

**STANDARD  
& POOR'S**

# S&P GLOBAL NUCLEAR ENERGY INDEX

INDEX METHODOLOGY

**November 2008**

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# Introduction

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The S&P Global Nuclear Energy Index is comprised of 24 of the largest publicly traded companies in nuclear energy related businesses that meet investability requirements. The index is designed to provide liquid exposure to the leading publicly listed companies in the global nuclear energy business from both developed markets and emerging markets.

## Highlights

The S&P Global Nuclear Energy Index includes 24 of the largest publicly traded nuclear energy stocks from around the world. To ensure investability, a developed market listing, a minimum market capitalization, and a liquidity requirement have been set.

To create diversified exposure across the global nuclear energy markets, the index is equally distributed between two clusters: Nuclear Materials, Equipment and Services and Nuclear Energy Generation.

Constituent weights are driven by size, with no single stock having a weight of more than 8% in the index at each rebalancing.

## Index Family

The S&P Global Nuclear Energy Index belongs to the S&P Global Thematic Indices. This series offers liquid exposure to emerging investment themes. Other indices in this series are the S&P Emerging Markets Infrastructure Index, the S&P Global Alternative Energy Index, the S&P Global Clean Energy Index, the S&P Global Eco Index, the S&P Global Infrastructure Index, the S&P Global Timber & Forestry Index, and the S&P Global Water Index.

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

**S&P Global Alternative Energy Index.** Designed to measure investable opportunities in the complete alternative energy space, the S&P Global Alternative Energy Index is the combination of the S&P Global Clean Energy Index, defined below, and the S&P Global Nuclear Index.

**S&P Global Clean Energy Index.** The S&P Global Clean Energy Index is comprised of 30 of the largest publicly traded companies in clean energy related businesses that meet specific investability requirements. The index is designed to provide liquid exposure to the leading publicly listed companies in the global clean energy business, from both developed markets and emerging markets.

**S&P Global Eco Index.** The S&P Global Eco Index is comprised of 40 of the largest publicly listed companies in ecology-related industries.

**S&P Global Infrastructure Index.** The S&P Global Infrastructure Index is comprised of 75 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 global infrastructure industry, from both developed markets and emerging markets.

**S&P Global Timber & Forestry Index.** The S&P Global Timber & Forestry Index is comprised of 25 of the largest publicly traded companies engaged in the ownership, management or the upstream supply chain of forests and timberlands.

**S&P Global Water Index.** The S&P Global Water Index is comprised of 50 of the largest publicly traded 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 global water industry, from both developed markets and emerging markets.

*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 Global Nuclear Energy index is drawn is all publicly listed companies in Standard & Poor's CapitalIQ (CIQ) database with specific terms related to nuclear energy in their business description or industry classification. All these are, then, reviewed in terms of their business description and industry classification and are classified as follows:

Set Name	Description	Exposure Score
Primary	Significant business in nuclear energy	3
Secondary	Diversified businesses with nuclear energy exposure	2
Tertiary	Marginal nuclear energy exposure	1
Eliminated	No material nuclear energy exposure	0

Companies with an exposure score of 3 or 2 become the eligible universe for the S&P Global Nuclear Energy Index.

## Eligibility Factors

Each stock must trade on a developed market exchange. Emerging Market stocks are considered only if they have a developed market listing. In addition, the following criteria are imposed:

**Market Capitalization.** Stocks must have a total market capitalization above the market cap threshold of US\$ 250 million, as of each rebalancing reference date.

**Liquidity.** Stocks must have a 3-month average daily volume of at least US\$ 2 million, as of each rebalancing reference date.

