



# FOSSIL FUEL DIVESTMENT REPORT

January 2017

## ABOUT GENUS CAPITAL

Genus Capital Management Inc., Canada's fossil free investment leader, was founded in 1989 and is an independent investment management firm based in Vancouver. We are passionate about creating innovative investment solutions that meet our clients' changing needs.

With more than \$1.1 billion in assets under management, our clients include leading environmental organizations, foundations, Indigenous communities, pensions and individuals across Canada.

As the world took notice of climate changes environmental impact, our clients, such as the David Suzuki Foundation, began to see its impending economic impact, and asked for higher standards in socially responsible investment. In 2013 we enhanced our socially responsible strategies and created Genus Fossil Free® to better align the values of our clients with their investments and help address some of the world's pressing socioeconomic and environmental challenges.

Today, Genus Capital is at the forefront of Canada's Divest-Invest movement with a complete suite of fossil fuel free funds that are tailored to meet the needs of investors who wish to divest from the world's worst polluters and invest in a sustainable, clean energy future.

©Fossil Free is a Registered Trademark of Genus Capital Management Inc.

[www.genusfossilfree.com](http://www.genusfossilfree.com)



# The numbers are in, and divesting from fossil fuels is paying off.

Over three-year investment returns of Genus Capital's Fossil Free CanGlobe Equity Fund show that investors who divested climate-impacting fossil fuels in 2013 have not sacrificed returns. Far from it.

Divesting from fossil fuels for the three-year period ending December 31, 2016 has produced better results than the returns of the fund's benchmark, and the overall Canadian stock market index, both of which include coal and major carbon producing industries, while also demonstrating lower rates of volatility.

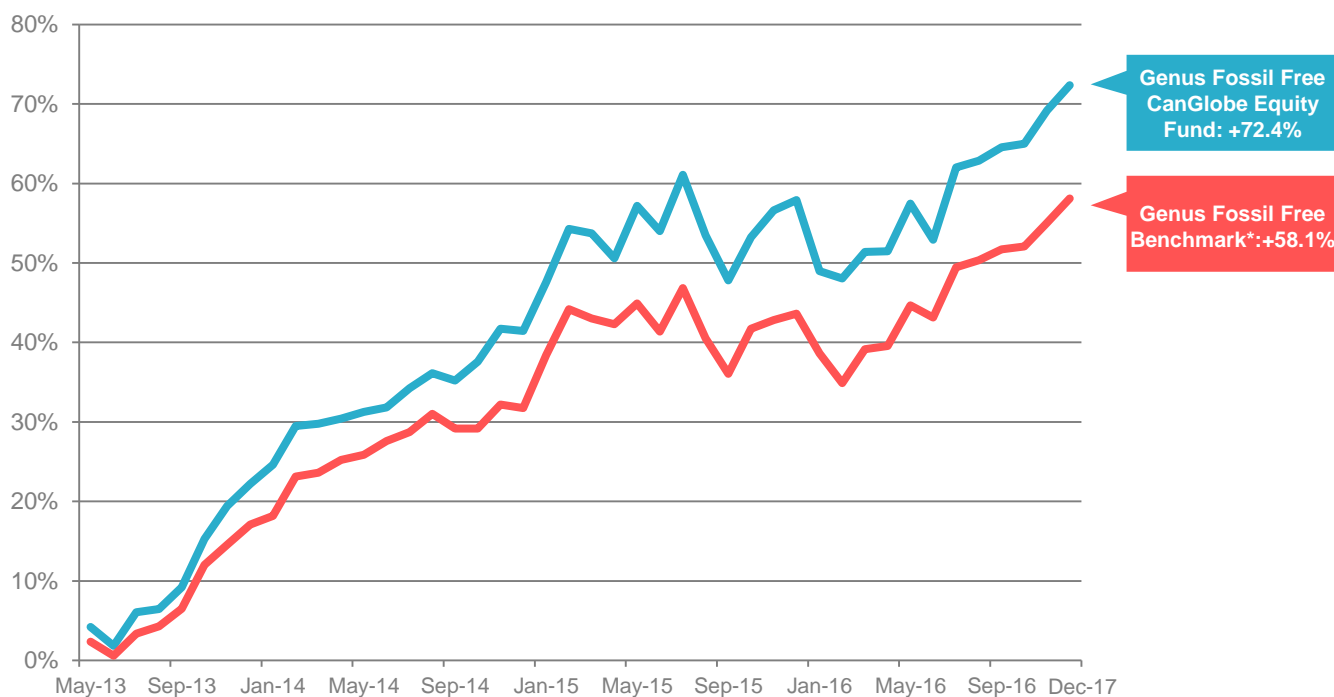
Genus Capital's live Fossil Free performance results are substantiated by research going back almost 20 years, which shows that eliminating the fossil fuel sector would have actually had a positive return effect. The research results should allay the fears of investors who are concerned that divestment from fossil fuel stocks will increase volatility and tracking error (the difference between the performance of a fossil free fund and a traditional index fund) – and potentially lead to weaker returns versus the overall market.

