

Divest Duke

**Report Proposing Fossil Fuel
Divestment for the
President's Advisory Committee
on Investment Responsibility**



TO: Members of the President's Advisory Committee on Investment Responsibility

FROM: The Members of Divest Duke

RE: Social Responsibility of Fossil Fuel Holdings

INTRODUCTION

On behalf of the Divest Duke campaign and its supporters, we formally request that the Advisory Committee on Investment Responsibility (ACIR) examine the social responsibility of maintaining endowment securities in fossil fuels on the grounds that:

1. Fossil fuel companies' activities cause substantial social harm.
2. Publicly removing investments in these companies will have a material effect on alleviating such injury.

The following document details the above criteria. With these criteria met and having engaged in a substantive dialogue throughout the University and community at large, we propose the following action by the Duke University Board of Trustees:

1. The University will publicly commit to divest within five years from direct ownership and from any commingled funds that include fossil fuel public equities and corporate bonds.
2. The University will immediately freeze any new investments in the 200 publicly traded fossil fuel companies that own the majority of the world's carbon reserves as identified by the Carbon Tracker Initiative.



The Use of Fossil Fuels Causes Substantial Social Injury

FOSSIL FUEL USE DRIVES CLIMATE CHANGE

Climate change describes the total effects of increasing levels of heat-trapping gases in the Earth's atmosphere.¹ Of those heat trapping gases, carbon dioxide (CO₂) is the most significant.² In 2013, the Intergovernmental Panel on Climate Change (IPCC) released its fifth assessment report, stating that the scientific community agrees with 95% certainty that global warming is caused by human ("anthropogenic") emission of carbon dioxide³. Excess carbon in the US comes from several sources including electricity generation (33 percent of GHG emissions), transportation (28 percent), industry (20 percent), commercial and residential sources (11 percent) and agriculture (8 percent).⁴ Fossil fuel use drives emissions in all these areas, thus greatly reducing fossil fuel use, and replacing them with alternatives, are essential to heading off the worst effects of climate change⁵.

CLIMATE CHANGE IS HAPPENING NOW

It is estimated that global temperatures have already risen by 0.85 degrees Celsius over the past 130 years and is rising .1 C every decade⁶. The IPCC said that "It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century"⁷.

¹ "Causes of Climate Change", EPA 1/17/2014, available at: <http://www.epa.gov/climatechange/science/causes.html#greenhouseeffect> (last accessed Feb. 14, 2014).

² *Id.*

³ "Human influence on climate clear, IPCC report says", IPCC Press Release, available at: https://www.ipcc.ch/news_and_events/docs/ar5/press_release_ar5_wgi_en.pdf (last accessed Feb. 14, 2014).

⁴ "Sources of Greenhouse Gas Emissions", EPA 9/9/2013, available at: <http://www.epa.gov/climatechange/ghgemissions/sources.html> (last accessed Feb. 14, 2014).

⁵ OECD Secretary-General Angel Gurría, "Reducing fossil fuel emissions isn't enough: We must aim for their complete elimination by the second half of the century", OECD Insights: Debate the Issues, 10/9/2013, available at: <http://oecdinsights.org/2013/10/09/reducing-fossil-fuel-emissions-isnt-enough-we-must-aim-for-their-complete-elimination-by-the-second-half-of-the-century/> (last accessed Feb. 14, 2014).

⁶ Patrick Lynch, "Paleoclimate Record Points Toward Potential Rapid Climate Changes", NASA Dec. 2011), available at: <http://www.nasa.gov/topics/earth/features/rapid-change-feature.html> (last accessed Feb. 16, 2014).

⁷ *Supra* note 3.



The IPCC goes on to call anthropogenic climate change “unequivocal”⁸, the IPCC’s strongest admonition to date. This conclusion on the reality of anthropogenic climate change has been reinforced repeatedly. A recent literature review of climate change research found that 97% of the studies it investigated endorsed the scientific consensus of the urgent veracity of anthropogenic climate change⁹.

