



Q1 | 2023

What Matters Now: Earnings Growth and Secular Tailwinds

February 28, 2023

DISCLOSURE NOTES

This presentation contains forward-looking statements within the meaning of the United States (“U.S.”) federal securities laws. All statements contained herein that are not statements of historical fact are forward-looking statements, including, without limitation, statements regarding future financial performance, funding requirements and liquidity; management’s plans and strategies for future operations, including statements relating to anticipated operating performance, cost reductions, competitive strengths or market position, acquisitions and related synergies; growth, declines and other trends in markets we sell into; the anticipated impact of adopting new accounting pronouncements; the anticipated outcome of outstanding claims, legal proceedings, tax audits and other contingent liabilities; foreign currency exchange rates and fluctuations in those rates; general economic conditions; assumptions underlying any of the foregoing; and any other statements that address events or developments that we intend or believe will or may occur in the future. Without limiting the foregoing, the words “believes”, “anticipates”, “plans”, “expects”, “estimates”, “projects”, “forecasts”, “may”, “assume”, “intend”, “will”, “continue”, “opportunity”, “predict”, “potential”, “future”, “guarantee”, “likely”, “target”, “indicate”, “would”, “could” and “should” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements are accompanied by such words. Forward-looking statements are not guarantees of future performance and actual results may differ materially from those envisaged by such forward-looking statements. You should not place undue reliance on any such forward-looking statements. Forward-looking statements speak only as of the date of the report, document, press release, webcast, call or other communication in which they are made. We expressly disclaim any obligation to update our forward-looking statements, whether as a result of new information, future events or circumstances, or otherwise, except as required by law.

REPRESENTATIVE ARS FOCUSED ALL CAP HOLDINGS*

COMMUNICATION SERVICES

ALPHABET INC. (GOOGL)	4.05%
CHARTER COMMUNICATIONS (CHTR)	3.23%
DISH NETWORK CORP. (DISH)	1.64%
LIBERTY LATIN AMERICA LTD. (LILAK)	2.40%

CONSUMER DISCRETIONARY

AMAZON.COM INC. (AMZN)	1.95%
GENERAL MOTORS CO. (GM)	2.91%

INDUSTRIALS

ARRAY TECHNOLOGIES (ARRY)	2.62%
EATON CORP. (ETN)	1.78%
KRATOS DEFENSE & SEC. (KTOS)	2.60%
L3HARRIS TECHNOLOGIES INC. (LHX)	2.80%
PARKER HANNIFIN CORP. (PH)	3.12%
RAYTHEON TECHNOLOGIES (RTX)	4.28%
VICOR CORP. (VICR)	0.93%

INFORMATION TECHNOLOGY

APPLE INC. (AAPL)	4.68%
FLEX LTD. (FLEX)	5.40%
INTRUSION INC. (INTZ)	0.58%
LAM RESEARCH CORP. (LRCX)	3.07%
MICRON TECHNOLOGY INC. (MU)	3.28%
MICROSOFT CORP. (MSFT)	4.31%
NVIDIA CORP. (NVDA)	1.51%
QUALCOMM INC. (QCOM)	2.50%

HEALTH CARE

ASCENDIS PHARMACEUTICAL (ASND)	5.15%
MODERNA INC. (MRNA)	2.81%

MATERIALS

CLEVELAND CLIFFS INC. (CLF)	4.25%
COMMERCIAL METALS CO. (CMC)	2.62%
FREEMPORT-MCMORAN INC. (FCX)	5.32%
MARTIN MARIETTA MATERIALS (MLM)	2.74%
MP MATERIALS CORP (MP)	3.47%

ENERGY

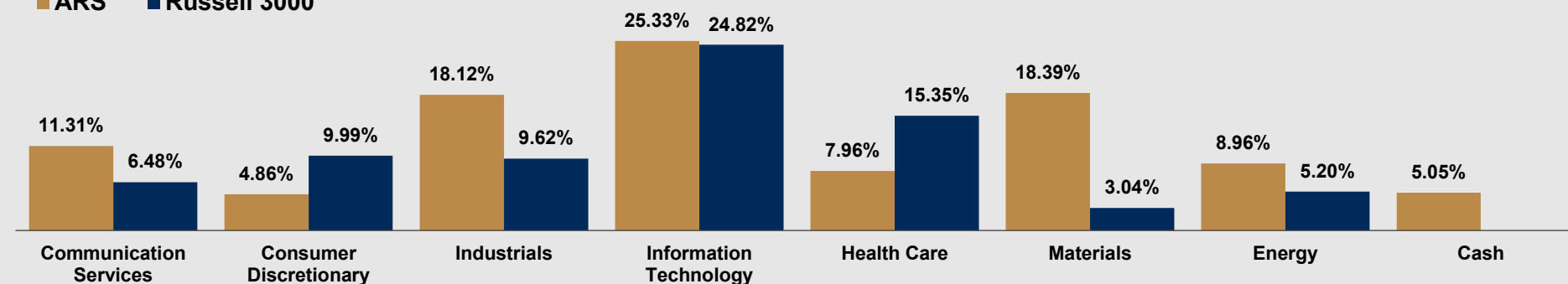
EOG RESOURCES (EOG)	3.31%
PIONEER NATURAL RESOURCES (PDX)	5.65%

CASH

USD	5.05%
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Sector Weights (%)

■ ARS ■ Russell 3000



December 31, 2022

*Holdings are subject to change. Index information is provided for illustrative purposes only. Indices are unmanaged, do not incur expenses and are not available for direct investment. See Disclosure Notes.