Stocks passing these criteria form the Investable Universe. The reference dates for the eligibility screens above are the third Friday of March and September of each year. The market cap and liquidity thresholds are subject to change 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 24 companies; the second is the weighting of the index constituents. The selection of index constituents is done as follows:

1. All stocks in the Investable Universe are classified as belonging to one of two clusters, as follows:

**Nuclear Materials, Equipment and Services:** Companies in this cluster may be in the business of mining or processing uranium; manufacturing, providing, or disposing of nuclear fuel; manufacturing or servicing nuclear power plants; or providing other related services such as engineering, oversight, or the planning and design of plants.

**Nuclear Energy Production:** Companies in this cluster are power suppliers who own or control a significant amount of nuclear generation capacity as a percentage of their overall generation capacity.

2. The 12 largest companies with Exposure Scores of 3 from the Investable Universe are chosen from each cluster.

In the event that fewer than 12 qualifying stocks with an exposure score of 3 are available in a cluster, the largest companies by market capitalization from within the Investable Universe with an Exposure Score of 2 are added until the cluster count reaches 12. In the rare event that the count still does not reach 12, no more stocks are added and that cluster is given a weight of 40%. The other cluster is given a weight of 60% and the number of constituents is increased to more than 12 to ensure the total index constituent count is 24.

## 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 8%. The weight of a stock in the index is defined as follows:

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

where,

Cluster	Count	Weight
Nuclear Materials, Equipment and Service	12	50%
Nuclear Energy Production	12	50%

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

$N =$  Count of stocks in the respective cluster

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

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

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

If  $W_i \geq MW$

then  $AF_i = AF_{i, \text{previous}} * 90\%$

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 the

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

Index rebalancings occur after the closing on the third Friday of April and October of each year. The rebalancing reference dates are the third Friday of March and September, respectively. No companies are added to the Index between rebalancings.

## Corporate Actions

Corporate Action	Adjustment made to index	Divisor adjustment?
Spin-off	No weight change. The price is adjusted to the Price of the Parent Company minus (the Price of Spin-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 the Parent Company minus (the 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 price is divided by the split factor.	No
Share Issuance or Share Repurchase	None.	No
Special Dividends	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 deletion of the stock.	The stock is dropped from Index	Yes

## Base Date

The index base date is November 21, 2003. The base value, for both the price return and total return series, is 1000. Daily returns are available from November 21, 2003.

# Index Data

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## **Total Return and Net Return Indices**

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

*Total Return Multiplier<sub>t</sub>* =

$$[\text{Index Value}_t + \text{Dividend Points}_t] / \text{Index Value}_{t-1} \quad (4)$$

*Total Return Index Value<sub>t</sub>* =

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

*Index Dividend Points<sub>t</sub>* =

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

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 3, except that the Ex-dividends term is multiplied by (100% - withholding tax rate).

# Index Governance

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## **Index Committee**

The S&P Global Thematic Index Series is maintained by an Index Committee. The Committee meets regularly. At each meeting, the 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 5:15 PM U.S. Eastern Time.

## **Holiday Schedule**

The S&P Global Nuclear Energy 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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## Index Data

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>Index</b>	<b>Bloomberg</b>	<b>Reuters</b>
S&P Global Nuclear Energy Index – Price Return (U.S. dollars)	SPGTNE	.SPGTNE
S&P Global Nuclear Energy Index – Total Return (U.S. dollars)	SPGTNET	.SPGTNET
S&P Global Nuclear Energy Index – Price Return (Euros)	SPGTNEE	.SPGTNEE
S&P Global Nuclear Energy Index – Total Return (Euros)	SPGTNETE	.SPGTNETE
S&P Global Alternative Energy Index - Price Return (U.S. dollars)	SPGTAE	.SPGTAE
S&P Global Alternative Energy Index - Total Return (U.S. dollars)	SPGTAET	.SPGTAET
S&P Global Alternative Energy Index - Price Return (Euros)	SPGTAE E	.SPGTAE E
S&P Global Alternative Energy Index - Total Return (Euros)	SPGTAETE	.SPGTAETE

*For further information, please refer to Standard & Poor's Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com)*

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