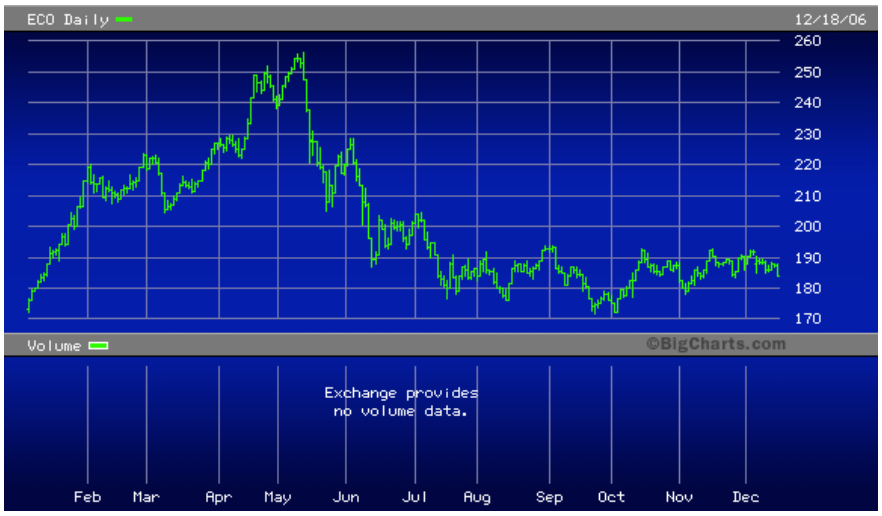
WilderShares, LLC

2006 Q4 Quarterly Report: WilderHill Clean Energy Index®. December 31, 2006

The Fourth Quarter 2006 opened with the Index (ECO) at 176.32, and it ended at 182.06. Q4 thus had a positive return of 3.2%. Unexpectedly given the usually greater volatility of ECO, the Clean Energy Index® showed unusually low movement in Q4 intra-Quarter.

An Overview of the Past Quarter, and Year 2006

Unusually for the Index (ECO), the Fourth Quarter 2006 produced a period of mainly 'sideways' movement in which the Index traded within a rather narrow band and so turned in a low degree of volatility — either downwards or up. There's always a non-negligible risk that there will be rather brief periods of mainly sideways movement across the clean energy sector: that is evident in looking back at the Index over time, but the horizontal line that's seen over roughly the whole second half of 2006 is now a bit remarkable for its length. That Q4 trend is not expected to continue, however. Given the historical Index (ECO) performance, a renewed volatility — downwards or up — might unsurprisingly return where trading should break from this recent range. The following chart shows that relatively narrow trading range evidenced during latter half of 2006:



One event of particular note in Q4 (discussed below) is the national election, since the outcome may be a catalyst ahead in helping return some movement to clean energy broadly as newly re/elected Representatives and Chairs of Congressional Committees take offices and set new Legislative Agenda early in 2007. To provide some indication of greater levels of movement that potentially might be seen soon again (and to illustrate as we often note that this Index can at times 'drop like a rock' — or that it can move up with some alacrity), we paste below a chart showing the Index over a much longer time period. Here then is ECO going back over four years via backtesting (ECO in green) — as compared to the 'normally quite-volatile' NASDAQ (in brown) since the start of 2003:

To sum up the year 2006, following a surprisingly strong run up January through early May, the broad clean energy sector turned sharply downwards and afterwards lost most gains in the latter half of the year. The First Quarter 2006 had started in notable fashion when the Index coincidentally yet interestingly had closed up each day well into January: the first day down didn't come until January 20th. Thereafter there were only two more days ECO closed down that month. While the Index started 2006 and thus on January 1st at 173, it ended that first month at 219, for an unusual one-month performance of 26%. Although such a volatile January might prompt subsequent declines in February or March, that First Quarter of 2006 nonetheless still closed up 31% for the first three months.

After starting the Second Quarter on April 1st at 227, the Index afterwards closed out Q2 on June 30th at 201, for a negative return of -11%. Third Quarter would close downwards strongly again, on September 30th ending at 176 for a second negative Q3 return of -14%, and so unusually extending a downwards trend over two consecutive Quarters. As noted Fourth Quarter 2006 closed with the Index at 182, for a positive Q4 return of 3%. For the whole Year 2006 then, ECO started at 173 and ended at 182, for a positive return of 5%.

Notable Matters During the Past Fourth Quarter

On October 30, it was announced that ECO component, American Power Conversion (APCC) was being purchased by a French electrical equipment group. On that news, APCC moved up over 25% on the day. But because they therefore are being sold (with their stock basically unchanging going forward), APCC has now been deleted from the Index in the just-concluded Rebalance at the very end of the Fourth Quarter. Another stock deleted as well for similar reasons, was Scottish Power (SPI) that is being acquired by Iberdrola SA.

There were also two additions to ECO at this recent Rebalance for Q1 2007. One is First Solar (FSLR) that makes thin film solar modules produced from surplus cadmium (by up-cycling zinc wastes) and tellurium — with just a minimal amount of polysilicon. This emerging technology is a notable addition to ECO, since most PV makers have made flat crystalline modules and so a recent bottleneck in poly supply has been a real constraint that hampers growth across 2006 through 2008. By contrast CdTe solar PV in theory can be made regardless of spot poly costs, and so better ramped in response to demand.

And yet many serious unanswered questions confront CdTe today; these include long-term durability, a lower performance compared to for instance robust mono or polycrystalline panels (discussed in past Index Reports), and the extent to which the still-needed projected cost-reductions can in fact be achieved and how soon. But because FSLR is a pure-play in emerging thin film PV and traded in equity markets, it's expected to be a useful inclusion in helping the Index (ECO) lead as always in tracking clean energy.

