

WHITE PAPER

Financial Case for Divesting from Fossil Fuel Companies An Austin-wide Community Initiative

Sustainability lies at the heart of any forward thinking and thriving society just as impartially identifying and acting on facts, trends and analysis is the art and science of investing and building wealth.

As citizens of one of the most entrepreneurial and fastest growing cities in the US, we understand the need to balance our approach to climate change economically, politically and socially. The city of Austin is a paragon of how to marry environmental values with economic principles. For decades, she has innovated progressive environmental programs and policies and facilitated healthy debates on how to reach net-zero carbon at a pace that is both ecologically and socio-economically responsible. And we are very proud to live in a C40 city, where we are helping lead the charge for renewable energy transition and hope to create a model for others to follow.

While this type of leadership may seem challenging, **Fossil Fuel divestment** is a highly profitable and highly impactful measure that **[name of org]** can take and generate positive press. To date, over 1,000 institutional investors globally have committed to divest almost **\$8 trillion in holdings from fossil fuels**. Looking ahead towards the technologies and trends that are already being adopted globally, this white paper makes the case for fossil fuel divestment as the only proper financial response to current market conditions and the outlook facing fossil fuel sectors. In doing so, we aim to establish a solely financial case for why it would be in the best interest of [name of institution/fund] to immediately begin the process of divesting its fossil fuel related funds.

In what follows, we would like to emphasize that we are looking beyond just the current and projected environmental effects of our continued use of fossil-fuels. Instead, we will walk through the major fossil-fuel related losses suffered by some of the largest investment funds in the world. We then proceed by identifying the technological disruptions and geopolitical shifts taking place that will further accelerate the decline of fossil fuels. We conclude by reflecting on past historical macroeconomic events and confirmation biases that caught the most sophisticated of investors off-guard. As concerned citizens of Austin **[name of org]**, we wish to avoid this same beaten investment path by convincing you to prepare for the future that lies ahead and inspire you to take advantage of the numerous economic opportunities with an investment horizon of 10 to 15 years.

Taxonomy of Fossil Fuel Related Risks

The Center for International Environmental Law (CIEL) has presented a taxonomy of climate change risk:

This risk taxonomy provides a succinct way to wrap one's head around the case for divestment.

- (i) **Impact risk:** The risk of losses towards physical & financial assets due to the destructive, physical effects of climate change.
- (ii) **Stranded asset risk:** In an increasingly carbon-constrained world, fossil fuel companies may not be allowed to fully develop and use the massive carbon reserves they currently hold, resulting in 'stranded assets.'
- (iii) **Transition risk:** The risk that a given business or asset will be negatively affected by the changes in policy, technology, and market conditions that are driving a global transition to a low-carbon economy.
- (iv) **Litigation risk:** The possibility that a company may be sued as a result of its contribution to climate change, potentially resulting in significant litigation costs and financial losses for both the corporation and its investors.

Paradoxically, the Fossil Fuel sector's sudden fall from grace was largely caused by a price drop that grew out of a major technological innovation in the oil and gas sector: hydraulic rock fracturing a.k.a fracking.

Impact Risk

Fossil fuel stocks have now become increasingly speculative investments in the past decade. Financial stresses such as volatile pricing leading to volatile revenues, limited growth opportunities, and an overall negative outlook by climate change proponents is not a mere phase in our history, it is a sign of further intensification of structural headwinds.

