



## Q3 2016 Quarterly Report: WilderHill Clean Energy Index<sup>®</sup>, September 30, 2016

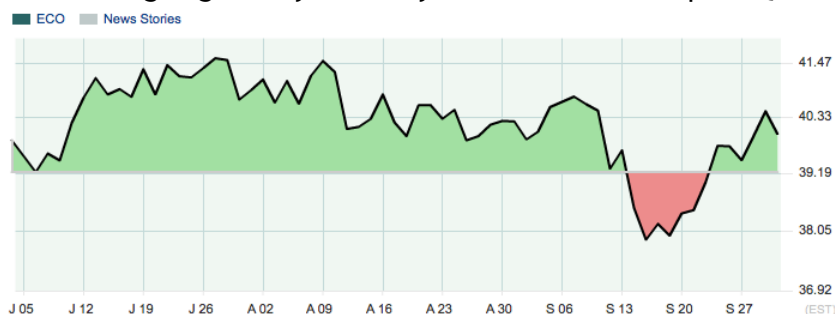
For 3<sup>rd</sup> Quarter 2016, the Clean Energy Index<sup>®</sup> (ECO) began near 40 and ended just over 40, for a negligible gain of just around +1%. Year to Date it's been volatile, down almost -20%. Or look since start of 2014: the clean energy theme and so ECO Index<sup>®</sup> at first had gained in Q1 2014, then fell and didn't re-touch those highs; declines were briefly broken by an upturn late last year, then clean energy fell Q1/Q2 2016 and went mostly sideways in Q3 for a clean energy theme that dropped hard at times while carrying much risk. Yet it must also be said that fossil fuels have fallen much harder still than green ECO: oil, coal & natural gas have all dropped farther than clean energy here over these past five years.

Quite different has been Progressive Energy Index<sup>®</sup> (WHPRO) that generally excludes solar, wind & renewables. WHPRO is a different theme for reducing the CO2 & pollutants from - and improving efficiency within dominant energy today. It moves unlike ECO and hasn't shown volatility of ECO that 'can at times drop like a rock'. WHPRO went up early 2016 and has reached some +25% YTD: it so far remains well positive YTD in a tough 2016. WHPRO has done 'much better' too in 2016 YTD than the Dow, Nasdaq, or S&P major averages.

Looking next at WilderHill<sup>®</sup> New Energy Global Innovation Index (NEX) for clean energy *worldwide* mostly outside the U.S. - the NEX & WHPRO themes traded places among the WilderHill Indexes as leader for this last 5 year period. Starting say from 5 years ago WHPRO & NEX have shown some non-correlation yet they're coincidentally rather near each other now: WHPRO up near +20%, NEX up near +25% to Sept. 1<sup>st</sup> so both well above ECO (that previously at times did 'best' of the 3). Traditional 'dirty' energy by contrast is down, by rather a lot - dirtier fuels trailed cleaner fuels last 5 years as seen in charts below.

To sum up the last 5 years among 3 differing WilderHill Indexes, ECO fell hard, down by some -30% reflecting in part big drops in solar (a solar-only index being down some -50%). Being off near -30% sounds a lot and it is, yet pain was worse in coal, oil, natural gas (and in pure-solar) themes that fell more. By contrast for last 5 years WHPRO & NEX themes to September 1<sup>st</sup> were up, by +20% and +25% respectively. That said these figures for the last 5 years were more harsh only a Quarter ago, at end of Q2 2016; they're all 'better now' due to sharply falling starting points going from end of Q2 in 2011 - to end of Q3 2011.

Below and going mostly 'sideways' relative to some past Quarters is ECO Index in Q3 2016:



Source: bigcharts.com

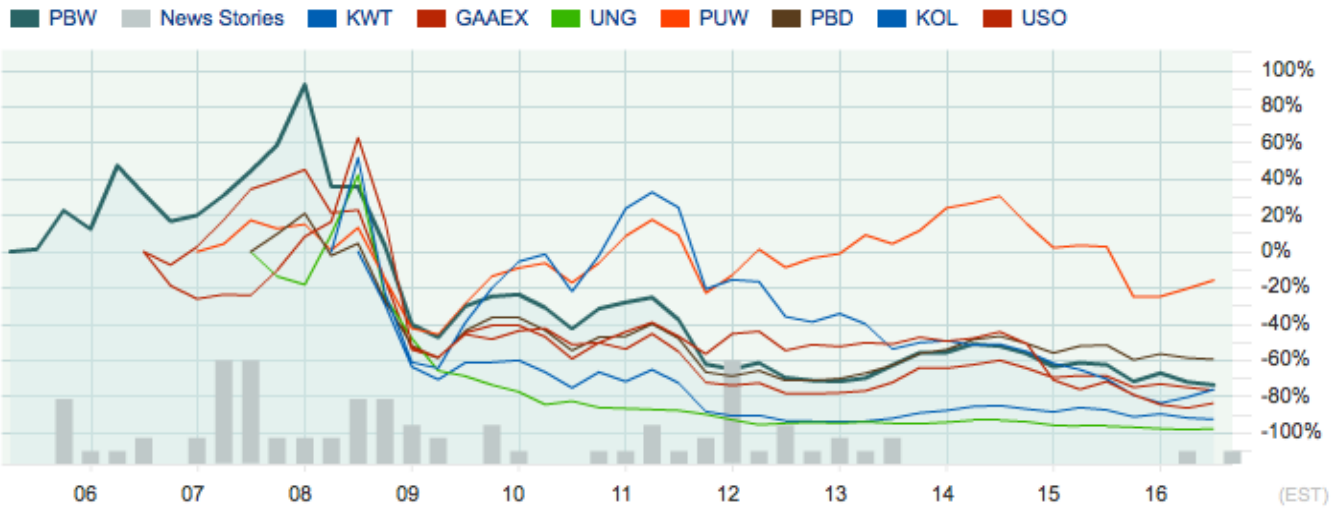
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For a bigger picture and capturing too a great energy crash in 2008-2012, step-back to see 2006 to Aug. 31, 2016 in a Chart below - Included here are fossil fuels. Rather dramatic is a crash in Natural Gas (green): Natural Gas during this period was down near -90%!

So we see if starting from the very lowest at bottom a **Natural Gas tracker, green**. Just above it is a tracker for **Solar, blue** also far down. Next up/third from bottom is a tracker for **Oil, red**, once up but fell hard. Above it is a tracker for **Coal, also blue**: it did 'well' at first then fell before rising strongly in 2016 yet it ends still below ECO & an active fund.

Just above that is an **active fund, red** for alternative energy (and shows it's pretty hard for an active-fund to regularly beat an Index) with some clumping of returns here for 3 pretty different themes in clean vs. traditional energy nonetheless all down near -70%.

Roughly tied here is **ECO Index via independent tracker in bold**, 'better' (only down less) than **Natural Gas, Oil, Coal**, and **Solar**. Then higher up after a gap is Global **new energy NEX via a tracker, brown**. Clearly far at 'top' is the **WilderHill Progressive (WHPRO via PUW, orange)** for reducing CO2 and improving efficiency in dominant energy - yet it ends below nil too - so no theme finishes well if starting so early: only WHPRO returns near positive.

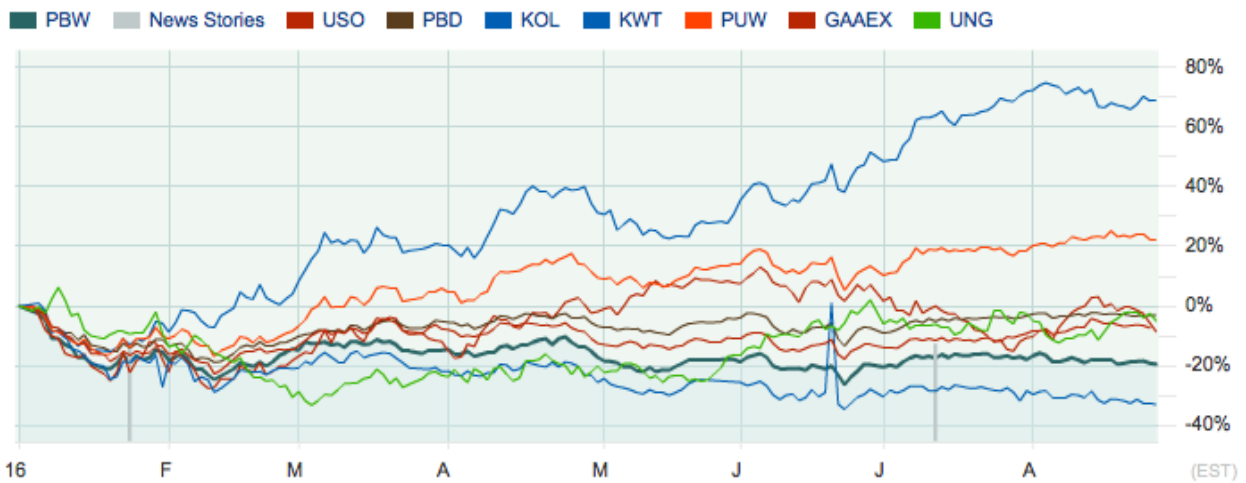


Source: bigcharts.com

Or, see below the same independent trackers nearly first 3 Quarters of 2016 to August 31<sup>st</sup> - this shows a much different performance for Year to Date 2016. Two leaders here, both positive YTD are the very different **coal** theme (via tracker KOL) up near +70% YTD in blue that's rebounded strongly after hugely down for several years - and the Progressive WHPRO theme **in orange** (via tracker PUW) up some +25%: both well above all else here.