Another add in the latest Rebalance is Universal Display (PANL). This company engages in research & development, for the (hoped-for) commercialization of Organic Light Emitting Diode (OLED) technologies; they're notable too for their intellectual property here. Coincidentally too this technology a bit like FSLR reflects attempts to move to thinner, light and flexible materials (for solar at FSLR and) for displays and lighting at PANL. But here achieving any commercial viability in innovative (organic) LED materials is arguably even a greater question, than it is for thin film PV. Becoming cost-competitive not just with 'classic' LEDs, but with ubiquitous though hugely inefficient incandescent bulbs too, presents an array of thorny and vexing technology hurdles. So for the most part this company still engages in R&D, with commercial success speculative at best. Yet should OLEDs, or LEDs, ever grow price-competitive with classic incandescent bulbs, then cost savings and efficiency can snowball: lessened power demand means reduced need for heavy batteries, a longer life in products etc. And of course flexible displays may open up the mind to commercial products and applications that are hard to imagine today.

An unrelated Q4 event but one that we're pleased to note here was the launch by us at WilderHill on October 13, 2006 of an entirely new Index: *WilderHill Progressive Energy Index* (WHPRO), http://www.whprogressive.com (for those interested, that Index is also tracked by an exchange traded fund, the PowerShares, WilderHill Progressive Energy Portfolio http://powershares.com/products.aspx?ticker=PUW). More on the Index is at http://www.amex.com/?href=/othProd/prodInf/OpPiIndMain.jsp?monthVal=12&Product_Symbol=WHPRO

This new WH Progressive Energy Index (WHPRO) has no concurrent overlap with stocks that are in the ECO Index, and it is very different by design. Unlike ECO that's designed for the clean energy sector and more specifically for renewables like zero-carbon solar or wind power and pollution prevention — the WilderHill Progressive Energy (WHPRO) is instead designed for transitional technologies aimed at reducing harms and carbon from the dominant, inherently dirty fossil fuels of today, coal, oil and natural gas. Nuclear power may be included in WHPRO too, unlike the case with the ECO Index where nuclear power is excluded. In sum, WHPRO is for improving the major energy sources of today.

We've pasted lengthy website text for WH Progressive Energy Index (WHPRO) below, as Appendix II (in color fill). Improving use of fossil fuels, and progressively reducing carbon in our energy portrait, may indeed — we believe — become increasingly important in the future and WHPRO can capture and track opportunities found there. Concepts lately being raised even in preliminary way such as carbon taxes, or cap and trade, might even become reality such as in 2009 or beyond, and so CO2 might grow in its significance. We also look forward to observing ways WHPRO should exhibit useful expected non-correlation to ECO. In sum we're keenly excited by the latest WHPRO as well; this is the first ever Index (and traded Fund) to capture opportunities found in smarter use of energy sources dominant today and for progressive reduction of carbon in response to climate risk.

The Year Ahead: Influence of Energy Security, Climate Risks, and Jobs in 2007

We believe some renewed volatility may return to ECO in 2007, and imagine at least three catalysts could play some part there. One point stems from our U.S. energy portrait having become perhaps more fragile and reliant on 'everything going right', than ever before. Consider that when energy/oil prices had jumped in 1973 and 1979, those were mainly supply-driven spikes due to OPEC cutting exports. Although supply only dropped modestly, human psychology led to sizable global swings in oil prices due to anxiety.

Fast-forward now to the recent spike of 2006; this time importantly it was a demand-driven event — and not supply-driven as in the past. This is notable because even with most producers today pumping close to full capability, there's very little extra slack now in 2007 for keeping up with demand. A past role of some nations in being swing-producers has largely been taken away, since excess capacity is now more marginal than ever.

Growing energy demand from China, India must be factored in too, forcing producers to scramble as never before to find major new discoveries and increase reserves in the face of unrelenting demand. Compounding this is a hypothesis of 'peak oil' ahead. Yes, it's expected that major new oil discoveries will be made over the next few years as pricey oil makes extreme deep-water production, and more remote or Arctic drilling, feasible. But there are geophysical limits, and we'd note the emerging National Oil Companies (NOCs) are increasingly placing potential oil & gas areas off limits to Western firms, making the scope for finding accessible future reserves of cheap oil increasingly narrowed.

We're nowhere near the end of oil, but we are perhaps now nearing the end of cheap oil. And nothing quite pushes clean energy's prospects around like sharp changes in oil; it's the cost of alternatives in relation to oil that's key. As noted we're skeptical of a thesis that peak oil is very near. Expensive oil leads to more exploration, and new production. But many nations like the U.S. are long past — or nearing — an expected discoveries peak, and a longer trend ahead may be towards less new oil being discovered in a year, than in the year before. Yes, there will be years of anomaly as big finds happen, but inferring from closely held data indicates some super-fields *may* be drawing down rather quickly.

Some noted experts have made an argument that the actual peak oil (which is seen only in retrospect) where new reserve finds globally no longer can surpass the year before, may even come within this decade. We take a more moderate view and believe it is perhaps sometime in the next decade, but even that moderate timeframe importantly is only some 10 years away. Such juncture once it's apparent may act as a real shock, especially from a psychological standpoint and might press oil prices into gyrations fairly unlike what we've witnessed so far. Peak oil may become more notable to energy security planning in 2007.

Entirely apart from the uncertainty over peak oil, is the clearer matter of our fragile U.S. energy portrait and growing reliance on hostile oil producing nations that may not wish us well. Consider just a potential reduction of say, 4% in global supply and how that can push oil past $100/barrel. Some producing nations like Iran and Russia made noises in 2006 about using oil to achieve strategic ends and that's a possibility that ought not be ignored in 2007 given vulnerabilities. There is some utility in the U.S. strategic petroleum reserve, but other alternatives like tar sands and oil shale all carry significant downsides and costs: simply put, it's not commonly understood how brittle is U.S. energy security today.