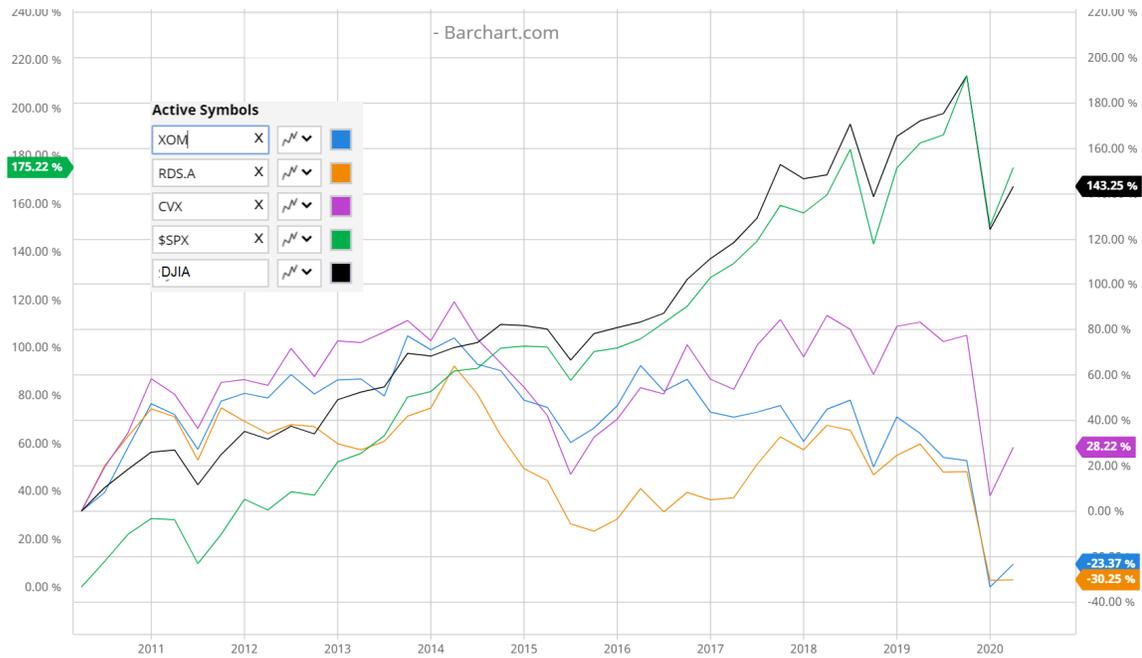


Figure 1- Investment performance comparison for past 10 years upto Q1 2020



Figure 2- Oil prices per barrel for past 10 years upto Q1 2020

Figure 1 compares the market return of oil companies to the S&P 500 and Dow Jones Industrial Average and it becomes clear why divesting is a good option. Figure 2 shows the 10yr price of oil per barrel, the correlation to oil and gas stocks is clear for anyone to see.

Since oil & gas stocks have some of the highest market capitalization in the energy industry, their remarkably low returns in recent years have caused many institutional and pension funds to suffer considerably.

BlackRock - \$6.5 Trillion Wealth Fund

On January 14th 2020, Black Rock CEO Larry Fink [issued a letter to CEOs of their portfolio companies stating](#) -

*“Investors are increasingly reckoning with these questions and recognizing that climate risk is investment risk. Indeed, climate change is almost invariably the top issue **that clients around the world raise with BlackRock. From Europe to Australia, South America to China, Florida to Oregon, investors are asking how they should modify their portfolios. They are seeking to understand both the physical risks associated with climate change as well as the ways that climate policy will impact prices, costs, and demand across the entire economy.***

*These questions are driving a profound reassessment of risk and asset values. And because capital markets pull future risk forward, we will see changes in capital allocation more quickly than we see changes to the climate itself. **In the near future – and sooner than most anticipate – there will be a significant reallocation of capital.”**¹*

On the same day, Larry Fink also [published a letter to his clients](#) and shareholders noting that they are actively looking to divest from fossil fuels to prepare for a low-carbon world.

What led to this epiphany by BlackRock??

In August 2019, it was reported by the Institute for Energy Economics and Financial Analysis, that the **\$6.5 Trillion fund BlackRock** had lost upwards of **\$90 Billion in fossil fuel stocks. 75% of the \$90 billion lost** was directly attributed to investments in **4 companies alone – ExxonMobil, Chevron, Royal Dutch Shell and BP**² - all of which have all **underperformed the market in the past decade by under 8% on average** when compared to S&P avg of **13.70%**.

A major reason for this fiduciary irresponsibility was the fact that the **6 out of 18 board members** worked in companies with strong ties to the fossil-fuel sector. Also, Blackrock’s governance i.e. the Chair and Chief Executive Officer positions are both held by Larry Fink.

We cannot let Austin’s role as the Capital of oil-producing Texas impede our forward-looking fiduciary judgement.

