



Innovation Meets Sustainability:

Nasdaq-100 ESG Index™ &
Nasdaq Next Generation 100 ESG Index™

March 2022

Index Objectives

- Reduce the degree to which the portfolio's economic value is at risk because of ESG factors, or more technically, aim to significantly improve the portfolio's ESG score;
- Exclude enterprises that create reputational risks or violate fundamental values;
- Eliminate business exposures that are off-limit for most ESG-conscious investors; and
- Aim to deliver similar performance to the Nasdaq-100® (NDX™)/ Nasdaq Next Generation 100 Index™ (NGX™) (very low tracking error).

Index Mechanics

- Each ESG Index at all times consists of a selection of securities in the Nasdaq-100 / Nasdaq Next Generation 100 Index.
- The Nasdaq-100 and Nasdaq Next Generation 100 Indexes are reconstituted annually in December.
- The ESG characteristics of the underlying issuers are re-evaluated each quarter (March, June, September, December). Hence, there is a reconstitution and a rebalancing *each quarter*.
- Securities removed from the Nasdaq-100 / Nasdaq Next Generation 100 Index outside of a reconstitution are removed from Nasdaq-100 ESG Index (NDXESG™) / Nasdaq Next Generation 100 ESG Index (NGXESG™) *and are not replaced*.

Weighting Scheme

- The ESG Indexes are modified market capitalization-weighted indexes that consider a company's ESG Risk Rating Score as an adjustment factor.
- Two factors play into the index weight of an issuer:
 - The Nasdaq-100 / Nasdaq Next Generation 100 Market Value, and
 - The ESG Risk Rating Score.
- In general, for each issuer:
 - Everything else equal, the higher the weight in the Nasdaq-100 and/or the better ESG risk rating, the higher the weight in the NDXESG Index, and vice versa. Same for Nasdaq Next Generation 100 and NGXESG.

Exclusions March 2022: NDXESG

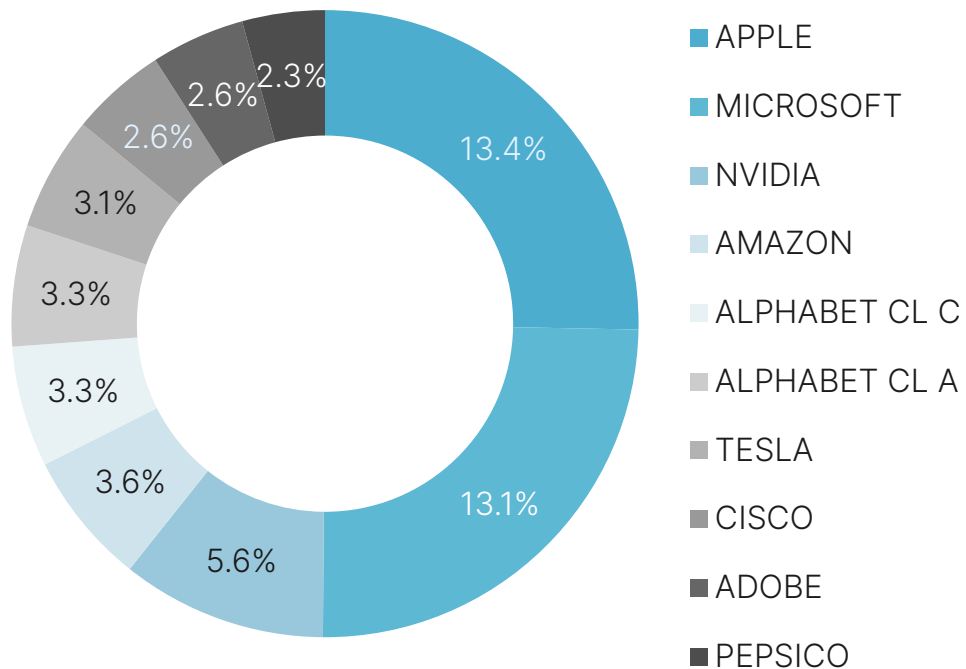
Symbol	Nasdaq-100 ESG Reason for Exclusion	Nasdaq-100 Weight (%)	Company Name	ICB Industry
HON	Revenue from military contracting weapons. Provide non-nuclear materials for nuclear weapons and involved in management of labs where nuclear weapons are designed and tested.	0.97	Honeywell International	Industrials
ADI	Revenue from military contracting weapon-related products and/or services.	0.63	Analog Devices	Technology
AEP	Revenue from thermal coal power generation, nuclear production, and oil & gas generation.	0.37	American Electric Power Company	Utilities
LCID	ESG Risk Rating Score has not yet been determined.	0.31	Lucid Group	Consumer Discretionary
EXC	Revenue from nuclear production and oil & gas generation.	0.34	Exelon	Utilities
XEL	Revenue from thermal coal power generation, nuclear production, oil & gas production, and oil & gas generation.	0.29	Xcel Energy	Utilities
CEG	ESG Risk Rating Score has not yet been determined.	0.13	Constellation Energy Corp	Utilities

Exclusions March 2022: NGXESG

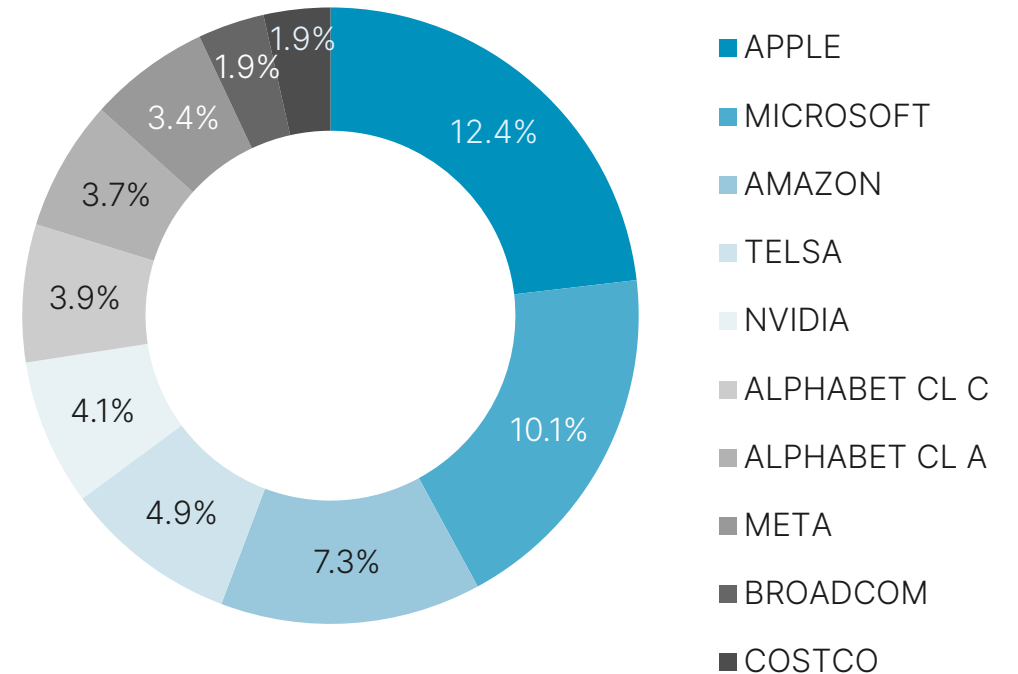
Symbol	Nasdaq Next Generation 100 ESG Reason for Exclusion	NGX Weight (%)	Company Name	ICB Industry
FANG	ESG Risk Rating Score is greater than 40. Revenue from oil & gas production and shale energy extraction.	1.66	Diamondback Energy	Energy
CZR	Revenue from gambling operations.	1.13	Caesars Entertainment	Consumer Discretionary
BNTX	ESG Risk Rating Score has not yet been determined.	1.02	BioNTech	Health Care
LNT	Revenue from oil & gas generation and thermal coal power generation.	1.07	Alliant Energy	Utilities
APP	ESG Risk Rating Score has not yet been determined.	0.88	AppLovin	Technology
AXON	ESG Risk Rating Score is greater than 40. Manufacture riot control protection equipment and riot control weapons.	0.67	Axon Enterprise	Industrials
AFRM	ESG Risk Rating Score has not yet been determined.	0.71	Affirm Holdings	Industrials
DKNG	Revenue from gambling operations.	0.54	DraftKings	Consumer Discretionary
PENN	Revenue from gambling operations.	0.49	Penn National Gaming	Consumer Discretionary
PLTK	ESG Risk Rating Score has not yet been determined.	0.54	Playtika	Consumer Discretionary
MNDY	ESG Risk Rating Score has not yet been determined.	0.47	Monday.Com	Technology