The climate-friendly Genus Fossil Free CanGlobe Equity Fund has beaten its benchmark\* on an annualized basis for the period from May 31, 2013 to December 31, 2016:

- The Genus Fossil Free CanGlobe Equity Fund (35% Canada, 65% Global) generated a 16.00% annualized return;
- The equity fund's benchmark\*, against which performance is measured, generated 13.31% for the three years ended December 31, 2016.

All returns expressed in Canadian dollars.

**FIGURE 1: GENUS FOSSIL FREE CANGLOBE EQUITY**  
**CUMULATIVE RETURNS IN IN CANADIAN DOLLARS, GROSS OF FEES**  
May 31, 2013 to December 31, 2016



Source: Genus Investment Research

**DEFINITIONS**

- **Annualized Returns** show how much an investment has grown or declined, on average, over each year of a multi-year period.
- **Cumulative Returns** show how much an investment has grown or declined, in total, over a multi-year period.

**\*Fossil Free CanGlobe Equity Benchmark:** 35% S&P/TSX Composite, 65% MSCI World (04/01/2015 - Present)  
Benchmark changed from 40% S&P/TSX Composite, 30% MSCI EAFE, 30% S&P 500 (04/09/2013 - 03/31/2015)



Our experience shows that  
divesting fossil fuels does  
not mean sacrificing  
potential returns.

## KEY TAKEAWAYS

- While past performance is not a guaranteed predictor of future success, the Genus live performance and the results of our historical back tests show that divesting from fossil fuels does not necessarily mean sacrificing potential returns.
- We have found that optimized portfolios without exposure to companies involved in extracting, refining or transporting fossil fuels can do better than those with investments in energy companies that create carbon pollution. The often-presumed assumption of a return penalty is not consistently borne out by our research.
- Our research shows that divestment of fossil fuel stocks and prudent, well managed reinvestment in cleaner and more efficient energy solutions, coupled with active stock selection, can be a sound strategy for investors looking to avoid climate-related risks and capitalize on investment opportunities.
- We believe fossil fuel divestment has the potential to reduce overall portfolio risk (because of Energy sector volatility and stranded asset risk) with the transfer of assets from the Energy sector to companies in climate-friendly sectors that are highly correlated with it.





## ENERGISING PORTFOLIOS WITHOUT FOSSIL FUELS

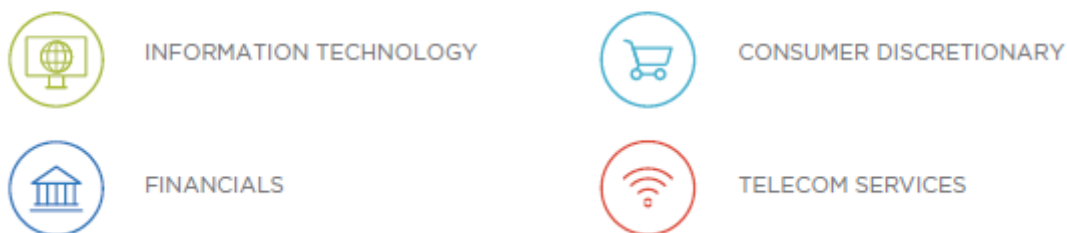
We recognize that divesting presents a challenge for Canadian investors, since the major extractors, transmitters and emitters of fossil fuels constitute approximately 30 per cent of the value of the Canadian stock market. However, with Canadian equities representing only five per cent of world markets, looking beyond our borders offers more opportunities that meet our stringent fossil free criteria. From a broader global viewpoint, the Energy sector and its related industries account for only eight per cent of the MSCI World Index.

With Canadian equities representing only about five per cent of world markets, looking beyond our borders offers more opportunities that meet our stringent fossil free criteria.