HIGH-CONVICTION INVESTING

Focused All Cap

(period ending January 31, 2023; inception January 21, 1993)

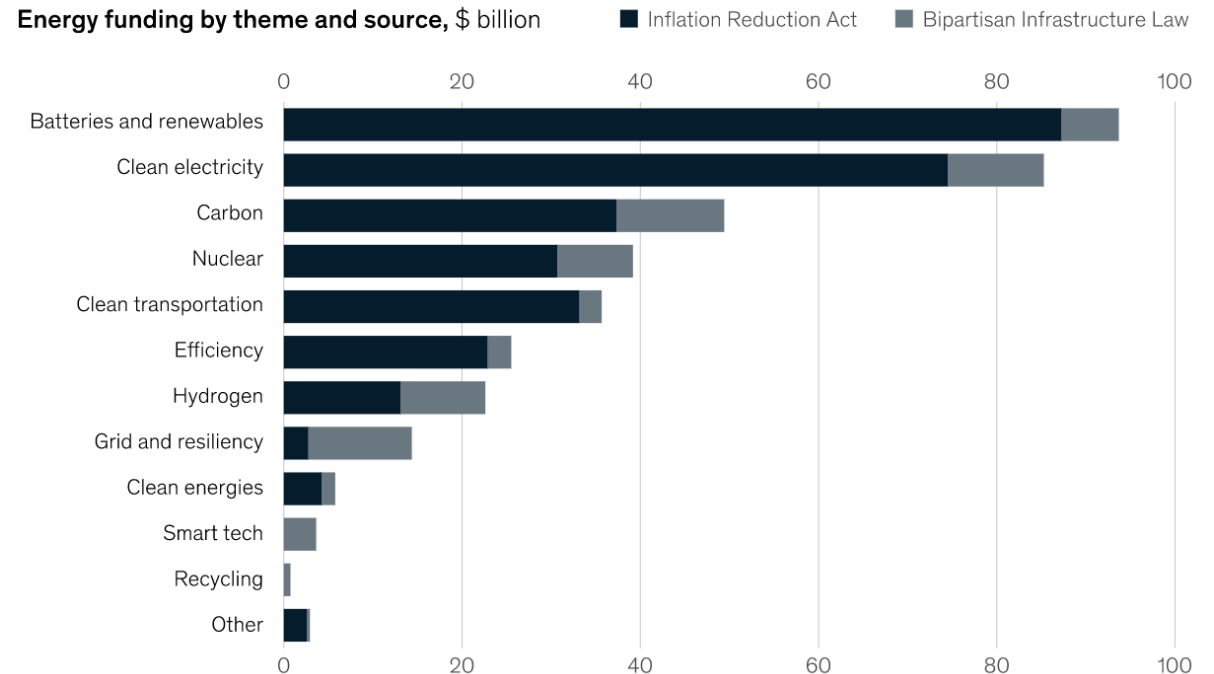
	Quarter-to-Date	Year-to-Date	1 Year	3 Years*	5 Years*	10 Years*	Since Inception*
	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN	RETURN
ARS Focused All Cap (gross of fees)	11.66%	11.66%	-4.34%	13.45%	9.55%	12.14%	11.65%
(net of fees)	11.56%	11.56%	-5.35%	12.25%	8.40%	11.10%	10.73%
Russell 3000	6.89%	6.89%	-8.24%	9.51%	9.12%	12.28%	9.79%

*Performance numbers are annualized for all time periods over 1 year. Index information is provided for illustrative purposes only. Indices are unmanaged, do not incur expenses and are not available for direct investment. See Disclosure Notes.

Cleantech Industry Secular Drivers – Inflation Reduction Act

- **Almost \$100bln in funding for batteries and renewables**
- **Over \$80bln in funding for clean electricity**
- **Consumer credits for efficient HVAC, clean energy and electric vehicles**

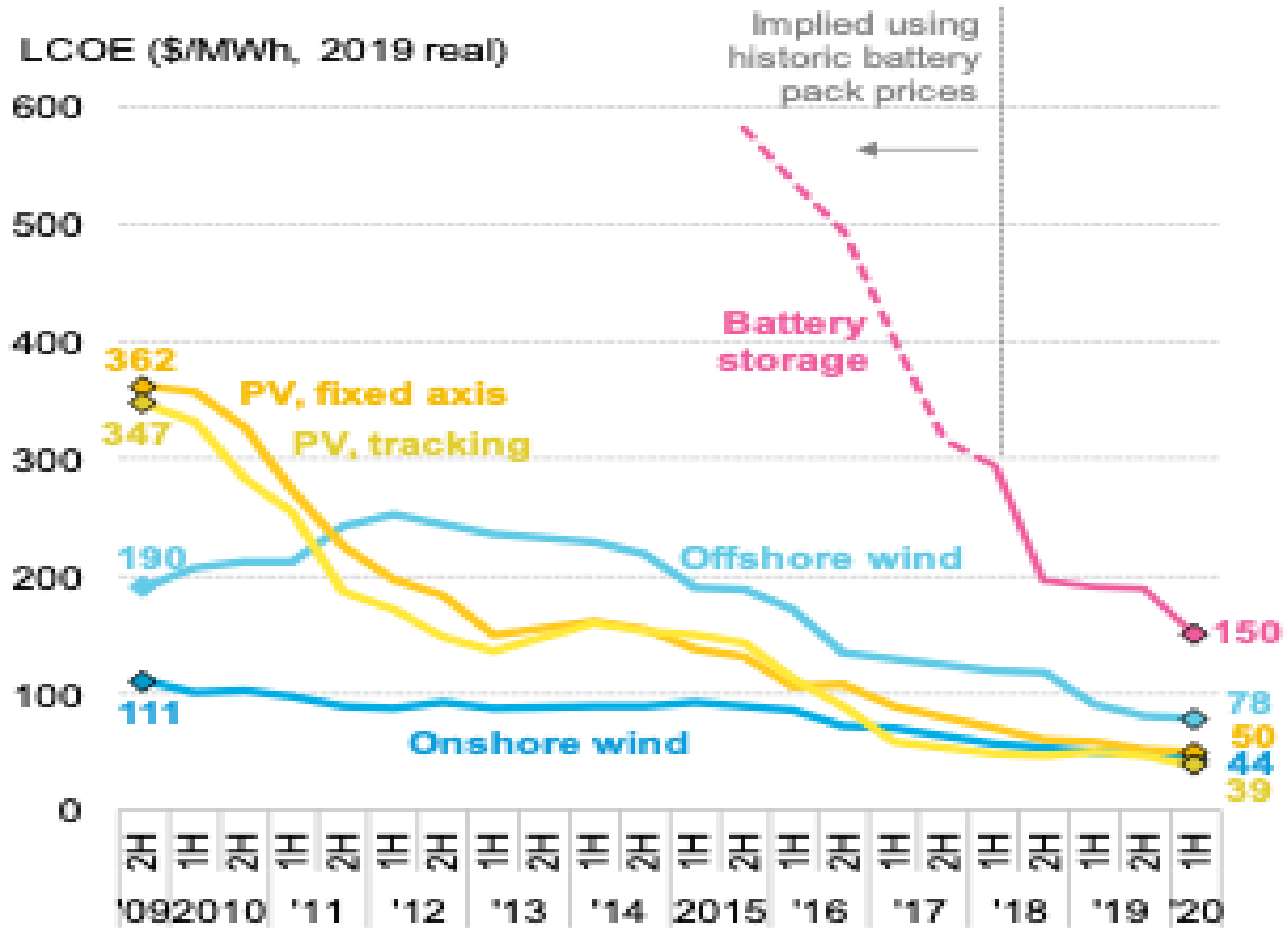
Energy funding from the Bipartisan Infrastructure Law and the Inflation Reduction Act spans major funding themes, totaling \$370 billion.



