



# Innovation Meets Sustainability:

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

June 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 June 2022: NDXESG

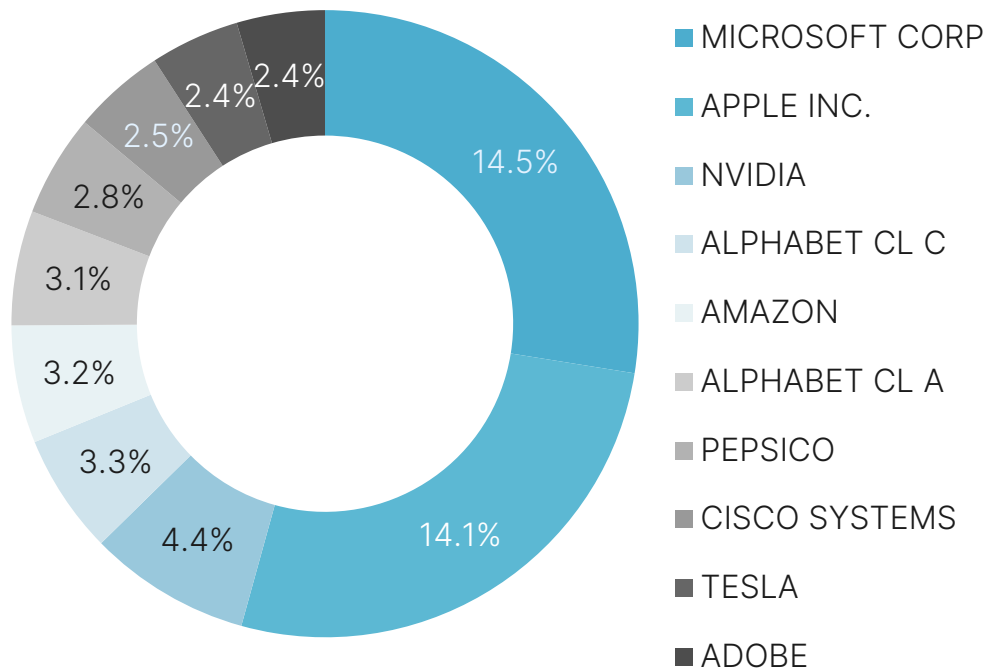
Symbol	Nasdaq-100 ESG Reason for Exclusion	Nasdaq-100 Weight (%)	Company Name	ICB Industry
HON	Revenue from military contracting weapons. Provide non-nuclear materials for nuclear weapons and involved in management of labs where nuclear weapons are designed and tested.	1.14%	Honeywell International	Industrials
ADI	Revenue from military contracting weapon-related products and/or services.	0.72%	Analog Devices	Technology
AEP	Revenue from thermal coal power generation, nuclear production, and oil & gas generation.	0.44%	American Electric Power Company	Utilities
EXC	Revenue from nuclear production..	0.38%	Exelon	Utilities
XEL	Revenue from thermal coal power generation, nuclear production, oil & gas production, and oil & gas generation.	0.34%	Xcel Energy	Utilities
CEG	ESG Risk Rating Score has not yet been determined.	0.18%	Constellation Energy Corp	Utilities

# Exclusions June 2022: NGXESG

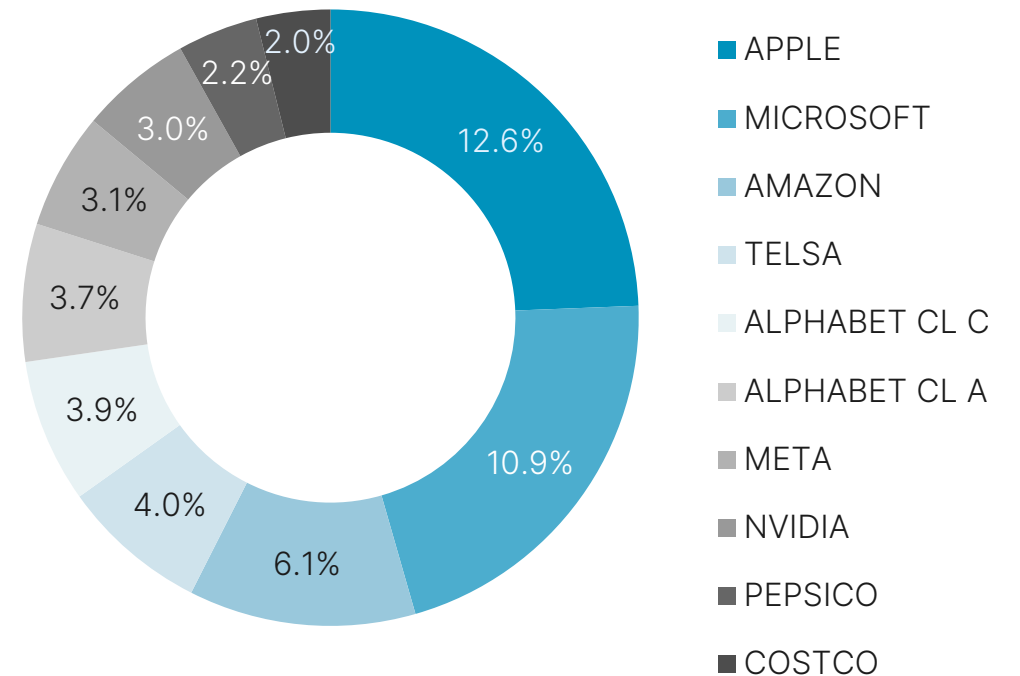
Symbol	Nasdaq Next Generation 100 ESG Reason for Exclusion	NGX Weight (%)	Company Name	ICB Industry
FANG	ESG Risk Rating Score is greater than 40. Revenue from oil & gas production and shale energy extraction.	1.93%	Diamondback Energy	Energy
LNT	Revenue from oil & gas generation and thermal coal power generation.	1.22%	Alliant Energy	Utilities
BNTX	ESG Risk Rating Score has not yet been determined.	0.98%	BioNTech	Health Care
APP	ESG Risk Rating Score has not yet been determined.	0.89%	AppLovin	Technology
CZR	Revenue from gambling operations.	0.75%	Caesars Entertainment	Consumer Discretionary
AXON	ESG Risk Rating Score is greater than 40. Manufacture riot control protection equipment and riot control weapons.	0.55%	Axon Enterprise	Industrials
PLTK	ESG Risk Rating Score has not yet been determined.	0.49%	Playtika	Consumer Discretionary
DKNG	Revenue from gambling operations.	0.42%	DraftKings	Consumer Discretionary
PENN	Revenue from gambling operations.	0.41%	Penn National Gaming	Consumer Discretionary

