



## Q2 2018 Quarterly Report: WilderHill Clean Energy Index<sup>®</sup>, June 30, 2018

For 2<sup>nd</sup> Quarter 2018, the Clean Energy Index<sup>®</sup> (ECO) began about 52 and it ended only slightly higher, also nearly 52, for a negligible gain that's near nil. For the first half year, Year to Date (YTD) it began near 53 for small decline YTD. Or back since start of 2017 when ECO was near 38, it since gained about roughly +36%. (At an independent tracker for the ECO Index<sup>®</sup>, it began 2018 near 25 and ended Q2 near 25 and so for a small loss here much like this Index; since the start of 2017 when near 19, and now 25 it has similarly gained since 2017).

Seen last 5 years to early June, clean energy as captured by ECO is down some by near -10%. Yet it should be noted 2 of 3 fossil fuels, Oil & Natural Gas have fallen harder and have gone much more negative last 5 years than ECO: oil & natural gas (but not coal) dropped *much* more last 5 years than clean energy. Coal rose steeply from 2016 to now just above ECO.

Quite different once again is Progressive Energy Index<sup>®</sup> (WHPRO) that generally excludes clean solar, wind & renewables: the differing WHPRO theme is for reducing CO<sub>2</sub> & pollution from, and for greater efficiencies in dominant energy today. In 2016 WHPRO moved up by nearly +40%, after prior falls (in a year when ECO declined). Then ECO did much 'better' in 2017 - while WHPRO was flat and is flattish since. We've seen WHPRO can move ways quite unlike ECO's theme (that 'can & does at times drop like a rock'); also that a differing WHPRO theme for reducing CO<sub>2</sub> in fossil fuels can be fairly non-correlative with both oil and coal.

For WilderHill<sup>®</sup> New Energy Global Innovation (NEX) capturing clean energy *worldwide* mostly outside the U.S., NEX 'underperformed' ECO a bit in Q2. Seen last 5 years, however, we note the NEX has done 'best' of 3 WilderHill Indexes - up near +30% ('up more strongly' than many varied energy Indexes and active funds). ECO is here down by about -10%, and Progressive is near nil this period. So in contrast to the NEX up, ECO just down, WHPRO nil - the 2 fossil fuels oil and natural gas are instead down strikingly seen in charts below, dropping some -70% for natural gas, and -50% for oil - while coal is close to nil ending about same as WHPRO.

Charts pages ahead show performances for past 12 months, and 10 years. Looking first at this clean energy theme, here's ECO in Q2 to late-June; note after China announced reductions in solar FiT support a voracious appetite that supported solar valuations fell, in June, as their government went from costly feed-in-tariffs - to reverse auction power-purchase agreements like "top-runner". That's pushed down most solar-themed Funds & Indexes late Q2:



Source: NYSE.com

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Looking next as usual back at a last 12 Months, here to May 2018 for varied energy themes in clean as well as traditional non-renewables, some sizeable differences stand out.

This Chart starting from the bottom, Natural Gas is clearly trailing, down some -20%. Pricing for that particular fossil fuel energy has crashed years now and causes may include fracking that opened up vast and cheap domestic U.S. gas supplies. Despite OPEC's attempts to put in a price floor, a glut from fracking has put something of a damper on achieving lasting U.S. price increases given shuttered wells might be re-opened and rather inexpensively:



Source: bigcharts.com

Next up and flat much of this past year is Progressive Energy Index, here near nil. As WHPRO's theme of reducing CO2 can mean some natural gas exposure for it replacing thermal coal somewhat in power generation, it's perhaps not surprising WHPRO faced headwinds.

Next just above that is an independent tracker for clean new energy mainly outside the U.S., captured by WilderHill New Energy Global Innovation Index (NEX) and here it's up just over +10% this period. Next and close to it up some +15% the past 12 months is an independent passive Index for a separate Global clean energy theme (not ours) as seen in its tracker.

Next up are differing Indexes and fund themes. One is an active global mutual fund for global new energy, up just over +20%. Also up just over +20% here is the major Nasdaq Index, QQQ. Next is an active mutual fund for global new energy that's up roughly +25%. Following that is coal up +30% which has risen strongly with a pro-Coal Presidency since 2016. Above that is Clean Energy ECO, up just over +30% as is seen in bold via its independent tracker.

Lastly, top 2 above are well up last 12 months to mid-May: one is Oil which has gained about +40%. And the highest almost throughout this entire period has been a solar-only Index as seen via its independent tracker; it ends this timeframe here up nearly +50%.

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As usual we'll step back for a longer view looking next at some 10 years, from around 2008 to Spring 2018 in a chart below. Included are fossil fuels and dramatic from farthest down at bottom is again Natural Gas which crashed here over some ~90%! Thus from bottom is natural gas, and just above it is a tracker for Solar-only also far down near -90%. Next and less down is Oil that had fallen hard but it has lately risen strongly. Hence natural gas, solar, and oil themes are all very strongly down when viewed for a past roughly 10 years.

Next up as we've seen for some time now, are 2 closely clumping themes: one is an active fund for alternative energy (long showing that it's pretty hard for a fund to beat an Index). And then just above it is ECO Index, via independent tracker. Those two are nearly-tied and while well down some -75%(!), are doing 'better' (down less) than Natural Gas, Solar, Oil.

Next up is Coal here down some -65% and a theme that once trailed badly; its tracker rose hard 2016/2017/and early 2018, despite facing pretty dismal economics in the U.S. Next up visibly above it is WilderHill Global New Energy, via tracker down some -55%. Among these varied themes then \*global clean energy and \*coal are doing somewhat 'better' of late - but then that's after big earlier falls hence they're still here down some -50% and -60%.

Next up above those 6 after a big gap is WilderHill Progressive (WHPRO) via tracker that's for reducing CO2 & improving efficiency in major energy today. It ends these 10 years down by some -15% yet it's the only energy theme here near nil when starting early. Note however it's still down in the past 10 years - and that many trackers don't begin 10 years ago:



Source: bigcharts.com

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## How have Individual constituents within ECO & WHPRO fared the past 52-weeks?

Returning to Clean Energy / Progressive and so ECO & WHPRO - we'll glance backwards from late May 2018 - to observe how the *constituents within* ECO & WHPRO fared last 52-weeks. In a review of individual components past Year for relative Lows, Highs etc to late-Q2 (May 21, 2018), we see Top Performers in ECO are again spread diversely as in the last Quarter. Not surprisingly some new leaders in Q2 come from differing places vs. Q1 2018 'winners / losers' (and some of the standouts from Q4 2017 are again noted here). By contrast the Top in WHPRO Index for Q2 have many that are now relevant to natural gas activities.

### ECO:

For Q2 2018 individual constituents near their own 52-week Highs as of late May include:

AMSC: in both wind power & grid as two areas at heart of this clean energy theme and near its own highs though a smaller sized/weighted company in ECO and so \*banded at 0.50%; AMRC: next is in energy services, also near its highs in both Q4/Q1 but has backed off here; CREE: in LED lighting was near highs in Q1 and again here (though was not so near Q4 2017); DQ: in solar cell polysilicon and wafers is near highs after gaining sizably the past 52 weeks; (FSLR: in thin film large scale solar had been near highs in Q4 2017 but it is not so close now); HXL: maker of lightweight composites such as for wind blades & spars is once again near highs; MYRG: in grid transmission and distribution it's here nearby highs; also REGI: in biofuels; and SEDG: that's working in microinverters; RUN: in solar power; and TPIC: wind power materials. Hence there's pretty strong diversity among Top Performers recently within ECO Index.