Wind and solar PV together provide over half of the growth in electricity supply, raising their share from 7% in 2018 to 24% of global energy supply in 2040 (40% in the more aggressive climate change scenarios)

Source: ARS estimates, US Congress, McKinsey & Co, IEA

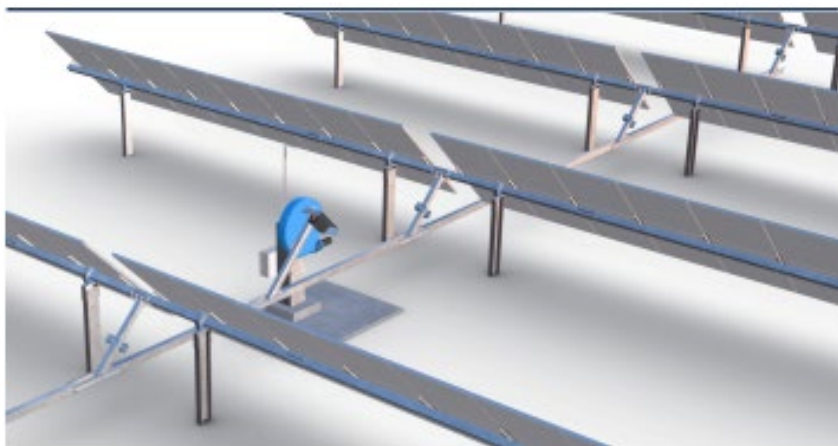
How Do We Play Cleantech – Array Technologies (ARRY) Utility Scale Solar



Source: ARS estimates, Company Filings, IEA

How Do We Play Cleantech – Array Technologies (ARRY) Utility Scale Solar

Array designs and engineers solar trackers, the mechanism by which large utility-scale solar panels move as the Sun's direction changes



- 4 major US manufacturers of solar trackers
- Cheapest form of alternative energy, pushed by utilities
- Stock has sold off on a few 1x issues but the industry should grow 30%/year
- Generating \$1 in earnings in 2023, \$1.50 in 2024 with 30% earnings growth

MATERIALS SECTOR IN A DE-CARBONIZING WORLD

There were four commodity supercycles over the past 120 years but none is likely as large as this one since the whole world is looking to de-carbonize using the same technologies at the same time

IMPLEMENTATION

- A typical electric vehicle requires 6 times the minerals as an internal combustion (ICE) car
- An onshore wind plant requires 9 times the minerals of a comparable gas power plant

OPPORTUNITIES

COPPER

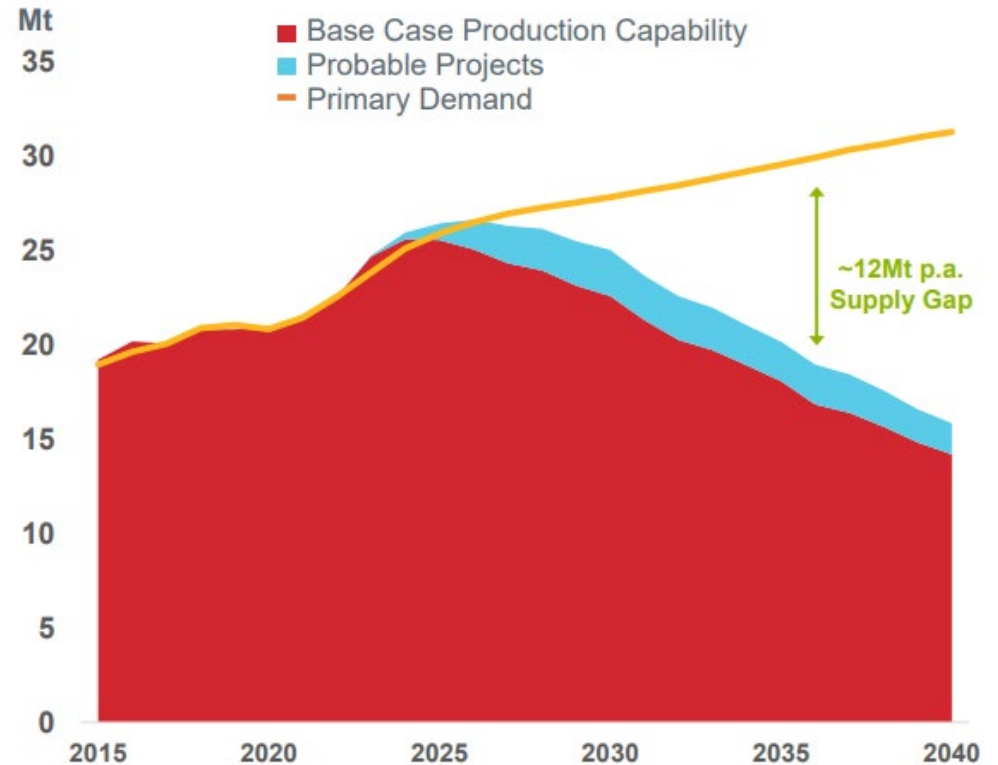
An electric vehicle requires 5x more copper than an ICE car and the shift to alternative energy requires the conductive capabilities of copper. We are playing copper through mining businesses.