# Top 10 Constituents: NDXESG vs NDX

NDXESG: Top 10 Weight = 52.8%

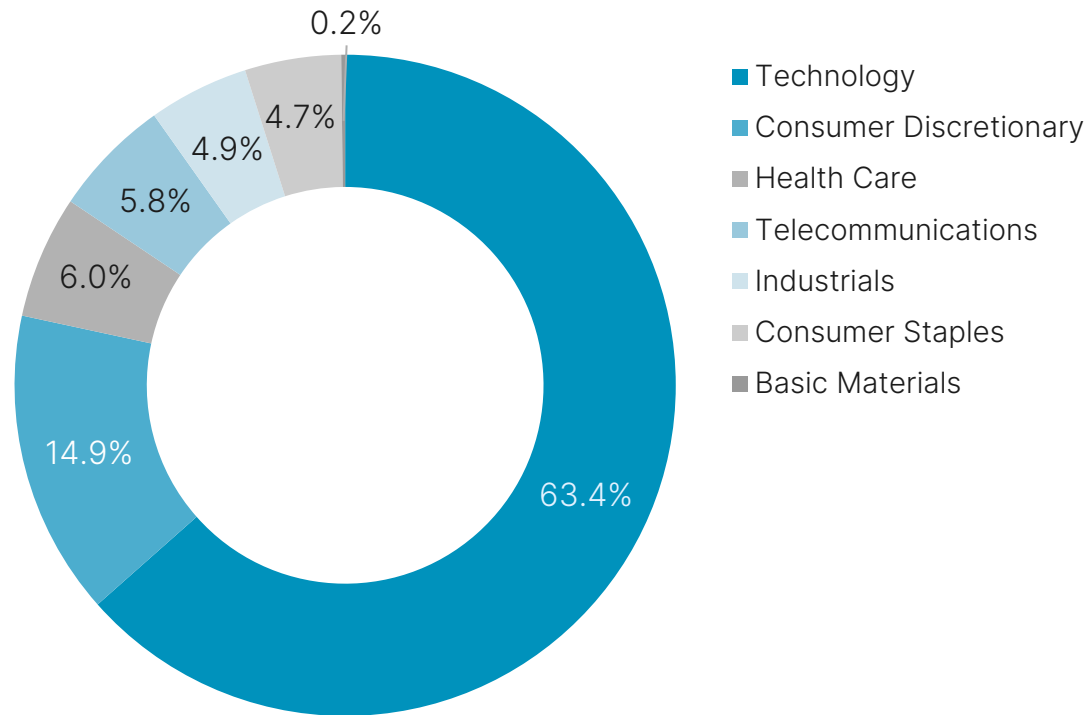


NDX: Top 10 Weight = 51.6%

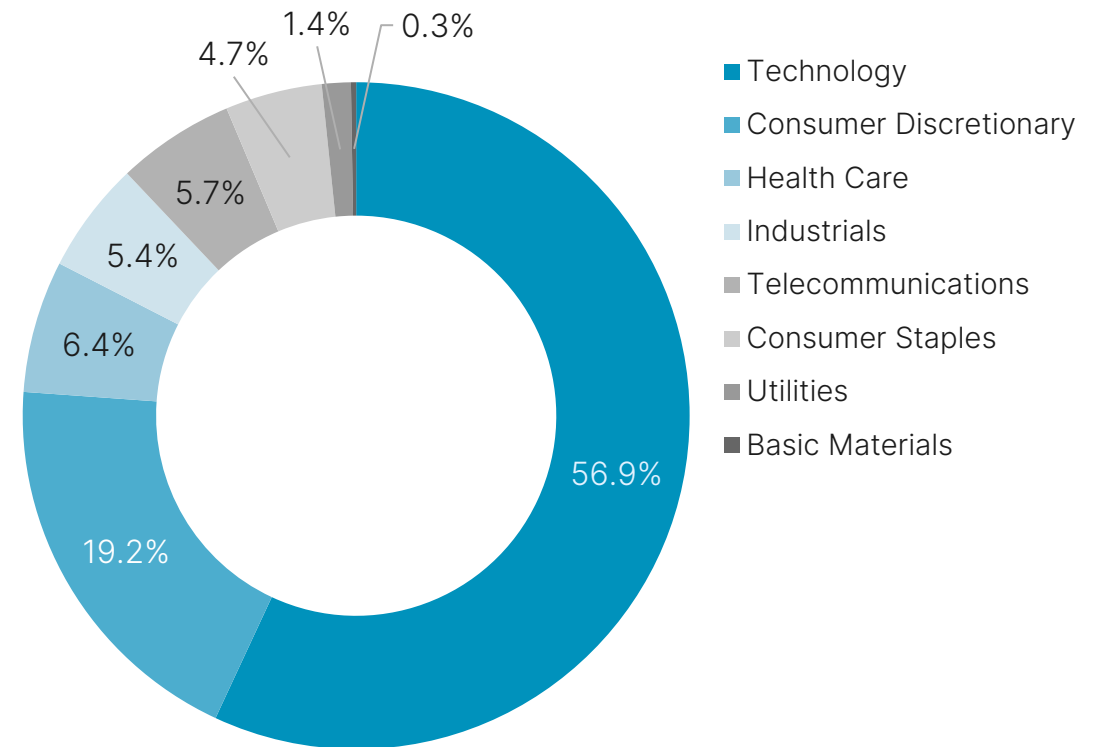


# Sector Exposures: NDXESG vs NDX

NDXESG Index Weight by ICB Industry



