



**Q3 2015 Quarterly Report: WilderHill Clean Energy Index<sup>®</sup>, September 30, 2015**

For 3<sup>rd</sup> Quarter 2015 the Clean Energy Index<sup>®</sup> (ECO) began near 56 and ended around 42, plunging downwards by near -25%. Year to Date too, the ECO Index<sup>®</sup> has fallen hard since starting 2015 near 55, and so it is roughly down a similar percent while carrying much risk. Alternatively one could look back to start of 2014: here this clean energy theme and so ECO at first rose by +20% from 65 to 82; but afterwards it fell into red YTD by May and didn't return to that crest in 2014. Declines in latter 2014 continued well into 2015 first to a low of 50 earlier this year - briefly rising to 62. Then this theme plunged in Summer as world markets sank with all energy falling much more, ECO touching near 40.

We note too a much different-themed Progressive Energy Index<sup>®</sup> (WHPRO) that excludes greener solar, wind, pure play renewables - WHPRO is a 'brown' basket for reducing CO2/ pollution from fossil fuels & improving efficiency in dominant energy. At times in the past it has moved rather differently than ECO - softer downs, ups, downs. WHPRO may not always show volatility of ECO that 'can and does at times drop like a rock', though Q3 & YTD this WHPRO theme also dropped very hard and rather closely with ECO.

The WilderHill<sup>®</sup> New Energy Global Innovation Index (NEX) for clean energy *worldwide* mainly outside the U.S., did 'best' of the 3 YTD to Q2 - at first gaining +20% to May before it too dropped hard in Q3. The past 5 years this NEX has moved differently than ECO: the NEX has had some softer downturns - firmer upturns - NEX is now nearer nil for the past 5 years not far from WHPRO - with ECO significantly negative. Not just for the 3 WilderHill themes, it's been very rough times across all energy very broadly as oil has fallen hard into the \$30s - while coal and natural gas have also plummeted the last 4 years.

For an even longer view of last 5 years to mid-Q3, ECO has fallen hard by roughly -50%. Separately WHPRO was up most of these 3 last 5 years, by +50% at one point before it fell hard: its brown story can clearly move quite unlike global new/clean energy. Global NEX in that 5-years was nearer nil & not far from WHPRO, well above ECO - yet it too plunged. Finally, Q3 saw big declines; here global NEX did relatively 'better' (less losses) in 2015. Below & showing only red is the ECO Index over Q3 to late September:

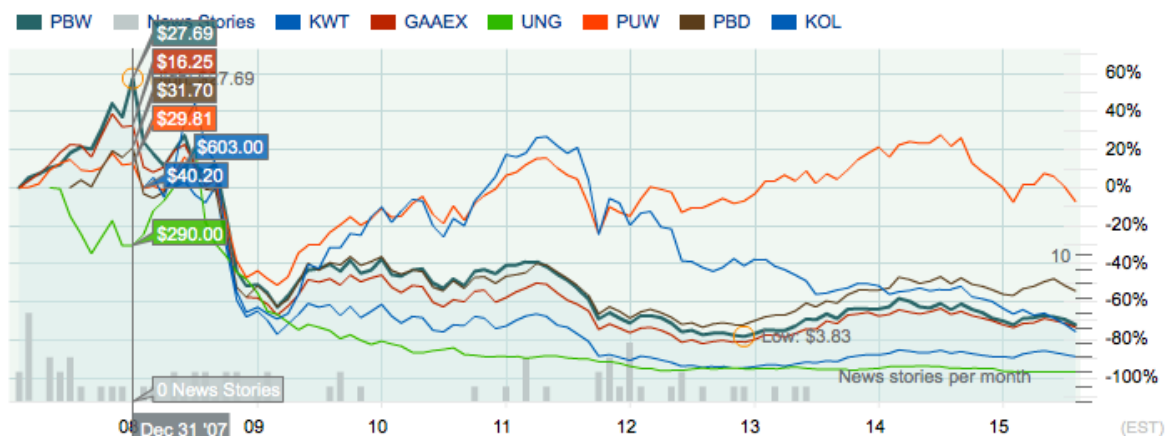


Source: bigcharts.com

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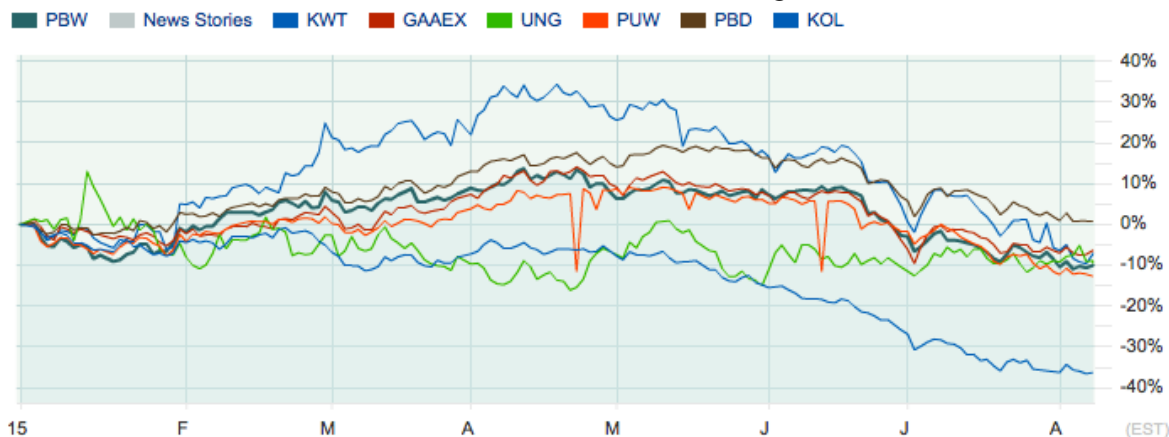
For a still bigger picture including *huge* falls of 2008-2012 that we regularly highlight in these ECO Reports, let's step back for start of 2007 thru mid-Q3 2015 in a chart below. Interesting and dramatic here is a *huge* fall in Natural Gas (green) - it fell harder this period than a pure-Solar Index, more than an active alternative energy fund with solar: one can see here Natural Gas this tough period was at a point down near -90%!

