WilderShares, LLC

Q4 2011 Quarterly Report: WilderHill Clean Energy Index®, December 31, 2011

4th Quarter 2011 opened with the Clean Energy Index® (ECO) at 55.48, and closed at 52.00 for a Q4 loss of -6.3%. The whole year 2011 was dominated by big declines in solar while wider clean energy fell too and so ECO Index® dropped hard, plummeting by ½ or -50.8%. Looking at the past 3 years this sector and ECO has gone down -39.8%.

Or go further back. After large gains over a roughly 4-year rise 2004 through 2007, ECO has posted fully 4-years of declines. End 2011, ECO was just 1/5th its high of 2007(!). Volatility in recent Q4 however was at times robust both directions. It took ECO to a new low, rebounded some in October, and then fell a bit more in December.

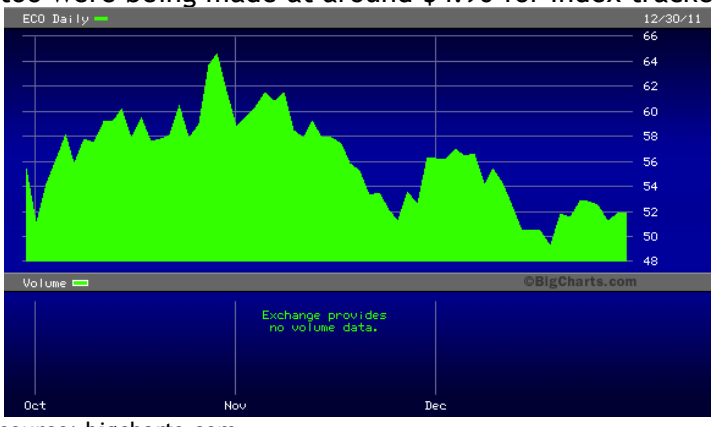
So far then recent short-lived gains like October have been in context of a great fall.

For some notable numbers, ECO moved up strongly from 125 in 2004, to near 300 in 2007. Next clean energy showed a remarkable descent over 2008 going down to 65. A double-bottom formed on a 2nd fall that culminated Spring 2009 at 59. Markets broadly & clean energy more acutely all sank hard at the start of the 'great Recession.'

Following 2009's lows, clean energy and so ECO rebounded up to 114, nearly doubling by early 2011. But ECO was soon falling again: the theme swooned ½ from the start Q1 2011 to end of Q3. In particular Q3 saw bottoms again near 65, revisiting lows of 3 years ago — each rebound up had decreasing robustness. By end of Q3 it fell harder still and it was nearly certain to drop into literally uncharted territory for start of Q4.

Unsurprisingly then ECO reached fresh lows in first few days of 4th Quarter. That steep fall hinted at a possible notion the new bottom of 50 for ECO, and $4.9 for tracker (PBW) ***might*** hold a few days, possibly a week, even a month or more. Indeed October as noted rebounded. But in November ECO again retrenched. By December it was back at those recent bottoms while making new historical lows nearby and just below 50.

Below is just past Q4 with resistance points seen near 50 for ECO Index - and new bottoms too were being made at around $4.90 for Index tracker, PBW:



source: bigcharts.com

Given our 7 years of history we can see ECO had started this past Q4 from new lows – below even a nadir 59 set in March 2009. A few points can be had from years of gains, repeated falls, rebounds, & 2011's plunge. One is that despite great falls here, passive ECO has still been 'tough to beat' in this space — for narrow sub-sectors in clean energy (like just for solar) — or active funds similarly for this clean energy theme.

Next is for 4 years now any product steeped in solar has been pulled downwards hard. Moreover broader clean energy too has gone downwards the four harsh years. That's not just among the U.S.-listed or domestic equities here, but is the case globally. Indeed to view assorted subsectors & names in broad clean energy *globally*, consider the first live *worldwide* Index here, WilderHill New Energy Global Innovation Index (NEX).

NEX is for clean energy companies found around the globe mainly based outside the U.S.; it breaks down sectors by classifications a bit similar to, but not identical to ECO, see http://www.nexindex.com/Constituents_And_Weightings.php

A look at NEX Performance 2011 to end Q3, confirms worldwide global falls were hardest in Solar at -54%. Next was Energy Conversion at -49%, followed by Wind down hard as well at -41%, Power Storage -40%, Energy Efficiency -27%, Biofuels & Biomass -22%.

Q3 data alone are similar. Solar was down most, -54%. Efficiency was down least, 'just' by -22%. In context of pure-plays in clean energy the solar-only & wind-only names are rather prominent, more so perhaps than say pure-plays in just energy efficiency (where wider-ranging conglomerates are common). Either way pretty sharp declines have been a rule here lately, however one may choose to slice and dice the green energy theme.

One interesting point seen below is when clean energy rebounded rather well in Q4, like 1st month with ECO well up, and global NEX just close to that — it was then still the WilderHill Progressive Energy Index (WHPRO) which excludes all renewable energy and instead focuses on improving the energy portrait of today, that jumped most that month. WHPRO was up clearly over a clean energy renewable theme – and was up near twice as much as some major Indexes like Nasdaq — the WHPRO up then near +25%.

So ECO & NEX in October were well up but near to (albeit better than) S&P500 & Nasdaq off a bottom – while WHPRO was 'better' at near+25%. Below are trackers for ECO **in dark mountain (PBW),** NEX thin blue line below, under that is Nasdaq in brown, and the best of all was WHPRO tracker in red (PUW) for that brief Q4 rally in October:

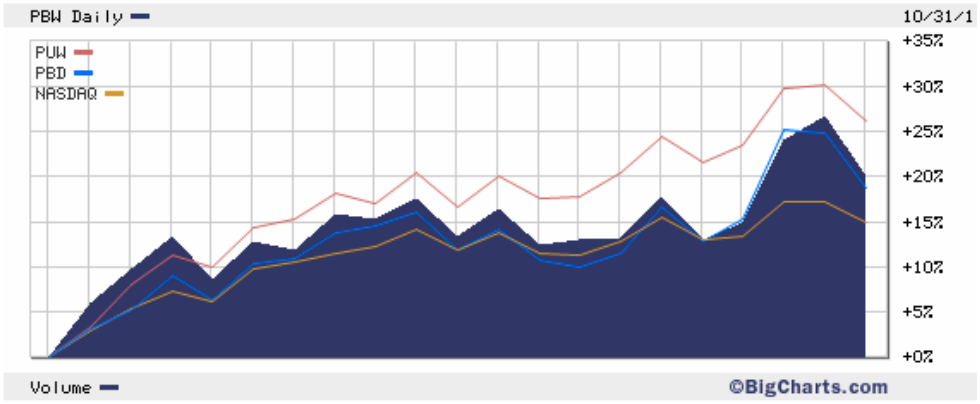


Chart source: bigcharts.com

Past 5 Years:

Here is the past 5 years to late 2011. Top performer is WilderHill Progressive Energy Index (WHPRO) tracker in red (PUW); next is WilderHill New Energy Global Innovation Index (NEX) tracker in blue (PBD) at 2nd and it is moving rather closely to ECO; next is the **WilderHill Clean Energy Index** (ECO) with tracker **dark line** (PBW) ending down a whopping 2/3rds – indicating hhow poorly the renewables (like solar & wind, next) faired vis-à-vis the Progressive Energy theme at top; next is an independent Index/tracker (not ours) for the **Wind-sector** in **orange** (FAN) ending down yet more; lastly is a specific **Solar-sector** tracker at bottom and that's down by over 80% in **green** (TAN):

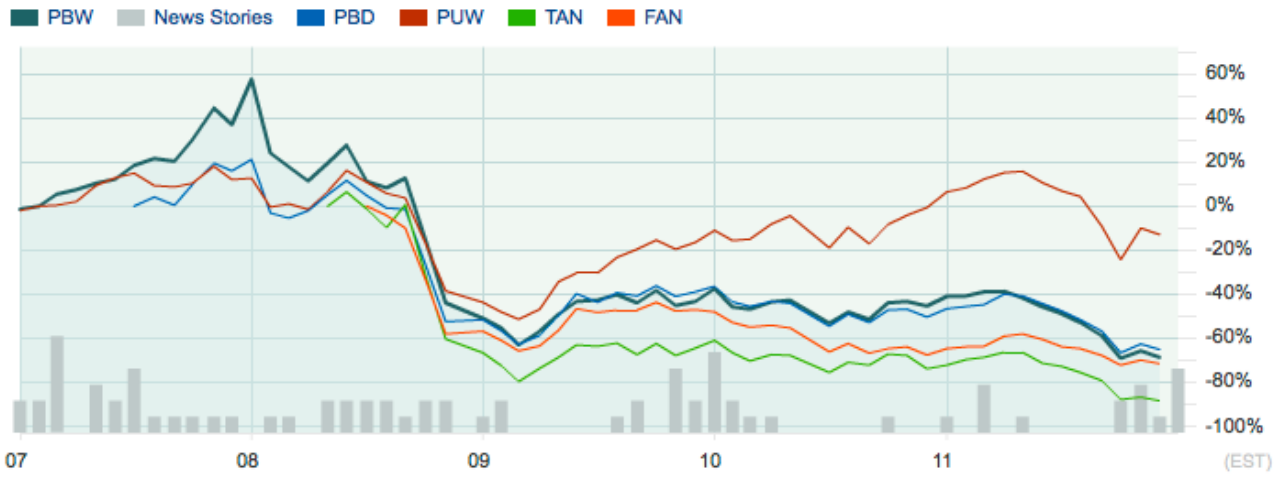


Chart source: bigcharts.com

Past 2 Years:

The Chart above has several products that commenced only after the trackers for ECO & WHPRO. Hence below is the past 2 years to late 2011 for all the same trackers:

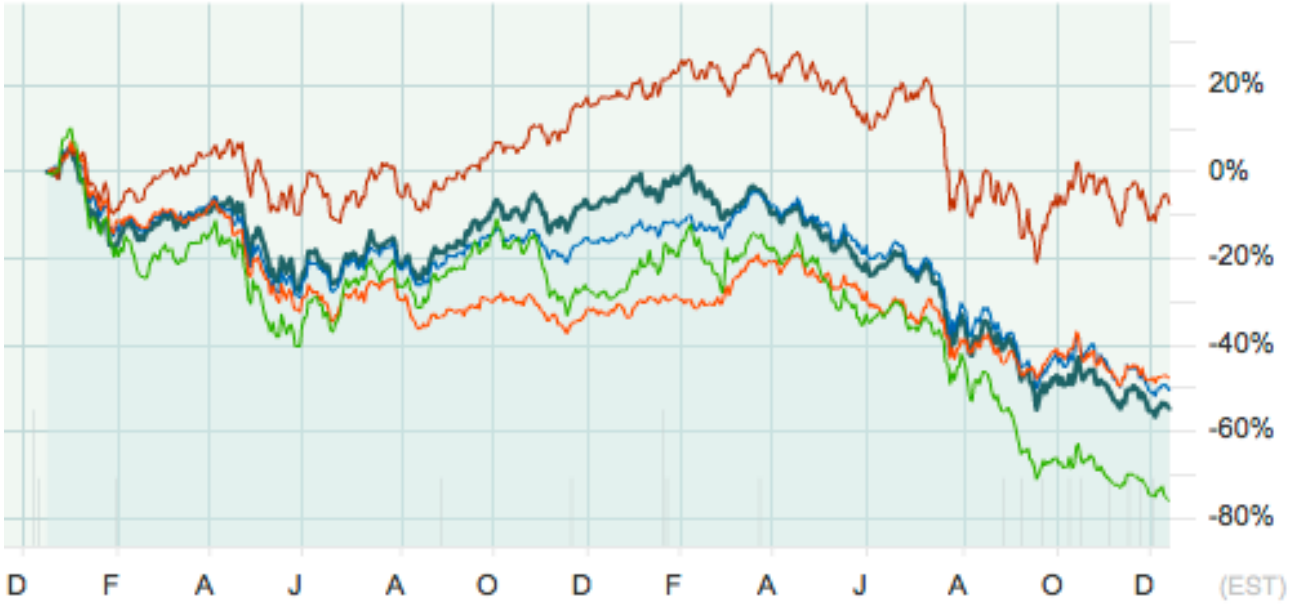


Chart source: bigcharts.com

Past 5 Years:

For a different view we switch to a different comparison and whole new Chart. This has ECO Index tracker (PBW) comparing it to an independent (not ours) active-managed mutual Fund for broad alternative energy. This is for the past 5 years. The **ECO tracker** at top is the **dark line** in bold; an active managed fund below is a thin line in blue:

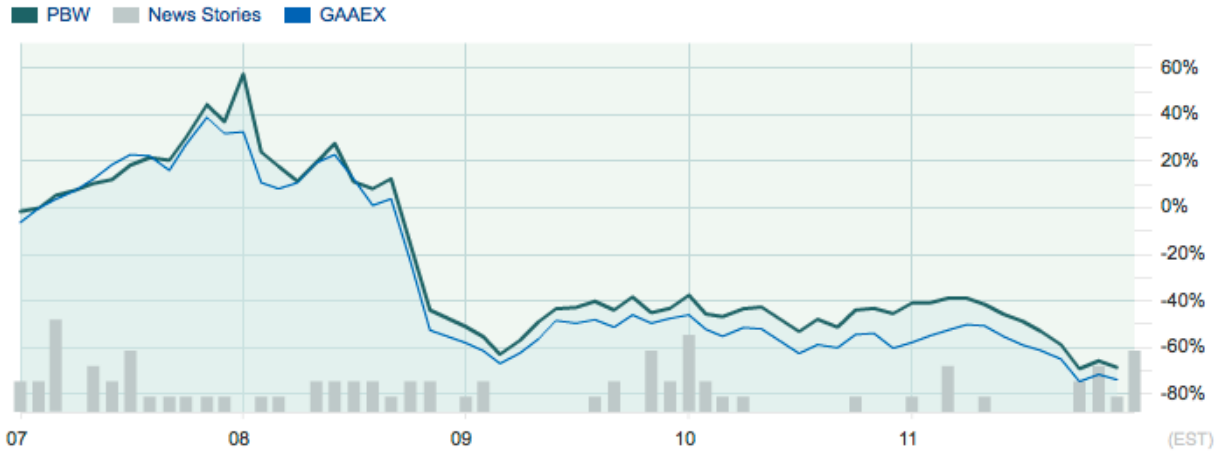


Chart source: Bigcharts.com

A few thoughts are suggested by Charts above; first is renewables especially solar & wind have continued as noted the past 4 years, to drag down the 'green' ECO theme. That is especially the case in contrast to 'brown' WilderHill Progressive Energy Index® (WHPRO) that's instead made up of companies that serve as an energy bridge by improving near-term use of fossil fuels, progressively enhancing their efficiency and reducing pollution as well as other emissions. Another thought is passive Indexes here are 'tough to beat.'

Past 3 Years:

Interestingly only WHPRO is well positive here in a past 3 years; the rest are very starkly down and have arguably been dragged down by moves in renewables:

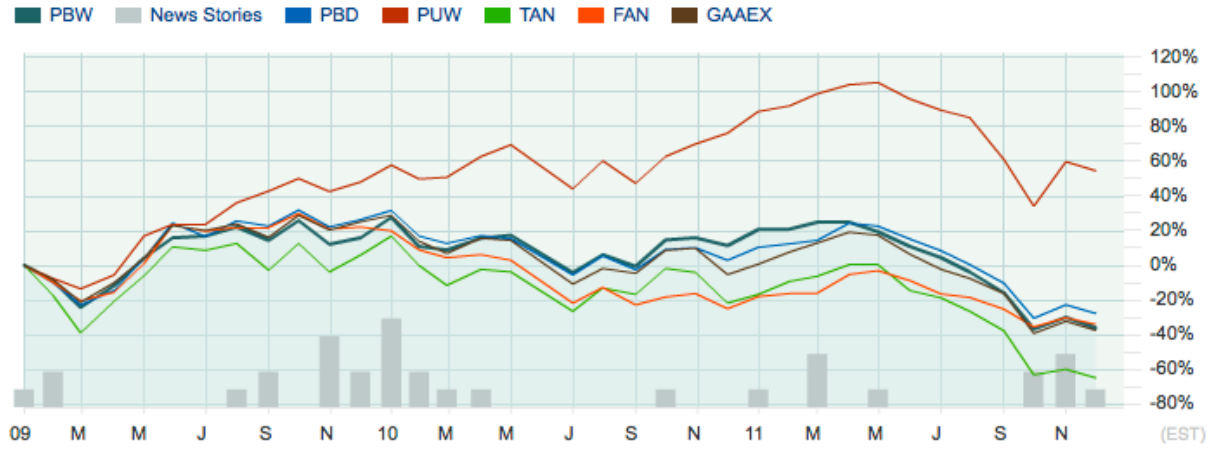


Chart source: Bigcharts.com

So the solar theme has had great impact a past several years: we'll take a look at that in this Report, and dig down for some reasons it has been so negative in 2011.

Issues Confronting Solar in 2011

Given that solar declines, even bankruptcies have hit clean energy very hard last Quarter of 2011 (Q4) even while solar installations have been expanding it's worth asking, what's happening? It's curious how many solar firms are going under even as new solar is being installed ever more widely. We'll take a look here at reasons solar companies are seeing their values drop broadly with many at historic new lows at end of Q4 2011

Some problems as we'll see vex just solar. They include severe overcapacity and so need for rationalization, compressed margins, lack of profits, lost pricing power, subsidy cuts. These all hit solar shares especially hard in second half (2H) of last year.

More widely and yet influencing clean energy too has been massive ***risk aversion*** globally. At macro-level there's sharp "to'ing and fro'ing" in sentiments but mostly now 'risk-off' (safety most crucial and volatile assets loathed). Only at rare times is 'risk-on' (some gains may be imagined for moments and volatility is briefly tolerated).

Risk-off overshadowed all 2011. And it spiked too — shunning not just most equities but assets of all kinds. Hence this just emerging, subsidy-dependent, risk-laden and volatile sector that is clean energy was seen especially (understandably) as notably undesirable — solar in particular undisputedly as *not* the place to be for long periods.

In a fright-filled year of meltdown fear, what perhaps went up most was correlation. That's to say, near everything went down. First Greece imploded, then came anticipated fears about Italy and Spain. It felt as if most all asset types outside a few singular classes like say Gold, or certain very safe Bonds, fell hard and nearly in unison.

2H 2011's swoon had swamped even more modest non-correlation clean energy had at times seemed to show before. Yes, this certainly is a very risky and therefore volatile sector. Still, 2009 & 2010 had by comparison shown relatively rather less severe moves. Back then a tighter band generally didn't move downwards more than say -30% at the bottoms, nor up over say +40% at tops in a recent two-years that ended at 2010.

2H 2011 however pushed cleantech down severely. Risk-on days can & did engender a few large-ish jumps, say with ECO up by +4%, or even +8% in a day such as October.

Renewable energy broadly has fallen terrifically by year-end. And other than a few instances of acute-solar news like a CEO departing a major firm (see below), it instead has been macro-level events that have caused these broad and rather aching drops here.

Hence solar-news arguably wasn't a main catalyst for many one-day big losses in 2011. Conversely solar news alone wasn't a key reason for the few robust one-day gains.

One might argue then macro-factors were most responsible for big changes in 2H & 2011. For instance at times it seemed Greece's debt might, *potentially*, perhaps *possibly* begin to be actually addressed — a firewall built to protect France, Spain, Italy — and all of clean energy (even solar) jumped notably on those rare-day events.

In brief hours of relief when it appeared Eurozone debt *might* be contained, one saw short 'melt-ups' prominent in solar and across clean energy. Importantly however that positive sentiment with its big echoes for clean energy couldn't be maintained.

A result was dramatic uncertainty of early 1H 2011 accelerated in 2H. Downturn extended it got worse in latter 2011. (Or one may perhaps make a case against a backdrop of major & prominent secular bear there were brief cyclical moves).

In sum arguably 2 different factors punished clean energy over latter 2011. These were 1) vast overcapacity in solar that greatly hammered almost all shares there globally — and 2) macroeconomic despair over global debt with only brief rays of hope & those bits of hope did bring leaps in clean energy but without real follow-through.

In part too, extreme low valuations in solar if looking at P/E, price/book perhaps played a role catalyzing jumps of 4% or 8% in a day as in October. In context then of post-long-4-years fall 2008-2011, short run-ups were feasible. In years prior to 2008 however, the drivers upwards for gains then in clean energy often had been very different.

History might imply that like in other areas clean energy *may* potentially, possibly, 'regress to mean' back upwards if given return of risk appetite. That's when the so-called 'animal spirits' are once again present or at least nearer past (robust) levels. It may not happen, solar might stay depressed for years, but it is a consideration.

So October's spurt of gains might have been just brief return to risk-on & reward.

Appetite for risk is important. Note then all the desire for risk bas been utterly thrashed from 2008 onwards. Investors of 2011 mainly were seeking just any return ***of*** investment -- hardly any return ***on*** investment. That plus overcapacity here was fantastically bearish for risk-laden clean-energy as one sector among many (most safer) options.

Let's turn now to the issues specific to solar that led to today's aggressive deflation here. Most notable of all has been low-cost, China-based firms in the PV (photovoltaic) solar value chain, that have brought about great challenges to traditional pricing power.

Yes, deflation can bring price bargains to buyers in the long term. But nearer term it can mean havoc for manufacturers' stability, & so for sellers' profitability. And as this year was beginning some great pressure was notably already on the highest-quality Tier 1 solar names struggling as 2011 just began to unfold.

We touched on this in Q3's Report; we'll expand on this topic here for Q4 & 2011.

We look again at a sample big upstream Tier 1 maker of polysilicon & wafers, key ingredients in typical PV panels. Like so many names of the past few years this is a China-based firm yet it trades on U.S. markets. Manufacturing polysilicon, (poly) & the wafers for crystalline silicon (c-Si) panels, it runs complex plant with process expertise in a technological capital-demanding system — not just on brute capex.

First though here's a quick review below of manufacturing of poly & wafers upstream which is used as noted for making common kinds of solar PV panels. (See for example i.e. Solar Industry, p. 80, Oct. 2011 for details on such processes).

Today's common PV is based on purified silicon (Si) and this Si may account for some ½ the cost of making PV cells, so it's major. Si, atomic number 14 is 2nd most prevalent element on the planet and so is not hard to get at. But … putting it into suitably pure form at lowest cost is thorny, and where much competition now is focused.

Unlike oil found certain places (not always convenient), Si is abundant. But like hydrogen (H), the most abundant element in the solar system, Si isn't found sitting alone. Rather it's reactive and so has already been combined with other elements like with oxygen, as say sand or rock. Think of hydrogen (H) and that too is everywhere but only in combined form like with oxygen so bound up as ubiquitous H2O or simply water.

Converting Si source material to desired elemental, sufficiently pure Si for solar is where $$ costs come in. Cheapest is metallurgical refined silicon (MG-Si) @ 'just' 98% pure, to alloy some metals. But MG-Si can't be used for solar PV; the iron impurities are too high and must be <1 part per million for PV. Other impurities like phosphorus must be even less for Si is to have the desired electrical and mechanical traits for PV.