Rest are near nil or negative YTD, from just underwater (being least down) **natural gas**, then **NEX tracker**, and an Active fund for alternative energy. **ECO** is down by around -20% here lagging an active fund (not always the case). Quite hard times clearly have continued for a solar-only theme as seen in a tracker in **blue** that once again has plummeted. Here then are these Trackers for 2016 through the first 2/3rds of Q3:

2016 YTD up to August 31<sup>st</sup>



Without doubt a solar theme showed rather remarkable declines in the timeframes above. What if instead of looking just YTD or past 5 years, we instead simply start from inception of a Solar-only themed tracker; does it then show ‘better’ up performance? Here is a **Solar-only theme in bold** from its own inception, vs. a broader **Clean Energy theme, blue** as captured by ECO tracker: being broader has perhaps helped a clean energy theme do a bit ‘better’ - but again there’s no doubt that like fossil fuels, there’s been vast declines.



In sum the past 5 years post notable declines across several energy themes - though not all: 2 themes tracked by NEX Index, and WHPRO Index are up - as seen in Charts below. Volatile solar in brief periods can show sharp increases but with heavy downturns; interestingly it may be ongoing declines in price per watt for panels, inverters, balance of plant from growth and competition - and increasing solar penetration especially places like California - that at the same time may mean declines for margins and bottom-lines. Consolidation and gigawatts of growth, yes, but ‘pain’ for those players that haven’t reduced costs quickly enough to best competition. Broader U.S. listed clean energy has seen ‘a bit less pain’ than fossil fuels - though ‘pain’ is seen for many themes - yet less so Global NEX and WHPRO.

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Conclusion:

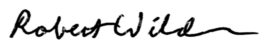
For 3<sup>rd</sup> Quarter 2016, the Clean Energy Index<sup>®</sup> (ECO) began near 40 and ended just over 40, for a negligible gain of just around +1%. Year to Date it's been volatile, down almost -20%. Or look since start of 2014: the clean energy theme and so ECO Index<sup>®</sup> at first had gained in Q1 2014, then fell and didn't re-touch those highs; declines were briefly broken by an upturn late last year, then clean energy fell Q1/Q2 2016 and went mostly sideways in Q3 for a clean energy theme that dropped hard at times while carrying much risk. Yet it must also be said that fossil fuels have fallen much harder still than green ECO: oil, coal & natural gas have all dropped farther than clean energy here over these past five years.

Progressive Energy Index (WHPRO) by contrast went strongly upside YTD - as global new energy (NEX) was mainly flat near nil, and ECO (like fossil fuels) were down year to date. So in sum WHPRO so far 'outperformed' YTD now at over +20% YTD, vs. NEX for new energy *worldwide* mostly outside the U.S. at near nil YTD, and ECO is down nearly -20% YTD.

There were 2 deletions from ECO for the start of Q4 of EFOI and TSL - and 2 additions for Q4 of ABY into Greener Utilities sector, and LYTS into Power Delivery; extant constituent SSNI was moved to Power Delivery. At a much different WilderHill Progressive Energy Index (WHPRO) to start Q4 there were the deletions of JCI and SSL - additions of CECE in Emission Reduction sector and HCCI in New Energy Activity sector - and NYLD replaced NRG.

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 an independent tracker PBW) for Descending Weights & Components in late-Q3 on 9/9/2016 or about 2 weeks before the rebalance to start Q4. 39 stocks:**

