CLEAN200

CARBON CLEAN 200™: INVESTING IN A CLEAN ENERGY FUTURE

Corporate Knights
The Company for Clean Capitalism

AS YOU SOW®

ABOUT THE AUTHORS

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ABOUT CORPORATE KNIGHTS: Founded in 2002, Corporate Knights seeks to provide information that empowers people to harness markets for a better world. The company has a media and research division, which includes the award-winning business and society magazine Corporate Knights. The research division produces corporate rankings, research reports and financial product ratings based on corporate sustainability performance including Cleancapitalist.com and Decarbonizer.co. Its best-known rankings include the Best 50 Corporate Citizens in Canada and the Global 100 Most Sustainable Corporations. In June 2013, Corporate Knights was named Magazine of the Year by Canada's National Magazine Awards Foundation.

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For more information about Corporate Knights, please visit www.corporateknights.com

ABOUT AS YOU SOW®: Founded in 1992, As You Sow is a 501(c)(3) tax-exempt nonprofit organization dedicated to promoting environmental and social corporate responsibility through shareholder advocacy, coalition building, and innovative legal strategies. Our efforts create large-scale systemic change by establishing sustainable and equitable corporate practices. As You Sow was founded on the belief that many environmental and human rights issues can be resolved by increased corporate responsibility. As investor representatives, we communicate directly with corporate executives to collaboratively develop and implement business models that reduce risk, benefit brand reputation, and protect long-term shareholder value while simultaneously bringing about positive change for the environment and human rights.

AS YOU SOW®

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FOREWARD BY THE AUTHORS

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The global economy is in a monumental transition from an energy system based on fossil fuels to one based on clean renewable energy sources and technologies. Our purpose in developing the Clean200 list and publishing this report is to start a broad and dynamic dialogue about how all investors can co-create a clean energy economy and how best to evaluate and highlight companies that are already on the continuum of transition.

It has been over six years since the first students began to call on their university endowments to divest from fossil fuels—to urge their universities to stop profiting from companies that were destroying their future. Over time, many of those investments have hurt university endowment portfolios, and the trustees who listened to their students and aligned their institutions' investing with the school's mission ended up avoiding considerable financial pain.

A great deal of effort has been devoted to identifying the fossil fuel companies that most threaten our fragile climate. This report asks a different set of questions: which companies currently are profiting from making the decision to participate in the clean transition and what is the best way to spot them? To answer these questions we decided to rely on the Bloomberg New Energy Finance (BNEF) database. We wanted to make our analysis simple to understand and to look at stable companies rather than startups, so we started with a pool of global companies that have at least a $1bn market cap and have at least 10% "Clean Energy Revenue" as defined by BNEF. We then excluded oil/gas/coal companies, companies that manufacture weapons, utilities with less than 50% renewables, companies that profited from deforestation, and companies that engage in child/forced labor. We then took the top 200 and ranked them by estimated clean revenue—the "Clean200".

We compared the Clean200 to the Carbon Underground 200, the list of the largest fossil fuel companies that the Divest-Invest movement and many fossil free mutual funds use as a screen. We also compared the Clean200 to the S&P 1200 global benchmark and what we saw is telling. First, over 1/3 of the Clean200 companies are Chinese, which speaks to a quiet green energy revolution afoot in what is now the world's largest economy. Another interesting finding is that 26 countries are represented. Our Clean200 list also raised questions about BNEF's methodology; how do they count hybrid cars that burn gas, putting Toyota at #1? And finally, we recognize that we need to find a systematic way to put a more stringent human rights screen on the list.

We realize that this first pass is just a start. What will be more interesting is how our Clean200 methodology may be improved and change over time. So we decided to make a spreadsheet with all of this data available to anyone and to update the list quarterly to track the changes and trends. We welcome suggestions on ways to improve the methodology. We will share all ideas that we receive, as well as our subsequent analyses and testing.