Solar Si for panels must be at least 99.9999% pure known as 'six nines" or 6N – called 'SG-Si'. For using Si in semiconductor wafers — those ubiquitous chips in Electronic devices — it has to be much purer still at 99.9999999% or 9N and that's called 'EG-Si'.

For a positive note these solar panels made of Si last a very *very* long time. Importantly Si isn't toxic. It's well understood from semiconductor manufacturing. Indeed in a recent past the Si for making PV often just came from cast-off, surplus 9N EG-Si left over from making integrated circuits. But that 9N EG-Si was purer than is needed: there's only a small gain when going from 6N to 9N while the costs go much higher.

Hence one possibility ahead to lower costs may be dedicated manufacturing processes for 6N grade, SG-Si solar silicon. Instead poly production now uses a process that's 9N.

So attempts have been made to upgrade MG to 6N, or to blend it with 9N Si to lower PV costs, but so far that hasn't proven highly workable or effective.

As a side note the cheap MG-Si made easily by electrolysis costs only a few dollars/kg to produce. That needs only 12 kWh of electricity to make each kg of MG-Si poly. (Side note: we make twice that power here on our roof or about 24 kWh/day *from the sun,* see http://wildershares.com/solar.php).

The 9N (Siemens) process is both costly and energy-intensive. It needs some 200 kWh for each kg of poly, and that's some 16x more energy-consumptive than MG-Si. Toxic chemicals are used too in a very complex process so there's much room for improvement. The 4 steps for producing poly common now are:

1st *Hydrochlorination; using silicon tetrachlorosilane (STC) & hydrogen to make TCS;
2nd *Distilling the TCS (or SiH4) in high purity feedstock, then applied in deposition of poly;
3rd *Depositing poly by vaporized gas onto rods that cool; and lastly to push down prices is
4th *Recovery of vented gas as mixed chlorosilanes, to be re-used.

Clearly companies today in c-Si solar that make the poly, to ingots, wafers, cells, modules and panels all need costly equipment. That, plus complexity were once key barriers to entry. Importantly however that major barrier has lately been overturned.

In just a few years China has greatly ramped its PV capacity poly to panels. Abundance is now key. From near zero, there's now fierce competition among entrants & dramatically lower prices at factory gate. By 2011, China c-Si panels were nearly interchangeable commodities coming from Tier 1, higher-quality names from China.

Rather than innovate or differentiate, a model at firms is to *drive down prices*. Lowest costs may come from big, co-located, manufacturers cranking out inexpensive product. The entire c-Si solar landscape has changed and in very short time.

As a result as 2011 started to unfold, c-Si *module prices* (for PV panels) had reached lows near $1.25/watt. Good for PV buyers, hard on sellers' margins. Yet it didn't end there. China producers had cheap capital, labor, land & strong government support; they also benefited from low taxes & co-locating. (There are also few regulations there, but that has been a *short-term 'gain' only* & is not real – since it means horrible pollution).

Think of that sample big firm able to push down its poly & wafer prices hard over 2011. Being vertically integrated in making poly & wafers it could set the bar. Wafer prices @$0.50/W early 2011, soon gave way. Few competitors could profitably sell at $0.50/W — and their costs had to be lower to profit — so a down trend was hard on all (with 156x156 mm multi PV wafers growing ever closer to just a $1.00 spot price).

Helpfully the overall PV *demand* was growing. China for example grew past a 1 GW-sized market in 2011, bigger for 2012/13. New demand *might* help bring some hoped for price stabilization but even if orders picked-up, the vast extra capacity would be very tough to wring out. Overcapacity had simply grown too immense by 2011.

Stepping back a hope early 2H was if poly was near $50/kg, wafers $0.50/W, modules $1.25/Watt, there might be brief margin stability, good for many. That may mean desired clarity in pricing, from poly to panels. For pricing see e.g. http://pvinsights.com

But that hoped-for price stability did not materialize in 1H or 2H as they unfolded.

Dynamism (downwards) ruled. Module prices went to $1.20/watt – further down by Q3 to $1.13/W. By Q4 in late October, they were at $1.09/watt. Late December just $0.96/W. Hard to show any profits let alone any possible share gains at those price levels.

Data from analysts illuminates. For an example part of that poly/wafer firm made 12,000 MT of poly in 2011, up 11% from near 11,000 MT in 2H 2010. Its production costs moved well down too over Q3 2011, to just $22/kg, or down -8% from $24 q/q.

Wafer production was growing. Q3 2011 it was 2GW, vs 1.2GW in 2H of 2010. Processing costs went down to $0.22/W (-17% q/q, -24% y/y). They also felt poly production costs could go down towards $20/kg(!). Again, hardly allows bottom line *profit*. And if poly *prices* went nearer $20/kg, the much higher costs at most firms were untenable.

Think of 1-2 years ago with poly priced nearer $60. A question was if it might go to $50/kg – yet prices have moved (far) lower. China was then sourcing some poly from overseas like the U.S., but global overcapacity meant nobody was making great profit in PV.

Price drops have continued. For rapidity of change some 6 years ago poly was nearer to $100/kg. 5 years ago China production still was puny as a severe poly shortage emerged; prices rose to near $300/kg and In 2008 they grew to $350 and were even higher(!).

A few years ago near 95% of China's poly demand was met by imports. So China's domestic poly manufacture ramp since has come with great alacrity. By early 2011 prices worldwide in solar were plummeting, overcapacity becoming immense.

Over 2011 seminal poly prices touched new lows. That in turn helped push down the costs for PV makers downstream: they could buy their c-Si ingots, wafers, cells, or modules at bargain spot prices to finish out and sell finished PV panels.

Note too the alternative PV technologies or business models that assumed high poly costs (like string ribbon in U.S.— or thin film CIGS cylinders) saw business models fall apart over 2011. Their c-Si competition was getting far less expensive by latter 2011.

Margins were miniscule or worse (charges soon filed of dumping). If costs couldn't be pushed down, to ramp output meant bigger losses or another option was to lower utilization rates, but that only slowed losses in hopes of prices stabilizing.

Downstream PV makers were vexed. Those with contracts to buy poly at the fixed prices (nearer $50) agreed upon months before were suffering. Rather than enjoying cheap spot poly <$45 that their competitors were finding advantageous — they were in a bind since they agreed had to source the poly under fixed contract.

By late October 2011 average poly prices had dropped again to just $39(!).

Problematically for the margins at companies making PV from poly at costs near $50, poly spot prices continued to give way in an amazing 2011. By mid year it was clear any hoped-for (even moderate) stabilization in poly pricing wouldn't soon materialize.

China producers in particular were setting a price bar poly to panels ever lower.

Significant pricing drops came weekly. In Q4 poly dropped most since June, as October prices fell -5.8% in one week, dropping -6.1% the next week. After being well above $40 during much of Q3, by October 2011 it was touching below $40/kg.

Early-November poly fell further. Some China manufacturers sold at $35/kg, or ½ where poly prices had been start of the 2011 year! Wafers too that may need only 5 ½-6 grams of poly apiece were priced down at just 40 cents/watt. And the *costs* to make these wafers had dropped some places to 17 cents/watt; the wafers soon were priced $0.33/watt. Meanwhile lowest *costs* to make poly was dropping to near $21/kg.

Poly prices fell again -8% a week; by December, the spot *prices* for poly were just $29 (or $20 for poorer, 2nd grade poly). Modules became 95 cents/W on average, or 75 cents at the lower end for poorer-grade c-Si, a new and unprecedented price.

Two camps emerged. Many poly producers shuttered capacity given prices. Scaling-back, they sought to rein in costs as prices declined — hoping less supply too might help to bring better pricing. Several companies cancelled planned expansions for 2012.

Another camp expanded. One China supplier announced new poly production to 55,000 tonnes/year. It aimed to be a leading low-cost supplier, surviving among fewer producers. Indeed the top 6 suppliers alone of cells/modules had already gone from being roughly around ¼ of the market in 2Q 2010, to just over ½ a year later, 2Q 2011.

The world's very largest poly supplier (based in U.S.) announced an expansion by 28% for 2012 from a new plant in Tennessee. That decision, though, was made during higher poly prices and locked them into a commitment, despite falling prices.

Meantime the poly producers who'd signed long-term contracts had renegotiated. Better that, than see customers failing due to competitive disadvantage. Sourcing poly near $50 actually worked in nobody's favor. Contracts were remade.

It recalls a bind corn-ethanol biofuel producers were in as corn feedstock prices fell years back, aiding competitors who could buy at spot prices. Then, the locked-in names failed. What works well in rising prices, may not work the other way round.

Here, downstream PV makers buying at spot prices without contracts benefitted, as did the lowest-cost vertical integrators given falling rates. A scenario either of stable, or of slightly ascending prices would have instead favored those with fixed contracts.

China's relentless cost reductions continued. Their c-Si modules sold at near 20% less than U.S.-built c-Si PV — on razor thin margins. And China's past poor-quality issues too were being addressed among its own formidable Tier 1 PV competition.

During all this China firms, like those globally, were *all hard hit* by lower shares in 2011. Indeed this had gone on now for 4 years. Huge loan & credit facilities available in China were often much more $$$ than was needed, yet that it could be borrowed was impactful. Obtaining loans for more capacity wouldn't be too hard, if desired, in China.

So module pricing in 2H saw little respite. Buyers hoped for still lower figures, manufacturers for stable ones, but the 'buyers were winning'. Plus PV demand growth by now wasn't as robust as some had hoped, near 6.5% Q/q & moved up only some in Q3. Plus now the macroeconomic risk was hammering earnings per share & new Q4 demand. An unfolding 2H daily brought about an ever more-gloomy picture.

On excess capacity, Average Selling Prices (ASPs) <$1.20 pained. Earlier a few sellers had hoped in Q2 to see ASP floors near $1.10/watt for modules in 2012, and $0.95 in 2013 for some stabilization — but industry foresaw ASPs could go (much) lower still.

Helpfully in a few places expansion was being reined in, the capacity rationalized a bit. With consolidation the capacity might perhaps be a bit sopped up. On the other hand some firms weren't resting. One estimate by a pro-growth camp predicted that 2010-2015 PV Si output might grow 3.5 fold, for compound annual growth of 28%.

China's new demand was also set against relative weaker demand ahead other places including from Italy, compared to go-go growth near 7 GW in 2011. Subsidies were much less affordable given debt. Germany's blistering PV growth too was dropping.

Perhaps weakness some regions could be partially offset by growth elsewhere. A new Feed In Tariff ('FIT' below) in Japan post-Fukushima Daichi, could be net positive, along with demand from China, and from the U.S., India, Australia, and many other places.

One estimate saw roughly 22 GW added global PV capacity. Frontier areas too like in Namibia were predicted to emerge and they were aiming for a new 1 GW. A few growing nations generally outside of Europe were also adding PV quickly.

Europe had pockets of growth. French smaller installations grew as distributed generation (DG) and *measured on per capita* basis, France's total installed capacity was growing near California's rates, ahead of the wider U.S. That put it at roughly twice the new PV capacity of the U.S., but again only if measured on per person basis.

Measuring on that kW/per capita, 60 million people of France had 1.47 GW (DC) capacity in 1H 2011, or 0.25 kW/person. California, strongest State in U.S. had 1.17 GW for its 40 million, a bit better at 0.29 kW/person. But look more broadly at all the USA; 300 million had roughly 3 GW installed & grid connected PV in 2011, 'just' 0.11 kW/person. (Other places like New Jersey were growing strong in commercial PV). For more U.S. stats see http://www.seia.org/galleries/pdf/SMI-Q2-2011-ES.pdf

U.S. installed likely in 2011 something near twice the PV of 2010 according to Solar Energy Industries Assn. It's estimated France put in about 1.3 GW new solar PV in 2011.

So PV growth had broadened from just Germany of past, to worldwide. 20 countries were expected to each install >100 MW solar in 2011, vs. just 13 countries in 2010.

In 2011 the top 10 PV markets were Germany, Italy, U.S., China, Japan, France, Australia, India, Spain, Canada. Lately too Asian markets, and Czech Republic grew fast.

The U.S. wasn't stopping. Grid connected PV placed in Q2 2011 grew 69% vs. Q2 a year prior. So U.S. clearly had a place in the leaders pack. Globally the U.S. share of worldwide PV installations was at 5.1% in 2010 (down just a bit from 6.0% in 2009).

But with slowdowns ahead for Germany & Italy, the U.S. has room for growth. Consider non-sunny Germany. Its solar insolation is like Maine; thus most of the U.S. is far sunnier even in places like New Jersey so there's pretty staggering room to grow.

Look a bit at leader Germany. Its longtime pole position can't be maintained. For instance 2011 installations were robust near 5 GW of PV (much at end of year). But visibly on the horizon that main past driver, a German FIT, will soon fade.

First 9 months of 2011, about 3½ GW of solar was put in according to their Federal agency the Bundesnetagentur. It estimated close to 2 GW may be placed just in Q4.

But with a FIT cut Jan. 1, it seems a perennial hope of retail grid parity there may be roughly starting to be reached - undercutting past need. The new FIT at 'just' say 18 & 24 Eurocents/kWh could be nearer to retail German electricity costs.

So as Germany's FIT declines, PV is no longer a money-spinner. But it can shield against high household electricity costs & hedge against rising rates. If simply about the best power choice, then as noted even (lesser-subsidized) PV may still win out.

Note Germany's prices like California, are dear at retail. For example the San Diego peak electricity rates are nearer 27 cents/ kWh here with PV & Time of Use (TOU) metering, see http://wildershares.com/pdf/SDGEDR-SES_rates_in_the_2000s.pdf

Take a look at California's renewable energy. The GW+ the State may have in 2012 is substantial, its total PV capacity greater than 6 next-best States put together. Large projects may in theory (probably much too optimistically) add near 7 GW solar by 2015. All that from solar can put it near ½ the goal of getting 12 GW by ALL renewables by 2020. And California has its excellent solar resources (insolation) for more growth.

NASA for instance has rated Los Angeles 5.4 kWh/m^2/day, trailing only Honolulu at 5.9. Better than sunny Las Vegas (5.3), Phoenix (5.3), or Miami (5.2) while major areas like San Francisco Bay Area (away from coast) are favorable at 5.0. It's now the cash-strapped budget (like rest of the U.S.) that is a key concern for PV subsidies.

But don't let numbers mislead. Solar is still a *miniscule* part of the mix. Geothermal made about 20% of State renewable energy in 2010, Wind 10%, solar just around 1.5%. Big hydro is a far larger presence. So growth rates sound high given the start from basically zero, but the absolute figures are definitely still dismal today.

Consider too P/E ratios in solar. Once high, seen on Wall Street as a growth area, solar P/Es were 25x+. However they've moved far down. China's solars dropped to near 2x in a 2008 trough and have come down in 2H 2010 near some 5. (Their P/B multiple averages too in 2011 went from 1.4x, to 0.4x in Q3, dropping about 2/3rd).

For China's c-Si notably, we've seen P/Es in Q3 at 5, 4, under 3(!). An obtuse nature of China-firms, questions over reporting (not necessarily solar) can make for muddier waters. That adds a kind of tax here pushing down valuations, and P/E (& P/B) relative to more transparent equities. Murkier numbers, or using reverse shell corps may depress values in very uncertain times like these since a great financial collapse of 2008.

Other items briefly merit mention. A severe poly shortage of 2007 is gone. Yet for a small example, sourcing low-iron glass for PV may become an issue ahead. Transmittance comes into play with higher-iron content. (See e.g., Solar Industry Magazine).

Reducing silver content in PV metallization pastes too is at play in driving down materials use and reducing marginal costs. Silver prices (like gold) have jumped of late.

That's important because in a silicon PV cell a 2nd highest cost can be metallization paste. As silver costs doubled in a year, formulizations are needed that may reduce silver-use by say, 30% by 2015. Getting the silver paste usage down to <150 mg per wafer while not sacrificing functionality or longevity or efficiency, would be notable.

Minor metals too have importance in thin film & related areas and so consider Indium, like gallium from producing zinc, lead, copper, iron ores. Notably it is major in manufacture of thin films like CIGS, synthesis of semiconductor copper indium gallium selenium. Strategic Indium today comes mainly from (wait for it, wait for it) China. For more on the salient mineral production statistics for here in the U.S. see for instance http://minerals.usgs.gov/minerals/pubs/commodity/indium/mcs-2011-indiu.pdf

Thin film PV is less costly, but less efficient than c-Si. So with sharply lower c-Si costs it's critical thin film PV retain access to cheap materials as a price-lead erodes.

Thin film priced say $0.75/watt in Q3 has a price advantage over silicon PV @$1.20/watt, but it is less of a lead than before. Thin film is great & economical: it's also U.S.-made for American jobs. And yet more efficient, long-lived c-Si going <$1.10/watt is increasingly hard on its heels especially if the room available for installing panels is limited.

As indium prices rose significantly in 2011 it's important to reclaim metals & avoid waste. As we've seen with Rare Earths, say Lanthanides it's possible to see strategic metal bottlenecks come from China, who fixes export levels even for rather pervasive elements that aren't truly very rare. Plus even very abundant lowest-cost materials may present challenges if solar of all kinds scales up to new levels.

EVA (ethylene vinyl acetate) used in PV is used in many other uses. Once/if global economies do return to growth, there may be competition for even simple materials. So as PV makers push down *all* costs, every input arguably warrants new attention.

Clearly there's a great deal going on in diverse facets of solar's value chain, many balls in the air. Besides poly to panels, there's balance of system (BOS) like Inverters where pain is also severe. In Q2 revenues in this space fell y/y only about 1%. Yet this was on sharp price declines as inverter shipments grew some +40% in Q2. For all 1H after the strong gains of Q2, shipments in the first 6 months reached near 10 GW to July.

So despite near 20 GW total shipments in 2011, strong inverter price declines have meant less revenue overall. Unlike PV with 'like vs. like' (PV getting less costly to make) a trend in inverters has been towards less costly designs. Previously the 3 string inverters like in our 1st system here are being replaced in a simpler product mix. This is especially prevalent in entry markets like China & India, as bottom-line costs are crucial.

We do emphasize ECO 'can and does at times drop like a rock,' something amply shown in 2011 and the past 4 years given solar. And oil was near $100 in Q4; while pricey oil may perhaps have had some correlation with gains in ECO in past, here it meant nothing.

In sum, solar still is dismally and laughably miniscule as a percent of energy made overall. It is expanding fast, yet from near zero. Profits have fallen hard, overcapacity dominates and the expectations are of more failures in 2012. Lastly macro-environment debt in the Eurozone and fragility that mattered little to clean energy at start of 2011, mattered greatly by year end — probably more so than solar-specifics events. As markets have gone to risk-off and animal spirits are gone, this risk asset has plummeted.

Let's take a look now at a few events in memorable Q4 2011, especially first, October. ECO started here from an all-time low, so was almost sure go literally into uncharted territory early Q4. Still that initial hard fall Oct 1 – 4 perhaps gave rise to some sentiment that a possible floor was put in which might perhaps hold a week or even month ahead.

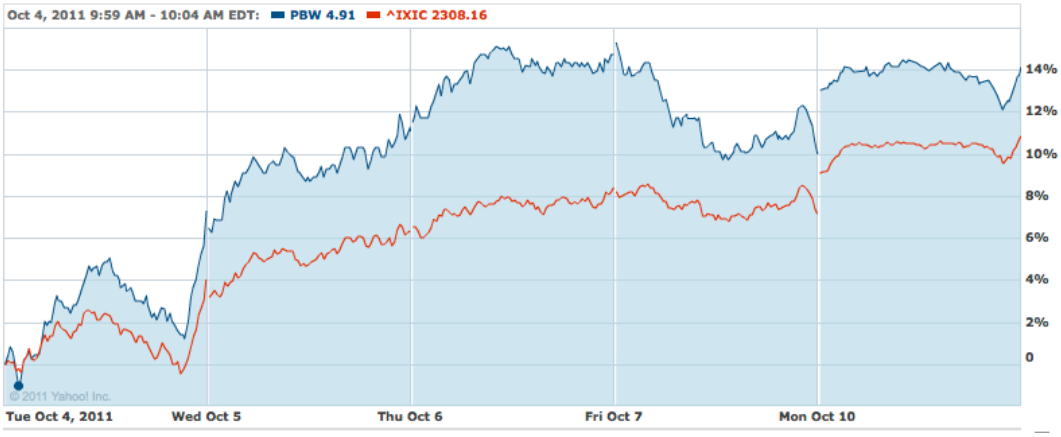
This 5 day shot to Oct 5th captures a new intraday low of $4.90 reached by PBW:

yahoo.com

A shorter, 4 day shot to Oct 5th captures a new intraday low of 50.1 for ECO:

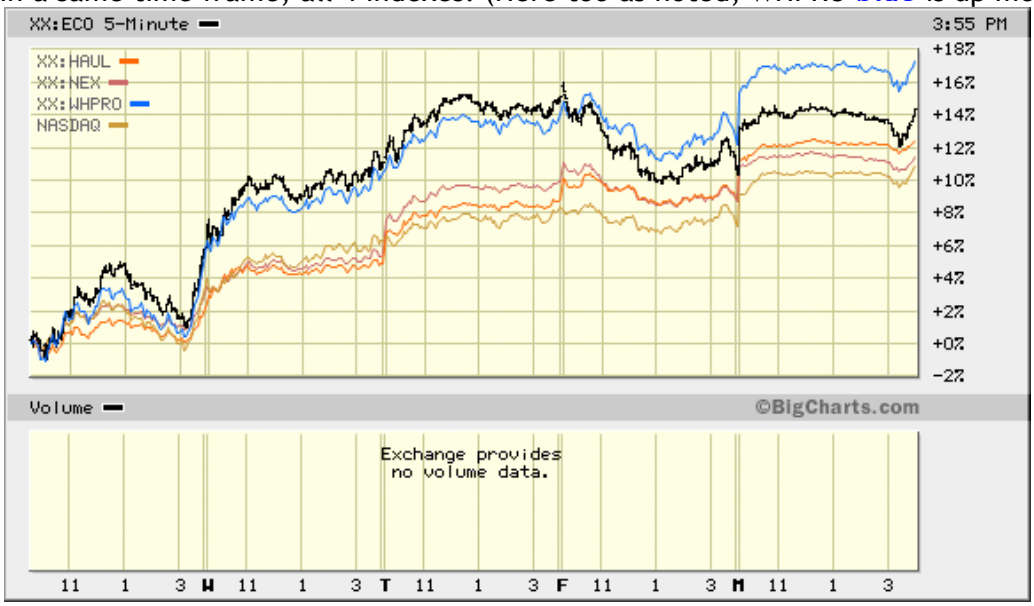
yahoo.com

This low of 50 for ECO was clearly beyond a low-water 59 from March 2009, statistically so. In retrospect it probably wasn't hugely surprising to see then a sharp rebound come the next partial + full day. This chart for ECO tracker (PBW) vs Nasdaq, below shows a rebound over a fuller five days. From a tracker low made at $4.90 on Oct 4th - to Oct 10th at $5.66, PBW was here up about +14% vs. NASDAQ up some +11%:



yahoo.com

In a same time frame, all 4 Indexes. (Here too as noted, WHPRO **blue** is up most):



bigcharts.com

How did individual components of ECO & WHPRO fare this notable trading week? Let's take a look. Figures below show ECO Index Components at close on Oct. 10, 2011. Beneath that are figures for the WilderHill Progressive Energy Index (WHPRO).