ECO's constituents near their 52-week Lows were a diverse lot too. AQMS is here as it was in Q4 2017 + Q1 2018 and it is in water-based battery recycling though it's moved upwards a bit; BLDP: in fuel cells, is here near 52-week lows in May 2018; ITRI: in energy use meters, is here; LYTS: in LED lighting is near lows; OLED: is present here as well, and is in LEDs and lighting; ORA: large geothermal firm is here again as it was in Q1; and PEGI which is in wind power.

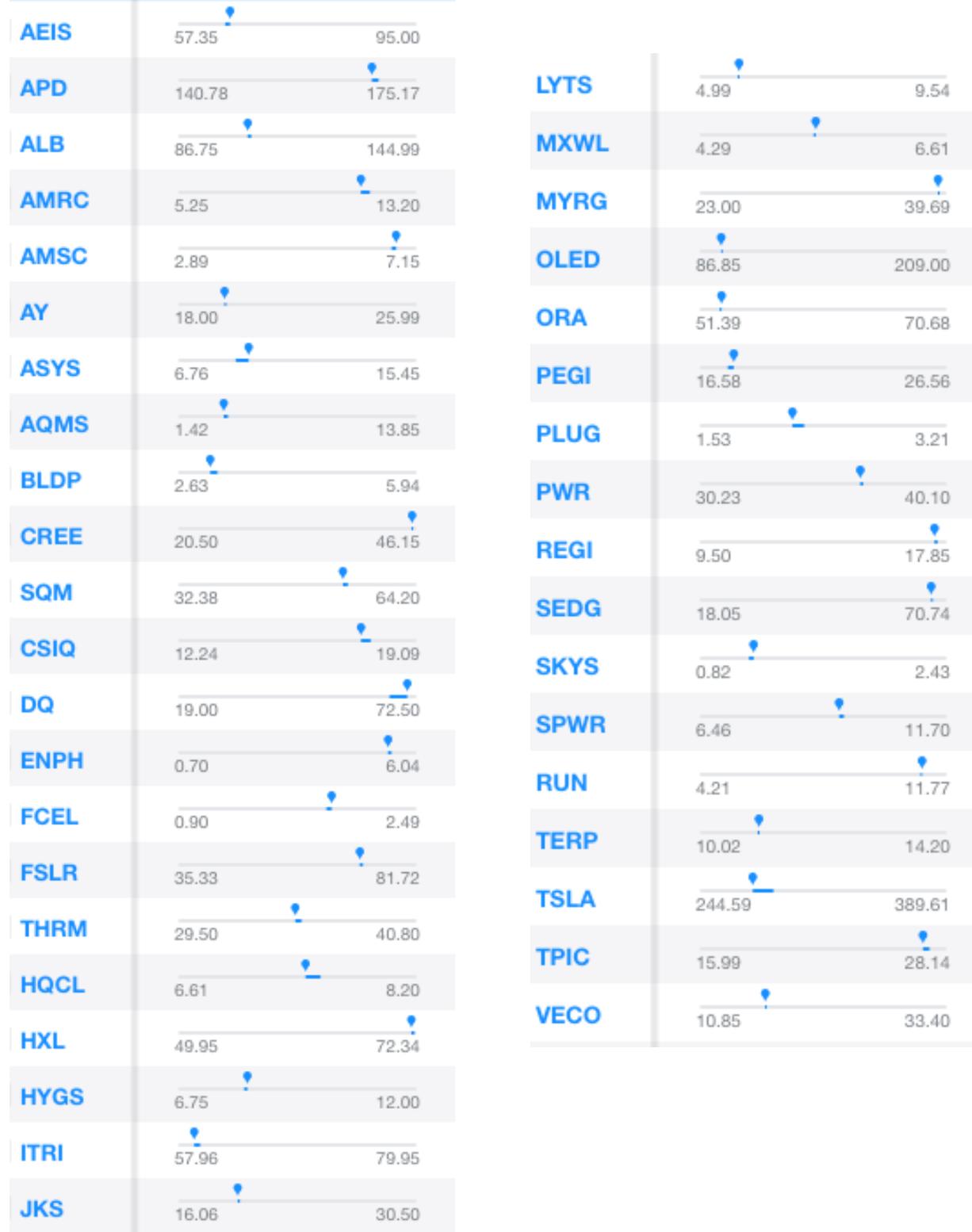
### WHPRO:

WHPRO 'winners' for near 52-weeks Highs are more clumped - here around natural gas: AGR: seen also in Q4 2017 is in natural gas, greener energy & grid though has come off highs; GTLS: across LNG value chain for natural gas which is one replacement for diesel and coal; EMR: is again seen here like past 2 Quarters in electric power services including natural gas; GLNG: large independent operator for midstream marine-based liquified natural gas activity; LXFR: is in high performance materials and gas cylinders including natural gas containment; and MEOH: which is in methanol used for various industrial activities and needs.

WHPRO lows like Q1 2018 & Q4 of 2017 weren't tied to a single theme, though we see fewer natural gas-related firms, which had been nearer to lows last 2 Quarters. In Q2 2018 we see AYI: in LEDs and lighting products; and once again HDSN which works in recycling refrigerants; LDL: in heat/thermal abatement and filtration; OC: building energy efficiency and insulation; PEIX: in ethanol was near its lows Q4 2017, and up a bit off those in Q1, but back here now; REX: in ethanol; and TTM a conglomerate working in small efficient vehicles is near its lows. In sum several firms that were 'near lows' Q1 have now moved off that list, including some in natural gas where there's now recent highs, and the Lows are a fairly more diverse lot.

The following page is first for ECO's highs / lows etc. The subsequent page is WHPRO:

**ECO Index Highs & Lows of Individual Components in Past 52 weeks to May 21, 2018:**



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**WHPRO Index Highs/ Lows of Components**  
 Past 52 weeks to May 21, 2018:

<b>AIMC</b>	38.80	53.70
<b>ANDE</b>	29.60	38.05
<b>AOS</b>	53.23	68.39
<b>APOG</b>	37.24	59.76
<b>AGR</b>	43.13	54.55
<b>AYI</b>	109.98	208.83
<b>GTLS</b>	32.04	66.16
<b>CECE</b>	4.00	10.69
<b>CHK</b>	2.53	5.81
<b>CIG</b>	1.89	2.93
<b>CLNE</b>	1.31	3.05
<b>GLW</b>	26.11	35.10
<b>CZZ</b>	5.63	11.89
<b>CVA</b>	13.00	17.30
<b>ETN</b>	69.82	89.85
<b>ENS</b>	61.33	84.24
<b>EMR</b>	57.39	74.45
<b>ESE</b>	50.30	66.80
<b>FCX</b>	11.05	20.25
<b>FMC</b>	71.43	98.70
<b>GPRE</b>	15.60	23.70
<b>GLNG</b>	19.32	35.54
<b>HCCI</b>	14.35	25.20
<b>HASI</b>	17.33	25.28

<b>HDSN</b>	2.20	10.40
<b>KNDI</b>	3.50	9.90
<b>LXFR</b>	11.30	18.39
<b>LDL</b>	37.50	60.00
<b>MTZ</b>	38.40	55.53
<b>MDR</b>	16.14	27.21
<b>MEOH</b>	39.48	71.51
<b>NYLD</b>	15.55	20.15
<b>OC</b>	60.62	96.52
<b>PEIX</b>	2.75	7.50
<b>RRC</b>	11.93	25.43
<b>RBC</b>	67.84	87.50
<b>REX</b>	70.48	102.00
<b>SWN</b>	3.42	7.13
<b>TTM</b>	21.75	37.62
<b>WBC</b>	118.11	162.20
<b>WWD</b>	65.76	89.30

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Briefly glancing back at mid-Q2 2018 here, from the start of 2017 for performance of the ECO Index tracker vs. fossil fuels since that 2017, it's a bit interesting to see in the Chart below to mid-May 2018. Natural Gas in burnt orange again is at far bottom down some -30% here, and that is part of its rather longer-sluggishness.