So we can see at very bottom a **Natural Gas tracker, green**. Just above a tracker for only **Solar, blue**. Finishing next is an added tracker for **Coal, also blue** that initially did well thus was first up near Progressive Energy, orange, but it fell hard since 2011 ending this period below ECO & an active alternative energy fund. Just above is an **active fund, in red** for alternative energy (showing it's pretty hard for an active-fund to regularly beat an Index). Just above/tied is **ECO Index via an independent tracker, bold** doing 'better' (less down) long-term than **Natural Gas, Coal, or Solar** - but still it too is far down. Next up is Global **new energy NEX Index via a tracker, brown**. Top is **WilderHill Progressive (WHPRO, via PUW, orange)** for improving major energy - though it too has lately fallen:



Source: bigcharts.com

Or below is the same trackers YTD to mid-Q3 2015 for a bit of an inverse performance - relative to past 9 years. Solar, **in blue** that was near bottom last 9 years, is here near top (soon after falling hard). **Global NEX Index (via PBD)** does best. Progressive WHPRO **orange** has worse performance to August vis-a-vis **solar** and **NEX**; meanwhile **coal** really plummets. Here are these Trackers for this YTD 2015 to Aug. 15<sup>th</sup> /or mid-Q3 2015:

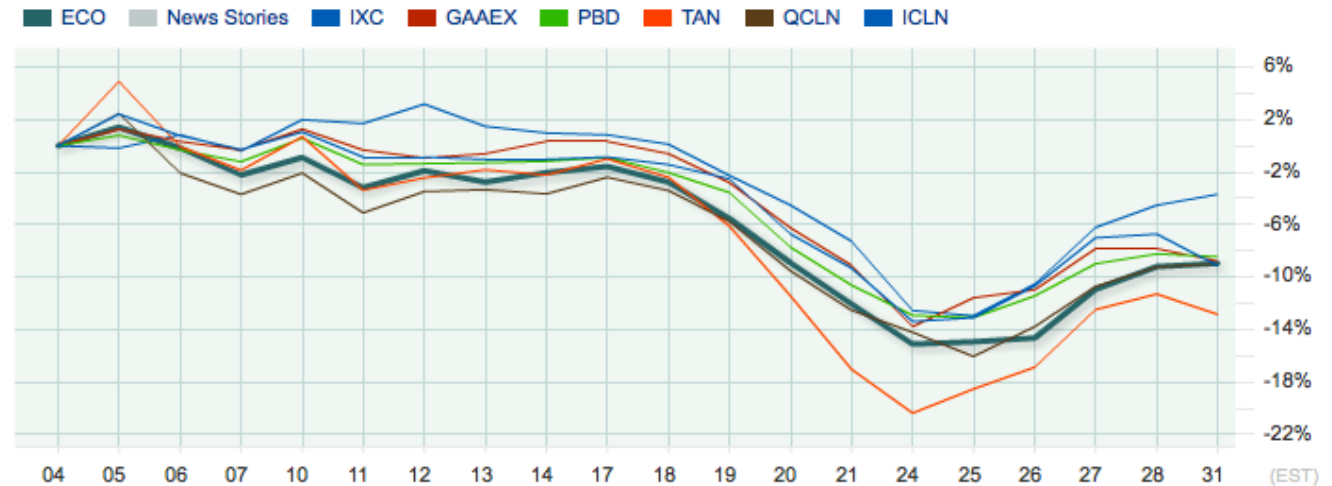


Source: bigcharts.com

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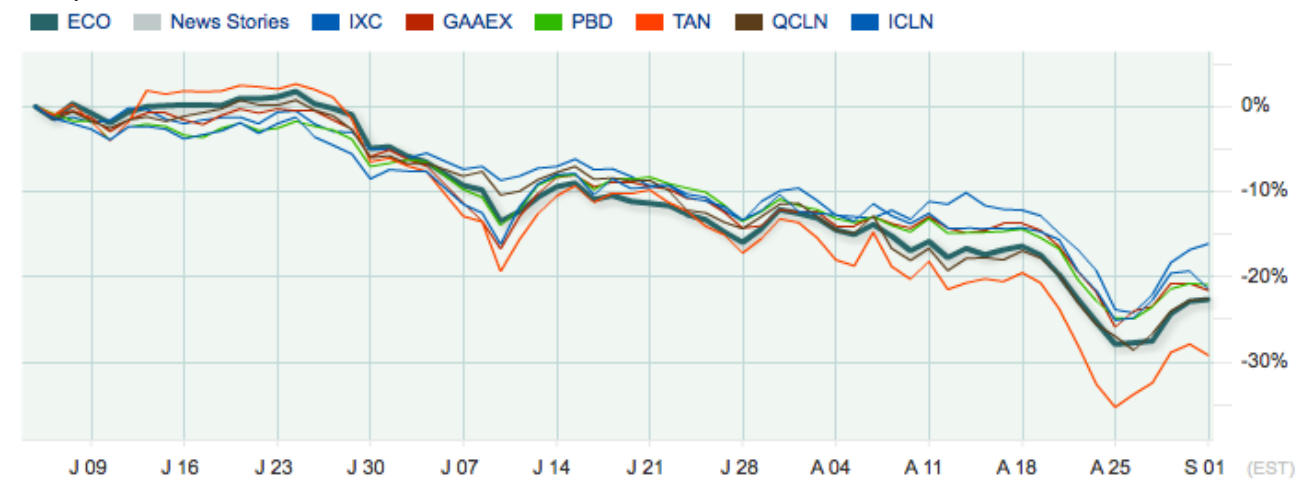
Or, some remarkable declines a few weeks in August are seen in greater resolution here. This is just 1 month in this greener space for only August 2015, showing relevant themes here in clean energy, global new/ alternative energy, energy broadly, & just solar - both for some active mutual funds & the passive Indexes (as measured by their tracking ETFs).

Included is a broad fossil fuels index, an active/alternative energy fund for comparison, WilderHill New Energy Global Index (NEX, first globally), a competing and so not ours global clean energy Index, the WilderHill Clean Energy (ECO, as the very first Index in this space and best known), a solar-only Index, and another 'green energy' Index. Most end Aug. bunched near -9%, except fossil fuels 'better' at -3%, and solar worse near -13%:



Source: bigcharts.com

Similarly here are these same ETFs & funds over 3 months only to the end of August 2015. This includes some small gains late Spring - then remarkably steep declines across a number of relevant themes in clean energy and in energy more broadly. Once again most here end August pretty closely bunched though they're down by more at around -22%, except for fossil fuels 'better' at about -15%, and solar worse near -28%:



Source: bigcharts.com

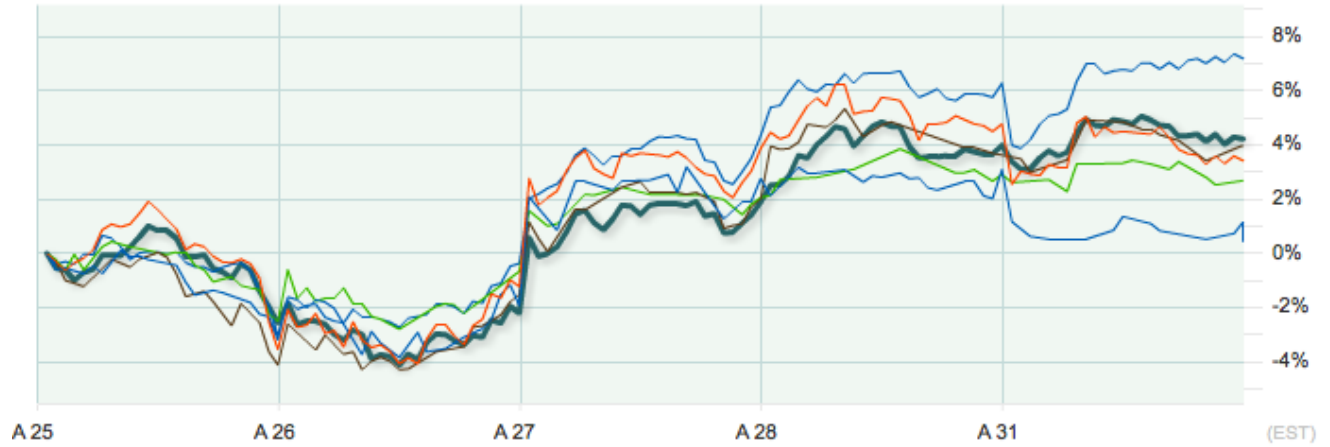
In September, there were worse declines again across energy themes very broadly.