Stating it one more time: The Clean200 is not intended to be a stock-pick-list or an index. It suggests that there are ways to identify the companies that are paving the way to the "Great Transition" to a clean energy economy. It is an invitation to open a broad and transparent global conversation. We hope that the best minds will find this thought exercise as exciting as we do and join us.

With great hope and optimism for the future,

Toby Heaps

Andrew Behar

THE CARBON CLEAN 200:
THE BIGGEST 200 PUBLIC COMPANIES RANKED BY GREEN ENERGY REVENUES

Over the past five years, and growing dramatically leading up to and post-Paris COP 21, a movement of institutional and individual investors representing more than $3.4tn in assets under management have divested a portion of their fossil fuel investments and committed to divesting the balance in the next five years. The corollary of divesting fossil fuels is re-investing in the clean energy future. As an invitation to a larger discussion of how we can invest in a clean energy future, we created the Carbon Clean 200 (Clean200™)—a list of the 200 largest companies worldwide ranked by their total clean energy revenues.

The Clean200 is intended as the clean energy inverse of the Carbon Underground 200™. Where the Carbon Underground 200™ (which evolved from the seminal Carbon Tracker Initiative report, *Unburnable Carbon: Are the World's Financial Markets Carrying a Carbon Bubble?*[1]), ranks the largest publicly listed companies by the carbon intensity of their coal, oil, and gas reserves; the Clean200 ranks the largest publicly listed companies by their total clean energy revenues, with a few additional screens to help ensure the companies are indeed building the infrastructure and services needed for what Lester Brown and many others have called "The Great Energy Transition[2]" in a just and equitable way.

The moral case for divesting from fossil fuels has been well argued, but for many, the economic case is less clear. However, as clean energy growth rates take off and demand growth for fossil fuels flatlines, it is probable that divesting fossil from fuels in favor of a clean energy future does not have to come at a sacrifice to long-term investment returns.

On the risk side, divesting is about not getting stuck holding stranded fossil fuel assets that cannot be burnt if the world is to adhere to a given carbon budget, a topic on which Mark Carney, governor of the Bank of England, has expressed concerns in a landmark speech to global insurer Lloyd's of London.[3] On the opportunity side, investing in the transition from a high-carbon to a low-carbon economy represents "the largest economic opportunity of the 21st century" according to John Doerr[4] a major venture capitalist at Kleiner-Perkins in Silicon valley.

It might seem counter-intuitive for an investor to sell their fossil fuel stocks when most people are still driving internal combustion cars and burning fossil fuels every day. However, the point and the power dynamic of investing is that, as an investor, you have the power to bet on and capitalize the creation of the world that you want to see. If you are wrong, you will lose money. If you are right, you will profit from and add momentum to the change you believe in. While many mission-driven investors believe that the arc of history bends towards justice—that companies which create positive rather than negative externalities will prevail—in the case of climate friendly investing, it may actually be true. Many investors have found this out the hard way. Indeed, in a world of limited capital every investment has opportunity cost. When people vote with their investment dollars in favor of clean energy over dirty it sends a message as powerful as any ballot box that the time has come to stop using the atmosphere as a free dumping ground.

Take coal, which accounts for over 40% of global greenhouse gas emissions.[5] The industry is declining rapidly in value, especially in the United States. Peabody Energy, the largest private-sector coal company in the world, filed for Chapter 11 bankruptcy protection this April, following Arch and Alpha. The Dow Jones Coal Index dropped 93% over the past five years. Oil companies are facing similar problems. Fifty-two have filed for

bankruptcy since 2015, and over a third of the world's biggest oil and gas companies have crushing debt loads (over $150 billion) and cash flows depressed by low oil prices, according to the Deloitte Center for Energy Solutions[6] and a recent study by As You Sow.[7]

Major investment indices are now only half as exposed to the fossil fuel sector (1.5% to coal, 7% to oil and gas) as they were five years ago. This is not due to any active decision to divest, but rather because fossil fuel stocks have lagged while other sectors have produced healthy returns.