Oil in blue, on the other hand, has shown a sharp increase especially in the past 12 months, but though it's still mainly is lagging behind ECO/others though up some +25%. Coal, in brown has been showing sharp increases; previously it was at one point up near +50%, here well-off those heights so 'only' around half that but is rebounding some +25%. An active fund for global new energy (similar to NEX theme) in orange is well up too, near +30% over this period.

A tracker for ECO is up near +50% over this period, reflecting strong gains in clean energy:



Source: Bigcharts.com

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Conclusion:

For 2<sup>nd</sup> Quarter 2018, the Clean Energy Index® (ECO) began about 52 and it ended only slightly higher, also nearly 52, for a negligible gain that's near nil. For the first half year, Year to Date (YTD) it began near 53 for small decline YTD. Or back since start of 2017 when ECO was near 38, it since gained about roughly +36%. (At an independent tracker for the ECO Index®, it began 2018 near 25 and ended Q2 near 25 and so for a small loss here much like this Index; since the start of 2017 when near 19, and now 25 it has similarly gained since 2017).

Seen last 5 years, clean energy/ as captured by ECO is down somewhat by near -10%. Yet it should be noted that 2 of the 3 fossil fuels, Oil & Natural Gas have fallen harder and gone much more negative last 5 years than ECO: oil & natural gas (but not coal) dropped *much* more last 5 years than clean energy. Coal rose steeply from 2016 to here just above ECO.

For WilderHill® New Energy Global Innovation (NEX) capturing clean energy *worldwide* mostly outside the U.S., NEX 'underperformed' ECO a bit in Q2. Seen last 5 years, however, we note the NEX has done 'best' of 3 WilderHill Indexes - up near +30% ('up more strongly' than many varied energy Indexes and active funds). ECO is here down by about -10%, and Progressive is near nil this period. So in contrast to the NEX up, ECO just down, WHPRO nil - the 2 fossil fuels oil and natural gas are instead down strikingly seen in charts below, dropping some -70% for natural gas, and -50% for oil - while coal is close to nil ending about same as WHPRO.

There were no changes to the ECO Index for start of Q3 2018. There were 2 deletions of HDSN and PEIX from WHPRO for Q3. As always, we welcome your thoughts and suggestions.

Sincerely,



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

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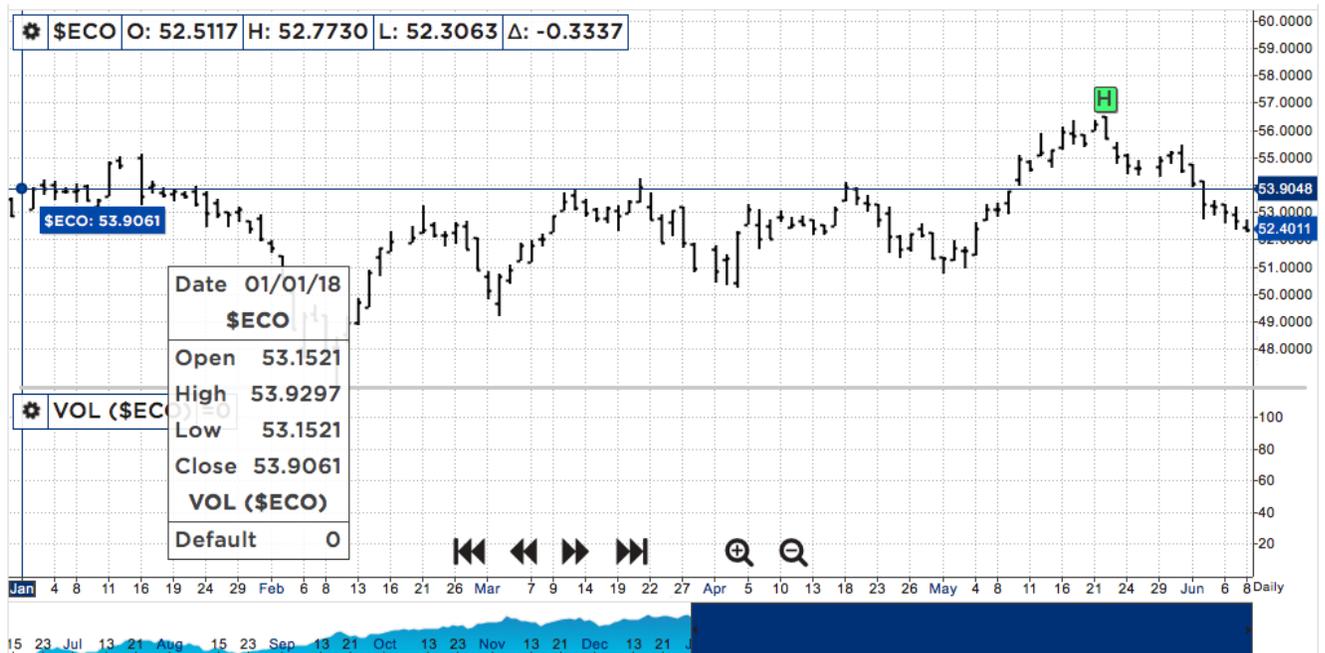
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**Appendix I:**  
**ECO Index (via independent tracker PBW) Descending Weights & Components seen**  
**late-Q2 on 6/14/2018, about ~2 weeks before rebalance for Q3 2018. 39 stocks:**

<b><u>Name</u></b>	<b><u>HoldingsTicker</u></b>	<b><u>Weight</u></b>
Sunrun Inc	RUN	4.7
Renewable Energy Group Inc	REGI	3.8
Enphase Energy Inc	ENPH	3.8
Cree Inc	CREE	3.7
TPI Composites Inc	TPIC	3.6
Hexcel Corp	HXL	3.5
MYR Group Inc	MYRG	3.4
Tesla Inc	TSLA	3.4
Gentherm Inc	THRM	3.3
SunPower Corp	SPWR	3.3
Plug Power Inc	PLUG	3.1
Quanta Services Inc	PWR	3.1
TerraForm Power Inc	TERP	3.0
Sociedad Quimica y Minera Chile	SQM	3.0
Veeco Instruments Inc	VECO	3.0
Pattern Energy Group Inc	PEGI	3.0
Atlantica Yield plc	AY	3.0
Ormat Technologies Inc	ORA	2.9
Advanced Energy Industries Inc	AEIS	2.9
Albemarle Corp	ALB	2.8
SolarEdge Technologies Inc	SEDG	2.8
Air Products & Chemicals Inc	APD	2.8
Ameresco Inc	AMRC	2.8
Universal Display Corp	OLED	2.6
Ballard Power Systems Inc	BLDP	2.6
Maxwell Technologies Inc	MXWL	2.6
Hanwha Q CELLS Co Ltd ADR	HQCL	2.6
Daqo New Energy Corp ADR	DQ	2.4
First Solar Inc	FSLR	2.4
Itron Inc	ITRI	2.3
Canadian Solar Inc	CSIQ	2.3
JinkoSolar Holding Co Ltd ADR	JKS	2.1
Aqua Metals Inc	AQMS	0.7
American Superconductor Corp	AMSC	0.6
Amtech Systems Inc	ASYS	0.5

FuelCell Energy Inc	FCEL	0.5
Hydrogenics Corp	HYGS	0.4
Sky Solar Holdings Ltd ADR	SKYS	0.4
LSI Industries Inc	LYTS	0.3

**ECO Index for the 2018 Year to Date through June 8, 2018**



Source: NYSE.com

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

### **INDEX (ECO) SECTOR & STOCK WEIGHTS FOR START OF Q3 2018. 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** - 29% weight (9 stocks @3.22% 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.