RARE EARTHS

We own a basket of rare earth miners, some currently in production and some pre-production. Rare earths are used in magnets that power motors. More motors are required in an electric vehicle than an ICE car, requiring greater levels of rare earths.

Copper/Materials Industry Secular Drivers

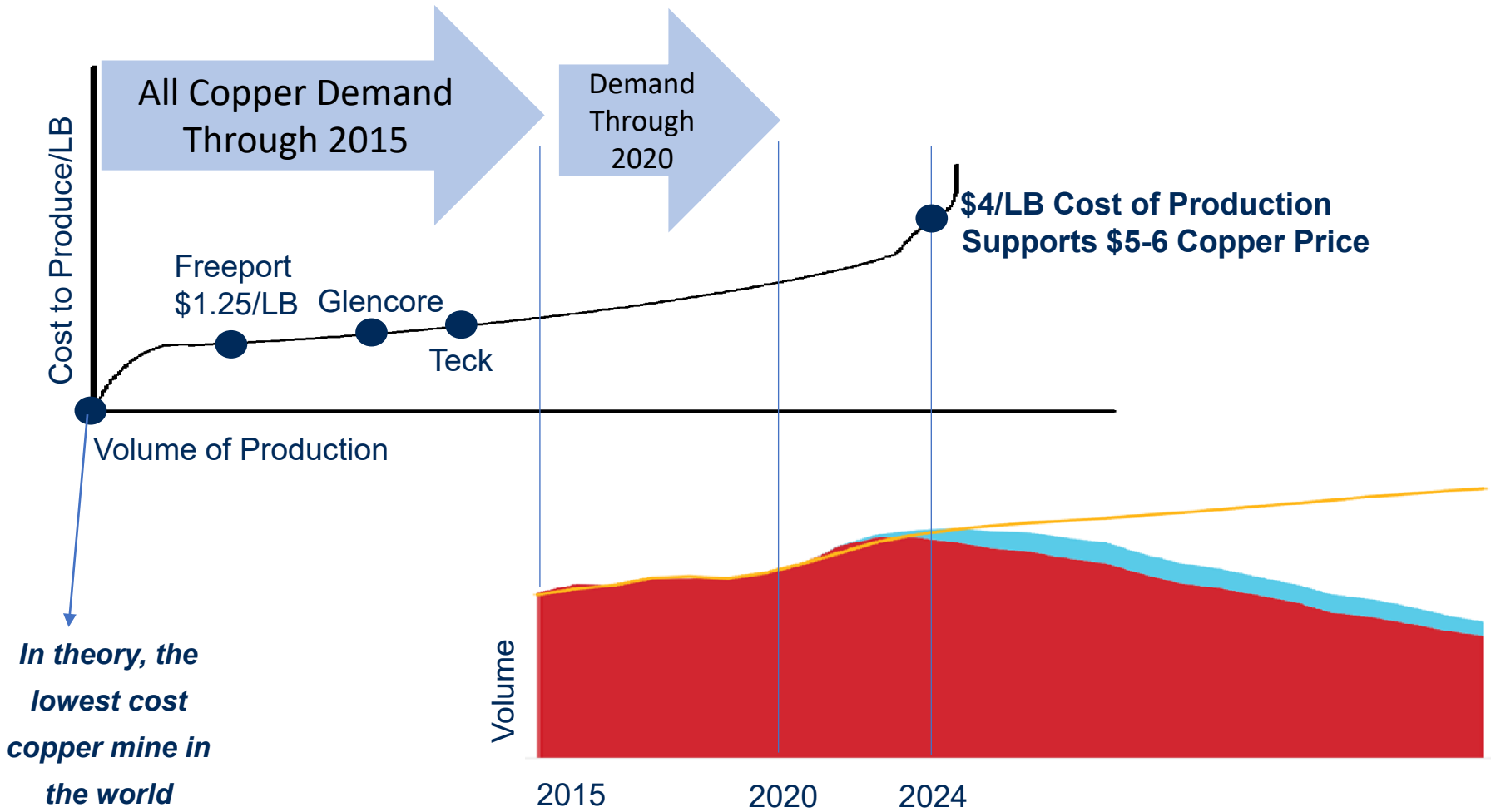
- Global consumption of refined copper was roughly 5 Mt in 1961, 10 Mt in 1984, 20 Mt in 2011, and 25 Mt in 2022
- Electric vehicles are expected to be 50% of vehicle sales by 2035
- The average copper mine grade has declined by over 40% since 1990
- New copper mine discoveries are less frequent, especially in mining favorable jurisdictions



It's hard to see where new supply comes from while demand has risen from <1lbs per capita in 1900 to 7lbs today with continued per capita growth in decarbonization