This fact has given rise to the 'Green Hawks', who are sage leaders from the military, classical conservatives, the heads of industry, and other traditionally level-headed 'non-environmentalists' all of whom are concerned over the extent to which America is today vulnerable to oil shocks. Whether the inflection point is over the threat of oil not pumped or not sold, refineries down for natural or human acts, pipelines unable to move oil, strategic shipping lanes threatened, or a litany of other possibilities, there's reasonable concern that energy security might be an issue of attention for America — or for China, or Europe etc in 2007. It is something almost every nation faces, not just the U.S.

Energy security vulnerabilities pose not a *certainty* of harm, but rather simply raise the possibility of oil troubles ahead. So while 2007 may end as another safe year where oil was plentiful and energy security a non-issue (and so with no impacts to clean energy), there is a non-negligible risk to the contrary and that risk appears to be growing, not subsiding.

Next, and entirely separate from energy security, is a chance climate change/climate risk may attain new importance in 2007 as a fresh factor influencing the clean energy sector broadly. Unlike energy security that is a bipartisan issue, this one has tended to be more partisan although that seems to be noticeably changing. We'd note pressure here stems not from increasing oil costs or peak oil, but rather over harm fossil fuels may do from their mere use — regardless of how plentiful they are in the ground. Despite being the opposite sort of issue in some ways from energy security, the problem of climate risk points too to a case for finding cleaner, better energy alternatives. So this may become a catalyst for movement (down or up) in clean energy and hence ECO in 2007, if a new Congress acts to elevate climate risk on the American political or legislative agenda.

No fossil fuel escapes this attention in a changing Agenda. Start with cheap and plentiful coal, that affords the U.S. better energy security to boot; the climate risk factor may lead to new calls for carbon regulations raising the costs of coal rather noticeably. This is especially the case for the presently unregulated CO2 from coal, 2007 is the year before Presidential elections in 2008, and some candidates from both parties are already talking about possibly addressing carbon in 2009. It may become a case where the U.S becomes more like the rest of the world and so regulates CO2 such as from coal — than the rest of the world becoming like us and moving away from regulating CO2 at all. For a new Congress in 2007, coal's pollution may soon be more closely reviewed than ever before.

Rather the same might be said of inherently dirty oil, and greenhouse gas emissions that come unavoidably from it as well. It wouldn't be surprising if Congress attempts to roll back recent tax breaks granted oil companies, and instead seeks to fund clean energy research. Or, Congress may move to limit emissions more dramatically than before. In any case the costs of using coal and oil may be expected to be impacted in 2007, and that generally works in favor of increasing the volatility in the clean energy sector broadly.

A third issue is Jobs, since increasingly in bipartisan ways both parties may throw support to the jobs growth that clean energy can bring. Germany, Japan are growing jobs in solar; India and China in wind; and biofuels such as cellulosic and biobutanol hold promise. The Governor of California aims to get ahead of the clean energy curve as one way to strengthen economic health. The importance that the clean energy sector may hold in providing Americans good, high-paying jobs is not something to be lightly dismissed. It might find support from Conservatives and Liberals, and ultimately that's a good thing.

On the other hand, and there's always the 'other hand', there's ample reasons for declines ahead and thus to be bearish on the whole clean energy sector in 2007. Indeed that 'difference of opinion is what makes a market', and robust certainty in not reality in equities. Some factors that favor declines here in 2007 include ongoing constraints in polysilicon supply in solar PV, ongoing lack of grid capacity harming growth in wind power, continuing lack of appreciation for the constraints on rapidly growing corn-based ethanol, an ongoing lack of progress in bringing down costs for LEDs, OLEDs or for better batteries like Li-Ion and NiMH, or for thin film and crystalline PV, solar thermal and concentrators, ultracapacitors, superconductors, fuel cells, hydrogen storage, energy efficiency, etc.

More broadly either a global recession or robust inflation in 2007 will harm clean energy companies. So too would continued declines in the price of oil, as would any change by governments away from subsidizing clean energy, or any trend that moves away from the scientific consensus over an anthropogenic signal in recent & projected climate change. In sum, where clean energy shall go in 2007 is entirely uncertain, but there's some reason to project that movements — downwards or up — will return and so resume sizable volatility.

Ongoing Website Development

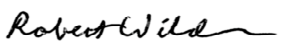
Our website http://www.wildershares.com is in continuous refinement and we monitor for glitches as the website develops and grows. Years of experience posting dynamic data on websites has taught us that glitches happen, given the software issues that inevitably arise and the train of posting data. (*Note on 1/3/2007: The close of ECO was erroneously listed by some vendors as closing on 12/29/2006 at 182.01 for New Year weekend, when AMEX had the correct closing value of 182.06 that we've listed in this amended Quarterly Report, an example of such a technical glitch*). It's thus worth repeating WilderHill Clean Energy Index (ECO) is always calculated independently and totally apart from our website by the American Stock Exchange. And of course the exchange traded fund (PBW) that's tracking the Index is calculated in robust fashion too and independently of our own website. Data on the Index (ECO), and tracking Fund (PBW) can be found at the website of the American Stock Exchange: http://www.amex.com with further information on the tracking Fund (PBW) at http://www.powershares.com/products.aspx?ticker=PBW Lastly, we continue to upgrade our website with the continuing aim of delivering robust uptime and helpful information: we welcome your suggestions.

Summary

The Fourth Quarter 2006 closed with the Index at 182.06, for a positive Q4 return of 3.2%. For the whole Year 2006, ECO started at 173 and ended at 182, for a positive return of 5%. During the latter half of 2006, ECO had noticeably sparse intra-Quarter volatility but that performance is unusual over the Index long term, and rather unlikely to be repeated ahead in the first half of 2007. There were two deletions, for the end of Q4 rebalancing of Index composition, with the removal of APCC and SPI. There were two additions at the rebalance, as First Solar (FSLR) and Universal Display (PANL) were added. In an unrelated matter but an Indexing first, the WilderHill Progressive Energy Index (WHPRO) was launched on October 13, 2006. WHPRO tracks transitional technologies for reducing harms and carbon from dominant and inherently dirty fossil fuels of today, coal, oil and natural gas; more on the WHPRO Index for those interested, is posted at length below.