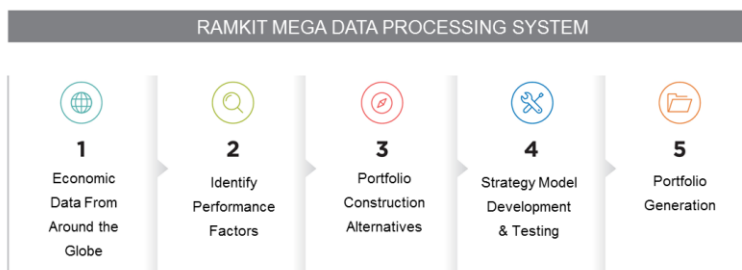
At Genus, our fossil free equity funds combine Canadian and global stocks into a single optimized strategy that emphasizes top industries in each region. This approach also helps us fill the energy gaps with strong companies in other economically sensitive sectors that can help investors achieve Energy

sector-like stock price exposure. Our primary fossil fuel “replacement” investments currently include companies in the global Information Technology sector, Consumer Discretionary and Financial sectors. This “total equity” approach, coupled with our modern portfolio risk management technology, is how we make fossil free investing work for Canadians.

## OUR ENERGY REPLACEMENTS



The Genus Fossil Free CanGlobe strategy leverages our “total equity” approach to help maximize diversification and risk-adjusted returns. Fossil Free CanGlobe Equity seeks to maximize exposure to our highest-ranked stocks with market-levels of risk. As Figure 1 illustrates, the returns of the Fossil Free CanGlobe Equity Fund outperform those of its benchmark.



## OUR RESEARCH ADVANTAGE

Knowledge is power, and in the information age it’s essential to have a systematic way to gain insights from the mega data available. Over the past 27 years, Genus has built and continued to enhance its leading-edge investment research and analysis platform called Genus RAMKit. This proprietary software equips Genus to collect and continually interpret vast amounts of new information from many sources around the world. Through RAMKit, we can find determinants of performance, integrate ESG scores, develop and test asset allocation strategies, and explore new security selection and portfolio construction techniques. RAMKit maintains continually updated economic, market and stock data from around the globe. Through this system, we’ve found over 300 proven investment factors and used them to develop more than 60 investment models. RAMKit enables Genus to continually improve and execute sound strategies for clients.



## GENUS FOSSIL FREE STRATEGY RESEARCH

Research conducted by Genus into the performance of divested portfolios for the past six and almost 20 year periods shows that divesting fossil fuels would actually have had positive effect on returns, without significantly increasing volatility (variability of returns).

While forward-looking analysis is speculative by its nature, an analysis of the historical data shows that the financial risks involved in fossil fuel divestment are minimal, and can be largely offset by substituting oil, gas and coal stocks with less carbon intensive alternatives that are correlated with the Energy sector.



# GENUS LONG-TERM STUDY

## DECEMBER 1996 - JUNE 2016

### OBSERVATIONS

- For the period December 31, 1996 to June 30, 2016, the U.S. S&P 500 generated a total return of 307% (USD); the S&P/TSX Composite 269% (CAD); and the MSCI World Index 216% (USD).
- The benchmark price of oil (West Texas Intermediate crude) increased 91% over the same period, leading to returns of 417% and 272% (U.S. dollar terms) in the energy sectors of the S&P 500 and MSCI World indexes respectively.

### METHODOLOGY

- Genus defines “fossil free” as excluding the Energy, Utilities, and Transportation industries from the respective indices tabled in Figure 2. (This contrasts with an Aperio Group study<sup>6</sup> that excludes Oil, Gas and Consumable Fuels, a smaller subset.)
- **Fossil Free “Naïve”:** The strategy research and backtest simply excludes the Energy, Utilities, and Transportation industries from the respective indexes; and reweights the remaining stocks proportionally.
- **Fossil Free Optimized:** In the long-term backtest we took the Fossil Free Naïve strategy and performed a quarterly optimization to minimize the tracking error of the portfolio against the benchmark.
- Our study focuses on a hypothetical equity portfolio that starts across all developed equity markets (Figure 2), ultimately focussing on a 35% allocation to Canadian stocks and a 65% allocation to stocks in the MSCI World Index, to mirror the composition of the Genus Fossil Free CanGlobe Equity Fund.

