

**STANDARD  
& POOR'S**

# S&P ASIA WATER INDEX

INDEX METHODOLOGY

**November 2008**

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# Introduction

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The S&P Asia Water Index is comprised of 30 of the largest publicly-traded Asian companies in water-related businesses that meet specific investability requirements. The index is designed to provide liquid exposure to the leading publicly-listed companies in the Asian water industry, from both developed markets and emerging markets.

## Highlights

The S&P Asia Water Index includes 30 of the largest publicly traded stocks from companies involved in some aspect of the water business around the world. To ensure investability, a minimum market capitalization and a liquidity requirement have been set.

To create diversified exposure across the global water market, the 30 constituents are distributed equally between two distinct clusters of water related businesses: Water Equipment & Materials and Water Utilities & Infrastructure.

Constituent weights are driven by size, with no single stock having a weight of more than 10% in the index at each rebalancing.

## Index Family

The S&P Asia Water Index belongs to the S&P Asia Thematic Indices family. This series offers liquid exposure to emerging investment themes. The other indices in this series are the S&P Asia Alternative Energy Index and the S&P Asia Infrastructure Index.

**S&P Asia Alternative Energy Index.** Designed to measure investable opportunities in the complete alternative energy space, the S&P Asia Alternative Energy Index is comprised of 20 Asian companies engaged in the businesses of either clean energy or nuclear energy.

**S&P Asia Infrastructure Index.** The S&P Asia Infrastructure Index is comprised of 30 of the largest publicly-listed infrastructure companies that meet specific investability requirements. The index is designed to provide liquid exposure to the leading publicly listed companies in the infrastructure industry.

*For more information on any of these indices, please refer to their methodology documents.*

# Eligibility Criteria

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## Index Eligibility

The universe, from which the S&P Asia Water Index is drawn, is all publicly listed companies in Standard & Poor's CapitalIQ (CIQ) database with the term “water” in their business description. All of these are, then, reviewed to get further detail on their business and industry, and are classified as follows:

Set Name	Description	Exposure Score
Primary	Primary business is water	1.0
Secondary	Multi-industry with significant water exposure	0.5
Eliminated	Marginal water exposure	0

Companies with an exposure score of 1.0 or 0.5 become the universe for the S&P Asia Water Index.

## Eligibility Factors

The universe is, then, narrowed down to an investable set of stocks based on the following criteria:

**Market Capitalization.** Stocks must have a total market capitalization above a Market Capitalization Threshold as of the reference date of each year. The Market Capitalization Threshold is currently US\$ 250 million.

**Liquidity.** Stocks must have three-month average daily trading value above a Liquidity Threshold as of the reference date of each year. The Liquidity Threshold is currently US\$2 million.

**Domicile & Location of Trading.** Each stock’s domicile must be an Asian country and its primary market listing must be an Asian market. To ensure tradability, Indian stocks and both Chinese A&B shares are currently ineligible for the index.

Stocks passing these criteria form the Investable Universe.

The reference date for the eligibility screens above is the third Friday of October of each year. The Market Capitalization Threshold and Liquidity Threshold are subject to change on an annual basis according to market conditions.

# Index Construction

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## Approaches

The methodology employs a modified market capitalization-weighting scheme, using the divisor methodology used in most Standard & Poor's equity indices.

There are two steps in the creation of the index. The first is the selection of the 30 companies; the second is the weighting of the index constituents.

## Constituent Selection

The selection of index constituents is done as follows:

1. All stocks in the Investable Universe are classified as being in one of the two clusters: Water Equipment Instruments & Materials or Water Utilities & Infrastructure defined as follows:

<b>Water Equipment &amp; Materials</b>	<b>Water Utilities &amp; Infrastructure</b>
Water Treatment Chemicals	Water Supply
Water Treatment Appliances	Water Utilities
Pumps & Pumping Equipment	Waste Water Treatment
Plumbing Equipment	Water Purification
Plumbing Pipes	Water Well Drilling
Fluid Power Pumps & Motors	Water Testing
Totalizing Fluid Meters & Counting Devices	Water, Sewer & Pipeline Construction

2. The 15 largest companies with Exposure Scores of 1 from each of the two clusters are, then, selected.

In the event of fewer than 15 qualifying stocks in either of the two clusters with an exposure score of 1, the largest companies from within the respective cluster with an Exposure Score of 0.5 are added until the count reaches 15.

## Constituent Weightings

At each rebalancing, the weight for each index constituent is set in the following manner:

1. Every stock is given an initial Adjustment Factor (AF) of 1. A Maximum Weight ( $MW$ ) in the index is set to 10% for stocks with an Exposure Score of 1.0 and 5% for stocks with an Exposure Score of 0.5. The weight of a stock in the index is defined as follows:

$$W_i = \text{Cluster Weight} * \text{Weight in Cluster}$$

where,

Cluster	Count	Weight
Water Equipment & Materials	15	50%
Water Utilities & Infrastructure	15	50%

$$\text{Weight in Cluster} = \frac{AF_i * \text{Market Cap}_i}{\sum_{i=1}^N (\text{Market Cap})_i * (AF)_i}$$

$$N = \text{Count of stocks in the respective cluster}$$

2. The weight for each stock in the index is calculated as follows:

$$W_i = \frac{AF_i * \text{Market Cap}_i}{\sum_{i=1}^N (\text{Market Cap})_i * (AF)_i} * \text{Cluster Weight}$$

3. The adjustment factor for each stock is modified as follows:

$$\text{If } W_i \geq MW$$

$$\text{then } AF_i = AF_{i, \text{previous}} - (10\% * AF_{i, \text{previous}})$$

$$\text{else } AF_i = AF_{i, \text{previous}}$$

4. If, for every stock  $W_i < MW$ , then the process is complete and the weights derived in step 2 are used. If not, steps 2 and 3 are repeated until all stocks meet the minimum weight requirement. (Note: No further adjustments are made for stocks where the AF has been reduced to 0.1)

The  $MW$  parameter is the maximum weight of each stock at the rebalancing. This parameter can be changed depending upon market circumstances at rebalancing. Steps 1 through 4 modify the market cap-weighting scheme in a looped manner until the  $MW$  constraints are satisfied for all index constituents.