We wish you a Happy New Year and the best for 2007,

Sincerely,



Robert Wilder
rwilder@wildershares.com

Disclaimer: The following is a reminder from the friendly folks at the WH Index who worry about liability. Performance figures quoted represent past performance only, and are no guarantee of future results. The views expressed here are those of just one of the managers of the WH Index. Views are not meant as investment advice, and should not be considered as predictive in nature. Any descriptions of a holding, applies only as of December 31, 2006. Positions within the Index can and do change thereafter. Discussions of historical performance do not guarantee, and are not indicative of future performance. The Index covers a volatile sector, and thus it is volatile too, and subject to well above-average changes in valuation.

Appendix I: ECO near the end of Q4

Following are Index weightings, roughly 2 weeks before the Rebalance to start 2007 Q1: after the Rebalance, every stock floats according to its share price over the Quarter.

Index (ECO) Components as of: 12/14/06

Company Name	Symbol	% Weighting
Sunpower Corp	SPWR	4.29%
Om Group	OMG	3.88%
Suntech Power	STP	3.87%
American Power Conversion	APCC	3.75%
Energy Conversion Devices	ENER	3.71%
Ormat Technologies	ORA	3.37%
Ballard Power Systems	BLDP	3.31%
MEMC Electronic Materials	WFR	3.31%
Kyocera Corp ADR	KYO	3.22%
Color Kinetics	CLRK	3.14%
Zoltek	ZOLT	3.14%
Applied Materials	AMAT	3.07%
Plug Power	PLUG	3.03%
American Superconductor	AMSC	3.00%
Cypress Semiconductor	CY	2.93%
International Rectifier	IRF	2.91%
Evergreen Solar	ESLR	2.88%
Emcore	EMKR	2.86%
Diversa	DVSA	2.78%
Medis Technologies	MDTL	2.69%
Echelon	ELON	2.59%
Maxwell Technologies	MXWL	2.53%
VeraSun Energy	VSE	2.47%
Itron	ITRI	2.31%
Pacific Ethanol	PEIX	2.30%
Cree	CREE	2.30%
FuelCell Energy	FCEL	2.24%
Scottish Power	SPI_W	2.22%
Andersons.	ANDE	2.18%
Puget Energy	PSD	2.05%
Air Products & Chem	APD	1.93%
Praxair	PX	1.89%
Idacorp	IDA	1.87%
MGP Ingredients	MGPI	1.80%
Fuel Systems Solutions	FSYS	0.67%
Active Power	ACPW	0.63%
Distributed Energy	DESC	0.58%
Ultralife Batteries	ULBI	0.53%
Uqm Technologies	UQM	0.48%
Capstone Turbine	CPST	0.47%
Hydrogenics	HYGS	0.46%
Quantum Fuel Systems	QTWW	0.36%

Appendix II: The Following is on the Unrelated, but Newest, WilderHill Progressive Energy Index (WHPRO).

The material below is taken from WHPRO webpages that are updated and subject to change, http://whprogressive.com

WILDERHILL® PROGRESSIVE ENERGY INDEX (WHPRO)

The WilderHill® Progressive Energy Index (WHPRO) is a modified equal-weight index made up of companies that serve as an energy bridge improving near-term use of fossil fuel resources by progressively reducing carbon and other pollution. Sectors include alternative fuels, emissions reduction, efficiency, and innovation in energy materials, production and use. A focus is on transition technologies that can reduce harms from inherently dirty coal, oil and natural gas, enhance efficiency, or make better use of the energy sources that are dominant today. As part of a responsible approach to energy we are inclusive as to near-term options and may include mainly carbon-neutral biofuels such as ethanol. Alternative energy firms with exposure to nuclear power may be included, but current nuclear power is not a priority; next-generation nuclear may be considered if it is safer. Clean, zero-carbon and renewable energy such as solar power and wind power that prevent pollution in the first place are mainly excluded from this particular Index.

In contrast to an emerging zero carbon clean source like solar power that's growing but starts from a relatively small base, an emphasis here is innovative technologies that should in a near term reduce the pollutants now stemming from the fossil fuels dominant today: coal, oil, and natural gas. These are large centralized thermal power generators that still characterize how power is made. Companies within the Index are publicly traded in the United States. Because most of the Index technologies focus on fossil fuels and so represent not a total elimination of pollutants but rather some trade-off, the Index is thus inclusive and allows for diverse approaches that reduce harm broadly conceived.

Index Construction

1 The Progressive Energy Index uses modified equal dollar weighting. No single stock may exceed 5% of the total Progressive Energy Index weight at quarterly rebalancing.

2 For a stock to be included in the selection universe, it should be a company providing for improvements in alternative fuels, emissions reduction, efficiency, or innovation in energy materials, production, use, etc. These should serve as an energy bridge improving use of fossil fuels over the next several decades by progressively reducing carbon and other pollution. Of potential relevance could be government or private sector concerns for greenhouse gases (GHGs), climate change, or new efforts to reduce GHGs such as from coal, oil, and natural gas. We favor near-term options and so recognize that modest improvements only may be represented in many cases; the mainly carbon-neutral transitional biofuels such as corn-based ethanol are included in this Index. Companies having some or substantial exposure to nuclear power such as utilities may be included, but current-generation nuclear power is not a priority for the Index; next-generation nuclear may be considered if it is significantly safer. Zero-carbon clean energy and pollution prevention are generally excluded from this Index.