## RESULTS

### FIGURE 2: LONG-TERM FOSSIL FREE BACKTEST

DECEMBER 31, 1996 – JUNE 30, 2016

	Canada <sup>1</sup>	United States <sup>2</sup>	International <sup>3</sup>	Global <sup>4</sup>	Benchmark <sup>5</sup>
<b>Annualized Return</b>					
Index (Benchmark)	6.95%	7.22%	4.69%	6.03%	6.60%
Fossil Free Naïve	6.63%	7.17%	4.56%	5.90%	6.38%
<b>Fossil Free Optimized</b>	<b>7.42%</b>	<b>7.44%</b>	<b>4.97%</b>	<b>6.33%</b>	<b>7.00%</b>

<b>Tracking Error (Active Risk)</b>					
Fossil Free Naïve	4.05%	1.76%	1.55%	1.69%	2.45%
<b>Fossil Free Optimized</b>	<b>3.62%</b>	<b>1.56%</b>	<b>1.14%</b>	<b>1.26%</b>	<b>1.86%</b>

<b>Beta</b>					
Fossil Free Naïve	1.03	1.04	1.04	1.03	1.01
<b>Fossil Free Optimized</b>	<b>0.98</b>	<b>1.02</b>	<b>1.01</b>	<b>1.01</b>	<b>1.01</b>

<b>Information Ratio</b>					
Fossil Free Naïve	-0.08	-0.03	-0.09	-0.08	-0.09
<b>Fossil Free Optimized</b>	<b>0.13</b>	<b>0.14</b>	<b>0.25</b>	<b>0.24</b>	<b>0.22</b>

Source: Genus Investment Research

1. Canada: S&P/TSX Composite Total Return Index

2. United States: S&P 500 Total Return Index CAD

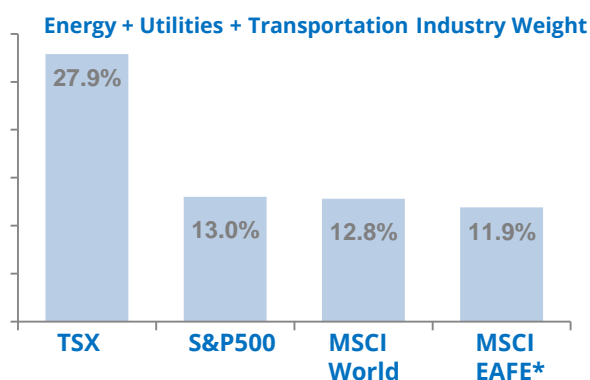
3. International: MSCI EAFE (Europe, Australasia, Far East) CAD

4. Global: MSCI World CAD

5. Benchmark: 35% Canada S&P/TSX Composite Total Return Index and 65% MSCI World Total Return Index CAD.

Not surprisingly, the Canada backtest has the highest tracking error against the S&P/TSX Composite (Fossil Free Naïve = 4.05%, Fossil Free Optimized =3.62%) due to a larger exposure to fossil fuel sectors in the index (see bar chart below).

The percentage of the combined Energy + Utilities + Transportation industry weight in various stock market indexes, as at June 30, 2016 (Source: Bloomberg) is illustrated right:



- A lower tracking error means that the screened portfolio replicates the index returns more faithfully (i.e., there is less risk of deviating from the benchmark). Lower deviation implies that the return of the tracking portfolio is unlikely to vary dramatically (positively or negatively) from the return of the index.
- The backtest shows that by optimizing, you can achieve a lower tracking error to the indices than a simple naïve approach. Also, the naïve approach yields slightly weaker returns compared to the benchmarks, but the optimized approach yields slightly stronger returns than the benchmark. (The Aperio Group study<sup>6</sup> has similar results.)
- Interestingly, based on a 35% Canadian and 65% MSCI World Index benchmark, the Fossil Free Optimized approach overweights Consumer Staples, Materials, Financials, and the Canadian market on average.
  - The sector overweight comes from a relatively high correlation of Materials and Financials to Energy (cyclical correlation) and Consumer Staples to Utilities (defensive correlation).
  - The overweight to the Canadian market comes from the large exclusion of Canadian Fossil Fuel sectors and the fact that remaining Canadian stocks are more correlated to this exclusion than international stocks.

\*MSCI EAFE (Europe, Australasia, Far East)



## GENUS SHORT-TERM STUDY

### OCTOBER 2010 - JUNE 2016

#### METHODOLOGY

- A shorter-term analysis (October 31, 2010 to June 30, 2016) started with a Fossil Free Naïve (Figure 3, Strategy #2) approach, and then proceeded to examine the addition of Genus Fossil Free and ESG Screens and Genus Alpha in a 35% Canadian and 65% MSCI World universe.
- In many instances, we found that simply excluding stocks in the Energy, Utilities and Transportation sectors did not reflect the level of our stringent fossil free and Environmental, Social and Governance (ESG) commitment.
- Genus utilized additional research from MSCI ESG research and MSCI Carbon Metrics to screen out high carbon emitters and companies that performed poorly in terms of our stringent ESG criteria.

