

# GUIDE TO THE CLEANTECH INDEX™

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### INDEX DESCRIPTION

The Cleantech Index™ (“Index”) is a modified equally weighted index that seeks to reflect the soaring global demand for clean technology-based solutions to the enormous environmental and resource scarcity challenges that confront our planet. Clean technology (“cleantech”) products are defined as knowledge-based products and services that add economic value by reducing cost, raising productivity and/or product performance ***while*** reducing resource consumption and their negative impact on the environment and public health. The Index is comprised of stocks (including ADS/ADRs) of publicly traded companies worldwide that are leaders in cleantech innovation and commercial deployment across a broad range of industry sectors: from providing alternative energy and energy efficiency to advanced materials, clean air & water, eco-friendly agriculture/nutrition, clean manufacturing, etc.

The Index Provider, Cleantech Indices, LLC considers a company to qualify as a “cleantech company” when the company derives at least 50% of its revenues or operating profits from cleantech businesses.

CLEANTECH INDUSTRY SEGMENTS FOR CLEANTECH INDEX

Cleantech Segment	Examples of Clean Technologies
<b>Energy-related</b>	<b>Power Generation:</b> Renewable, cleaner, and distributed energy generation and related equipment and services. Generation from solar, wind, geothermal, hydro/micro-hydro, tidal/wave/current power, clean waste-to-energy, biomass, combined heat/power, kinetic energy, etc. Equipment: generators, controls, power inverters, turbines, etc. Includes carbon sequestration for power generation.
	<b>Energy Storage and Clean Fuels:</b> Rechargeable batteries and controlschargers, fuel cells, flywheels, super-capacitors, etc. Bio-fuels, bio-digesters, and hydrogen generation. Other clean and 'cleaner' fuels including waste and fossil-fuel enhancements and their distribution & storage infrastructure.
	<b>Grid-level Energy Transmission and Controls:</b> Transmission infrastructure and controls hardware & services for power. Grid-level networks for advanced metering, power quality monitoring and outage management; integrated electronic systems for the management of distributed power; demand aggregation & response, and related software. Efficient grid management and related equipment.
	<b>Local-level Energy Controls &amp; Efficiency:</b> Networks and systems that meter/control energy consumption, power quality, maximize energy-efficiency, and enable remote diagnostics and demand-response for individual facilities or multiple locations; energy service companies; sensors and diagnostic equipment. Energy-efficient stationary products: lighting, HVAC, appliances, motors, machinery, compressors, etc. and their related controls and components. Energy-efficient components such as semiconductors, microelectronics, connectors, controls, etc.
<b>Transportation &amp; Logistics</b>	Energy-efficient and less-polluting vehicles of all types and related components; Intelligent roads and transportation systems; Maglev trains, public transportation, logistics technologies (such as RFID and GPS) and related systems and services. Mass/public transportation, ride-sharing, automated toll collection and road pricing systems.
<b>Agriculture &amp; Nutrition</b>	This sector arguably taxes the environment most - and the earth's rising population and changing climate exacerbate the problem. We foresee major demand growth for technologies that enable more efficient and eco-friendly farming, aqua-culture, and forestry. Examples: advanced production, irrigation, and information system technologies/services. Bio-generated nutrition, eco-friendly pesticides/veterinary products, crop/ plant development, precision agriculture, soil enhancers, animal health, etc. <i>Doesn't include organic/natural health foods per se.</i>

<b>Environmental Quality &amp; Safety</b>	Air purification and pollution controls, indoor air quality, emissions sensors and analyzers. Remediation of contaminated land, soil, water and buildings. Bio-remediation. Environmental engineering, and advanced infrastructure design/build/manage services. Natural resource management services. Hazmat, chemical, and waste recycling, minimization, and destruction products/services. Environmental Health & Safety products & services. Meteorology and climatology systems & services. Cleaning, sterilization, and irradiation systems, test & inspections services.
<b>Water</b>	Water treatment, desalinization and purification products & services, water infrastructure, sewage treatment, test/measurement and sub-metering systems, water conserving products and processes. Surface and groundwater management.
<b>Industrial</b>	Clean and efficient production equipment, sensors, and systems that minimize resource consumption (water, energy, materials) and pollute less. Systems that enable other processes, such as recycling machinery, factory automation, etc. Advanced analytic and diagnostic systems for materials and environmental testing, and filtration systems and membranes for production.
<b>Advanced Materials</b>	Bio-generated, biodegradable, or non-toxic materials; materials for photovoltaics, strong, lightweight composites; thermo-electric and thermal regulating fibers/materials; insulation, green building materials (and components e.g., insulation, flooring, wood composites) electro-chromic glass, advanced recycled materials, process efficiency catalysts, sorbents, environmentally-benign chemicals, e.g., lubricants, solvents, coatings, cleaning agents, adhesives, fire-retardants, etc.