3 To be eligible for the Progressive Energy Index, a stock must have: (i) three-month average market capitalization of at least $150 million; (ii) three-month average closing price above $1.00 if not currently in the Progressive Energy Index; and (iii) be listed on the NYSE, AMEX or NASDAQ and, if a foreign company, have their ADRs listed on the NYSE, AMEX or NASDAQ.

4 WilderHill may, at any time and from time to time, change the number of issues comprising the Progressive Energy Index by adding or deleting one or more component stocks, or replacing one or more issues contained in the Progressive Energy Index with one or more substitute stocks of its choice, if in WilderHill's discretion such addition, deletion or substitution is necessary or appropriate to maintain the quality and/or character of the emerging energy industry.

5 The Index is calculated using a modified equal dollar weighting methodology. Component securities and weights are determined by

their respective sector and size. Each Sector is assigned an aggregate weight within the index. Components less than $400 million in total market capitalization are set to one-half of a percent (0.5%) weight. The remaining components in each Sector are equally weighted using Sector weightings minus the sum of the weights of stocks less than $400 million in market capitalization. Sector weightings were initially determined by the Index Provider and are reviewed each quarter in conjunction with the scheduled quarterly review of the Index. At the rebalancing no component may exceed five percent (5%) of the Index.

A Comparison of the WilderHill® Progressive Energy Index (WHPRO) - with the original WilderHill Clean Energy Index® (ECO): A Non-Overlapping of Stocks

Notably this WH Progressive Energy Index is significantly different from the WilderHill Clean Energy Index® (ECO) launched August 16, 2004 and more on that is at www.wildershares.com. Unlike that original ECO Index designed for the clean energy sector and so specifically for non-fossil fuel sources like zero-carbon solar or wind power — the latest WH Progressive Energy Index (WHPRO) is designed to instead track transitional bridge technologies for reducing harms stemming from dominant energy of today: inherently dirty fossil fuels, coal, oil and natural gas.

Importantly there is no concurrent overlap between the stocks themselves that make up the two Indexes; generally none of the stocks in ECO in any one Quarter are also in WHPRO at the same time and visa-versa. At times we expect a company may migrate from one Index into the other, should their activity grow for instance in developing renewable zero-carbon energy to prevent pollution ('green' power, for ECO) — or they move to reducing a pollutant from fossil fuels (going to WHPRO) — however they will generally be moved from one Index and into the other, and thus not appear in both in the same Quarter. We post below Correlation data showing a significant non-correlation between WHPRO & ECO.

More broadly for a company to be considered for inclusion in WH Progressive Energy Index in the first place, their share price movement

should be impacted in a meaningful way by work they may do in a relevant energy endeavor. While this WH Progressive Energy Index (WHPRO) is expected to have significant composition of larger cap stocks, the more pure-play WH Clean Energy Index (ECO) instead focuses on smaller volatile renewable energy companies that are often $1-10 billion in size or less. WHPRO is expected to have many large and wide-ranging conglomerates working in diverse fields for which progress in New Energy Activity, or in Better Efficiency is just a part of their work. Blue chip famous company names in WHPRO are often recognizable; those in ECO are frequently unknown.

The Index Rules also should lead to sizably less volatility for WHPRO, compared to ECO. The minimum allowable floor for stocks included in the WilderHill Progressive Energy Index (WHPRO) is $150 million market cap at the rebalance. Any stocks $150 million-$400 million in size are down-weighted to 0.5% at the rebalance to account for their smaller size. By contrast ECO has a lower minimum floor of $50 million, and any stock between the band of $50 million-$200 million market cap is weighted 0.5% at the rebalance.

In sum we purposefully don't use words like 'clean' or 'solutions' with respect to WHPRO; as noted those more accurately refer to the story of the Clean Energy Index® (ECO). We also as individuals do not seek to be 'pied-pipers' for the compromise technologies of WHPRO, since these are transition technologies to incrementally improve still-dirty fuels. And yet they are importantly near-term approaches that valuably help reduce harm, advance energy efficiency, and make better use of dominant energy sources of today and therefore can be of real utility. We'd emphasize that themes here are often vexing compromises and as such often only lower certain pollutants (not eliminating all harm). Yet these are the near-term advances that would likely be tied to any progressive improvement in, and decarbonizing of the main energy sources of the early 21st century.

Performance of WHPRO: Backtesting History since 2001

Correlation data for WHNEF:

Correlations of Daily Price Returns				
Start Date	**End Date**	**Period**	**S&P 500**	**NASDAQ Comp.**
6/29/01	9/29/06	ITD	83.37%	87.06%
9/28/01	9/29/06	5 YR	86.37%	87.05%
9/29/03	9/29/06	3 YR	83.31%	86.37%
9/29/05	9/29/06	1YR	84.84%	86.99%

Correlations of Daily Price Returns, WHPRO vs. ECO etc					
Start Date	**End Date**	**Period**	**S&P 500**	**NASDAQ Comp.**	**ECO**
6/29/01	9/29/06	ITD	83.37%	87.06%	79.23%
9/28/01	9/29/06	5 YR	83.09%	87.05%	78.98%
9/29/03	9/29/06	3 YR	83.31%	86.37%	75.96%
9/29/05	9/29/06	1YR	84.84%	86.99%	79.69%

WilderHill Progressive Energy Index (WHPRO): Sectors & Stock Weightings
Q1 2007. 43 stocks.

Each stock freely moves according to its share price after the rebalance.
Stocks $150-$400 million in size are banded at 0.5% and denoted by an *.