Top 10 Constituents: NDXESG vs NDX

NDXESG: Top 10 Weight = 52.9%

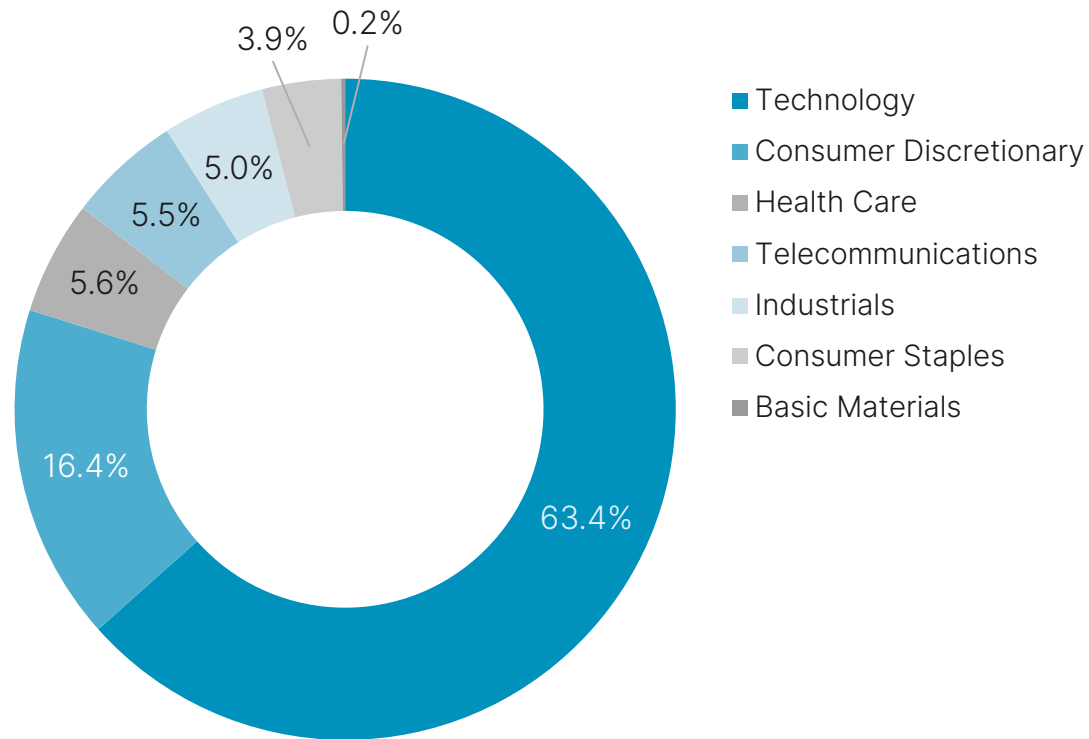


NDX: Top 10 Weight = 53.6%

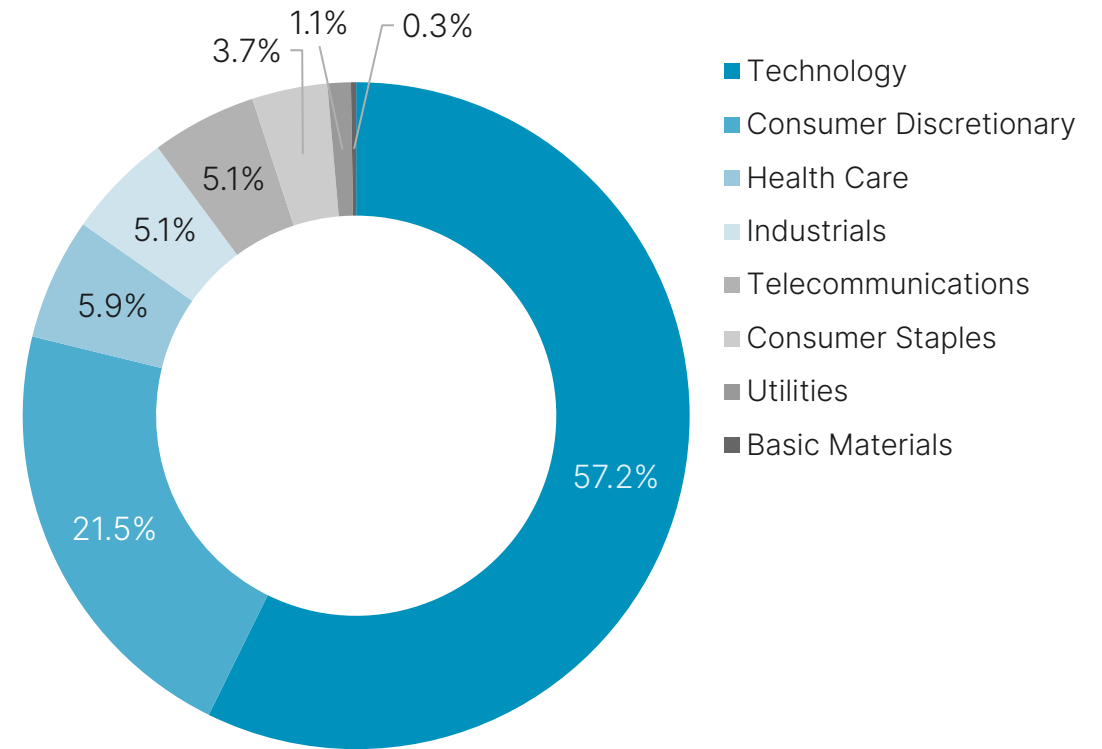


Sector Exposures: NDXESG vs NDX

NDXESG Index Weight by ICB Industry