While fossil fuel stock performance stagnates, clean energy is taking off. The world is currently adding twice as much clean power capacity as coal, oil, and gas combined, according to *Bloomberg New Energy Finance* (BNEF).[8] Wind's market share of power generation has doubled four times in the past 15 years, and solar has doubled seven times. It's also getting cheaper to make power from wind and solar, thanks to technology, better financing and economies of scale. Increased demand for a technology generally reduces prices, whereas increased demand for a commodity increases prices. This basic calculus has driven the price of a renewable kilowatt of energy ever downward, making the choice of energy an economic one. Companies which make a significant amount of their revenue from environmental solutions now make up 5% of global investment indices; the Clean200 list of companies have a collective value over $1 trillion.

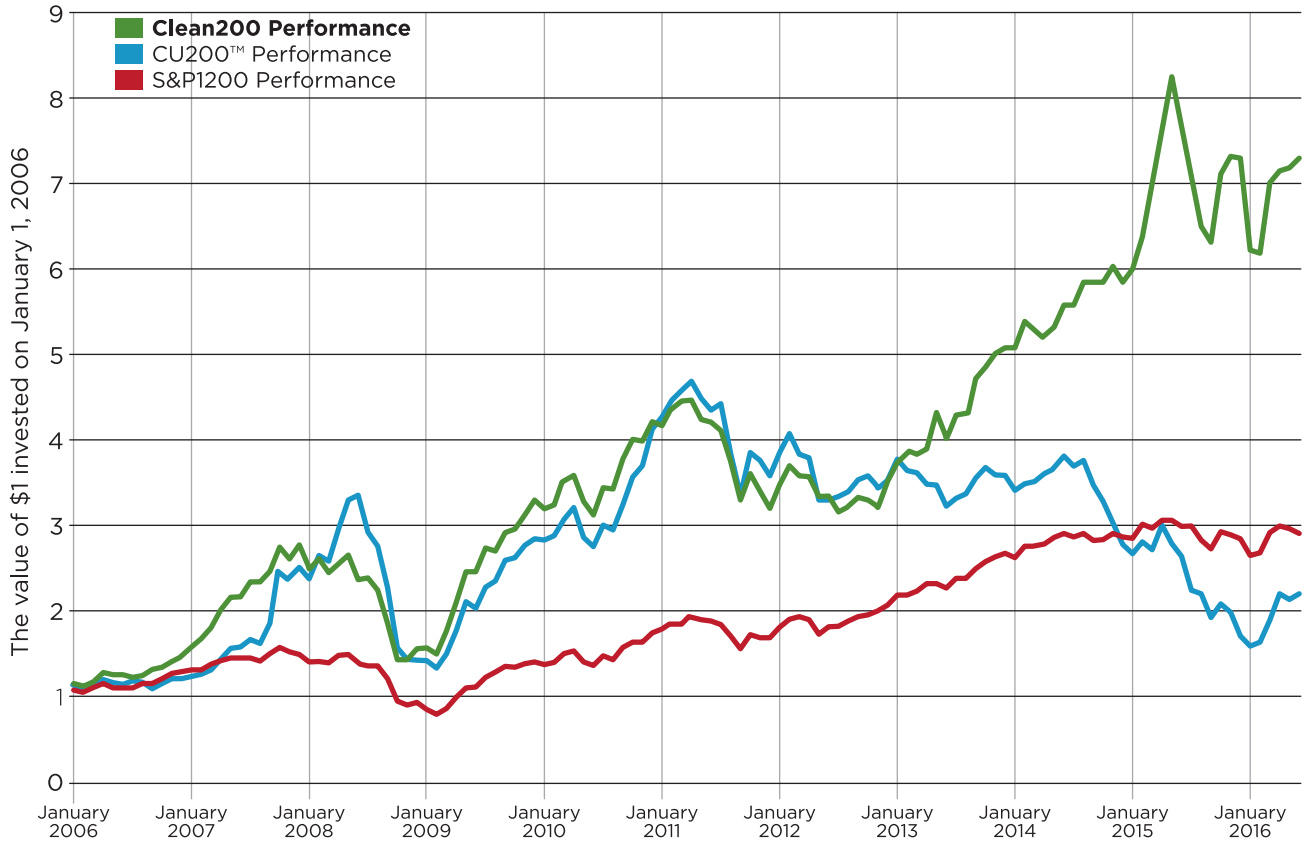
In the next 10 years, McKinsey[9] expects oil demand growth to flatten due to growing fuel efficiencies and competitive technologies such as the electric car. Battery prices fell 35% last year, and electric car sales rose by 60%. By 2022, BNEF estimates electric vehicles will cost the same as their internal combustion counterparts, and if growth continues at the current pace, oil displacement by electric cars will reach 2 million barrels per day by 2023—the size of the current oil glut and enough to drive global oil prices to record lows. Factoring in autonomous cars and ride-sharing services, electric cars could reach 50% of new car sales by 2040, according to BNEF, 50 times higher than what OPEC is projecting.[10, 7]