New Energy Activity – 26% Sector weight (10 stocks @2.55% each + 1 banded)
Corning, GLW. Diverse work in display technologies, catalysts, pollution reduction.
Eaton, ETN. Improving electrical and fluid power in truck and automotive systems.
Entegris, ENTG. Purifying new materials used in microelectronics manufacturing.
GrafTech, GTI. Graphite for electrodes, fuel cells, power generation etc.
Harris & Harris Holding, TINY. Venture capital holding company in nanotech.
Hexcel, HXL. Advanced composites, structural and reinforcement materials.
Honda Motors ADR, HMC. A leader in the most fuel-efficient vehicle designs.
Johnson Controls, JCI. Advanced building control systems, automotive systems.
SGL Carbon, SGG. Graphite and composites, fuel cells, heat exchangers, etc.
Siemens AG ADR, SI. Engineering conglomerate does diverse innovative work.
Toyota Motors ADR, TM. A leader in new hybrid technologies for vehicles.

Alternative Fuel – 22% Sector Weight (8 stocks @ 2.75% each)
Aventine, AVR. Biofuels, ethanol and related byproducts.
Cameco, CCJ. Uranium producer, also works with Russia to jointly produce fuel.
Chesapeake Energy, CHK. One of the largest U.S. independent natural gas producers.
Methanex, MEOH. Producer of methanol, that may be potentially used in fuel cells.
Rentech, RTK. Gas to Liquids, also conversion from solid or liquid hydrocarbons.
Sasol Ltd ADR, SSL. Syngas from coal, and conversion of syngas to varied products.
SunOpta, STKL. Biofuels, operates over diverse agriculture products.
USEC, USU. Uranium, converting Russian nuclear warheads into power plant fuel.

Better Efficiency – 20% Sector Weight (7 stocks @2.64% each + 3 banded)
Badger Meter, BMI. Meter reading & measurement for better management.
Baldor Electric, BEZ. More energy efficient motors.
Fairchild Semiconductors, FCS. Semiconductor manufacturing, LED drivers etc.
IXYS Corporation, IXYS. Manufacturer of power semiconductors.
Linear Technology, LLTC. Integrated Circuits, power management, etc.
Metretek, MEK. Energy measurement and natural gas management systems.
O2 Micro Ltd, OIIM. Integrated circuits for power management.
ON Semiconductor, ONNN. Power and data management semiconductors.
Power One, PWER. System level power management.
Vicor Corporation, VICR. Modular power components.

Utility – 16% Sector weight (8 stocks @2.0% each)
Alliant Energy, LNT. Midwestern U.S., Utility, relatively lower carbon generation.
CPFL Energia S.A. ADS, CPL. Brazilian Utility, large and small hydroelectric.
Enersis, S.A., ENI. Chile, Argentina, Peru etc, Utility, hydroelectric, Endesa nexus.
FPL Group, FPL. Florida Utility with a growing U.S. presence in gas, wind, nuclear.
KeySpan, KSE. Northeastern U.S., Utility services, relatively lower carbon generation.
NW Natural Gas, NWN. Pacific Northwestern U.S., natural gas distribution.
Piedmont Natural Gas, PNY. Mid Atlantic U.S., natural gas distribution.
Wisconsin Energy, WEC. Upper Midwestern U.S., Utility, relatively lower carbon.

Emission Reduction – 9% Sector Weight (3 stocks @3.0% each)
Fuel Tech NV, FTEK. Post-combustion control systems reducing NOx, pollutants.
Headwaters, HW. Advances in emissions reduction technologies from coal.
Tenneco, TEN. Automotive emission controls, filters, catalytic converters.

Conversion and Storage – 7% Sector weight (3 stocks @2.33% each)
Energizer, ENR. Lithium, NiMH and other batteries and charger technologies.
EnerSys, ENS. Batteries for telecommunications, utilities, motive power.
United Technologies, UTX. Conglomerate; fuel cells, geothermal, efficiency, etc.

SECTOR DEFINITIONS:

Alternative Fuel: These are alternative fuels broadly conceived such as innovative use of fossil fuels, gas-to-liquids, syngas, methanol, hydrogen as energy carrier, as well as the use of lower-carbon natural gas itself. Besides finite hydrocarbon-based fuels, the mainly carbon-neutral yet renewable biofuels such as corn-based ethanol, biomass, and diverse fuels from carbohydrates may be included despite currently ambiguous net carbon benefits. Nuclear fuel may be included here. Other alternative fuels that might offer sparser near-term pollution reduction can be included if they could provide potential carbon capture, or may contribute to future improvements, or to later decarbonization such as by a safe means of biological or geological sequestration.

Better Efficiency: Includes energy efficiency for improving the use of traditional fuels, better power management, demand-side reduction, and technology for conservation. Generally involves substituting in cleverness for energy; to waste less energy is often the most preferable, least expensive and the quickest path to improve use of fossil fuels.

Emissions Reduction: Examples here include end-of-pipe pollution control technologies, waste reduction, and approaches for reducing contaminants from dirty coal, oil, natural gas, waste to energy, or biomass etc. Includes reducing a single key contaminant like CO2 or significant greenhouse gas, mercury, particulates, sulfur dioxide, NOx, heavy metal etc. Biological or geological sequestration if it can be done safely, may be included.

New Energy Activity: Includes diverse innovations in materials, goods or services that improve production, transport, use of fossil fuels, biofuels, etc. Examples include better combustion of fossil fuels, new techniques for energy production, carbon trading, special financial services, waste to energy, lighter materials, uses of nanotechnology, etc. This includes too efforts that are a bridge to smart energy-use such as in appliances, motors, hybrid automobiles, or transport. The work of large conglomerates with interests outside energy but that are developing smart new energy-related activities may be included.

Utilities: These are Utilities reflecting lower greenhouse gas emissions, such as through hydropower, or that are encouraging end-use reductions in energy demand. There are however many examples of 'good but not good enough' approaches within this sector; for example the same large hydroelectric dams that may lower carbon emissions also have heavy biodiversity costs and cause deforestation. Likewise the Sector can include some exposure to nuclear power where the Utility is otherwise strong for having zero-carbon wind power or solar power that notably otherwise generally are not included in this Index.