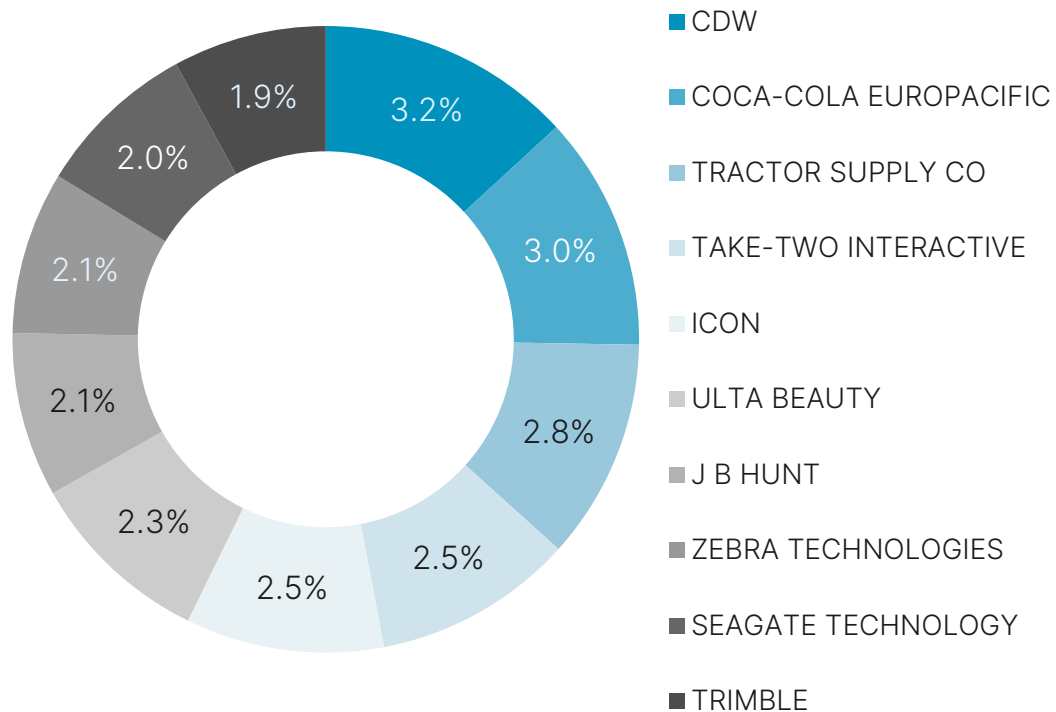
NDX Index Weight by ICB Industry



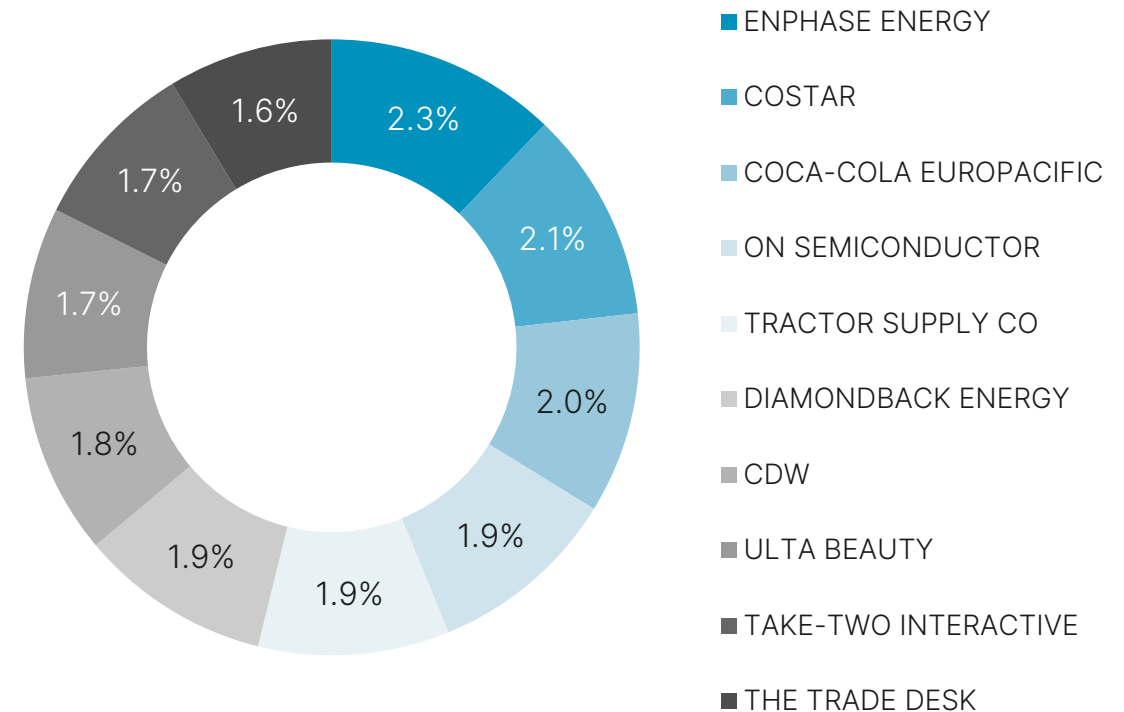


# Top 10 Constituents: NGXESG vs NGX

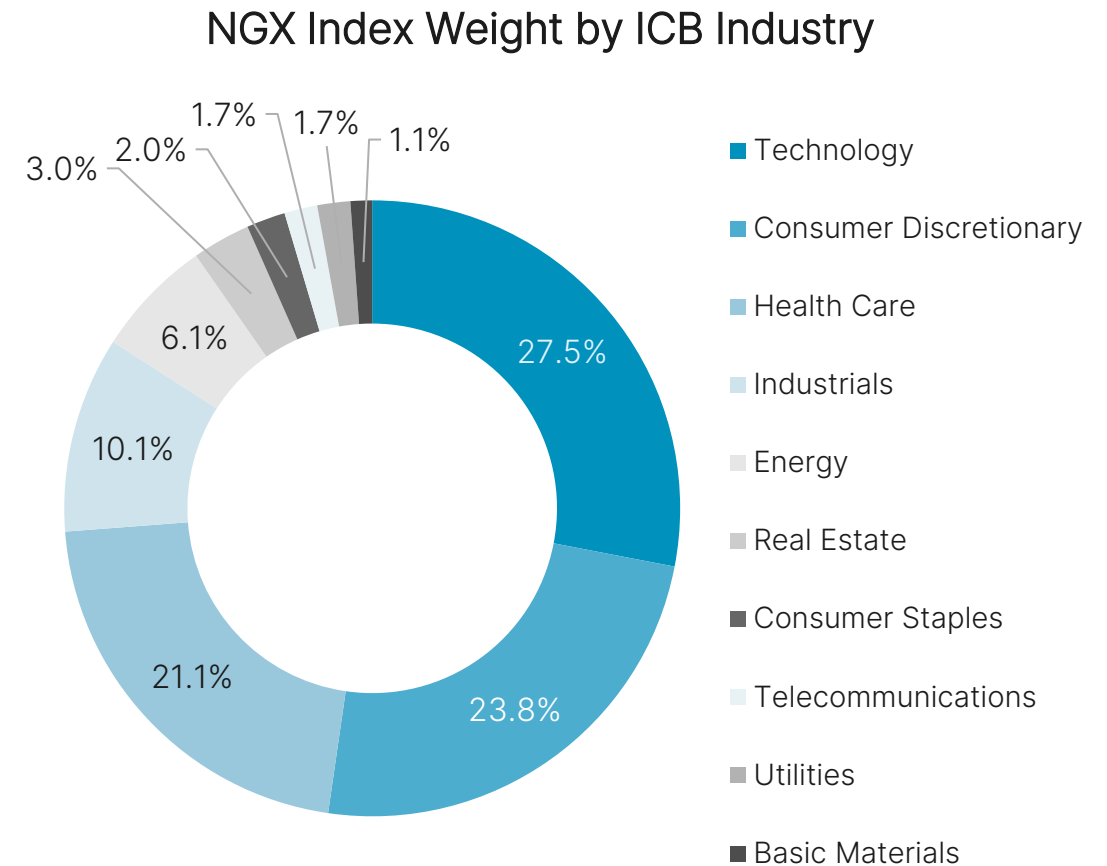
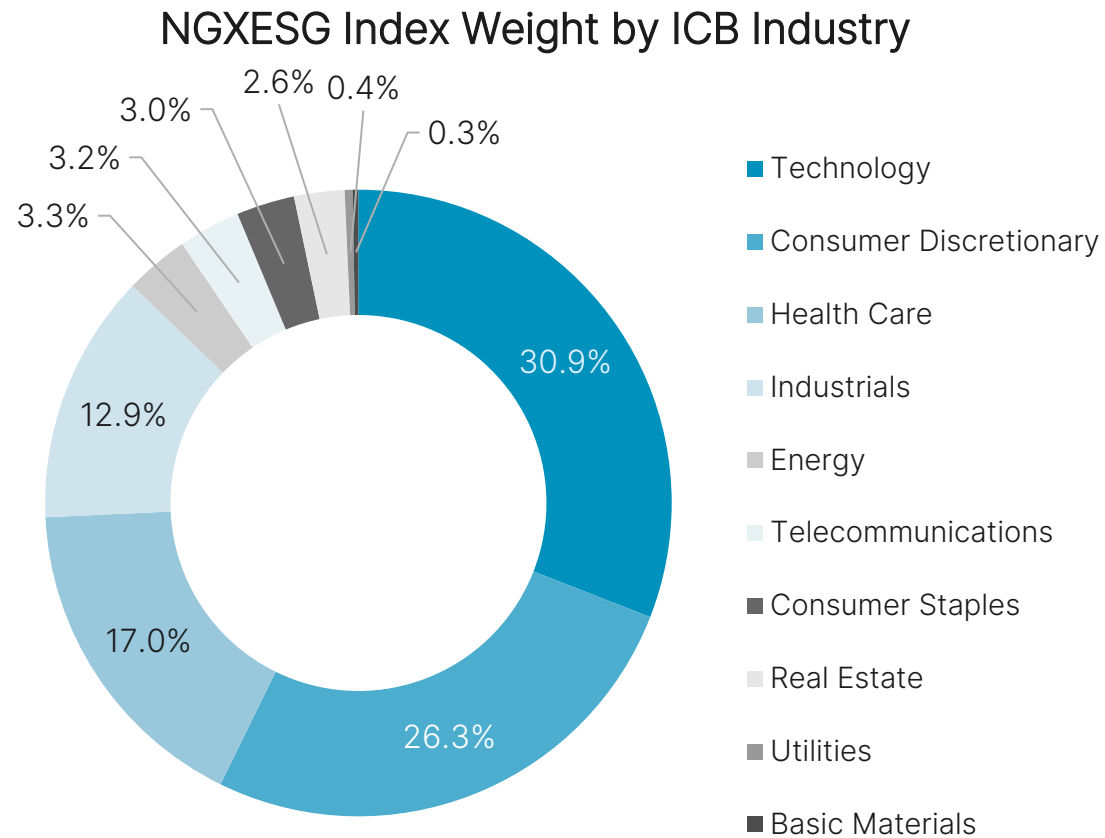
NGXESG: Top 10 Weight = 24.4%