Source: ARS Estimates, IEA, Company Filings

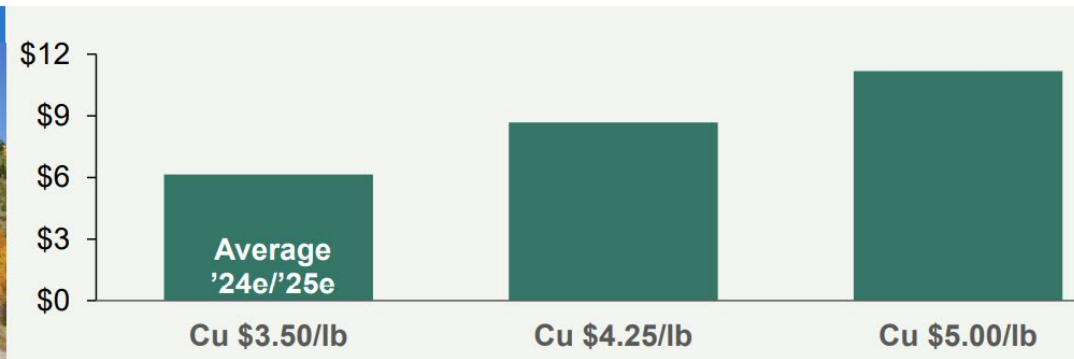
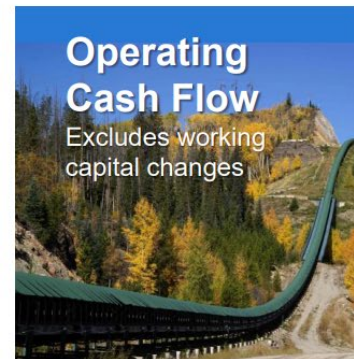
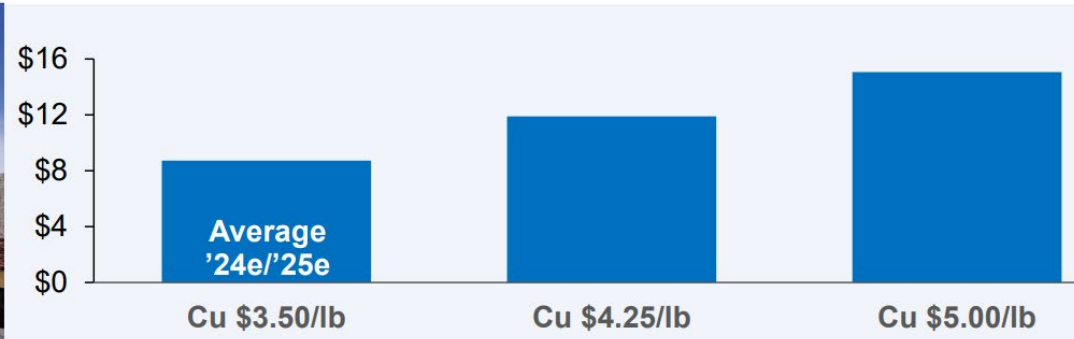
Future Copper Prices – Super Imposing Supply/Demand with the Cost Curve



Source: ARS Estimates, IEA, Company Filings

How Do We Play Copper – Freeport McMoran (FCX)

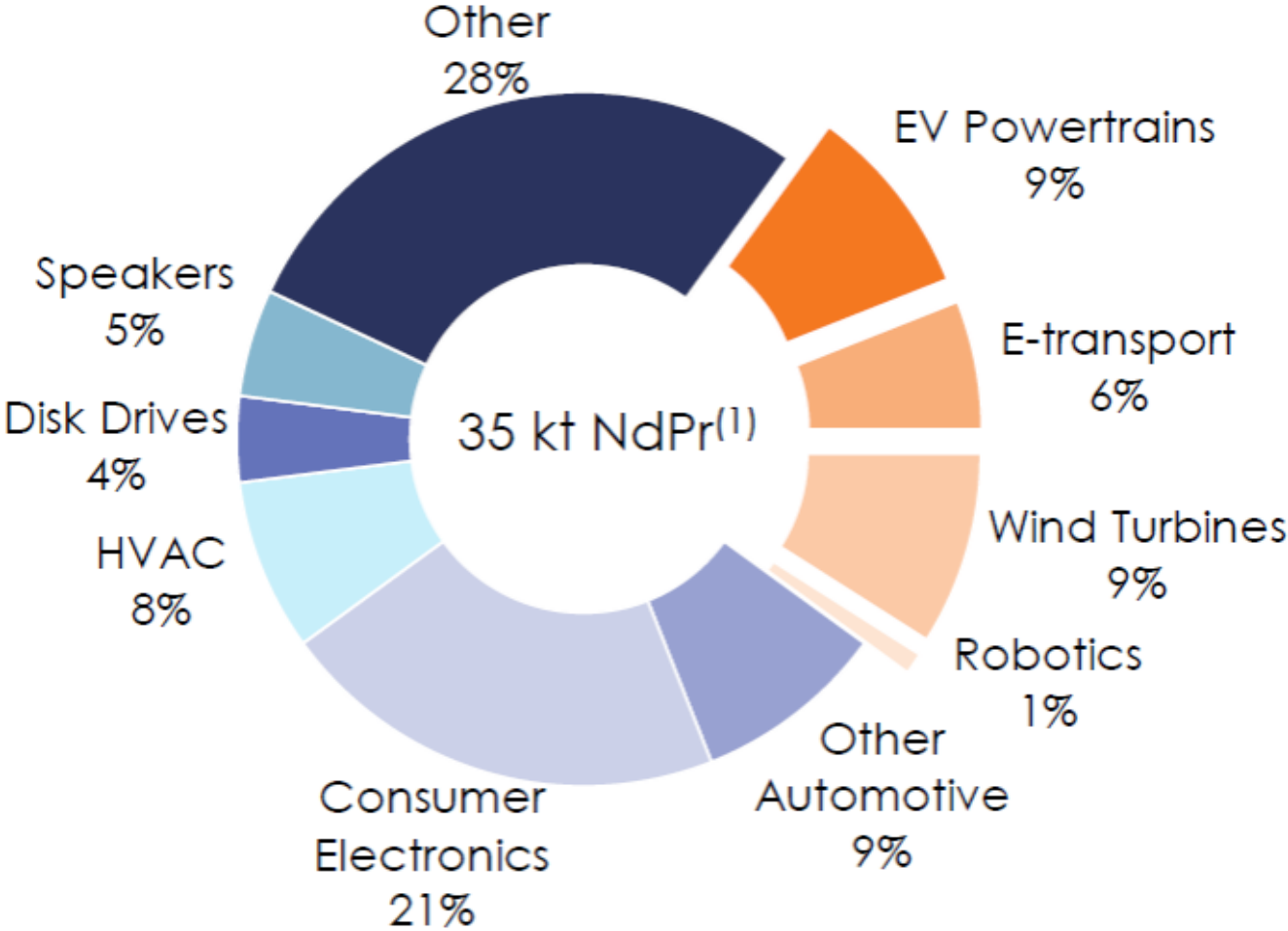
- FCX has minimal leverage (<1x net debt/EBITDA)
- FCX operates in favorable jurisdictions
- At the current \$4.25/lb copper, FCX trades at 6x EBITDA and 8x FCF
- At a future \$5/lb copper, FCX trades at 5x EBITDA and 7x FCF**
- FCX's costs stay relatively constant as copper prices increase