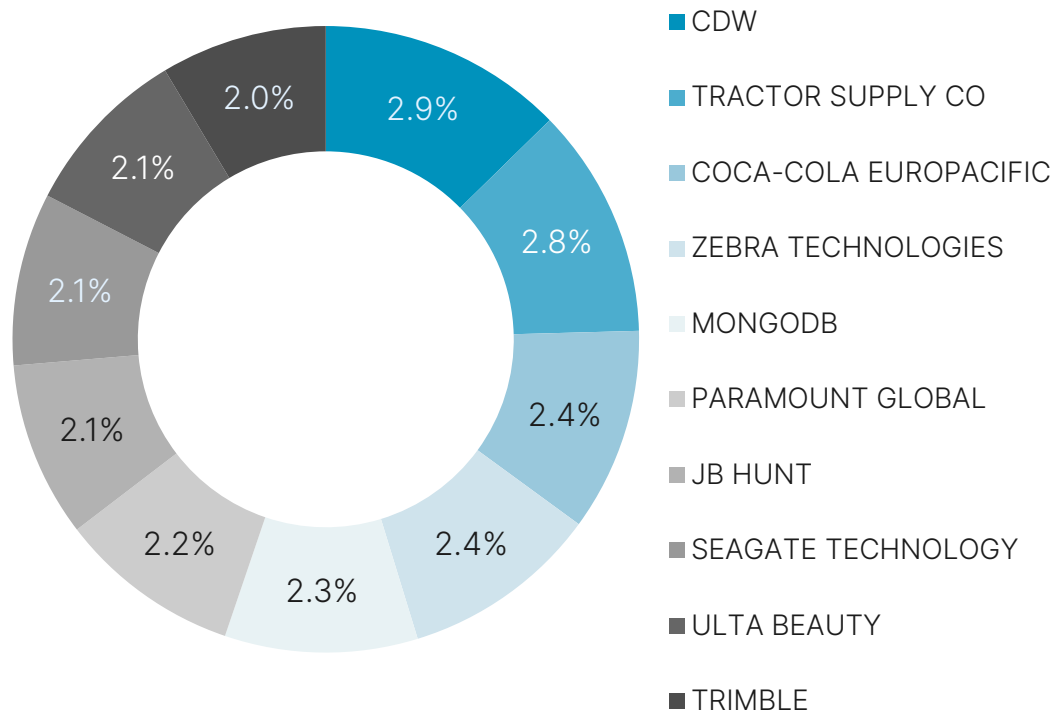


NDX Index Weight by ICB Industry

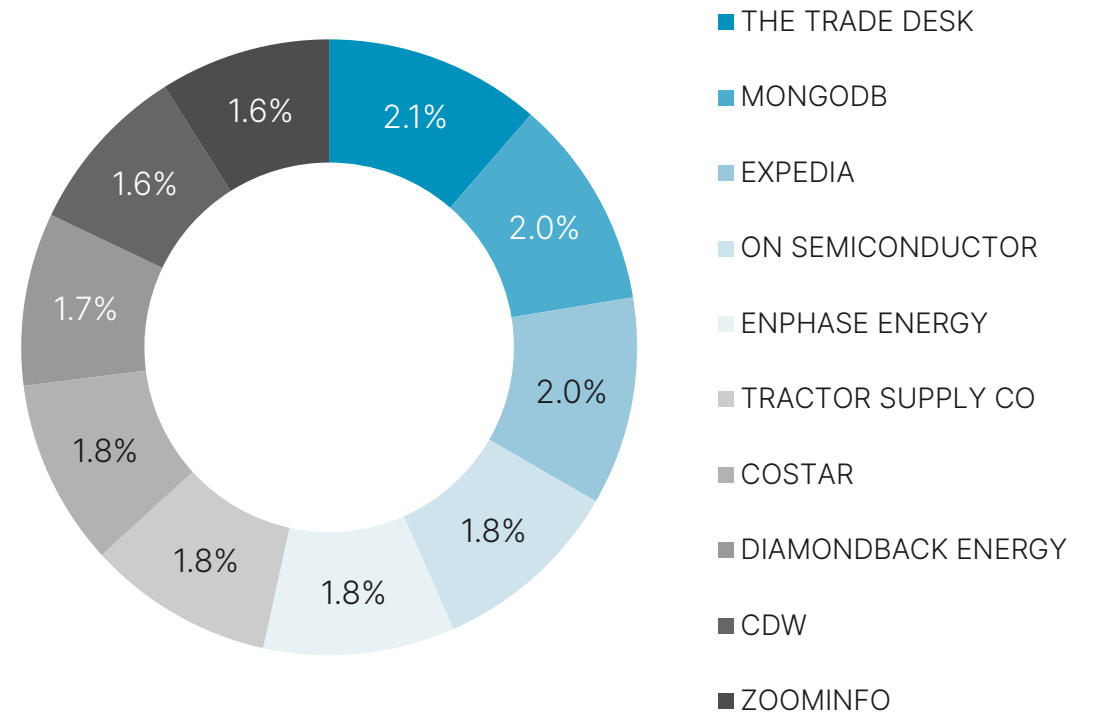


Top 10 Constituents: NGXESG vs NGX

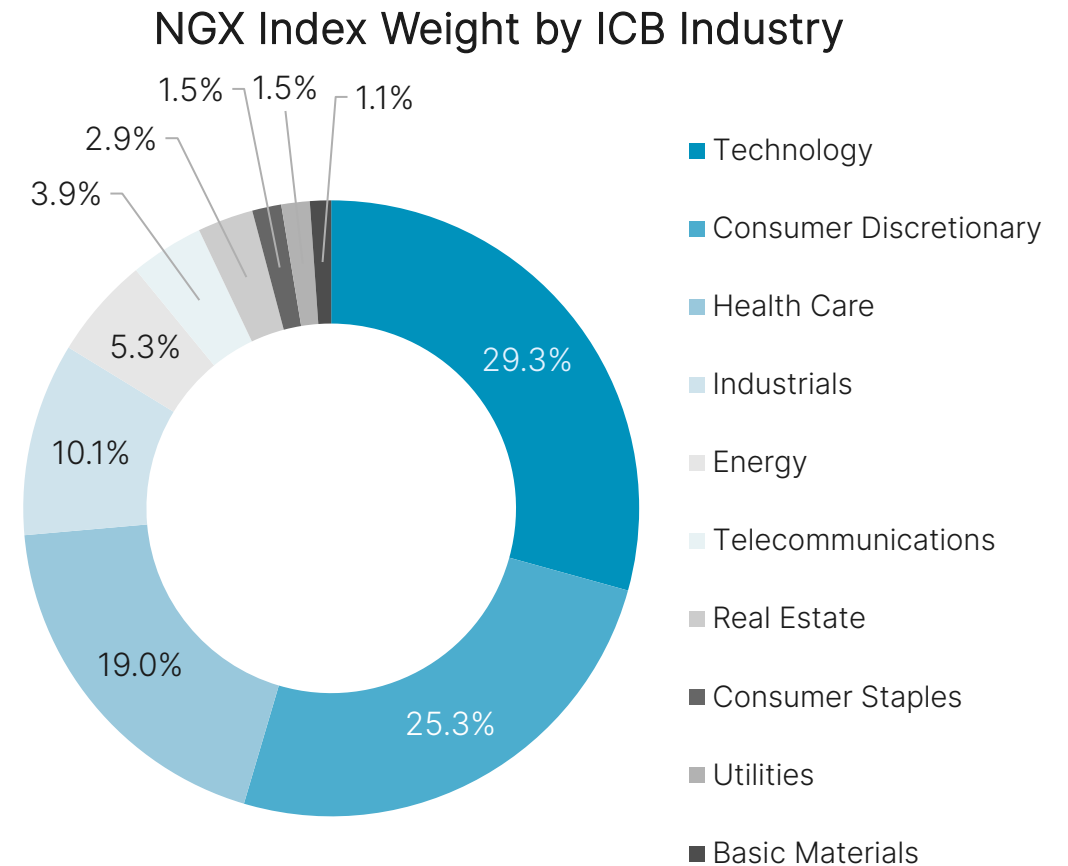
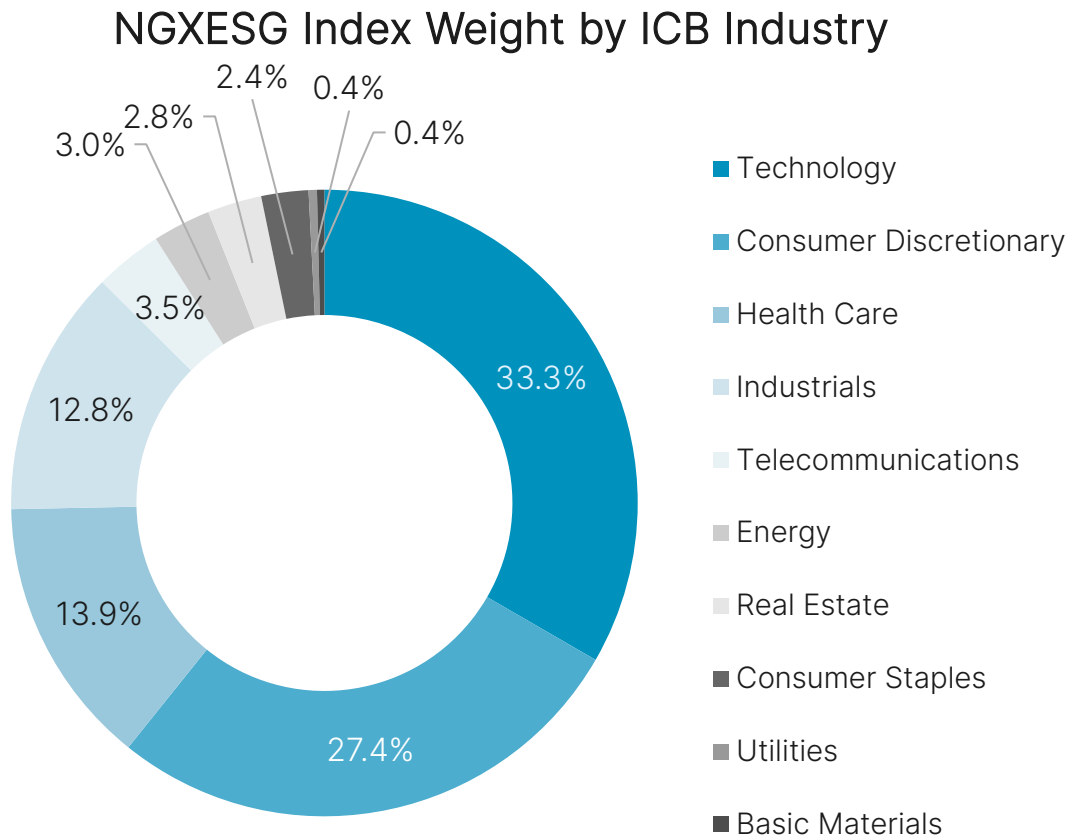
NGXESG: Top 10 Weight = 23.2%