NGX: Top 10 Weight = 18.9%

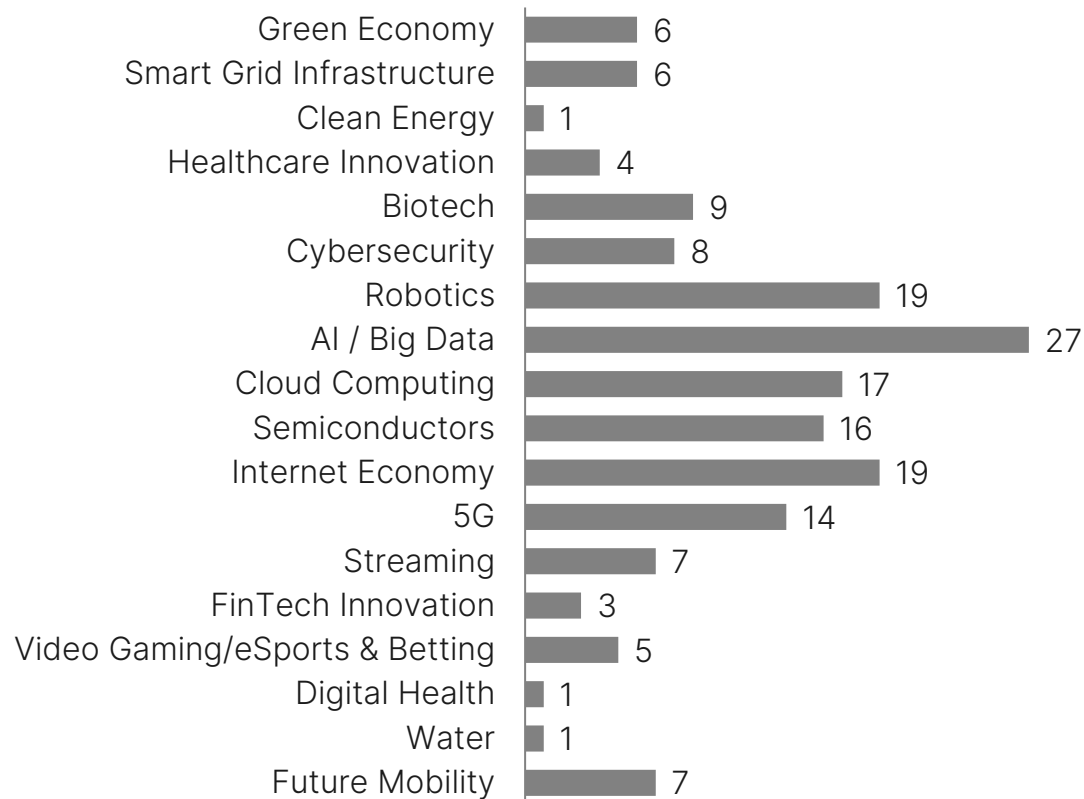


# Sector Exposures: NGXESG vs NGX

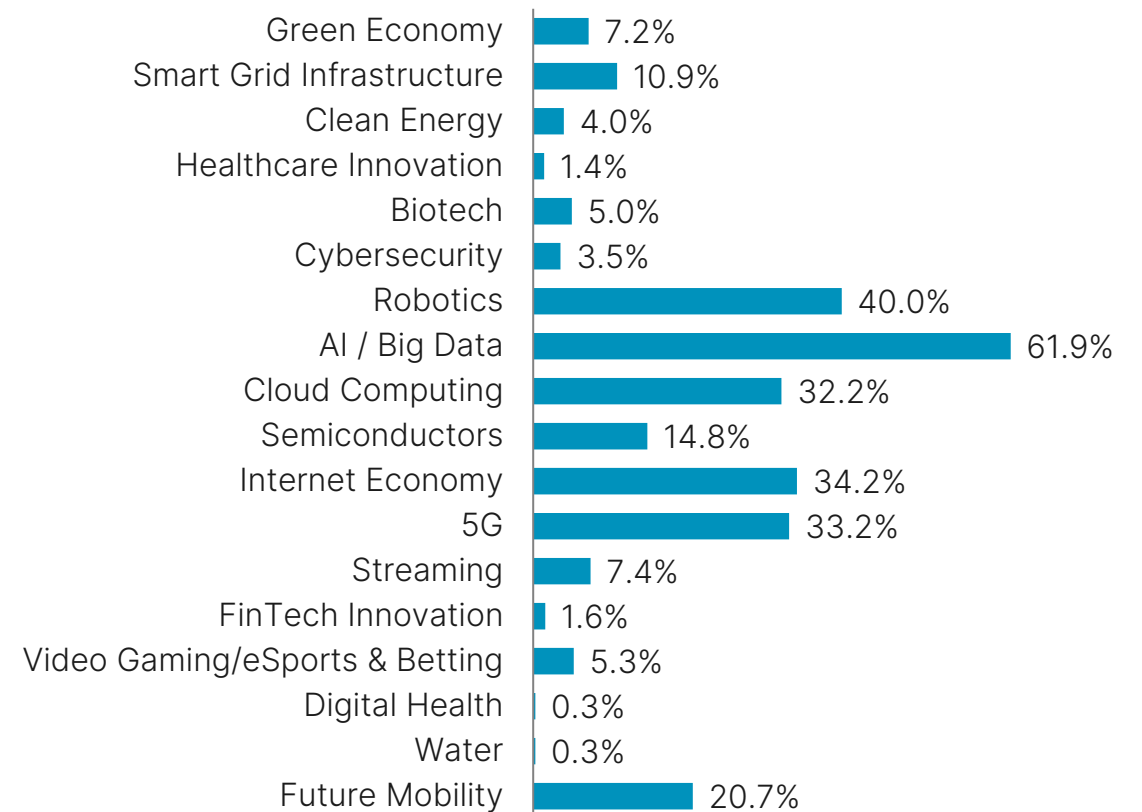


# Nasdaq-100 by Thematic Exposures

## # of Constituents per Theme



## Index Weight per Theme

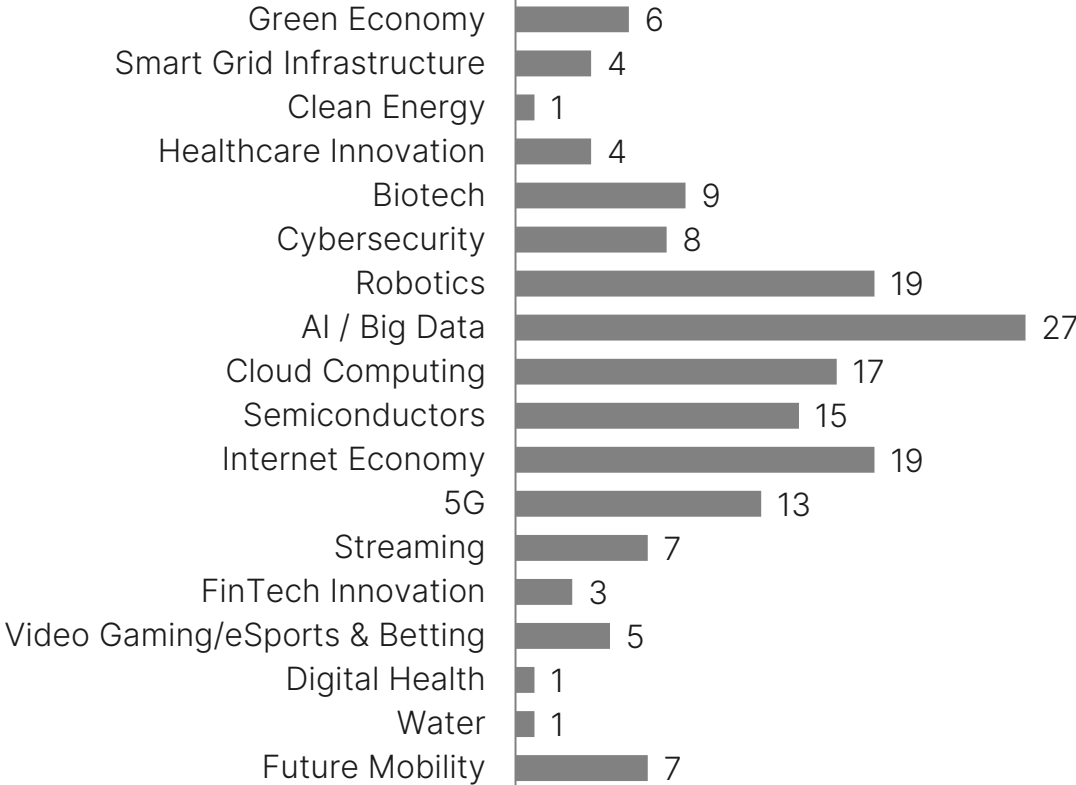


Source: Nasdaq, FactSet. Data as of 6/30/2022.