Here is at 5 trading days after a 1st bottom of 50 for ECO Index, and $4.90 on tracker (PBW). WHPRO however wasn't near its all-time low set back in March 2009, so WHPRO wasn't near breach here. Several Last Trade figures at left, can be contrasted vs. bottom-of 52-week Range at far right for jumps over just these 5 days:

ECO Index Components at close on Oct 10, 2011

Symbol	Name	Trade	Change	%	PE	Volume	Market Cap	52-wk Range
ACPW	Active Power, Inc.	1.34	0.02	1.52%	N/A	325,725	107.39M	1.15 - 3.03
AIXG	Aixtron SE	14.98	0.53	3.67%	5.46	164,372	1.51B	13.19 - 44.96

AMRC	Ameresco, Inc	10.00	0.49	5.15%	13.44	177,483	430.70M	8.60 - 17.46	
AMRS	Amyris, Inc.	17.19	0.08	0.47%	N/A	228,769	773.03M	17.01 - 33.99	
AMSC	American Superconductor	4.15	0.30	7.79%	46.63	1,179,5	210.41M	3.21 - 38.88	
AONE	A123 Systems, Inc.	3.35	0.15	4.69%	N/A	1,823,9	422.20M	2.77 - 10.99	
APD	Air Products and Chemicals	83.00	2.97	3.71%	15.45	800,022	17.69B	72.26 - 98.00	
ARGN	Amerigon Incorporated	14.05	0.83	6.28%	86.20	155,372	312.63M	9.33 - 18.18	
ASYS	Amtech Systems, Inc.	8.60	0.40	4.88%	3.29	186,895	82.38M	7.12 - 30.80	
BLDP	Ballard Power Systems	1.36	0.10	7.94%	N/A	172,945	114.77M	1.10 - 2.51	
COMV	Comverge, Inc.	1.69	0.10	6.29%	N/A	168,315	42.07M	1.51 - 8.36	
CPL	CPFL Energia S.A. CPFL	23.48	0.53	2.31%	13.76	315,796	11.30B	21.44 - 30.66	
CPN	Calpine Corporation	14.40	0.34	2.42%	N/A	2,391,7	6.62B	11.88 - 17.10	
CREE	Cree, Inc.	27.32	0.59	2.11%	20.54	2,705,5	2.98B	23.03 - 28.77	
CSIQ	Canadian Solar Inc.	3.59	0.20	5.90%	2.66	607,972	154.67M	3.05 - 17.63	
CZZ	Cosan Limited	10.43	0.52	5.25%	3.41	869,332	2.82B	8.65 - 14.74	
DQ	DAQQ New Energy Corp.	3.95	0.06	1.54%	1.16	42,921	138.81M	3.01 - 15.43	
ELON	Echelon Corporation	6.86	0.11	1.63%	N/A	267,441	287.50M	6.53 - 10.72	
EMKR	EMCORE Corporation	1.08	0.07	6.93%	N/A	566,719	100.42M	0.85 - 3.25	
FCEL	FuelCell Energy, Inc.	0.99	0.07	7.47%	N/A	1,159,0	126.12M	0.80 - 2.41	
FSLR	First Solar, Inc.	59.78	0.04	0.07%	10.19	2,409,789	5.16B	55.68 - 175.45	
FSYS	Fuel Systems Solutions	20.41	1.49	7.88%	43.43	218,693	407.85M	16.43 - 42.65	
GEVO	Gevo, Inc.	7.26	0.13	1.76%	N/A	54,431	187.73M	5.32 - 26.36	
GTAT	GT Advanced Technologies,	8.09	0.04	0.50%	5.23	1,855,343	1.02B	6.40 - 17.50	
HSOL	Hanwha SolarOne Co., Ltd.	2.13	0.09	4.41%	2.17	507,761	178.72M	1.82 - 12.83	
IDA	IDACORP, Inc.	39.58	0.93	2.41%	14.09	322,887	1.97B	33.88 - 40.71	
IRF	International Rectifier Corp	21.57	0.05	0.23%	9.26	414,103	1.51B	17.28 - 35.26	
ITC	ITC Holdings Corp.	74.09	3.64	5.17%	23.90	608,916	3.80B	59.77 - 78.89	
ITRI	Itron, Inc.	31.53	0.70	2.27%	11.14	259,717	1.28B	26.90 - 67.58	
JASO	JA Solar Holdings, Co., Ltd.	1.86	0.02	1.06%	1.31	3,033,439	305.88M	1.46 - 10.24	
KDN	Kaydon Corporation	30.09	1.28	4.44%	19.68	306,477	972.63M	26.45 - 41.71	
LIME	Lime Energy Co.	3.00	0.01	0.33%	N/A	14,941	71.53M	2.81 - 5.53	
MCP	Molycorp, Inc	36.29	1.00	2.83%	131.9	2,628,546	3.04B	26.52 - 79.16	
MXWL	Maxwell Technologies,	19.44	0.62	3.29%	N/A	199,368	538.39M	13.78 - 20.49	
MY	China Ming Yang Wind	2.70	0.25	10.2%	2.87	188,198	339.30M	2.30 - 13.70	
OMG	OM Group, Inc. Common	26.64	0.38	1.45%	7.92	500,301	860.90M	23.67 - 41.88	
ORA	Ormat Technologies, Inc.	19.12	1.11	6.16%	24.20	386,913	868.62M	14.10 - 31.23	
PANL	Universal Display Corp	44.98	0.67	1.51%	N/A	840,700	2.05B	21.51 - 63.58	
POWR	PowerSecure International	4.26	0.02	0.47%	3.55	131,035	80.80M	3.78 - 9.98	
PPO	Polypore International Inc	56.24	0.70	1.26%	30.43	675,758	2.59B	29.55 - 74.21	
PWER	Power-One, Inc.	5.05	0.45	9.78%	4.37	2,823,528	524.15M	4.05 - 12.93	
PWR	Quanta Services, Inc.	19.82	0.60	3.12%	38.34	1,678,704	4.19B	15.37 - 24.18	
REE	Rare Element Resources Ltd.	5.37	0.19	3.67%	N/A	732,012	236.80M	3.86 - 17.92	
RBCN	Rubicon Technology, Inc.	10.48	0.43	4.28%	4.75	253,115	241.45M	9.75 - 29.79	
SATC	SatCon Technology Corp	1.12	0.04	3.70%	N/A	343,543	133.89M	0.88 - 5.51	
SOL	Renesola Ltd.	1.94	0.05	2.65%	1.07	2,754,959	168.68M	1.46 - 15.34	
SPWRA	SunPower Corporation	8.45	0.34	4.19%	31.30	446,706	825.18M	6.60 - 23.36	
SQM	Sociedad Quimica y Minera	51.64	2.16	4.37%	30.59	450,226	13.59B	43.00 - 51.71	
STP	Suntech Power	2.50	0.16	6.84%	2.80	3,402,234	450.98M	1.70 - 10.83	
STRI	STR Holdings	9.08	0.40	4.61%	8.18	257,327	371.70M	7.45 - 28.16	
SZYM	Solazyme, Inc.	8.57	0.00	0.00%	N/A	322,407	511.36M	8.54 - 27.47	
TSL	Trina Solar	6.60	0.58	9.63%	1.70	5,571,365	464.10M	5.28 - 31.89	
TSLA	Tesla Motors, Inc.	27.88	0.89	3.30%	N/A	923,416	2.90B	20.00 - 36.42	
UQM	UQM TECHNOLOGIES	1.66	0.11	7.10%	N/A	53,134	60.24M	1.36 - 3.83	
WFR	MEMC Electronic Materials	5.75	0.14	2.50%	18.73	3,786,104	1.32B	4.58 - 15.04	
YGE	Yingli Green Energy Holding	3.40	0.03	0.87%	2.01	2,594,715	535.97M	2.75 - 14.29	
ZOLT	Zoltek Companies, Inc.	6.30	0.37	6.24%	N/A	166,189	216.52M	5.60 - 16.06	

WilderHill Progressive Energy Index (WHPRO) Components on Oct. 10, 2011

AIMC	Altra Holdings, Inc.	12.96	0.95	7.91%	10.98	111,702	347.92M	10.12 - 27.48
ANDE	The Andersons, Inc.	33.85	0.96	2.92%	7.04	83,546	629.61M	30.04 - 51.23
AOS	A.O. Smith Corporation	33.24	1.23	3.84%	9.93	688,512	1.54B	29.81 - 45.80
APOG	Apogee Enterprises, Inc.	9.89	0.30	3.13%	N/A	102,512	280.10M	7.79 - 14.82
AVL	Avalon Rare Metals, Inc.	3.10	0.19	6.53%	N/A	538,052	291.72M	2.29 - 10.11
BGC	General Cable Corporation	25.94	1.18	4.77%	10.82	786,101	1.35B	20.21 - 49.32
CBE	Cooper Industries, plc Ireland	50.04	1.65	3.41%	10.59	906,351	8.26B	41.15 - 70.00
CBI	Chicago Bridge & Iron Comp	31.30	1.65	5.56%	13.78	993,106	3.09B	23.88 - 45.12
CCJ	Cameco Corporation	20.25	1.01	5.25%	18.63	1,447,270	7.99B	16.68 - 44.81
CHK	Chesapeake Energy	26.75	1.40	5.52%	17.81	8,760,136	16.99B	20.97 - 35.95
CIG	Comp En De Mn Cemig ADS	15.12	0.47	3.21%	7.64	1,432,617	10.31B	14.03 - 21.09
CLNE	Clean Energy Fuels Corp.	11.02	0.83	8.15%	N/A	1,122,777	775.46M	9.02 - 17.85
CVA	Covanta Holding	14.27	0.45	3.26%	11.05	1,136,016	2.05B	13.25 - 17.78
DNN	Denison Mines	1.14	0.03	2.70%	N/A	592,590	438.51M	0.81 - 4.52
EBR	Centrais Elc Braz	9.22	0.43	4.89%	8.07	763,769	12.47B	8.24 - 16.29
ELT	Elster Group SE	15.14	0.25	1.68%	15.25	107,801	1.71B	13.50 - 17.74
EMR	Emerson Electric Company	45.39	1.38	3.14%	13.99	4,046,924	33.80B	39.50 - 62.24
ENI	Enersis S A Common Stock	17.89	0.53	3.05%	12.34	454,266	11.68B	15.81 - 25.42
ENOC	EnerNOC, Inc.	9.65	0.42	4.55%	N/A	207,678	250.02M	8.05 - 31.49
ENR	Energizer Holdings	69.49	1.82	2.69%	16.35	330,441	4.78B	61.60 - 84.94
ENS	Enersys Common Stock	20.70	0.92	4.65%	8.42	511,559	1.04B	17.35 - 40.32
ES	EnergySolutions	3.38	0.16	4.97%	26.00	576,061	300.07M	2.90 - 7.23
ESE	ESCO Technologies Inc	28.74	1.46	5.35%	12.68	176,143	764.92M	23.75 - 43.15
ETN	Eaton Corporation	39.94	1.31	3.39%	11.71	3,432,277	13.62B	33.09 - 56.49
FWLT	Foster Wheeler AG.	20.20	0.69	3.54%	14.68	1,235,626	2.43B	16.40 - 39.75
GLNG	Golar LNG Limited	33.27	1.95	6.23%	91.91	467,420	2.66B	12.30 - 39.90
GLPW	Global Power Equipment	24.25	0.64	2.71%	5.83	75,355	392.41M	15.00 - 30.18
GLW	Corning Incorporated	13.73	0.33	2.46%	6.51	13,196,46	21.57B	11.51 - 23.43
GTI	GrafTech International	14.92	0.59	4.12%	13.23	1,195,236	2.17B	12.11 - 23.89
GTLS	Chart Industries, Inc.	48.57	3.11	6.84%	41.51	389,984	1.43B	20.28 - 62.15
HXL	Hexcel Corporation	23.30	1.08	4.86%	23.07	1,155,322	2.29B	15.56 - 25.68
JCI	Johnson Controls	29.79	1.25	4.38%	13.33	4,223,225	20.25B	24.29 - 42.92
LEDS	SemiLEDS Corporation	3.89	0.30	8.36%	N/A	39,930	106.05M	3.37 - 32.12
LXU	LSB Industries, Inc.	32.11	2.08	6.93%	10.63	272,219	714.58M	18.84 - 49.21
MDR	McDermott International	14.24	0.29	2.08%	16.73	3,615,372	3.34B	10.02 - 26.14
MEOH	Methanex Corporation	23.39	0.91	4.05%	16.02	84,684	2.18B	19.50 - 34.90
OC	Owens Corning	22.39	0.10	0.44%	56.68	2,142,466	2.76B	18.67 - 38.94
PHG	Koninklijke Philips Elec.	19.66	1.28	6.96%	N/A	1,614,971	19.12B	16.26 - 34.27
PMFG	PMFG, Inc.	17.75	1.32	8.03%	63.39	48,771	313.75M	13.77 - 24.23
QRM	Quest Rare Minerals	2.63	0.03	1.15%	N/A	205,039	162.35M	1.70 - 9.30
RBC	Regal Beloit Corporation	49.55	1.57	3.27%	13.53	408,343	1.92B	41.65 - 76.65
RRC	Range Resources Corp	63.30	3.32	5.54%	N/A	2,310,061	10.00B	35.11 - 77.24
ROC	Rockwood Holdings, Inc.	39.81	1.96	5.18%	7.46	1,237,641	3.05B	30.43 - 62.03
SI	Siemens AG	100.7	5.06	5.29%	14.75	935,182	88.07B	84.86 - 146.74
SSL	Sasol Ltd.	44.47	2.55	6.08%	10.81	220,840	26.74B	38.15 - 60.39
SWN	Southwestern Energy	35.43	1.05	3.05%	20.13	4,119,220	12.30B	30.94 - 49.25
TEN	Tenneco Inc.	30.50	2.25	7.96%	21.28	903,297	1.84B	22.47 - 46.81
TTM	Tata Motors Ltd	17.71	1.47	9.05%	N/A	3,369,574	N/A	14.33 - 37.65
USU	USEC Inc.	1.30	0.09	7.44%	N/A	1,117,528	158.57M	1.17 - 6.35
VECO	Veeco Instruments Inc.	27.42	0.51	1.90%	3.33	930,754	1.13B	23.06 - 57.67
WWD	Woodward, Inc.	30.73	1.15	3.89%	17.46	297,530	2.11B	24.39 - 39.52
WPRT	Westport Innovations Inc	28.60	0.92	3.32%	N/A	784,826	1.35B	14.25 - 34.23
XIDE	Exide Technologies	4.70	0.28	6.33%	12.50	627,538	367.04M	3.59 - 12.68

Broken down for granularity we can look individually at ECO components for rough changes the 5 days to Oct. 10, 2011. (Biggest losers & gainers in **bold**). For comparison, Dow Jones Index the same period was up some +8%; S&P500 up about +10%; and the NASDAQ up some +11%. Hence all major Indexes too were up robustly:

Clean Energy (ECO)
ACPW = 15%
AIXG = 14%
AMRC = 11%
AMRS = (down -5%)
AMSC = 22%
AONE = 11%
APD = 14%
ARGN = 19%
ASYS = 16%
BLDP = 21%
COMV = 6%
CPL = 7%
CPN = 9%
CREE = 16%
CSIQ = 14%
CZZ = 16%
DQ = 30%
ELON = 3%
EMKR = 24%
FCEL = 16%
FSLR = 6%
FSYS = 21%
GEVO = 36%
GTAT = 24%
HSOL = 15%
IDA = 5%
IRF = 17%
ITC = (down -2%)
ITRI = 17%
JASO = 25%
KDN = 14%
LIME = 0%
MCP = 17%
MXWL = 12%
MY = 12%
OMG = 10%
ORA = 24%
PANL = 6%
POWR = 0%
PPO = 14%
PWER = 21%
PWR = 17%
REE = 29%
RBCN = 4%
SATC = 20%
SOL = 28%
SPWRA = 20%
SQM = 16%
STP = 33%
STRI = 19%
SZYM = (down -5%)
TSL = 20%
TSLA = 19%
UQM = 12%
WFR = 24%
YGE = 18%
ZOLT = 7%

In sum ECO gainers were for instance energy efficiency, biofuels, LEDs, strategic metals, and poly. The relative losers were also in energy efficiency, biofuels.

A few standouts in WilderHill Progressive Energy Index (WHPRO) were well up too this 5-days to October 10 (WHPRO up some +17%) shown here. Percentages weren't far greater than ECO, and there was broad participation by WHPRO Index in this rally:
DNN = 33%
GTLS = 33%
LXU = 29%
MDR = 34%
QRM = 40%

Big moves in ECO 2H of course were NOT upside only. As observed 2011 was characterized by very strong moves downward, with solar often in vanguard here – so solar was down some 2/3rds, while broader clean energy was well down in the year too.

For example on October 25 when there was a fall of -4% in ECO, one well-regarded solar component dropped -25% on unexpected announcement of a resignation with knock-on effects through solar. Also note an independent (not ours) solar ETF tracker (TAN) was down by -8.0% that day. An independent wind tracker (not ours) was nearly unchanged that day (FAN). WHPRO was down around -3%.

Symbol	Name	Trade		Change	P/E	Volume	Market Cap	52-wk Range
^ECO	WILDERHILL CLEAN ENERGY IND	57.88	2.69	4.44%	N/A	0	N/A	-
PBW	PowerShares WilderHill Clean Energy Ind	5.67	0.24	4.06%	N/A	385,892	N/A	4.90 - 11.42
WHPRO	WILDERHILL PROGRESSIVE ENERGY	210.56	6.29	2.90%	N/A	0	N/A	-
PUW	PowerShares WilderHill Progress	22.96	0.55	2.36%	N/A	2,037	N/A	18.22 - 31.01
^NEX	WilderHill New Energy Global In	142.25	2.40	1.66%	N/A	0	N/A	122.63 - 237.33
PBD	PowerShares Global Clean Energy	9.37	0.23	2.40%	N/A	32,724	N/A	7.99 - 15.91
^HAUL	Wilder NASDAQ OMX Gbl Energy Ef	234.69	1.59	0.67%	N/A	0	N/A	-
^IXIC	NASDAQ Composite	2,638	61.02	2.26%	N/A	0	N/A	2,298.- 2,887
^DJI	Dow Jones Industrial Average	11,706	207.0	1.74%	N/A	161,449,08	N/A	10,362 - 12,928
	Below is WilderHill Clean Energy (ECO) components at close on Oct. 25, 2011:							
ACPW	Active Power, Inc.	1.02	0.11	9.73%	N/A	899,346	81.75M	1.06 - 3.03
AIXG	Aixtron SE	13.77	0.26	1.85%	4.83	319,926	1.39B	12.49 - 44.96
AMRC	Ameresco, Inc Class A Common St	10.41	0.22	2.07%	13.99	118,734	448.36M	8.60 - 17.46
AMRS	Amyris, Inc.	18.33	0.71	3.73%	N/A	216,974	824.30M	15.28 - 33.99
AMSC	American Superconductor Corpora	3.96	0.26	6.16%	N/A	869,110	200.80M	3.21 - 38.08
AONE	A123 Systems, Inc.	3.46	0.19	5.21%	N/A	1,438,021	436.06M	2.77 - 10.99
APD	Air Products and Chemicals, Inc	82.45	0.70	0.84%	14.64	1,526,122	17.41B	72.26 - 98.00
ARGN	Amerigon Incorporated	14.20	0.46	3.14%	87.12	75,976	315.96M	9.55 - 18.18
ASYS	Amtech Systems, Inc.	10.37	0.96	8.47%	3.97	264,372	99.33M	7.12 - 30.80
BLDP	Ballard Power Systems, Inc.	1.38	0.05	3.76%	N/A	137,329	116.46M	1.10 - 2.51
COMV	Comverge, Inc.	1.59	0.22	12.1%	N/A	116,509	39.58M	1.51 - 8.20
CPL	CPFL Energia S.A. CPFL Energia	24.81	0.54	2.13%	14.63	369,046	11.94B	21.44 - 30.66
CPN	Calpine Corporation Common Stoc	13.82	0.51	3.56%	N/A	2,173,765	6.35B	11.88 - 17.10
CREE	Cree, Inc.	24.90	0.79	3.08%	27.42	2,238,724	2.87B	23.03 - 29.99
CSIQ	Canadian Solar Inc.	3.10	0.21	6.34%	2.29	1,597,567	133.56M	3.00 - 16.79
CZZ	Cosan Limited Class A Common St	11.40	0.34	2.90%	3.75	1,047,998	3.09B	8.65 - 14.74
DQ	DAQQ New Energy Corp. American	3.24	0.12	3.57%	0.95	149,658	113.86M	3.01 - 15.43
ELON	Echelon Corporation	6.55	0.29	4.24%	N/A	282,022	274.51M	6.50 - 10.72
EMKR	EMCORE Corporation	0.98	0.12	10.9%	N/A	1,052,845	91.13M	0.85 - 3.25
FCEL	FuelCell Energy, Inc.	0.97	0.06	5.83%	N/A	1,123,074	123.57M	0.80 - 2.41
FSLR	First Solar, Inc.	43.27	14.68	25.3%	7.38	23,540,249	3.73B	50.87 - 175.45
FSYS	Fuel Systems Solutions, Inc.	20.67	0.12	0.58%	43.98	138,629	413.05M	16.43 - 42.65
GEVO	Gevo, Inc.	7.45	0.32	4.12%	N/A	55,611	192.64M	5.32 - 26.36
GTAT	GT Advanced Technologies, Inc.	7.05	0.38	5.11%	4.56	2,345,624	892.33M	6.40 - 17.50
HSOL	Hanwha SolarOne Co., Ltd.	2.01	0.20	9.05%	2.05	1,012,466	168.65M	1.82 - 11.58
IDA	IDACORP, Inc. Common Stock	39.83	0.60	1.48%	14.18	255,752	1.98B	33.88 - 40.71
IRF	International Rectifier Corpora	22.93	0.12	0.52%	9.84	383,745	1.61B	17.28 - 35.26
ITC	ITC Holdings Corp. Common Stock	71.07	0.93	1.29%	22.93	380,575	3.65B	59.77 - 78.89
ITRI	Itron, Inc.	32.54	1.32	3.90%	11.49	763,922	1.32B	26.90 - 67.58
JASO	JA Solar Holdings, Co., Ltd.	2.19	0.24	9.88%	1.54	10,363,919	360.15M	1.46 - 9.77
KDN	Kaydon Corporation Common Stock	30.51	0.67	2.15%	19.95	275,176	986.21M	26.45 - 41.71
LIME	Lime Energy Co.	3.00	0.10	3.23%	N/A	23,427	71.53M	2.81 - 5.53
MCP	Molycorp, Inc Common Stock $0.0	36.83	2.16	5.54%	133	2,525,216	3.09B	26.90 - 79.16
MXWL	Maxwell Technologies, Inc.	19.14	0.32	1.64%	N/A	234,364	530.08M	13.78 - 20.49
MY	China Ming Yang Wind Power Grou	3.03	0.16	5.02%	3.22	73,604	380.76M	2.30 - 12.90
OMG	OM Group, Inc. Common Stock	26.61	0.94	3.41%	7.91	370,998	859.93M	23.67 - 41.88
ORA	Ormat Technologies, Inc. Common	18.58	0.59	3.08%	23	196,873	844.09M	14.10 - 31.23
PANL	Universal Display Corporation	47.96	3.67	7.11%	N/A	904,809	2.18B	21.51 - 63.58
POWR	PowerSecure International, Inc	4.07	0.16	3.78%	3.39	92,922	77.19M	3.78 - 9.96
PPO	Polypore International Inc Comm	49.78	1.52	2.96%	26.94	606,995	2.30B	29.55 - 74.21
PWER	Power-One, Inc.	5.06	0.21	3.98%	4.38	2,250,373	525.19M	4.05 - 12.93
PWR	Quanta Services, Inc. Common St	20.30	0.50	2.40%	39.26	1,356,726	4.29B	15.37 - 24.18