<b><u>Name</u></b>	<b><u>Ticker</u></b>	<b><u>Weight</u></b>
TerraForm Power Inc	TERP	4.55
Trina Solar Ltd ADR	TSL	4.46
Advanced Energy Industries	AEIS	4.36
Ormat Technologies Inc	ORA	3.82
TerraForm Global Inc	GLBL	3.79
Sociedad Quimica de Chile ADR	SQM	3.74
Daqo New Energy Corp ADR	DQ	3.73
Silver Spring Networks Inc	SSNI	3.71
JA Solar Holdings Co Ltd ADR	JASO	3.57
Itron Inc	ITRI	3.53
Hexcel Corp	HXL	3.44
Air Products & Chemicals Inc	APD	3.39
Tesla Motors Inc	TSLA	3.36
Pattern Energy Group Inc	PEGI	3.29
Sunrun Inc	RUN	3.22
SolarEdge Technologies Inc	SEDG	3.19
Gentherm Inc	THRM	3.17
Renewable Energy Group Inc	REGI	3.14
Quanta Services Inc	PWR	3.10
Plug Power Inc	PLUG	2.99
Ameresco Inc	AMRC	2.95
Canadian Solar Inc	CSIQ	2.88
Cree Inc	CREE	2.84
ITC Holdings Corp	ITC	2.76
First Solar Inc	FSLR	2.61
Hanwha Q CELLS Co Ltd ADR	HQCL	2.61
SolarCity Corp	SCTY	2.58
Universal Display Corp	OLED	2.45
SunPower Corp	SPWR	2.23
Ballard Power Systems Inc	BLDP	0.78
Sky Solar Holdings Ltd ADR	SKYS	0.51
FuelCell Energy Inc	FCEL	0.48
Maxwell Technologies Inc	MXWL	0.47
EnerNOC Inc	ENOC	0.45
ReneSola Ltd ADR	SOL	0.43
American Superconductor Corp	AMSC	0.42
Enphase Energy Inc	ENPH	0.41
Hydrogenics Corp	HYGS	0.32
Energy Focus Inc	EFOI	0.32

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

### **INDEX (ECO) SECTOR & STOCK WEIGHTS FOR START OF Q4 2016. 39 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** - 26% sector weight (8 stocks @3.25% each)

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

*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.

#### **Power Delivery & Conservation** - 24% sector weight (8 stocks @2.87%; +2 \*banded)

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

\**American Superconductor*, AMSC. Wind, grid conditioning; superconductors.

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

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

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

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

*LSI Industries*, LYTS. Lighting, LEDs, is vertically integrated U.S. manufacturer.

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

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

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

#### **Energy Conversion** - 17% sector weight (5 stocks @3.10% each; +3 \*banded)

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

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

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

\**FuelCell Energy*, FCEL. Large fuel cells, high-operating temps, multiple-fuels.

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

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

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

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

#### **Greener Utilities** - 16% sector weight (5 stocks @3.10% each; +1 \*banded stock)

*Atlantica Yield*, ABY. Yieldco, Contracted renewables assets, also transmission.

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

\**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, developed nations, yieldco.

#### **Energy Storage** - 10% sector weight (3 stocks @3.16% each; +1 \*banded stock)

\**Maxwell*, MXWL. Ultracapacitors, an alternative assisting batteries in hybrids.

*SolarCity*, SCTY. Solar + Energy Storage, for homes, businesses, governments.

*Chemical & Mining Co. of Chile*, SQM. Lithium, energy storage, large producer.



Tesla Motors, TSLA. Electric vehicles, pure-play in EVs and energy storage.

**Cleaner Fuels** - 7% sector weight (2 stocks @3.25% each; +1 \*banded stock)

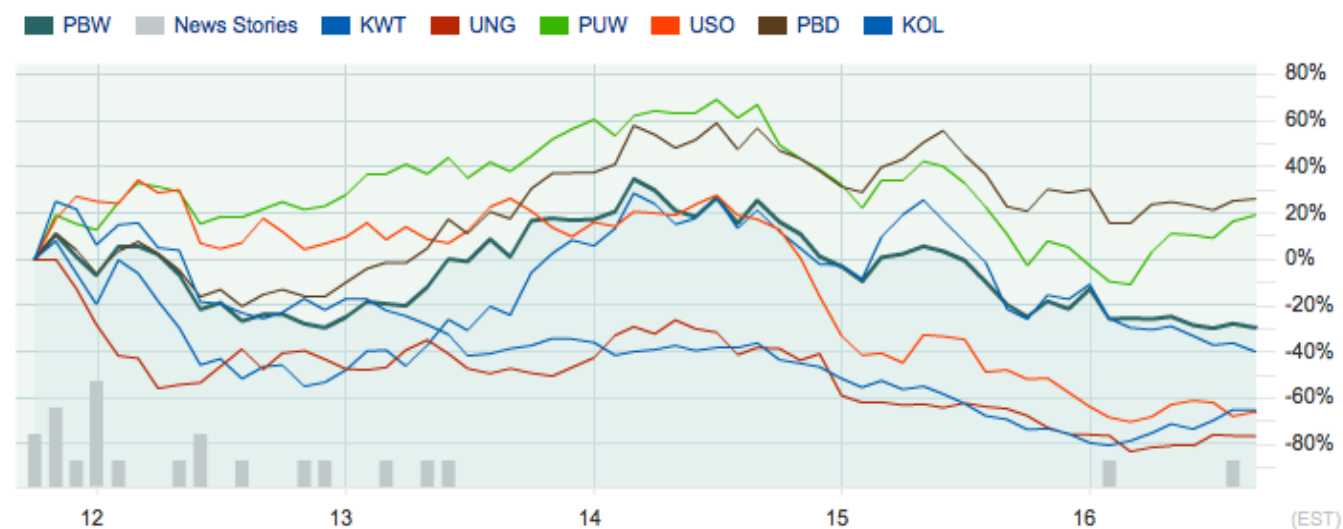
*Air Products & Chemicals*, APD. Hydrogen, is a supplier of industrial gases.