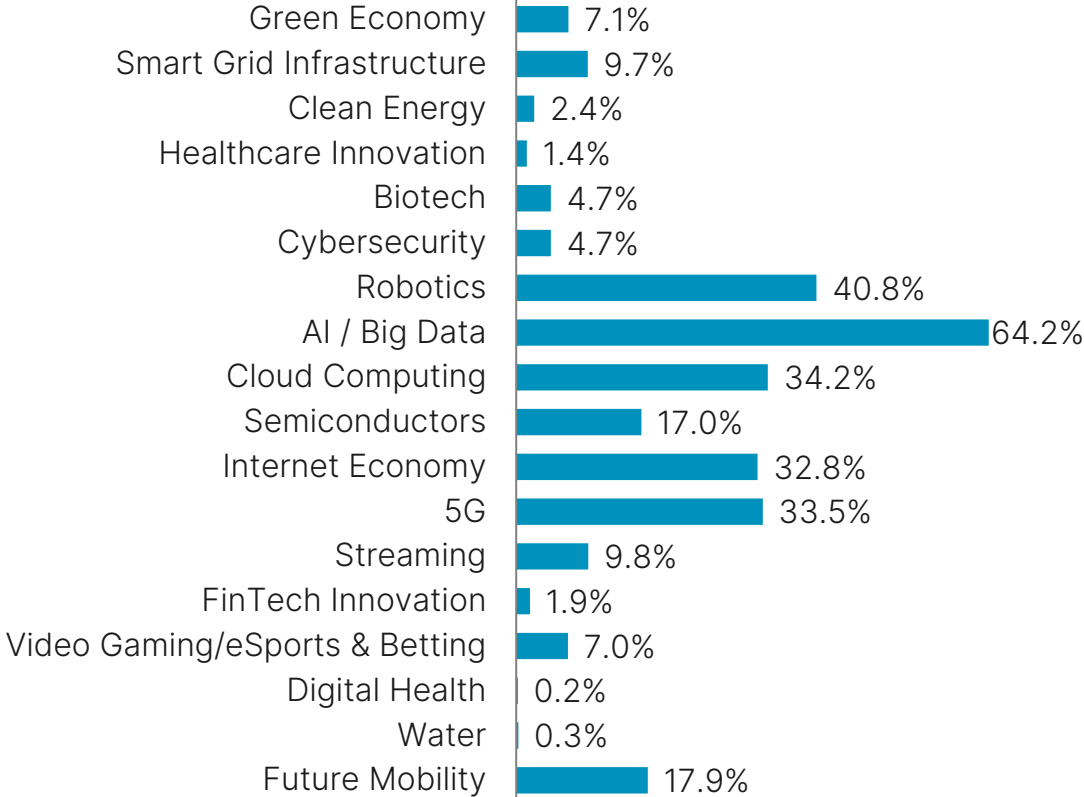
Based on overlap with existing Nasdaq Thematic Indexes, except for 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

# Nasdaq-100 ESG by Thematic Exposures

# of Constituents per Theme



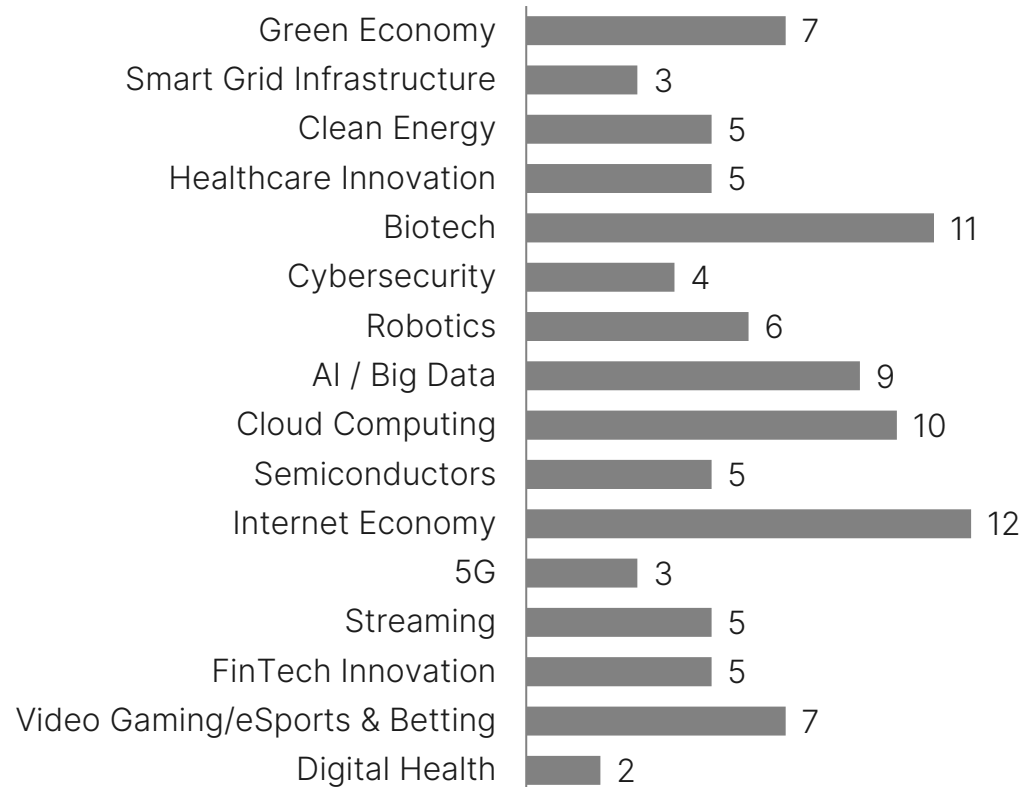
Index Weight per Theme



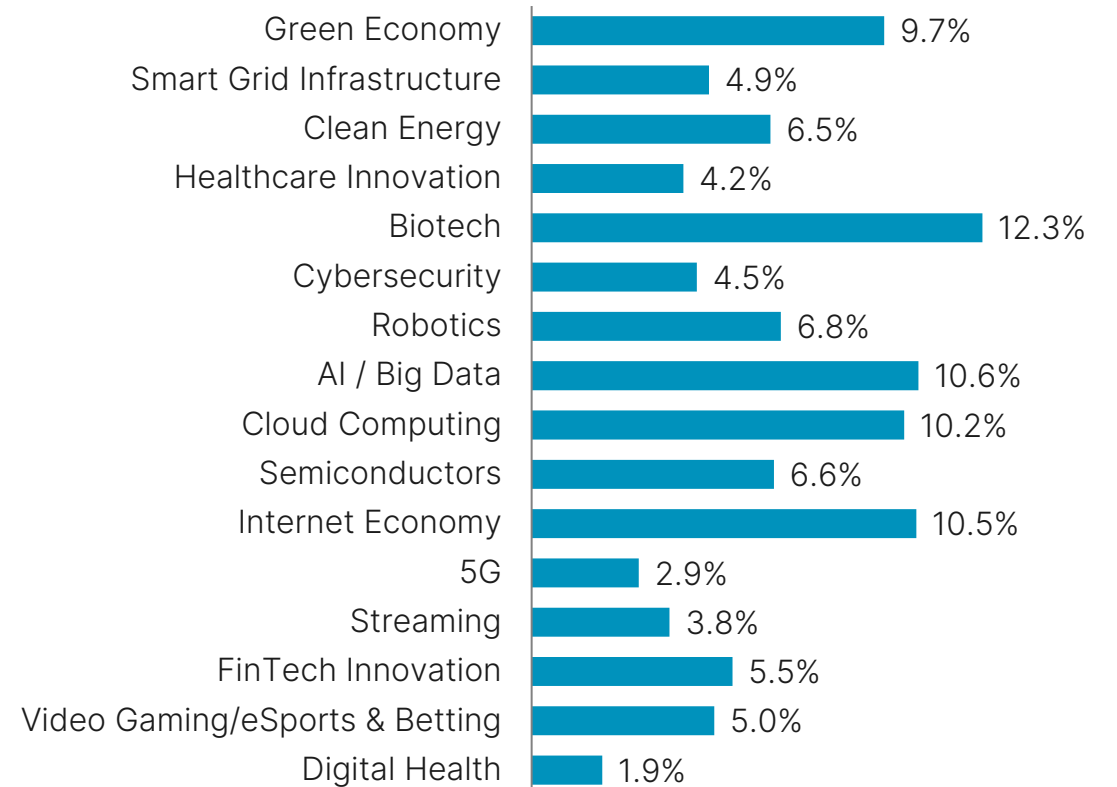
Source: Nasdaq, FactSet. Data as of 6/30/2022.  
 Based on overlap with existing Nasdaq Thematic Indexes, except for 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