Conversion and Storage: Includes advanced batteries, storage of gaseous, liquid, or solid fuels; or devices to better convert an energy carrier to desired power, etc. May include integrated gasification combined cycle (IGCC) to better decarbonize coal in the future.

Energy Sources: Brief Commentary Viewpoints

WHPRO is we believe the first-ever Index based on decarbonizing the U.S. energy portrait and improving the use of fossil fuels. It's now the third Index from WilderHill. We're proud of our original ECO that was the first-ever Index for clean energy stocks, and of NEX as the first Index for tracking clean energy stocks globally; they're each becoming benchmarks.

There are compelling reasons for this third and latest WilderHill Index, and they flow from reducing the pollution from inherently dirty coal, oil, and natural gas. The cause arguably is starkly clear from how U.S. electricity is still generated in the early 21st century: Very roughly speaking, for making our electric power about: 50% comes from coal; 20% comes from natural gas; 20% comes from nuclear generation; 7% is from large hydropower (renewable & non-thermal, but it presents other harms); 1% is from oil (negligible as fuel for electricity—but is the dominant transport fuel); only around 3% is from a clean zero-carbon renewable like solar, wind power etc.

Look globally, and data are just as compelling. Coal now supplies around 64% (most) of the world's electrical power; large hydroelectric dams supply about 17%; and nuclear is another 17%. Although wind power is very rapidly growing and is a zero-carbon renewable, it still (much like in the U.S.) supplies only about 2% of electricity, with solar power <1%. Hence an escalating interest in zero-carbon wind, solar etc obscures the fact they're growing rapidly but still start from a very small base compared to traditional sources.

It may be wise to escalate future-oriented clean energy options that are desirable in their own right but start largely from scratch (tracked by ECO Index & NEX Index). And yet at the same time we believe it also is wise to pay considerable attention to transition technologies emphasized here that notably in the short term reduce tremendous harms from inherently dirty coal, oil and natural gas. These are the methods that can enhance energy efficiency and make better use of energy sources that are still dominant today.

Put simply these are 'no regrets' approaches in WHPRO that make sense in their own right in reducing pollution now. Plus, should issues of climate change gain importance, then it's logical as well to take action to profoundly reduce greenhouse emissions from the sources supplying around 80% of electricity today. By starting from the inherently dirty fossil fuels, this Index is not based on truly "clean energy"; even the more effective Index technologies here are thorny for being mainly

incremental, or they typically are 'good but not good enough' as answers. Yet we'd emphasize whether those other zero-carbon future clean solutions (in ECO, NEX) will have risen up to the fore in the early 22nd century, or not, it's still advantageous in the meantime to reduce impacts from fossil fuels over the coming 100 years via 'bridge' technologies along the way. The place to start then is with polluting fossil fuels, which means first paying attention to doing better with coal.

Coal: if one considers how pervasive are ecological harms of oil, then the fact coal is the dirtiest fuel is saying rather a lot. The starting penalty for coal is that it's carbon-laden; a coal plant combusts about twice as much carbon as a natural gas plant to make the same amount of power. Note too that what we do in the U.S. is just a part of the coal picture.

Over the next 25 years, the U.S. is expected to expand even dirty coal-fired plants rapidly and it may construct an equivalent to 250 large, 500 megawatt coal plants. But China is building an equivalent to one large new coal-fired plant per week. Over the 60 years that they'll operate, those new coal plants working in 2030 may together put out as much CO2 as was released by all the coal burned since the start of the industrial revolution.

While roughly 40% of worldwide CO2 emissions today from fossil fuels stem from coal, that figure may increase sizably. In part that growth would be due to an abundance of domestic coal that provides much better energy security (as compared to mostly imported oil) for a growing U.S., China, India. That coal can be mined internally, cheaply, and easily projected operating costs for power plants that buy coal are still relatively low and stable — some plants are even built at the mouth of a mine and dedicated to it. Unlike a 'peak oil' thesis, coal reserves are surely greater. Absent carbon, mercury or pollution constraints, a business as usual model shows significant (recarbonizing) growth for coal.

On the other hand, it's clear the costs of coal surely should include

mining burdens at the outset such as mountaintop removal, slurry, ANFO explosive, tremendous water needs, polluting streams, groundwater, medical problems etc. For that reason coal that is being burned today isn't 'clean': we regard the marketing term "clean coal" as not scientifically accurate and so do not use it. While pollutants from modern plants can be reduced when compared to standard pulverized coal combustion, the extraction issues persist and render coal far from clean. Plus sequestered CO2 'emissions' may vex long into the future, causing the real leakage concerns there to be a lingering issue for future generations.

So emissions from coal today are still very substantial and growing on any business as usual path. Potential constraints on growth include costing CO2 that's now vented freely and not regarded a pollutant, the mercury, as well as sulfur dioxide, nitrogen dioxide, and heavy-metal coal ash. Very importantly should CO2 be regulated as a pollutant in the next few years, which many in the industry now expect, then relatively much lower costs of coal-fired electricity may become a thing of the past. At such time newer IGCC plants for instance may be promoted; the difference between an IGCC and a regular coal plant has been likened to comparing a Toyota Prius to a large SUV. Coal can also be converted into forms that are less polluting, or be better cleaned end-of-pipe, or even made into syngas harvested for hydrogen as an energy carrier. In sum there's diverse pathways to reducing pollution from coal, and so likely to be many potential candidate technologies for WHPRO.

Oil: Notably oil accounts for around 40% of total global emissions of the carbon dioxide coming from all fossil fuels. As observed above, oil is a negligible fuel for stationary power plants making electricity; instead this energy-dense liquid is a dominant fuel in transport. Given this, some of the most important ways to improve use of oil are in transportation.

