

Investing in Water for a Sustainable Future

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SUMMARY

- The world is facing critical water shortages, and companies that focus on addressing the growing water crisis could represent key long-term growth opportunities.
- Listed companies involved in water-related business activities, as represented by the [S&P Global Water Index](#), have historically exhibited higher risk-adjusted returns than the broad global equity market.
- Allocation to water can be systematically captured by rules-based, transparent index construction. Market participants could utilize index-linked water strategies to gain exposure to water, manage water risk, express their sustainability views, or allocate as part of a broader natural resource theme.

THE CASE FOR INVESTING IN WATER

Water is essential to the production and delivery of nearly all goods and services. Many businesses are reliant on a sufficient flow of clean water to operate and realize their growth ambitions. Overconsumption of water, water pollution, environmental degradation, and changing climatic conditions are making clean water an increasingly scarce resource.¹ As the world population grows and competition for water resources between industry sectors intensifies, nations are set to experience a 40% shortfall in water by 2030.²

As these demands for clean water increase, companies involved in water-related business activities stand to grow in the coming years. Markets seem to be rewarding these companies as well. The S&P Global Water Index has performed better than the S&P Global BMI by 3.04% per year since its inception on Nov. 30, 2001 (see Exhibit 1).

¹ "Integrating water stress into corporate bond credit analysis." UNEP Finance Initiative, Natural Capital Declaration (NCD), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and German Association for Environmental Management and Sustainability in Financial Institutions (VfU), 2015, <https://www.unepfi.org/publications/ecosystems-publications/integrating-water-stress-into-corporate-bond-credit-analysis/>.

² "The United Nations World Development Report 2015: Water for a Sustainable World." *UNESDOC Digital Library*, United Nations Educational, Scientific and Cultural Corporation, 2015, <http://unesdoc.unesco.org/images/0023/002318/231823E.pdf>.

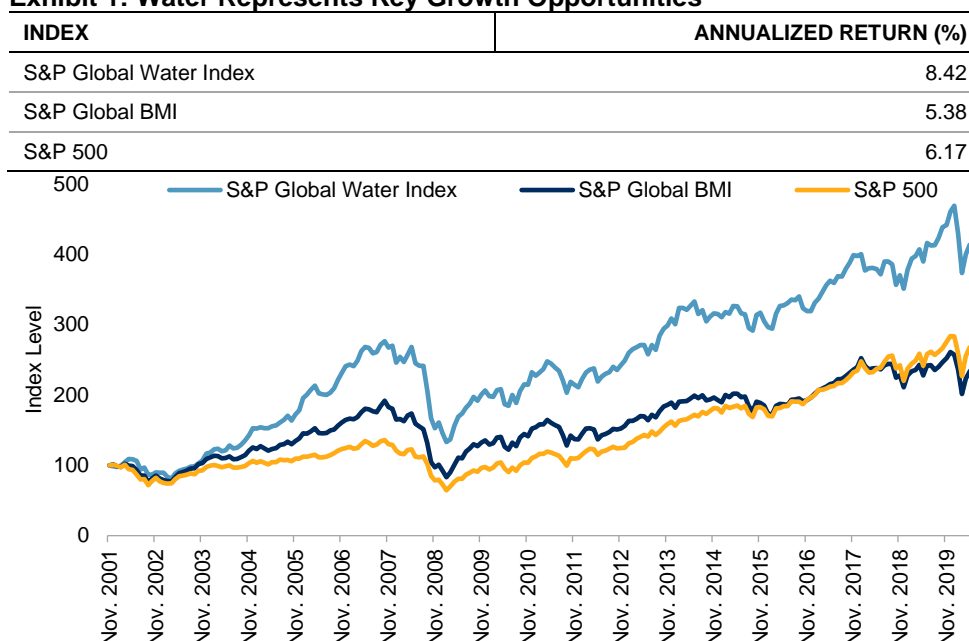
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Against this context, we look at the investment case for water through companies involved in water-related business activities.

The S&P Global Water Index has outperformed the broad-based global market index by 3.04% per year since its inception.

Against that context, we look at the investment case for water through companies involved in water-related business activities. Using the S&P Global Water Index as an example, we demonstrate how one can systematically construct a rules-based water portfolio.