\**Hydrogenics*, HYGS. Hydrogen, fuel and electrolysis for fuel cells, H2 storage.

*Renewable Energy Group*, REGI. Biodiesel, natural fats, oils, grease to biofuels.

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**ECO (via independent tracker, bold) along with many 'tough times' clean - & fossil fuel themes the last roughly 5 years period to Aug. 31, 2016, a time of big declines:**



Source: Bigcharts.com

As seen in ECO (via tracker in bold) and several others above, the last 5 years have been very rough for some themes in clean, alternative, and traditional fossil fuel energy. For example despite ECO falling hard and ending this period down near some -30%, it still sits above a tracker for a Solar-only Index (blue), well above an oil tracker, orange, and above even a tracker for Coal also blue near bottom despite coal rising sharply in 2016, and above a Natural Gas Tracker at very bottom (burnt orange). These last 5 years have been remarkably tough across many energy themes including fossil fuels: oil, coal, natural gas! But Not All relevant energy themes - as indicated in this Chart and next paragraph...

Finishing positive with 'much better' results not far from each other are global clean/ new energy theme NEX, brown, at very top (tracker PBD) - and nearby in light green is (ironically 'brown-themed') WilderHill Progressive Energy Index (WHPRO) - both relatively and absolutely positive at around +25 and +20% respectively for this 5 year period. It is interesting to see Global new energy captured by NEX do relatively quite 'better' than ECO from 2013 to late Q3 2016 above as they're both in clean energy. (Just noting the US Dollar has appreciated at times against several currencies including Yen, GB Pound, Euro).

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Appendix III: WHPRO Index seen via an independent tracker PUW; component weights as seen in late-Q3 2016 on 9/9/2016 or about 2 weeks before the rebalance to start Q4. \*40 Stocks on this date\*:

<b>Name</b>	<b>Ticker</b>	<b>Weight</b>
Chesapeake Energy Corp	CHK	4.37
Cia Energetica de Minas	CIG	3.52
Green Plains Inc	GPRE	3.38
Cosan Ltd	CZZ	3.07
Southwestern Energy Co	SWN	3.02
Tata Motors Ltd ADR	TTM	2.97
Golar LNG Ltd	GLNG	2.88
ESCO Technologies Inc	ESE	2.86
General Cable Corp	BGC	2.85
AO Smith Corp	AOS	2.82
MasTec Inc	MTZ	2.81
Chart Industries Inc	GTLS	2.75
Veeco Instruments Inc	VECO	2.75
Woodward Inc	WWD	2.74
Regal Beloit Corp	RBC	2.72
Apogee Enterprises Inc	APOG	2.69
Acuity Brands Inc	AYI	2.67
Hannon Armstrong Sustain.	HASI	2.67
Andersons Inc/The	ANDE	2.67
Corning Inc	GLW	2.66
Tenneco Inc	TEN	2.66
Methanex Corp	MEOH	2.66
Emerson Electric Co	EMR	2.53
Eaton Corp PLC	ETN	2.52
McDermott International Inc	MDR	2.51
EnerSys	ENS	2.51
Range Resources Corp	RRC	2.45
Owens Corning	OC	2.42
WABCO Holdings Inc	WBC	2.39
Sasol Ltd ADR	SSL	2.31
Calpine Corp	CPN	2.24
FMC Corp	FMC	2.23
Altra Industrial Motion Corp	AIMC	2.22
Albemarle Corp	ALB	2.18
Covanta Holding Corp	CVA	2.02
NRG Energy Inc	NRG	1.97
Chicago Bridge & Iron Co NV	CBI	1.88
Clean Energy Fuels Corp	CLNE	0.63
Luxfer Holdings PLC ADR	LXFR	0.42
Kandi Technologies Group Inc	KNDI	0.38

\*note: Johnson Controls (JCI) removed intra-Quarter from Index in Q3.

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

**Sectors & Stock Weightings: WilderHill Progressive Energy Index (WHPRO) for start of Q4 2016. 41 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 - 23% Sector Weight (8 stocks @2.87% 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.