# Nasdaq Next Generation 100 by Thematic Exposures

## # of Constituents per Theme



## Index Weight per Theme

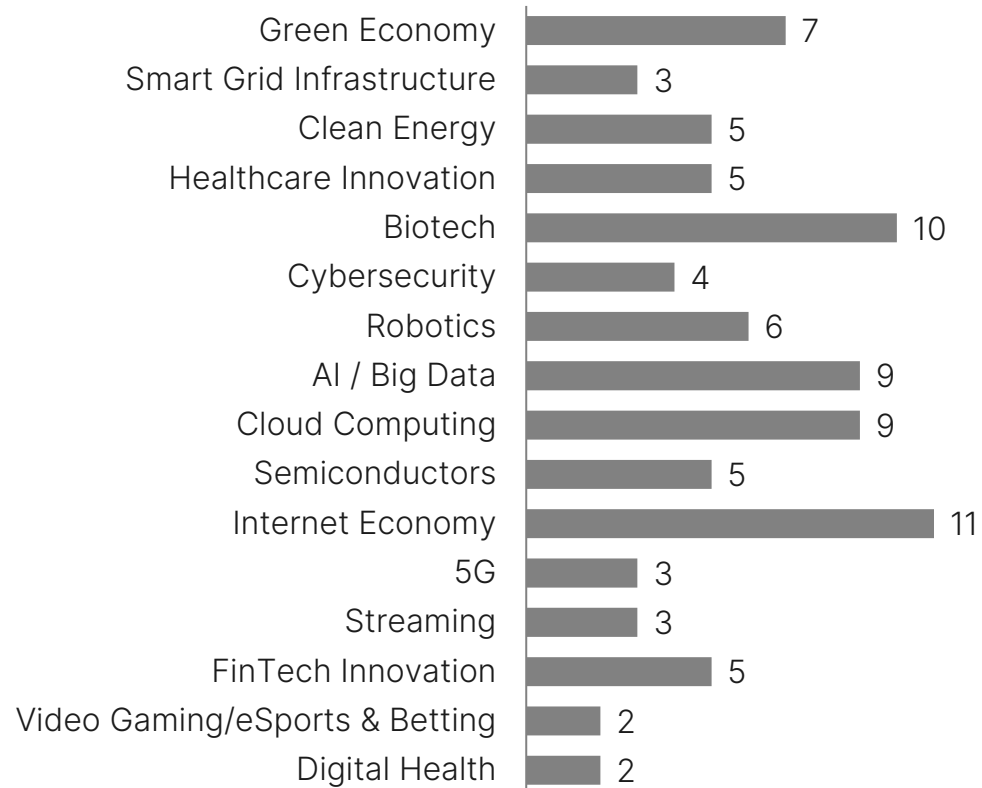


Source: Nasdaq, FactSet. Data as of 6/30/2022.

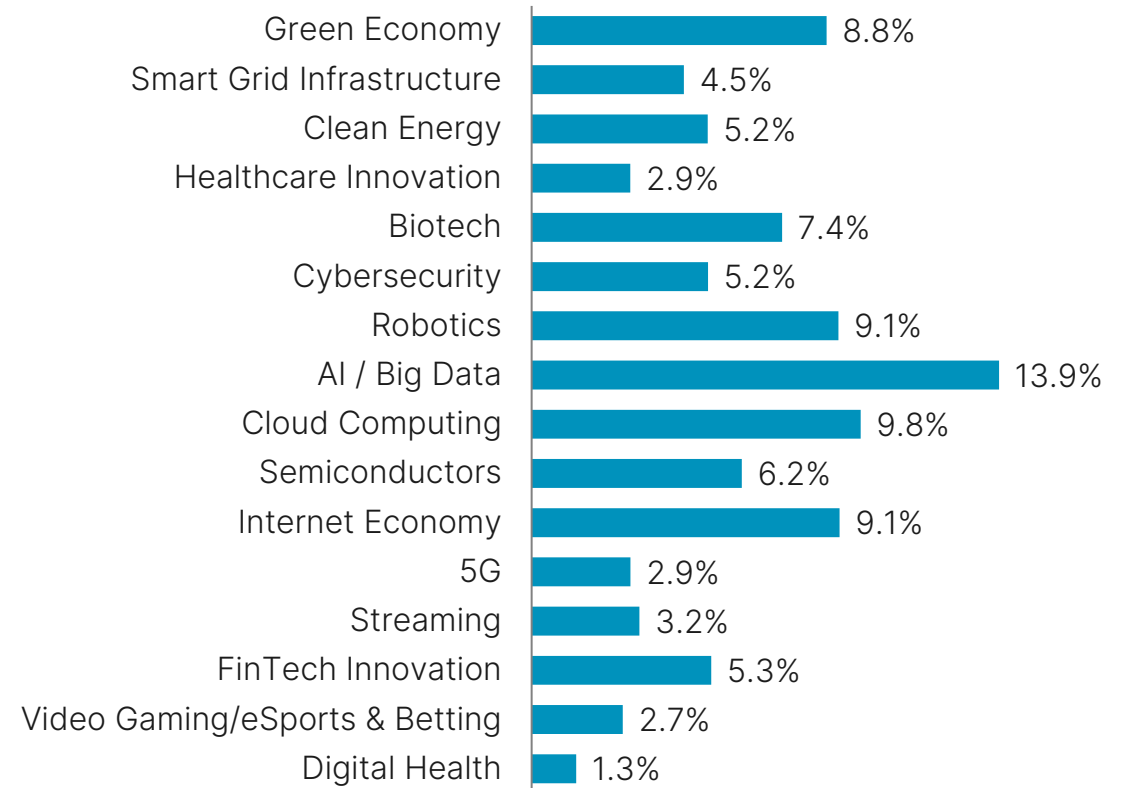
Based on overlap with existing Nasdaq Thematic Indexes, except for 5G, Streaming, and Video Gaming/eSports & Betting where competitor products were analyzed.

# Nasdaq Next Generation 100 ESG by Thematic Exposures

## # of Constituents per Theme



## Index Weight per Theme



Source: Nasdaq, FactSet. Data as of 6/30/2022.