[CalSTRS, CalPERS and PERA Pension Funds](#)

California Public Employees’ Retirement System (CalPERS) and the California State Teachers’ Retirement System (CalSTRS)—as well as the Colorado Public Employees’ Retirement Association (PERA)—combined missed out on **\$19 Billion** in investment returns over the last decade by investing in fossil fuel stocks. All the reports, calculations and data files are available here for review - <http://bit.ly/corporate-knights-pers-strs>

In this 10-year analysis, California’s \$238 Billion state Teacher’s retirement fund (CalSTRS) would have **gained \$5.5 Billion had it just removed fossil fuels from its portfolio**. The \$380 Billion Public Employees retirement fund (CalPERS) would have generated an **additional \$11.9 Billion**. Similarly, Colorado’s \$45 Billion state pension fund (PERA) would have generated an estimated **additional \$1.77 Billion** in value without fossil fuels.³

The major highlight from [the report](#) was that while technology, healthcare, retail and entertainment boosted portfolio performance, large fossil fuel companies pulled down overall performance.⁴

Stranded Asset Risk

An implicit assumption in valuing fossil fuel companies is that all their discovered oil reserves, regardless of extraction cost, will continue to be extracted and sold at economically viable prices. The other assumption is that the

¹ <https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter>

² <https://ieefa.org/ieefa-report-blackrocks-fossil-fuel-investments-wipe-us90-billion-in-massive-investor-value-destruction/>

³ <https://www.ai-cio.com/news/calpers-cio-no-divestment-fossil-fuel-companies/>

⁴ A disclaimer here is that the reports were commissioned and funded by non-profit coalitions calling on the Boards of CalSTRS, CalPERS, and PERA to divest from fossil fuels.

capital released will serve to replace reserves with new discoveries. Therefore, to maximize shareholder value, fossil-fuel companies need to keep constantly finding newer extractable reserves.

Stranded assets are defined as those reserves that cannot recover “all or part of their investment during the time that they are operational.” Reaching a global goal to stay below an average two-degree Celsius rise in global temperatures would require us to keep an estimated third of oil reserves, half of gas reserves and more than 80% of known coal reserves in the ground.

The International Energy Agency (IEA) forecasts that at current rates of emissions, the total carbon budgets to limit temperature rise to **1.5°C and 1.75°C will be exceeded in 13 years & 24 years respectively**. Oil and gas companies have already approved \$50 billion of investment in projects since 2018 and continue to find more sites to drill. Since 2011, global proved reserves of oil and gas have only increased, and now amount to some 50 years at current production levels. *Many newly approved projects like ExxonMobil’s \$2.6 Billion Aspen project in Canada (greenfield oil sands project) will require an oil price of over \$80/barrel to deliver a ~15% return.*⁵

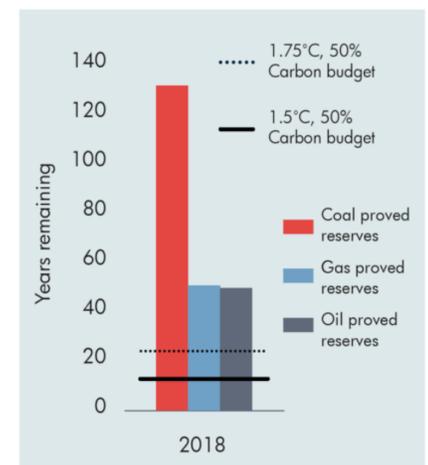
Citigroup, HSBC (Hongkong and Shanghai Banking Corporation) and Deutsche Bank have noted that *up to \$100 Trillion in fossil-fuel assets may already have been economically stranded.*⁶ Considering the clear risks that lie ahead and the uncertainty of companies’ ability to extract from higher-cost reserves, institutional investors need to demand a comprehensive, future-oriented investment appraisal.

We’ve already seen a similar scenario play out - After oil prices crashed in 2014, oil company revenues plummeted, expensive capital investments failed, massive amounts of reserves written off as no longer economical, and major bankruptcies occurred.

FOSSIL FUEL RESERVES REMAINING AT CURRENT PRODUCTION LEVELS

Fossil fuel	Remaining proved reserves, years left at current production
coal	132
gas	51
oil	50

THE 2018 CARBON BUBBLE: RESERVES LIFE OF OIL, GAS AND COAL, AND CARBON BUDGETS



Source: IPCC, Global Carbon Project, BP, CTI analysis

Figure 3- 2018 Remaining Reserves of Oil, Gas & Coal

were

This decline exposed long-standing weaknesses in the industry’s investment thesis, which was to assume that a company’s value was determined by the number of barrels of oil (reserves) it owned. **If you believe that every drop of oil and gas from these reserves will be sold for the next 50 years or so, then continue to invest in fossil fuel companies. However, if you understand the full effects of impending climate change along with the energy disruption taking place in renewables and battery technology, then please start divesting immediately!**

