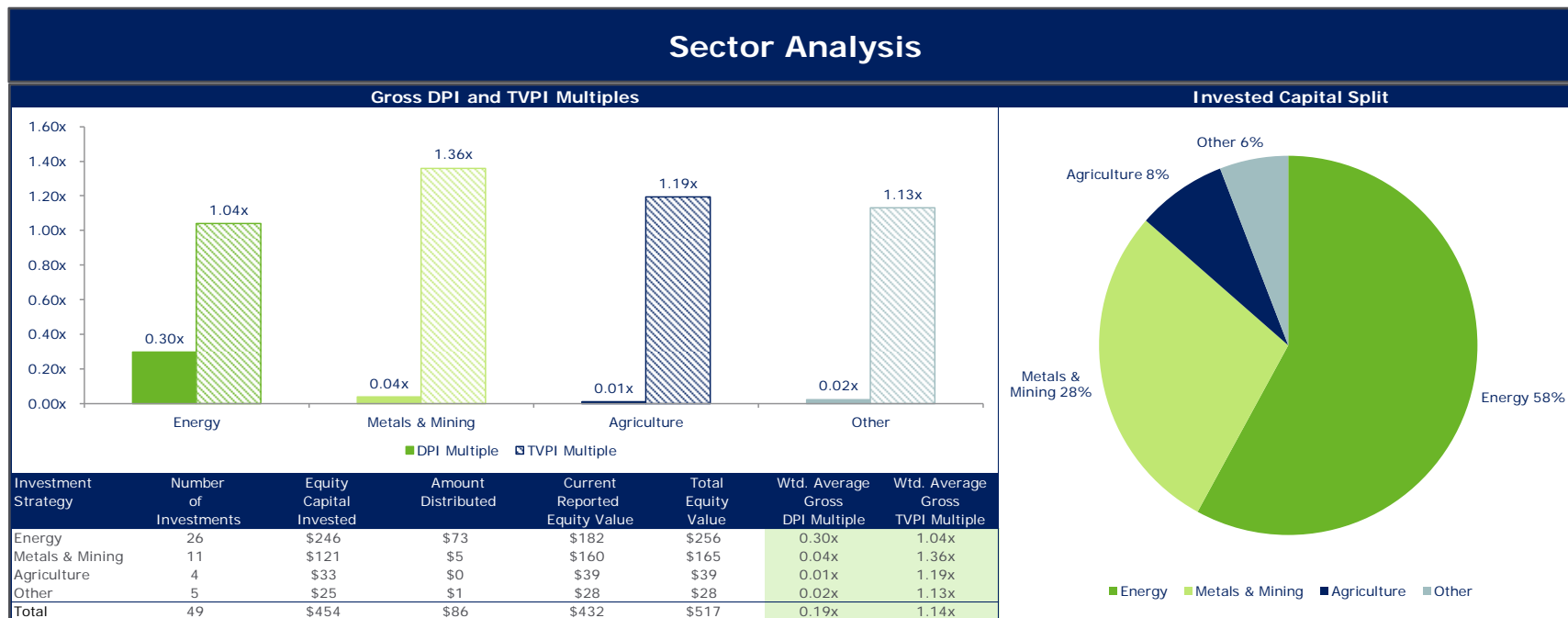


# APPENDIX

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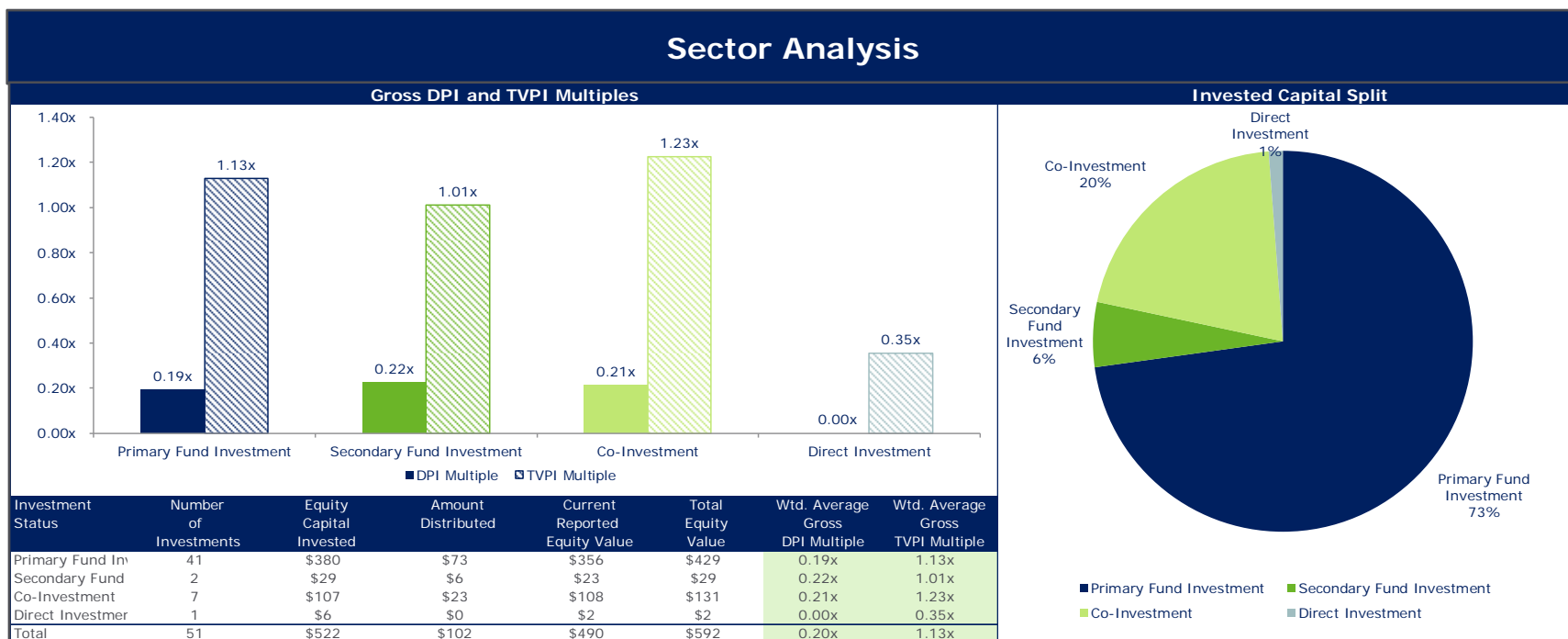
# PORTFOLIO SECTOR EXPOSURE



Note: The data included in the analysis above was provided by the Managers and is as of 9/30/2020. Benchmark data as of 09/30/2020. Benchmark is the C|A Thomson One Global Natural Resources Closed-End fund benchmark.