## RESULTS

**FIGURE 3: SHORT-TERM FOSSIL FREE BACKTEST**  
OCTOBER 31, 2010 – JUNE 30, 2016

1	2	3	4	5	6
<b>BENCHMARK</b> 35% Canada (TSX) 65% MSCI World Index	<b>Fossil Free Naïve</b>	<b>Fossil Free Naïve Optimized</b>	<b>Genus Fossil Free + Low Carbon</b>	<b>Genus Fossil Free + Low Carbon + ESG screens</b>	<b>Genus Fossil Free + Genus Alpha + Low Carbon + ESG screens</b>
<b>Annualized Active Return</b>	<b>1.18%</b>	<b>0.71%</b>	<b>0.24%</b>	<b>2.17%</b>	<b>4.33%</b>
<b>Tracking Error</b>	1.92%	1.65%	2.24%	2.35%	3.52%
<b>Beta</b>	0.95	1.01	0.97	1.00	0.97
<b>Information Ratio</b>	0.62	0.43	0.11	0.92	1.23

Source: Genus Investment Research

- Every step illustrated above added value. Under a Fossil Free and Low Carbon optimized to lower tracking error, the scenario shows slightly better performance compared to the benchmark while maintain a 2.24% tracking error.
- However, the combination of Low Carbon and screening out poor ESG performers contributed quite significant outperformance (2.17% active) versus the benchmark.
- When Genus Alpha (active stock selection) is factored into the optimization, the backtest shows a hypothetical active return of 4.33% for the Fossil Free Strategy with a tracking error of 3.52% (Information Ratio of 1.23).
- The results of the Genus research mirror similar studies by Aperio Group<sup>6</sup>, Impax Asset Management<sup>7</sup>, and MSCI<sup>8</sup>, all of which show that fossil fuel divestment specifically does not significantly increase risk and may improve returns.

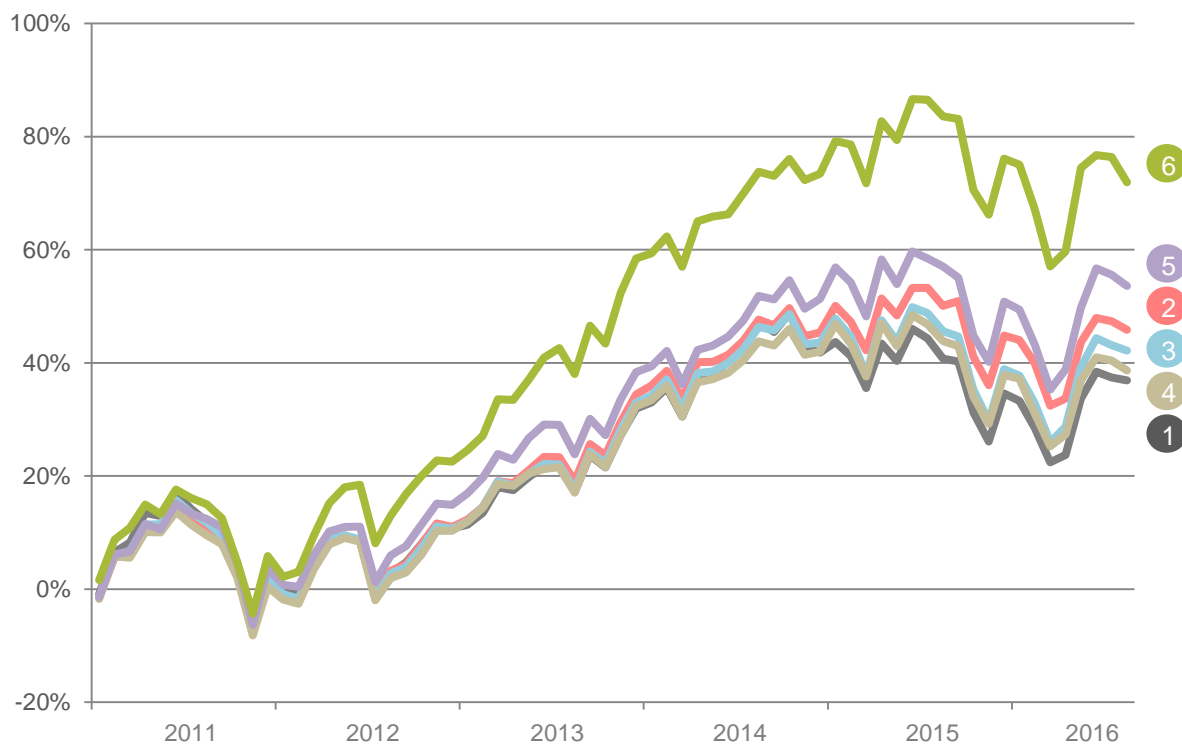
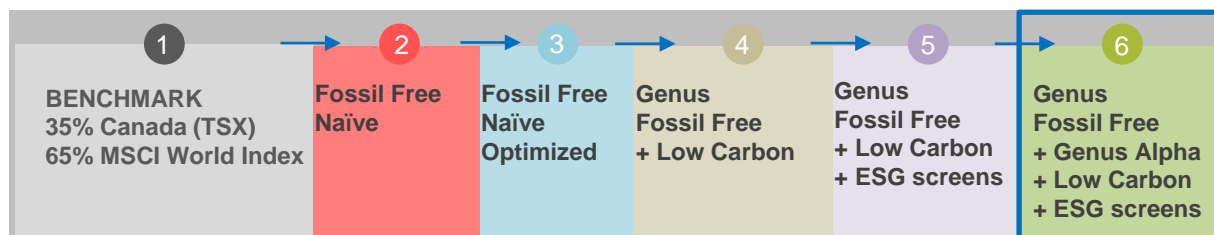
6.Geddes, Patrick, Aperio Group LLC, Building a Carbon-Free Equity Portfolio, 2015, see table on page 4, <https://www.aperiogroup.com/resource/138/node/download>.