Exhibit 1: Water Represents Key Growth Opportunities



Source: S&P Dow Jones Indices LLC. Data from Nov. 30, 2001, to Aug. 31, 2020. Index performance based on monthly price return in USD. Past performance is no guarantee of future results. Chart and table are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

TYPES OF WATER COMPANIES

Companies involved in water-related business activities can be split broadly into three types.

The first is water utilities companies, which are responsible for treating and distributing drinking water to the public. Many water utilities companies operate in an environment of limited competition as a result of government regulations. Hence, they are regarded as stable businesses with the potential to generate consistent, stable cash flow streams, with lower volatility than other industries. These companies also tend to pay reliable dividends, which can be attractive to many investors.

The second is water infrastructure providers, whose products and services are related to the construction, planning, design, or engineering of infrastructure that improves water efficiency and delivery.

The third is companies that supply equipment, technology, or services for the treatment, separation, or purification of water. This category also

There are three types of water-related companies:

includes companies that promote water conservation and the efficient use of water, such as meter solutions and leakage detection.

All these companies represent the areas of development that could help to solve the growing water crisis.

CONSTRUCTING A RULES-BASED PORTFOLIO

...water utilities, water infrastructure, and supply companies for the treatment, separation, or purification of water.

The S&P Global Water Index is designed to track 50 of the largest publicly traded companies significantly involved in water-related business activities. The index seeks to measure a diversified spectrum of companies through two distinct clusters: Water Utilities & Infrastructure and Water Equipment & Materials.

Exhibit 2: Product Involvement of Companies in the S&P Global Water Index	
WATER UTILITIES & INFRASTRUCTURE	WATER EQUIPMENT & MATERIALS
Water Supply	Water Treatment Chemicals
Water Utilities	Water Treatment Appliances
Waste Water Treatment	Pumps & Pumping Equipment
Water Purification	Pumping Equipment
Water Well Drilling	Pumping Pipes
Water Testing	Fluid Power Pump & Motors
Water, Sewer & Pipeline Construction	Fluid Meters & Counting Devices

Source: S&P Dow Jones Indices LLC. Data as of Aug. 31, 2020. Table is provided for illustrative purposes.

The S&P Global Water Index seeks to track 50 of the largest companies involved in water-related business, split into two clusters:

The underlying universe consists of securities trading on a developed market exchange with a minimum three-month average daily value traded of USD 1 million (USD 500,000 for current constituents), a total market capitalization of USD 250 million, and a float-adjusted market capitalization of USD 100 million after each rebalancing.

...Water Utilities & Infrastructure and Water Equipment & Materials.

Given that companies can have multiple business segments and not all may derive from water-related business, it is helpful to separate those with pure exposure to water and those with mixed exposure. Hence, we assign an exposure score of 1.0, 0.5, or 0 for each company, based on its primary business. The 25 largest companies with exposure scores of 1.0 from each of the two clusters are selected for the index. In the event of fewer than 25 qualifying stocks for the index in either of the two clusters, the largest companies from within the respective cluster with an exposure score of 0.5 are added until the count reaches the required number of companies.

As of Aug. 31, 2020, there were 28 companies with an exposure score of 1.0 and 22 companies with an exposure score of 0.5 in the index. The index was evenly split among the two clusters.

The index uses a modified market-cap weighting where each stock has a maximum weight of 10% if its exposure score is 1.0, or 5% if its exposure

Given that companies can have multiple business segments, we separate those with pure exposure to water (1.0) and those with mixed exposure (0.5).

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The index attempts to provide a balanced, yet reflective view of the global water market by recognizing the full ecosystem of companies.

score is 0.5. The index hence attempts to provide a balanced, yet reflective view of the global water market by recognizing the full ecosystem of companies and pure-play names to be more focused areas.