None of this portends an imminent conclusion to our fossil fuel age, but it does suggest an end to fossil fuels as a long-term growth market and the beginning of a long run expansion of clean energy demand. This sentiment has been ratified, sanctified, and tallied by the political, moral, and financial bellwethers of our time, from the Paris climate talks (195 countries committed to phase out fossil fuels this century) to the Vatican (Pope Francis has made moral invocations to drastically reduce use of fossil fuels in the encyclical *Laudato Si'*[11]) to the Bank of England (the bank's governor Mark Carney has warned not to get stuck holding a bag of stranded fossil fuel assets).

Methodology: To calculate the performance of the Carbon Underground 200 versus the Clean200 versus the S&P 1200, a 'snapshot in time' analysis was used consisting of the current constituents of the Clean200 (July 1, 2016), S&P 1200 (July 1, 2016) and the most recent publicly available list of the Carbon Underground 200 (May 15, 2015). The 'snapshot-in-time analysis' was necessitated due to the absence of historical data series for Bloomberg's BNEF New Energy Exposure field. All three lists were equally weighted and re-balanced quarterly from January 1, 2006 to July 1, 2016. Returns were calculated using Bloomberg monthly total returns including gross dividends for each security. Rebalancing takes effect immediately after the rebalancing date. A 'snapshot-in-time analysis' based on a static list introduces a survivorship bias. Survivorship bias can be present when stocks which do not currently exist (because they have failed, for example) are excluded from the historical analysis. This bias can result in the overestimation of past returns.

Carbon Underground 200™ Performance vs. Clean200 vs. S&P 1200

(simulated historical performance using static list of current constituents)



The Clean200 outperformed the S&P 1200 and the Carbon Underground 200 over the past decade in this simulated analysis. The outperformance was driven by significant exposure to Chinese clean energy companies which have experienced explosive growth. If oil prices rise, the performance spread would be expected to narrow significantly and it is possible, based on past performance, that the Carbon Underground 200 may outperform the Clean200, as has happened in the first six months of 2016.

Some big investors are already adapting:

- PFZW, the $183 billion Dutch pension fund, has pledged to halve its carbon footprint by 2020 while increasing its investments in climate solutions fourfold.
- CalSTRS recently committed $2.5 billion to a Low-Carbon Index as part of a multi-faceted approach to align its portfolio with the market realities emerging from climate change.
- ABP introduced an internal carbon budget for its asset managers in 2015, designed to reduce the CO_2 footprint of its portfolio equity holdings by 25%, as well as doubling its €29bn equity holdings in equities providing environmental and social solutions over the next five years.

The Clean200 Sector Breakdown

GICS Sector	# of Clean200 companies
Consumer Discretionary	17
Consumer Staples	5
Energy	1
Financials	2
Healthcare	1
Industrials	96
Information Technology	45
Materials	16
Utilities	17

- AXA divested from all coal holdings (mining companies and electric utilities deriving over 50% of their turnover from coal) in 2015 and committed to triple its green investments by 2020.

Corporate Knights and As You Sow are committed to updating this list on a quarterly basis and ensuring that it remains in the Creative Commons[12] as a public good. We invite anyone to make it better and share any new ideas to improve the methodology for the next quarter. It can be downloaded at www.clean200.org.