*JinkoSolar*, JKS. Solar, wafers through solar modules, China-based OEM.

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

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

*TPI Composites*, TPIC. Wind Blades; also light-weighting for transportation.

#### **Power Delivery & Conservation** - 15% sector weight (5 stocks @2.90%; +1 \*banded)

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

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

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

*MYR Group*, MYRG. Transmission and Distribution, includes solar & wind farms.

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

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

#### **Energy Conversion** - 23% sector weight (7 stocks @3.07% each; +3 \*banded)

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

\**Amtech*, ASYS. Equipment Manufacturer, solar, LEDs lights, semiconductors.

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

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

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

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

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

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

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

*Veeco*, VECO. Thin film equipment, for LEDs, energy efficient electronics.

#### **Greener Utilities** - 12% sector weight (4 stocks @2.87% each; +1 \*banded stock)

*Atlantica Yield*, AY. 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 Power*, TERP. Owns operates solar/wind, developed nations, yieldco.

#### **Energy Storage** - 15% sector weight (5 stocks @2.90% each; + 1 banded stock)

*Albermarle*, ALB. Lithium, specialty materials in batteries; for energy storage.

\**Aqua Metals*, AQMS. Recycling lead acid batteries, eliminating toxic wastes.

*Enphase*, ENPH. Microinverters, also energy storage systems and software.

*Maxwell*, MXWL. Ultracapacitors, an alternative to batteries as in hybrids.

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

Tesla Motors, TSLA. Electric vehicles, solar; purer-play in EVs & energy storage.

**Cleaner Fuels** - 6% sector weight (2 stocks @2.75% 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 in bold) plus other key clean & fossil fuel themes over the past 5 years to mid-May 2018; these were some 'tough times' with big declines:**



Source: bigcharts.com

As seen by ECO (via a tracker bold) plus several other themes above, these last 5 years were rough for several themes across clean and alternative energy & the traditional fossil fuels. For example despite ECO falling hard and ending this period only near nil, this clean energy theme still is well above an oil tracker, as well as a Natural Gas tracker both negative down some -60% to -70%, and it nearby a tracker for Coal still underwater but rising fast.

Clean energy is 'only' back to zero; yet the fossil fuels are down pretty significantly.

A tracker for Solar, once far at top, then fell hard and has re-risen again to go modestly over ECO. Moderately here below ECO, is a Progressive WHPRO tracker that's sideways after 2016. The last 5 years were remarkably tough across many energy themes, including the fossil fuels oil & natural gas! (Coal rising fast). But Not All Energy themes suffered so harshly...

Of some note for it finishing positively & doing 'much better' is global new energy NEX Index with its tracker at very top in this timeframe. NEX is here up near +30% past 5 years. (The mostly non-energy NASDAQ QQQ did much better than that). It's interesting that Global clean/new energy as captured by NEX, did relatively 'better' than ECO since both are in clean energy, though the former's theme is mainly outside the U.S. The NEX also did quite 'better' than a separate independent Index, and a fund for global clean energy.

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**Appendix III: WHPRO Index via independent tracker PUW; component weights seen late-Q2 on 6/14/2018 or about ~2 weeks before rebalance for Q3 2018. 42 Stocks:**

<b><u>Name</u></b>	<b><u>Symbol</u></b>	<b><u>Weight</u></b>
Chesapeake Energy Corp	CHK	4.603
Green Plains Inc	GPRE	3.71
Southwestern Energy Co	SWN	3.523
Methanex Corp	MEOH	3.457
Range Resources Corp	RRC	3.293
Andersons Inc/The	ANDE	3.171
REX American Resources	REX	2.954
EnerSys	ENS	2.932
FMC Corp	FMC	2.922
Chart Industries Inc	GTLS	2.902
Regal Beloit Corp	RBC	2.871
McDermott International Inc	MDR	2.858
Corning Inc	GLW	2.858
Covanta Holding Corp	CVA	2.779
MasTec Inc	MTZ	2.746
Woodward Inc	WWD	2.735
Emerson Electric Co	EMR	2.661
Apogee Enterprises Inc	APOG	2.572
Golar LNG Ltd	GLNG	2.524
AO Smith Corp	AOS	2.518
ESCO Technologies Inc	ESE	2.482
Tata Motors Ltd ADR	TTM	2.464
Tenneco Inc	TEN	2.451
Freeport-McMoRan Inc	FCX	2.451
Avangrid Inc	AGR	2.441
NRG Yield Inc	NYLD	2.439
Hannon Armstrong Sustain.	HASI	2.377
Altra Industrial Motion Corp	AIMC	2.376
Eaton Corp PLC	ETN	2.302
WABCO Holdings Inc	WBC	2.299
Acuity Brands Inc	AYI	2.243
Cosan Ltd	CZZ	2.227
Lydall Inc	LDL	2.091
Heritage-Crystal Clean Inc	HCCI	1.922
Owens Corning	OC	1.907
Cia Energetica de Minas	CIG	1.654

Clean Energy Fuels Corp	CLNE	0.852
LUXFER HOLDINGS PLC	LXFR	0.664
CECO Environmental Corp	CECE	0.624
Kandi Technologies Group	KNDI	0.478
Pacific Ethanol Inc	PEIX	0.432
Hudson Technologies Inc	HDSN	0.237

**WHPRO for the Year to Date 2018 through June 8, 2018**



Source: NYSE.com

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

**INDEX (ECO) SECTOR & STOCK WEIGHTS FOR START OF Q3 2018. 39 STOCKS.**

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

*JinkoSolar*, JKS. Solar, wafers through solar modules, China-based OEM.

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

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

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**Power Delivery & Conservation** - 15% sector weight (5 stocks @2.90%; +1 \*banded)

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

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

*MYR Group*, MYRG. Transmission and Distribution, includes solar & wind farms.

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

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

**Energy Conversion** - 23% sector weight (7 stocks @3.07% each; +3 \*banded)

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

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

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

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

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

*Veeco*, VECO. Thin film equipment, for LEDs, energy efficient electronics.

**Greener Utilities** - 12% sector weight (4 stocks @2.87% each; +1 \*banded stock)

*Atlantica Yield*, AY. 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 Power*, TERP. Owns operates solar/wind, developed nations, yieldco.

**Energy Storage** - 15% sector weight (5 stocks @2.90% each; + 1 banded stock)

*Albermarle*, ALB. Lithium, specialty materials in batteries; for energy storage.

\**Aqua Metals*, AQMS. Recycling lead acid batteries, eliminating toxic wastes.

*Enphase*, ENPH. Microinverters, also energy storage systems and software.

*Maxwell*, MXWL. Ultracapacitors, an alternative to batteries as in hybrids.

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

*Tesla Motors*, TSLA. Electric vehicles, solar; purer-play in EVs & energy storage.

**Cleaner Fuels** - 6% sector weight (2 stocks @2.75% 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*, REGL. Biodiesel, natural fats, oils, grease to biofuels.