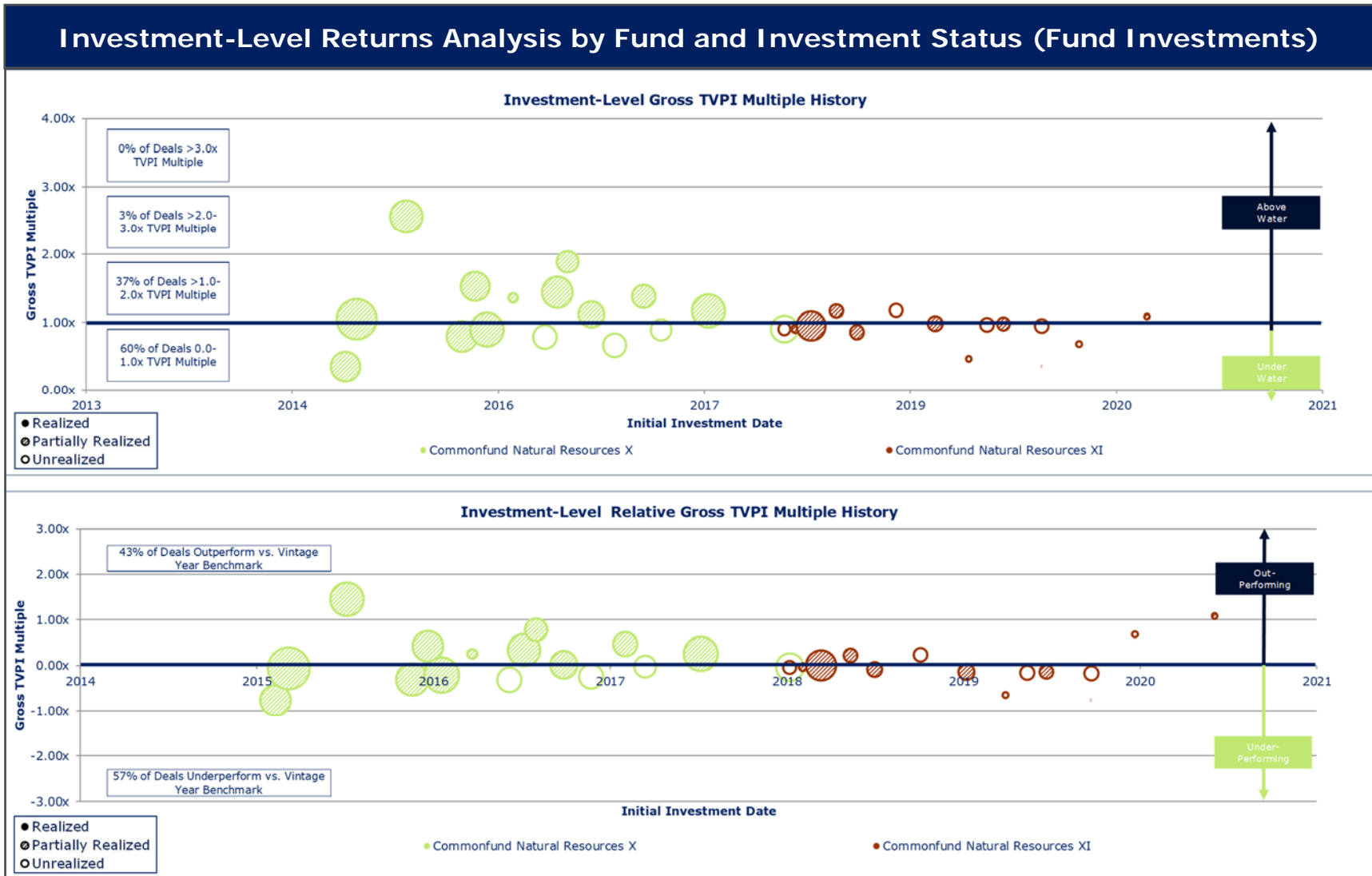
# PORTFOLIO INVESTMENT TYPE EXPOSURE



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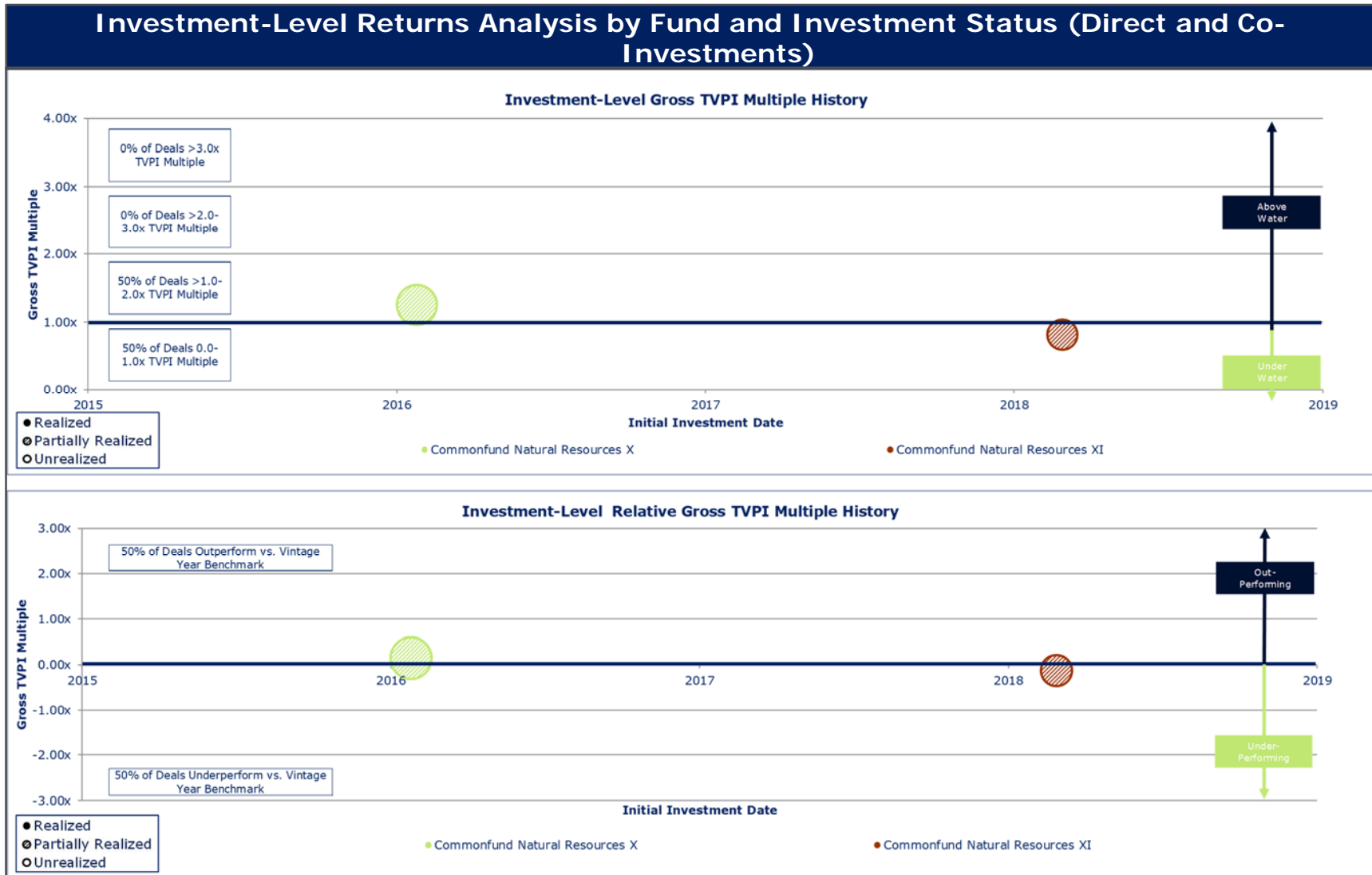
# COMMONFUND