As a result, the majority of the world’s governments have signed onto the Copenhagen Agreement which establishes a commitment to limit global temperature increases to less than 2 degrees Celsius above pre-industrial levels to avoid global catastrophe, at the recommendation of the scientific community¹⁰. In practice this requires an 80% cut to greenhouse gas emissions by 2050¹¹ worldwide. However, few governments, including the US, have taken actions commensurate with the Copenhagen Agreement despite the dangers – outlined below – inherent in such inaction.

CLIMATE CHANGE INTENSIFIES NATURAL DISASTERS

Humanity can expect four weather events to become more frequent and intense as a result of global atmospheric warming: extreme heat, drought, wildfires, and heavy precipitation.¹²

Extreme Heat. 2013 was the sixth hottest year since the 1800s¹³, every decade since 1970 has been warmer than the preceding decades, and an unprecedented number of the hottest years on

⁸ Fiona Harvey, “IPCC climate report: human impact is 'unequivocal'”, the Guardian 9/27/2013, available at: <http://www.theguardian.com/environment/2013/sep/27/ipcc-climate-report-un-secretary-general> (last accessed Feb. 14, 2014).

⁹ Jason Samenow, “97 percent of scientific studies agree on manmade global warming, so what now?”, Washington Post 5/17/2013, available at: <http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2013/05/17/97-percent-of-scientific-studies-agree-on-manmade-global-warming-so-what-now/> (last accessed Feb. 14, 2014).

¹⁰ UNFCCC “Copenhagen Climate Change Conference - December 2009”, available at: http://unfccc.int/meetings/copenhagen_dec_2009/meeting/6295.php (last accessed Feb. 14, 2014).

¹¹ Susan Joy Hassol, “Questions and Answers: Emissions Reductions Needed to Stabilize Climate”, Presidential Climate Action Project 8/2011, available at: <http://www.climatecommunication.org/wp-content/uploads/2011/08/presidentialaction.pdf> (last accessed Feb. 14, 2014).

¹² Daniel Huber, Jay Gulledge, “Extreme Weather and Climate Change, C2ES December 2011, available at: <http://www.c2es.org/publications/extreme-weather-and-climate-change> (last accessed Feb. 14, 2014).

¹³ Alex Morales, “World Had Sixth-Hottest Year on Record in 2013, UN Says”, Bloomberg Feb 5, 2014, available at: <http://www.bloomberg.com/news/2014-02-05/world-had-sixth-hottest-year-on-record-in-2013-un-says.html> (last accessed Feb. 14, 2014).



record have occurred this century¹⁴. Increasing global temperatures result in negative health effects for humans due to the increased frequency and intensity of heat waves, and the similarly increased spread of infectious diseases that thrive in warm conditions. Deaths due to heat waves are increasing¹⁵ in the US and elsewhere. One study found that “The estimated mortality risks from future heat waves are likely an order of magnitude higher than its current level and the probability of catastrophic outcomes with thousands of deaths each year is not trivial”¹⁶. Heat waves can cause illness and death from heart disease, diabetes, stroke, and respiratory disease.¹⁷ Heat waves are particularly dangerous for the most vulnerable members of society, such as the elderly¹⁸ and the homeless¹⁹.

Increasing global temperatures have contributed to expanding the conducive habitat for a number of infectious diseases and the parasitic insects that transmit them, such as mosquitoes and ticks. The US is already seeing this play out in increasing rates of dengue fever, and fossil fuel incineration compounds the danger of a prolonged allergy and asthma season, all of which is intensifying the rate and severity of respiratory illnesses.²⁰

¹⁴ Gavin Schmidt, Thomas Karl, “2013 Global Temperatures”, NOAA/ NASA Joint Briefing, available at: http://www.nasa.gov/sites/default/files/files/NOAA_NASA_2013_Global_Temperatures_Joint_Briefing.pdf (last accessed Feb. 14, 2014).

¹⁵ Peter Altman, “Killer Summer Heat: Projected Death Toll from Rising Temperatures in America Due to Climate Change”, NRDC May 2012, available at: <http://www.nrdc.org/globalwarming/killer-heat/files/killer-summer-heat-report.pdf> (last accessed Feb. 14, 2014).