**Chart for WHPRO Index via independent tracker in bold for Past 5 years to mid-Q2 2018 - versus ECO Index as seen here in yellow via an independent tracker:**



Source: bigcharts.com

**WHPRO** here in **bold** for last 5 years to mid-Q2 2018 as seen via its tracker in bold, above. Following a modest rise for it into Summer 2015 hitting a relative high - then dropping strongly afterwards to an early 2016 nadir - and rising in 2016 - **WHPRO** has since gone mainly sideways. Thus it finishes down near -10% - while **ECO** which went up & has dropped far more in earlier timeframes - instead rose in 2017 and **ECO** ends this time here up near +10%.

Hence the **WHPRO** theme for less CO2/pollution from fossil fuels can move unlike the **ECO** basket; the latter had dropped relatively much harder early 2014 through late 2016.

That said all 3 WilderHill Indexes are now very far below their own previous all-time highs. **ECO** is much, *much* lower - having been in 2007 several-fold higher - (that crash in part due to the solar sub-theme's falling so greatly from its peaks) - and as noted the fossil fuels have all fallen too. So Charts can differ greatly, depending notably on their starting point/s. Moreover as always, past movements are not an indication of future performance.

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**Appendix V: WilderHill New Energy Global Innovation Index (NEX) late-Q2 via independent tracker (PBD) on 6/14/18 or ~2 weeks before Rebalance to start Q3 2018. 109 stocks:**

<b>Name</b>	<b>Symbol</b>	<b>Weight</b>
China Longyuan Power Group Corp Ltd	916	1.996
Nordex SE	NDX1	1.995
Kingspan Group PLC	KSP	1.989
Cree Inc	CREE	1.985
Tesla Inc	TSLA	1.92
Nibe Industrier AB	NIBEB SS	1.918
Pattern Energy Group Inc	PEGI	1.707
EDP Renovaveis SA	EDPR	1.675
Huaneng Renewables Corp Ltd	958	1.671
TransAlta Renewables Inc	RNW	1.67
Hannon Armstrong Sustainable Infra.	HASI	1.653
Renewables Infrastructure Group	TRIG LN	1.64
Meidensha Corp	6508	1.631
NRG Yield Inc	NYLD	1.622
Veeco Instruments Inc	VECO	1.577
China High Speed Transmission Equip.	658	1.565
Epistar Corp	2448	1.556
Credit Suisse Re. Estate Green	GREEN SW	1.544
Samsung SDI Co Ltd	006400 KS	1.53
Boralex Inc	BLX	1.529
Seoul Semiconductor Co Ltd	046890 KS	1.525
Sociedad Quimica y Minera de Chile	SQM	1.52
Orsted A/S	ORSTED DC	1.517
Landis+Gyr Group AG	LAND SW	1.498
Siemens Gamesa Renewable Energy SA	SGRE	1.491
Acuity Brands Inc	AYI	1.488
Green Plains Inc	GPRE	1.487
Universal Display Corp	OLED	1.484
Vestas Wind Systems A/S	VWS DC	1.457
Drax Group PLC	DRX LN	1.438
Sino-American Silicon Products Inc	5483	1.426
Itron Inc	ITRI	1.347
OSRAM Licht AG	OSR	1.318
TerraForm Power Inc	TERP	1.312
Signify NV	LIGHT	1.286
Takuma Co Ltd	6013	1.27
Atlantica Yield plc	AY	1.263

SunPower Corp	SPWR	1.254
Novozymes A/S	NZYMB DC	1.218
Super Energy Corp PCL	SUPER-R TB	1.217
GCP Infrastructure Investments Ltd	GCP LN	1.216
GS Yuasa Corp	6674	1.204
Xinjiang Goldwind Science & Tech.	2208	1.176
SolarEdge Technologies Inc	SEDG	1.136
BCPG PCL	BCPG-R TB	1.033
BYD Co Ltd	1211	1.015
Energy Absolute PCL	EA-R TB	0.968
GCL-Poly Energy Holdings Ltd	3800	0.94
Xinyi Solar Holdings Ltd	968	0.935
Verbund AG	VER AV	0.922
First Solar Inc	FSLR	0.904
Meyer Burger Technology AG	MBTN SW	0.902
Canadian Solar Inc	CSIQ	0.893
SMA Solar Technology AG	S92	0.884
Contact Energy Ltd	CEN	0.838
JinkoSolar Holding Co Ltd ADR	JKS	0.807
Mercury NZ Ltd	MCY	0.784
Innergex Renewable Energy Inc	INE	0.767
Ormat Technologies Inc	ORA	0.711
RENOVA Inc	9519	0.666
EF-ON INC	9514	0.634
FDG Electric Vehicles Ltd	729	0.605
Sunrun Inc	RUN	0.581
Wasion Group Holdings Ltd	3393	0.555
TPI Composites Inc	TPIC	0.538
eRex Co Ltd	9517	0.53
Renewable Energy Group Inc	REGI	0.494
Kandi Technologies Group Inc	KNDI	0.484
Ballard Power Systems Inc	BLDP	0.483
Caverion OYJ	CAV1V FH	0.477
Enphase Energy Inc	ENPH	0.472
Vivint Solar Inc	VSLR	0.469
Ameresco Inc	AMRC	0.462
Scatec Solar ASA	SSO	0.461
Odelic Co Ltd	6889	0.455
China Power Clean Energy Develop.	735	0.45
Ricardo PLC	RCDO LN	0.448

Greencoat UK Wind PLC/Funds	UKW LN	0.445
Unison Co Ltd/South Korea	018000 KS	0.44
Senvion SA	SEN	0.439
SaltX Technology Holding AB	SALTB SS	0.432
Everlight Electronics Co Ltd	2393	0.42
Lextar Electronics Corp	3698	0.42
Dialight PLC	DIA LN	0.413
CS Wind Corp	112610 KS	0.39
Voltabox AG	VBX	0.38
West Holdings Corp	1407	0.38
VERBIO Vereinigte BioEnergie AG	VBK	0.375
Maxwell Technologies Inc	MXWL	0.371
PNE Wind AG	PNE3	0.363
Advanced Lithium Electrochemistry	5227	0.334
Albioma SA	ABIO FP	0.334
Encavis AG	CAP	0.328
Canvest Environmental Protection	1381	0.326
Tanaka Chemical Corp	4080	0.323
LSI Industries Inc	LYTS	0.32
SPCG PCL	SPCG-R TB	0.317
Shunfeng International Clean Energy	1165	0.29
CropEnergies AG	CE2	0.287
China Singyes Solar Technologies	750	0.285
Panda Green Energy Group Ltd	686	0.278
Neo Solar Power Corp	3576	0.277
Gigasolar Materials Corp	3691	0.269
Motech Industries Inc	6244	0.265
Daqo New Energy Corp ADR	DQ	0.258
REC Silicon ASA	REC	0.249
Energy Development Corp	EDC	0.195
Plug Power Inc	PLUG	0.16
NEL ASA	NEL	0.147

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**Appendix VI:**  
**WilderHill New Energy Global Innovation Index (NEX) here in RECENT PAST- for Q2 2018.**  
**Also the NEX Historical Sector Weightings Information is below:**

**NEX Components to start Q2 2018. 109 stocks (this for recent Weightings *in a past* Quarter)**

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. Weightings are for start of the (last) Quarter.