THE CLEAN200 METHODOLOGY

The Clean200: The biggest 200 public companies ranked by green energy revenues, was first published on August 15, 2016 by Corporate Knights and As You Sow.

The Clean200 are listed by their estimated green revenues in USD. The dataset is developed by multiplying a company's most recent year-end revenues by its BNEF New Energy Exposure Rating mid-point. In order to be eligible, a company must have a market capitalization greater than $1 billion (end of Q2 2016) and earn more than 10% of total revenues from New Energy[13] sources.

The Clean200 uses negative screens. It excludes all oil and gas companies and utilities that generate less than 50% of their power from green sources, as well as the top 100 coal companies measured by reserves, top 100 weapons producers, as well as laggards on tropical deforestation[14], and child or forced labor and companies who engage in negative climate lobbying.

Clean200 Negative Screens	Criteria	Number of Companies Excluded Q3 2016
Oil and Gas	SASB SICS Sub Sector=oil and gas	3
Coal 100	Top 100 companies by coal reserves	2
Non-Green Utilities	Any utility that derives less than 50% of revenue from green sources	59
Top 100 Weapons	The SIPRI Top 100 arms-producing and military services companies in the world	4
Tropical Forest Harm	Scores less than 4 on Forest 500 scale or are on the As You Sow/Friends of the Earth Deforestation Free Funds tool[17]	10
Child/Forced Labour Risk	Scores in bottom half of Know the Chain rating	1
Negative Climate Lobbying	Scores E or lower on Influence Map rating	0

THE CLEAN200 LIST
AUGUST 15, 2016

+ Majority of Revenues Derived from "Clean Energy" as defined by BNEF.

Rank	Name
1	TOYOTA MOTOR
2	SIEMENS AG-REG
3	JOHNSON CONTROLS
4	SCHNEIDER ELECTR
5	PANASONIC CORP
6	EMERSON ELEC CO
7	VESTAS WIND SYST+
8	PHILIPS LIGHTING+
9	ABB LTD-REG
10	KONINKLIJKE PHIL
11	DONG ENERGY A/S
12	UMICORE
13	XINJIANG GOLD-A+
14	EATON CORP PLC
15	SHARP CORP
16	BOMBARDIER INC-B
17	TESLA MOTORS+
18	GAMESA+
19	FIRST SOLAR INC+
20	HELLA KGAA HUECK
21	ANDRITZ AG
22	GCL-POLY ENERGY+
23	SAMSUNG SDI CO
24	DOOSAN HEAVY

Rank	Name
25	CHINA LONGYUAN-H+
26	SVENSKA CELL-B
27	KINGSPAN GROUP+
28	SPIE SA
29	TBEA CO LTD-A
30	WACKER CHEMIE AG
31	BYD CO LTD-H
32	KYOCERA CORP
33	TE CONNECTIVITY
34	ACUITY BRANDS+
35	NORDEX SE+
36	OWENS CORNING
37	HYOSUNG CORP
38	ROCKWOOL INTL-B+
39	SHIN-ETSU CHEM
40	CHINA AGRI-INDUS
41	NIDEC CORP
42	APPLIED MATERIAL
43	CHINA SHIPBUIL-A
44	REPUBLIC SVCS
45	LS CORP
46	EBARA CORP
47	SUMITOMO FOREST
48	ITRON INC+

THE CLEAN200 LIST (continued)

Rank	Name
49	PRYSMIAN SPA
50	BORGWARNER INC
51	HANWHA Q CEL-ADR+
52	EDP RENOVAVEIS S+
53	QUANTA SERVICES
54	STANLEY ELEC CO
55	COVANTA HOLDING+
56	CREE INC+
57	BROOKFIELD RENEW+
58	HANWHA CHEM CORP
59	SUEDZUCKER AG
60	SUNPOWER CORP+
61	NIBE INDUSTRIE-B+
62	CHINA HIGH-SPEED+
63	DIC CORP
64	EMCOR GROUP INC
65	INFINEON TECH
66	XIANGTAN ELEC-A+
67	SUZLON ENERGY+
68	DELTA ELECT INC
69	OSRAM LICHT AG
70	NXP SEMICONDUCTO
71	DONGFANG ELECT-A
72	SMITH (A.O.)CORP
73	HITACHI HIGH TEC
74	HUANENG RENEWA-H+