REE	Rare Element Resources Ltd. Ord	5.59	0.16	2.78%	N/A	949,881	246.50M	3.86 - 17.92
RBCN	Rubicon Technology, Inc.	9.92	0.08	0.80%	4.50	238,852	228.55M	9.25 - 29.79
SATC	SatCon Technology Corporation	1.05	0.09	7.89%	N/A	925,456	125.52M	0.88 - 5.51
SOL	Renesola Ltd. Common Shares of	2.07	0.23	10.0%	1.15	4,941,883	179.98M	1.46 - 14.13
SPWRA	SunPower Corporation	9.09	0.95	9.46%	33.67	682,317	887.68M	6.60 - 23.36
SQM	Sociedad Quimica y Minera S.A.	56.11	1.90	3.28%	33.24	1,068,652	14.77B	43.00 - 58.24
STP	Suntech Power Holdings Co., LTD	2.24	0.19	7.82%	2.51	6,742,394	404.08M	1.70 - 10.83
STRI	STR Holdings, Inc Common Stock	7.47	0.76	9.23%	6.73	606,126	305.79M	7.16 - 28.16
SZYM	Solazyme, Inc.	9.23	0.36	3.75%	N/A	230,698	550.74M	7.68 - 27.47
TSL	Trina Solar Limited Sponsored A	7.28	0.56	7.14%	1.88	5,425,529	511.92M	5.28 - 31.08
TSLA	Tesla Motors, Inc.	28.25	0.30	1.05%	N/A	652,471	2.94B	20.51 - 36.42
UQM	UQM TECHNOLOGIES INC	1.79	0.16	9.82%	N/A	194,610	64.96M	1.36 - 3.83
WFR	MEMC Electronic Materials, Inc.	5.86	0.39	6.24%	19.09	6,558,639	1.35B	4.58 - 15.04
YGE	Yingli Green Energy Holding Com	3.76	0.13	3.34%	2.23	7,627,463	592.72M	2.75 - 13.59
ZOLT	Zoltek Companies, Inc.	6.83	0.41	5.66%	N/A	307,475	234.73M	5.60 - 16.06

Below is WilderHill Progressive Energy Index (WHPRO) components:

AIMC	Altra Holdings, Inc.	13.81	0.21	1.50%	11.70	199,081	370.74M	10.12 - 27.48
ANDE	The Andersons, Inc.	33.81	0.38	1.11%	7.03	115,654	628.87M	30.04 - 51.23
AOS	A.O. Smith Corporation Common S	37.11	0.44	1.17%	5.64	921,135	1.73B	29.81 - 45.80
APOG	Apogee Enterprises, Inc.	9.74	0.50	4.88%	N/A	159,820	275.86M	7.79 - 14.82
AVL	Avalon Rare Metals, Inc. Ordina	3.14	0.14	4.27%	N/A	559,402	295.49M	2.29 - 10.11
BGC	General Cable Corporation Commo	26.66	1.70	5.99%	11.12	1,050,894	1.39B	20.21 - 49.32
CBE	Cooper Industries, plc (Irelan	52.40	0.84	1.58%	10.77	855,231	8.50B	41.15 - 70.00
CBI	Chicago Bridge & Iron Company N	34.47	1.81	4.99%	15.18	1,889,377	3.40B	23.88 - 45.12
CCJ	Cameco Corporation Common Stock	20.61	0.28	1.34%	18.37	2,740,788	8.14B	16.68 - 44.81
CHK	Chesapeake Energy Corporation C	27.31	1.01	3.57%	18.18	7,810,973	17.34B	20.97 - 35.95
CIG	Comp En De Mn Cemig ADS America	15.32	0.72	4.49%	7.79	4,195,668	10.45B	14.03 - 21.09
CLNE	Clean Energy Fuels Corp.	11.28	0.68	5.69%	N/A	712,471	793.75M	9.02 - 17.85
CVA	Covanta Holding Corporation Com	14.54	0.48	3.20%	9.90	934,936	2.02B	13.25 - 17.78
DNN	Denison Mines Corp Ordinary Sha	1.47	0.02	1.38%	N/A	1,630,960	565.45M	0.81 - 4.52
EBR	Centrais Elc Braz Pfb B Elbras	9.64	0.48	4.74%	8.49	784,957	13.04B	8.24 - 16.29
ELT	Elster Group SE American Deposi	14.93	0.06	0.40%	15.04	182,334	1.69B	14.20 - 17.74
EMR	Emerson Electric Company Common	46.52	1.14	2.39%	14.34	5,189,925	34.64B	39.50 - 62.24
ENI	Enersis S A Common Stock	18.95	0.20	1.04%	13.07	753,696	12.37B	15.81 - 25.42
ENOC	EnerNOC, Inc.	8.07	0.87	9.73%	N/A	963,141	209.09M	8.05 - 31.49
ENR	Energizer Holdings, Inc. Common	74.15	0.84	1.12%	17.45	359,126	5.10B	61.60 - 84.94
ENS	Enersys Common Stock	20.36	0.14	0.69%	8.28	494,669	1.02B	17.35 - 40.32
ES	EnergySolutions Inc Common Stoc	3.61	0.25	6.48%	27.77	890,764	320.49M	2.90 - 7.23
ESE	ESCO Technologies Inc. Common S	28.98	0.50	1.70%	12.78	202,171	771.30M	23.75 - 43.15
ETN	Eaton Corporation Common Stock	43.14	1.09	2.46%	12.64	3,720,623	14.72B	33.09 - 56.49
FWLT	Foster Wheeler AG.	20.97	0.73	3.36%	15.24	1,315,839	2.53B	16.40 - 39.75
GLNG	Golar LNG Limited	38.17	1.03	2.63%	105	368,720	3.05B	12.84 - 39.90
GLPW	Global Power Equipment Group In	25.79	0.61	2.31%	6.20	36,563	417.33M	16.53 - 30.18
GLW	Corning Incorporated Common Sto	13.72	0.57	3.99%	6.51	20,195,783	21.56B	11.51 - 23.43
GTI	GrafTech International Ltd (Hol	15.66	0.48	2.97%	13.88	2,112,478	2.27B	12.11 - 23.89
GTLS	Chart Industries, Inc.	53.09	2.40	4.33%	45.38	286,793	1.56B	20.28 - 62.15
HXL	Hexcel Corporation Common Stock	24.56	0.46	1.84%	24.32	2,968,769	2.42B	15.56 - 25.68
JCI	Johnson Controls, Inc. Common S	32.38	0.86	2.59%	14.49	4,546,879	22.01B	24.29 - 42.92
LEDS	SemiLEDS Corporation	3.36	0.17	4.82%	N/A	21,767	91.60M	3.37 - 32.12
LXU	LSB Industries, Inc. Common Sto	33.67	1.44	4.10%	11.15	105,245	749.29M	20.88 - 49.21
MDR	McDermott International, Inc. C	14.10	0.68	4.60%	16.57	2,974,671	3.31B	10.02 - 26.14
MEOH	Methanex Corporation	24.52	0.98	3.84%	16.79	186,138	2.29B	19.50 - 34.90
OC	Owens Corning Inc Common Stock	24.86	1.01	3.90%	62.94	2,599,096	3.07B	18.67 - 38.94
PHG	Koninklijke Philips Electronics	20.72	0.78	3.63%	N/A	4,242,618	19.48B	16.26 - 34.08
PMFG	PMFG, Inc.	19.48	0.67	3.33%	69.57	38,095	344.33M	13.77 - 24.23
QRM	Quest Rare Minerals Ltd Common	2.80	0.08	2.78%	N/A	226,138	172.84M	1.70 - 9.30
RBC	Regal Beloit Corporation Common	49.40	2.36	4.56%	13.49	687,503	1.91B	41.65 - 76.65
RRC	Range Resources Corporation Com	70.37	3.63	4.91%	N/A	2,170,994	11.12B	35.11 - 77.24
ROC	Rockwood Holdings, Inc. Common	43.59	0.86	1.93%	7.60	1,268,739	3.35B	30.43 - 62.03
SI	Siemens AG American Depositary	103.95	1.38	1.31%	14.65	1,962,414	90.85B	84.86 - 146.74
SSL	Sasol Ltd. American Depositary	46.44	0.15	0.32%	11.30	302,283	27.95B	38.15 - 60.39

SWN	Southwestern Energy Company Com	40.18	0.93	2.26%	22.83	3,178,934	13.95B	30.94 - 49.25
TEN	Tenneco Inc. Common Stock	33.63	1.84	5.19%	23.47	846,015	2.02B	22.47 - 46.81
TTM	Tata Motors Ltd Tata Motors Lim	18.92	0.02	0.11%	6.41	2,097,197	12.01B	14.33 - 37.65
USU	USEC Inc. Common Stock	2.10	0.00	0.00%	N/A	3,538,185	256.15M	1.17 - 6.35
VECO	Veeco Instruments Inc.	25.66	1.39	5.14%	3.11	2,876,684	1.05B	23.06 - 57.67
WWD	Woodward, Inc.	31.79	1.36	4.10%	18.06	314,834	2.19B	24.39 - 39.52
WPRT	Westport Innovations Inc	28.13	0.91	3.13%	N/A	580,218	1.33B	14.25 - 34.23
XIDE	Exide Technologies	4.70	0.19	3.89%	12.50	504,985	367.04M	3.59 - 12.68

Note also a Solar tracker, and one for Wind on this date:

TAN	….	3.22	0.28	8.00%	N/A	671,223	N/A	2.84 - 9.16
FAN	….	8.82	0.02	0.23%	N/A	15,375	N/A	7.59 - 12.28

In a noteworthy event a large drop at one solar firm initially raised fear an unknown shoe was about to drop. Help came when it was learned (just) revenue guidance would be lower and there was not to be new 'unknown unknowns' there.

At the time attention turned to whether thin film cadmium tellurium PV could hit say new targets of $0.55/watt, at 14% efficiency to stay ahead of c-Si competition. Especially with the c-Si PV ever nearer to tough future price figures of $22/kg, even $20/kg for feedstock poly, that could push the competing c-Si modules below say, $0.65/watt.

Look next at 1st time a preliminary early Greece's debt 'agreement' was first raised. We can see ECO gained near +8% that day, a robust move perhaps expected given sharp gains each time a possible Greece 'fix' had been only vaguely hinted at before.

Very noticeable below are the gains in solar — without any special news there. China PV had been hammered in 2011, and its gains here were in the % teens or more. Note too an independent solar tracker (not ours) was up near 14% on that day(!). WHPRO was up +5%. An independent wind tracker was also up by +5% here:

ECO Index, Individual Components on October 27, 2011

^ECO	THE WILDERHILL CLEAN ENERGY IND	63.75	4.72	7.99%	N/A	0	N/A	-
PBW	PowerShares WilderHill Clean En	6.23	0.46	7.97%	N/A	1,254,868	N/A	4.90 - 11.42
WHPRO	WILDERHILL PROGRESSIVE ENERGY I	226.80	11.07	5.13%	N/A	0	N/A	-
PUW	PowerShares WilderHill Progress	24.50	1.17	5.01%	N/A	3,362	N/A	18.22 - 31.01
^NEX	WilderHill New Energy Global In	154.23	10.80	7.53%	N/A	0	N/A	122.63 - 237.33
PBD	PowerShares Global Clean Energy	10.31	0.82	8.64%	N/A	93,667	N/A	7.99 - 15.91
^HAUL	Wilder NASDAQ OMX Gbl Energy Ef	250.09	12.89	5.43%	N/A	0	N/A	-
^IXIC	NASDAQ Composite	2,738	87.96	3.32%	N/A	0	N/A	2,298 - 2,887
^DJI	Dow Jones Industrial Average	12,208	339	2.86%	N/A	251,641K	N/A	10,362 - 12,928
ACPW	Active Power, Inc.	1.03	0.05	4.63%	N/A	1,633,128	82.55M	0.97 - 3.03
AIXG	Aixtron SE	15.13	0.60	4.13%	5.31	425,491	1.52B	12.49 - 44.96
AMRC	Ameresco, Inc Class A Common St	11.86	1.43	13.71%	15.94	238,957	510.81M	8.60 - 17.46
AMRS	Amyris, Inc.	20.77	2.18	11.73%	N/A	389,724	934.03M	15.28 - 33.99
AMSC	American Superconductor Corpora	4.37	0.37	9.25%	N/A	1,329,702	221.59M	3.21 - 38.08
AONE	A123 Systems, Inc.	3.75	0.37	10.95%	N/A	2,881,152	472.61M	2.77 - 10.99
APD	Air Products and Chemicals, Inc	88.75	4.21	4.98%	15.76	1,942,733	18.74B	72.26 - 98.00
ARGN	Amerigon Incorporated	15.45	0.64	4.32%	94.79	347,811	343.78M	9.55 - 18.18
ASYS	Amtech Systems, Inc.	11.01	1.22	12.46%	4.21	349,512	105.46M	7.12 - 30.80
BLDP	Ballard Power Systems, Inc.	1.42	0.05	3.65%	N/A	143,139	119.83M	1.10 - 2.51
COMV	Comverge, Inc.	1.75	0.12	7.36%	N/A	315,582	43.56M	1.51 - 8.10
CPL	CPFL Energia S.A. CPFL Energia	25.80	0.48	1.90%	15.14	407,467	12.41B	21.44 - 30.66
CPN	Calpine Corporation Common Stoc	14.75	0.90	6.50%	N/A	3,318,911	6.78B	11.88 - 17.10
CREE	Cree, Inc.	27.70	2.39	9.44%	30.51	4,494,553	3.20B	23.03 - 29.99
CSIQ	Canadian Solar Inc.	3.47	0.36	11.58%	2.57	4,282,233	149.50M	3.00 - 16.79
CZZ	Cosan Limited Class A Common St	11.93	0.45	3.92%	3.91	987,618	3.23B	8.65 - 14.74
DQ	DAQQ New Energy Corp. American	3.44	0.25	7.84%	1.01	671,615	120.89M	3.01 - 15.43

ELON	Echelon Corporation	7.20	0.45	6.67%	N/A	340,718	301.75M	6.50 - 10.72
EMKR	EMCORE Corporation	1.05	0.06	6.06%	N/A	905,330	97.63M	0.85 - 3.25
FCEL	FuelCell Energy, Inc.	1.07	0.06	5.94%	N/A	3,695,952	136.31M	0.80 - 2.41
FSLR	First Solar, Inc.	52.90	6.79	14.73%	9.02	8,194,257	4.57B	42.50 - 175.45
FSYS	Fuel Systems Solutions, Inc.	23.60	2.24	10.49%	50.21	386,833	471.60M	16.43 - 42.65
GEVO	Gevo, Inc.	8.46	0.96	12.80%	N/A	72,175	218.76M	5.32 - 26.36
GTAT	GT Advanced Technologies, Inc.	8.57	1.37	19.03%	5.54	5,432,550	1.08B	6.40 - 17.50
HSOL	Hanwha SolarOne Co., Ltd.	2.23	0.20	9.85%	2.27	2,037,314	187.11M	1.82 - 11.58
IDA	IDACORP, Inc. Common Stock	41.80	1.43	3.54%	14.88	389,787	2.08B	33.88 - 40.71
IRF	International Rectifier Corpora	24.74	1.30	5.55%	10.62	343,861	1.73B	17.28 - 35.26
ITC	ITC Holdings Corp. Common Stock	71.94	0.24	0.33%	23.21	824,429	3.69B	59.77 - 78.89
ITRI	Itron, Inc.	37.19	1.46	4.09%	13.14	1,253,233	1.51B	26.90 - 67.58
JASO	JA Solar Holdings, Co., Ltd.	2.33	0.14	6.39%	1.63	10,457K	383.18M	1.46 - 9.77
KDN	Kaydon Corporation Common Stock	32.82	1.77	5.70%	21.47	459,190	1.06B	26.45 - 41.71
LIME	Lime Energy Co.	3.01	0.05	1.69%	N/A	31,156	71.76M	2.81 - 5.53
MCP	Molycorp, Inc Common Stock $0.0	40.29	2.06	5.39%	146.51	4,333,413	3.38B	26.90 - 79.16
MXWL	Maxwell Technologies, Inc.	20.01	0.88	4.60%	N/A	289,816	554.18M	13.78 - 20.49
MY	China Ming Yang Wind Power Grou	3.21	0.14	4.56%	3.40	90,014	403.38M	2.30 - 12.90
OMG	OM Group, Inc. Common Stock	29.68	1.95	7.03%	8.82	456,639	959.14M	23.67 - 41.88
ORA	Ormat Technologies, Inc. Common	19.69	0.98	5.24%	24.92	329,582	894.52M	14.10 - 31.23
PANL	Universal Display Corporation	49.20	2.45	5.24%	N/A	1,117,046	2.24B	21.51 - 63.58
POWR	PowerSecure International, Inc	4.46	0.25	5.94%	3.71	326,325	84.59M	3.78 - 9.91
PPO	Polypore International Inc Comm	51.58	5.57	12.11%	27.91	1,968,789	2.38B	29.55 - 74.21
PWER	Power-One, Inc.	4.93	0.24	5.12%	4.27	5,929,062	511.70M	4.05 - 12.93
PWR	Quanta Services, Inc. Common St	21.61	1.04	5.06%	41.80	2,492,834	4.57B	15.37 - 24.18
REE	Rare Element Resources Ltd. Ord	6.14	0.39	6.78%	N/A	1,256,058	270.75M	3.86 - 17.92
RBCN	Rubicon Technology, Inc.	10.79	0.44	4.25%	4.90	389,652	248.59M	9.25 - 29.79
SATC	SatCon Technology Corporation	1.19	0.05	4.39%	N/A	994,559	142.26M	0.88 - 5.51
SOL	Renesola Ltd. Common Shares of	2.44	0.30	14.02%	1.35	4,682,367	212.15M	1.46 - 14.13
SPWRA	SunPower Corporation	10.62	0.59	5.88%	39.33	866,038	1.04B	6.60 - 23.36
SQM	Sociedad Quimica y Minera S.A.	60.67	3.05	5.29%	35.94	648,905	15.97B	43.00 - 58.24
STP	Suntech Power Holdings Co., LTD	3.19	0.73	29.67%	3.58	13,099K	575.45M	1.70 - 10.83
STRI	STR Holdings, Inc Common Stock	8.70	0.78	9.85%	7.84	485,791	356.14M	7.16 - 28.16
SZYM	Solazyme, Inc.	10.68	1.12	11.72%	N/A	438,463	637.26M	7.68 - 27.47
TSL	Trina Solar Limited Sponsored A	8.53	1.13	15.27%	2.20	6,001,782	599.81M	5.28 - 31.08
TSLA	Tesla Motors, Inc.	28.76	0.78	2.79%	N/A	869,235	2.99B	20.65 - 36.42
UQM	UQM TECHNOLOGIES INC Common Sto	1.89	0.15	8.62%	N/A	268,867	68.59M	1.36 - 3.83
WFR	MEMC Electronic Materials, Inc.	6.73	0.85	14.46%	21.92	8,676,495	1.55B	4.58 - 15.04
YGE	Yingli Green Energy Holding Com	4.52	0.62	15.90%	2.67	7,927,457	712.53M	2.75 - 13.59
ZOLT	Zoltek Companies, Inc.	7.81	0.76	10.78%	N/A	419,758	268.41M	5.60 - 16.06

After falling in November re-touching near October bottoms of $5.0 on tracker and 52 on ECO, November 30th saw for example a day of gains in clean energy, particularly solar as a few names were upgraded by an analyst and halo effect spread in that sector (noticeably for China solar). There was also, a very strong gain of +43% on that one day for a maker of the carbon fiber used in wind blades & lightweighting vehicles.

Here are some of the largest gains that day in ECO:
ZOLT +43% (U.S., a maker of carbon fiber for wind, lightweighting vehicles)
HSOL +21% (China based, solar)
JASO +18% (China based, solar)
CSIQ +15 (China based, solar)
TSL +15% (China based, solar)
AONE +13% (U.S., a maker of advanced Li-Ion batteries for EVs)
YGE +12% (China based, solar)

In addition there was some strong moves November 30th too for the WHPRO Index. Firmest gains were in strategic metals and rare Earths, in emissions reduction, improving use of dominant energy today, better batteries and controllers, etc etc:

AVL +23% (strategic metals and rare Earths)
XIDE +14% (better batteries)
QRM +13% (strategic metals and rare Earths)
TEN +12% (emissions reduction)
USU +11% (LEU uranium fuel conversion)
APOG 10% (glass for energy efficiency)
WWD +10% (motors and control systems)

Here we can see a brief rebound off a floor around 50 for ECO Index, and off near $5.0 for tracker. From early session close Thanksgiving to 5 trading days later. ECO is up about 8%, or slightly better than global clean energy Index tracker (PBD) and this is just a bit less than seen in the Progressive Energy Index tracker ((PUW). Here all these WilderHill Indexes were up a bit more than S&P500, Nasdaq, & Dow this period:

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By December the Index returned with several hard bounces off of resistance point near 50. For example December 14th – 16th the Index bounced off 50.5. Then on Monday December 19th, ECO fell through touching a new low of 49, below.

Clearly December 2011 ended with much room for ECO to make new lows ahead in 2012. It is emphasized often here this sector and so volatile ECO Index can & does at times drop like a rock, and that was certainly the case when ECO was ascending fast over 2004-2007. And it is no less the case here as ECO reached deep new lows just under 50.

The clean energy sector has long been given to great volatility due in part to uncertainty. End of 2011 is no different and we look forward to years ahead with much interest.

Finally here is the Index hitting 49, and tracker ($4.8) over that same period with their new closing lows reached December 19, 2011:

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In sum many Q4 days were to downside – punctuated by a few big days up. Notable was October saw gains as ECO ended Oct roughly up +11%. Unlike a first 9 months of the year, this provided the first & only up month of 2011. November lost ground at a hard pace and gave up gains as a dismal look forward to 2012 came back in view. After a November bounce off 52, the Index fell hard again to end a dismal 2011 near its bottom.

European debt, and solar-specific risks were both a tremendous drag over 2011.