Based on overlap with existing Nasdaq Thematic Indexes, except for 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	14.55	10.92	3.62	Microsoft	Technology
AAPL	14.14	12.58	1.56	Apple	Technology
NVDA	4.42	3.03	1.38	Nvidia	Technology
CSCO	2.51	1.67	0.84	Cisco	Telecommunications
ADBE	2.40	1.63	0.77	Adobe	Technology
PEP	2.79	2.17	0.61	PepsiCo	Consumer Staples
AMAT	1.14	0.75	0.39	Applied Materials	Technology
INTC	1.80	1.44	0.36	Intel	Technology
QCOM	1.69	1.35	0.34	Qualcomm	Technology
ADP	1.15	0.83	0.32	Automatic Data Processing	Industrials

# Top 10 Largest Underweights: NDXESG vs NDX

Symbol	Nasdaq-100 ESG Weight (%)	Nasdaq-100 Weight (%)	Difference Weight (%)	Company Name	ICB Industry
AMZN	3.21	6.14	-2.93	Amazon	Consumer Discretionary
META	1.27	3.15	-1.88	Meta	Technology
TSLA	2.43	3.97	-1.54	Tesla	Consumer Discretionary
GOOG	3.27	3.90	-0.63	Alphabet Cl C	Technology
GOOGL	3.12	3.73	-0.60	Alphabet Cl A	Technology
KHC	0.11	0.44	-0.33	Kraft Heinz	Consumer Staples
COST	1.68	2.00	-0.33	Costco	Consumer Discretionary
CMCSA	1.36	1.65	-0.30	Comcast	Telecommunications
MRNA	0.28	0.54	-0.26	Moderna	Health Care
CHTR	0.54	0.74	-0.20	Charter Communications	Telecommunications



# Top 10 Largest Overweights: NGXESG vs NGX

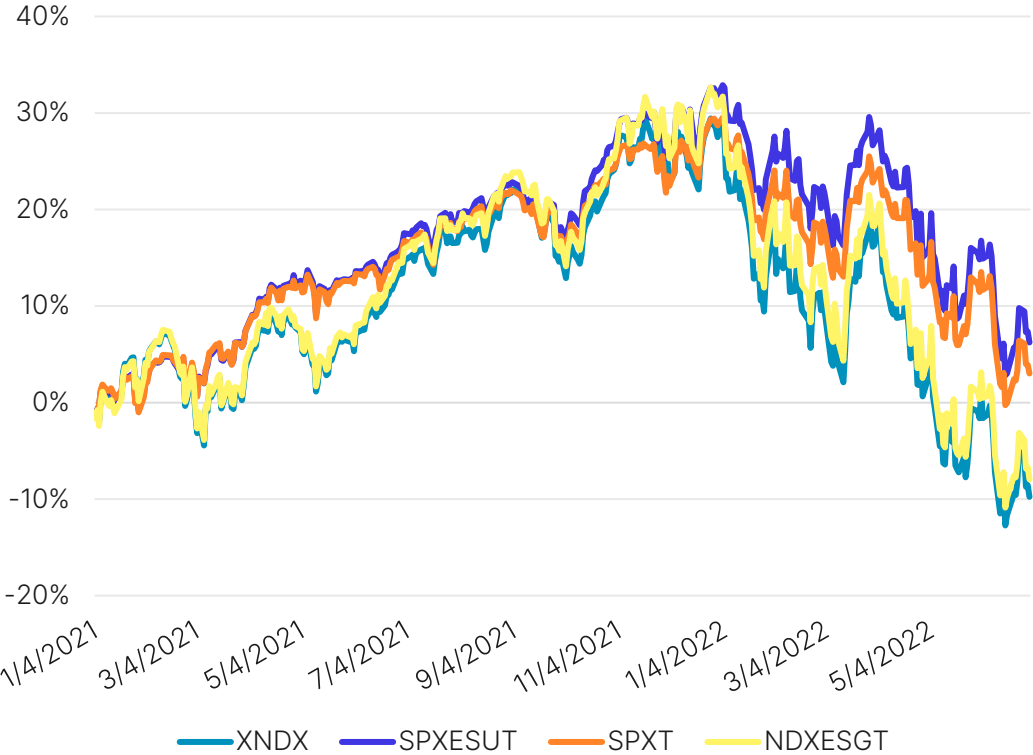
Symbol	NGXESG Weight (%)	NGX Weight (%)	Difference Weight (%)	Company Name	ICB Industry
CDW	3.21	1.84	1.37	CDW Corporation	Technology
ICLR	2.50	1.52	0.97	Icon	Health Care
CCEP	2.96	2.04	0.92	Coca-Cola Europacific	Consumer Staples
TSCO	2.78	1.88	0.91	Tractor Supply Co	Consumer Discretionary
TTWO	2.53	1.72	0.81	Take-Two Interactive	Consumer Discretionary
ZBRA	2.05	1.34	0.72	Zebra Technologies	Industrials
WDC	1.92	1.22	0.71	Western Digital Corp	Technology
STX	2.04	1.35	0.69	Seagate Technology	Technology
TRMB	1.94	1.26	0.68	Trimble	Industrials
HAS	1.65	0.99	0.66	Hasbro	Consumer Discretionary

# Top 10 Largest Underweights: NGXESG vs NGX

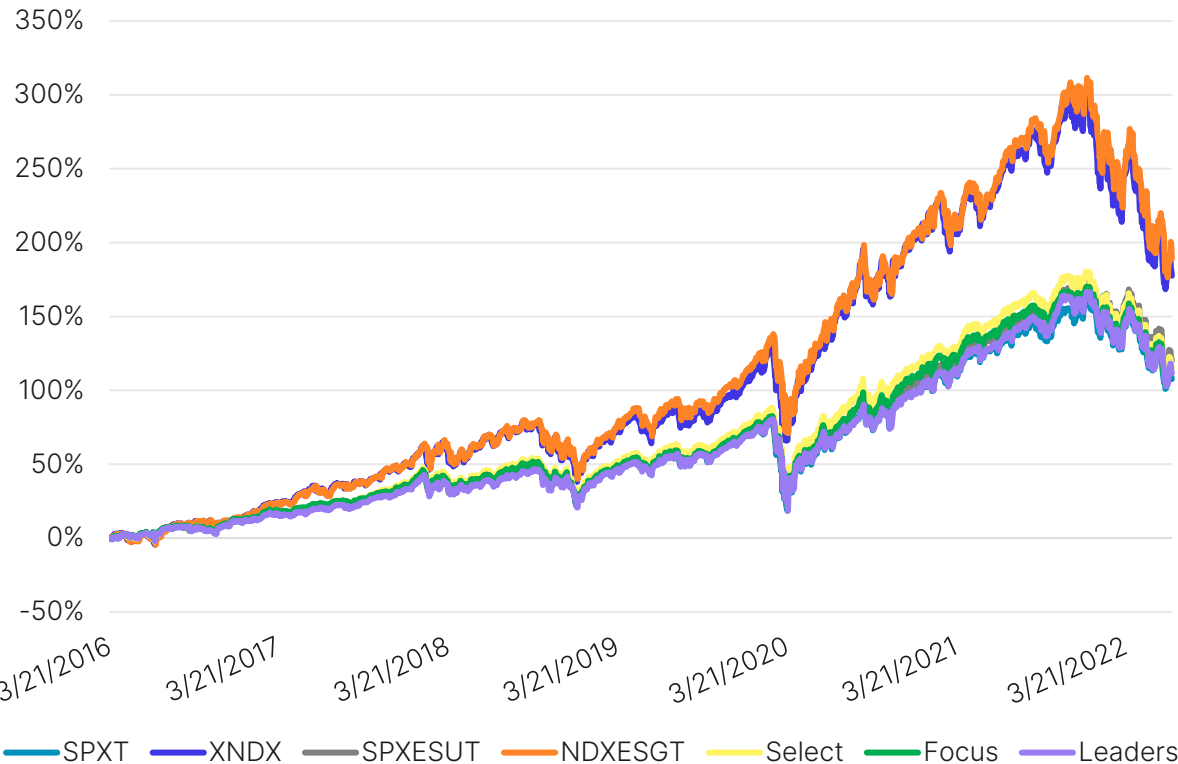
Symbol	NGXESG Weight (%)	NGX Weight (%)	Difference Weight (%)	Company Name	ICB Industry
HZNP	0.44	1.59	-1.15	Horizon Therapeutics	Health Care
ENPH	1.42	2.28	-0.86	Enphase Energy	Energy
STLD	0.35	1.08	-0.73	Steel Dynamics	Basic Materials
RPRX	0.95	1.58	-0.63	Royalty Pharma	Health Care
ALNY	0.89	1.52	-0.63	Alnylam Pharmaceuticals	Health Care
HOLX	0.97	1.50	-0.53	Hologic	Health Care
CSGP	1.56	2.07	-0.51	Costar	Real Estate
VTRS	0.61	1.10	-0.49	Viatis Inc.	Health Care
ZI	0.71	1.16	-0.45	ZoomInfo	Technology
UAL	0.56	1.00	-0.45	United Airlines	Consumer Discretionary