7.Impax Asset Management – Storms on the Horizon 2014: <http://www.impaxam.com/sites/default/files/FFD%20White%20Paper%20UK%20FINAL.pdf>

8.MSCI Responding to the Call for Fossil-fuel Free Portfolios [https://www.msci.com/resources/factsheets/MSCI\\_ESG\\_Research\\_FAQ\\_on\\_Fossil-Free\\_Investing.pdf](https://www.msci.com/resources/factsheets/MSCI_ESG_Research_FAQ_on_Fossil-Free_Investing.pdf)



**FIGURE 4: SHORT-TERM FOSSIL FREE BACKTEST**  
CUMULATIVE RETURNS, OCTOBER 31, 2010 – JUNE 30, 2016




Source: Genus Investment Research

## DEFINITIONS

**Estimated tracking error** is a measure of how closely a portfolio is expected to track its benchmark. More formally, it is defined as the standard deviation (SD) of the expected difference between the annual returns of a portfolio and its target benchmark.

**The information ratio** measures risk-adjusted return, or how much return you're getting for your investment relative to the risk you take on. It is the ratio of the alpha component of total returns to the standard deviation of these excess alpha returns. The alpha component is the return that is attributable to the manager's skill and is the residual after taking out the risk free return and the beta components from the total returns.



**Alpha** is another measurement of performance on a risk adjusted basis. A positive Alpha shows that performance of a portfolio was higher than expected given the market risk. A negative Alpha shows that the performance was less than expected given the risk.

**Standard deviation** is a measure of the dispersion of a set of data from its mean. The more spread apart the data, the higher the deviation. Standard deviation is calculated as the square root of variance.

**Beta** is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.



## GENUS FOSSIL FREE BALANCED

A balanced solution of investing brings two unique asset classes together in a diversifying blend of superior risk adjusted performance. This holds true for divestment from fossil fuel as well. By adopting a balanced approach to Fossil Free investing, one can divest away from companies with fossil fuel exposures through every capital channel while maximizing total portfolio diversification.

In addition to fossil fuel free equity funds, Genus Capital provides a divestment fixed income solution in the form of Genus Fossil Free bond funds. The Genus Fossil Free Institutional Balanced Composite is a blended composite of Fossil Free global institutional portfolios managed by Genus Capital.