## ELIGIBILITY CRITERIA FOR INDEX COMPONENTS

The Index includes shares (and securities) of leading cleantech companies worldwide. To be *eligible* for inclusion in the Index, component company stocks must have the following criteria:

- Have a three-month average market capitalization of at least \$150 million in freely traded ('floated') shares and total market capitalization of at least \$200 million.
- Have a least 50% of either sales or operating profits derived from cleantech businesses.
- Have passed the Index Provider's proprietary quantitative and qualitative screens.
- Maintain an average daily trading volume of at least \$200,000 during the prior three-month period – prior to determination date (exclusive of the five days during and after an initial public offering.
  - *If the trading history is less than three months, then the trading history to date will be used – exclusive of the first five days after an initial exchange listing and any secondary share offering greater than 5% of the floated share count prior to the offering.*
  - *For companies with shares listed on multiple exchanges (excluding pink sheet and bulletin board listings), trading volume and capitalization on foreign exchanges may also be taken into consideration with regard to company capitalization, weighting, and liquidity requirements.*

The Index seeks to track the world's leading cleantech companies most reflective of the commercial growth and success of clean technology products and services. Moreover, The Index seeks those companies that not only can survive rapidly evolving, high-growth markets, but also those that will lead and drive this growth wave. As such, The Index has a strong focus on investment merit and is an elite group of companies from around the world. In addition to the aforementioned eligibility criteria: all companies must pass a numerous proprietary screens for Index inclusion. These screens include:

- 1) Profitability and earnings quality
- 2) Revenue growth and quality of growth
- 3) Quality of management
- 4) Business strategy, sector leadership, strategic/competitive position,
- 5) Intellectual property and innovation
- 6) Sector and geographic representation
- 7) Materiality of impact of products/services;
- 8) Environmental performance or problems,
- 9) Financial strength, legal issues, exchange listing status

The Index Provider may at any time, and from time to time, change the number of issues comprising The Index by adding or deleting one or more components, or replace one or more Index components with one or more substitute stocks of its choice, if in the Index Provider's discretion, such addition, deletion or substitution is necessary or appropriate to maintain the quality and/or character of the industry groups to which The Index relates.

## **WEIGHTING METHODOLOGY**

The Index employs a modified, equal-weight strategy. The weight of each Index component stock is determined at the quarterly rebalancing as per the Index Provider's established set of proprietary formulae and rules.

In general, Index stocks are grouped into several 'weighting' bands with stocks of similar capitalization. Within each band, stocks are weighted equally at the rebalancing determination date.

Stocks with "floated" (freely traded shares) capitalizations below a certain threshold (as determined by the Index Provider's weighting formulae – but typically between \$800 million and \$1,000 million) have their weighting bands determined primarily by their floated market capitalization and trading liquidity.

In addition, lower weightings are assigned to the handful of index companies that have yet to post positive annual profits. As per the Index Provider's rules, the further a company is from achieving profitability, the lower the weight it receives vis-à-vis profitable companies of similar capitalization and liquidity.

Key input variables to determining the weights include:

- market capitalization, dollar-weighted trading volume and relative liquidity, floated capitalization, types of shares, current and past profitability, analysts' consensus estimates of time to annual profitability (both net and operating profits), and exchange rates.

The primary determinant of time to profitability is per consensus analyst estimates available via Thomson Financial News Network at the Determination Date). Other sources may be used when Thomson FNN analyst forecasts are unavailable or insufficient.

The Index Provider may, at its discretion, modify the Index weighting strategy in order to adapt to market changes such as liquidity, market capitalization, number of companies, sector growth, etc.