NGX: Top 10 Weight = 18.3%

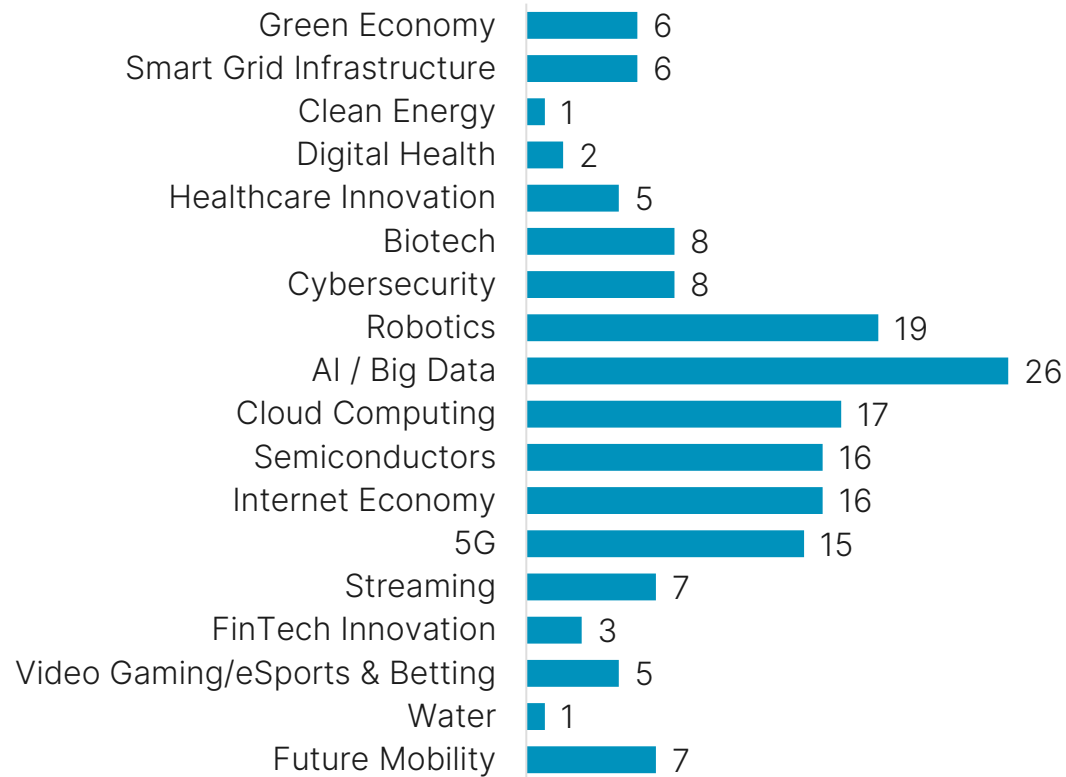


Sector Exposures: NGXESG vs NGX

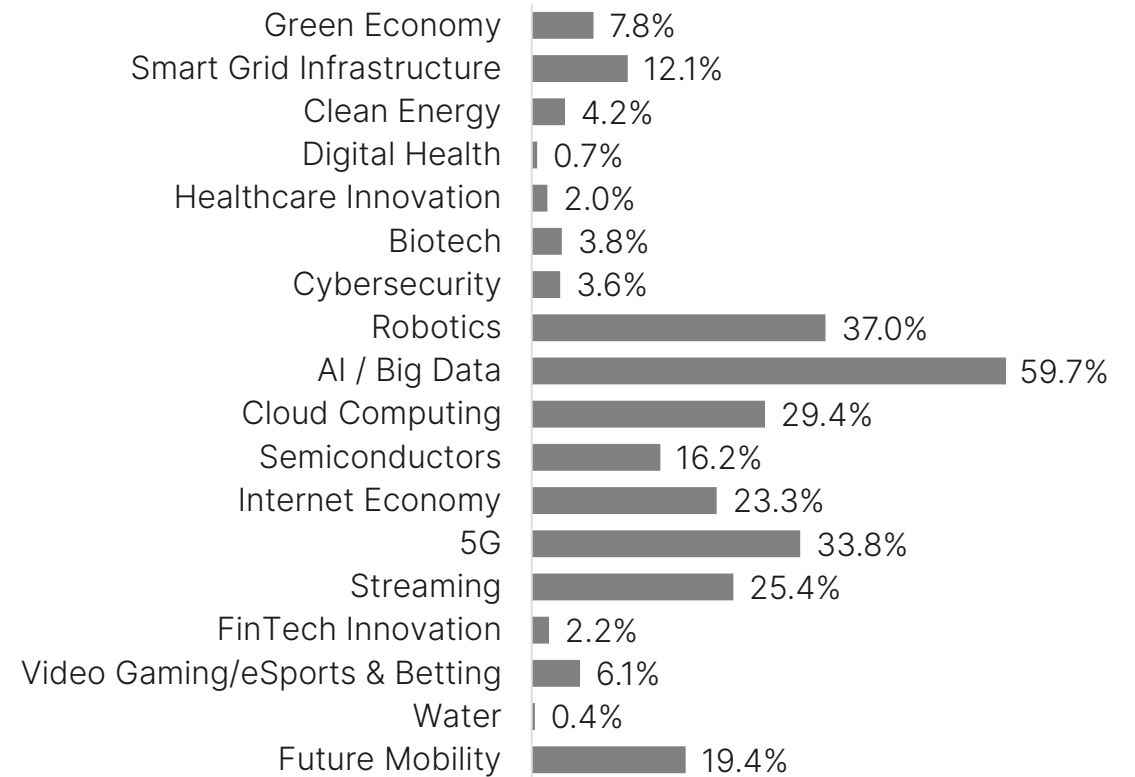


Nasdaq-100 by Thematic Exposures

of Constituents per Theme



Index Weight per Theme

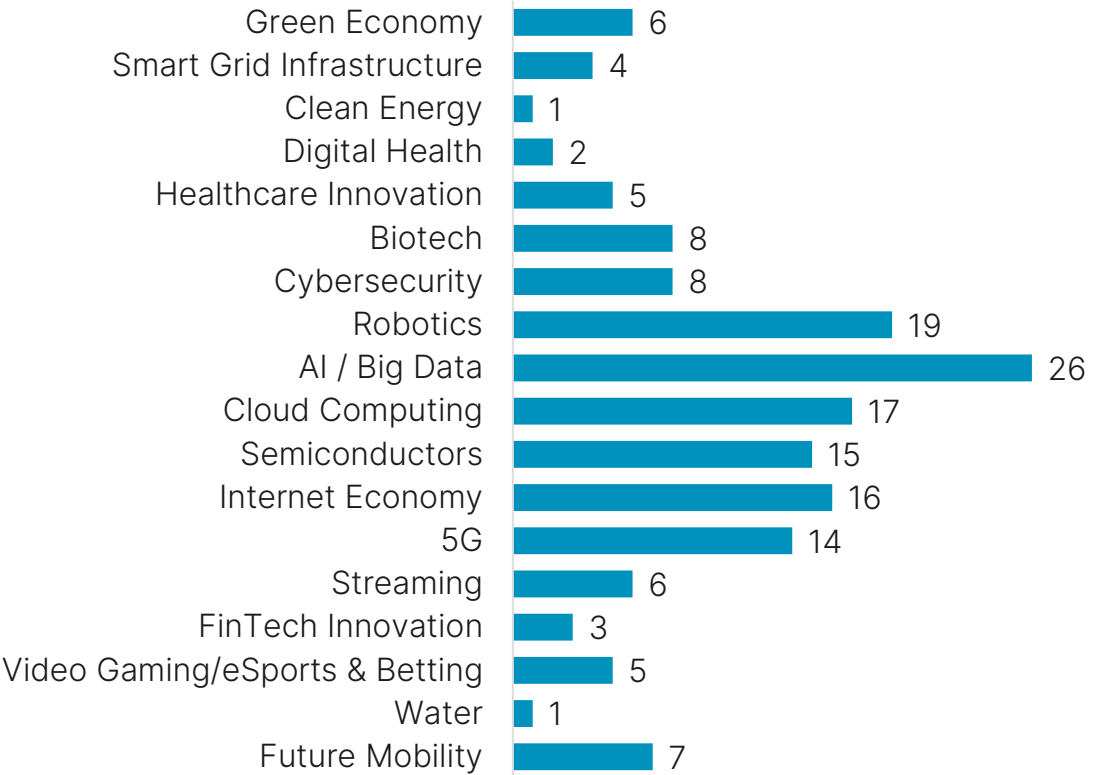


Source: Nasdaq, Bloomberg, FactSet. Data as of 12/31/2021.

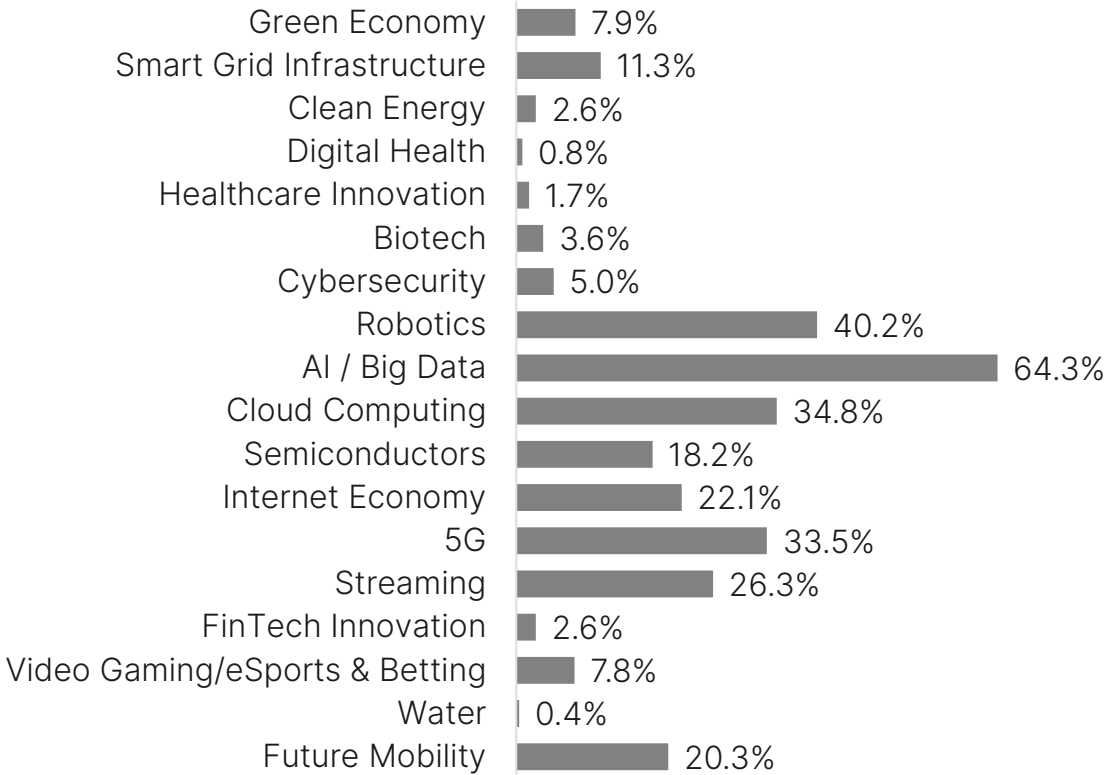
Based on overlap with existing Nasdaq Thematic Indexes, except for Digital Health, Healthcare Innovation, 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