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Lastly here are Charts for 2 final periods: the first is a past 5 days up to August 31, 2015. This reflects a strengthening of fossil fuels as oil rebounds here & ends well up near +7%, relatively weak performance by pure-solar finishing 5 days up only some +1%. In between are ECO and the themes for greener energy all up roughly +3% to +4%:

■ ECO ■ News Stories ■ IXC ■ GAAEX ■ PBD ■ QCLN ■ ICLN ■ TAN



Source: bigcharts.com

For a final Chart here, once again the same themes Year to Date just to Aug. 31, 2015. This reflects a very strong run-up from February through April in solar-alone, that is also partly captured in a global clean energy Index (not ours) - both notably fall very strongly from May dropping back to even negative performance YTD by late August.

Some may perhaps be due to strong declines in 2015 in China-listed equities, where other Indexes may have some/ relatively larger exposure. That other global Index ends here nearer the NEX; over longer periods the NEX generally has had stronger upwards moves. The fossil fuels here are all down, seen as roughly -15% YTD. ECO is rather near to that; it along with other themes lay mainly in a spread from barely nil to down about -15%:

■ ECO ■ News Stories ■ IXC ■ GAAEX ■ PBD ■ ICLN ■ TAN ■ QCLN



Source: bigcharts.com

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In August & September global clean energy & markets broadly fell hard, changing the picture somewhat after July. With that in mind how did things look mid-Q3 at end of July - when down, but not as dramatically so? In a side note we'll take a look here at a snapshot of ECO Index & WHPRO Index for best/ worst individual performers last 52 weeks - from July 31, 2014 to end-July 2015, for just before many larger declines arose.

First at ECO Index which constituents within that time frame had rose the most from their own individual past 52 week lows expressed percentages? Here is a Top 5:

\*Vivint Solar (VSLR) **+112.26%** (\*but reflects bump due to recent sale of company)

SunEdison (SUNE) **+93.81%**

Universal Display (OLED) **+93.54%**

PowerSecure (POWR) **+87.64%**

\*Cytec (CYT) **+76.00%** (\*but reflects bump due to recent sale of company)

Since this above list is distorted a bit by 2 constituents getting a large recent bump up due to being bought out (VSLR and CYT), here is the Top 5 with those 2 removed:

SunEdison (SUNE; Solar power across segments of this industry) **+93.81%**

Universal Display (OLED; Organic LEDs manufacturer) **+93.54%**

PowerSecure (POWR; Energy technology and services to Utilities) **+87.64%**

Ormat (ORA; Geothermal and recovered thermal energy) **+65.92%**

Advanced Energy (AEIS; Power conversion and control products) **+65.31%**

What does this above list possibly tell us? Not much: no clumping nor pattern is evident. The 5 come from differing sectors, rather all arising in say, wind or solar - mindful this represents furthest gains from 52 week lows (rather than instead lingering at consistently-held highs), so perhaps an interesting thing is that they are indeed quite diverse.

Names here come from solar, LEDs, power technologies in Utilities, geothermal, and power conversion: in other words nearly as broad a representation as one may conceive in a Top 5. They show perhaps 5 individual stories of previously depressed expectations mid-2014, followed by rosier forecasts in mid-2015 given that markets are forward-looking.

Also %s are all <100%, so not exceptionally high. It wouldn't have been surprising to see doublings (>100% or more) and indeed some have been up more than +100% other times. But end July 2015 date is not by itself a high-point in the clean energy theme generally - nor is past 52 weeks from a remarkable low in this theme. And markets worldwide were about to plunge around August and September (especially in China-listed shares).

(Parenthetically some Mainland China-Listings rose several-fold earlier in 2015 - then crashed in Q3 with trading-suspensions - but no mainland China listings are in ECO which instead has its listings on NYSE, Nasdaq etc; thus a volatile run-up & popping in volatile Mainland China shares early/mid 2015 was not felt as pointedly here within the ECO Index - but moves there did echo into clean energy and global markets worldwide).

What then, next, has *Declined* most among ECO constituents looking over this past 52 weeks to end of July 2015? Here next is the Bottom 7 in that same period:

Yingli (YGE; Solar panels, China-based but listed in US) **-78.87%**  
Rubicon Technology (RBCN; Substrates for LEDs) **-77.39%**  
Solazyme (SZYM; Biofuels) **-70.50%**  
FuelCell Energy (FCEL; Fuel cells) **-70.20%**  
Enphase Energy (ENPH; Inverters) **-67.17%**  
Hydrogenics (HYGS; Hydrogen generation and fuel cells) **-67.08%**  
Ballard Power (BLDP, fuel cells) **-66.71%**  
also nearby: Plug Power (PLUG; fuel cells) **-63.37%**

Here a clearer pattern emerges: there's only a few in the Index but pretty much all constituents relevant to (hydrogen) H2 or fuel cells are worst performers past 52 weeks. This is a bit remarkable and shows probably both some (irrational) exuberance that past year within the H2 & fuel cells space - and that cooler heads had since prevailed. And for one to have narrowly focused on H2 or fuel cells wouldn't have been rewarding; this narrow sub-sector that's disappointed so many times the last 15 years, did so again.

Also well down was an overseas solar constituent (available here as listed on a major U.S. exchange); a biofuels name and they can exhibit rather enormous volatility; and maker of microinverters that's gone from being an only manufacturer in the space with its special intellectual property and unique 'tech business model' - to just one among several in emerging microinverters and module level electronics with declining pricing power.

Next, glance at a separate and different, 'brown' Progressive Energy Index (WHPRO) for reducing pollution/ CO2 from fossil fuels & improving their efficiency; what constituents here have risen most past 52 week lows as a percentage? Here is a Top 5 there:

McDermott (MDR; Engineering, procurement and construction) **+116.19%**  
Acuity (AYI; Efficient Lighting) **+89.03%**  
\*Remy (REMY; EV motors) **+80.26%** (\*this reflects recent bump due to sale of company)  
Apogee (APOG; Glass engineered for better building efficiency) **+69.42%**  
Chicago Bridge & Iron (CBE; Engineering, procurement and construction) **+65.27%**  
AO Smith (APOG; Water heating better efficiency) **+60.67%**

Looking above, (like ECO) there is no clear pattern in those most up - although 2 EPC names are here. Lastly what Declined the most among WHPRO constituents in a past 52 weeks to this rather happenstance date at end of July? Here next is the Bottom 5:

Westport (WPRT; Gaseous fuels enabling for vehicles) **-77.30%**  
Cozan (CZZ; Ethanol) **-68.83%**  
Companhia Energetica de Minas Gerais (CIG; Large Hydropower in Brazil) **-68.74%**  
Chesapeake Energy (CHK; Natural Gas production) **-67.07%**  
Kandi (KNDI; Small cars and electric vehicles, China) **-66.29%**

In sum no pattern but a bit interesting for tight range: most down -66% to -68%.