COMPANY NAME	DESCRIPTION	COUNTRY	WGT.	SEC.	CUR.
Verbund AG	Electricity supplier, hydro, a large provider for Austria.	AUSTRIA	0.74%	ROH	EUR
Ballard Power Systems Inc	Mid-size fuel cells; R&D, PEM FCs as in transportation.	CANADA	0.52%	ECV	CAD
Innergex Renewable Energy Inc	Renewable power, in run-of-river hydroelectric, wind, solar.	CANADA	0.74%	ROH	CAD
TransAlta Renewables Inc	Renewables, operating facilities in wind power, some hydro.	CANADA	1.57%	RWD	CAD
Canadian Solar Inc	Solar, vertically integrated solar manufacturer, China.	CANADA	1.17%	RSR	USD
Boralex Inc	Renewables generation, develops/has wind, hydro, solar.	CANADA	1.57%	RWD	CAD
Landis+Gyr Group AG	Advanced meters, modernizing grid, Switzerland.	SWITZERLAND	1.60%	EEF	CHF
Credit Suisse Real Estate Green Property	Sustainability in buildings, real estate.	SWITZERLAND	1.60%	EEF	CHF
Meyer Burger Technology AG	Solar, manufacturing equip., Switzerland and worldwide.	SWITZERLAND	1.17%	RSR	CHF
Sociedad Quimica y Minera de Chile SA	Lithium, produces key element in advanced batteries, Chile	CHILE	1.36%	ENS	USD
Kandi Technologies Group Inc	EVs, developing small gasoline and electric urban vehicles.	CHINA	0.46%	EEF	USD
BYD Co Ltd	Batteries, potential use in EVs, rail, solar farms, forklights.	CHINA	1.36%	ENS	HKD
Shunfeng International Clean Energy Ltd	Solar, large-solar in China, also growing elsewhere.	CHINA	0.33%	RSR	HKD
Xinjiang Goldwind Science & Technology Co	Wind, large turbine manufacturer, China.	CHINA	1.57%	RWD	HKD
Huaneng Renewables Corp Ltd	Large power plants, R&D into better efficiency upstream.	CHINA	1.57%	RWD	HKD
Xinyi Solar Holdings Ltd	Clear solar glass products, solar farms, EPC, China.	CHINA	1.17%	RSR	HKD
JinkoSolar Holding Co Ltd	Solar, wafers through solar modules, China-based OEM.	CHINA	1.17%	RSR	USD
Daqo New Energy Corp	Solar, high-purity polysilicon producing solar wafers, China.	CHINA	0.33%	RSR	USD
China Longyuan Power Group Corp Ltd	Wind, also in solar, biomass, geothermal, tidal.	CHINA	1.57%	RWD	HKD
VERBIO Vereinigte BioEnergie AG	Biofuels, manufacturer and supplier to Germany & Europe.	GERMANY	0.34%	RBB	EUR
SMA Solar Technology AG	Inverters for solar, industrial and storage tech., Germany	GERMANY	1.17%	RSR	EUR
Nordex SE	Wind turbines, in Germany/Europe and sells worldwide.	GERMANY	1.57%	RWD	EUR
Senvion SA	Wind sector engineering services.	GERMANY	0.45%	RWD	EUR
OSRAM Licht AG	Lighting manufacturer, auto, semiconductors, Germany.	GERMANY	1.60%	EEF	EUR
CropEnergies AG	Bioethanol, from cereals and sugarbeet, Germany.	GERMANY	0.34%	RBB	EUR
Encavis AG	Solar, large solar park operator, also wind, Germany.	GERMANY	0.33%	RSR	EUR
Voltabox AG	Lithium-ion batteries, energy storage.	GERMANY	0.39%	ENS	EUR
PNE Wind AG	Wind, both onshore and offshore globally	GERMANY	0.45%	RWD	EUR
Novozymes A/S	Biofuels, enzymes used in partnerships, Denmark.	DENMARK	1.18%	RBB	DKK
Vestas Wind Systems A/S	Wind, major pioneer wind turbine manufacturer, Denmark.	DENMARK	1.57%	RWD	DKK
Orsted A/S	Sustainable wind, biomass, large energy co. in Denmark.	DENMARK	1.57%	RWD	DKK
Siemens Gamesa Renewable Energy SA	Wind, onshore & offshore, turbines and gearboxes, Spain	SPAIN	1.57%	RWD	EUR
Atlantica Yield plc	Yieldco, Contracted renewables assets, also transmission.	SPAIN	1.17%	RSR	USD
EDP Renovaveis SA	Wind power, among largest producers in world, Spain.	SPAIN	1.57%	RWD	EUR
Caverion OYJ	Energy efficient buildings, industrial infrastructure, Europe.	FINLAND	0.46%	EEF	EUR
Albioma SA	Biomass, sugarcane, hybrid combustion and cogeneration.	FRANCE	0.34%	RBB	EUR
Ricardo PLC	Global Engineering, energy, environment, transportation.	BRITAIN	0.46%	EEF	GBp
Dialight PLC	LED lighting, for industrial customers, U.K.	BRITAIN	0.46%	EEF	GBp
Drax Group PLC	Electric power company, biomass wood pellet thermal, U.K.	BRITAIN	1.18%	RBB	GBp
Greencoat UK Wind PLC/Funds	Infrastructure fund, invested in U.K. wind power assets.	BRITAIN	0.45%	RWD	GBp