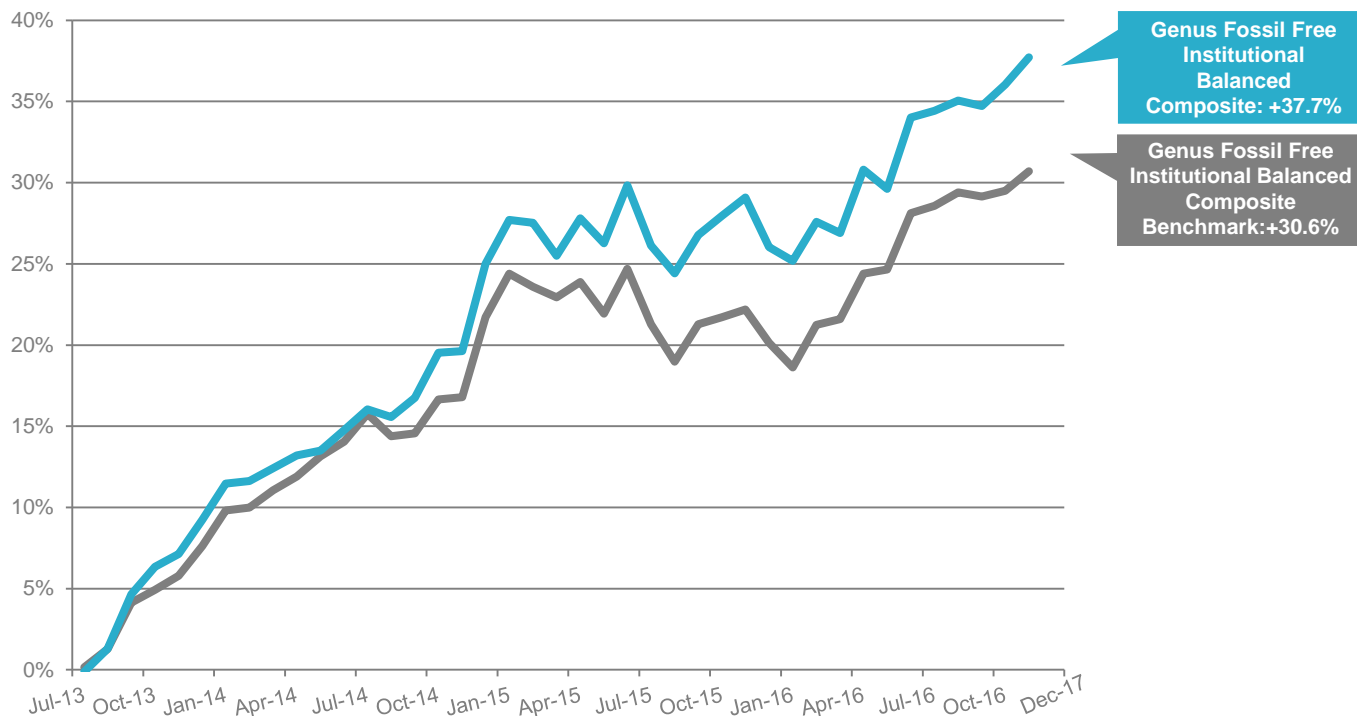
The Genus Fossil Free Institutional Balanced Composite has outperformed its composite benchmark for the period from July 31, 2013 to December 31, 2016:

- The Genus Fossil Free Institutional Balanced Composite is a blend of Fossil Free institutional portfolios managed by Genus Capital;
- These Fossil Free institutional portfolios are managed with a global balanced approach, using a strategic mixture of Genus Fossil Free equity and Genus Fossil Free fixed income funds;
- The Fossil Free Institutional Balanced Composite generated an annualized return of 9.80% over the period;
- The Composite Benchmark generated an annualized return of 8.14% over the same period.

All returns expressed in Canadian dollars.

#### FIGURE 5: FOSSIL FREE INSTITUTIONAL BALANCED COMPOSITE CUMULATIVE RETURNS IN CANADIAN DOLLARS, GROSS OF FEES

July 31, 2013 to December 31, 2016



Source: Genus Investment Research

## INSTITUTIONAL FOSSIL FREE BALANCED COMPOSITE GIPS DISCLOSURE

**Fossil Free Institutional Balanced Composite** was created in June 2016, and includes all fee-paying, discretionary institutional and foundational portfolios with the following blended asset allocation: 40-60% equity, 30-60% fixed income and 0-20% cash. Investments are exclusively invested in Fossil Free eligible products, including government bond fund. The benchmark is a weighted average return of the benchmarks of all portfolios in the composite, and is rebalancing monthly. For each portfolio, the benchmark is a blend of FTSE Universe for the fixed income component, blended index of S&P/TSX and MSCI World Indices for the equity component and DEX 90-Day T-bill Index for the cash component, with its corresponding weights according to each portfolio's IPS.