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# COMMONFUND

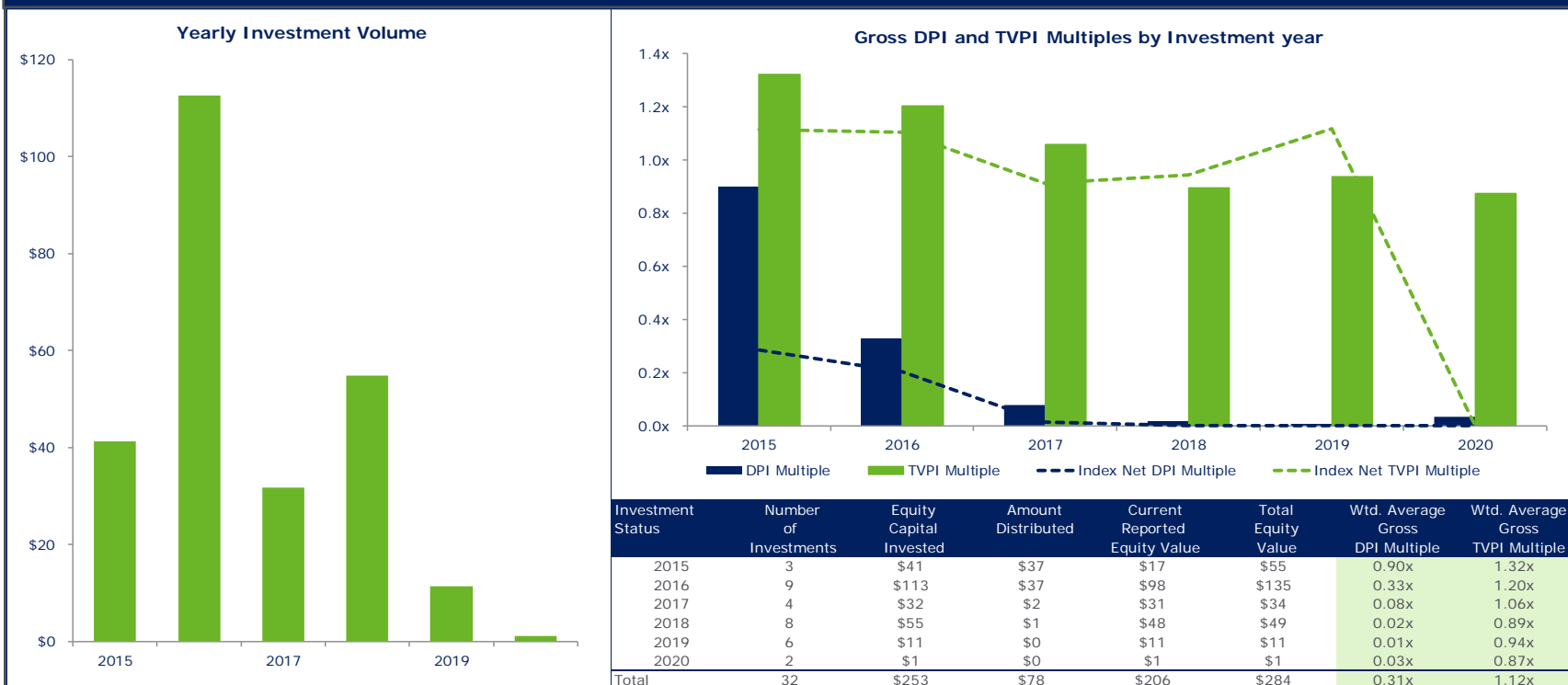


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# COMMONFUND

## Investment Volume and TVPI/DPI Multiples by Investment