Here useful concepts include improving transportation efficiency in the near-term: lighter materials in vehicles, better propulsion systems, smarter fuels, better combustion, even pollution controls. Other arenas include substituting in lower-carbon natural gas in place of oil (or

especially replacing coal) to progressively decarbonize systems. This is preferable generally to the coal to liquids that instead recarbonizes by adding in coal.

In broader context the analogy between a Toyota Prius and heavy SUV is a useful one: the Index (WHPRO) generally emphasizes the Prius-like technologies that are more efficient, pollute less, go farther on a gallon of gas or are more sensible compared to 'business as usual' (large SUV). Our Prius analogy is a way to view matters: a Prius may represent the better way in the near term, but it still relies on fossil fuels and it's only somewhat less polluting or more efficient (although very measurably so). Compared say to a futuristic strong plug-in hybrid electric vehicle that runs on solar/wind power (ECO technologies), the Prius today is a compromise but arguably much better than business as usual.

Natural Gas: Substituting cleverness for energy to reduce past demand for oil and especially for coal, while replacing where viable the coal or oil fuels with natural gas is one effective was to ratchet down CO2 emissions. Combined cycle gas plants or even distributed gas-fired cogeneration and tri-generation are included here. Natural gas has grown more costly lately and its price likely may remain dear but given even minor carbon constraints ahead, gas could displace coal-fired plants to considerable extent while it can often substitute for oil and add heating benefits. Look much farther out and substituting in hydrogen 'fuel' as an energy carrier at first by steam-reforming natural gas, could lend greater efficiency when using fuel cells as the energy conversion devices.

Nuclear Power: This is likely the most controversial energy source today, and for good reason of singularly catastrophic risks that nuclear undoubtedly presents. There are many and widely diverging issues of risk that remain undeniable; the proliferation, terrorism, accident, enormous capital costs, utter reliance on subsidies, and the waste-risk issues, have each and surely together saddled current-generation nuclear with uniquely terrible implications. Unlike any other energy source, a single accident could turn billions of dollars of generating-capital assets today, into all smoldering liabilities tomorrow.

There's also a carbon question; for scientific accuracy we don't use a term "clean coal" as noted above. Likewise we generally don't consider nuclear power as carbon free or clean because of the large CO2 emissions from mining and refining uranium, plus for instance in storing for very long periods the radioactive wastes. Storing the V2 through V4 container wastes entails a significant carbon penalty. A closed fuel cycle does not avoid this problem; while less fuel is then mined, the proliferation and other risks are greater.

We recognize that outside of the U.S. there is new nuclear capacity coming online in Asia and elsewhere: more than 20,000 megawatts of capacity have come online since 2000. In those places issues of very high initial capital costs and the uncertainty of waste disposal etc have not proven to be insurmountable. Here, it has been estimated that the power from a new light water reactor might cost some 6.7 cents/kilowatt-hour, but that's unfavorable in a market-driven comparison with for instance distributed natural gas cogeneration, or perhaps even IGCC coal with theoretically safe sequestration – or even wind power that's in ECO. Plus nuclear has a long history of exceeding cost estimates.

On the other hand, very significant subsidies for nuclear were put in the Energy Policy Act of 2005 and those gave powerful incentives to build reactors that may begin operating here as soon as the next decade. Still, we believe comparing generation II or III reactors to alternatives (such as distributed gas-fired cogeneration) in a robust market-driven analysis indicates nuclear is not economically competitive today – unless it's both heavily subsidized and benefits from heavy carbon taxation. Even then unlike in clean energy (ECO, NEX) where costs are based on costs of technology (like wind turbines), and those costs are dropping significantly, nuclear is hampered as by persistently rising costs of plant construction, waste disposal etc in addition to proliferation etc risks noted above.

Presently most operating nuclear plants are based on now-older generation II designs. Mainly evolutionary (not revolutionary) changes are incorporated into Generation III and III+ reactors in an attempt to lower their still very high capital costs, and to address some operational safety handicaps. However all new generation designs still carry tremendous risks. We maintain an open mind as to whether future next-generation IV such as PBMR can be significantly safer, but current nuclear is not a priority for the Index (WHPRO).

Our position here notably is in purposeful contrast to the original WilderHill Clean Energy Index (ECO) that strictly excludes nuclear power. But for this WilderHill Progressive Energy Index (WHPRO) we generally neither reject a company from, nor place a company into the WHPRO Index, solely because of exposure to (risk-laden) current-generation nuclear reactors for producing power. Apart from a low priority given current reactors however, companies producing nuclear fuel may be included in the Alternative Fuel sector. A result is that thorny questions such as a Utility with good wind power assets (but nuclear too) and that's strictly excluded from ECO over nuclear exposure, could possibly be included in the Progressive Energy Index. Notably while the WHPRO Index mainly aims not to include zero carbon clean sources like solar or wind, in cases where clean renewables are especially well represented in a Utility that otherwise has nuclear (and so is rejected from ECO), that solar or wind power Utility might be included in WHPRO.

Our Logo for the WilderHill Progressive Energy Index is intended to be representative of the approach we take here for WHPRO. Its brown (not green) coloring is emblematic of the technologies that mainly reduce harms from dominant fossil fuels in the near term. The six blades in 'a turbine' reflect our six Index sectors, each aimed at decarbonizing traditional energies ahead. Put another way they can be regarded as stabilization wedges, each of which is significant in halting growth of carbon emissions in the 21st century.

Lastly the WHPRO website has some brown color too since this Index is for primarily reducing harms from fossil fuels and traditional energy in the near term. The original WilderHill Clean Energy Index website (ECO) has a green color to reflect its focus on the clean no-carbon renewables of the future and on preventing pollution, while WilderHill New Energy Global Innovation Index (NEX) is blue to reflect the hue of our planet.