## **QUARTERLY UPDATES TO THE INDEX & CALCULATION METHODOLOGY**

Changes to the Index composition typically take effect after the close of trading on the next to last trading day of each calendar quarter month ('Rebalance Date'). The revised Index components and weights will be announced at the close of trading two to three trading days before the Rebalance Date. Five to seven trading days prior to the Rebalance Date is the 'Determination Date' – the date that the Index Provider determines the revised Index components and their weightings. A component company must meet the following rules for continued Index inclusion:

- Maintain an average 'floated' market capitalization of at least \$100 million for the 30 days prior to the determination date.
- Have a market capitalization of at least \$100 million on the determination date.
- Maintain 60-day average daily trading volume of at least \$200,000.
- Companies with market capitalizations between \$150 million and \$100 million will receive a lower weighting during a probation period after which its market capitalization must equal or surpass \$150 million or face deletion from the Index.
- Demonstrate that it still meets the Index Provider's quantitative and qualitative screens for Index inclusion.

In conjunction with the quarterly Index review and rebalancing, the component weights used in the calculation of the Index are updated and reset based upon component share prices as of the close of trading on the Determination Date.

Upon completion of the quarterly rebalancing, no individual stock may comprise more than 6% of the Index nor may the aggregate weight of all Index companies that have yet to achieve positive annual earnings exceed 8% of the overall index (and will likely be far below that threshold).

## **MAINTENANCE OF THE INDEX**

The Index is rebalanced each March, June, September and December. The Index divisor was initially determined to yield a benchmark value of 500.00 at the close of trading December 31, 1999. The Index was created by and is a trademark of, Cleantech Indices LLC ("Index Provider"). The American Stock Exchange LLC ("Amex") serves as the calculation agent for the Index. The value of the Index will be disseminated every 15 seconds over the Consolidated Tape Association's Network B between the hours of approximately 9:30am and 4:15pm under the ticker "CTIUS".

In the event of a merger between two components, the share weight of the surviving entity may be adjusted to account for any shares issued in the acquisition. The Index Provider may substitute components or change the number of issues included in the index, based on changing conditions in the industry or in the event of certain types of

corporate actions, including mergers, acquisitions, spin-offs, and reorganizations. In the event of component or share weight changes to the Index portfolio, the payment of dividends other than ordinary cash dividends, spin-offs, rights offerings, re-capitalization, or other corporate actions affecting a component of the Index; the Index divisor may be adjusted to ensure that there are no changes to the Index level as a result of non-market forces.

#### **DISSEMINATION OF INDEX INFORMATION**

On the 'Determination Date' (five to seven business days prior the Rebalance Date), the Index Provider delivers the revised index components and their weightings to the Amex. Whenever practical, in conjunction with the Index Provider, the Amex will announce stock additions and/or deletions as well as Index component weighting changes at least two trading days before making such changes effective -- either via [www.amextrader.com](http://www.amextrader.com), broadcast email, or press release.

#### **REBALANCE SCHEDULE EXAMPLE - JUNE 2005**

1. June 21, 22 or 23, 2005 – (Determination Date) Index components and their weightings are determined by the Index Provider after having been screened for inclusion rules. Index component additions and deletions are determined. New Index composition and assigned Sector weights are sent to the Amex.
2. June 24-27, 2005 – New Index composition is disseminated by the Amex.
3. June 29, 2005 (Rebalance Date) – At the close of trading, the Index rebalancing takes effect.

#### **INDEX PROVIDER AND MANAGER**

##### **RAFAEL COVEN**

Cleantech Indices' Managing Director, Rafael Coven has an ideal combination of extensive cleantech industry and institutional investor experience. He has spent most of the last 24 years in cleantech as a manager, entrepreneur, equity investor, and management consultant. He has global experience working with or consulting to such leading cleantech firms as Abengoa, Dynatech, Philips Lighting, Siemens, and numerous private equity and venture capital investors in the sector. During the 1990s, Rafael was an international equity analyst at Dietche & Field Advisers where he evaluated, made, and managed a \$700 million portion of the firm's \$5.6 billion equity holdings (including many cleantech companies) as part of the portfolio management team. He holds a B.A in Developmental Economics from the University of Michigan and an MBA from Northwestern University's Kellogg School. He is a CFA level II candidate and a member of the U.S. Green Building Council and the Cleantech Group and Venture Network ([www.cleantechindex.com](http://www.cleantechindex.com)) and the Chesapeake Sustainable Business Alliance.