Year

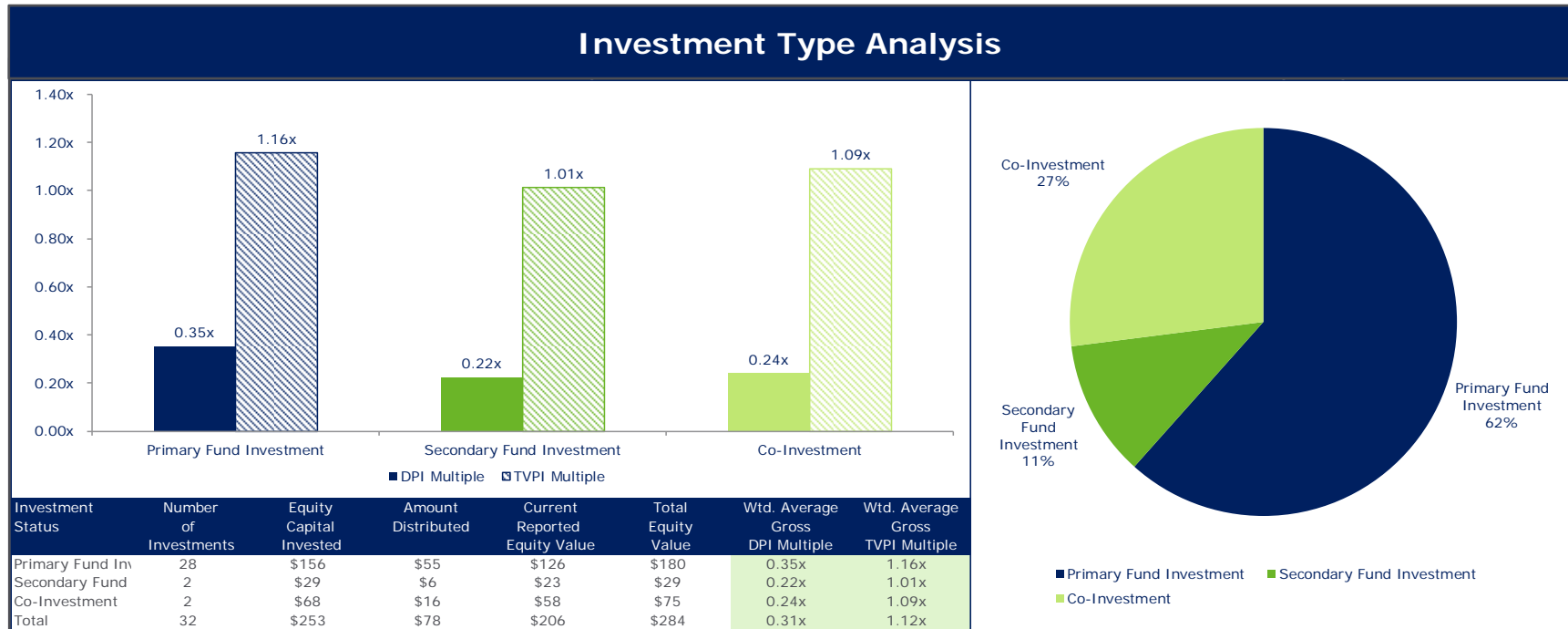


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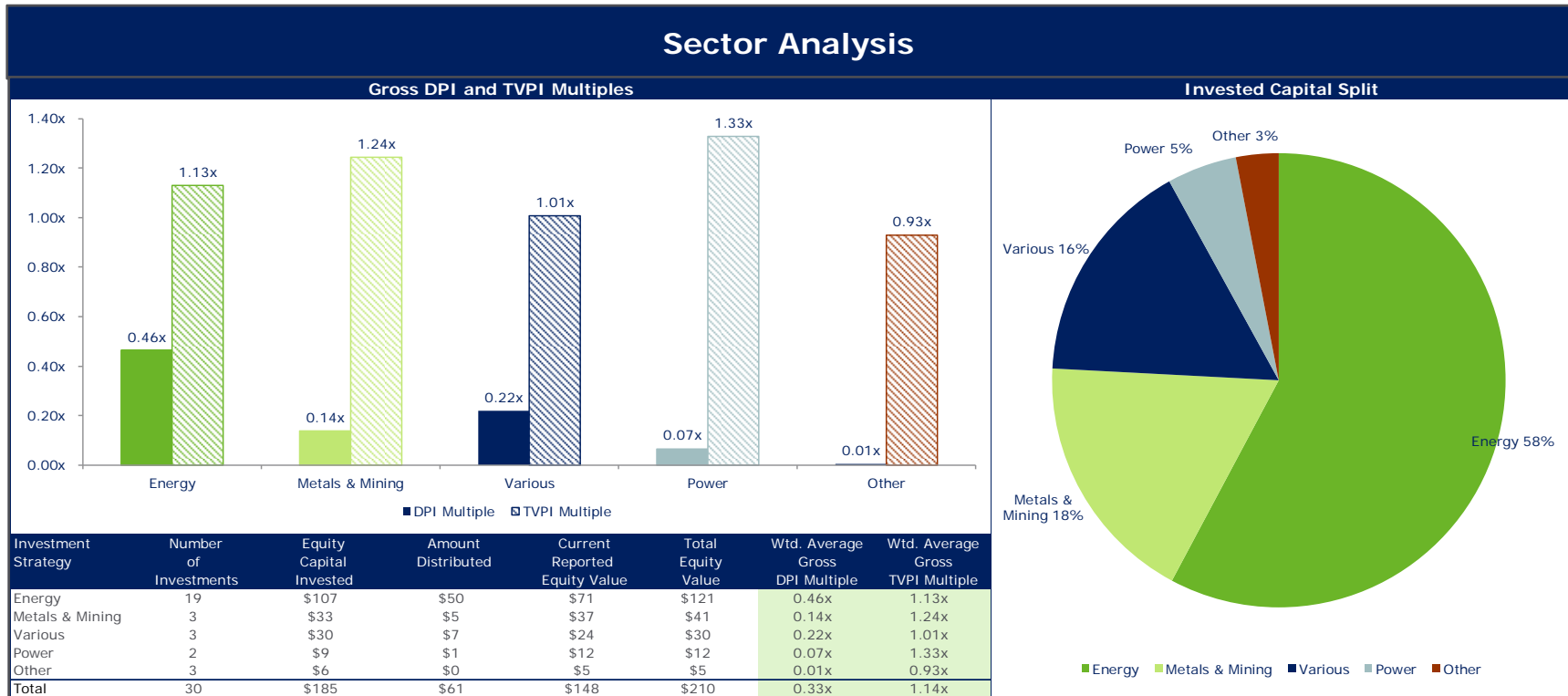
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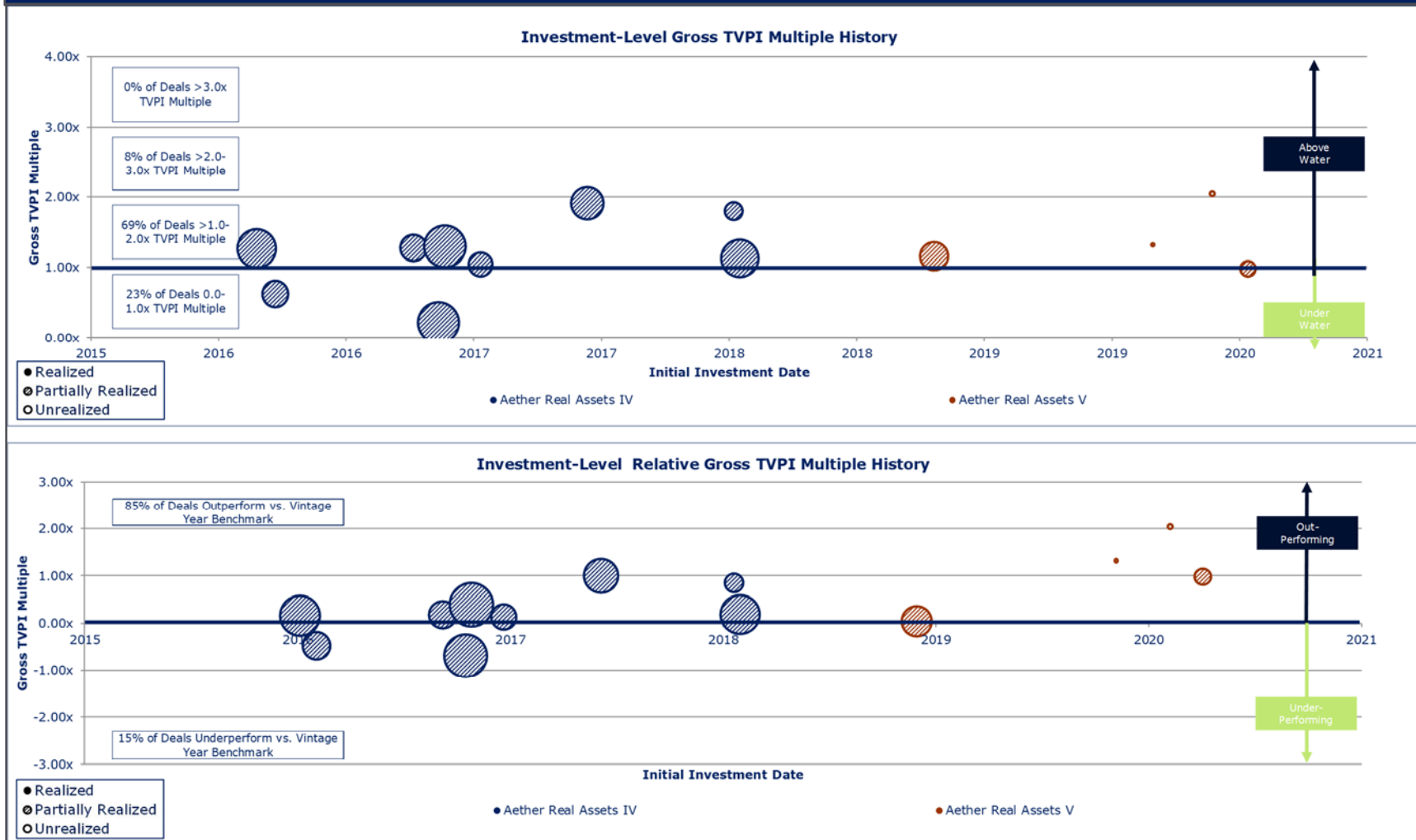