### Genus Capital Management: Fossil Free Institutional Balanced Composite Performance

Results are shown in Canadian dollars before fees	1 Year Annualized Return (Ending December 31, 2016)	3 Year Annualized Return (Ending December 31, 2016)	Since Inception Annualized Return (Ending December 31, 2016)
<b>Genus Fossil Free Institutional Balanced Composite</b>	<b>6.67%</b>	<b>8.73%</b>	<b>9.80%</b>
Fossil Free Institutional Balanced Composite Benchmark	6.95%	7.30%	8.14%

Genus Capital Management claims compliance with the Global Investment Performance Standards (GIPS®).

Genus Capital Management is an independent investment boutique headquartered in Vancouver, British Columbia, and provincially incorporated under the British Columbia Business Corporations Act. The Firm provides portfolio management services to private, high net worth and institutional clients. For the period beginning on and after May 2008, the sub-advisor Addenda has been used for fixed income pooled fund held in the composite. The firm maintains a complete list and description of composites, which is available upon request.

Composite performance is presented net of foreign withholding taxes on dividends, interest income, and capital gains. Withholding taxes may vary according to the investor's domicile. Past performance is not indicative of future results.

The Canadian Dollar is the currency used to express performance. Futures contracts and forward contracts may be used to manage cash flows, beta and currency exposure of the component without creating leverage. Returns are presented gross of management fees and include the reinvestment of all income. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

To receive a complete list and description of Genus Capital Management's composites and/or a presentation that adheres to the GIPS standards, contact John-Paul (J.P.) Harrison at 1-604-605-4631, or JHarrison@genuscap.com, or write to Genus Capital Management Inc., 860-980 Howe Street, Vancouver BC V6Z 0C8.

Performance data shown represents past performance which does not guarantee future results and other calculation methods may produce different results. There is the possibility of loss of principal value. Your portfolio results may differ due to your particular investment guidelines, active portfolio management and changing market conditions.



## IMPORTANT DISCLOSURE

The information contained within this report was compiled from sources Genus believes to be reliable and accurate. We provide this information with the understanding that we are not engaged in rendering legal, accounting, or tax services. In particular, none of the examples should be considered advice tailored to the needs of any specific investor. We recommend that all investors seek out the services of competent professionals in any of the aforementioned areas. With respect to the description of any investment strategies, simulations, or investment recommendations, actual results may differ as described in our materials. Past performance is not indicative of future results. Every investment program has the potential for loss as well as gain. Any forward looking statements or forecasts are based on assumptions and actual results are expected to vary from any such statements or forecasts. No reliance should be placed on any such statements or forecasts when making any investment decision. The forecasted information displayed is an estimate, hypothetical in nature, and meant to serve solely as a guideline. The results and analysis are not guarantees of future results because they are derived from mathematical modeling techniques that may or may not reflect actual conditions and events. No transaction costs or management fees included. Benchmark returns are simulated using underlying holdings to ensure apples-to-apples comparison. The benchmark for back-test simulation is 35% Canadian S&P/TSX total return index and 65% MSCI World total return index. The simulated portfolios are actively managed, and the structure of the actual portfolios may be at variance to the benchmark index. Index returns reflect reinvestment of dividends but do not reflect fees, brokerage commissions, or other expenses of investing, which can reduce actual returns earned by investors. Back-testing involves simulation of a quantitative investment model by applying all rules, thresholds and strategies to a hypothetical portfolio during a specific market period and measuring the changes in value of the hypothetical portfolio based on the actual market prices of portfolio securities. Investors should be aware of the following: 1) Back-tested performance does not represent actual trading in an account and should not be interpreted as such, 2) back-tested performance does not reflect the impact that material economic and market factors might have had on the manager's decision-making process if the manager were actually managing client's assets, 3) the investment strategy that the back-tested results are based on can be changed at any time in order to reflect better back-tested results, and the strategy can continue to be tested and adjusted until the desired results are achieved, and 4) there is no indication that the back-tested performance would have been achieved by the manager had the program been activated during the periods presented in this report. Accordingly, you should not rely solely on the information contained in these materials in making any investment decision.

© Genus Capital Management Inc., 2017



# GENUS

**FOSSIL FREE INVESTING**

## GENUS CAPITAL MANAGEMENT INC.

860 – 980 Howe Street,  
Vancouver, BC, Canada  
V6Z 0C8

T 604 683 4554 or 1 800 668 7366

F 604 683 7294

E [info@genuscap.com](mailto:info@genuscap.com)

[www.genusfossilfree.com](http://www.genusfossilfree.com)



Printed on sustainably-sourced paper