Rank	Name
75	XJ ELECTRIC-A+
76	SMA SOLAR TECHNO+
77	CHINA EVERBR INT+
78	OCI CO LTD
79	GCL SYSTEM INT-A+
80	HAREON SOLAR T-A+
81	ANDERSONS INC
82	ZHONGLI SCIENC-A
83	XIAN LONGI SIL-A+
84	ZHEJIANG CHINT-A
85	KINDEN CORP
86	BHARAT HEAVY ELE
87	ARCADIS NV
88	TOFAS
89	SAFT GROUPE SA+
90	RISEN ENERGY-A+
91	REGAL BELOIT COR
92	ATLANTICA YIELD+
93	EGING PHOTOVOL-A+
94	COMFORT SYSTEMS
95	ANALOG DEVICES
96	SANAN OPTOELEC-A+
97	ENERGY DEVELOPME+
98	NARI TECHNOLOG-A
99	VALMET OYJ
100	SUNGROW POWER -A+

THE CLEAN200 LIST (continued)

Rank	Name
101	GS YUASA CORP
102	WEG SA
103	ZHEJIANG YANKO-A+
104	HONGFA TECHNOL-A+
105	ROHM CO LTD
106	SAO MARTINHO+
107	NINGBO SANXING-A+
108	SHENZHEN DESAY-A
109	TIMKEN CO
110	SHANGHAI AEROS-A+
111	OC OERLIKON CORP
112	XINYI SOLAR HLDS+
113	TATA CHEMICALS
114	ZHONGTIAN TECH-A
115	ORMAT TECHNOLOGI+
116	TOKUYAMA CORP
117	BAONENGYUAN-A+
118	SHENZHEN KAIFA-A
119	TELLHOW SCI-TE-A+
120	KAIDI ECOLOGIC-A+
121	KYOWA EXEO CORP
122	HANGZHOU FIRST-A+
123	BEIJING SIFANG-A+
124	TRIMBLE NAVIG
125	PERKINELMER INC
126	JIANGSU AKCOME-A+

Rank	Name
127	COFCO BIOCHEM -A
128	AZBIL CORP
129	CHINA XD ELEC-A
130	NOVOZYMES-B SHS
131	NEXTERA ENERGY P+
132	WOODWARD INC
133	SIMPLO TECHNOLOG
134	CPFL ENERGIAS RE+
135	SUMCO CORP
136	HEXCEL CORP
137	FAR EAST SMART-A
138	THERMAX LTD
139	JIANGSU SUNRAI-A+
140	SOLARCITY CORP+
141	TETRA TECH INC
142	CSR LTD
143	CHINA BAOAN-A
144	JM AB
145	HANERGY TFP+
146	SHENZHEN CLOU-A+
147	NEW FLYER INDUST
148	TECO ELEC & MACH
149	TITAN WIND-A+
150	XINYI GLASS
151	ARCPLUS GROUP -A
152	EXIDE INDUS LTD

THE CLEAN200 LIST (continued)

Rank	Name
153	PATTERN ENER+
154	IDFC LTD
155	SUZHOU DONGSHA-A
156	DELTA ELEC THAI
157	FAIRCHILD SEMICO
158	HENGDIAN DMEGC-A
159	DIALOG SEMICOND
160	SWECO AB-B
161	SHENZHEN JIAWE-A+
162	GUANGDONG EAST-A
163	BEIJING NEW BU-A
164	ENERGY ABSOLUTE+
165	HAVELLS INDIA
166	CSG HOLDING CO-B
167	ESCO TECH INC
168	ZHONGTONG BUS-A
169	GUANGZHOU HONG-A+
170	BEIJING JINGYU-A+
171	HITACHI CAPITAL
172	GIBRALTAR INDUST
173	CHINA NORTHERN-A
174	FOSHAN ELEC-B
175	APOGEE ENTERPR
176	SINOVEL WIND-A+