Renewables Infrastructure Group Ltd/The	Wind Farm & Solar Park revenues assets, U.K.	GUERNSEY	1.57%	RWD	GBP
Wasion Group Holdings Ltd	Metering, integrated smart energy management, China.	HONG KONG	0.46%	EEF	HKD
Canvest Environmental Protection Group	Waste to Energy, China-focused.	HONG KONG	0.34%	RBB	HKD
China Singyes Solar Technologies Holdings	Solar, also building integrated solar research. China.	HONG KONG	0.33%	RSR	HKD
China High Speed Transmission Equipment	Wind power, turbine gear boxes & transmissions.	HONG KONG	1.57%	RWD	HKD
China Power Clean Energy Development Co	Wind, hydro, solar, waste to energy etc in China.	HONG KONG	0.45%	RWD	HKD
FDG Electric Vehicles Ltd	EV manufacturer including cars, buses, batteries, China.	HONG KONG	1.36%	ENS	HKD
GCL-Poly Energy Holdings Ltd	Solar, polysilicon for upstream PV manufacturing.	HONG KONG	1.17%	RSR	HKD
Panda Green Energy Group Ltd	Solar plants, including "Belt and Road Route' in Asia.	HONG KONG	0.33%	RSR	HKD
Kingspan Group PLC	Buildings, innovative insulation for conservation, Ireland.	IRELAND	1.60%	EEF	EUR
SolarEdge Technologies Inc	Inverters, panel-level solar optimizers, micro-inverters.	ISRAEL	1.17%	RSR	USD
GCP Infrastructure Investments Ltd	Trust invests in renewables, based in Jersey U.K.	JERSEY	1.17%	RSR	GBP
Odelic Co Ltd	Lighting, LEDs, residential, commercial equipment, Japan.	JAPAN	0.46%	EEF	JPY
West Holdings Corp	Solar, Japan-focused residential and commercial PV.	JAPAN	0.33%	RSR	JPY
Meidensha Corp	Energy management, power generation & transmission.	JAPAN	1.60%	EEF	JPY
EF-ON INC	Energy services, energy conservation, biomass, Japan	JAPAN	0.46%	EEF	JPY
GS Yuasa Corp	Battery technologies, also includes Lithium for EVs, Japan.	JAPAN	1.36%	ENS	JPY
Tanaka Chemical Corp	Battery technologies, positive electrode materials.	JAPAN	0.39%	ENS	JPY
Takuma Co Ltd	Thermal Plants, uses biomass, palm, corn, wood wastes.	JAPAN	1.18%	RBB	JPY
eRex Co Ltd	Power generation, for businesses and residential, biomass.	JAPAN	0.34%	RBB	JPY
RENOVA Inc	Solar, Biomass, Wind, Geothermal in Asia	JAPAN	0.45%	RWD	JPY
Seoul Semiconductor Co Ltd	Lighting, automotive, LEDs, South Korea	SOUTH KOREA	1.60%	EEF	KRW
Samsung SDI Co Ltd	Batteries, innovative energy storage, EVs, South Korea	SOUTH KOREA	1.36%	ENS	KRW
CS Wind Corp	Wind towers onshore, also offshore	SOUTH KOREA	0.45%	RWD	KRW
Unison Co Ltd/South Korea	Wind power generation, wind parks	SOUTH KOREA	0.45%	RWD	KRW
Philips Lighting NV	Lighting, connected systems for efficiency, Netherlands.	NETHERLANDS	1.60%	EEF	EUR
NEL ASA	Hydrogen, envisions fuel cell vehicles renewably, Norway.	NORWAY	0.15%	ECV	NOK
Scatec Solar ASA	Solar power parks worldwide	NORWAY	0.33%	RSR	NOK
Contact Energy Ltd	Electric Utility, offers power from geothermal and hydro.	NEW ZEALAND	0.74%	ROH	NZD
Mercury NZ Ltd	Clean power, 100% renewables hydro, geothermal.	NEW ZEALAND	0.74%	ROH	NZD
Energy Development Corp	Geothermal, one of larger in Philippines and world.	PHILIPPINES	0.21%	ROH	PHP
Nibe Industrier AB	Heating & cooling, in diverse sustainable tech., Sweden.	SWEDEN	1.60%	EEF	SEK
SaltX Technology Holding AB	Energy Storage, uses salt to store thermal energy, Sweden.	SWEDEN	0.39%	ENS	SEK
Energy Absolute PCL	Alternative energy power producer, biodiesel, Thailand.	THAILAND	1.18%	RBB	THB
Superblock PCL	Solar, wind, and waste to energy, Thailand.	THAILAND	1.17%	RSR	THB
SPCG PCL	Solar, rooftops and solar farms, Thailand and Asia.	THAILAND	0.33%	RSR	THB
BCPG PCL	Solar and other renewable energy	THAILAND	1.17%	RSR	THB
Advanced Lithium Electrochemistry	Battery technologies, lithium cathode materials, LFP-NCO.	TAIWAN	0.39%	ENS	TWD
Epistar Corp	LEDs, large LED manufacturer in Taiwan, much IP.	TAIWAN	1.60%	EEF	TWD
Everlight Electronics Co Ltd	LEDs, large manufacturer in optoelectronics, Taiwan.	TAIWAN	0.46%	EEF	TWD
Sino-American Silicon Products Inc	Solar, semi-conductor silicon wafer materials, Taiwan.	TAIWAN	1.17%	RSR	TWD
Neo Solar Power Corp	Solar, aiming to be vertically-integrated, Taiwan.	TAIWAN	0.33%	RSR	TWD
Gigasolar Materials Corp	Solar, conductive pastes in PV panel manufacturing.	TAIWAN	0.33%	RSR	TWD
Motech Industries Inc	Solar, large producer of cells, modules, Taiwan.	TAIWAN	0.33%	RSR	TWD
Lextar Electronics Corp	LEDs and efficient lighting	TAIWAN	0.46%	EEF	TWD
Hannon Armstrong Sustainable Infra.	Energy efficiency, capital & finance for infrastructure.	UNITED STATES	1.60%	EEF	USD
Ameresco Inc	Energy savings, performance contracts, also in renewables.	UNITED STATES	0.46%	EEF	USD
SunPower Corp	Solar, efficient PV panels have all-rear-contact cells.	UNITED STATES	1.17%	RSR	USD
TerraForm Power Inc	Owens and runs solar/wind, in developed nations, yieldco.	UNITED STATES	1.17%	RSR	USD
Pattern Energy Group Inc	Wind farms, solar may be added for GW sized PPAs.	UNITED STATES	1.57%	RWD	USD
NRG Yield Inc	Contracted power generation, thermal, some renewables.	UNITED STATES	1.57%	RWD	USD
Plug Power Inc	Small fuel cells, e.g. in forklifts; drop in replacements.	UNITED STATES	0.15%	ECV	USD
Tesla Inc	Electric vehicles, solar; in EVs & energy storage.	UNITED STATES	1.60%	EEF	USD
Universal Display Corp	Organic light emitting diodes, efficient displays.	UNITED STATES	1.60%	EEF	USD
Acuity Brands Inc	LEDs, OLEDs, controls for indoor & outdoor lighting.	UNITED STATES	1.60%	EEF	USD
Cree Inc	LED manufacturer power-saving lumens, efficient lighting.	UNITED STATES	1.60%	EEF	USD

Itron Inc	Meters, Utility energy monitoring, measuring & management.	UNITED STATES	1.60%	EEF	USD
Veeco Instruments Inc	Thin film equipment, for LEDs, energy efficient electronics.	UNITED STATES	1.60%	EEF	USD
LSI Industries Inc	Lighting, LEDs, vertically integrated U.S. manufacturer.	UNITED STATES	0.46%	EEF	USD
Maxwell Technologies Inc	Ultracapacitors, an alternative to batteries as in hybrids.	UNITED STATES	0.39%	ENS	USD
Green Plains Inc	Biofuel, ethanol; using U.S. domestic feedstock.	UNITED STATES	1.18%	RBB	USD
Renewable Energy Group Inc	Biodiesel, natural fats, oils, grease to biofuels.	UNITED STATES	0.34%	RBB	USD
Ormat Technologies Inc	Geothermal, works too in recovered heat energy.	UNITED STATES	0.74%	ROH	USD
First Solar Inc	Thin film solar, CdTe as a low-cost alternate to polysilicon.	UNITED STATES	1.17%	RSR	USD
Sunrun Inc	Residential solar, leasing, PPA or purchase rooftop PV.	UNITED STATES	0.33%	RSR	USD
REC Silicon ASA	Silicon, solar-grade silicon, Norway-based and global.	UNITED STATES	0.33%	RSR	NOK
Vivint Solar Inc	Solar, one-stop installer of panels on homes in much of U.S.	UNITED STATES	0.33%	RSR	USD
Enphase Energy Inc	Inverters, micro-products for each solar panel, storage.	UNITED STATES	0.33%	RSR	USD
TPI Composites Inc	Wind Blades; also light-weighting for transportation.	UNITED STATES	0.45%	RWD	USD

## Historical Sector Weight Information, NEX

	ECV	EEF	ENS	RBB	ROH	RSR	RWD
Sector Weights At The Start Of Each Quarter*	Energy Conversion	Energy Efficiency	Energy Storage	Renewables - Biofuels & Biomass	Renewables - Other	Renewable - Solar	Renewable - Wind
Q2 2018	0.80%	30.50%	8.80%	7.90%	3.90%	22.50%	25.50%
Q1 2018	1.00%	30.67%	7.64%	7.74%	3.92%	23.37%	25.66%
Q4 2017	1.14%	29.36%	6.75%	8.21%	4.68%	20.58%	29.28%
Q3 2017	0.76%	30.88%	5.91%	9.11%	4.55%	18.80%	29.98%
Q2 2017	0.67%	33.68%	6.50%	8.75%	4.92%	18.73%	26.75%
Q1 2017	1.00%	31.83%	5.64%	9.03%	5.43%	17.92%	29.14%
Q4 2016	0.71%	32.00%	3.58%	8.48%	5.20%	18.84%	31.19%
Q3 2016	1.12%	31.00%	4.54%	7.76%	5.87%	21.09%	28.61%
Q2 2016	1.02%	32.18%	3.69%	7.15%	5.18%	21.60%	29.18%
Q1 2016	1.01%	34.83%	3.61%	9.38%	4.26%	20.14%	26.77%
Q4 2015	0.95%	33.54%	3.09%	9.19%	5.19%	20.40%	27.65%
Q3 2015	0.95%	32.97%	3.18%	8.05%	4.52%	24.65%	25.67%
Q2 2015	1.22%	33.68%	2.26%	9.55%	6.90%	24.88%	21.50%
Q1 2015	1.68%	33.88%	2.14%	11.54%	6.84%	24.86%	19.06%

\*NEX Sector Weights are based on a regularly-performed survey of market capitalizations of companies that are active in New Energy and that are quoted on non-OTC exchanges. The results are adjusted for several factors including exposure to New Energy and some exchange restrictions particularly limiting investability. If the results were not adjusted, the sector numbers would be significantly different.