# Performance – NDX vs. NDXESG

12/31/2020 – 6/30/2022

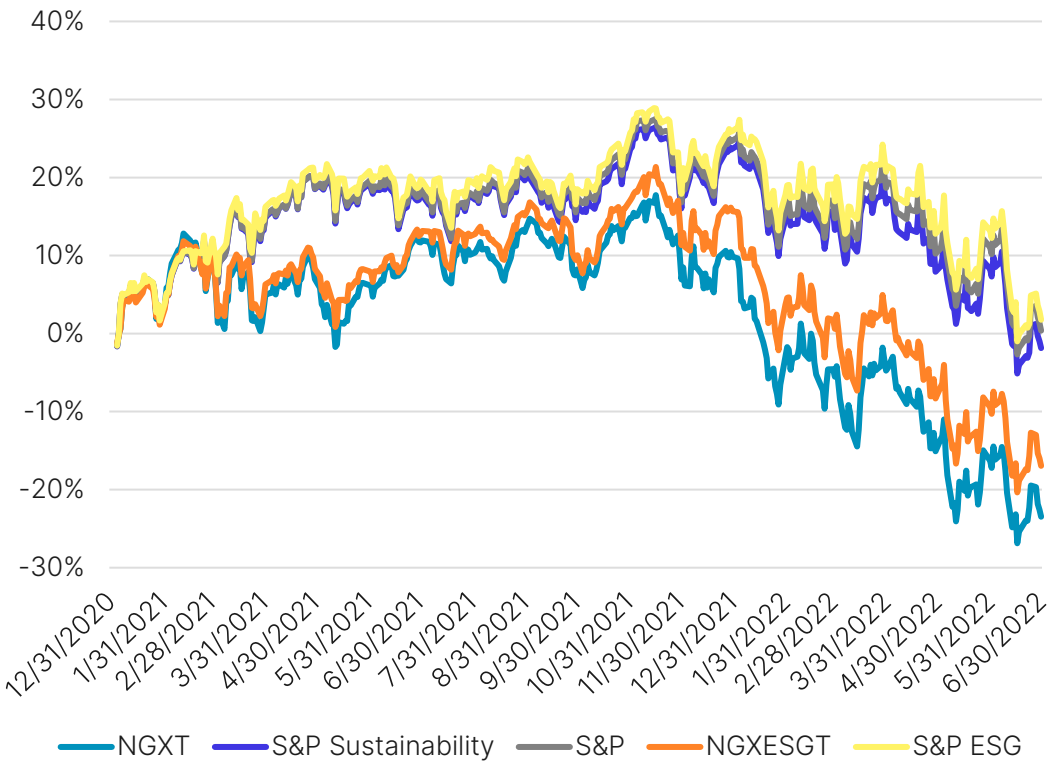


Since Beginning of Backtest  
3/21/2016 – 6/30/2022

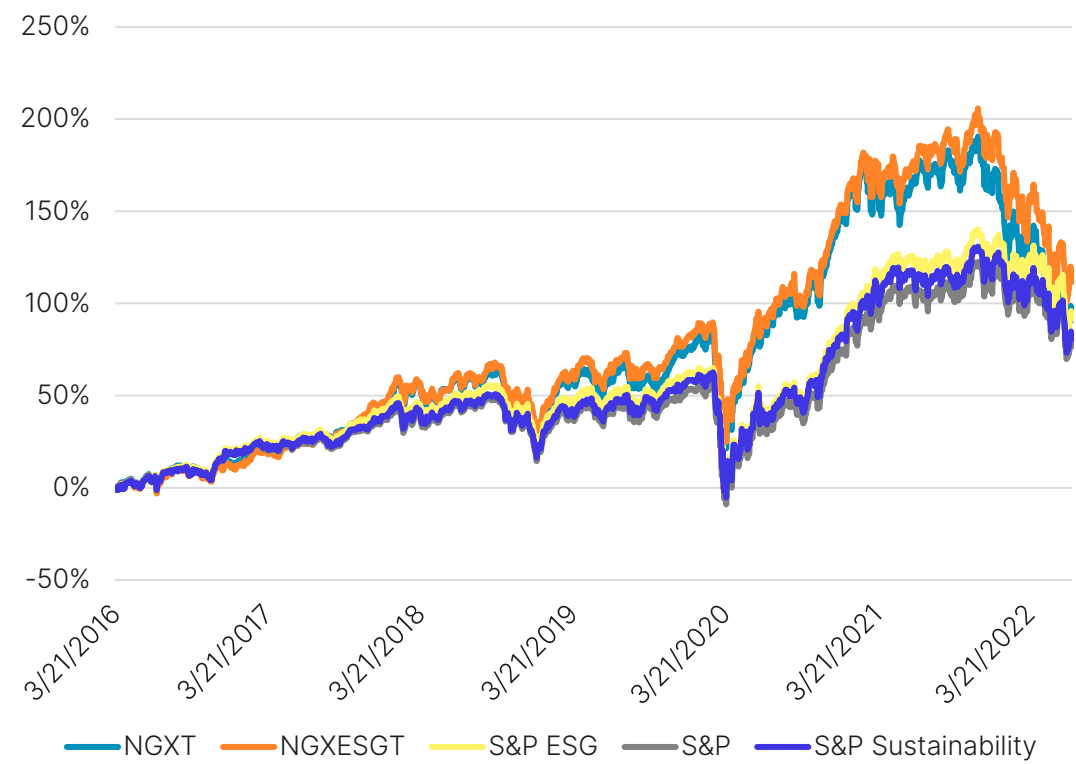


# Performance – NGX vs. NGXESG

12/31/2020 – 6/30/2022



Since Beginning of Backtest  
3/21/2016 – 6/30/2022



# 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	--	625	n/a	21.5	21.8
MSCI USA Extended ESG Focus Index	MSCI USA Index	306	51%	20.7	21.1
MSCI USA Extended ESG Leaders Index	MSCI USA Index	278	55%	19.3	20.1
MSCI USA ESG Universal Select Business Screens Index	MSCI USA Index	573	8%	20.0	21.2
Nasdaq-100 Index	--	102	n/a	20.4	20.3
Nasdaq-100 ESG Index	Nasdaq-100 Index	96	6%	18.4	20.0
S&P 500 Index	--	503	n/a	21.4	21.5
S&P 500 ESG Index	S&P 500 Index	306	39%	20.6	20.7

# 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	--	97	n/a	21.4	21.6
Nasdaq Next Generation ESG 100 Index	Nasdaq Next Generation 100 Index	88	9%	18.5	20.9
S&P MidCap 400 Index	--	404	n/a	23.6	23.7
S&P MidCap 400 Sustainability Screened Index	S&P MidCap 400 Index	373	8%	22.9	23.1
S&P MidCap 400 ESG Index	S&P MidCap 400 Index	284	30%	22.6	22.6

# RESOURCES

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## RESOURCES

# Nasdaq-100 ESG Index

- Overview
  - <https://indexes.nasdaqomx.com/Index/Overview/NDXESG>
- Methodology
  - [https://indexes.nasdaqomx.com/docs/methodology\\_NDXESG.pdf](https://indexes.nasdaqomx.com/docs/methodology_NDXESG.pdf)
- Research
  - [https://indexes.nasdaqomx.com/docs/NDXESG\\_Research.pdf](https://indexes.nasdaqomx.com/docs/NDXESG_Research.pdf)
- Fact Sheet
  - [https://indexes.nasdaqomx.com/docs/FS\\_NDXESGT.pdf](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>



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- Research
  - [https://indexes.nasdaqomx.com/docs/NGXESG\\_Research.pdf](https://indexes.nasdaqomx.com/docs/NGXESG_Research.pdf)
- Fact Sheet
  - [https://indexes.nasdaqomx.com/docs/FS\\_NGXESGT.pdf](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

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## 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

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

- 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.*





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