Exhibit 3: Constituent Weight of Companies in the S&P Global Water Index

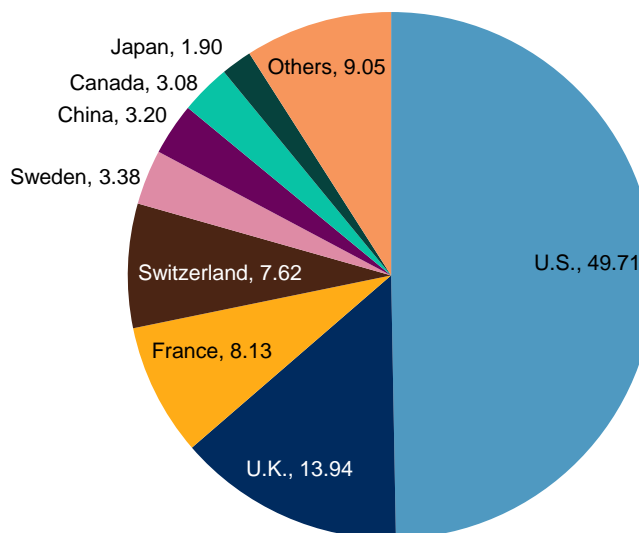
a. BY CLUSTER		
Cluster	WATER UTILITIES & INFRASTRUCTURE	WATER EQUIPMENT & MATERIALS
Count	25	25
Weight (%)	50	50
b. BY EXPOSURE SCORE		
Exposure Score	1.0	0.5
Definition	Multi-industry with significant water exposure	Primary business is water
Weight Capping (%)	10	5

Source: S&P Dow Jones Indices LLC. Data as of Aug. 31, 2020. Table is provided for illustrative purposes.

Semiannual index rebalancing occurs after the close on the third Friday of April and October, and the weight of each subcategory is set back to 50% at this time.

As of Aug. 31, 2020, the S&P Global Water Index had a 50% weight in the U.S., and the remaining 50% covered 14 other countries, including the U.K., France, Switzerland, Sweden, China, and Canada (see Exhibit 4).

Exhibit 4: Country Weights in the S&P Global Water Index



Source: S&P Dow Jones Indices LLC. Data as of Aug. 31, 2020. Chart is provided for illustrative purposes.

RISK/RETURN CHARACTERISTICS

While the S&P Global Water Index had a 50% weight in the U.S., the remaining 50% was spread across 14 other countries.

Over a long-term investment horizon, the S&P Global Water Index exhibited higher absolute and risk-adjusted returns than the broad-based global equity benchmark, the [S&P Global BMI](#).

The water index demonstrated stronger defensive characteristics than the global equities market, with lower downside capture ratio and higher upside capture ratio (see Exhibit 5).

Exhibit 5: Statistical Summary of the S&P Global Water versus the S&P Global BMI

CHARACTERISTIC	S&P GLOBAL WATER	S&P GLOBAL BMI
Annual Return (%)	7.55	6.20
Annual Volatility (%)	16.32	16.82
Risk-Adjusted Return	0.46	0.37
Maximum Drawdown (%)	-50.21	-55.13
Upside Capture Ratio (%)	95.18	-
Downside Capture Ratio (%)	90.45	-
Monthly Alpha to the S&P Global BMI (%)	0.15	-
Beta to the S&P Global BMI	0.91	-
Correlation with the S&P Global BMI	0.94	-

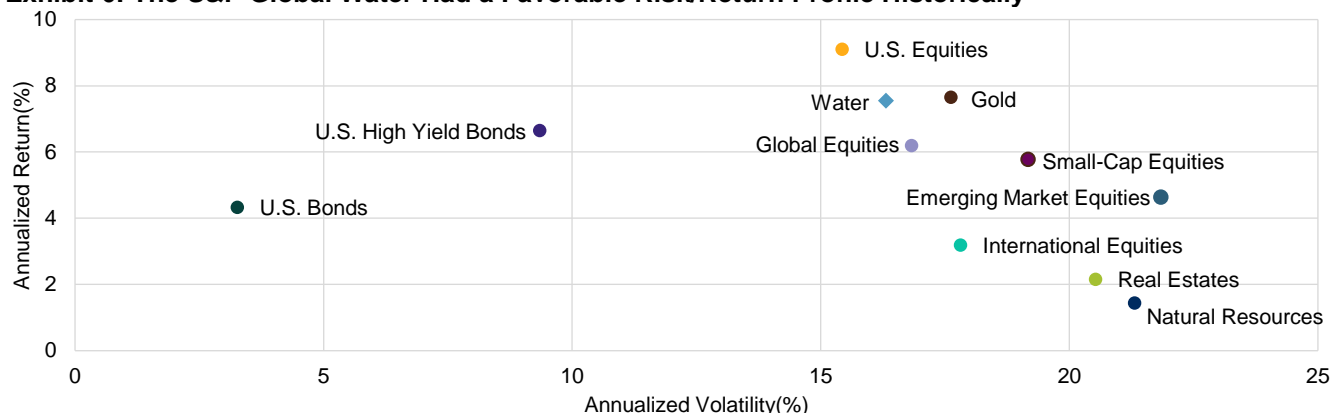
Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2006, to Aug. 31, 2020. Index performance based on monthly total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Long term, the S&P Global Water Index had higher absolute and risk-adjust returns than the S&P Global BMI...