Disruption/ Transition Risk

Upcoming EV Revolution

Technology has moved from a mantra of ‘speed plus power’ to one of ‘sustainable plus scalable’. Carbon neutral, carbon friendly and net-zero energy have become the new buzz words of the modern era. Products and services addressing this need for sustainability have been growing steadily. Energy production is no exception, with

⁵<https://www.carbontracker.org/oil-and-gas-companies-approve-50-billion-of-major-projects-that-undermine-climate-targets-and-risk-shareholder-returns/>

⁶ <https://www.ciel.org/wp-content/uploads/2016/12/Trillion-Dollar-Transformation-CIEL.pdf>

renewable electricity generation becoming increasingly attractive each year because of improved cost profile, long-term price stability, and enhanced ability to innovate within a distributed generation model.

Modern renewable energy generation in the power sector and development of EV markets has been led by a small number of regions including the US, the EU, China and India.

Levelized Cost of Energy (LCOE)

The concept of LCOE is crucial to understand the bulwark metric of decision-making for utilities, car companies, manufacturing businesses, etc. when they make energy generation and consumption decisions. It is simply the total cost of setting up and operating a power plant divided by the total energy (in kWh) a power plant generates over its useful life.

Already we see from the annual analysis carried out by investment bank Lazard titled '[Levelized Cost of Storage Analysis v5.0](#)' (LCOE 13.0) that renewable generation is far cheaper than conventional fossil fuel and nuclear generation **when not including renewable energy subsidies!**

The levelized **fuel cost per mile** of owning an electric vehicle is already somewhere around **4-6 cents/mile**, while the most efficient of internal combustion engines is around **10-12 cents/mile**⁷, at currently low (<\$2.20/gallon) gasoline prices! The base metrics are already in favor of electric vehicles, which will only get cheaper as lithium-ion battery prices continue to fall.