See also, [http://www.nex-index.com/Constituents\\_And\\_Weightings.php](http://www.nex-index.com/Constituents_And_Weightings.php)

[http://www.nex-index.com/historical\\_sectors.php](http://www.nex-index.com/historical_sectors.php)

For Component values see, [http://www.nex-index.com/Constituents\\_And\\_Weightings.php](http://www.nex-index.com/Constituents_And_Weightings.php)

And for several variants, <https://www.solactive.com/?s=wilderhill>

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**Appendix VII:**

**WilderHill New Energy Global Innovation Index (NEX) for start of Q3 2018. 114 stocks.**

**Grouped generally by NEX Index Sector:**

(subject to revision; see [http://www.nexindex.com/Constituents\\_And\\_Weightings.php](http://www.nexindex.com/Constituents_And_Weightings.php) )

Also Index Composition at, <https://www.solactive.com/?s=wilderhill&indexmembers=US96811Y1029>

<b>Name</b>	<b>NEX Sector</b>	<b>Q3 Weight</b>
Ballard Power Systems Inc	ECV	0.003
Plug Power Inc	ECV	0.003
NEL ASA	ECV	0.003
Tesla Inc	EEF	0.016
Kingspan Group PLC	EEF	0.016
OSRAM Licht AG	EEF	0.016
Nibe Industrier AB	EEF	0.016
Acuity Brands Inc	EEF	0.016
Universal Display Corp	EEF	0.016
Cree Inc	EEF	0.016
Philips Lighting NV	EEF	0.016
Itron Inc	EEF	0.016
Landis+Gyr Group AG	EEF	0.016
Epistar Corp	EEF	0.016
Seoul Semiconductor Co Ltd	EEF	0.016
Hannon Armstrong Sustainable Infra.	EEF	0.016
Meidensha Corp	EEF	0.016
Veeco Instruments Inc	EEF	0.016
Credit Suisse Real Estate Fund Green Prop.	EEF	0.005
Caverion OYJ	EEF	0.005
Ricardo PLC	EEF	0.005
Wasion Group Holdings Ltd	EEF	0.005
Everlight Electronics Co Ltd	EEF	0.005
Ameresco Inc	EEF	0.005
Kandi Technologies Group Inc	EEF	0.005
Lextar Electronics Corp	EEF	0.005
EF-ON INC	EEF	0.005
Odelic Co Ltd	EEF	0.005
Willdan Group Inc	EEF	0.005
Dialight PLC	EEF	0.005
LSI Industries Inc	EEF	0.005
BYD Co Ltd	ENS	0.014
Sociedad Quimica y Minera de Chile SA	ENS	0.014
Samsung SDI Co Ltd	ENS	0.014
GS Yuasa Corp	ENS	0.014

Ecopro Co Ltd	ENS	0.004
FDG Electric Vehicles Ltd	ENS	0.004
VOLTABOX AG	ENS	0.004
Tanaka Chemical Corp	ENS	0.004
Maxwell Technologies Inc	ENS	0.004
Advanced Lithium Electrochemistry	ENS	0.004
SaltX Technology Holding AB	ENS	0.004
Novozymes A/S	RBB	0.010
Energy Absolute PCL	RBB	0.010
Drax Group PLC	RBB	0.010
Takuma Co Ltd	RBB	0.010
Green Plains Inc	RBB	0.010
Canvest Environmental Protection	RBB	0.003
Albioma SA	RBB	0.003
Renewable Energy Group Inc	RBB	0.003
CropEnergies AG	RBB	0.003
eRex Co Ltd	RBB	0.003
VERBIO Vereinigte BioEnergie AG	RBB	0.003
Verbund AG	ROH	0.007
Mercury NZ Ltd	ROH	0.007
Contact Energy Ltd	ROH	0.007
Ormat Technologies Inc	ROH	0.007
Innergex Renewable Energy Inc	ROH	0.007
Energy Development Corp	ROH	0.002
First Solar Inc	RSR	0.012
Xinyi Solar Holdings Ltd	RSR	0.012
SolarEdge Technologies Inc	RSR	0.012
Sino-American Silicon Products Inc	RSR	0.012
SMA Solar Technology AG	RSR	0.012
GCL-Poly Energy Holdings Ltd	RSR	0.012
Atlantica Yield plc	RSR	0.012
TerraForm Power Inc	RSR	0.012
GCP Infrastructure Investments Ltd	RSR	0.012
SunPower Corp	RSR	0.012
BCEPG PCL	RSR	0.012
Sunrun Inc	RSR	0.012
Superblock PCL	RSR	0.012
Canadian Solar Inc	RSR	0.012
JinkoSolar Holding Co Ltd	RSR	0.012
Meyer Burger Technology AG	RSR	0.012

Encavis AG	RSR	0.003
Panda Green Energy Group Ltd	RSR	0.003
Daqo New Energy Corp	RSR	0.003
SPCG PCL	RSR	0.003
Scatec Solar ASA	RSR	0.003
Enphase Energy Inc	RSR	0.003
Vivint Solar Inc	RSR	0.003
REC Silicon ASA	RSR	0.003
Neo Solar Power Corp	RSR	0.003
Gigasolar Materials Corp	RSR	0.003
Motech Industries Inc	RSR	0.003
China Singyes Solar Technologies Holdings	RSR	0.003
West Holdings Corp	RSR	0.003
Shunfeng International Clean Energy Ltd	RSR	0.003
Orsted A/S	RWD	0.015
Vestas Wind Systems A/S	RWD	0.015
Siemens Gamesa Renewable Energy SA	RWD	0.015
Xinjiang Goldwind Science & Technology	RWD	0.015
EDP Renovaveis SA	RWD	0.015
China Longyuan Power Group Corp Ltd	RWD	0.015
Huaneng Renewables Corp Ltd	RWD	0.015
NRG Yield Inc	RWD	0.015
China High Speed Transmission Equip	RWD	0.015
TransAlta Renewables Inc	RWD	0.015
Pattern Energy Group Inc	RWD	0.015
Renewables Infrastructure Group Ltd	RWD	0.015
Boralex Inc	RWD	0.015
Nordex SE	RWD	0.015
TPI Composites Inc	RWD	0.015
Greencoat UK Wind PLC/Funds	RWD	0.004
Senvion SA	RWD	0.004
Falck Renewables SpA	RWD	0.004
China Power Clean Energy Development	RWD	0.004
CS Wind Corp	RWD	0.004
Gurit Holding AG	RWD	0.004
Audax Renovables SA	RWD	0.004
RENOVA Inc	RWD	0.004
Unison Co Ltd/South Korea	RWD	0.004
PNE Wind AG	RWD	0.004

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