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Conclusion:

For 3<sup>rd</sup> Quarter 2015 the Clean Energy Index<sup>®</sup> (ECO) began near 56 and ended around 42, plunging downwards by near -25%. Year to Date too, the ECO Index<sup>®</sup> has fallen hard since starting 2015 near 55, so it is roughly down a similar percentage while carrying much risk. Alternatively one could look back to start of 2014: here this clean energy theme and so ECO at first rose by +20% from 65 to 82; but afterwards it fell into red YTD by May and didn't return to that crest in 2014. Declines latter 2014 continued well into 2015 first to a low of 50 earlier this year - briefly rising to 62. Then this theme plunged over Summer as world markets sank with all of energy falling much more, ECO touching near 40.

To sum up the 3<sup>rd</sup> Quarter ECO saw steep losses from around 56 where it started Q3; WHPRO fell in similar hard fashion, meanwhile the NEX had smallest losses of the 3.

There were 4 Additions to ECO of Energy Focus, Hexcel, Sunrun, TerraForm Global for Q4. The 7 Deletions there were CYT, FCEL, FSYS, QTTW, RBCN, VSLR, YGE to start Q4.

At differing WilderHill Progressive Energy (WHPRO) there were no Additions for Q4. Five Deletions were EBR, GTI (was removed intra-Quarter), HXL, REMY, RTK to start Q4.

As always we welcome your thoughts and suggestions.

Sincerely,



Dr. Rob Wilder  
[rwilder@wildershires.com](mailto:rwilder@wildershires.com)

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**Appendix I:**

**ECO Index (via independent tracker PBW) Descending Weights & Components in mid-Q3 on 8/3/2015, or about 8 weeks before rebalance to start Q4 2015. 48 stocks:**

<b>NAME</b>	<b>SYMBOL</b>	<b>WEIGHT</b>
Cytec Industries Inc	CYT	3.54%
Vivint Solar Inc	VSLR	3.16%
Tesla Motors Inc	TSLA	3.09%
PowerSecure International	POWR	3.08%
Sky Solar Holdings Ltd	SKYS	2.98%
Ormat Technologies Inc	ORA	2.96%
Plug Power Inc	PLUG	2.90%
ITC Holdings Corp	ITC	2.89%
Air Products and Chemicals	APD	2.86%
SolarCity Corp	SCTY	2.85%
Quanta Services Inc	PWR	2.76%
Ameresco Inc	AMRC	2.74%
Itron Inc	ITRI	2.67%
Universal Display Corp	OLED	2.66%
Opower Inc	OPWR	2.65%
Advanced Energy Industries	AEIS	2.62%
FuelCell Energy Inc	FCEL	2.56%
Gentherm Inc	THRM	2.53%
Renewable Energy Group Inc	REGI	2.48%
First Solar Inc	FSLR	2.44%
SunPower Corp	SPWR	2.43%
JA Solar Holdings Co Ltd	JASO	2.41%
Silver Spring Networks Inc	SSNI	2.40%
Cree Inc	CREE	2.39%
China Ming Yang Wind Power	MY	2.35%
Canadian Solar Inc	CSIQ	2.35%
EnerNOC Inc	ENOC	2.32%
SolarEdge Technologies Inc	SEDG	2.25%
Pattern Energy Group Inc	PEGI	2.22%
SunEdison Inc	SUNE	2.17%
TerraForm Power Inc	TERP	2.14%
Trina Solar Ltd	TSL	2.11%
Daqo New Energy Corp	DQ	2.07%
Enphase Energy Inc	ENPH	1.96%
Hanwha Q Cells Co Ltd	HQCL	1.93%
Solazyme Inc	SZYM	1.89%
Yingli Green Energy Holding	YGE	1.85%
Ballard Power Systems Inc	BLDP	1.75%
Broadwind Energy Inc	BWEN	0.52%
Amyris Inc	AMRS	0.51%
ReneSola Ltd	SOL	0.50%
Fuel Systems Solutions Inc	FSYS	0.49%
Hydrogenics Corp	HYGS	0.48%
Quantum Fuel Systems	QTWW	0.46%



Orion Energy Systems Inc	OESX	0.45%
Maxwell Technologies Inc	MXWL	0.44%
Amtech Systems Inc	ASYS	0.38%
Rubicon Technology Inc	RBCN	0.37%

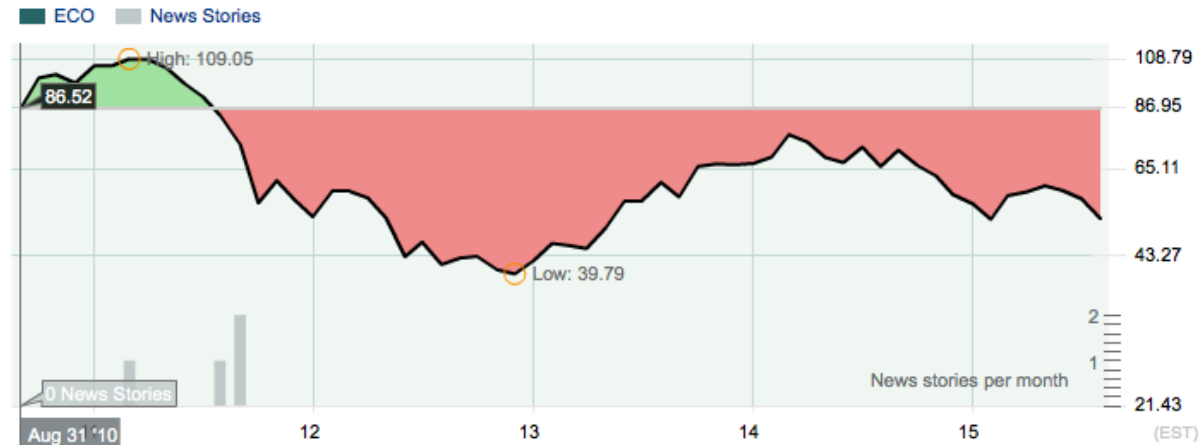
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ECO Index for past 2 years from mid-August 2013 - to mid-Aug 2015: clean energy is mainly up here (in green) first half because coincidentally this period happens to have begun from a bit of a then-low near 57 in 2013 - however the clean energy theme drops hard to 49 end of this period - and soon in late August would fall very steeply touching 40:



Source: bigcharts.com

For a different perspective with very pronounced red/huge losses from about 109 end of February 2011 down to about 40 in 2012 - then 50 mid-2015 - here's last 5 years to mid-Q3 (Aug. 15) 2015. This shows tremendous volatility & how the clean energy sector as captured by ECO 'can and does at times drop like a rock' - notably this would be again made clear in Q3 August just after this Chart period when ECO touches 40:



Source: bigcharts.com

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## **Appendix II, ECO Index for Start of the New Quarter:**

### **INDEX (ECO) SECTOR & STOCK WEIGHTS FOR START OF Q4 2015. 45 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** - 28% sector weight (9 stocks @3.00% each; +2 banded)

*\*Broadwind Energy, BWEN.* Wind power, producer of towers, gearing, services.