¹⁶ Wu Jianyong et al, “Uncertainties in estimating future heat wave mortality in the eastern U.S.”, Environmental Health Perspectives Abstract Number 5122, available at: <http://ehp.niehs.nih.gov/ehbasel13/o-2-07-04/> (last accessed Feb. 14, 2014).

¹⁷ Cecil B. Wilson, Paul R. Epstein, “Climate Change Endangers Public Health in the United States”, HuffingtonPost.com Dec. 14 2010, available at: http://www.huffingtonpost.com/cecil-b-wilson-md/climate-change-endangers-b_796425.html (last accessed Feb. 14, 2014).

¹⁸ Jianguo Tan, “Commentary: People's vulnerability to heat wave”, International Journal of Epidemiology V.37, Issue 2P, p. 318-320, available at: <http://ije.oxfordjournals.org/content/37/2/318.full> (last accessed Feb. 14, 2014).

¹⁹ Chloe Stepney, “Heat wave: How cities are trying to help the homeless survive”, Christian Science Monitor July 20, 2011, available at: <http://www.csmonitor.com/USA/2011/0720/Heat-wave-How-cities-are-trying-to-help-the-homeless-survive> (last accessed Feb. 14, 2014).

²⁰ Maria O’Meara, “Paul Epstein- Respiratory Illness”, Online video interview, Youtube Nov. 12 2012, available at: <http://www.youtube.com/watch?v=EVk1QVfi3eI> Also, Wendy Koch, “Climate change linked to more pollen, allergies, asthma”, USAToday May 31, 2013, available at: <http://www.usatoday.com/story/news/nation/2013/05/30/climate-change-allergies-asthma/2163893/> (last accessed Feb. 14, 2014).



Drought. The disruption of normal weather patterns due to the climate change crisis has caused an increase in severe droughts in many areas of the world. In the US in 2012, a drought devastated crops essential to U.S. food production including corn, soybeans and winter wheat, costing an estimated \$12 billion and driving up global food prices.²¹ Another intense drought nearly forced power plants in Texas to close due to a lack of cooling water, which would have resulted in widespread blackouts²². The second year of dry Western conditions has led to the worst drought in California in over a century²³ threatening the price stability of many of the US's food goods²⁴. This same drying trend is harming the Amazon rainforest²⁵, and may cause some Australian towns to evacuate to areas with more consistent rainfall²⁶. Droughts appear to be part of the 'new normal' of fossil fuel caused climate change²⁷.

Fires. Climate change-driven heat waves and droughts increase the likelihood of wildfires²⁸. 2013's Yosemite rim fire was one of the largest on record in California and the largest ever in

²¹ "U.S. Drought 2012: Farm and Food Impacts", USDA ERS, available at: http://www.ers.usda.gov/topics/in-the-news/us-drought-2012-farm-and-food-impacts.aspx#.UvwxDPIdU_c; See also Knowledge@Wharton, "The Cost and Consequences of the U.S. Drought", TIME.com Oct. 26, 2012, available at:

<http://business.time.com/2012/10/26/the-cost-and-consequences-of-the-u-s-drought> (last accessed Feb. 14, 2014).

²² "Texas warns of rolling blackouts amid power shortages after air conditioners go on overdrive as state endures 39 days of 100F-plus heat", DailyMail <http://www.dailymail.co.uk/news/article-2022801/Texas-warns-rolling-blackouts-amid-power-shortages-air-conditioners-overdrive-state-endures-39-days-100F-plus-heat.html#ixzz2tJqOfkwz>. (last accessed Feb. 14, 2014).

²³ Ann Notarangelo, "UC Berkeley Professor: California Dry Spell May Be Worst Since 1500s", CBS Bay Area January 22, 2014, available at: <http://sanfrancisco.cbslocal.com/2014/01/22/uc-berkeley-professor-california-hasnt-been-this-dry-in-500-years/> (last accessed Feb. 14, 2014).

²⁴ Myra P Saefong, "Western drought spells killer grocery bills", Wall Street Journal, February 7, 2014, available at: <http://www.marketwatch.com/story/us-drought-hurts-cattle-crops-prices-heat-up-2014-02-07> (last accessed February 15, 2014).