**Better Efficiency - 22% Sector Weight (8 stocks @2.75% 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  
*Regal Beloit*, RBC. Energy efficient motors, in commercial, industrial, homes etc.  
*Woodward*, WWD. Energy controllers, optimization, industrial turbines in generation.

**Conversion & Storage - 24% Sector weight (10 stocks @2.40% each)**

*Albermarle*, ALB. Lithium & Lithium Compounds; for energy storage, transportation.  
*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.  
*FMC*, FMC. Lithium producer for carbonate, metal, expanding hydroxide capacity.  
*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.

**Emission Reduction - 13% Sector Weight (4 stocks @2.87% each +3 \*banded)**

\**CECO Environmental*, CECE. End-of-pipe emissions controls and pollution reduction.  
*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 material, reduced emissions, gaseous storage.  
*McDermott*, MDR. Infrastructure, reduces coal emissions, constructs WtE facilities.  
*Tata Motors*, TTM. Smaller & 'nano' vehicles, India-based with worldwide sales.  
*Tenneco*, TEN. Automotive end-of-pipe emissions controls, catalytic converters.

**New Energy Activity - 8% Sector weight (3 stocks @2.50% each +1 \*banded stock).**

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

*Heritage Crystal Clean*, HCCI. Oil re-refining, modern waste reuse and recycling.  
*Owens Corning*, OC. Materials lightening, building insulation composite materials.  
*Veeco Instruments*, VECO. Design, manufactures equipment for LED production.

**Utility - 10% Sector weight (4 stocks @2.50% each)**

*Calpine*, CPN. Natural Gas & Geothermal, North America, lower-carbon assets  
*Companhia Energetica de Minas Cemig*, CIG. Brazil Utility, large hydroelectric.  
*Hannon Armstrong*, HASI. Energy efficiency, capital & finance for infrastructure.  
*NRG Yield*, NYLD. Contracted power generation and thermal, also some renewables.

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**Chart for the WHPRO Index via an independent tracker (in bold) for Past 5 years to August 31, 2016 - versus just the ECO Index in light blue via an independent tracker:**



Source: Bigcharts.com

WHPRO Index the last 5 years to August 31, 2016 seen via a tracker above. This includes a period of WHPRO rising from start Summer 2011 to Summer 2014 - when it hit a relative high - next dropping strongly to a February nadir earlier in this year - and then rising strongly so far this Year to Date 2016 - here finishing up some +20%, while ECO is down around -30%. Progressive WHPRO for less carbon/pollution from fossil fuels has moved this period rather unlike 'green energy'; an ECO tracker blue, dropped relatively much harder in 2012, and again from 2014 through at least the end of this period in latter 2016.

Another observation is this chart above is quite different from that for last 5 years to Q2 /June 2016, as was shown in the previous ECO Quarterly Report; that chart had shown WHPRO finishing down about -20%, with ECO down nearly -60%. One difference can be attributed to starting date points, June 2011 vs Sept 2011 - independent WHPRO tracker starts lower here near \$20.00 - the ECO tracker starts lower at near \$5.50. So sharp declines back 5 years ago over Q3 2011, ensure Indexes post 'better' past-5 year returns now.

That said, all 3 WilderHill Indexes are here to start Q4 2016 far below their own previous all time highs. ECO for example is much lower - it having been in 2007 several-fold higher - this in part due to a solar sub-theme that in particular fell greatly from its peaks.

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**Appendix V: WilderHill New Energy Global Innovation Index (NEX)** seen late-Q3 2016 via  
 an independent tracker (PBD) on 9/9/16 or ~2 weeks before Rebalance to start Q4. 93 in tracker:

<b>Name</b>	<b>Ticker</b>	<b>Weight</b>
Epistar Corp	2448	2.38
Kingspan Group PLC	KSP	2.38
Itron Inc	ITRI	2.37
Veeco Instruments Inc	VECO	2.28
Senvion SA	SEN	2.14
Seoul Semiconductor Co Ltd	046890 KS	2.13
China Power New Energy Develop.	735	2.11
Vestas Wind Systems A/S	VWS DC	2.09
Gamesa Corp Tecnologica SA	GAM	2.08
Acuity Brands Inc	AYI	2.01
Huaneng Renewables Corp Ltd	958	2.01
China High Speed Transmiss.	658	1.97
Nibe Industrier AB	NIBEB SS	1.93
Cree Inc	CREE	1.91
China Longyuan Power Group	916	1.90
Meidensha Corp	6508	1.88
Tesla Motors Inc	TSLA	1.87
TransAlta Renewables Inc	RNW	1.85
Pattern Energy Group Inc	PEGI	1.82
Xinjiang Goldwind Science & Tech.	2208	1.82
EDP Renovaveis SA	EDPR	1.79
TerraForm Power Inc	TERP	1.77
Renewables Infrastructure Group	TRIG LN	1.74
Saeta Yield SA	SAY	1.74
Greencoat UK Wind PLC/Funds	UKW LN	1.71
Universal Display Corp	OLED	1.64
Trina Solar Ltd ADR	TSL	1.61
Nordex SE	NDX1	1.60
Boralex Inc	BLX	1.59
China Everbright International Ltd	257	1.43
Energy Absolute PCL	EA-R TB	1.35
GCL-Poly Energy Holdings Ltd	3800	1.35
Xinyi Solar Holdings Ltd	968	1.27
Atlantica Yield plc	ABY	1.27
Sao Martinho SA	SMT03	1.21
GCP Infrastructure Investments Ltd	GCP LN	1.18
Canvest Environmental Protection	1381	1.15
BYD Co Ltd	1211	1.14
Novozymes A/S	NZYMB DC	1.06
Canadian Solar Inc	CSIQ	1.04
Ormat Technologies Inc	ORA	1.04
FDG Electric Vehicles Ltd	729	1.03
SolarEdge Technologies Inc	SEDG	1.03
GS Yuasa Corp	6674	1.02
Mercury NZ Ltd	MCY	1.01

Verbund AG	VER AV	1.00
Samsung SDI Co Ltd	006400 KS	0.98
First Solar Inc	FSLR	0.95
Gigasolar Materials Corp	3691	0.94
Energy Development Corp	EDC	0.90
Contact Energy Ltd	CEN	0.90
SolarCity Corp	SCTY	0.89
Innergex Renewable Energy Inc	INE	0.89
SunPower Corp	SPWR	0.81
SMA Solar Technology AG	S92	0.81
Taewoong Co Ltd	044490 KS	0.74
China Titans Energy Tech.	2188	0.71
Silver Spring Networks Inc	SSNI	0.67
Dialight PLC	DIA LN	0.65
China Singyes Solar Technologies	750	0.59
Wasion Group Holdings Ltd	3393	0.59
Ameresco Inc	AMRC	0.57
Ballard Power Systems Inc	BLD	0.56
Everlight Electronics Co Ltd	2393	0.55
Utilitywise PLC	UTW LN	0.55
Odelic Co Ltd	6889	0.55
AIXTRON SE	AIXA	0.54
Ricardo PLC	RCDO LN	0.53
EnerNOC Inc	ENOC	0.50
Kandi Technologies Group Inc	KNDI	0.45
Green Plains Inc	GPRE	0.43
United Photovoltaics Group Ltd	686	0.42
JA Solar Holdings Co Ltd ADR	JASO	0.37
West Holdings Corp	1407	0.37
Capital Stage AG	CAP	0.37
Takuma Co Ltd	6013	0.37
Vivint Solar Inc	VSLR	0.36
Albioma SA	ABIO FP	0.35
FuelCell Energy Inc	FCEL	0.35
Meyer Burger Technology AG	MBTN SW	0.35
Shunfeng International Clean	1165	0.35
Sino-American Silicon Products	5483	0.33
Motech Industries Inc	6244	0.33
Renewable Energy Group Inc	REGI	0.33
SPCG PCL	SPCG-R TB	0.33
Neo Solar Power Corp	3576	0.32
Plug Power Inc	PLUG	0.29
VERBIO Vereinigte BioEnergie AG	VBK	0.29
Enphase Energy Inc	ENPH	0.28
Maxwell Technologies Inc	MXWL	0.26
Akenerji Elektrik Uretim AS	AKENR TI	0.25
REC Silicon ASA	REC	0.24
Blue Solutions	BLUE FP	0.23

\*note above: Johnson Controls (JCI) removed intra-Quarter from Index in Q3.

\*\*note above: Mighty River Power had a name, ticker change in Q3 and became Mercury NZ.

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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>

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#### Appendix VI:

WilderHill New Energy Global Innovation Index (NEX) for start of Q4 2016. 94 stocks.

Grouped here by their NEX Index Sector:

<b><u>NEX Index Constituent Name</u></b>	<b><u>Recent Main NEX Sector</u></b>	<b><u>Weight for Q4 2016</u></b>
Plug Power Inc	ECV	0.24%
Ballard Power Systems Inc	ECV	0.24%
FuelCell Energy Inc	ECV	0.24%
CAVERION	EEF	1.95%
Tesla Motors Inc	EEF	1.95%
Acuity Brands Inc	EEF	1.95%
Kingspan Group PLC	EEF	1.95%
Nibe Industrier AB	EEF	1.95%
Universal Display Corp	EEF	1.95%
Cree Inc	EEF	1.95%
Itron Inc	EEF	1.95%
Hannon Armstrong Sustainable Infra.	EEF	1.95%
Veeco Instruments Inc	EEF	1.95%
Epistar Corp	EEF	1.95%
Meidensha Corp	EEF	1.95%
Philips Lighting NV	EEF	1.95%
Silver Spring Networks Inc	EEF	0.56%
Everlight Electronics Co Ltd	EEF	0.56%
Wasion Group Holdings Ltd	EEF	0.56%
Ricardo PLC	EEF	0.56%
Kandi Technologies Group Inc	EEF	0.56%