Nasdaq-100 ESG by Thematic Exposures

of Constituents per Theme



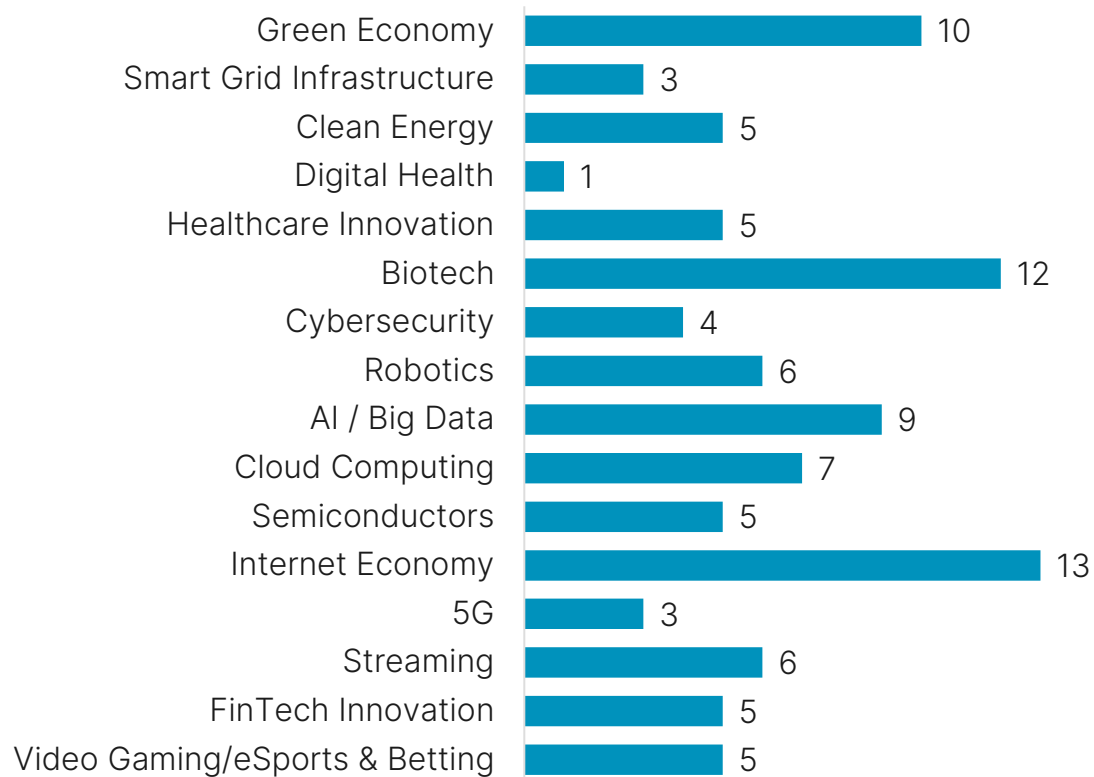
Index Weight per Theme



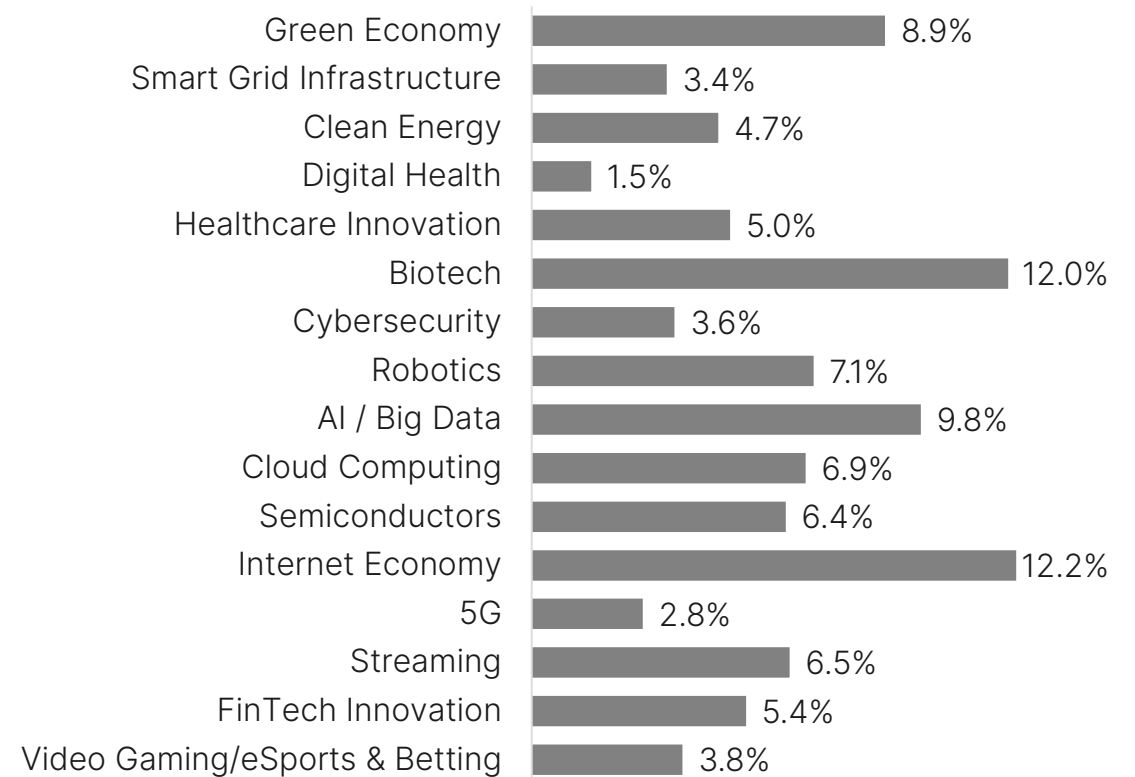
Source: Nasdaq, Bloomberg, FactSet. Data as of 12/31/2021. Based on overlap with existing Nasdaq Thematic Indexes, except for Digital Health, Healthcare Innovation, 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

Nasdaq Next Generation 100 by Thematic Exposures

of Constituents per Theme



Index Weight per Theme

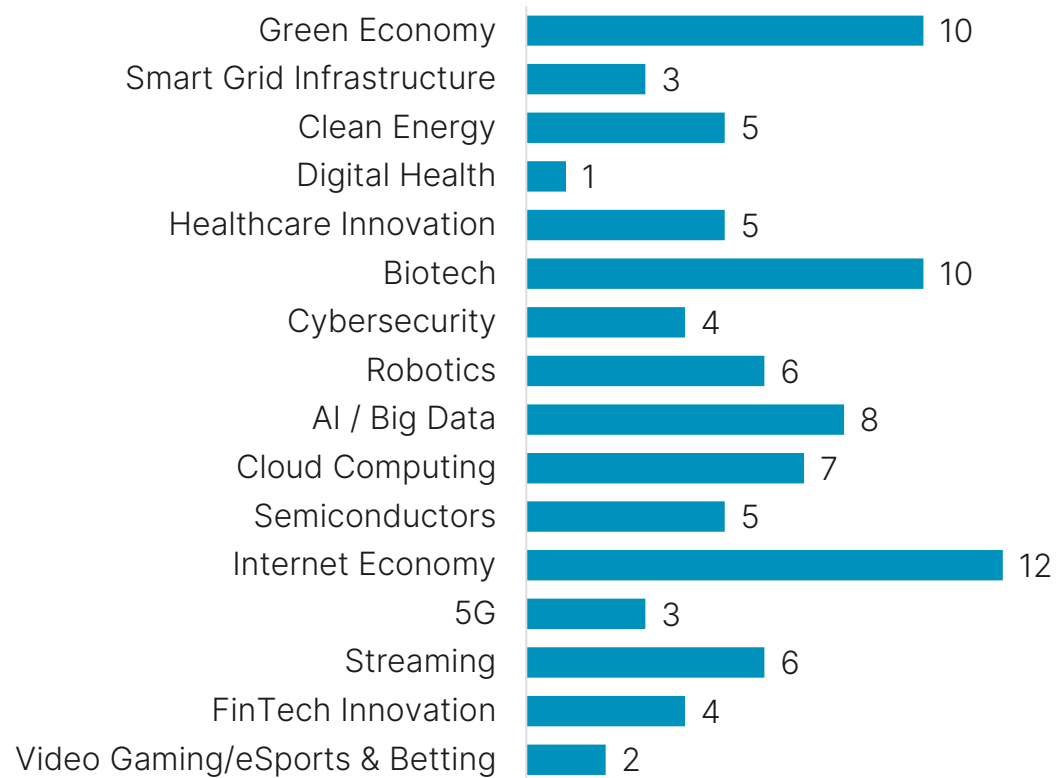


Source: Nasdaq, Bloomberg, FactSet. Data as of 12/31/2021.