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# AETHER

## Investment-Level Returns Analysis by Fund and Investment Status (Fund Investments)

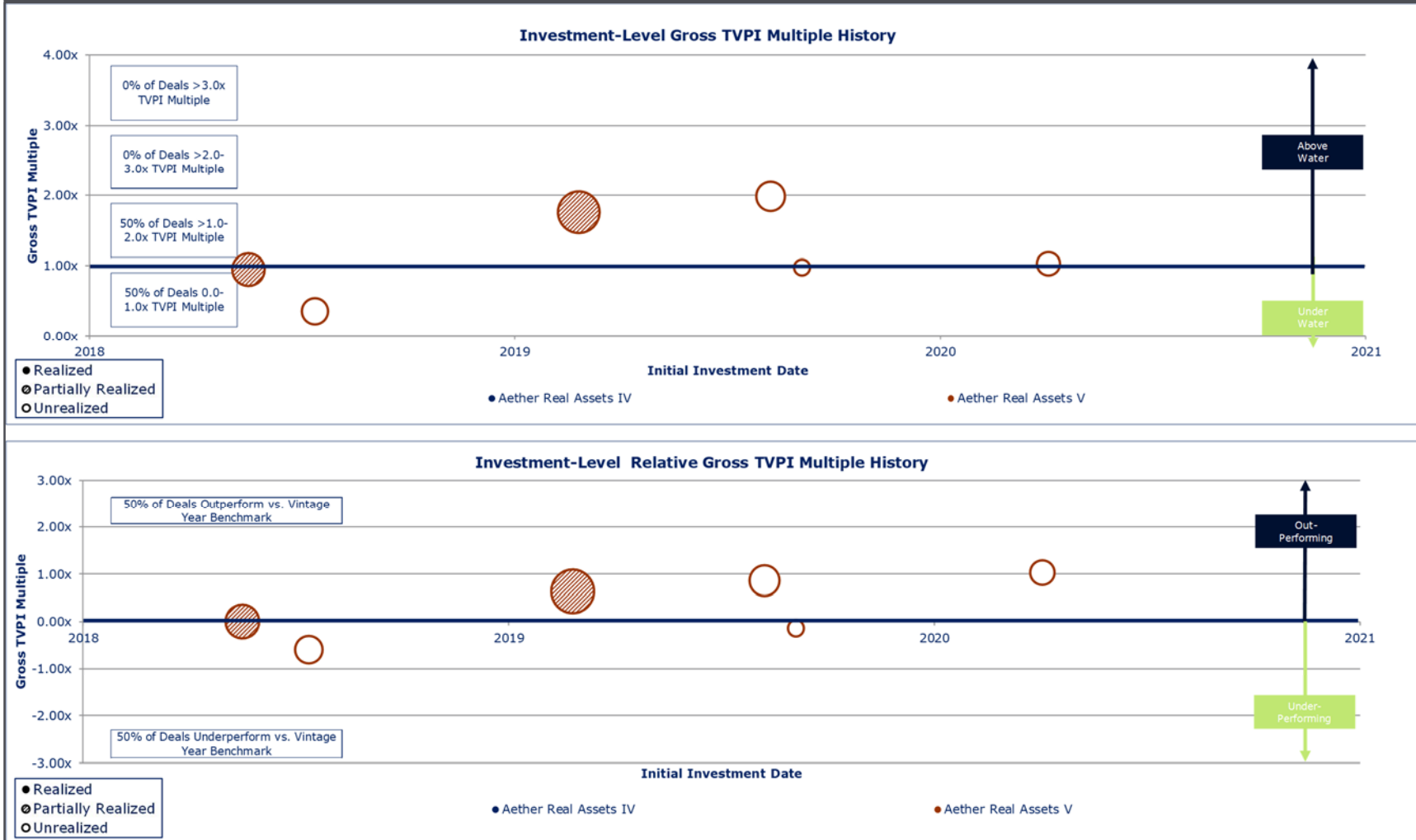


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# AETHER

## Investment-Level Returns Analysis by Fund and Investment Status (Direct and Co-Investments)

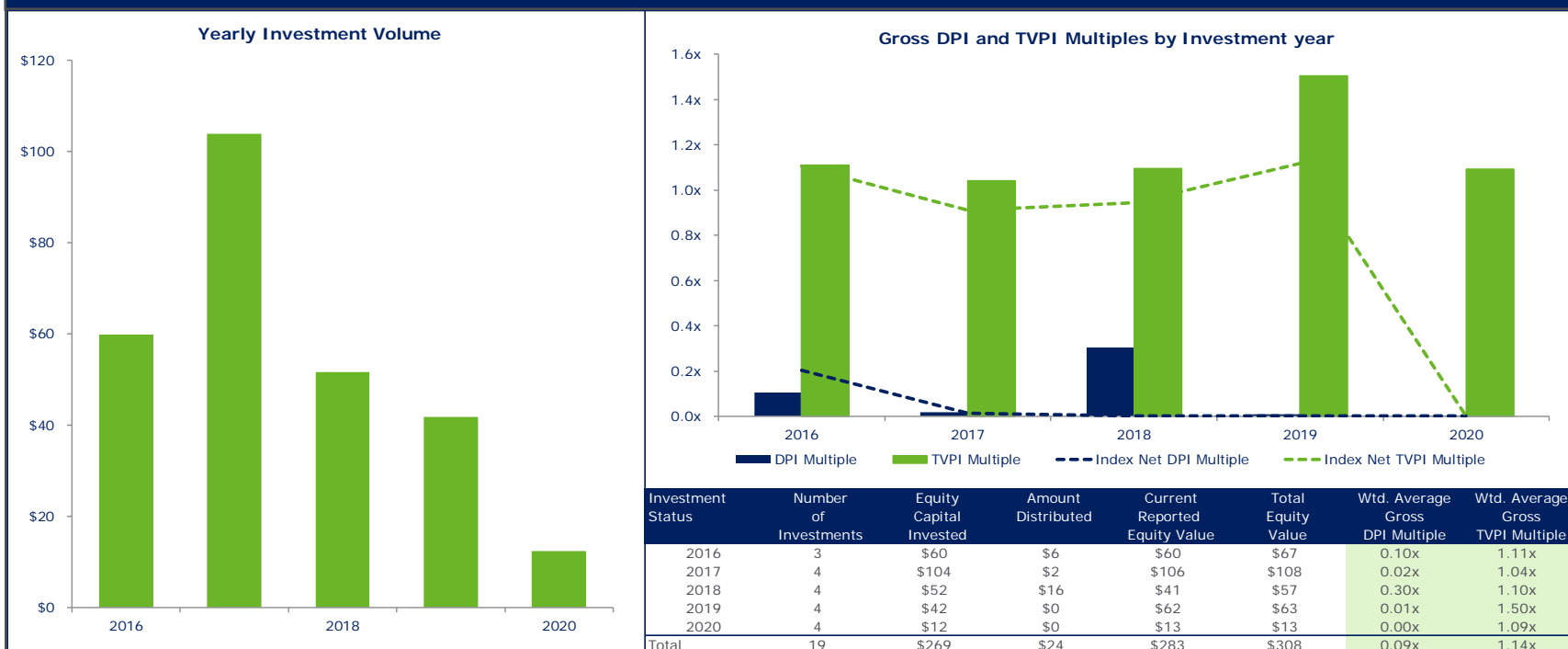


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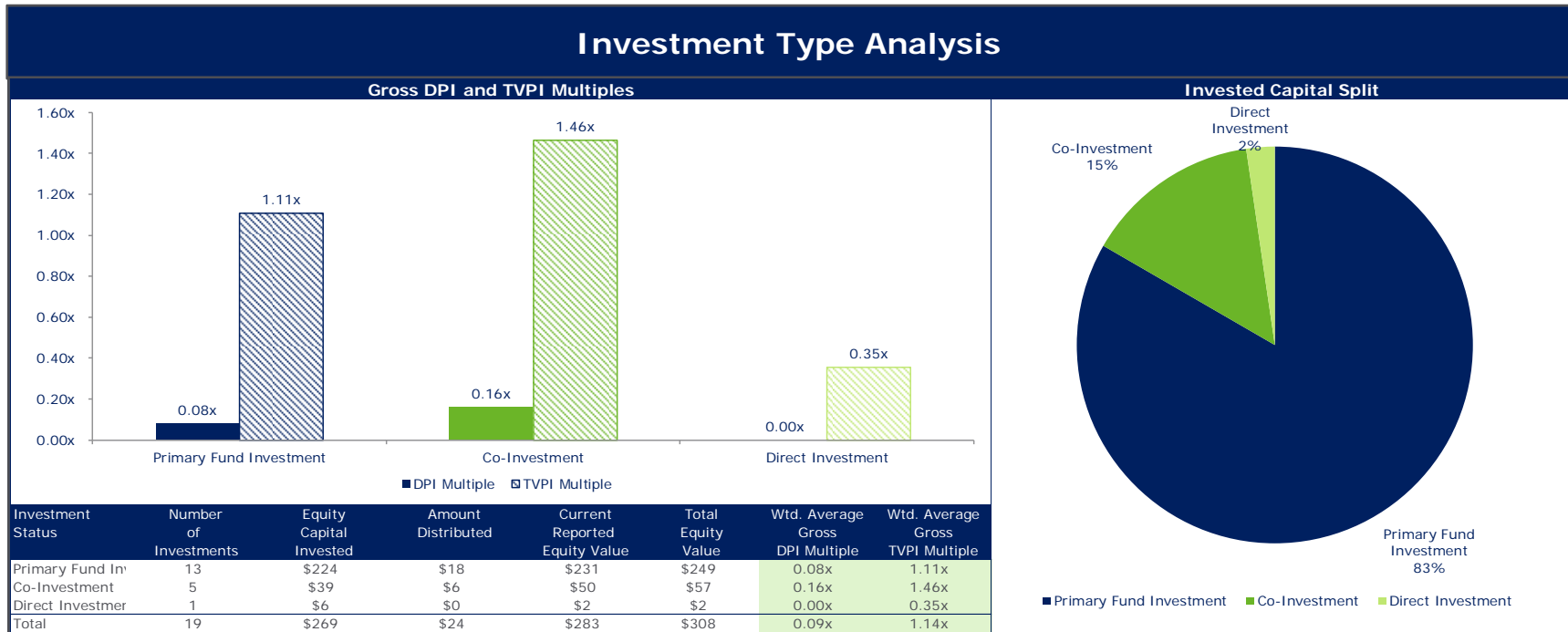
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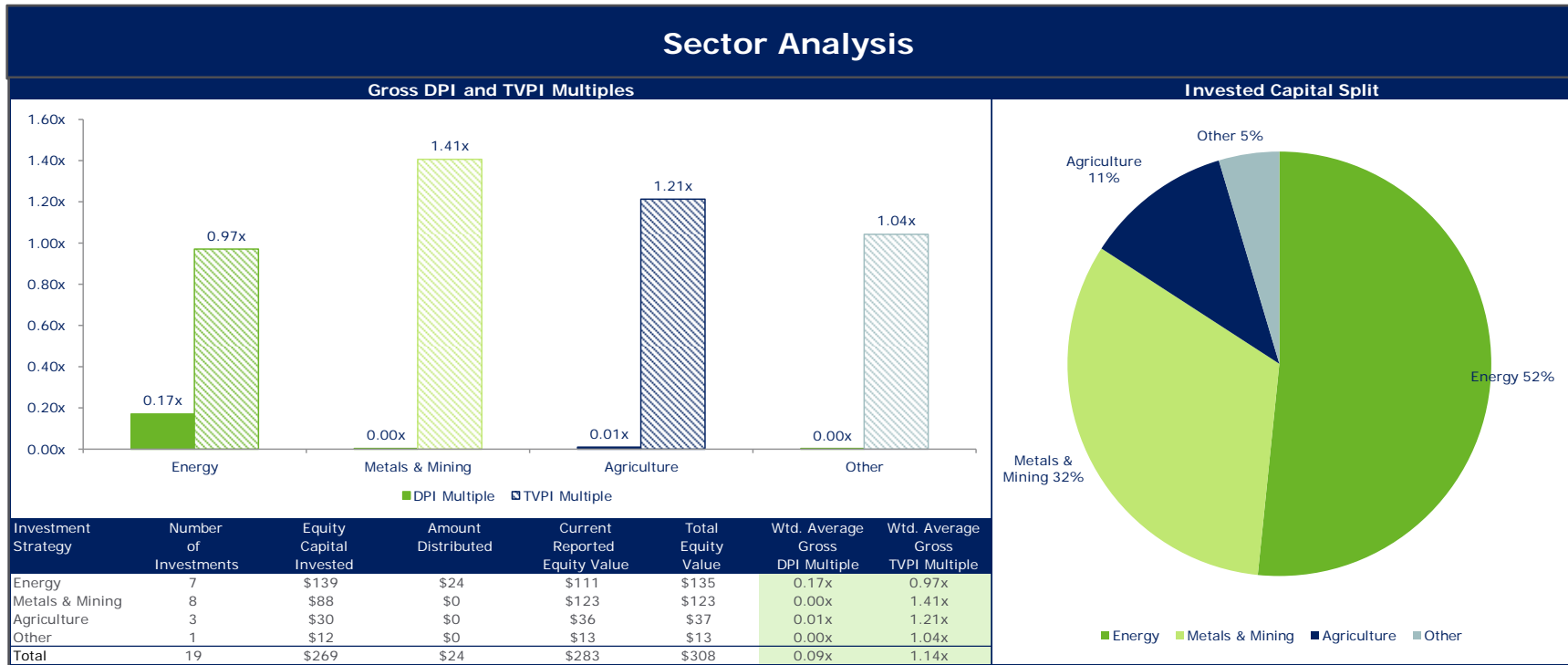
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# DISCLAIMERS & DISCLOSURES