The S&P Global Water Index also provided favorable risk/return characteristics over the long run compared with the key traditional asset classes, including real estate, small cap equities, international equities, emerging market equities, and gold (see Exhibits 6 and 7).

...and also demonstrated stronger defensive characteristics.

The favorable long-term risk/return characteristics compared with the [S&P Global Natural Resources Index](#) could be attractive for investors looking to diversify from other natural resource exposure.

Exhibit 6: The S&P Global Water Had a Favorable Risk/Return Profile Historically³

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2006, to Aug. 31, 2020. Index performance based on monthly total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance

Exhibit 7: Statistical Summary of the S&P Global Water versus Other Key Indices

INDEX	ANNUAL RETURN (%)	ANNUAL VOLATILITY (%)	RISK-ADJUSTED RETURN	MAXIMUM DRAWDOWN (%)	UPSIDE CAPTURE RATIO (%)	DOWNSIDE CAPTURE RATIO (%)	MONTHLY ALPHA AGAINST THE S&P GLOBAL BMI (%)	BETA TO THE S&P GLOBAL BMI	CORRELATION WITH THE S&P GLOBAL BMI
Water	7.55	16.32	0.46	-50.21	95.18	90.45	0.15	0.91	0.94
Natural Resources	1.44	21.31	0.07	-48.92	96.68	115.20	-0.36	1.08	0.86
Global Equities	6.20	16.82	0.37	-55.13	-	-	-	-	-
Small-Cap Equities	5.79	19.17	0.30	-58.44	109.07	108.83	-0.07	1.12	0.98
U.S. Equities	9.10	15.43	0.59	-50.95	98.09	86.76	0.28	0.88	0.96
International Equities	3.20	17.81	0.18	-57.25	95.06	107.40	-0.25	1.04	0.98
Emerging Market Equities	4.64	21.84	0.21	-60.18	105.90	110.57	-0.14	1.17	0.90
U.S. Bonds	4.33	3.26	1.33	-4.84	7.01	-14.99	0.35	0.01	0.04
U.S. High Yield Bonds	6.65	9.34	0.71	-30.64	42.96	34.19	0.30	0.44	0.79

Source: S&P Dow Jones Indices LLC. Data from Dec. 31, 2006, to Aug. 31, 2020. Index performance based on monthly total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

CONCLUSION

Water is a natural resource that is often taken for granted. As fresh water grows scarcer, it could represent an opportunity for investors. The S&P Global Water Index is designed to provide liquid, diversified exposure to companies involved in water-related business activities. The index has historically proven to be a strong source of defensive and attractive returns and could be a good option to dilute natural resource portfolios.

³ "Water" represents the S&P Global Water Index, "Natural Resources" represents the S&P Global Natural Resources Index, "Global Equities" represents the S&P Global BMI, "U.S. Equities" represents the [S&P 500®](#), "International Equities" represents the [S&P Developed Ex-U.S. BMI](#), "Emerging Market Equities" represents the [S&P Emerging BMI](#), "Small-Cap Equities" represents the [S&P Global SmallCap](#), "U.S. Bonds" represents the [S&P U.S. Aggregate Bond Index](#), "U.S. High Yield Bonds" represents the [S&P U.S. High Yield Corporate Bond Index](#), "Gold" represents the [S&P GSCI Gold](#), and "Real Estate" represents the [Dow Jones Global Select Real Estate Securities Index](#).

PERFORMANCE DISCLOSURE

The S&P Global Water Index was launched February 22, 2007. The S&P Global Natural Resources Index was launched May 27, 2008. The S&P U.S. Aggregate Bond Index was launched July 15, 2014. The S&P Global SmallCap was launched October 1, 2008. The S&P U.S. High Yield Corporate Bond Index was launched December 15, 2016. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spdji.com. Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).

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