*Canadian Solar, CSIQ.* Solar, vertically integrated solar manufacturer, China.

*China Ming Yang Wind, MY.* Wind, large turbine manufacturer is a pure play.

*\*Daqo New Energy, DQ.* Solar, polysilicon/wafer manufacturer; China-based.

*First Solar, FSLR.* Thin film solar, CdTe a low-cost alternate to polysilicon.

*Hanwha Q Cells, HQCL.* Solar, integrated from poly through modules.

*Hexcel, HXL.* Light composites, in wind blades & spars, aerospace, vehicles.

*JA Solar, JASO.* Solar, China-based sells PV modules in Asia, Europe, U.S.

*Ormat, ORA.* Geothermal, works too in areas of recovered heat energy.

*SunPower, SPWR.* Solar, efficient PV panels have all-rear-contact cells.

*Trina Solar, TSL.* Solar, produces ingots, wafers, modules; China-based.

#### **Power Delivery & Conservation** - 19% sector weight (7 stocks @2.57%; +2 \*banded)

*Ameresco, AMRC.* Energy saving performance contracts, also in renewables.

*Cree, CREE.* LEDs, manufacturer in power-saving lumens, efficient lighting.

*\*Energy Focus, EFOI.* Efficiency, LEDs and entire lighting systems solutions.

*EnerNoc, ENOC.* Demand response; better energy management, smart grid.

*Itron, ITRI.* Meters, utility energy monitoring, measurement & management.

*\*Orion Energy Systems, OESX.* Efficiency, LED light retrofits, energy services.

*Quanta Services, PWR.* Infrastructure, modernizing grid & power transmission.

*SunEdison, SUNE.* Producer of polysilicon; also growing its solar services.

*Universal Display, OLED.* Organic light emitting diodes, efficient displays.

#### **Energy Conversion** - 13% sector weight (4 stocks @2.75% each; +4 \*banded stocks)

*Advanced Energy, AEIS.* Power conditioning: inverters, thin film deposition.

*\*Amtech Systems, ASYS.* Solar wafer equipment, U.S. based turnkey supplier.

*\*Ballard Power, BLPD.* Mid-size fuel cells; R&D, PEM FCs as in transportation.

*\*Enphase, ENPH.* Microinverters, PV panel DC becomes grid compliant AC.

*Gentherm, THRM.* Thermoelectrics, waste heat to energy, power harvesting.

*Plug Power, PLUG.* Small fuel cells, PEM for forklifts; drop in replacements.

*\*ReneSola, SOL.* Wafers, for silicon PV, mono & multicrystalline, China-based.

*SolarEdge Technologies, SEDG.* Inverters: makes solar optimizers, inverters.

#### **Greener Utilities** - 22% sector weight (8 stocks @2.75% each)

*Pattern Energy, PEGI.* Wind farms, solar may be added too for GW sized PPAs.

*ITC Holdings, ITC.* Grid transmission, better integration for wind/renewables.

*Opower, OPWR.* Utility software, advanced cloud based, customer-interfacing.

*Silver Spring Networks, SSNI.* Smart grid, two-way communications aids Utilities.

*Sky Solar, SKYS.* Solar farms, creating & operating utility-scale projects.

*Sunrun, RUN.* Residential solar systems, lease, PPA or purchase rooftop PV.

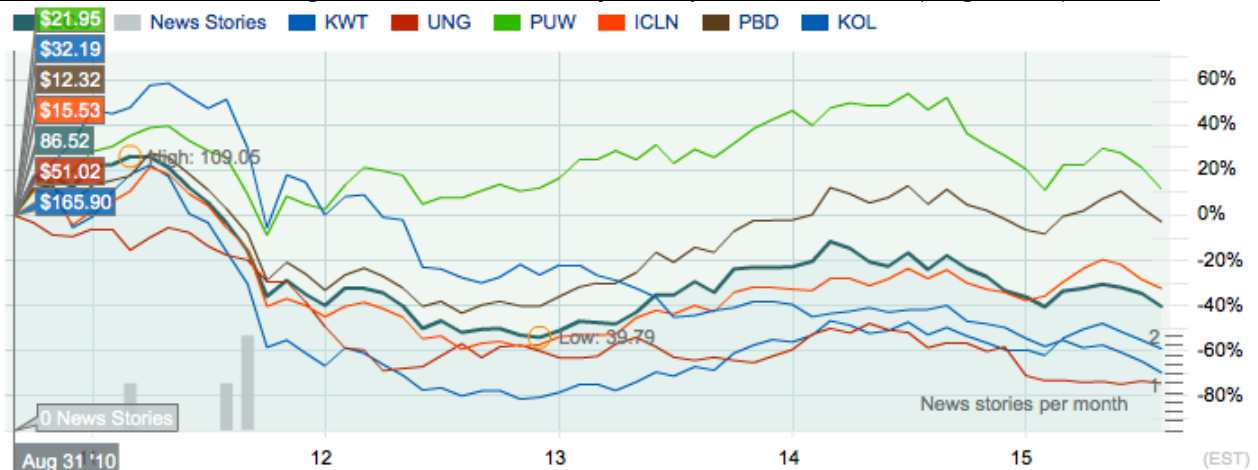
*TerraForm Global, GLBL.* Owns & operates renewable assets in emerging nations.

*TerraForm Power, TERP.* Owns & operates solar/wind in developed markets, yieldco.

**Energy Storage** - 9% sector weight (3 stocks @2.83%; +1 \*banded stock)  
 \*Maxwell, MXWL. Ultracapacitors, an alternative assisting batteries in hybrids.  
 PowerSecure, POWR. Demand response, smarter grid, distributed generation.  
 SolarCity, SCTY. Solar+Energy Storage, for homes, businesses, governments.  
 Tesla Motors, TSLA. Electric vehicles, pure-play in EVs and energy storage.

**Cleaner Fuels** - 9% sector weight (4 stocks @2.12% each; +1 \*banded stock)  
 Air Products & Chemicals, APD. Hydrogen, is a supplier of industrial gases.  
 Amyris, AMRS. Biotech, speculative R&D in renewable fuels for transportation.  
 \*Hydrogenics, HYGS. Hydrogen, electrolysis generation & fuel cells, H2 storage.  
 Renewable Energy Group, REGI. Biodiesel, natural fats, oils, greases to biofuels.  
 Solazyme, SZYM. Biofuels, microalgae grown w/o sun, drop-in diesel substitute.