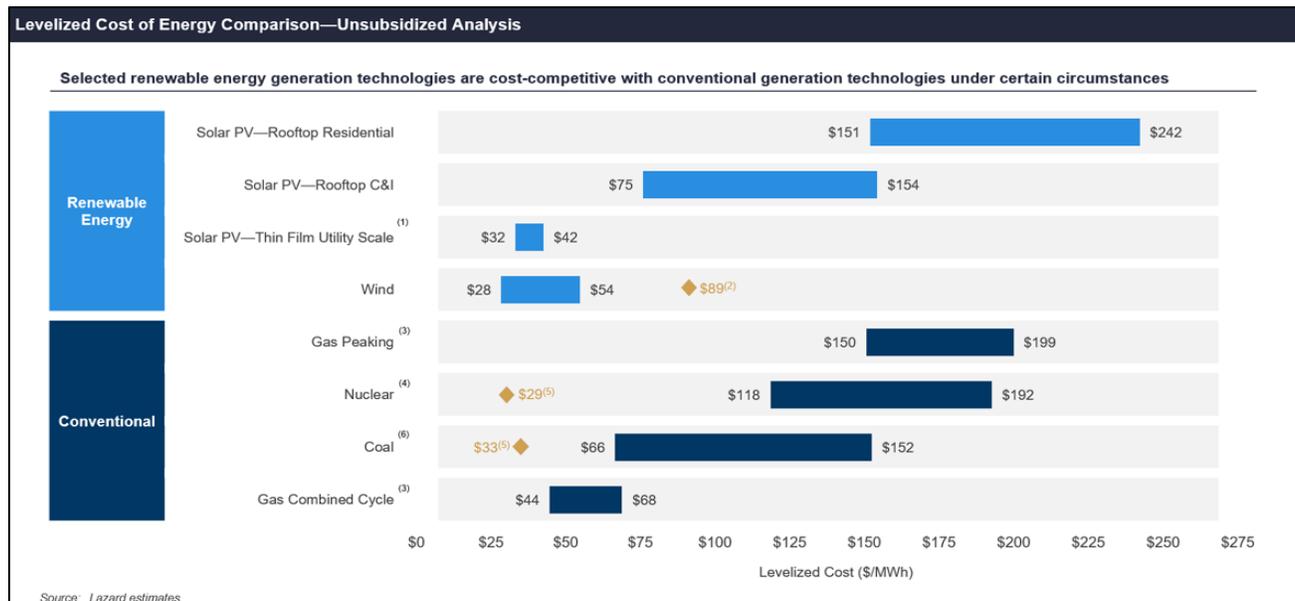


Figure 4 - LCOE Analysis of different energy sources by LAZARD in 2019

Car companies such as Tesla, Chevy, and Nissan plan to start selling long-range, fully electric cars in the **sub-\$30,000 range** in the next two years. It has already been estimated that electric vehicles could displace oil demand of **2 million barrels a day as early as 2023**. This would cause a catastrophic oil glut such as triggered the 2014 oil-price crash. We're looking at just one example in one sector; couple this with the ever-increasing growth of alternative fuel sources and increasing supply from newly discovered reserves, and what you see is a massive supply/demand mismatch. Investment fund managers that argue against such inevitable macro-economic changes in the face of such objective indicators must be carefully questioned.

We must not forget that since the dawn of the 20th century, it was the transportation sector that was responsible for the boom of oil and the widespread switch from whale oil, coal & methane. The declining costs of renewable energy sources coupled with the rise of battery adoption for energy storage and EV's will now be the antidote to the world's addiction to fossil fuels.

⁷ IDAHO National Lab report - <https://avt.inl.gov/sites/default/files/pdf/fsev/costs.pdf>

COVID-19 - the Shift in Geopolitical strength and Future of Fossil fuels

“The current situation on the oil market with too much supply and collapsing demand is similar to what happened in the middle of the 1980s when a glut led to oil prices staying low for 17 years, There is still a lot of oil being produced that is going into storage and not being used. Demand for hydrocarbons will continue to be weak, and that demand will be filled primarily by those who have no choice but to produce oil - so the state oil companies of the world.”

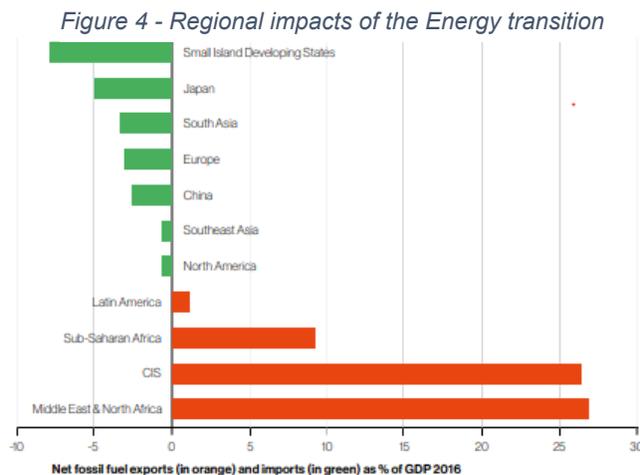
[John Browne ex-CEO of BP Petroleum told the BBC](#)⁸, a day after WTI Crude prices of the May futures contract crumbled by more than 300% to settle at **-\$37 a barrel** !

The COVID-19 pandemic hit as soon as oil production began surging worldwide, OPEC and Russia coordinated production cuts as the US flooded the market for oil and hit a record of 13.1 million barrels/day through March as American companies **had billions of dollars of debt coming due soon** so they couldn't stop pumping. In April, OPEC and Russia finally restricted output to only 10 million barrels/day, in spite of which oil prices have not stabilized. As this points to a new era or new normal for oil companies.

Low prices normally put cash in the pocket of users like factories and airlines. But in today's quarantine environment, no user can truly benefit from O&G output, there's no winner in the current situation. Oil producers' most pressing issue is that by April consumption had fallen to the lowest level in 30 years, jet fuel consumption plunged to under 30% of normal. Global demand for crude oil will be estimated to **decline by about a third** when normal operations continue according to the International Energy Agency⁹.

Energy Security is Key

The rapidly changing energy landscape has led to a changing geopolitical environment. Presently, the geographic concentration of oil configures the political landscape: Since the 1950s - US-Saudi pact leading to the creation of the US 'Petro-dollar' to Iran nationalizing its oil in 1952 leading to a drastic Iranian regime change, to OPEC using oil



Source: World Bank, IMF.

- Renewables benefit Small Island Nations
- Europe, China and Japan are currently heavily reliant on fossil fuel imports
- Japan is the most dependent; its net fossil fuel imports amount to 5% of GDP !
- North America and Latin America are net neutral when combined together
- South and S-East Asia would see a major boost to their GDPs if they transition to Renewables and become self-sufficient.