Source: ARS Estimates, Company Filings

Rare Earths Secular Drivers

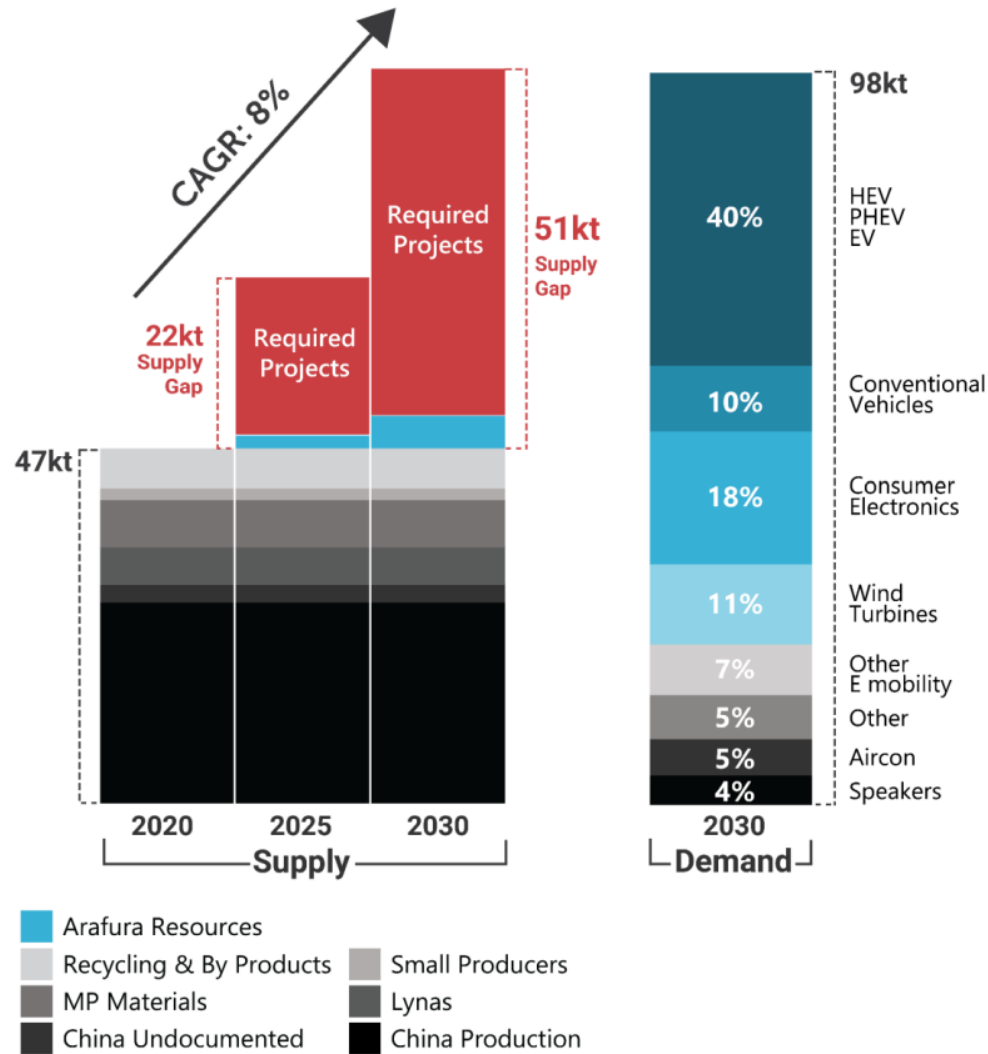
Key NdPr Magnet Market Segments 2019



Source: ARS Estimates, Company Filings

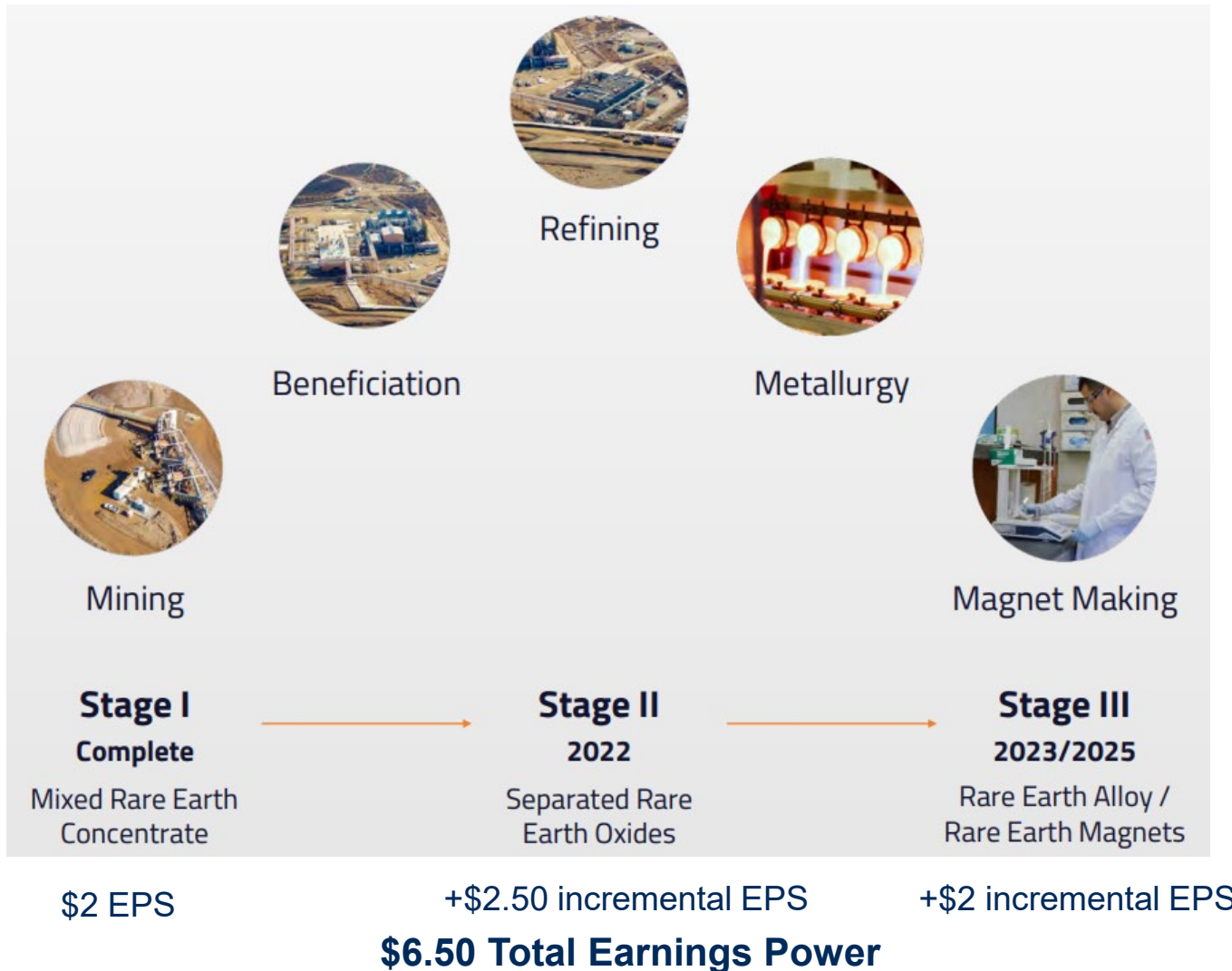
Rare Earths Secular Drivers

NdPr Supply & Demand



Source: ARS Estimates, Company Filings

How Do We Play Cleantech Secular Drivers – MP Materials (MP)



- MP Materials is building the US's first fully vertical rare earths supply chain
- MP has received grants from the DoD for building Stage 1-3 capital projects
- MP qualifies for significant subsidies and tax credits through the IRA Bill
- \$33 stock with \$6.50 in earning power as MP continues to execute on capacity expansion and integration

Every \$50 increase in NdPr generates +\$2 in incremental EPS

Source: ARS Estimates, Company Filings

ARS FOCUSED ALL CAP COMPOSITE PERFORMANCE

Period Ending 12/31	Composite Asset-Weighted Return		Russell 3000	Number of Portfolios	Composite Dispersion	Composite 3-Year Ex-Post St. Dev.	Benchmark 3-Year Ex-Post St. Dev.	Composite Assets (\$ in Millions)	Firm Assets (\$ in Millions)
	Gross	Net							
1993*	12.43%	11.39%	10.41%	1	—	N/A	N/A	5.62	144.76
1994	3.64%	2.80%	0.19%	1	—	N/A	N/A	21.11	163.23
1995	29.55%	28.36%	36.80%	2	—	N/A	N/A	27.21	217.34
1996	12.07%	11.06%	21.82%	2	—	N/A	N/A	30.35	247.56
1997	31.62%	30.51%	31.78%	2	—	N/A	N/A	39.77	321.72