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**ECO & some other 'tough time' themes in a past 5 years to Mid-Q3 (August 15) 2015:**



Source: Bigcharts.com

As seen by **ECO** (in bold) and others, the last years were **very rough** for many themes in clean, alternative and even traditional dirty energy. For example despite clean **ECO** falling hard so ending this period down near -40%, that's not far from a sample **Index/ETF** (not ours) for global alternative energy (orange), and those are still well 'above' a tracker for a **Solar-only** Index/ETF (blue), a tracker for **Coal** also in blue, and a **Natural Gas** Index/ETF at bottom (in burnt orange): these years have been remarkably tough with robust declines for energy themes!

Bucking the negative finish in those 4 themes, global new energy NEX above is near nil, **brown**. Note too **light green** line at top ironically is a more 'brown-themed' Wilderhill **Progressive Energy** Index (WHPRO) up just a bit this period; its independent tracker (PUW) hit its 2011 nadir on relatively less downturn. So clean/new energy, and the natural gas and coal themes - all moved down here - with global NEX recovering some (however that changed pretty dramatically after this Chart period given their joint subsequent plunge over latter Q3 2015).

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**Appendix III: WHPRO Index (via an independent tracker PUW) Descending Component weights in mid-Q3 2015 on 8/3/2015, or about 8 weeks before the rebalance to start Q4 2015. 50 Stocks:**

<u>NAME</u>	<u>SYMBOL</u>	<u>WEIGHT</u>
Remy International Inc	REMY	3.19%
Owens Corning	OC	2.62%
Acuity Brands Inc	AYI	2.52%
Hexcel Corp	HXL	2.47%
Hannon Armstrong Sustainable	HASI	2.42%
GrafTech International Ltd	GTI	2.42%
Koninklijke Philips NV	PHG	2.39%
Chicago Bridge & Iron Co. NV	CBI	2.34%
Andersons Inc	ANDE	2.34%
WABCO Holdings Inc	WBC	2.32%
Sasol Ltd	SSL	2.26%
ESCO Technologies Inc	ESE	2.25%
A. O. Smith Corp	AOS	2.23%
Calpine Corp	CPN	2.19%
Methanex Corp	MEOH	2.15%
Johnson Controls Inc	JCI	2.15%
Regal Beloit Corp	RBC	2.12%
Corning Inc	GLW	2.11%
Altra Industrial Motion Corp	AIMC	2.11%
Covanta Holding Corp	CVA	2.11%
Eaton Corporation PLC	ETN	2.10%
Apogee Enterprises Inc	APOG	2.08%
MasTec Inc	MTZ	2.08%
Southwestern Energy Co	SWN	2.07%
Range Resources Corp	RRC	2.07%
Emerson Electric Co	EMR	2.04%
Veeco Instruments Inc	VECO	2.04%
EnerSys	ENS	2.01%
Chesapeake Energy Corp	CHK	2.00%
Tata Motors Ltd	TTM	1.99%
Woodward Inc	WWD	1.99%
Golar LNG Ltd	GLNG	1.97%
Clean Energy Fuels Corp	CLNE	1.97%
LSB Industries Inc	LXU	1.96%
Green Plains Inc	GPRE	1.94%
Tenneco Inc	TEN	1.93%
Centrais Eletricas Brasileiras SA	EBR	1.92%
Cosan Ltd	CZZ	1.91%
NRG Yield Inc	NYLD/A	1.91%
Mcdermott International Inc	MDR	1.88%
Power Solutions International Inc	PSIX	1.87%
Kandi Technologies Group Inc	KNDI	1.84%
General Cable Corp	BGC	1.82%
Chart Industries Inc	GTLS	1.81%
Abengoa Yield PLC	ABY	1.64%

Companhia Energetica Minas Gerais	CIG	1.60%
Abengoa SA	ABGB	1.49%
Luxfer Holdings PLC	LXFR	0.55%
Westport Innovations Inc	WPRT	0.45%
Rentech Inc	RTK	0.37%

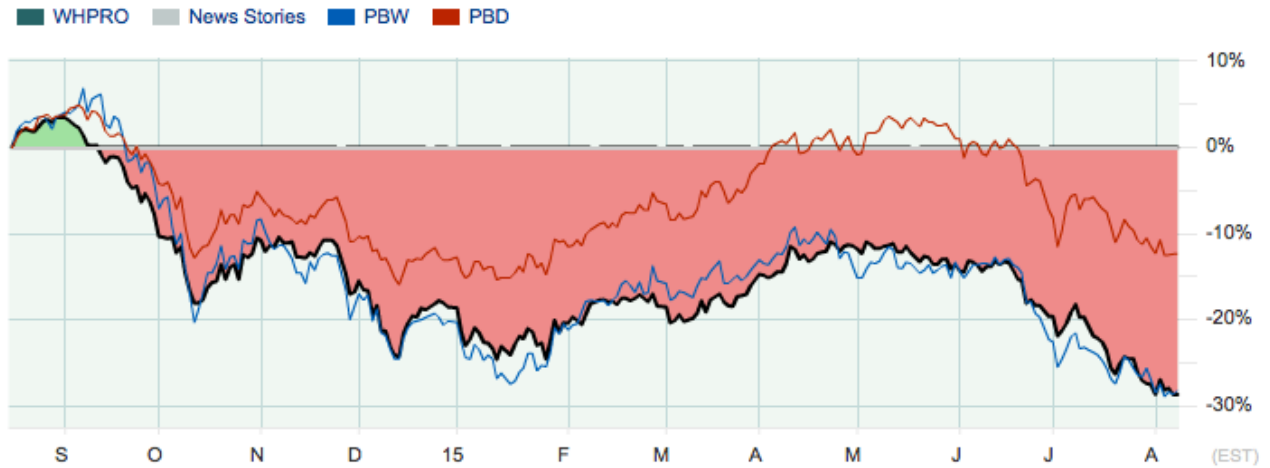
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First, just Progressive Energy Index (WHPRO) in a past 1 year to mid-Q3 (Aug. 15) of 2015 that demonstrates an ample 'sea of red' seen here (and several other energy themes, to expand just afterwards with a much larger steep fall latter Q3):



Source: bigcharts.com

The Global New Energy theme (NEX, below in red) does noticeably better than WHPRO here - even as Clean Energy (ECO, in blue) moves remarkably closely to WHPRO. For comparative purposes here are independent trackers for Progressive (**bold**), Clean Energy (tracker PBW, **blue**), and rather robustly different is a Global Clean Energy theme (via tracker PBD, **red**) to mid-August:



Source: bigcharts.com

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**Appendix IV: WHPRO Index for start of New Quarter.**

**Sectors & Stock Weightings: WilderHill Progressive Energy Index (WHPRO) for start of Q4 2015. 45 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 - 19% Sector Weight (8 stocks @2.37% each)**

*Andersons*, ANDE. Ethanol producer, corn-based; rail group is in fuel transport.