The lesson here is that it's all about energy security. Already, nations across the world are passing massive renewable energy and EV subsidies that are helping generate massive value. Oil exporting countries in the Middle-East/Gulf region themselves have massive plans for economic diversification and decarbonization as shown in the table below. They also realize the importance of shielding their countries from volatile changes in commodity prices,

⁸<https://www.reuters.com/article/us-global-oil-browne/remember-the-1980s-glut-ex-bp-boss-browne-warns-oil-will-stay-low-idUSKBN2230P3>

⁹ <https://www.wsj.com/video/the-forces-fueling-2020s-oil-bust/FCD37725-3E7D-49F5-A8AD-DB16A4D8F5AB.html>

creating more productive jobs for their populations and helping achieve sustainable trading relations. Already, countries such as Brazil, Costa Rica, New Zealand and Kenya, generate more than 80% of their electricity from a combination of hydro, geothermal, wind, biomass and solar power.

Falling renewable prices, coupled with smart energy storage and distribution systems, will create a diverse energy ecosystem in which the dependence on fossil fuels will fall regardless. **Arguing that 80% of the world's population that is currently dependent on fossil fuels wouldn't want to achieve their own energy autonomy** would truly be an extremely unwise assessment of how the future of the energy ecosystem is already metamorphosing.

Litigation Risk

Papers such as InsideClimate News and the [Los Angeles Times](#) uncovered the studies conducted by Exxon between 1986 and 1992 to study global warming, they consequently spent millions on lobbying and misinformation for 30 years. Eight cities and counties in California, along with New York City, Rhode Island, municipalities in Colorado and Washington state, have filed civil lawsuits against several oil and gas companies seeking compensation for climate change damages.

Legal cases relating to climate change display the culprits on the public record; the plaintiffs' motivations and the damages they face become more widely known and apparent. Every new case due to a climate change-based environmental disaster further dents the reputations of fossil-fuel companies and other polluters, emboldening citizens to act against them, whether it be through rapid adoption of clean technology, activism or legal action.

Financial markets are more attuned to reality

The history book of world-trade and economics is indexed by massive technological and political disruptions. The rise and fall of the horse makes very clear how hard it is to predict transitions. It took about 50 years to change from the horse in farms, public transport and wagon delivery systems to internal combustion engines (i.e. automobiles), as roads became better and cars became cheaper. The future will always throw curve-balls at us, especially in a globalized and information technology focused world. General Electric (GE) was the most valuable company in the world around 20yrs ago, but today it's gone down 70%, thanks in part to them incorrectly forecasting the adoption of the gas turbine market, among other things.

We see the same story being played out once again in the energy sector. Solar and wind have finally reached a favorable economic price-point as countries have started to take energy independence and climate change very seriously and are pouring massive investments into renewables. Cities (like Austin) and local municipalities are forming global alliances and networks like - C40, ICLEI and the Global Covenant of Mayors. Corporations like Danish Oil and Natural Gas (DONG) changed its name to Ørsted after selling off its oil and gas business. Shell and BP have begun to diversify their energy portfolio, albeit very slowly, Tesla is already the most valuable car company in the United States, and so on.

[Name of Org] cannot afford to keep playing to the same exhausted notions of looking at fossil fuel companies as safe investments in spite of the fact that *cumulative annualized stock returns of these companies have been below 6% across the top oil and gas companies, when compared to average S&P 500 return of 13.7%*. We cannot continue to fight today's battles using yesterday's intelligence.

As a decision maker for this fund, it is your fiduciary duty to protect the savings and future wealth of your beneficiaries. You have a duty to monitor, to inquire and to be impartial in the face of such mounting evidence against fossil fuel companies' long-term profitability. Now imagine using this knowledge and foresight to impact some truly positive and sustainable change while simultaneously lowering risks and seizing new opportunities.

Climate change should not be treated as one discrete risk factor or even a set of factors, but as **a macro disruption across industries** (energy, agriculture, mobility, etc.), geographies (emerging markets, coastal property, flood plains, etc.) and arenas (physical, policy, technology, liability, etc.). It will fundamentally change economic systems and thus has a material impact on investing. While there is uncertainty on when and where these impacts will fully manifest,

the transition to this new future is already well underway. There is no opting-out of climate consequences—to invest as “usual” is to take a bet against scientific principles. To delay action is itself a decision to enter a volatile investing environment completely unprepared.