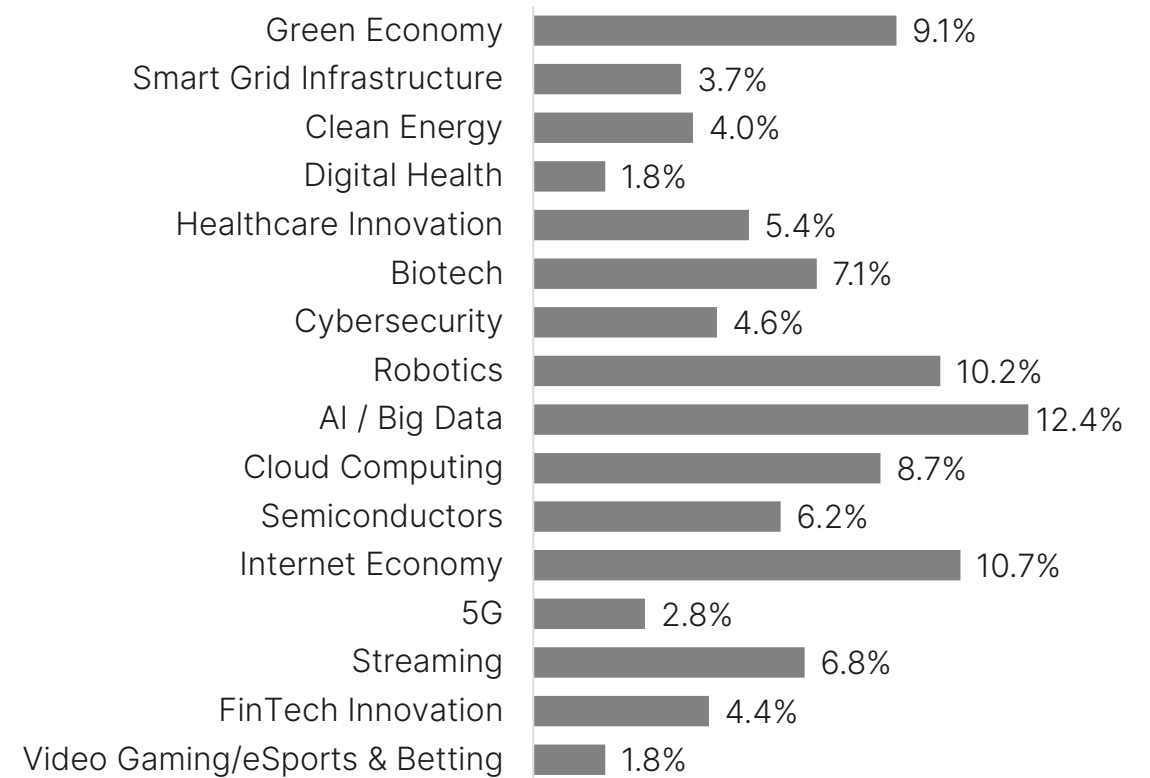
Based on overlap with existing Nasdaq Thematic Indexes, except for Digital Health, Healthcare Innovation, 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

Nasdaq Next Generation 100 ESG by Thematic Exposures

of Constituents per Theme



Index Weight per Theme



Source: Nasdaq, Bloomberg, FactSet. Data as of 12/31/2021.

Based on overlap with existing Nasdaq Thematic Indexes, except for Digital Health, Healthcare Innovation, 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

Top 10 Largest Overweights: NDXESG vs NDX

Symbol	Nasdaq-100 ESG Weight (%)	Nasdaq-100 Weight (%)	Difference Weight (%)	Company Name	ICB Industry
MSFT	13.11	10.13	2.98	Microsoft	Technology
NVDA	5.72	4.21	1.51	Nvidia	Technology
ADBE	2.53	1.56	0.97	Adobe	Technology
AAPL	13.44	12.49	0.95	Apple	Technology
CSCO	2.63	1.68	0.94	Cisco	Telecommunications
PEP	2.24	1.68	0.55	PepsiCo	Consumer Staples
AMAT	1.33	0.85	0.49	Applied Materials	Technology
INTC	1.88	1.47	0.41	Intel	Technology
NFLX	1.55	1.21	0.35	Netflix	Consumer Discretionary
PYPL	1.28	0.98	0.30	PayPal	Industrials

Top 10 Largest Underweights: NDXESG vs NDX

Symbol	Nasdaq-100 ESG Weight (%)	Nasdaq-100 Weight (%)	Difference Weight (%)	Company Name	ICB Industry
AMZN	3.61	7.27	-3.66	Amazon	Consumer Discretionary
FB	1.41	3.37	-1.96	Meta	Technology
TSLA	3.10	4.88	-1.78	Tesla	Consumer Discretionary
GOOG	3.30	3.86	-0.57	Alphabet Cl C	Technology
GOOGL	3.28	3.67	-0.38	Alphabet Cl A	Technology
AVGO	1.52	1.87	-0.36	Broadcom	Technology
ISRG	0.44	0.78	-0.34	Intuitive Surgical	Health Care
CMCSA	1.30	1.54	-0.24	Comcast	Telecommunications
KHC	0.11	0.35	-0.24	Kraft Heinz	Consumer Staples
MRNA	0.27	0.50	-0.23	Moderna	Health Care

Top 10 Largest Overweights: NGXESG vs NGX

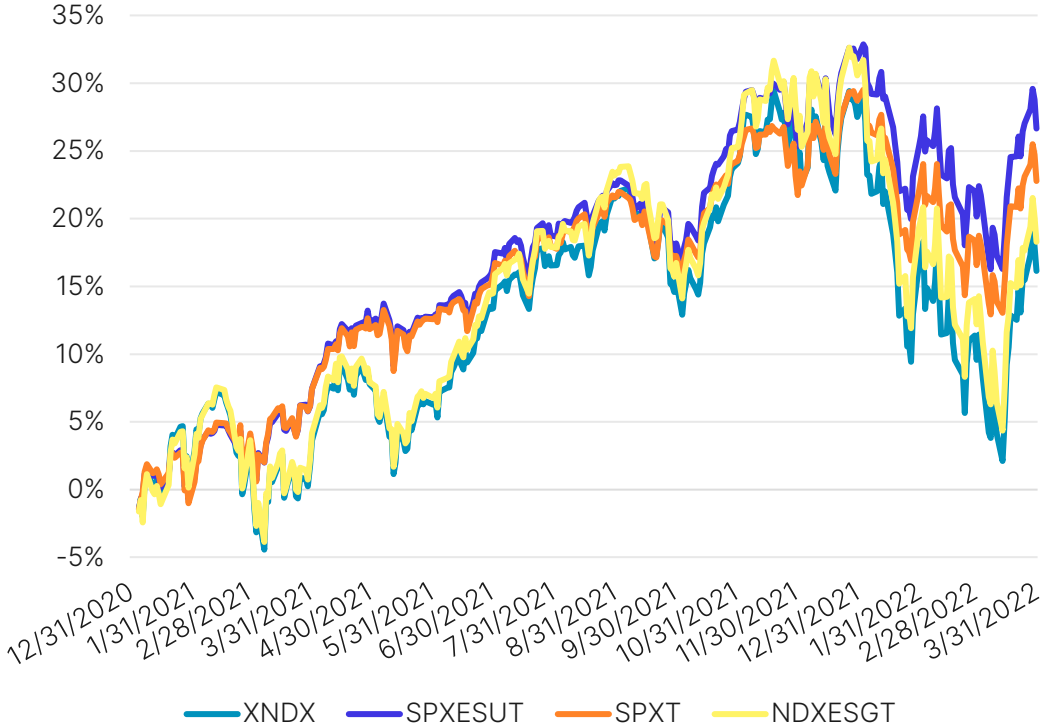
Symbol	NGXESG Weight (%)	NGX Weight (%)	Difference Weight (%)	Company Name	ICB Industry
CDW	3.01	1.64	1.36	CDW Corporation	Technology
TSCO	2.79	1.79	1.00	Tractor Supply Co	Consumer Discretionary
ZBRA	2.40	1.50	0.91	Zebra Technologies	Industrials
CCEP	2.41	1.51	0.89	Coca-Cola Europacific	Consumer Staples
STX	2.11	1.34	0.77	Seagate Technology	Technology
TRMB	1.99	1.23	0.75	Trimble. Inc.	Industrials
JBHT	2.19	1.43	0.75	J B Hunt	Industrials
POOL	1.86	1.16	0.70	Pool Corporation	Consumer Discretionary
WDC	1.76	1.06	0.70	Western Digital Corp	Technology
PARA	2.20	1.57	0.64	Paramount Global	Consumer Discretionary