*Chesapeake Energy*, CHK. Natural gas, one of larger U.S. independent producers.

*Clean Energy Fuels*, CLNE. Natural gas fuel integration; for use in fleet vehicles.

*Cosan*, CZZ. Biofuels, Brazil-based using sugarcane feedstock, ethanol exporter.

*Green Plains Renewable Energy*, GPRE. Biofuel, ethanol; domestic corn feedstock.

*Methanex*, MEOH. Methanol, liquid fuel may 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.

**Conversion & Storage - 20% Sector weight (8 stocks @2.43% each; +1 \*banded)**

*Altra Holdings*, AIMC. Mechanical power transmission, electromechanical conversion.

*Chart Industries*, GTLS. Natural gas, LNG; liquefied gas storage/transport, efficiency.

*Chicago Bridge & Iron*, CBI. Engineering, natural gas, next-gen nuclear designs.

*Covanta Holding*, CVA. Incineration, converts waste to energy (WtE); conglomerate.

*EnerSys*, ENS. Battery maker, for telecommunications, utilities, motive power.

*Golar LNG*, GLNG. LNG, major independent carrier, gas transport, regasification.

*MasTec*, MTZ. Engineering & construction, distribution of electricity, natural gas.

*Wabco*, WBC. Mechatronics, better vehicle mechanical/energy/braking controllers.

\**Westport Innovations*, WPRT. Enabling vehicle use of natural gas, gaseous fuels.

**Better Efficiency - 23% Sector Weight (10 stocks @2.30% each)**

*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.

*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, 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.

**New Energy Activity - 12% Sector weight (5 stocks @2.40% each).**

*Eaton*, ETN. Hybrids, better electric and fluid power in truck & auto applications.

*Hannon Armstrong*, HASI. Capital, Infrastructure & finance for energy efficiency.

*Johnson Controls*, JCI. Building controls, also advanced hybrid vehicle systems.

*Owens Corning*, OC. Materials lightening, building insulation composite materials.

*Veeco Instruments*, VECO. Design, manufactures equipment for LED production.

**Emission Reduction - 14% Sector Weight (5 stocks @2.50% each +3 \*banded)**

*Corning*, GLW. Diverse, activity includes emissions reduction, filters, and catalysts.

\**Kandi Technologies*, KNDI. Developing small gasoline and urban electric vehicles.



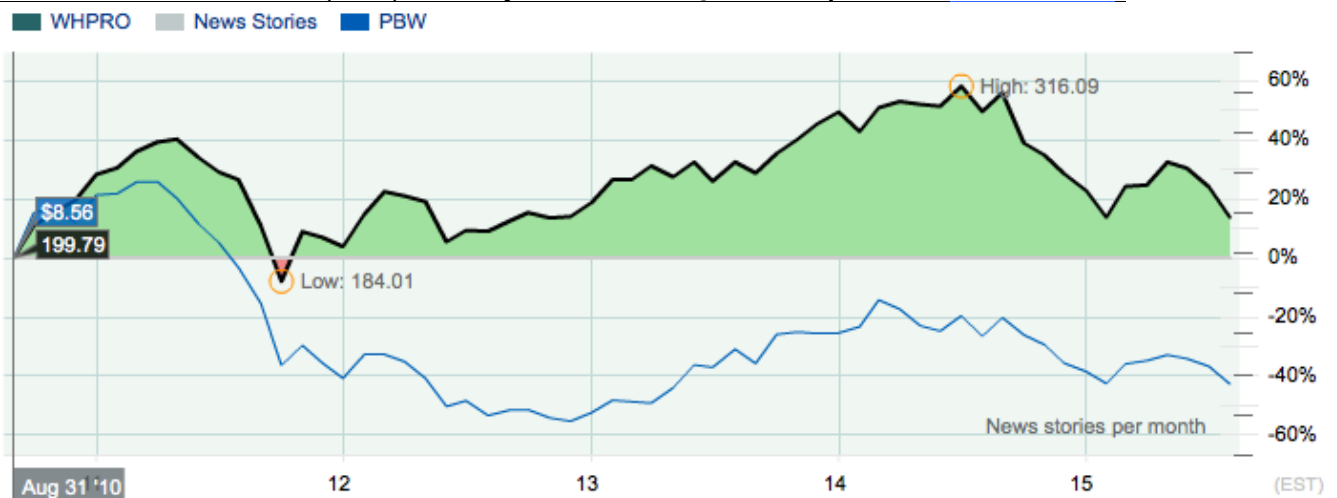
\**Luxfer Holdings PLC*, LXFR. Advanced materials, reduced emissions, gaseous storage.  
*McDermott*, MDR. Infrastructure, reduces coal emissions, constructs WtE facilities.  
 \**Power Solutions*, PSIX. Flex-fuel low-emission engines, nat. gas, biogas, hybrid etc.  
*Sasol Ltd*, SSL. Syngas to synthetic 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.

**Utility - 12% Sector weight (5 stocks @2.40% each)**

*Abengoa SA*, ABGB. Energy engineering & infrastructure, worldwide; sustainability.  
*Abengoa Yield*, ABY. Yieldco, power & transmission, includes some renewables.  
*Calpine*, CPN. Natural Gas & Geothermal, North America, lower-carbon assets  
*Companhia Energetica de Minas Cemig*, CIG. Brazil Utility, large hydroelectric.  
*NRG Yield*, NYLD. Contracted power generation and thermal, also some renewables.

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**Chart for WHPRO Index (bold) Past 5 years to mid-Q3 vs independent ECO tracker:**



Source: Bigcharts.com

*WHPRO Index last 5 years to mid-Q3 (Aug. 15). This includes Summer 2010 when was up near 200 - and further on mid-2014 near 315 - through mid-Q3 2015 dropping down here to nearer 215. Still, it moved unlike some ‘green energy’ themes; its low 2011 (near 185) actually was relatively ‘better’ than lows put in by many other various new/clean energy themes last 5 years. Much different here for example is an ECO tracker, in blue that dropped hard 2010 to 2013; by contrast WHPRO last 5 years generally had at first fallen less - but that has changed over 2014- In Q3 2015 WHPRO fell relatively-speaking hard too extending losses further.*

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**Appendix V: WilderHill New Energy Global Innovation Index (NEX)** mid-Q3 2015 via an independent tracker (PBD) on 8/3/15, about 8 weeks before Rebalance to start Q4 2015. 107 stocks:

<u>NAME</u>	<u>SYMBOL</u>	<u>WEIGHT</u>
Nordex SE	NDX1	2.402
Vestas Wind Systems A/S	VWS DC	2.285
Enel Green Power SpA	EGPW	2.139
Huaneng Renewables Corp Ltd	958	2.077
Gamesa Corp Tecnologica SA	GAM	2.062
China Longyuan Power	916	2.033
EDP Renovaveis SA	EDPR	2.026
Acuity Brands Inc	AYI	1.996
Saeta Yield SA	SAY	1.994
TransAlta Renewables Inc	RNW	1.942
China High Speed Transmission	658	1.905
Kingspan Group PLC	KSP	1.889
Xinjiang Goldwind Science	2208	1.843
Tesla Motors Inc	TSLA	1.803
AO Smith Corp	AOS	1.765
Nibe Industrier AB	NIBEB SS	1.764
Rockwool International A/S	ROCKB DC	1.741
Pattern Energy Group Inc	PEGI	1.653
Itron Inc	ITRI	1.623
Vivint Solar Inc	VSLR	1.621
Universal Display Corp	OLED	1.617
Seoul Semiconductor Co Ltd	046890 KS	1.615
Johnson Controls Inc	JCI	1.6
Meidensha Corp	6508	1.589
Veeco Instruments Inc	VECO	1.517
Wasion Group Holdings Ltd	3393	1.493
AIXTRON SE	AIXA	1.486
SolarCity Corp	SCTY	1.465
Cree Inc	CREE	1.449
Xinyi Solar Holdings Ltd	968	1.43
Neo Solar Power Corp	3576	1.377
Sino-American Silicon Products Inc	5483	1.346
Everlight Electronics Co Ltd	2393	1.27
First Solar Inc	FSLR	1.242
SunPower Corp	SPWR	1.235
Epistar Corp	2448	1.234
Canadian Solar Inc	CSIQ	1.195
GCL-Poly Energy Holdings Ltd	3800	1.165
Novozymes A/S	NZYMB DC	1.146
SolarEdge Technologies Inc	SEDG	1.123
Trina Solar Ltd ADR	TSL	1.075
China Singyes Solar Tech.	750	1.066
Abengoa Yield plc	ABY	1.044
Covanta Holding Corp	CVA	0.963
Energy Absolute PCL	EA-R TB	0.917

China Everbright International	257	0.893
Sao Martinho SA	SMTO3	0.868
Shunfeng International Clean.	1165	0.844
GS Yuasa Corp	6674	0.812
Saft Groupe SA	SAFT FP	0.789
Green Plains Inc	GPRE	0.772
Verbund AG	VER AV	0.736
Ormat Technologies Inc	ORA	0.724
Abengoa SA	ABG/P	0.71
Mighty River Power Ltd	MRP	0.697
Contact Energy Ltd	CEN	0.644
Innergex Renewable Energy Inc	INE	0.637
Energy Development Corp	EDC	0.634
LSB Industries Inc	LXU	0.598
Greencoat UK Wind PLC/Funds	UKW LN	0.598
Falck Renewables SpA	FKR	0.597
Renewables Infrastructure	TRIG LN	0.58
Taewoong Co Ltd	044490 KS	0.579
Boralex Inc	BLX	0.572
SMA Solar Technology AG	S92	0.567
Byd Co Ltd	1211	0.555
TerraForm Power Inc	TERP	0.55
FDG Electric Vehicles Ltd	729	0.532
SunEdison Inc	SUNE	0.529
CENTROTEC Sustainable AG	CEV	0.525
Dialight PLC	DIA LN	0.52
PowerSecure International Inc	POWER	0.513
Aerovironment Inc	AVAV	0.503
Ricardo PLC	RCDO LN	0.499
Capital Stage AG	CAP	0.475
Ameresco Inc	AMRC	0.475
Motech Industries Inc	6244	0.472
Blue Solutions	BLUE FP	0.462
China Datang Corp Renewable	1798	0.462
OPOWER Inc	OPWR	0.442
Silver Spring Networks Inc	SSNI	0.44
Sky Solar Holdings Ltd ADR	SKYS	0.438
West Holdings Corp	1407	0.424
Utilitywise PLC	UTW LN	0.42
GCP Infrastructure Invest.	GCP LN	0.419
EnerNOC Inc	ENOC	0.403
REC Solar ASA	RECSOL	0.401
Meyer Burger Technology AG	MBTN SW	0.377
SPCG PCL	SPCG-R TB	0.359
JA Solar Holdings Co Ltd ADR	JASO	0.35
REC Silicon ASA	REC	0.317
Takuma Co Ltd	6013	0.312
Enphase Energy Inc	ENPH	0.28
Albioma SA	ABIO FP	0.274

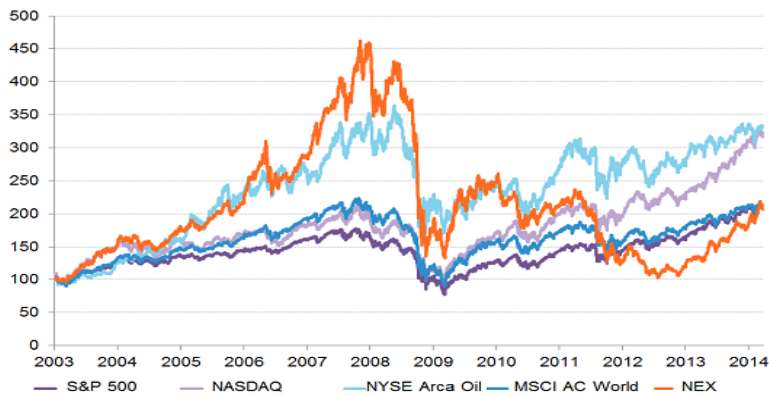
Renewable Energy Group Inc	REGI	0.261
United Photovoltaics Group Ltd	686	0.255
Plug Power Inc	PLUG	0.214
Infinis Energy Plc	INFI LN	0.212
Solazyme Inc	SZYM	0.199
Intelligent Energy Holdings PLC	IEH LN	0.198
Akenerji Elektrik Uretim AS	AKENR TI	0.192
FuelCell Energy Inc	FCEL	0.188
Maxwell Technologies Inc	MXWL	0.178
Hydrogenics Corp	HYGS	0.175
Ballard Power Systems Inc	BLD	0.13

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For current values, [http://www.nex-index.com/Constituents\\_And\\_Weightings.php](http://www.nex-index.com/Constituents_And_Weightings.php)  
Or see also for more NEX data: [http://www.nex-index.com/Constituents\\_And\\_Weightings.php](http://www.nex-index.com/Constituents_And_Weightings.php)  
Here are links to quotes to NEX Index available on the web:

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

Below is NEX Index vs NYSE Oil vs Nasdaq vs S&P500 vs. MSCI World: ~10 years only up to 2014.  
Note **Global NEX** that was once well up at top in 2007 near 450 – in this period dropped by 2012 (~3 years ago) to near a 100 bottom from a decade prior - after up somewhat (before falling):



AMEX Oil, Nasdaq and S&P 500 rebased 30 Dec 2001=100

Source: Bloomberg New Energy Finance

AMEX Oil, Nasdaq, S&P 500 rebased 30 Dec 2001 = 100 Source: Bloomberg New Energy Finance

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\*Global NEX Index only is a unique Partnership of Bloomberg New Energy Finance; Josh Landess of First Energy Research, and Dr. Rob Wilder of WilderHill, for WilderHill New Energy Finance LLC.

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