Still optimists deserve at least a bit of coverage for hopeful thoughts. They may argue in time consolidation and rationalized supply could help sop up capacity, and provide at least a ray of solar & clean energy hope ahead. We'll take a look at some admittedly non-robust reeds of optimism – although noting a return to risk assets (if European debt moves off radar) could possibly move sentiment quite positive in a hurry.

Positive Side of U.S. Solar Exports, Or at Least a Few Possible Rays of Sunlight…

Not to be solely pessimistic about all the solar-arena, we note despite sharp stock drops in 2011, the U.S. was actually a *Net Exporter in total* in solar products in 2010.

Overall value of U.S.-made solar exports totaled $5.6 billion. This was mostly poly (as PV feedstock) at $2.5 billion, and capital equipment for PV fabrication at some $1.4 billion.

Mainly our exports went to China, Germany, as expected. And our internal, domestic PV *installation* growth here in the U.S. was growing too from 435 megawatts installed in 2009 — to very roughly well over 1,000 MW (1GW) installed in the U.S. in recent 2011.

Our *imported* solar products in 2010 were valued at estimated $3.7 billion. Much of that as expected was bringing in some $2.4 billion worth of finished panels. China and Mexico were 2 leading sources of panels assembled overseas; these trade figures come from a recent joint study by GTM Research and Solar Energy Industries Assn.

We thus see a net win in exports mostly due to Poly & PV Capital Equipment to make poly, cells, panels, etc. Interestingly we're a net *Exporter* here to China and this trade *surplus* is estimated at roughly $250 million. But whether the U.S. continues to win such niches in a supply chain — or if low-cost nations (China) grab more market share here -- exporting as they did finished cells & modules, is yet to be seen.

Certainly U.S. solar roof installs emplaced here are by nature downstream, local. We can remain 'king' here, and yet there's so much more value across the solar chain.

For example a bearish sign for the U.S. is as installations grow in c-Si PV, it may tip a balance *against* domestic industry. The U.S. importantly leads in *thin film* solar — but no longer in the more common c-Si panels now coming from China etc.

Sales may flatten upstream in U.S.-made poly & capital machinery (to rationalize supply/ demand) as Average Sales Price (ASP) goes down <$1/w for China products. Yes we still produce lots of poly here. But with our panel manufacturers gone, it isn't surprising U.S. net exports poly to overseas panel makers (not really a good thing). Moreover poly isn't used only for PV; some percent may go to semiconductors. Solar data can thus look better than they truly are, if some poly is used outside of solar PV.

How long we stay an exporter of PV machinery too is unknown. Certainly Asia does not lag ability to replicate fabrication processes first designed here. There's unique intellectual property (IP) here too, especially for newer *thin film* PV, and U.S. firms may arguably be better able to maintain a present lead in that unique IP. But globally Tier 1 c-Si PV is becoming a commodity with any small technological lead hard to keep unique.

In sum if & when capacity is rationalized, prices stabilize, demand better meets supply, arguably there *may be* potential earnings + share price growth. Where in the solar value chain this might be strong is unknowable today (part of a case for an Index as a basket of equities). So the situation is in flux. There is today curiously, much PV installation growth - along with tremendous losses priced into solar companies.

New Japanese Feed In Tariff (FIT); also China's FIT, for Demand-led Growth:

So yes, there can be glimmers of hope for growing solar installations. That could mean that sentiment for equities need not only be entirely bearish; it doesn't only have to be ever-greater hits to ever-dwindling margins. Thus one possible reason for maybe just a bit of hopeful sentiment in future could be Japan's new Feed In Tariff (FIT).

Effective in a few months' time, mid-2012, a FIT in Japan can advance installations of solar, wind, & geothermal there. After Fukushima where METI's promises of utmost nuclear safety were clearly not met, their public sentiment needs little explanation. Lacking domestic fossil fuels, their decision to adopt this FIT makes sense.

Goals include going from a near 5GW total solar installed end of this year, to some 28GW solar by 2020. A FIT is key to stimulating installations at 3GW/year clip (This may help wring excess in PV, but beware 'dumping' margins from China, and trade war).

Unlike Germany or China with wind power installations, or say Iceland's geothermal power, there is today relatively little present on/offshore wind power — or geothermal now in Japan that operates 2 separate grids, one for East and one for West. Those Japan grids are at 50 HZ and 60 HZ and so do not interchange power.

That renewable deficit may change. Unlike the Ministry of Economy, Trade & Industry (METI) as a powerful voice directing development of energy as mostly nuclear generation and coal for instance, the future may be different.

Natural gas may figure more prominently in future in Japan. So too wind and solar. Land use issues may stymie growth in geothermal which could be robust baseload power like is nuclear, coal, oil, & natural gas. Yet the renewables that lag today in Japan are likely to grow. They could even surpass the big rates of installation from say, Italy.

Or think (again) of China. Besides fantastic manufacturing growth in finished c-Si for export, there's growing demand to install domestic solar & wind power. We note China too recently adopted a FIT although unsurprisingly it pays less at maybe 18 cents/kWh for solar mainly as cheaper domestic PV, than the Japan solar FIT at 50 cents.

Yet even a temporary China FIT may catalyze growth. In 2010 China installed near 19GW of wind turbines, about 3 times that installed in the U.S. (a growth area too). China's wind stalled in 2011 with many turbines not connected to grid & low voltage ride through power issues (below), but given the 2 new FITs, that growth may resume.

For instance Japan's wind FIT may amount to some 25 cents per kWh. That's quite high. Wind produces power more inexpensively than does solar (which usefully works at peak demand periods), so normally wind doesn't get such steep help. That said Japan's wind on & offshore like its solar resources, are so far being little used.

A Japanese solar FIT near 50 cents/kWh might ramp its installations especially steeply. FITs for Japan & China may help stimulate demand-led *installation* growth too. On the other hand sparser short-term hope exists for *profit* growth in c-Si solar very near term, when great excess capacity still exists with loss of pricing power.

Return to ECO Index in 1H 2011 and Earlier

Go back now to 3rd Quarter – or earlier to first half 2011 & latter 2010. Much that follows was in the last Report so those who read the Q3 Report can skip this part.

Looking 1st at ECO Index® in mid-2011, 3rd Quarter was what set up the big fall early in Q4 to 50, so was significant. We saw there were first 4 instances where ECO fell hard in 3Q … each to 'resistance' near 65. Those were each 2 weeks apart, the rebounds with less and less vigor, the 4th least force of all. Lastly after a 4th smallest bounce the Index plunged down through that resistance. We'll recapture that here, from our Q3 Report.

Setting up a 1st bottom, ECO began falling from start of 2H. From July 1 the tracker (PBW) began at just a bit over $9 (specifically at $9.09; with ECO Index at 91).

Over July it moved down. 1st week of August it accelerated to go strongly negative, going from $8.27 on Monday Aug. 1st, down to $6.47 only one week later on August 8th.

In a 1st Chart we see ECO tracker (**PBW, blue**) move up vigorously off a 1st bottom. From Tuesday Aug. 9th at $6.5 – underlying ECO Index near 65 — Index and independent tracker (PBW) next climbed up over +12% in a brief 5 trading days. That +12% gain was roughly double the increase seen then by the **Nasdaq,** shown below in **purple**.

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2 weeks later we can see ECO dropped a 2nd time, to 65 below. It & tracker hit a similar $6.5 and again bounce up a next 5 days from August 23rd. Below are two Charts for ECO and for tracker (PBW) over August 22-26:

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Here is tracker (PBW):

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A 2nd move above was again from 65/ $6.5 bottom, bouncing up (only) somewhat more firmly than Nasdaq (IXIC, red). This 2nd bounce was less than a first rebound of two weeks prior. From a bottom seen below and also measured from a Tuesday, the tracker moved up here by +11%; the Nasdaq went up some +9%.

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Then again 2 weeks later, Sept. 6th, ECO drops a 3rd time (here intraday) to a shallower low near 65. It's unlike 2 previous lows that were closing values. Now it again bounces — yet this ECO rebound is weakest yet; the two go briefly to 70 / $7.0. That 3rd bounce is seen in a chart below and soon it will peter out ready for yet another fall.

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In sum 3 consecutive bottoms at roughly 65, each rebound weaker & less persistent than a last. This seems to possibly indicate, perhaps (for chart followers) some 'resistance level' near 65 and yet one that's also swiftly breaking down …

Next at a week and more clearly 2 weeks later, ECO falls intraday to 65. This was Monday Sept 12th (to 64.820 to be more exact) and that rebounds to just over 68 (68.356) or around +3%. It now is bouncing back *less* strongly than Nasdaq. ECO components here with firmer moves upwards were similar to those that had led in the prior 3 moves after hitting this point, for at least some consistency.

Sept. 19th is a clear 4th bottom again near 65 intraday (here 65.588). Next day after bouncing off 65 a few times, it falls hard and breaks through 65 down to 64.344 at the close. It seemed a resistance level was possibly being 'broken'.

Next several days ECO dropped strongly in a manner of free fall. Once more as had seen in its previous all-time-closing low of March 2009, 'resistance' would next come around 59. (Similarly it would come here at about $5.8 for Index tracker).

Below is a chart for ECO 1st hitting 59 close Sept 23. After bouncing near 65 weeks before, it dropped quickly to 59 & paused a bit. Next to last day of Q3, Sept. 29th the Index dropped a bit more to close at 57.73 & touched 56.76 intraday. On the very last day it ended at low for the Quarter, 55.526. That notably was a low intraday point for that day, for the 3rd Quarter, and the lowest *ever* live close to end a hard-moving Q3.

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Below is Index Tracker (PBW) for at-time low of $5.78 reached Sept 22; an intraday low reached that day was $5.70. Next to last day of Q3, Sept. 29th the tracker dropped a bit more to close at $5.68 & touched $5.57 intraday. The very last day of Q3 it too ended at a low for the Quarter, $5.45. That was notably the tracker's lowest point for that day, for 3rd Quarter, and lowest *ever as well* to close out that hard-moving Q3.

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Here's a much-different 4-day Chart next, instead for WilderHill Progressive Energy Index (WHPRO) below for Sept 22-27th. This captures a recent low WHPRO made Sept. 22, 2011 at 184.59, a point not seen since 2009. Like ECO its last day of Q3 was a 2011 low for WHPRO: 184.01. But unlike ECO that however was not lowest *ever* (as WHPRO was quite lower in 2009), but this 183 did close out a very hard-moving Q3 for it.

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Over a 5-day period here's WHPRO tracker (PUW) Sept 21-27th. Its intraday floor made Sept 22 touched $20.07, closing at $20.31. There arguably was also 'resistance' at $20.0. So like ECO last day of Q3 was the 2011-year low for the tracker so far: $20.00.

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Third, here's a Chart for Global clean energy Index tracker (PBD) that touched a low of $8.8 on Sept. 26 – after arguably 'resistance' at about $8.9. Like both ECO and WHPRO above, final day of Q3 would mark a 2011 low for the NEX and tracker (PBD). This was at $8.7 for tracker (PBD) – and at 133.6 for NEX Index.

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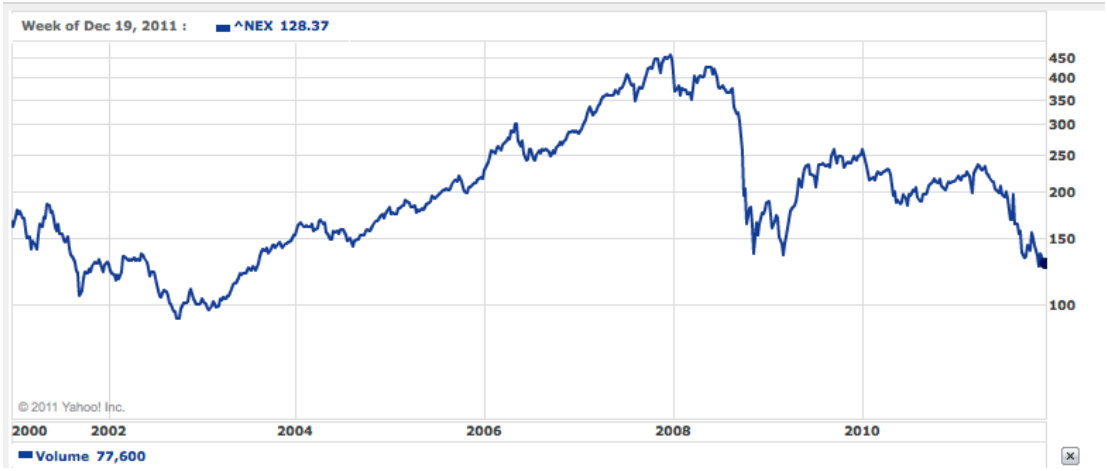
This 133.6 for NEX last day of Q3 was not lowest *ever* for NEX – but only if one considers NEX backtest theoretical data (to show data before its launch; one can do same for ECO that launched live in 2004). But this was the lowest NEX had ever reached *live*. Last day of Q3, NEX fell just below a prior live closing nadir of 134.8 from March 2, 2009.

Thus Q3's finale nearly matched a same live low of 2009 — but here went further.

Below is a Chart for the NEX Index as a good proxy for the Global clean energy theme. This goes back to start of 2000. One can see that since a bottom of 92 in late 2002 and 133 late 2003, the NEX had not since revisited that 133 figure until Q3 2011.

Literally then as with ECO, NEX was going in 'uncharted territory' live at end of Q3. (And it would also do so late Q4, when it ended that next Quarter and the 2011-year lower still, there at near 128. Not before at such depths live, one needs to go back to August of 2003 in order to find backtested data showing a value as low as this). Here is for the past 10+ years, using as noted backtest data to go back this far on NEX Index:



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With two Indexes reaching their new lows a final week of Q3, indeed on the very last day of that Quarter, it was fairly safe to surmise with nearly 100% probability that they would re-test, and overtake prior extremes for new depths in early Q4 ahead.

For just a bit of positive musing we saw time & again in 2011 that while the solar names in ECO weren't *always* in the lead with each bounce off resistance points — they often were prominent among leaders -- and an independent solar tracker could pop. There may even … eventually … come a point where solar names do come again into the lead. At least for some portion of the solar supply chain, it's not impossible to imagine.

An ongoing drip, drip of overcapacity and bad news for solar margins *might* in time slow. One can recall when some years ago a commodity like copper was strongly out of favor. Yet today prices are several-fold over where they once were. Cycles move & change.

A key problem here is global solar demand at say 25 GW in 2012, is swamped by global capacity at 30-40+ GW. Even with big reductions in price, demand can't yet catch supply. Chinese credit facilities offering some $43 billion to their alternative energy industries since 2009 has altered matters – as have over 300 cell and module manufacturers.

Perhaps there *may* be a bit of sunlight for solar earning revisions farther ahead if/when a macro-environment improves, credit flows on better demand, debt is eased, there's write-down of excess inventory, poly/module prices are more predictable, capacity is rationalized to demand, consolidations are finished and uncertainties over subsidy cuts get resolved, then things can be rosier. And yet yes, that all sounds quite thorny!

End of Q4 came then with solar firms failing, ongoing debt, price declines ahead, and risks of disorderly unwinding high. Yet that was also widely foreseen, so expected, which helps. Some Tier 1 names are still firm, but with consolidation and failures far from complete, doubtless there will be much solar turmoil in store ahead for 2012 ….

Having been asked many times how it is solar installations worldwide can grow so quickly — while solar stocks are plummeting — it is hoped the info above hopefully helps explain such a curious and dismal outcome for the valuations of companies themselves.

The nature too of solar has changed dramatically the past few years as seen for instance in ECO components. From exactly zero China-based solar names in the Index (and the solar sector) early in the millennium, there has been a dramatic shift.

To wit by 2010, China's PV manufacturers had grown global market share to almost half (45%) from 36% a year before. By 2011 it's over ½. U.S. PV makers by contrast fell from 58% to 17% the same period. It's no longer c-Si PV, but in thin film where the U.S. retains its core dominance. Likewise Germany went from 18% to 8% market share.

One domestic response from firms based in the United States (and Europe) has been to create joint ventures that marry U.S. or European innovation with China capabilities to force down costs greatly. Those JVs however have so far had mixed results. But solar product is improving, and it is getting less costly to boot.

Consider on a positive note long-lived c-Si. Many PV makers in 2011 extended Warranties, strengthening them. Given the past problems with China's PV (like its wind turbines, something seen too in India's wind turbines) that arguably was a wise move.

25-year warranties guaranteeing 90% performance year 1, 80% next 13 years were bolstered. One Norway-based firm debuted a linear power output warranty. Rather than guarantee in big steps (down to 80%) over decades, it starts with a base of >97% output in year 1, and that output can decline no more than 0.7% per year.

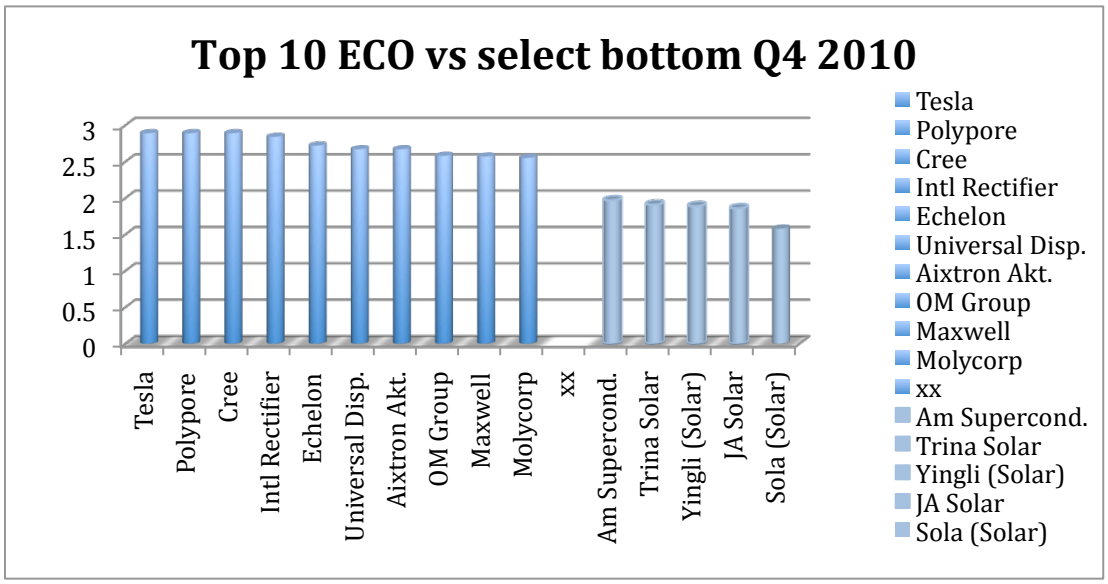
After 25 years its panels must perform at levels greater than 80.2%. With that change two China-based names soon were offering too very similar guarantees over 25 years.

Just to note we've monitored our own PV's performance the past 8 years here. This is 3.8 kW monocrystalline PV and passive 3 string inverter, plus a separate 2.8 polycrystalline PV and differing inverter. Live output can be seen here, the degradation over time is slight: http://www.wildershares.com/solar.php For comparison to our 2003 readings, see http://wildershares.com/pdf/monopvgraphs.pdf

Stepping back the broader clean energy names in ECO differed — at times noticeably — from just solar (as found say by an independent Solar index) in 2010 & 2011.

Let's take a quick look at what 1st drove ECO higher late 2010 – then led it in down March - June 2011. This can be seen to some degree in component weights captured 2 weeks before end of each Quarter. They reflect 10 weeks of moves from co-equal weights within each Sector of ECO at the start of every Quarter.

We've noted some areas of ECO outside solar (and wind) did much 'better' late 2010. Indeed that is clearly a case when one looks at the ECO Top 10 from Q4 2010 below:



Tops in Q4 2010 above were diverse assorted pure-plays in *other* areas of clean energy. They include an electric carmaker; maker of advanced Li battery membranes; LED manufacturer; a maker of energy-saving chips; designer of networks for energy savings; a builder of organic LEDs; fabricator of deposition tools for LEDs & efficient displays; producer of cobalt and Li-ion precursors; ultracapacitor manufacturer; producer of rare earths as strategic elements for e.g. EVs, electric motors, wind turbines, lighting etc.

The above mainly were in 3 (of 6) ECO sectors, Energy Conversion (@ 2.17% each to start Q4); Energy Storage (2.12%); and Energy Delivery & Conservation (co-weighted 2.37%).

Observe here too that Renewable Energy Harvesting was largely absent from the top ECO performers in late 4th Quarter of 2010: that's where solar & wind mostly reside.

Interestingly look too at a Bottom 5; removing any under 1.0% (*banded stocks <$50M in market cap so minor weightings omitted below) we there see 5 of 10, or fully half there (the 'losers') are either solar or wind. Below is a table for all names that were fully-weighted (>$200M) and are seen here near the end of Q4:

ECO Index; Past Q4 2010 Components & Weights on 12/15/2010:

Company Name	Symbol	% Weight
Tesla Motors	TSLA	2.89%
Polypore International	PPO	2.89%
Cree	CREE	2.89%
International Rectifier	IRF	2.84%
Echelon	ELON	2.72%
Universal Display	PANL	2.67%

Aixtron Aktiengesellschaft	AIXG	2.67%
Om Group	OMG	2.58%
Maxwell Technologies	MXWL	2.57%
Molycorp	MCP	2.55%
Applied Materials	AMAT	2.54%
Satcon Technology	SATC	2.45%
Ener1 Inc	HEV	2.34%
GT Solar International	SOLR	2.32%
Quanta Services	PWR	2.31%
Zoltek Cos	ZOLT	2.26%
Rubicon Technology	RBCN	2.24%
Sunpower	SPWRA	2.20%
Advanced Battery Tech	ABAT	2.20%
STR Holdings	STRI	2.19%
Ormat Technologies	ORA	2.17%
Sociedad Quimica y Minera SA	SQM	2.16%
Canadian Solar	CSIQ	2.15%
Energy Conversion Devices	ENER	2.13%
MEMC Electronic Materials	WFR	2.10%
Itron	ITRI	2.09%
Amerigon	ARGN	2.06%
First Solar	FSLR	2.04%
Suntech Power Holdings Ltd	STP	2.04%
Cosan Ltd	CZZ	2.02%
Idacorp	IDA	1.98%
CPFL Energia S.A.	CPL	1.97%
American Superconductor	AMSC	1.97%
Air Products & Chem	APD	1.96%
Calpine	CPN	1.94%
A123 Systems	AONE	1.91%
Trina Solar Ltd	TSL	1.91%
Yingli Green Energy Holding Ltd	YGE	1.89%
Green Plains Renewable Energy	GPRE	1.89%
JA Solar Holdings Ltd	JASO	1.86%
(banded stocks not shown)		

Two observations come from above. One is the Top 10 had No pure-plays in Solar, nor in Wind. Latter 2010 didn't favor those themes. Secondly what were favored then were i.e. electric vehicles, efficiency, advanced batteries, and materials broadly in clean energy — and those did not fit into any one, specific, single narrow theme.