## Index Calculations

The index is calculated by means of the divisor methodology used in all Standard & Poor's equity indices. The index value is simply the index market value divided by the index divisor:

$$\text{Index Value} = \frac{\text{Index Market Value}}{\text{Index Divisor}} \quad (1)$$

*For more information on the index calculation methodology, please refer to the Modified Market Capitalization Weighted Indices section of Standard & Poor's Index Mathematics Methodology.*

In order to maintain basket series continuity, it is also necessary to adjust the divisor at the rebalancing.

$$(\text{Index Value})_{\text{before rebalancing}} = (\text{Index Value})_{\text{after rebalancing}} \quad (2)$$

Therefore,

$$(\text{Divisor})_{\text{after rebalancing}} = \frac{(\text{Index Market Value})_{\text{after rebalancing}}}{(\text{Index Value})_{\text{before rebalancing}}} \quad (3)$$

# Index Maintenance

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## Rebalancing

**Frequency.** Index rebalancings occur after the closing on the third Friday of November of each year. The rebalancing reference date is after the close of the third Friday of October. No companies are added to the Index between rebalancings.

## Corporate Actions

<b>Corporate Action</b>	<b>Adjustment made to index</b>	<b>Divisor adjustment?</b>
Spin-off	No weight change. The price is adjusted to the Price of the Parent Company minus (Price of the Spun-off company/Share Exchange Ratio). Index Shares change so that the company's weight remains the same as its weight before the spin-off.	No
Rights Offering	The price is adjusted to the Price of Parent Company minus (Price of the Rights Offering/Rights Ratio). Index Shares change so that the company's weight remains the same as its weight before the rights offering.	No
Stock Split	Index Shares are multiplied by and the price is divided by the split factor.	No
Share Issuance or Share Repurchase	None. Actual shares outstanding of the company play no role in the daily index calculation.	No
Special Dividends	The price of the stock making the special dividend payment is reduced by the per share special dividend amount after the close of trading on the day before the dividend ex-date.	Yes
Delisting, acquisition or any other corporate action resulting in the change of public-listing status of the company.	The stock is dropped from the Index. No intra-year replacements are made.	Yes

**Base Date**

The index base date is October 18th, 2002. The base value, for both the price return and total return series, is 1000. Daily returns are available from October 18th, 2002.

# Index Data

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## Total Return and Net Return Indices

The index has a total return counterpart, which assumes dividends are reinvested in the index after the close on the ex-date. On any given date  $t$ :

$$\text{Total Return Multiplier}_t = \frac{[\text{Index Value}_t + \text{Index Dividend Points}_t]}{\text{Index Value}_{t-1}} \quad (4)$$

$$\text{Total Return Index Value}_t = (\text{Total Return Index Value}_{t-1}) * (\text{Total Return Multiplier}_t) \quad (5)$$

$$\text{Index Dividend Points}_t = \sum_{i=1}^N (\text{Index Shares})_{i,t} * (\text{Ex-dividends})_{i,t} / \text{Divisor}_t \quad (6)$$

There is also a net return index series, which adds dividends after adjustments for withholding taxes based on a Luxembourg domicile. Effectively, the net return index adds index dividend points, as in Equation 6, except that the Ex-dividends term is multiplied by (100% - withholding tax rate).

# Index Governance

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## **Index Committee**

An Index Committee maintains the S&P Asia Thematic index series. The Index Committee meets regularly. At each meeting, the Index Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, companies that are being considered as candidates for addition to an index, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, treatment of dividends, share counts or other matters.

Standard & Poor's considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

# Index Policy

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## **Announcements**

Announcements of additions and deletions are made at 05:15 PM U.S. Eastern Time via the Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com). Rebalancing announcements are made four to seven business days prior to the rebalancing date.

## **Holiday Schedule**

The S&P Asia Water Index is calculated daily on all business days of the year, with no exceptions.

*A complete holiday schedule for the year is available on Standard & Poor's Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com).*

## **Unscheduled Market Closures**

In situations where an exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, Standard & Poor's will calculate the closing price of the indices based on (1) the closing prices published by the exchange, or (2) if no closing price is available, the last regular trade reported for each stock before the exchange closed. In all cases, the prices will be from the primary exchange for each stock in the index. If an exchange fails to open due to unforeseen circumstances, the index will use the prior day's closing prices. If all exchanges fail to open, Standard & Poor's may determine not to publish the index for that day.

# Index Dissemination

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Complete data for index replication (including share counts, tickers and data on index levels and returns) are available through Standard & Poor's index data group for subscription via FTP.

## **Tickers**

	<b>Bloomberg</b>	<b>Reuters</b>
S&P Asia Water Index – Price Return (U.S. dollars)	SPATAQUA	.SPATAQUA
S&P Asia Water Index – Total Return (U.S. dollars)	SPATAQUT	.SPATAQUT
S&P Asia Water Index – Price Return (Euro)	SPATAQEP	.SPATAQEP
S&P Asia Water Index – Total Return (Euro)	SPATAQET	.SPATAQET
S&P Asia Water Index – Price Return (Yen)	SPATAQYP	.SPATAQYP
S&P Asia Water Index – Total Return (Yen)	SPATAQYT	.SPATAQYT

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