Rank	Name
177	SCHWEITER TEC-BR
178	CECEP WIND POW-A+
179	NISSIN ELECTRIC
180	ZHEJIANG DUN'A-A
181	CHINA SHIPBUIL-A
182	SHENZHEN HEMEI-A+
183	GENTHERM INC
184	INNERGEX RENEWAB+
185	UNIVERSAL DISPLA+
186	ZHUZHOU KIBING-A
187	TRANSALTA RENEWA+
188	ZHEJIANG NARAD-A
189	TONGYU HEAVY-A
190	HUNAN CORUN NE-A+
191	DO-FLUORIDE-A
192	ASM INTL NV
193	MONOLITHIC POWER
194	HUAYI ELECTRIC-A
195	SIEYUAN ELECTR-A
196	RONGXIN POWER -A
197	DONGGUAN KINGS-A+
198	TERRAFORM POWE-A+
199	GUANGDONG CHAN-A
200	QINGDAO TGOOD-A

DISCLAIMER

The aggregated data comprising the Clean200™ represents a snapshot of the top-ranked "clean" companies as measured by total green energy revenue based on a methodology developed by Corporate Knights and As You Sow from data in the Bloomberg New Energy Finance database. The list should not be considered current or complete, or a substitute for financial data provided by a licensed financial advisor. Estimation methodologies are subject to limitations in modelling and measurement.

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ENDNOTES

1 http://www.carbontracker.org/report/carbon-bubble/
2 http://www.earth-policy.org/books/tgt
3 http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx
4 https://www.americanprogress.org/issues/green/news/2007/05/23/3044/change-the-rules/
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11 http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html
12 https://creativecommons.org/
13 Bloomberg New Energy Finance's estimate of the percent of an organization's value that is attributable to its activities in renewable energy, energy smart technologies, carbon capture and storage (CCS), and carbon markets. To arrive at its estimate, Bloomberg New Energy Finance assesses an organization's sectors and subactivities within these clean energy areas, and then calculates an estimate using reported segmented revenues (as the preferred metric), along with any other available metrics such as segmented Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), GWh breakdown of energy production and megawatt breakdown of generation assets.

    Bloomberg New Energy Finance's exposure estimate is presented as one of these units:
    A1 Main driver (50-100% of value) 50 to 100% of the organisation's value is estimated to derive from this activity
    A2 Considerable (25-49% of value) 25 to 49% of the organisation's value is estimated to derive from this activity
    A3 Moderate (10-24% of value) 10 to 24% of the organisation's value is estimated to derive from this activity
    A4 Minor (<10% of value) Less than 10% of the organisation's value is estimated to derive from this activity
14 www.deforestationfreefunds.org

APPENDIX: Clean 200 vs Carbon Undergound 200 vs S&P 1200 Performance Analysis by KKB Research and Development[1]

Backtest Methodology:

To calculate the performance of the Carbon Underground 200 versus the Clean200 versus the S&P 1200, a 'snapshot in time' analysis was used consisting of the current constituents of the Clean200 (July 1, 2016), S&P 1200 (July 1, 2016) and the most recent publicly available list of the Carbon Underground 200 (May 15, 2015). The 'snapshot in time' analysis was necessitated due to the absence of historical data series for Bloomberg's BNEF New Energy Exposure field. All three lists were equally weighted and re-balanced quarterly from January 1, 2006 to July 1, 2016.[2] Returns were calculated using Bloomberg monthly total returns including gross dividends for each security. Rebalancing takes effect immediately after the rebalancing date. A 'snapshot in time analysis' based on a static list introduces a survivorship bias. Survivorship bias can be present when stocks which do not currently exist (because they have failed, for example) are excluded from the historical analysis. This bias can result in the overestimation of past returns.