For anyone interested in more on the electric vehicle (EV) and powering it from solar PV, or from 'regular Utility' grid power from the wall, we post this new PV+EV Report, http://www.wildershares.com/pdf/solarsense_v1.2.pdf

Now let's consider what may have contributed to *declines* in March-June 2011. A glance at ECO's Bottom 10 components late Q2 2011 can be pretty telling. As seen June 16, 2011, the 5 bottom performers in ECO from April 1 – to late June in descending order of Worst / to the 'Not-Quite Worst' were:

AMERICAN SUPERCONDUCTOR	AMSC	0.81%
ADVANCED BATTERY	ABAT	0.81%
ENER1	HEV	1.12%
CHINA MING YANG WIND	MY	1.30%
SATCON INTL.	SATC	1.34%

Their individual stories reflect what happened to bottom 5 — each unique to it, so not pervasive through its sector. First with equally forceful falls to 0.81% weight were both American Superconductor (AMSC) that started Q2 @2.00% in Energy Conversion Sector -- and a battery firm (ABAT) that started Q2 @2.00% in the Energy Storage Sector.

In a nutshell AMSC was once a prominent high-flyer in wind. In ECO early as when it was just $5, to late 2009 when it reached around $40/share that had a noticeable gain. Over 7 years its shares had grown some 8-fold for some robust upside volatility.

AMSC over years had moved strongly into wind power, specifically into power converters that are fundamental to converting variable turbine outputs, adjusting for pitch and yaw, the tremendous frequency variability etc. Its unique software (and hardware) became crucial intellectual property and a vital key to preserving its value.

A company-specific risk was they grew over those years while relying greatly on one (now big) wind turbine-building customer based in China. It became 70-75% of their revenues any particular Quarter. That China wind company had grown up fast alongside AMSC and it became in time one global leader in large wind turbines.

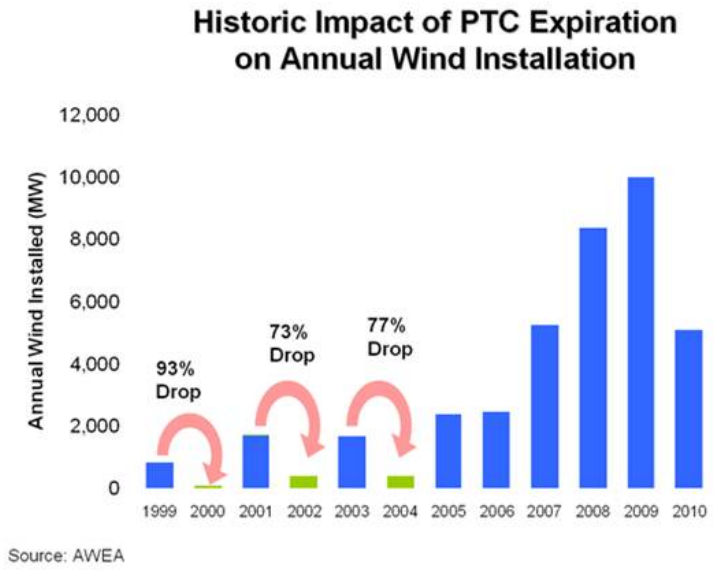
So when that key customer suddenly started to reject ordered components from AMSC, claiming issues of quality control etc and began to source from a subsidiary (of itself), valuations of AMSC dropped precipitously April through June 2011.

From $25/share early April, valuations dropped to some $8 mid-June as it began to unfold. Here below is a Chart for this 2011 period where an April-June fall is seen alongside a few subsequent months to show the bleeding did not end there:

yahoo.com

There were also broader issues facing the wind industry. At a time when subsidies of all kinds for renewables have been under fire including the U.S.'s 1603 Treasury Cash Grants program, wind is clearly no sure thing. This is made worse by a threat the critical Production Tax Credit (PTC) won't be renewed in future. With a PTC, U.S. based facilities producing domestic world components have grown over 10 fold.

But when the PTC is allowed to lapse even a year, as happened before, wind's growth has stumbled very badly in the following year after each occurrence. For an example of this see the Chart below from AWEA, on the Impact of a PTC lapse:



Moving on, another sample great fall in ECO April-June 2011 was a small, highly obtuse and speculative China based pure play in batteries & electric bikes. Second-worst fall of Q2 it sits outside solar & wind, so wouldn't be in a themed Index there. (That name had ended Q2 at below the threshold size and so not eligible for ECO start of Q3).

It began Q2 near $2 – and fell dramatically 2nd Quarter ending < ½ the value where it began the period. In its case that was not an over-reliance on a single customer — but rather perhaps action by 'shorts' that impacted it. Lack of transparency made matters worse. Valuations were difficult for such an obtuse, speculative China symbol.

Third down list of Q2 bottoms was a pure-play in a volatile advanced battery/ emerging electric vehicles part of the clean energy space. It began 2nd Quarter near $3.0 amid thin hopes a partner's rehashed car platform previously used in (failed) attempts to launch an EV, could this time be maybe made sellable with its batteries.

The small firm notably staked a great deal of future success — or failure — on a tiny Norwegian carmaker. When that manufacturer failed, it simply decimated this symbol. A bit like in the solar too as was discussed above, there is today great over-capacity present among the extant and potential battery makers for EVs in 2012, crushing crucial margins of potential sellers of batteries for future EVs.

So a few battery makers *may* do well while most fail. In short there's huge risk & possibility for great falls (or some gain) in EV batteries ahead. As this 3rd component was just a bit >$200M at rebalance to start Q2, it had begun co-equal weighted in its sector and ended Q2 at only just above $1, or well down below.

yahoo.com

4th down a list of Q2 'losers' was a wind pure play that began Q2 near $10: it (MY) reached down near $5 mid-June Q2. Why? (We Chart performance to mid-Q4 2011 below showing that its fall too didn't end at Q2's finish – but it did jump last week of December).

In Q1 things had certainly started rather brighter for this newly listed, China-based wind manufacturer. Briefly its total revenues had grown 39% from Q1 2010, to $213M.

Net income was up near 60% that period; gross margin up 26% vs. 21%, and this name was trading roughly 5.7x its earnings estimates for 2011. But Q1 2011 also marked its high-water point, after that matters became much more challenging.

Several factors came into play, including new competition making it very tough to grow revenues. And like solar, the ASPs of its units was declining, so low-cost manufacturers including those here from India (unlike with solar) endured tiny margins.

P/Es in this space also dropped considerably, especially for China based symbols. Here below in **blue**, it drops hard from April 1, 2011 vs tracker for a wind index in **red**:

google.com

Despite the plunge at that China wind firm, a far better relative story was seen in a wider Global Wind Index (in red, above), including its much better Q2 period April-June.

Factors facing MY included a new tough bar in regulatory approval at wind farms in China. Yet against that backdrop China's total installed wind capacity reached some 44 GW in 2010, and added some 60% more. But all was not rosy for wind in China in 1H 2011.

Few regulations, bad management & quality control meant turbines were often cut off from grid -- due to voltage sags, etc. Just in February 2011, 598 turbines at 16 farms were disconnected. Lacking low-voltage ride through (LVRT) capability a result was Chinese regulators created 18 new technical standards for wind. It was important too that the local LVRT technology didn't violate foreign-owned Intellectual Property (IP).

By summer this name missed earnings estimates by a large amount, at $217M in revenues. Market share was near 9% so it's no tiny player in wind, yet it was gaining only some new orders and that alone was not enough. (Other firms there did much better).

After a boom 2008 a number of wind firms had entered the field in China. That pushed down prices; a wind blade dropped in cost from $1,000/kW in 2008, to ½ that in 2011. Not as steep as the drops in solar for PV poly etc, yet a great decline nonetheless. During this price war quality was hit in wind — more so than at the Tier 1 Solar PV manufacturers that were using highly-rated upstream fabrication machinery.

Early statistics reveal some 16 wind turbine generator sets in China either collapsed, or caught fire 2009 to mid-2011(!). Not a good record. That was on top of issues over respect given to foreign-owned (non-Chinese) IP. Through it all these wind makers saw tough competition as margins dropped despite new orders. Demand was there (though patchy) and some high-quality names in China did much better even as this one lagged.

Some of the strongest China names clearly gained mid-2011, and it later climbed a bit in October on announcing it was approved to receive up to $5 billion backing from state-owned China Development Bank. It noted too it had robust LVRT capability, and owned that IP. But still the bottom line was hurting: Q3 2011 saw profits down 43% even as revenues gained (to RMB1.9 billion, from RMB1.49 billion in Q3 2010).

For purposes of its U.S.-exchange traded shares, Q3 2011 earnings were $16.1 million (RMB102.7 million) or 13 cents per share – RMB0.82 per share. A year prior it had been RMB1.70 share so this company was not generally headed in a positive way.

Higher costs were cited in declining Q3 profits including income tax expenses and lease fees. For all 2011, it anticipated wind projects might make 1,800 MW - 2,000 MW.

Out of curiosity let's take a look at what some 'well-performing' wind names did mid-2011 in worldwide (mainly outside U.S.) WilderHill New Energy Global Innovation Index (NEX). That has many wind components that are mostly based outside the U.S.

Looking at its strong Wind Sector (RWD) performers during Q2, when wind in NEX did well (especially vs laggards in solar – rather like AMSC & MY did poorly), we see that wind names there in NEX's top ½ in the middle part of June included:

NEX Wind components, top ½ on 6/16/11	Country	Currency	Weight	Sector
EDF Energies Nouvelles SA	FR	EUR	1.63 %	RWD
Iberdrola Renovables S.A.	ES	EUR	1.53 %	RWD
China Longyuan Power Group Corp. Ltd.	HK	HKD	1.46 %	RWD
Acciona S.A.	ES	EUR	1.42 %	RWD
China Suntien Green Energy Corp Ltd	HK	HKD	1.39 %	RWD
EDP Renovaveis S/A	PT	EUR	1.37 %	RWD
China Datang Corp Renewable Power	HK	HKD	1.37 %	RWD
Gamesa Corporacion Tecnologica S.A.	ES	EUR	1.32 %	RWD
China WindPower Group Ltd.	HK	HKD	1.29 %	RWD

Top here was 4 China names on Hong Kong exchange, these gainers offsetting Wind losing names 3rd Quarter. To round out wind a bit, take a quick look at the U.S.

It's easy to recall when wind here in the U.S. comprised well under 1% of our total electricity supply. Note then it had reached over 3% in 2011, some 44 GW of cumulative capacity. In context here of the American overall energy appetite (total pie) also growing over this period, the relative growth in wind has been rather a lot.

Here in the U.S., 8.4 GW (8.400 MW) of wind was in construction in 2011. After peak 2008, this represents a bump up again of projects in 2011 after a weakened past 2 years. Some 1,200 MW was being built in California. 800 MW added in Oregon, 700 MW in Oklahoma and Iowa, and another 600 MW in Illinois, Kansas, and Washington.

In just Q3 Colorado was biggest @500 MW new capacity, Oklahoma was putting in 130 MW, Minnesota, West Virginia, and Texas each putting in about 100 MW. These numbers are still minuscule compared to say one large natural gas-fired plant at maybe 500 MW. But, turbine growth is scaling up from scratch, and this fuel resource is abundant & free -- though it must be stressed too wind is intermittent to its great downside.

In Q3 the U.S. installed about 1,200 MW new capacity overall, due largely as noted to a Production Tax Credit. That new 1.2 GW compares to 670 MW put in over 2010, according to the American Wind Energy Assn. for a 75% gain over one year. Looking back to merely a decade ago, wind capacity is now 20 fold greater than then(!).

On the other hand, other governments are playing to win in wind (& solar) and they've been growing much faster. Germany & China are two examples. Nominally 'Communist' China made an enormous commitment to growing clean tech, far more than here.
For instance the U.S. PTC is hardly assured an annual renewal, and tools like a national FIT or RPS are just ignored. By contrast China supports its wind — and solar to much larger RMB/$ degree and with clearer long term commitments, than the U.S.

America invented many of these technologies but has lost that lead to China, Germany etc in innumerable technological areas. Partly this is because other governments have spotlighted strategic domestic growth of clean tech in order to grow jobs, reduce reliance on foreign sources of energy, and help clean fouled local environments.

To sum about 9% of our electricity today comes from renewable sources — yet that's mainly from big hydro with limited growth. Indeed most is just still from big hydropower, wood, & biofuels (ethanol from corn); look for growth other than there.

U.S. wind reaching 3% of our total is becoming 'real'. While solar is far punier, it is growing very fast (say 30% y/y) and has the greatest potential of all, long term.

A decade and a half or so from now, from basically scratch, some 6% of U.S. new installed capacity might be solar. That would be tremendous growth in the period. And while many hurdles remain this may still arguably surprise to upside, if grid parity is reached more and more places. That's especially so once need for PV subsidies is past and each inexpensive solar panel installation makes sense in its own right.

This concludes our review of ECO in Q4 with attention to all 2011 and late 2010.

ECO Additions & Deletions for the Start of Q1 2012

There were 2 additions for start of Q1. EnerNoc (ENOC) is in demand response for better energy management & a smarter grid; SemiLEDS (LEDS) in high brightness LED chips and it is a Taiwan-based manufacturer. The 3 deletions were ACPW, COMV, EMKR.

Below is a tracker for ECO Index, all data since its 2005 inception.

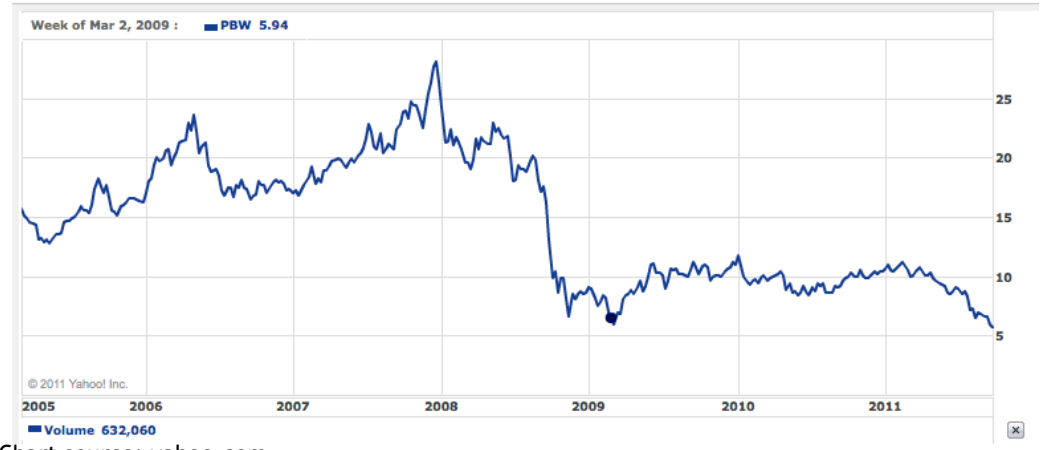


Chart source: yahoo.com

Lastly now that the WilderHill Progressive Energy Index (WHPRO) has reached 5 years live, we post a Chart for its tracker (PUW) in the dynamic past 5 year period to late 2011. We note the high that was reached at $31.2 in late 2007 – and the low reached of $12.8 in February 2009. Unlike ECO, it has not since breached (nor come close to) that '09 low.

Chart source: bigcharts.com

Summary

4th Quarter 2011 opened with the Clean Energy Index® (ECO) at 55.48, and closed at 52.00 for a Q4 loss of -6.3%. The whole year 2011 was dominated by very big declines in solar while broader clean energy fell as well so ECO Index® dropped hard, plummeting -50.8%. Looking at the past 3 years this sector and thus ECO were well down by -39.8%.

Or go further back. After large gains over a roughly 4-year rise 2004 through 2007, ECO has posted fully 4-years of declines. End 2011, ECO was just <1/5th its highs of 2007(!). Volatility in recent Q4 however was at times robust both directions. It took ECO to a new low, rebounded some in October, and then fell a bit more in late December.

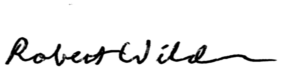
A problem at end 2011 was global solar demand near 25 GW has been swamped by global capacity at 30-40+ GW. Even with big pricing reductions, demand can't yet catch supply. Chinese credit facilities offering some $43 billion in loans to their alternative energy industries since 2009 altered matters – as have 300+ cell & module manufacturers.

Perhaps there *may* be a bit of light in solar figures ahead, if/when a macro-environment improves, credit flows on better demand, debt is eased, there's write-down of excess inventory, poly/module prices are more predictable, capacity is rationalized to demand, consolidations are finished and uncertainties over subsidy cuts get resolved, then things could be rosier. Yes, that sounds to be quite thorny! And of course the whole clean energy sector is broader than just in solar, so this picture here is multihued.

The 2 Additions to ECO for Q1 2012 were ENOC, LEDS; 3 deletions: ACPW, COMV, EMKR.

As always we welcome your thoughts and suggestions.

Sincerely,



Dr. Rob Wilder
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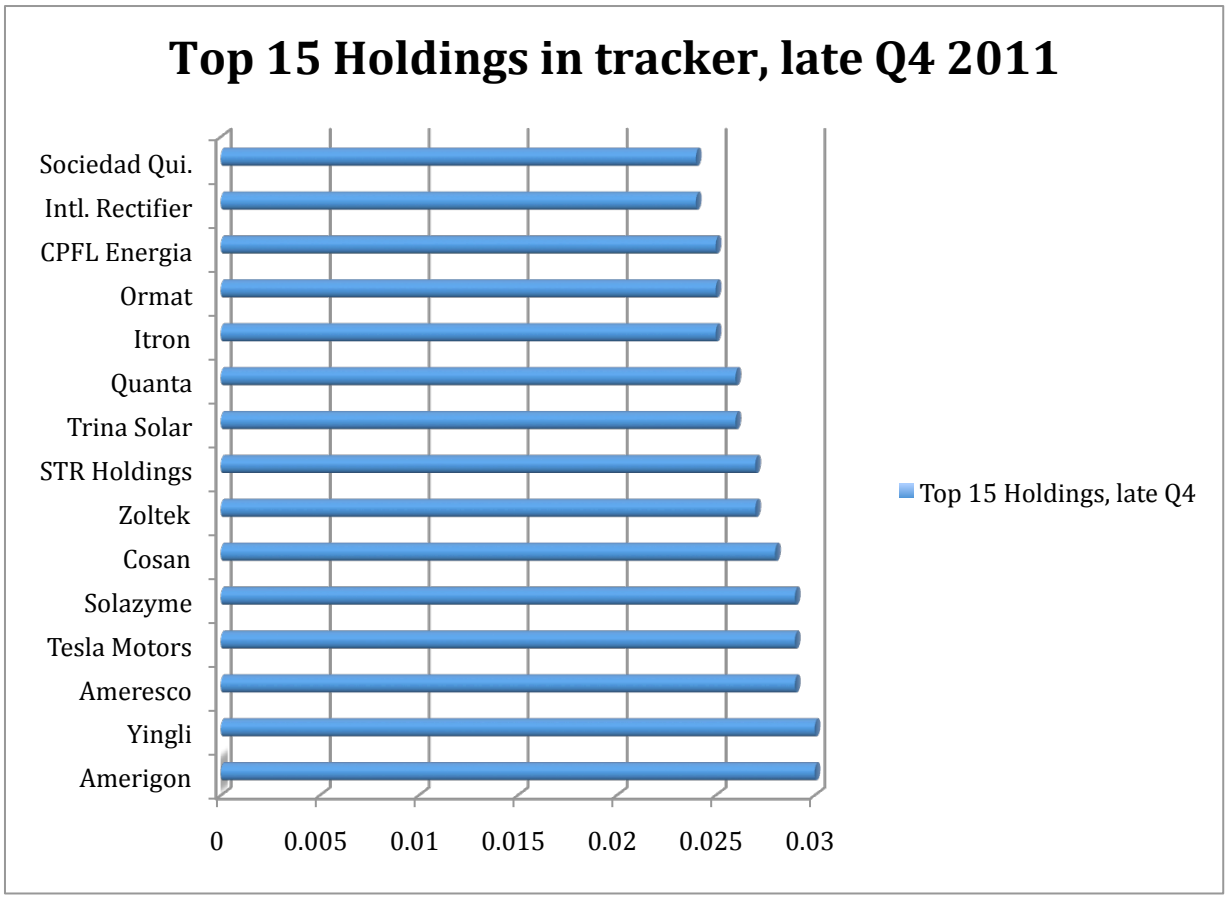
Appendix I:
ECO Index (via tracker PBW) Descending Weights & Components in Q4 on 12/12/2011, or about 2 ½ weeks before the rebalance to start Q1 2012:

Component Name PBW	Symbol	% Weight
Amerigon Inc.	ARGN	3.0
Yingli Green Energy	YGE	3.0
Ameresco Inc. Cl A	AMRC	2.9
Tesla Motors Inc.	TSLA	2.9
Solazyme Inc.	SZYM	2.9
Cosan Ltd. Cl A	CZZ	2.8
Zoltek Cos.	ZOLT	2.7
STR Holdings Inc.	STRI	2.7
Trina Solar Ltd. ADS	TSL	2.6
Quanta Services Inc.	PWR	2.6
Itron Inc.	ITRI	2.5
Ormat Technologies Inc.	ORA	2.5
CPFL Energia S.A. ADS	CPL	2.5
International Rectifier Corp.	IRF	2.4
Sociedad Quimica y Minera	SQM	2.4
Suntech Power Holdings	STP	2.4
Air Products & Chemicals	APD	2.4
GT Advanced Technologies	GTAT	2.4
IDACORP Inc.	IDA	2.3
American Superconductor	AMSC	2.3
Kaydon Corp.	KDN	2.3
ITC Holdings Corp.	ITC	2.3
Calpine Corp.	CPN	2.2
Fuel Systems Solutions Inc.	FSYS	2.2
Rubicon Technology Inc.	RBCN	2.2
Power-One Inc.	PWER	2.0
Cree Inc.	CREE	2.0
Rare Element Resources	REE	1.9
Molycorp Inc.	MCP	1.9
OM Group Inc.	OMG	1.9
Universal Display Corp.	PANL	1.8
MEMC Electronic Materials	WFR	1.8
Maxwell Technologies Inc.	MXWL	1.8
Polypore International Inc.	PPO	1.8
JA Solar Holdings Co. Ltd.	JASO	1.8
Aixtron SE ADS	AIXG	1.8
SunPower Corp.	SPWR	1.7
China Ming Yang Wind Power	MY	1.6
Echelon Corp.	ELON	1.5
First Solar Inc.	FSLR	1.5
Amyris Inc.	AMRS	1.3
Hanwha SolarOne Co. Ltd.	HSOL	1.2

A123 Systems Inc.	AONE	1.2
PowerSecure International	POWR	0.7
Lime Energy Co.	LIME	0.6
Gevo Inc.	GEVO	0.5
Amtech Systems Inc.	ASYS	0.5
FuelCell Energy Inc.	FCEL	0.5
Ballard Power Systems Inc.	BLDP	0.5
ReneSola Ltd. ADS	SOL	0.4
EMCORE Corp.	EMKR	0.4
UQM Technologies Inc.	UQM	0.4
Comverge Inc.	COMV	0.4
Canadian Solar Inc.	CSIQ	0.3
Daqo New Energy	DQ	0.3
Active Power Inc.	ACPW	0.3
Satcon Technology Corp.	SATC	0.3



APPENDIX II:
INDEX (ECO) SECTOR & STOCK WEIGHTS FOR START OF Q1 2012. 56 STOCKS.
Each stock freely floats according to its share price after rebalance.
*Stocks below $200 million in size at rebalance are banded with a 0.5% weight.