1998	18.25%	17.27%	24.14%	2	—	N/A	N/A	45.52	376.14
1999	33.97%	32.87%	20.90%	2	—	N/A	N/A	51.46	470.38
2000	4.09%	3.29%	-7.46%	2	—	N/A	N/A	55.41	526.99
2001	-1.71%	-2.41%	-11.46%	2	—	N/A	N/A	97.84	540.94
2002	-16.44%	-17.01%	-21.54%	2	—	N/A	N/A	85.09	439.66
2003	33.70%	32.85%	31.06%	2	—	N/A	N/A	117.15	548.82
2004	13.59%	12.85%	11.95%	1	—	N/A	N/A	32.77	596.36
2005	31.48%	30.55%	6.12%	1	—	N/A	N/A	41.56	809.13
2006	18.25%	17.49%	15.72%	1	—	N/A	N/A	48.87	1,043.06
2007	33.60%	32.78%	5.14%	1	—	N/A	N/A	62.83	1,398.39
2008	-42.91%	-43.27%	-37.31%	5	—	N/A	N/A	93.71	1,031.74
2009	27.59%	26.81%	28.34%	3	—	N/A	N/A	66.25	1,369.87
2010	26.62%	25.74%	16.93%	6	2.84	N/A	N/A	120.52	1,589.65
2011	-8.30%	-8.88%	1.03%	6	—	21.16%	19.35%	91.12	1,286.20
2012	3.62%	2.93%	16.42%	6	—	17.49%	15.73%	70.38	1,125.16
2013	31.19%	30.23%	33.55%	4	—	15.36%	12.53%	57.74	1,181.07
2014	2.28%	1.50%	12.56%	5	—	11.21%	9.29%	61.52	1,182.90
2015	-0.37%	-1.11%	0.48%	3	—	11.05%	10.58%	47.19	1,039.85
2016	9.16%	8.28%	12.74%	3	—	11.19%	10.88%	49.56	892.23
2017	32.62%	31.23%	21.13%	3	—	10.42%	10.09%	65.30	1,084.27
2018	-14.56%	-15.45%	-5.24%	4	—	12.95%	11.18%	62.26	984.94
2019	35.74%	34.31%	31.02%	3	—	14.09%	12.21%	71.93	1,208.76
2020	34.80%	33.38%	20.89%	3	—	20.26%	19.41%	92.58	1,445.91
2021	22.83%	21.53%	25.66%	3	—	17.38%	17.94%	111.51	1,776.48
2022	-21.00%	-21.83%	-19.21	3	—	23.29%	21.48%	87.60	1,335.90