Top 10 Largest Underweights: NGXESG vs NGX

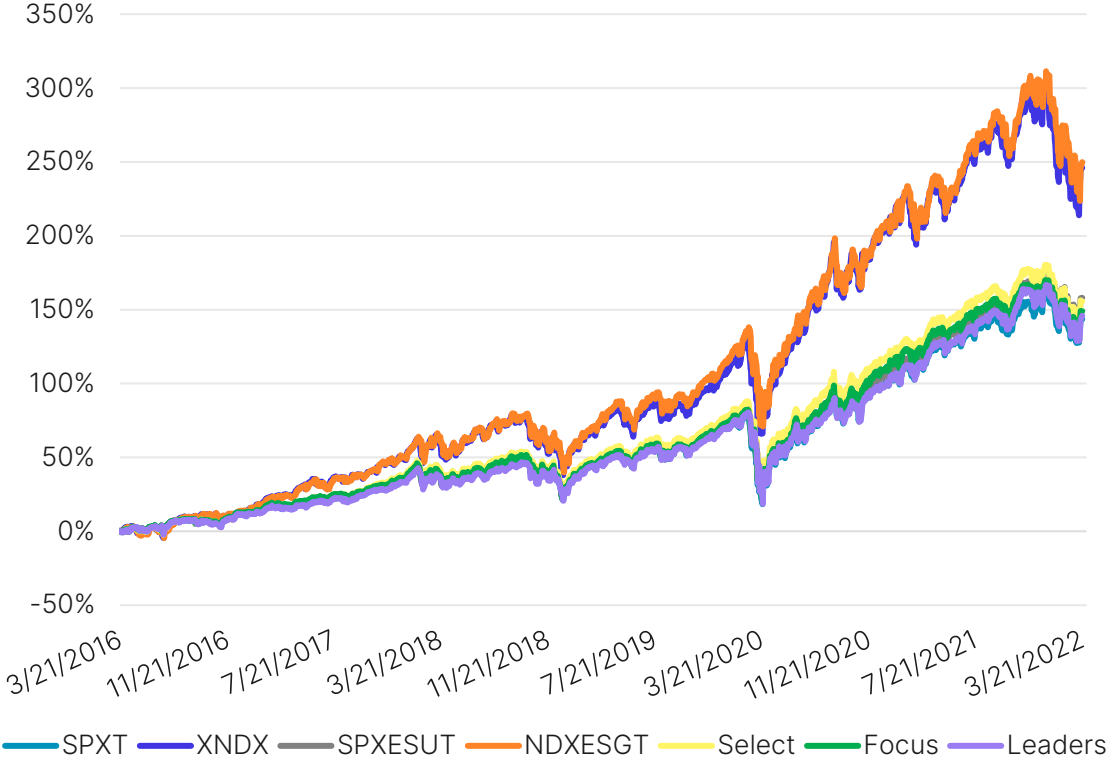
Symbol	NGXESG Weight (%)	NGX Weight (%)	Difference Weight (%)	Company Name	ICB Industry
HZNP	0.24	1.63	-1.39	Horizon Therapeutics	Health Care
STLD	0.37	1.09	-0.72	Steel Dynamics	Basic Materials
PODD	0.61	1.26	-0.65	Insulet	Health Care
ENPH	1.20	1.84	-0.64	Enphase Energy	Energy
ZI	1.05	1.64	-0.59	ZoomInfo	Technology
ALNY	0.83	1.34	-0.51	Alnylam Pharmaceuticals	Health Care
QRVO	0.42	0.92	-0.50	Qorvo	Technology
UAL	0.60	1.03	-0.43	United Airlines	Consumer Discretionary
RPRX	0.72	1.15	-0.43	Royalty Pharma	Health Care
HOLX	0.89	1.31	-0.42	Hologic	Health Care

Performance – NDX vs. NDXESG

12/31/2020 – 3/31/2022

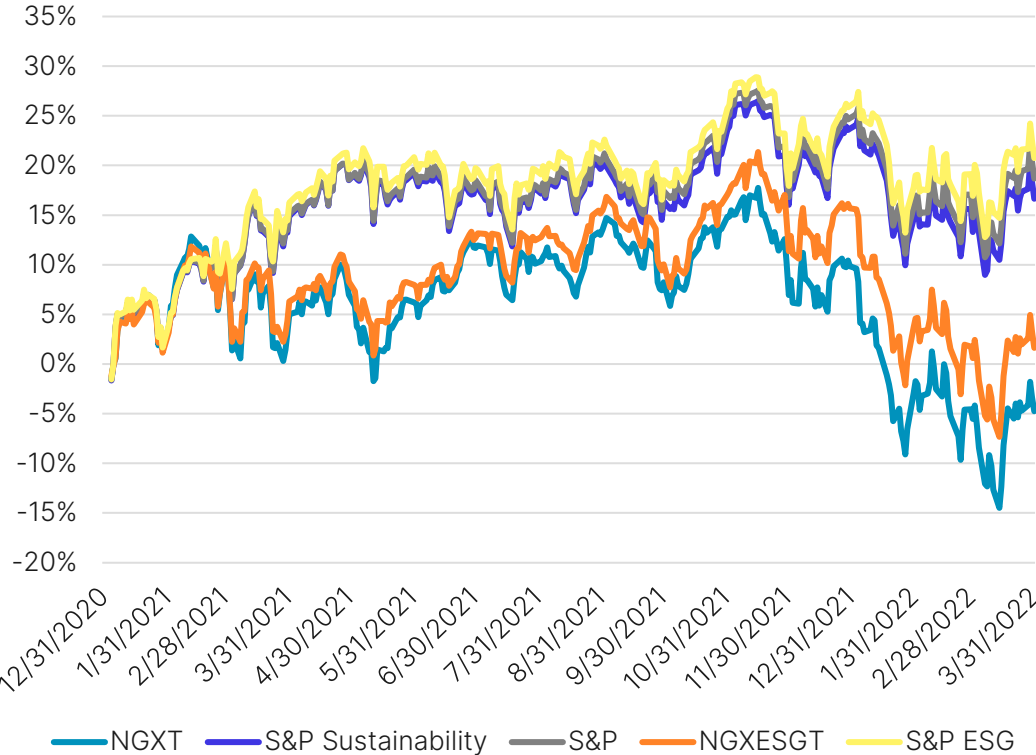


Since Beginning of Backtest
3/21/2016 – 3/31/2022

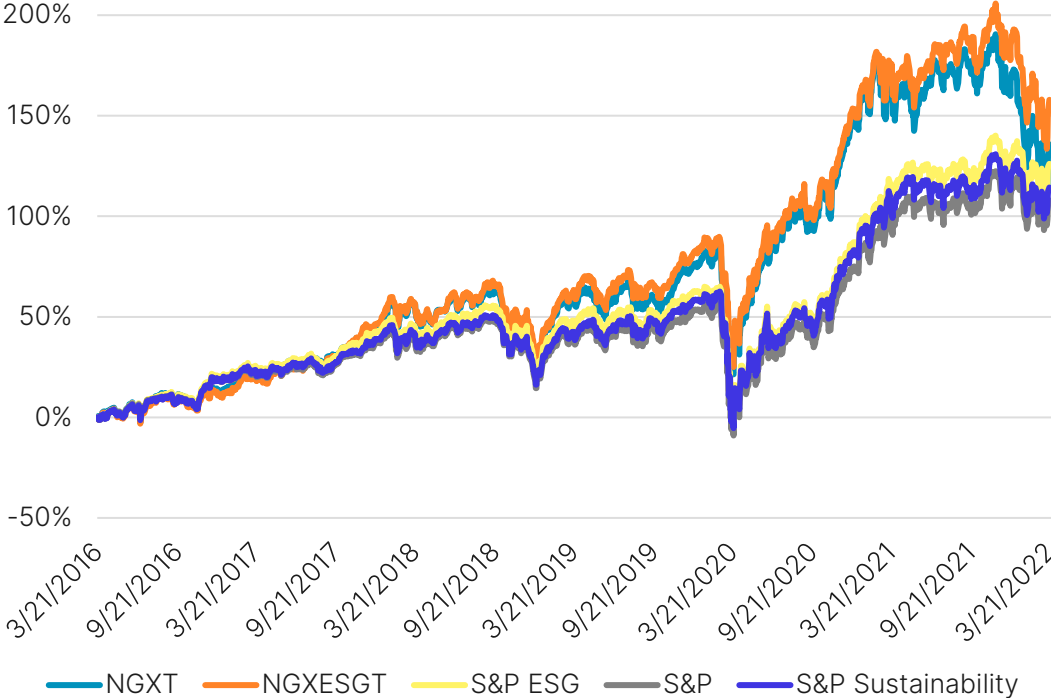


Performance – NGX vs. NGXESG

12/31/2020 – 3/31/2022



Since Beginning of Backtest
3/21/2016 – 3/31/2022



ESG Comparisons – NDX/NDXESG

Index	Benchmark	Number of Securities	% Exclusion from the Benchmark	Weighted Average Sustainalytics ESG Risk Score	Simple Average Sustainalytics ESG Risk Score
MSCI USA Index	--	627	n/a	21.60	21.80
MSCI USA Extended ESG Focus Index	MSCI USA Index	320	49%	20.80	21.20
MSCI USA Extended ESG Leaders Index	MSCI USA Index	271	57%	19.30	20.30
MSCI USA ESG Universal Select Business Screens Index	MSCI USA Index	565	10%	20.10	21.20
Nasdaq-100 Index	--	102	n/a	20.50	20.40
Nasdaq-100 ESG Index	Nasdaq-100 Index	95	7%	18.50	20.00
S&P 500 Index	--	506	n/a	21.50	21.70
S&P 500 ESG Index	S&P 500 Index	308	39%	20.80	20.70