The Clean200 list significantly outperformed the Carbon Underground 200 and the S&P 1200 list. This outperformance is largely driven by the allocation effect to high performing companies from China and Hong Kong SAR. Companies from China or Hong Kong SAR make up 36.5% of the Clean200 versus just 1.8% for the S&P 1200. The top ten companies by cumulative return in the Clean200 list all hail from China. The returns of Clean200 ex-China and Hong Kong SAR were lower, but still superior to the S&P 1200 and Carbon Underground 200.

As the chart below illustrates, the Clean200 outperformed the S&P 1200 and Carbon Underground 200 in 7 of 11 time periods. It is interesting to note the outperformance of the Carbon Underground 200 in the first half of 2016, coinciding with a period of oil price increases. The tracking error of the Clean200 versus S&P 1200 was 13.45% and the information ratio for the Clean200 versus S&P 1200 was 0.75.

Calendar Year Returns (simulated historical performance using static list of current constituents)

	CU200	Clean200	S&P 1200
2006	19.70%	46%	29%
2007	110.70%	89.10%	15.30%
2008	-43.50%	-43.10%	-36.50%
2009	99.90%	110.20%	51.70%
2010	44.50%	27.80%	22.40%
2011	-12.60%	-24%	-4.20%
2012	-1.20%	9.80%	22.90%
2013	0.60%	44.50%	30.10%
2014	-22.40%	15%	6.80%
2015	-38.30%	24.80%	-1.10%
2016[3]	29.30%	-0.20%	2.60%

	CU200	Clean200	S&P 1200
Average Annualized Returns	7.84%	21.82%	10.73%
Total Cumulative Return in %	121%	629%	192%
Annualized Volatility	29.43%	24.05%	17.78%
Annualized Sharpe Ratio (Rf=0%)	0.266491	0.8656231	0.6038526
Median Cumulative Return	-10%	106%	103%

Top 10 Securities Cumulative Return (over testing period): Clean200

Company	Total Return	GIS Sector	Country
1. SANAN OPTOELEC-A	6991%	Information Technology	China
2. HANERGY TFP	3457%	Information Technology	China
3. CHINA NORTHERN-A	3188%	Materials	China
4. HUNAN CORUN NE-A	2686%	Industrials	China
5. CHINA EVERBR INT	2417%	Industrials	China
6. ZHONGTONG BUS-A	2262%	Industrials	China
7. ARCPLUS GROUP -A	1668%	Materials	China
8. ZHONGTIAN TECH-A	1608%	Industrials	China
9. BYD CO LTD-H	1436%	Consumer Discretionary	China
10. SHENZHEN DESAY-A	1311%	Industrials	China

Carbon Clean 200

Initial list of securities prepared on: July 1, 2016

Starting Universe: Bloomberg BNEF New Energy Revenue Exposure Coverage=6690 publicly listed companies.

Methodology: The Clean200™ identifies the 200 largest public companies based on total estimate clean energy revenues, excluding companies which fail social and environmental screens.

Carbon Underground 200

Initial list of securities prepared on: May 15, 2015 (most recent publicly available list at time of analysis).

Starting Universe: Fossil Free Indexes' master database of over 750 current and past publicly-listed companies.

Methodology: The Carbon Underground 200™ identifies the 100 largest public coal and 100 largest public oil and gas reserve owners based on the potential CO_2 emissions of their reported reserves.

S&P 1200

Initial list of securities prepared on: July 1, 2016

Starting Universe: The S&P Global 1200 provides exposure to the global equity market, capturing approximately 70% of global market capitalization.

Methodology: The S&P 1200 is constructed as a composite of 7 headline indices, many of which are accepted leaders in their regions. These include the S&P 500® (US), S&P Europe 350, S&P TOPIX 150 (Japan), S&P/TSX 60 (Canada), S&P/ASX All Australian 50, S&P Asia 50 and S&P Latin America 40.

1 www.kkb.io

2 New firms were added on quarterly rebalancing as they came into existence. Note, all lists have significant survivorship bias.

3 2016 returns as of July 1, 2016

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