*This period represents a partial year performance (1/21/93 – 12/31/93) and the return is not annualized. Performance data for both gross and net of fees reflect the reduction of transaction costs. Net of fees reflects the deduction of advisory fees. The investment advisory fees are described in Part 2A of the Form ADV. Performance results reflect the reinvestment of dividends and income. Past performance is not indicative of future results. Index information is provided for illustrative purposes only. Indices are unmanaged, do not incur expenses and are not available for direct investment. See Disclosure Notes.

ACA VERIFICATION REPORT

Verification Report

ARS Investment Partners, LLC

We have verified whether ARS Investment Partners, LLC (the “Firm”) has, for the periods from January 1, 2000 through December 31, 2021, established policies and procedures for complying with the Global Investment Performance Standards (GIPS®) related to composite and pooled fund maintenance and the calculation, presentation, and distribution of performance that are designed in compliance with the GIPS standards, as well as whether these policies and procedures have been implemented on a firm-wide basis. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

The Firm’s management is responsible for its claim of compliance with the GIPS standards and the design and implementation of its policies and procedures. Our responsibilities are to be independent from the Firm and to express an opinion based on our verification. We conducted this verification in accordance with the required verification procedures of the GIPS standards, which includes testing performance on a sample basis. We also conducted such other procedures as we considered necessary in the circumstances.

In our opinion, for the periods from January 1, 2000 through December 31, 2021, the Firm’s policies and procedures for complying with the GIPS standards related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been, in all material respects:

- Designed in compliance with the GIPS standards, and
- Implemented on a firm-wide basis.

This report does not relate to or provide assurance on any specific performance report of the Firm or on the operating effectiveness of the Firm’s controls or policies and procedures for complying with the GIPS standards.

ACA Group

ACA Group, Performance Services Division

November 15, 2022

DISCLOSURE NOTES

Past performance is not indicative of future results.

Definition of the Firm – ARS Investment Partners, LLC (“ARS”) was originally founded as A.R. Schmeidler & Co., Inc. in 1971 and is majority-owned by Artemis US Corporation. Artemis US Corporation is 100% owned by Artemis Corporation, an Ontario, Canada entity, which is in turn, 100% owned by Artemis Investment Management Corporation, a financial services firm headquartered in Toronto, Ontario, Canada. Mr. Miles Nadal is the controlling shareholder of Artemis Investment Management Corporation. ARS is a registered investment adviser under the Investment Advisers Act of 1940. ARS claims compliance with the Global Investment Performance Standards (GIPS). ARS has been independently verified for the periods 1/1/2000 through 12/31/21. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance of the accuracy of any specific performance report. Benchmark returns are not covered by the report of independent verifiers.

Benchmark Definitions – The Russell 3000® measures the performance of the largest 3,000 US companies representing approximately 98% of the investable US equity market. The Russell 3000® is constructed to provide a comprehensive, unbiased and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are included.

Composite Definitions – ARS Focused All Cap includes all fee-paying, discretionary institutional portfolios managed by ARS in a Focused All Cap strategy with an absolute return-oriented focus having a minimum initial portfolio size of \$5 million (amount lowered from \$10 million on 7/1/2010). The Focused All Cap strategy requires that equity, equity-like securities, and cash represent a target of 90% of the portfolio value. If a portfolio does not have at least 90% of its value in these assets, the portfolio will be removed from the composite for the entire period and will be included in the composite again if its allocation is aligned with the above parameters for one full period. The composite was created in January 2007. Effective 7/1/2010, the composite was redefined to include taxable accounts which had previously been excluded. Effective 1/1/17, a model fee of 1.05% was used to calculate net returns. Inception Date is 1/21/93. Management believes that the returns prior to 2000 are accurate, but due to a lack of firmwide client data, GIPS compliance cannot be claimed prior to 1/1/2000.

Investment Management Fees – The investment management fees that apply to the portfolio composites are as follows: Equity Accounts which include the ARS Focused All Cap Strategy – 1.25% per annum of the first \$1 million, 1.00% per annum of the next \$20 million, and to be discussed thereafter.

Internal Dispersion – Internal dispersion is calculated using the asset-weighted standard deviation of annual gross returns of all portfolios in the composite for the entire year. Dispersion is not presented for periods less than one year or when there were five or fewer portfolios in the composite for the entire year. The Annualized 3-Year Standard Deviation is calculated using gross returns and not presented for composites with less than a 36-month return. Also, the standard deviation is not presented and is not required, for periods prior to 2011.

Basis of Presentation – Rates of return presented are computed using a time-weighted rate of return methodology that adjusts for external cash flows. Total rate of return calculations include realized and unrealized gains and losses, plus income, and cash and cash equivalents held. Gross performance returns are presented after transaction costs and before investment management fees and all operating costs. Net performance returns are presented after transaction costs and investment management fees that are reduced by a model management fee and before all operating costs. Operating costs include custodian and administrative fees. Additional information regarding policies for valuing investments and calculating performance is available upon request. Performance results for periods of less than a year are not annualized.

Performance returns are in U.S. Dollars. Periodic returns are geometrically linked. The composite rates of return have been calculated within ARS. A complete list and description of the composites managed by ARS is available upon request by email to info@arsinvestmentpartners.com.

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