NEPC, LLC

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# ALTERNATIVE INVESTMENT DISCLOSURES

**It is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds and private equity:**

- 1. Performance can be volatile and investors could lose all or a substantial portion of their investment**
- 2. Leverage and other speculative practices may increase the risk of loss**
- 3. Past performance may be revised due to the revaluation of investments**
- 4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms**
- 5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value**
- 6. These funds are not subject to the same regulatory requirements as registered investment vehicles**
- 7. Managers may not be required to provide periodic pricing or valuation information to investors**
- 8. These funds may have complex tax structures and delays in distributing important tax information**
- 9. These funds often charge high fees**
- 10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy**

# FEBRUARY FLASH REPORT

NEPC, LLC

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# CALENDAR YEAR INDEX PERFORMANCE

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Feb	YTD
<b>S&amp;P 500</b>	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%	2.8%	1.7%
<b>Russell 1000</b>	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%	2.9%	2.1%
<b>Russell 2000</b>	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	20.0%	6.2%	11.6%
<b>Russell 2500</b>	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	20.0%	6.5%	9.1%
<b>MSCI EAFE</b>	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	7.8%	2.2%	1.2%
<b>MSCI EM</b>	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	18.3%	0.8%	3.9%
<b>MSCI ACWI</b>	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	16.3%	2.3%	1.9%
<b>Private Equity</b>	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	13.7%*	-	-
<b>BC TIPS</b>	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	11.0%	-1.6%	-1.3%
<b>BC Municipal</b>	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	5.2%	-1.6%	-1.0%
<b>BC Muni High Yield</b>	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.9%	-1.0%	1.0%
<b>BC US Corporate HY</b>	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	7.1%	0.4%	0.7%
<b>BC US Agg Bond</b>	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	7.5%	-1.4%	-2.2%
<b>BC Global Agg</b>	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	9.2%	-1.7%	-2.6%
<b>BC Long Treasuries</b>	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	17.7%	-5.6%	-9.0%
<b>BC US Long Credit</b>	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	13.3%	-3.3%	-5.8%
<b>BC US STRIPS 20+ Yr</b>	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	24.0%	-7.6%	-12.5%
<b>JPM GBI-EM Global Div</b>	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	2.7%	-2.7%	-3.7%
<b>JPM EMBI Glob Div</b>	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	5.3%	-2.6%	-3.6%
<b>CS Hedge Fund</b>	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	6.4%	-0.2%	-0.2%
<b>BBG Commodity</b>	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-3.1%	6.5%	9.3%
<b>Alerian MLP</b>	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-28.7%	7.8%	14.1%
<b>FTSE NAREIT Equity REITs</b>	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-8.0%	4.0%	4.1%

Source: FactSet, Barclays, Thomson One

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



# TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Feb-21	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI	2.3%	1.9%	30.2%	10.3%	14.2%	8.8%
S&P 500	2.8%	1.7%	31.3%	14.1%	16.8%	13.4%
Russell 1000	2.9%	2.1%	34.3%	15.0%	17.4%	13.6%
Russell 2000	6.2%	11.6%	51.0%	14.9%	17.9%	11.9%
Russell 2500	6.5%	9.1%	45.9%	15.1%	17.4%	12.3%
MSCI EAFE	2.2%	1.2%	22.5%	4.6%	9.7%	5.0%
MSCI EM	0.8%	3.9%	36.0%	6.4%	15.2%	4.4%
Credit						
	Feb-21	YTD	1 YR	3 YR	5 YR	10 YR
BC Global Agg	-1.7%	-2.6%	4.3%	3.8%	3.6%	2.5%
BC US Agg	-1.4%	-2.2%	1.4%	5.3%	3.6%	3.6%
BC Credit	-1.7%	-2.9%	2.4%	6.6%	5.5%	5.0%
BC US HY	0.4%	0.7%	9.4%	6.6%	9.0%	6.5%
BC Muni	-1.6%	-1.0%	1.1%	4.8%	3.4%	4.4%
BC Muni HY	-1.0%	1.0%	1.3%	7.4%	6.4%	7.0%
BC TIPS	-1.6%	-1.3%	5.8%	6.1%	4.3%	3.6%
BC 20+ STRIPS	-7.6%	-12.5%	-9.3%	11.2%	5.4%	10.6%
BC Long Treasuries	-5.6%	-9.0%	-6.0%	8.8%	4.2%	6.9%
BC Long Credit	-3.3%	-5.8%	0.6%	8.7%	8.3%	7.5%
BC Govt/Credit 1-3 Yr	0.0%	0.0%	1.9%	3.1%	2.1%	1.6%
JPM EMBI Glob Div	-2.6%	-3.6%	0.9%	4.5%	5.9%	5.9%
JPM GBI-EM Glob Div	-2.7%	-3.7%	3.7%	0.6%	5.5%	1.1%
Real Assets						
	Feb-21	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	6.5%	9.3%	20.3%	0.3%	3.5%	-5.9%
Alerian Midstream Index	6.3%	12.1%	-1.8%	-1.2%	5.1%	-
FTSE NAREIT Equity REITs	4.0%	4.1%	2.9%	9.2%	6.4%	7.9%