ESG Comparisons – NGX/NGXESG

Index	Benchmark	Number of Securities	% Exclusion from the Benchmark	Weighted Average Sustainalytics ESG Risk Score	Simple Average Sustainalytics ESG Risk Score
Nasdaq Next Generation 100 Index	--	100	n/a	21.60	21.80
Nasdaq Next Generation ESG 100 Index	Nasdaq Next Generation 100 Index	89	11%	18.60	21.00
S&P MidCap 400 Index	--	405	n/a	23.50	24.10
S&P MidCap 400 Sustainability Screened Index	S&P MidCap 400 Index	377	7%	23.10	23.50
S&P MidCap 400 ESG Index	S&P MidCap 400 Index	250	38%	22.70	23.20

RESOURCES



RESOURCES

Nasdaq-100 ESG Index

- Overview
 - <https://indexes.nasdaqomx.com/Index/Overview/NDXESG>
- Methodology
 - https://indexes.nasdaqomx.com/docs/methodology_NDXESG.pdf
- Research
 - https://indexes.nasdaqomx.com/docs/NDXESG_Research.pdf
- Fact Sheet
 - https://indexes.nasdaqomx.com/docs/FS_NDXESGT.pdf
- Carbon Credit Report
 - NDXESG: <https://indexes.nasdaqomx.com/docs/Carbon%20Footprint%20Report%20-%20NDXESG.pdf>
 - NDX: <https://indexes.nasdaqomx.com/docs/Carbon%20Footprint%20Report%20-%20NDX.pdf>

RESOURCES

Nasdaq Next Generation 100 ESG Index

- Overview
 - <https://indexes.nasdaqomx.com/Index/Overview/NGXESG>
- Methodology
 - https://indexes.nasdaqomx.com/docs/methodology_NGXESG.pdf
- Research
 - https://indexes.nasdaqomx.com/docs/NGXESG_Research.pdf
- Fact Sheet
 - https://indexes.nasdaqomx.com/docs/FS_NGXESGT.pdf
- Carbon Credit Report
 - NGXESG: <https://indexes.nasdaqomx.com/docs/Carbon%20Footprint%20Report%20-%20NGXESG.pdf>
 - NGX: <https://indexes.nasdaqomx.com/docs/Carbon%20Footprint%20Report%20-%20NGX.pdf>

APPENDIX

Exclusions based on ESG risk

- Companies with a “Severe” ESG Risk Rating are automatically disqualified from inclusion.
 - A rating of greater than 40 is considered “Severe”; 30-40 is considered “High”; 20-30 is “Medium”; 10-20 is “Low”; and 0-10 is “Negligible”.
- Exclude any company that has not been researched yet.

Exclusions based on ESG risk – continued

- Exclude any company that has a controversy score equal to 5:
 - The controversy rating reflects:
 - Incidents with negative Environmental, Social and Governance (ESG) implications.
 - A company's level of involvement in and how it manages these issues.
 - Categorical scores are on a scale of 1 to 5.

Exclusions based on international norms

- A company must not violate the *United Nations Global Compact*:
 - 10 principles around human rights, labor, environment, and anti-corruption.
 - <https://www.unglobalcompact.org/what-is-gc/mission/principles>
- Securities are excluded from NDXESG/NGXESG that are classified as non-compliant.
 - Each company in the index is therefore classified as either compliant or on the watch-list with the UN Global Compact framework for following international norms.

APPENDIX

Exclusions based on business involvements

Business Involvement Considered*:

1. Energy (Arctic oil & gas, nuclear power, oil & gas, oil sands, shale energy, thermal coal)
2. Health & Life (Alcohol, recreational cannabis, tobacco)
3. Defense & Military (controversial weapons, military contracting, riot control, small arms)
4. Values-Based (adult entertainment, gambling)

Weighting scheme – continued

$$\text{ESG Risk – Adjusted NDX Market Value} = \frac{40 - \text{ESG Risk Rating Score}}{40} \times \text{NDX Market Value}$$

- Initial security weights are calculated by dividing a security's ESG Risk-Adjusted NDX Market Value by the sum of the ESG Risk-Adjusted NDX Market Values of all Index Securities.
- Afterwards, the same four-stage weight adjustment process as exists for NDX at its annual reconstitution is applied to produce final weights on a quarterly basis for NDXESG.
- (All the above applies for NGX and NGXESG, as well.)

APPENDIX

Weighting scheme – continued

Security	Parent Index Market Value	ESG Risk Rating Score	(40-ESG Risk Rating Score)/40	ESG Adjusted Market Value	Weight in ESG Index (before capping)	Weight in Parent Index	ESG Excess Weight
Company A	157,440,900.96	9.669091	0.76	119,383,139.64	5%	2%	3%
Company B	408,425,550.79	10.14988	0.75	304,788,747.93	12%	5%	7%
Company C	466,765,510.49	10.33926	0.74	346,115,277.80	14%	6%	8%
Company D	337,399,212.20	10.56613	0.74	248,274,134.49	10%	4%	6%
Company E	36,052,270.56	12.02819	0.70	25,211,182.25	1%	0%	1%
Company F	590,398,129.57	16.18527	0.60	351,504,303.67	14%	7%	7%
Company G	268,545,835.16	19.19268	0.52	139,692,956.82	6%	3%	2%
Company H	311,917,708.29	20.84302	0.48	149,385,045.36	6%	4%	2%
Company I	547,470,308.53	22.79236	0.43	235,516,830.87	10%	7%	3%
Company J	24,733,442.74	24.69826	0.38	9,461,619.64	0%	0%	0%
Company K	435,838,825.61	27.38121	0.32	137,493,977.85	6%	5%	0%
Company L	118,577,295.32	27.73561	0.31	36,356,957.07	1%	1%	0%
Company M	307,719,744.86	28.36004	0.29	89,546,103.32	4%	4%	0%
Company N	441,090,355.41	33.1488	0.17	75,549,938.88	3%	6%	-2%
Company O	834,726,757.15	35.35263	0.12	96,982,201.14	4%	10%	-7%
Company P	550,834,597.82	37.24048	0.07	38,001,025.35	2%	7%	-5%
Company Q	269,359,777.85	37.4192	0.06	17,379,073.33	1%	3%	-3%
Company R	844,981,656.98	38.72938	0.03	26,841,302.95	1%	11%	-10%
Company S	359,845,558.64	39.02818	0.02	8,742,612.50	0%	5%	-4%
Company T	646,652,051.08	39.70698	0.01	4,736,994.67	0%	8%	-8%

For Illustrative Purposes Only.

The information included on this slide is not based on actual data.



Disclaimer

Nasdaq® is a registered trademark of Nasdaq, Inc. The information contained above is provided for informational and educational purposes only, and nothing contained herein should be construed as investment advice, either on behalf of a particular security or an overall investment strategy. Neither Nasdaq, Inc. nor any of its affiliates makes any recommendation to buy or sell any security or any representation about the financial condition of any company. Statements regarding Nasdaq-listed companies or Nasdaq proprietary indexes are not guarantees of future performance. Actual results may differ materially from those expressed or implied. Past performance is not indicative of future results. Investors should undertake their own due diligence and carefully evaluate companies before investing. **ADVICE FROM A SECURITIES PROFESSIONAL IS STRONGLY ADVISED.**

© 2022. Nasdaq, Inc. All Rights Reserved.

Copyright © 2022 Sustainalytics. All rights reserved. This report contains information developed by Sustainalytics. Such information and data are proprietary of Sustainalytics and/or its third-party suppliers (Third-Party Data) and are provided for informational purposes only. They do not constitute an endorsement of any product or project, nor an investment advice and are not warranted to be complete, timely, accurate or suitable for a particular purpose. Their use is subject to conditions available at <https://www.sustainalytics.com/legal-disclaimers>