Dialight PLC	EEF	0.56%
LSI Industries Inc	EEF	0.56%
Ameresco Inc	EEF	0.56%
Odelic Co Ltd	EEF	0.56%
EnerNOC Inc	EEF	0.56%
China Titans Energy Technology	EEF	0.56%
Utilitywise PLC	EEF	0.56%
Byd Co Ltd	ENS	1.00%
GS Yuasa Corp	ENS	1.00%
FDG Electric Vehicles Ltd	ENS	1.00%
Blue Solutions	ENS	0.29%
Maxwell Technologies Inc	ENS	0.29%
Novozymes A/S	RBB	1.04%
China Everbright International Ltd	RBB	1.04%
Energy Absolute PCL	RBB	1.04%
Sao Martinho SA	RBB	1.04%
Drax Group PLC	RBB	1.04%
Canvest Environmental Protection	RBB	1.04%
Green Plains Inc	RBB	1.04%
Takuma Co Ltd	RBB	0.30%
Albioma SA	RBB	0.30%
Renewable Energy Group Inc	RBB	0.30%
VERBIO Vereinigte BioEnergie AG	RBB	0.30%
Mighty River Power Ltd	ROH	0.93%
Contact Energy Ltd	ROH	0.93%
Energy Development Corp	ROH	0.93%
Ormat Technologies Inc	ROH	0.93%
Innergex Renewable Energy Inc	ROH	0.93%
Verbund AG	ROH	0.27%
Akenerji Elektrik Uretim AS	ROH	0.27%
First Solar Inc	RSR	1.26%
Xinyi Solar Holdings Ltd	RSR	1.26%
GCL-Poly Energy Holdings Ltd	RSR	1.26%
SolarCity Corp	RSR	1.26%
Atlantica Yield plc	RSR	1.26%
TerraForm Power Inc	RSR	1.26%
SunPower Corp	RSR	1.26%
SMA Solar Technology AG	RSR	1.26%
Canadian Solar Inc	RSR	1.26%
Gigasolar Materials Corp	RSR	1.26%



SolarEdge Technologies Inc	RSR	1.26%
GCP Infrastructure Investments Ltd	RSR	0.36%
Shunfeng International Clean Energy	RSR	0.36%
Sino-American Silicon Products Inc	RSR	0.36%
Capital Stage AG	RSR	0.36%
SPCG PCL	RSR	0.36%
Neo Solar Power Corp	RSR	0.36%
Motech Industries Inc	RSR	0.36%
REC Silicon ASA	RSR	0.36%
Meyer Burger Technology AG	RSR	0.36%
China Singyes Solar Technologies	RSR	0.36%
United Photovoltaics Group Ltd	RSR	0.36%
JA Solar Holdings Co Ltd	RSR	0.36%
Vivint Solar Inc	RSR	0.36%
West Holdings Corp	RSR	0.36%
DONG Energy A/S	RWD	1.73%
Vestas Wind Systems A/S	RWD	1.73%
China Longyuan Power Group Corp	RWD	1.73%
EDP Renovaveis SA	RWD	1.73%
Xinjiang Goldwind Science & Tech.	RWD	1.73%
Gamesa Corp Tecnologica SA	RWD	1.73%
Huaneng Renewables Corp Ltd	RWD	1.73%
NRG Yield Inc	RWD	1.73%
Nordex SE	RWD	1.73%
TransAlta Renewables Inc	RWD	1.73%
Pattern Energy Group Inc	RWD	1.73%
China High Speed Trans. Equip.	RWD	1.73%
Renewables Infrastructure Group Ltd	RWD	1.73%
Boralex Inc	RWD	1.73%
Greencoat UK Wind PLC/Funds	RWD	1.73%
SENVION SA	RWD	1.73%
Saeta Yield SA	RWD	1.73%
China Power New Energy Develop.	RWD	1.73%

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\*The Global NEX Index only is a unique co-equal Partnership of three entities: Bloomberg New Energy Finance with a global presence; Josh Landess of First Energy Research; Dr. Rob Wilder - jointly as WilderHill New Energy Finance LLC (WHNEF). The NEX is produced by WHNEF.

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