Source: S&P, MSCI, Russell, Barclays, JPM, Alerian, FTSE, FactSet



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending February 28, 2021											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,309,906,189</b>	<b>100.0</b>	<b>100.0</b>	<b>1.2</b>	<b>0.9</b>	<b>16.4</b>	<b>17.8</b>	<b>9.1</b>	<b>11.0</b>	<b>8.1</b>	<b>7.6</b>	<b>Apr-97</b>
<i>Policy Index</i>				0.9	0.8	15.0	16.2	8.3	9.8	7.5	7.5	Apr-97
<i>Allocation Index</i>				0.9	0.8	14.2	15.5	--	--	--	--	Apr-97
<b>Total US Equity Composite</b>	<b>348,393,457</b>	<b>26.6</b>	<b>23.0</b>	<b>3.8</b>	<b>3.5</b>	<b>29.5</b>	<b>36.0</b>	<b>14.1</b>	<b>17.9</b>	<b>13.8</b>	<b>9.3</b>	<b>Jul-97</b>
<i>Russell 3000</i>				3.1	2.7	28.6	35.3	15.0	17.4	13.4	8.7	Jul-97
<i>US Equity Allocation Index</i>				2.9	2.9	29.7	37.0	15.0	17.6	13.2	--	Jul-97
<b>Total International Equity</b>	<b>219,286,212</b>	<b>16.7</b>	<b>17.0</b>	<b>1.9</b>	<b>1.9</b>	<b>30.1</b>	<b>32.1</b>	<b>8.1</b>	<b>13.4</b>	<b>5.8</b>	<b>5.5</b>	<b>Jul-97</b>
<i>MSCI ACWI ex USA</i>				2.0	2.2	27.1	26.2	5.4	11.2	4.8	5.1	Jul-97
<b>Total Fixed Income Composite</b>	<b>376,738,311</b>	<b>28.8</b>	<b>30.0</b>	<b>-1.2</b>	<b>-1.8</b>	<b>3.1</b>	<b>4.6</b>	<b>5.4</b>	<b>5.6</b>	<b>4.6</b>	<b>5.5</b>	<b>Jul-97</b>
<i>Fixed Income Policy Index</i>				-1.4	-2.2	-0.9	1.4	5.3	3.6	3.6	5.2	Jul-97
<b>Total Real Assets Composite</b>	<b>44,748,476</b>	<b>3.4</b>	<b>7.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.0</b>	<b>-5.4</b>	<b>1.3</b>	<b>5.5</b>	<b>5.9</b>	<b>6.3</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	0.0	-0.3	2.0	5.1	6.3	9.4	8.3	Jul-03
<b>Cash Composite</b>	<b>21,057,840</b>	<b>1.6</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>1.2</b>	<b>0.8</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.0	0.1	0.2	1.4	1.1	0.6	1.2	Dec-03
<b>Hedge Fund Composite</b>	<b>134,976,157</b>	<b>10.3</b>	<b>8.0</b>	<b>2.3</b>	<b>1.7</b>	<b>10.2</b>	<b>9.9</b>	<b>5.6</b>	<b>5.5</b>	<b>5.2</b>	<b>5.1</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				2.5	2.9	11.8	10.0	4.7	4.6	3.1	3.2	Jan-11
<b>Private Equity Composite</b>	<b>162,205,737</b>	<b>12.4</b>	<b>10.0</b>	<b>0.0</b>	<b>0.0</b>	<b>18.0</b>	<b>17.4</b>	<b>16.6</b>	<b>16.1</b>	<b>14.3</b>	<b>13.3</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	0.0	21.5	13.4	13.1	13.0	13.6	10.6	Jul-08
<b>Private Debt</b>	<b>2,500,000</b>	<b>0.2</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan TR</i>				0.0	1.8	10.0	5.8	4.2	5.9	4.3	10.0	Jun-20

Fiscal year end 6/30.

All history prior to 3/1/2019 was provided by AndCo.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending February 28, 2021											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,309,906,189</b>	<b>100.0</b>	<b>100.0</b>	<b>1.2</b>	<b>0.9</b>	<b>16.4</b>	<b>17.8</b>	<b>9.1</b>	<b>11.0</b>	<b>8.1</b>	<b>7.6</b>	<b>Apr-97</b>
Policy Index				0.9	0.8	15.0	16.2	8.3	9.8	7.5	7.5	Apr-97
Allocation Index				0.9	0.8	14.2	15.5	--	--	--	--	Apr-97
<b>Total Equity Composite</b>	<b>567,679,669</b>	<b>43.3</b>	<b>40.0</b>	<b>3.0</b>	<b>2.9</b>	<b>29.8</b>	<b>34.2</b>	<b>11.5</b>	<b>15.9</b>	<b>10.4</b>	<b>8.0</b>	<b>Apr-00</b>
MSCI ACWI IMI				2.7	2.5	28.2	31.5	10.3	14.3	8.9	5.4	Apr-00
<b>Total US Equity Composite</b>	<b>348,393,457</b>	<b>26.6</b>	<b>23.0</b>	<b>3.8</b>	<b>3.5</b>	<b>29.5</b>	<b>36.0</b>	<b>14.1</b>	<b>17.9</b>	<b>13.8</b>	<b>9.3</b>	<b>Jul-97</b>
Russell 3000				3.1	2.7	28.6	35.3	15.0	17.4	13.4	8.7	Jul-97
US Equity Allocation Index				2.9	2.9	29.7	37.0	15.0	17.6	13.2	--	Jul-97
<b>Large Cap Composite</b>	<b>287,902,687</b>	<b>22.0</b>	<b>19.0</b>	<b>3.8</b>	<b>3.1</b>	<b>27.9</b>	<b>33.9</b>	<b>13.4</b>	<b>17.1</b>	<b>13.5</b>	<b>9.4</b>	<b>Apr-01</b>
Russell 1000				2.9	2.1	27.0	34.3	15.0	17.4	13.6	8.6	Apr-01
LSV Asset Management SMA	74,387,571	5.7		8.0	9.4	37.1	27.4	6.1	12.5	11.5	9.8	May-00
Russell 1000 Value				6.0	5.1	29.0	22.2	8.2	12.0	10.4	7.2	May-00
Westfield Capital Management SMA	111,127,607	8.5		2.2	0.5	25.7	41.6	20.3	22.1	15.2	17.9	Jul-10
Russell 1000 Growth				0.0	-0.8	25.2	44.3	21.0	22.2	16.4	18.5	Jul-10
BlackRock Equity Index Non-Lendable Fund	102,387,509	7.8		2.8	1.7	24.3	31.3	--	--	--	18.8	Dec-19
S&P 500				2.8	1.7	24.3	31.3	14.1	16.8	13.4	18.8	Dec-19
<b>Small/Mid Cap Composite</b>	<b>60,490,770</b>	<b>4.6</b>	<b>4.0</b>	<b>3.4</b>	<b>5.3</b>	<b>37.6</b>	<b>46.6</b>	<b>17.5</b>	<b>21.0</b>	<b>14.9</b>	<b>12.9</b>	<b>Apr-93</b>
Russell 2500				6.5	9.1	47.2	45.9	15.1	17.4	12.3	11.0	Apr-93
William Blair SMA	21,825,711	1.7		4.7	5.9	39.6	48.8	21.2	23.4	16.9	13.9	Jun-06
Russell 2500 Growth				3.1	6.0	46.0	59.6	21.6	22.5	14.9	12.0	Jun-06
ICM Small Company - ICSCX	17,981,900	1.4		10.6	13.9	51.5	38.3	10.2	15.4	11.5	12.1	Apr-93
Russell 2000 Value				9.4	15.2	57.5	41.1	10.1	14.2	9.7	10.2	Apr-93
Brown Capital Small Company Strategy SMA	20,683,159	1.6		-3.3	-1.6	25.8	52.2	22.8	25.7	--	20.3	Aug-11
Russell 2000 Growth				3.3	8.3	50.4	58.9	18.9	21.1	13.8	14.6	Aug-11