Renewable Energy Harvesting - 23% sector weight (10 stocks @2.15 each; +3 banded)
**Canadian Solar,* CSIQ. Solar, vertically integrated solar PV manufacturer, China.
China Ming Yang Wind, MY. Wind, large turbine manufacturer is a pure play.
**Daqo New Energy,* DQ. Polysilicon, expanding downstream to making modules.
First Solar, FSLR. Thin film, CdTe solar panels reducing silicon need and cost.
**Hanwha SolarOne,* HSOL. Solar PV, integrated from poly through modules.
JA Solar, JASO. Solar, China-based sells PV modules in Asia, Europe, U.S., etc.
Kaydon, KDN. Wind, Manufactures friction & velocity controls in wind turbines.
Ormat, ORA. Geothermal, working too in areas of recovered heat energy.
SunPower, SPWR. Solar, efficient PV panels have all-rear-contact cells.
SunTech Power, STP. Solar, major producer of global PV based in China.
Trina Solar, TSL. Solar, produces ingots, wafers, solar modules; China-based.
Yingli Green Energy, YGE. Solar, is vertically integrated PV manufacturer.
Zoltek, ZOLT. Wind, makes carbon fiber for wind blades, product lightening.

Power Delivery & Conservation - 24% sector weight (10 stocks @2.20% each; +4 banded)
Aixtron Aktiengesellschaft, AIXG. Deposition tools, efficient (O)LEDs, displays.
Ameresco, AMRC. Energy saving performance contracts, also in renewables.
**Amtech Systems,* ASYS. Solar, produces equipment to manufacture solar cells.
Echelon, ELON. Networking, better management of whole energy systems.
EnerNoc, ENOC. Demand response for better energy management, smart grid.
GT Advanced, GTAT. Solar, LEDS, production lines for poly & ingot; LED sapphire.
ITC Holdings, ITC. Power Delivery, grid transmission integrates wind/renewables.
Itron, ITRI. Monitoring, advanced energy metering, measurement, management.
**Lime Energy,* LIME. Efficiency, energy-savings expertise in demand reduction.
MEMC, WFR. Producer of polysilicon used in many crystalline c-Si solar PV cells.
**PowerSecure,* POWR. Smart grid, demand response, distributed generation; LEDs.
Quanta Services, PWR. Infrastructure, modernizing grid and power transmission.
**ReneSola,* SOL. Wafers, for silicon PV, mono and multicrystalline, China-based.
STR Holdings, STRI. Encapsulants, broad technology for range of PV panels.

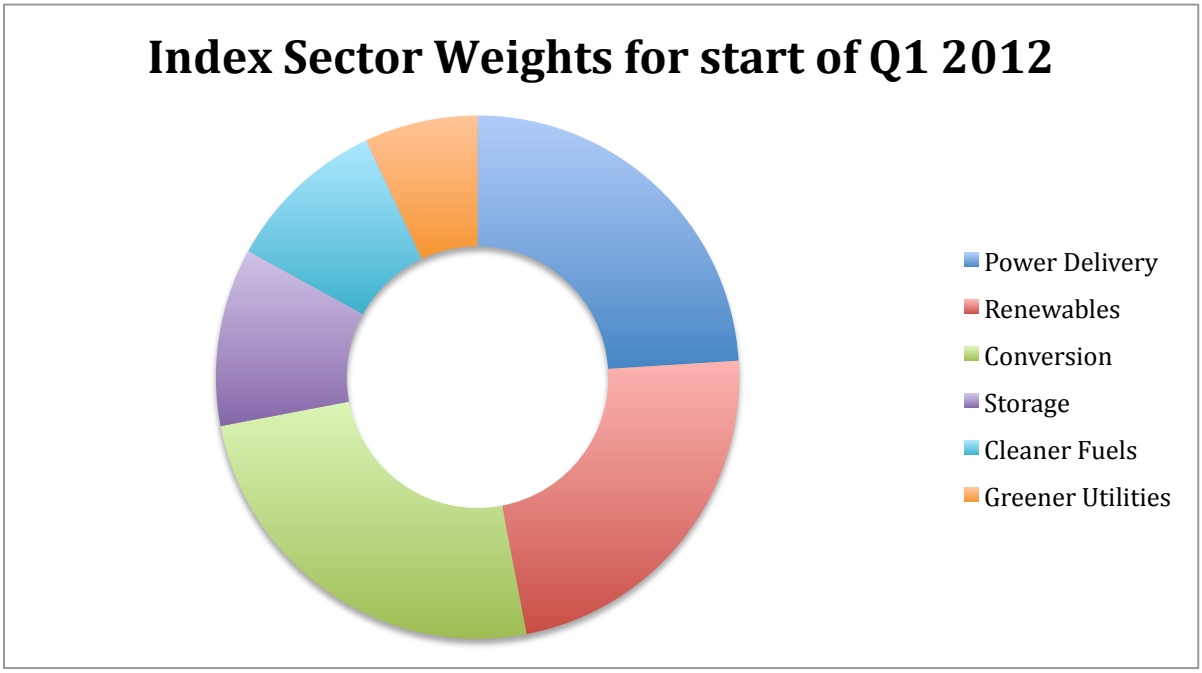
Energy Storage - 11% sector weight (5 stocks @2.20% each)
A123 Systems, AONE. Batteries, nanophosphate for EVs, the grid, portable power.
Maxwell, MXWL. Ultracapacitors, alternative supplement for batteries, hybrids, UPS.
OM Group, OMG. Cobalt and other precursors, producer for Li-Ion batteries, FCs.
Polypore Intl., PPO. Separators, membranes used in Li-ion, Pb-acid battery cells.
Sociedad de Chile, SQM. Lithium, major Li supplier for batteries; also STEG storage.

Energy Conversion - 25% sector weight (10 stocks @2.20% each; +6 banded stocks)
American Superconductor, AMSC. Wind power converters; superconducting HTS.
Amerigon, ARGN. Thermoelectrics, waste heat to power energy conversion.
**Ballard Power,* BLDP. Mid-size fuel cell R&D, FCs potential in transportation.
Cree, CREE. LEDs, manufacturer in power-saving lumens, efficient lighting.
**FuelCell Energy,* FCEL. Large fuel cells, stationary high-temp flex-fueled MCFCs.

Fuel Systems Solutions, FSYS. Gaseous fuels, ICEs in cleaner-fueled vehicles.
International Rectifier, IRF. Energy-saving, power conversion and conditioning.
Molycorp, MCP. Rare Earths, strategic elements in NdFeB magnets, wind power.
Power-One, PWER. Power conditioning, inverters & converters for renewables.
**Rare Element Resources,* REE. Rare Earths, holdings for strategic lanthanides.
Rubicon, RBCN. Substrates, are used in the production of LEDs for lighting.
**Satcon*, SATC. Inverters, DC/AC conversion in large utility-scale renewables.
**SemiLEDS,* LEDS. Higher brightness LED chips, Taiwan-based manufacturer.
Tesla Motors, TSLA. Electric vehicles, new pure-play in EVs, power systems.
Universal Display, PANL. Organic light emitting diodes, OLED panel displays.
**UQM Technologies,* UQM. Motors, control systems for EVs & hybrid vehicles.

Cleaner Fuels - 10% sector weight (4 stocks @2.37% each; +1 banded stock)
Air Products & Chemicals, APD. Hydrogen, is a supplier of industrial gases.
Amyris, AMRS. Biotech, speculative R&D for drop-in renewable diesel, jet fuels.
Cosan, CZZ. Biofuels, Brazil-based uses sugarcane feedstock, ethanol exporter.
**Gevo,* GEVO. Biotech, speculative R&D drop-in isobutanol, renewable biofuels.
Solazyme, SZYM. Biofuels, microalgae grown w/o sun, drop-in diesel substitute.

Greener Utilities – 7% sector weight (3 stocks @2.33% each)
Calpine, CPN. Geothermal, major North American producer, low-carbon assets.
CPFL Energia S.A, CPL. Hydroelectric, Brazil Utility has larger, smaller hydro.
Idacorp, IDA. Hydroelectric, Utility has sizeable hydroelectric, some small hydro.



Appendix III:
WHPRO Index (via tracker PUW) Descending Component weights in Q4 2011 on 12/12/2011, or about 2 ½ weeks before the rebalance to start Q1 2012.

Name	Symbol	% Weight
Woodward Inc.	WWD	3.0
Golar LNG Ltd.	GLNG	2.7
Chart Industries Inc.	GTLS	2.7
Chicago Bridge & Iron N.V.	CBI	2.6
Owens Corning	OC	2.6
Eaton Corp.	ETN	2.6
Andersons Inc.	ANDE	2.6
EnerSys Inc.	ENS	2.6
Emerson Electric Co.	EMR	2.5
Johnson Controls Inc.	JCI	2.5
Hexcel Corp.	HXL	2.5
Denison Mines Corp.	DNN	2.4
Companhia Energetica	CIG	2.4
A.O. Smith Corp.	AOS	2.4
Cooper Industries PLC Cl A	CBE	2.4
Koninklijke Philips N.V.	PHG	2.4
Siemens AG ADS	SI	2.3
Centrais Eletricas Brasileiras	EBR	2.3
General Cable Corp.	BGC	2.3
Sasol Ltd. ADS	SSL	2.3
GrafTech International Ltd.	GTI	2.2
Tata Motors Ltd. ADS	TTM	2.2
Range Resources Corp.	RRC	2.2
Enersis S.A. ADS	ENI	2.2
Methanex Corp.	MEOH	2.2
Foster Wheeler AG	FWLT	2.2
Corning Inc.	GLW	2.1
Regal-Beloit Corp.	RBC	2.1
Energizer Holdings Inc.	ENR	2.1
Tenneco Inc.	TEN	2.1
Southwestern Energy Co.	SWN	2.1
Clean Energy Fuels Corp.	CLNE	2.1
Rockwood Holdings Inc.	ROC	2.1
ESCO Technologies Inc.	ESE	2.0
McDermott International Inc.	MDR	2.0
Cameco Corp.	CCJ	1.9
LSB Industries Inc.	LXU	1.9
Westport Innovations Inc.	WPRT	1.9
Covanta Holding Corp.	CVA	1.9
Chesapeake Energy Corp.	CHK	1.8
Veeco Instruments Inc.	VECO	1.7
Elster Group SE ADS	ELT	1.7
Altra Holdings Inc.	AIMC	.07

PMFG Inc.	PMFG	0.6
Apogee Enterprises Inc.	APOG	0.6
Quest Rare Minerals Ltd.	QRM	0.5
Global Power Equipment	GLPW	0.5
EnerNOC Inc.	ENOC	0.5
Avalon Rare Metals Inc.	AVL	0.4
EnergySolutions Inc.	ES	0.4
SemiLEDS Corp.	LEDS	0.4
USEC Inc.	USU	0.3
Exide Technologies	XIDE	0.3

Appendix IV:
WilderHill Progressive Energy Index (WHPRO) at the Rebalance

Sectors & Stock Weightings: WilderHill Progressive Energy Index (WHPRO) for start of Q1 2012. 53 stocks.

Each stock freely moves according to its share price after the rebalance;
***Banded stocks are those under $400 million in size and weighted at 0.5%.**

Alternative Fuel – 16% Sector Weight (7 stocks @2.21% each +1 banded stock)
Andersons, ANDE. Ethanol producer, corn-based; rail group in fuel transport.
Cameco, CCJ. Uranium fuel, one of largest producers; also does fuel processing.
Chesapeake Energy, CHK. Natural gas, one of larger U.S. independent producers.
Denison Mines, DNN. Uranium fuel, in/out of U.S; decommissions, recycling wastes.
Methanex, MEOH. Methanol, liquid fuel can be derived from fossil fuels or organics.
Range Resources, RRC. Natural gas, produces in Appalachian & Gulf Coast regions.
Southwestern Energy, SWN. Natural gas, U.S. producer, also midstream services.
****USEC***, USU. Uranium fuel, converts ex-Soviet warheads to U.S. nuclear feedstock.

New Energy Activity – 25% Sector weight (11 stocks @2.22% each +1 banded)
Cooper Industries plc, CBE. Energy efficiency, diverse in new LEDs, grid innovation.
Eaton, ETN. Hybrids, better electric and fluid power in truck & auto applications.
Foster Wheeler, FWLT. Infrastructure, engineering services in WtE, LNG, CCS.
****Global Power Equipment***, GLPW. Designs, engineering for gas, hydro, nuclear.
GrafTech, GTI. Graphite, advanced electrodes for power generation, fuel cells.
Hexcel, HXL. Lighter composites, advanced structural reinforcement materials.
Johnson Controls, JCI. Building controls, also advanced hybrid vehicle systems.
McDermott, MDR. Infrastructure, reduces coal emissions, constructs WtE facilities.
Owens Corning, OC. Materials lightening, building insulation composite materials.
Rockwood Holdings, ROC. Lithium battery recycling, lithium & cobalt supply.
Siemens AG, SI. Conglomerate, is diversified across energy innovation globally.
Veeco Instruments, VECO. Design, manufactures equipment for LED production.

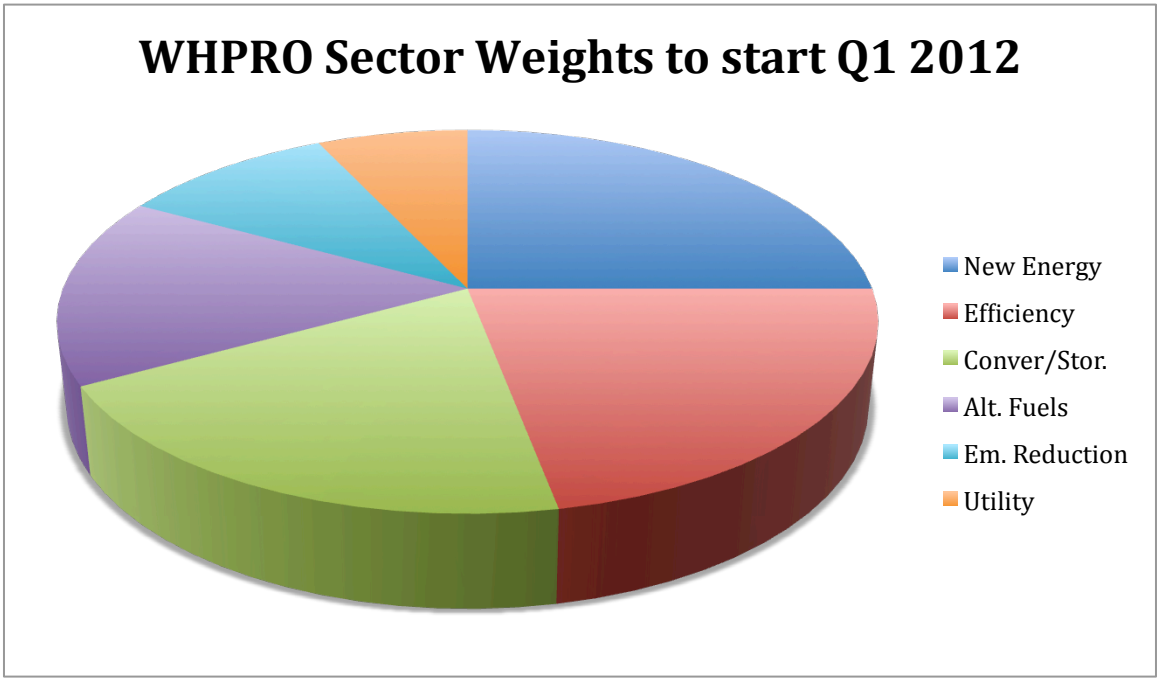
Better Efficiency – 22% Sector Weight (10 stocks @2.15% each +1 banded stock)
Acuity Brands, AYI. LED lights, OLEDs, and controls for indoor & outdoor lighting.
A.O. Smith, AOS. Energy efficiency innovations for water heating & monitoring.
****Apogee***, APOG. Advanced glass, for better efficiency, green building designs.
Elster Group se, ELT. Metering innovations, power and grid 2-way communications.
Emerson Electric, EMR. Broad work in energy efficiency, storage, lately biofuels.
Esco Technologies, ESE. Power grid, advances 2-way metering & communications.
General Cable, BGC. Power grid, high voltage transmission cable and wire products
Koninklijke Philips Electronics NV, PHG. Efficient LEDs, advanced industrial lighting.
LSB Industries, LXU. Greater energy efficiency in building end-use, heating, cooling.
Regal Beloit, RBC. Energy efficient motors, in commercial, industrial, homes etc.
Woodward, WWD. Energy controllers, optimization, industrial turbines in generation.

Conversion & Storage – 20% Sector weight (9 stocks @2.11% each +2 banded stocks)
Altra Holdings, AIMC. Mechanical power transmission, electro-mechan conversion.
Chart Industries, GTLS. Natural gas, LNG; liquefied gas storage/transport, efficiency.
Chicago Bridge & Iron, CBI. Nat. gas; also better containment for next-gen nuclear.

Clean Energy Fuels, CLNE. Natural gas fleet vehicles, integration and distribution.
Covanta Holding, CVA. Incineration, converts waste to energy (WtE); conglomerate.
Energizer, ENR. Lithium, NiMH, various new battery and charger technologies.
****Energy Solutions***, ES. Spent nuclear fuel storage, fuel recycling and management.
EnerSys, ENS. Battery maker, for telecommunications, utilities, motive power.
****Exide Technologies***, XIDE. Better lead-acid batteries for motive, traction uses.
Golar LNG, GLNG. LNG, major independent carrier, gas transport, regasification.
Westport Innovations, WPRT. Enables vehicles' use of natural gas, gaseous fuels.

<u>Emission Reduction – 10% Sector Weight (4 stocks @2.00% each +4 banded stocks)</u>
****ADA-ES***, ADES. Coal emissions reduction, mercury, NOX, CO2, noxious pollutants.
****Avalon Rare Metals***, AVL. Strategic elements, for emissions reduction, efficiency.
Corning, GLW. Diverse activity includes emissions reduction, filters, and catalysts.
****Peerless***, PMFG. Pollution reduction, effluent separation & filtration systems.
****Quest Rare Minerals***, QRM. Identification & discovery of HREO sites, Canada.
Sasol Ltd, SSL. Syngas to synthetic fuel; potential CO2 capture/sequestration (CCS).
Tata Motors, TTM. Smaller & 'nano' vehicles, India-based with worldwide sales.
Tenneco, TEN. Automotive end-of-pipe emissions controls, catalytic converters.

<u>Utility – 7% Sector weight (3 stocks @2.33% each)</u>
Companhia Energetica de Minas Cemig, **CIG**. Brazilian Utility, large hydroelectric.
Centrais Electricas Brasileiras, EBR. Brazilian Utility, large hydro, also nuclear.
Enersis, S.A., ENI. Chile, Argentina, Peru. Utility, lower-CO2 large hydroelectric.



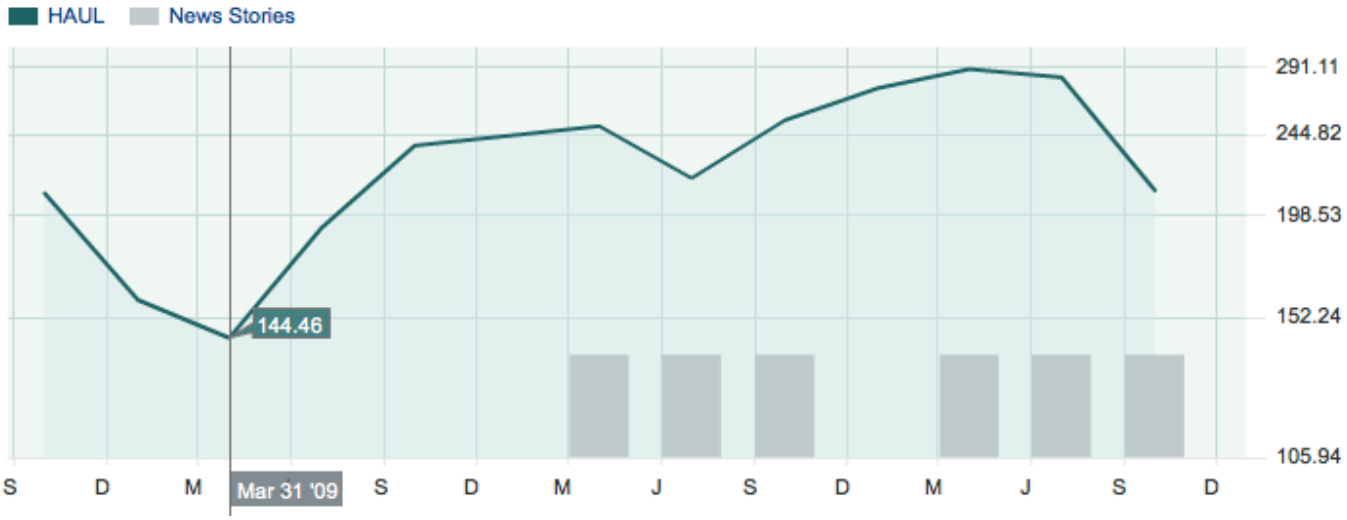
Appendix V:
Rebalance for the HAUL Index® for the start of Q1 2012

For Q1 2012, Wilder NASDAQ Global Energy Efficient Transport Index (HAUL):

	Alternative Vehicles. 10 stocks. 25% Sector weight; stocks @2.50% each.
AONE UQ	*A123 Systems (U.S)*. Lithium ion batteys for EVs, using nanophosphate.
PIA MI	*Piaggio & C. SpA (Italy)*. Scooters include Vespa, developing hybrids.
SAFT FP	*Saft Groupe SA (France)*. Advanced batteries in electric cars, subways.
1211 HK	*BYD (China)*. Early production EV batteries, also builds PHEVs, EVs.
489 HK	*Dongfeng Motor (China)*. Chinese partner for electric vehicles (EVs).
6674 JT	*GS Yuasa (Japan)*. Li-ion batteries, in EV production partnerships.
9921 TT	*Giant (Taiwan)*. Bike manufacturer also makes hybrid electric bikes.
051910 KS	*LG Chem (S. Korea)*. Larger-format Li-ion cells in production EVs.
006400 KS	*Samsung SDI (S. Korea)*. Li-ion cell maker in Korean JV for autos.
2201 TT	*Yulon Motor (Taiwan)*. Partnering in development of electric vehicles.
	Rail & Subway Systems. 11 stocks. 25% weight; stocks @2.27% each.
ALO FP	*Alstom SA (France)*. More efficient rail infrastructure, high speed TGV.
ARII US	*American Railcar Industries (U.S.)*. Designs, manufactures, repairs railcars.
STS IM	*Ansaldo STS SpA (Italy)*. New information technology for subways, rail.
BBD/B CN	*Bombardier (Canada)*. Builds efficient locomotives, also in light rail.
CNI UN	*Canadian National Railway (Canada)*. Rail as 3x more efficient than trucks.
CSX US	*CSX Corp (U.S.)*. Invests $1 billion in better Tier II locomotives; SmartWay.
LEY FP	*Faiveley SA (France)*. Manufactures equipment systems for trains, trams.
NSC UN	*Norfolk Southern (U.S.)*. Software optimizes rail movement; SmartWay partner.
RAIL UQ	*FreightCar America (U.S.)*. Railcar maker, lightweight & aluminum body.
UNP UN	*Union Pacific (U.S.)*. 3,000 fuel-efficient locomotives add to fleet; SmartWay.
WAB UN	*Wabtec (U.S.)*. Makes, services control systems in locomotives, subway cars.
	Sea, Land, Air & Intermodal. 12 stocks. 25% weight; @2.08% each.
BOL FP	*Bollore (France)*. Transport & freight forwarding, stevedoring, ports etc.
CLNE UQ	*Clean Energy Fuels (U.S.)*. Enables natural gas CNG in fleet buses, trucks.
FGP LN	*FirstGroup plc (U.K.)*. Public transportation, in buses, rail and logistics.
GMT US	*GATX Corporation (U.S.)*. Rail, Marine and equipment for transportation.
BOKA NA	*Koninklijke Boskalis NV (Netherlands)*. Improving ports for global shipping.
MAERSKBDC	*Maersk A/S (Denmark)*. Shipping, globally efficient transport of goods.
OSG UN	*Overseas Shipholding (U.S.)*. Bulk shipping, VLCCs, diversified LNG, CNG.
SGC LN	*Stagecoach Group plc (Scotland)*. Trains, buses, trams, in U.S. and U.K.
TRN US	*Trinity Industries (U.S.)*. Railcars & Inland Barges: products and services.
WBC UN	*Wabco (Belgium)*. Control systems, better electronic automation in vehicles.
316 HK	*Orient Overseas Intl. (Hong Kong)*. Container shipping and logistics.
7251 JT	*Keihin Corp (Japan)*. Control systems for Honda's hybrids, light scooters.
	Transport Innovation. 10 stocks. 25% Sector weight; @2.50% each.
BG/ LN	*BG Group (U.K.)*. Natural gas, CNG used as transportation fuels.
FSYS UQ	*Fuel System Solutions (U.S.)*. Gaseous fuels, enables natural gas in engines.
KNIN VX	*Kuehne + Nagel AG (Switzerland)*. Globally integrated logistics solutions.
MXWL UQ	*Maxwell (U.S.)*. Ultracapacitors, can very rapidly store/release power.