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

													Ending February 28, 2021
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
<b>Total International Equity</b>	<b>219,286,212</b>	<b>16.7</b>	<b>17.0</b>	<b>1.9</b>	<b>1.9</b>	<b>30.1</b>	<b>32.1</b>	<b>8.1</b>	<b>13.4</b>	<b>5.8</b>	<b>5.5</b>	<b>Jul-97</b>	
MSCI ACWI ex USA				2.0	2.2	27.1	26.2	5.4	11.2	4.8	5.1	Jul-97	
<b>International Developed Markets Composite</b>	<b>133,726,277</b>	<b>10.2</b>	<b>12.0</b>	<b>1.9</b>	<b>1.8</b>	<b>27.1</b>	<b>28.4</b>	<b>8.1</b>	<b>11.3</b>	<b>6.5</b>	<b>4.6</b>	<b>Mar-08</b>	
MSCI EAFE				2.2	1.2	23.0	22.5	4.6	9.7	5.0	3.2	Mar-08	
Mondrian International Equity Fund, L.P.	64,223,716	4.9		3.2	3.3	23.6	12.6	1.8	7.4	4.7	2.2	Dec-07	
MSCI EAFE				2.2	1.2	23.0	22.5	4.6	9.7	5.0	2.3	Dec-07	
Baillie Gifford EAFE Pure K - BGPX	69,502,561	5.3		0.8	0.7	30.2	42.6	--	--	--	14.5	May-18	
MSCI EAFE				2.2	1.2	23.0	22.5	4.6	9.7	5.0	4.7	May-18	
<b>International Emerging Markets Composite</b>	<b>85,559,935</b>	<b>6.5</b>	<b>5.0</b>	<b>1.8</b>	<b>2.0</b>	<b>35.3</b>	<b>38.4</b>	<b>8.1</b>	<b>17.5</b>	<b>4.4</b>	<b>7.3</b>	<b>Feb-06</b>	
MSCI Emerging Markets				0.8	3.9	36.2	36.0	6.4	15.2	4.4	6.1	Feb-06	
GQG Partners Emerging Markets Equity Fund	60,314,060	4.6		0.7	2.4	39.5	49.9	--	--	--	26.5	Dec-18	
MSCI Emerging Markets				0.8	3.9	36.2	36.0	6.4	15.2	4.4	16.7	Dec-18	
Arga Emerging Markets Equity Fund	25,245,875	1.9		4.8	1.1	--	--	--	--	--	1.1	Jan-21	
MSCI Emerging Markets Value NR USD				2.8	3.6	33.3	25.1	1.7	11.3	1.5	3.6	Jan-21	
<b>Total Fixed Income Composite</b>	<b>376,738,311</b>	<b>28.8</b>	<b>30.0</b>	<b>-1.2</b>	<b>-1.8</b>	<b>3.1</b>	<b>4.6</b>	<b>5.4</b>	<b>5.6</b>	<b>4.6</b>	<b>5.5</b>	<b>Jul-97</b>	
BBgBarc US Aggregate TR				-1.4	-2.2	-0.9	1.4	5.3	3.6	3.6	5.1	Jul-97	
<b>Core Fixed Income Composite</b>	<b>280,705,946</b>	<b>21.4</b>	<b>22.0</b>	<b>-1.2</b>	<b>-1.6</b>	<b>2.1</b>	<b>4.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>7.8</b>	<b>Mar-19</b>	
BBgBarc US Aggregate TR				-1.4	-2.2	-0.9	1.4	5.3	3.6	3.6	6.4	Mar-19	
Dodge & Cox SMA	125,217,857	9.6		-1.2	-1.8	2.4	5.3	6.3	5.7	4.8	4.9	May-10	
BBgBarc US Aggregate TR				-1.4	-2.2	-0.9	1.4	5.3	3.6	3.6	3.7	May-10	
PIMCO Total Return	130,290,747	9.9		-1.1	-1.4	1.5	4.1	6.0	4.8	4.1	4.4	May-10	
BBgBarc US Aggregate TR				-1.4	-2.2	-0.9	1.4	5.3	3.6	3.6	3.7	May-10	
State Street Global Advisors TIPS	25,197,342	1.9		-1.6	-1.3	3.3	5.8	6.1	4.2	3.5	3.8	Nov-09	
BBgBarc US TIPS TR				-1.6	-1.3	3.4	5.8	6.1	4.3	3.6	3.8	Nov-09	
<b>Emerging Markets Debt Composite</b>	<b>47,141,722</b>	<b>3.6</b>	<b>4.0</b>	<b>-2.6</b>	<b>-4.8</b>	<b>8.2</b>	<b>4.7</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>4.4</b>	<b>Mar-19</b>	
JP Morgan GBI EM Global Diversified TR USD				-2.7	-3.7	6.2	3.7	0.6	5.5	1.1	3.7	Mar-19	
Colchester Local Markets Debt Fund	47,141,722	3.6		-2.6	-4.8	8.2	4.7	1.6	8.0	--	7.3	Oct-15	
JP Morgan GBI EM Global Diversified TR USD				-2.7	-3.7	6.2	3.7	0.6	5.5	1.1	5.4	Oct-15	
<b>Absolute Return Fixed Income</b>	<b>48,890,643</b>	<b>3.7</b>	<b>4.0</b>	<b>0.0</b>	<b>0.5</b>	<b>4.7</b>	<b>2.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.8</b>	<b>Mar-20</b>	
3-Month Libor Total Return USD				0.0	0.0	0.2	0.4	1.7	1.5	0.9	0.4	Mar-20	
Payden Absolute Return Bond Fund PYAIX	48,890,643	3.7		0.0	0.5	4.7	2.8	--	--	--	2.8	Mar-20	
3-Month Libor Total Return USD				0.0	0.0	0.2	0.4	1.7	1.5	0.9	0.4	Mar-20	



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending February 28, 2021											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Assets Composite</b>	<b>44,748,476</b>	<b>3.4</b>	<b>7.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.0</b>	<b>-5.4</b>	<b>1.3</b>	<b>5.5</b>	<b>5.9</b>	<b>6.3</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	0.0	-0.3	2.0	5.1	6.3	9.4	8.3	Jul-03
<b>Cash Composite</b>	<b>21,057,840</b>	<b>1.6</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>1.2</b>	<b>0.8</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.0	0.1	0.2	1.4	1.1	0.6	1.2	Dec-03
<b>Hedge Fund Composite</b>	<b>134,976,157</b>	<b>10.3</b>	<b>8.0</b>	<b>2.3</b>	<b>1.7</b>	<b>10.2</b>	<b>9.9</b>	<b>5.6</b>	<b>5.5</b>	<b>5.2</b>	<b>5.1</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				2.5	2.9	11.8	10.0	4.7	4.6	3.1	3.2	Jan-11
Magnitude International Class A Eligible	67,272,201	5.1		2.2	1.1	9.4	10.5	5.3	4.7	5.1	5.1	Jan-11
<i>HFRI FOF: Conservative Index</i>				2.5	2.9	11.8	10.0	4.7	4.6	3.1	3.2	Jan-11
Blackstone Partners Offshore Fund LTD	67,703,956	5.2		2.5	2.3	11.1	9.3	5.8	6.2	5.2	5.2	Mar-11
<i>HFRI FOF: Conservative Index</i>				2.5	2.9	11.8	10.0	4.7	4.6	3.1	3.1	Mar-11
<b>Private Equity Composite</b>	<b>162,205,737</b>	<b>12.4</b>	<b>10.0</b>	<b>0.0</b>	<b>0.0</b>	<b>18.0</b>	<b>17.4</b>	<b>16.6</b>	<b>16.1</b>	<b>14.3</b>	<b>13.3</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	0.0	21.5	13.4	13.1	13.0	13.6	10.6	Jul-08
<b>Private Debt</b>	<b>2,500,000</b>	<b>0.2</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan</i>				0.0	1.8	10.0	5.8	4.2	5.9	4.3	10.0	Jun-20

Magnitude International Class A Eligible is preliminary as of 2/28/2021.





## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL FOOTNOTES

Performance is preliminary for 2/28/2021.

Fiscal year ends 6/30.

Policy index consists of: 19% Russell 1000 / 4% Russell 2500 / 12% MSCI EAFE / 5% MSCI Emerging Markets / 20% BBgBarc US Aggregate TR / 2% BBgBarc US TIPS TR / 4% 3-Month Libor Total Return USD / 4% JP Morgan GBI EM Global Diversified TR USD / 5% S&P/LSTA Leveraged Loan TR / 7.0% NCREIF Property Index 1 Qtr. Lag / 8% HFRI FOF: Conservative Index / 10% Private Equity Composite.

Allocation index consists of: Weighted index of underlying managers to their respective benchmark.

Fixed Income Policy index consists of: 100% BBgBarc US Aggregate TR.

Real Estate, Real Assets, Private Debt and Private Equity investments are valued as of 09/30/2020 and adjusted for capital calls and distributions through 12/31/2020.

All history prior to 3/1/2019 was provided by AndCo.



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- Returns for pooled funds, e.g. mutual funds and collective investment trusts, are collected from third parties; they are not generally calculated by NEPC. Returns for separate accounts, with some exceptions, are calculated by NEPC. Returns are reported net of manager fees unless otherwise noted.
- A “since inception” return, if reported, begins with the first full month after funding, although actual inception dates (e.g. the middle of a month) and the timing of cash flows are taken into account in Composite return calculations.
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