PWTN SW	*Panalpina Welttransport AG (Switzerland)*. Freight forwarding & logistics.
RS UN	*Reliance Steel & Aluminum (U.S.)*. Aluminum, used to lighten vehicles.
SGL GY	*SGL Carbon AG (Germany)*. Advanced carbon composites, lightening.
SQM UN	*Sociedad de Chile (Chile)*. Lithium, is needed in electric & hybrid batteries.
TSLA UQ	*Tesla Motors (U.S.)*. Early mass producer of EVs & pure-play, global leader.
WPRT UQ	*Westport Innovations (Canada)*. New technology advancing gaseous fuels.

Below is a Chart for HAUL Index from inception Fall 2008 to latter 2011. We note that a low there was reached in March 2009, and it has not since been breached.



source: bigcharts.com

Appendix VI:
WilderHill New Energy Global Innovation Index (NEX) during Q4 2011.
95 stocks. These data below are from late Q4 2011 at the close on 12/9/2011, or about 3 weeks before the Rebalance of NEX to start Q1 2012:

See also for more NEX data: http://www.nex-index.com/Constituents_And_Weightings.php

NEX component weights as of close of trading on: Fri Dec 9, 2011; 95 stocks

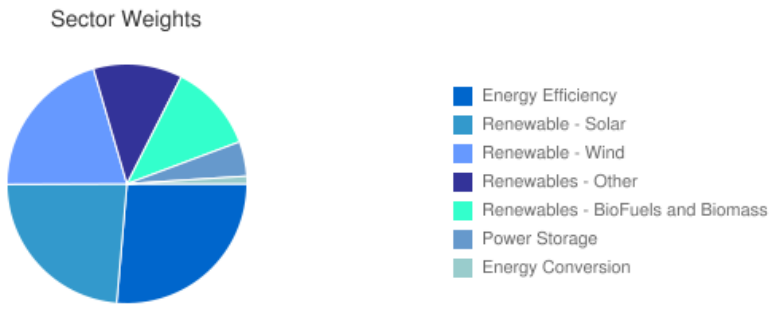
Sort Order: Weight (Descending)

Name	Country	Currency	Weight	Sector
Yingli Green Energy Holding Ltd. ADS	US	USD	2.43 %	RSR
China Datang Corp Renewable Power	HK	HKD	2.07 %	RWD
GT Advanced Technologies Inc	US	USD	2.03 %	RSR
Xinjiang Goldwind Science & Technology	HK	HKD	1.98 %	RWD
GCL-Poly Energy Holdings Ltd.	HK	HKD	1.94 %	RSR
Energy Development Corp.	PH	PHP	1.84 %	ROH
Suntech Power Holdings Co. Ltd. ADS	US	USD	1.84 %	RSR
Acciona S.A.	ES	EUR	1.82 %	RWD
EDP Renovaveis S/A	PT	EUR	1.73 %	RWD
Gamesa Corporacion Tecnologica S.A.	ES	EUR	1.73 %	RWD
Ormat Technologies Inc.	US	USD	1.72 %	ROH
Huaneng Renewables Corp Ltd	HK	HKD	1.71 %	RWD
Tesla Motors Inc.	US	USD	1.69 %	EEF
Seoul Semiconductor Co Ltd	KR	KRW	1.68 %	EEF
A.O. Smith Corp.	US	USD	1.64 %	EEF
Johnson Controls Inc.	US	USD	1.63 %	EEF
China Suntien Green Energy Corp Ltd	HK	HKD	1.63 %	RWD
SMA Solar Technology AG	DE	EUR	1.61 %	RSR
China High Speed Transmission Equip.	HK	HKD	1.61 %	RWD
EPISTAR Corp.	TW	TWD	1.61 %	EEF
Brookfield Renewable Energy Partners		CAD	1.60 %	ROH
SolarWorld AG	DE	EUR	1.58 %	RSR
Kingspan Group PLC	IE	EUR	1.57 %	EEF
Contact Energy Ltd.	NZ	NZD	1.57 %	ROH
Rockwool International A/S Series B	DK	DKK	1.54 %	EEF
Power Integrations Inc.	US	USD	1.54 %	EEF
China Longyuan Power Group Corp. Ltd.	HK	HKD	1.54 %	RWD
Enel Green Power SpA	IT	EUR	1.52 %	ROH
Itron Inc.	US	USD	1.51 %	EEF
BYD Co. Ltd.	HK	HKD	1.48 %	ENS
LSB Industries Inc	US	USD	1.46 %	ROH
Solazyme Inc	US	USD	1.45 %	RBB
Verbund AG	AT	EUR	1.44 %	ROH
SunPower Corp		USD	1.43 %	RSR
Meidensha Corp.	JP	JPY	1.43 %	EEF
MEMC Electronic Materials Inc.	US	USD	1.42 %	RSR
International Rectifier Corp.	US	USD	1.40 %	EEF
Cosan S/A Industria e Comercio	BR	BRL	1.39 %	RBB

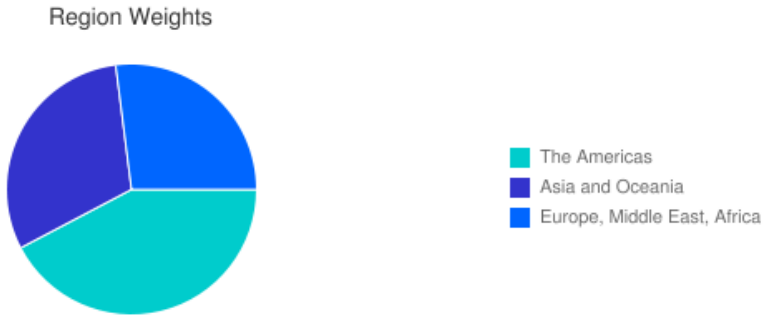
Nibe Industrier AB	SE	SEK	1.36 %	EEF
Abengoa S.A.	ES	EUR	1.36 %	RBB
Vestas Wind Systems A/S	DK	DKK	1.28 %	RWD
Novozymes A/S		DKK	1.26 %	RBB
Meyer Burger Technology AG	CH	CHF	1.21 %	RSR
First Solar Inc.	US	USD	1.21 %	RSR
Cree Inc.	US	USD	1.15 %	EEF
Power-One Inc.	US	USD	1.11 %	EEF
Covanta Holding Corp.	US	USD	1.11 %	RBB
GS Yuasa Corp.	JP	JPY	1.10 %	ENS
Fortum Oyj	FI	EUR	1.10 %	RBB
Elster Group SE	US	USD	1.10 %	EEF
Universal Display Corp.	US	USD	1.09 %	EEF
Brasil Ecodiesel Industria e Comercio	BR	BRL	1.05 %	RBB
Renewable Energy Corp. ASA	NO	NOK	1.03 %	RSR
Saft Groupe S.A.	FR	EUR	0.99 %	ENS
KiOR Inc	US	USD	0.84 %	RBB
Apollo Solar Energy Technology	HK	HKD	0.77 %	RSR
Polypore International Inc.	US	USD	0.73 %	ENS
Q-Cells AG	DE	EUR	0.68 %	RSR
Amyris Inc	US	USD	0.66 %	RBB
NPC Inc.	JP	JPY	0.65 %	RSR
Taewoong Co. Ltd.	KR	KRW	0.63 %	RWD
Molycorp Inc	US	USD	0.62 %	ECV
STR Holdings Inc	US	USD	0.60 %	RSR
Trina Solar Ltd. ADS	US	USD	0.58 %	RSR
Zoltek Cos.	US	USD	0.56 %	RWD
Trony Solar Holdings Co Ltd	HK	HKD	0.54 %	RSR
Woongjin Energy Co Ltd	KR	KRW	0.53 %	RSR
China WindPower Group Ltd.	HK	HKD	0.53 %	RWD
Gurit Holding AG	CH	CHF	0.50 %	RWD
Wasion Group Holdings Ltd.	HK	HKD	0.50 %	EEF
Nordex AG	DE	EUR	0.49 %	RWD
Ameresco Inc	US	USD	0.49 %	EEF
Neo-Neon Holdings Ltd.	HK	HKD	0.48 %	EEF
Innergex Renewable Energy Inc	CA	CAD	0.48 %	ROH
Aerovironment Inc	US	USD	0.44 %	EEF
Zhejiang Yankon Group Co. Ltd. A	CN	CNY	0.42 %	EEF
American Superconductor Corp.	US	USD	0.41 %	RWD
JA Solar Holdings Co. Ltd. ADS	US	USD	0.41 %	RSR
Neo Solar Power Corp.	TW	TWD	0.40 %	RSR
EnerNOC Inc.	US	USD	0.39 %	EEF
Roth & Rau AG	DE	EUR	0.39 %	RSR
Takuma Co. Ltd.	JP	JPY	0.38 %	RBB
Rubicon Technology Inc.	US	USD	0.35 %	EEF
Praj Industries Ltd.	IN	INR	0.34 %	RBB
Ayen Enerji AS	TR	TRY	0.34 %	ROH
China Ming Yang Wind Power Group Ltd	US	USD	0.33 %	RWD
Gevo Inc	US	USD	0.32 %	RBB

Sao Martinho S/A Ord	BR	BRL	0.30 %	RBB
centrotherm photovoltaics AG	DE	EUR	0.30 %	RSR
Sechilienne-Sidec	FR	EUR	0.28 %	RBB
Echelon Corp.	US	USD	0.25 %	EEF
Maxwell Technologies Inc.	US	USD	0.22 %	ENS
Fuel Systems Solutions Inc.	US	USD	0.20 %	ECV
FuelCell Energy Inc.	US	USD	0.20 %	ECV
A123 Systems Inc.	US	USD	0.14 %	ENS

Index Sector Information for Fri Dec 9, 2011		
Key	**Sector**	**Weight**
EEF	Energy Efficiency	26.37 %
RSR	Renewable - Solar	23.57 %
RWD	Renewable - Wind	20.55 %
ROH	Renewables - Other	11.97 %
RBB	Renewables - BioFuels and Biomass	11.85 %
ENS	Power Storage	4.67 %
ECV	Energy Conversion	1.02 %



Index Region-of-Listing Information for Fri Dec 9, 2011	
Region	**Weight**
The Americas	40.49 %
Asia & Oceania	29.36 %
Europe, Middle East, Africa	25.86 %



Appendix VII:

WilderHill New Energy Global Innovation Index (NEX) to start Q1 2012.

For more on daily data for the dynamic NEX Index components and weights, see,
http://www.nex-index.com/Constituents_And_Weightings.php
http://www.nex-index.com/about_nex.php

NEX Index Components to start Q1 2012. 97 stocks.

The WilderHill New Energy Global Innovation Index (NEX) rebalances quarterly on the last trading day of March, June, September and December.

Calculation Method Modified Equal Weighted
Component Change - Rebalance

Company Name	Country of Domicile	Index Weight	Currency	NEX Sector
Verbund AG	AUSTRIA	1.94%	EUR	ROH
Enel Green Power SpA	ITALY	1.94%	EUR	ROH
Energy Development Corp	PHILIPPINES	1.94%	PHP	ROH
Ormat Technologies Inc	UNITED STATES	1.94%	USD	ROH
Contact Energy Ltd	NEW ZEALAND	1.94%	NZD	ROH
Brookfield Renewable Energy Partners	CANADA	1.94%	CAD	ROH
LSB Industries Inc	UNITED STATES	1.94%	USD	ROH
Vestas Wind Systems A/S	DENMARK	1.75%	DKK	RWD
EDP Renovaveis SA	SPAIN	1.75%	EUR	RWD
Gamesa Corp Tecnologica SA	SPAIN	1.75%	EUR	RWD
China High Speed Transmission Equip.	HONG KONG	1.75%	HKD	RWD
China Datang Corp Renewable Power	CHINA	1.75%	HKD	RWD
Xinjiang Goldwind Science & Technology	CHINA	1.75%	HKD	RWD
China Longyuan Power Group Corp	CHINA	1.75%	HKD	RWD
Acciona SA	SPAIN	1.75%	EUR	RWD
First Solar Inc	UNITED STATES	1.70%	USD	RSR
MEMC Electronic Materials Inc	UNITED STATES	1.70%	USD	RSR
Renewable Energy Corp ASA	NORWAY	1.70%	NOK	RSR
GCL-Poly Energy Holdings Ltd	HONG KONG	1.70%	HKD	RSR
SunPower Corp	UNITED STATES	1.70%	USD	RSR
GT Advanced Technologies Inc	UNITED STATES	1.70%	USD	RSR
SMA Solar Technology AG	GERMANY	1.70%	EUR	RSR
Meyer Burger Technology AG	SWITZERLAND	1.70%	CHF	RSR
Abengoa SA	SPAIN	1.49%	EUR	RBB
Covanta Holding Corp	UNITED STATES	1.49%	USD	RBB
Vanguarda Agro SA	BRAZIL	1.49%	BRL	RBB
China Everbright International Ltd	HONG KONG	1.49%	HKD	RBB
Cosan SA Industria e Comercio	BRAZIL	1.49%	BRL	RBB
Fortum OYJ	FINLAND	1.49%	EUR	RBB
Novozymes A/S	DENMARK	1.49%	DKK	RBB
Itron Inc	UNITED STATES	1.49%	USD	EEF
Universal Display Corp	UNITED STATES	1.49%	USD	EEF
Rockwool International A/S	DENMARK	1.49%	DKK	EEF
Nibe Industrier AB	SWEDEN	1.49%	SEK	EEF

Cree Inc	UNITED STATES	1.49%	USD	EEF
Elster Group SE	GERMANY	1.49%	USD	EEF
Johnson Controls Inc	UNITED STATES	1.49%	USD	EEF
International Rectifier Corp	UNITED STATES	1.49%	USD	EEF
Seoul Semiconductor Co Ltd	SOUTH KOREA	1.49%	KRW	EEF
Meidensha Corp	JAPAN	1.49%	JPY	EEF
Epistar Corp	TAIWAN	1.49%	TWD	EEF
Veeco Instruments Inc	UNITED STATES	1.49%	USD	EEF
Power Integrations Inc	UNITED STATES	1.49%	USD	EEF
Tesla Motors Inc	UNITED STATES	1.49%	USD	EEF
AO Smith Corp	UNITED STATES	1.49%	USD	EEF
Acuity Brands Inc	UNITED STATES	1.49%	USD	EEF
Saft Groupe SA	FRANCE	0.88%	EUR	ENS
Byd Co Ltd	CHINA	0.88%	HKD	ENS
GS Yuasa Corp	JAPAN	0.88%	JPY	ENS
Polypore International Inc	UNITED STATES	0.88%	USD	ENS
Molycorp Inc	UNITED STATES	0.62%	USD	ECV
Lynas Corp Ltd	AUSTRALIA	0.62%	AUD	ECV
Innergex Renewable Energy Inc	CANADA	0.55%	CAD	ROH
Ayen Enerji AS	TURKEY	0.55%	TRY	ROH
American Superconductor Corp	UNITED STATES	0.50%	USD	RWD
Nordex SE	GERMANY	0.50%	EUR	RWD
Falck Renewables SpA	ITALY	0.50%	EUR	RWD
China Suntien Green Energy Corp Ltd	CHINA	0.50%	HKD	RWD
Zoltek Cos Inc	UNITED STATES	0.50%	USD	RWD
Taewoong Co Ltd	SOUTH KOREA	0.50%	KRW	RWD
NPC Inc/Japan	JAPAN	0.48%	JPY	RSR
Yingli Green Energy Holding Co Ltd	CHINA	0.48%	USD	RSR
Nexolon Co Ltd	SOUTH KOREA	0.48%	KRW	RSR
Suntech Power Holdings Co Ltd	CHINA	0.48%	USD	RSR
STR Holdings Inc	UNITED STATES	0.48%	USD	RSR
Trony Solar Holdings Co Ltd	CHINA	0.48%	HKD	RSR
Apollo Solar Energy Technology Holdings	HONG KONG	0.48%	HKD	RSR
Q-Cells SE	GERMANY	0.48%	EUR	RSR
Neo Solar Power Corp	TAIWAN	0.48%	TWD	RSR
JA Solar Holdings Co Ltd	CHINA	0.48%	USD	RSR
Motech Industries Inc	TAIWAN	0.48%	TWD	RSR
Solarworld AG	GERMANY	0.48%	EUR	RSR
Woongjin Energy Co Ltd	SOUTH KOREA	0.48%	KRW	RSR
Trina Solar Ltd	CHINA	0.48%	USD	RSR
Centrotherm Photovoltaics AG	GERMANY	0.48%	EUR	RSR
Sao Martinho SA	BRAZIL	0.43%	BRL	RBB
Amyris Inc	UNITED STATES	0.43%	USD	RBB
Solazyme Inc	UNITED STATES	0.43%	USD	RBB
Takuma Co Ltd	JAPAN	0.43%	JPY	RBB
Praj Industries Ltd	INDIA	0.43%	INR	RBB
Gevo Inc	UNITED STATES	0.43%	USD	RBB
KiOR Inc	UNITED STATES	0.43%	USD	RBB
Sechilienne-Sidec	FRANCE	0.43%	EUR	RBB

Aerovironment Inc	UNITED STATES	0.42%	USD	EEF
Dalian East New Energy Development Ltd	CHINA	0.42%	CNY	EEF
EnerNOC Inc	UNITED STATES	0.42%	USD	EEF
Echelon Corp	UNITED STATES	0.42%	USD	EEF
Ameresco Inc	UNITED STATES	0.42%	USD	EEF
Power-One Inc	UNITED STATES	0.42%	USD	EEF
Neo-Neon Holdings Ltd	HONG KONG	0.42%	HKD	EEF
Wasion Group Holdings Ltd	HONG KONG	0.42%	HKD	EEF
Kingspan Group PLC	IRELAND	0.42%	EUR	EEF
Rubicon Technology Inc	UNITED STATES	0.42%	USD	EEF
A123 Systems Inc	UNITED STATES	0.25%	USD	ENS
Maxwell Technologies Inc	UNITED STATES	0.25%	USD	ENS
FuelCell Energy Inc	UNITED STATES	0.18%	USD	ECV
Fuel Systems Solutions Inc	UNITED STATES	0.18%	USD	ECV

ADDITIONS for Q1

110570 KP	Nexolon Co Ltd
257 HK	China Everbright Intl Ltd
300125 CS	Dalian East New Energy Devel. Ltd
6244 TT	Motech Industries Inc
AYI UN	Acuity Brands Inc
FKR IM	Falck Renewables SpA
LYC AT	Lynas Corp Ltd
VECO UW	Veeco Instruments Inc

DELETIONS

182 HK	China WindPower Group Ltd
600261 CG	Zhejiang Yankon Group Co Ltd
958 HK	Huaneng Renewables Corp Ltd
GUR SE	Gurit Holding AG
MY UN	China Ming Yang Wind Power Group Ltd
R8R GY	Roth & Rau AG

Key	Sectors	Index Sector Weights - To Start Q1 2012*
ECV	Energy Conversion	1.60%
EEF	Energy Efficiency	28.01%
PWS	Power Storage	4.01%
RBB	Renewables - Biofuels & Biomass	13.85%
ROH	Renewables - Other	14.70%
RSR	Renewable - Solar	20.83%
RWD	Renewable - Wind	17.00%

http://www.nex-index.com/Constituents_And_Weightings.php#qStart

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Here are links to quotes to the NEX Index available on the web:

NEX Quotes & Data	Ticker	Bigcharts	Bloomberg	Marketwatch	Yahoo	
USD Price Index	**NEX**	**51599W10**	**NEX:IND**	**NEX**	**^NEX**	
EUR Price Index	NEXEU	**26499Z42**	**NEXEU:IND**	**NEXEU**	**^NEXEU**	
GBP Price Index	EXBP	**26499Z40**	**NEXBP:IND**	**NEXBP**	**^NEXBP**	
JPY Price Index	NEXJY	**26499Z38**	**NEXJY:IND**	**NEXJY**	**^NEXJY**	
USD Total Return Index	NEXUST	**26499Z43**	**NEXUST:IND**	**NEXUST**	**^NEXUST**	
EUR Total Return Index	NEXEUT	**26499Z41**	**NEXEUT:IND**	**NEXEUT**	**^NEXEUT**	
GBP Total Return Index	NEXBPT	**26499Z39**	**NEXBPT:IND**	**NEXBPT**	**^NEXBPT**	
JPY Total Return Index	NEXJYT	**26499Z37**	**NEXJYT:IND**	**NEXJYT**	**^NEXJYT**	

*(The global NEX Index only is a unique equal partnership between Bloomberg New Energy Finance based in London; Josh Landess of First Energy Research LLC based in U.S., and Dr. Robert Wilder of WilderHill Indexes based in the U.S.; the NEX is also addressed in prior reports).