²⁵ Alan Buis, "Study Finds Severe Climate Change Jeopardizing Amazon Forest", NASA Jet Propulsion Laboratory, available at: <http://www.jpl.nasa.gov/news/news.php?release=2013-025> (last accessed Feb. 14, 2014).

²⁶ Bonnie Malkin, "Drought-hit Australian town faces evacuation", The Telegraph Feb,6, 2014, available at: <http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/australia/10621332/Drought-hit-Australian-town-faces-evacuation.html> (last accessed Feb. 14, 2014).

²⁷ "Climate change: Drought, floods, tornadoes part of 'new normal'?", LATimes <http://latimesblogs.latimes.com/greenspace/2011/08/climate-change-drought-floods-tornados-part-of-new-normal.html> (last accessed Feb. 14, 2014).

²⁸ Kate Galbraith, "Wildfires and Climate Change", New York Times Sept. 4, 2013, available at: http://www.nytimes.com/2013/09/05/business/energy-environment/wildfires-and-climate-change.html?_r=0 (last accessed Feb. 14, 2014).



Yosemite²⁹. Wildfires are becoming more intense as record heat and droughts evaporate moisture from forests and grasslands, threatening the lives and property of those who live in fire-prone regions.

Storms. Climate change intensifies storms as higher ocean temperatures and rising sea levels cause heavier precipitation, coastal flooding risk and storm surges³⁰. In 2005, the US was hit with Hurricane Katrina, a category 5 storm, which destroyed large parts of New Orleans, killed 1800 people, and caused \$80 billion in damage³¹. 2012's Hurricane Sandy, a category 3 storm, which devastated New York and the Atlantic Coast, caused \$62 billion in damages in the United States.³² In 2013 Typhoon Haiyan, one of the strongest storms to hit land ever recorded, devastated the Philippines and killed over 6,000 people³³.

Floods. Just as droughts contribute to fires, massive storms contribute to flooding. Examples include the floods that decimated many towns in Vermont as a result of Hurricane Irene³⁴, those

²⁹ Brian Frank, "Rim Fire: Calif. wildfire now 3rd largest in state, largest in Yosemite", KPCC September 6, 2013, available at: <http://www.scpr.org/news/2013/09/06/39096/rim-fire-calif-wildfire-now-3rd-largest-in-state-l/> (last accessed Feb. 14, 2014).

³⁰ "Climate Impacts on Coastal Areas," EPA 9/9/2013, available at: <http://www.epa.gov/climatechange/impacts-adaptation/coasts.html> (last accessed Feb. 14, 2014).

³¹ Jaweed Kaleem, Timothy Wallace, "Hurricane Sandy vs. Katrina Infographic Examines Destruction From Both Storms", Huffington Post Nov. 2010, available at: http://www.huffingtonpost.com/2012/11/04/hurricane-sandy-vs-katrina-infographic_n_2072432.html, (last accessed Feb. 16, 2014); *see also* Daniel Stone, "Rising Temperatures May Cause More Katrinas", National Geographic March 19, 2013, available at: <http://news.nationalgeographic.com/news/2013/03/130319-hurricane-climate-change-katrina-science-global-warming/> (last accessed Feb. 14, 2014).

³² Associated Press, "Superstorm Sandy Deaths, Damage And Magnitude: What We Know One Month Later", Huffington Post November 29, 2012, available at: http://www.huffingtonpost.com/2012/11/29/superstorm-hurricane-sandy-deaths-2012_n_2209217.html (last accessed Feb. 14, 2014).

³³ "Scores dead after typhoon hits Philippines", AlJazeera Nov. 9, 2013, available at: <http://www.aljazeera.com/news/asia-pacific/2013/11/typhoon-haiyan-speeds-towards-philippines-2013117182622681975.html> (last accessed Feb. 14, 2014).

³⁴ Wilson Ring, "Hurricane Irene 2 Years Later: Vermont Makes Second Anniversary Of Flooding And Damage", Huffington Post Aug. 28, 2013, available at: http://www.huffingtonpost.com/2013/08/28/hurricane-irene-2-years-later_n_3827088.html (last accessed Feb. 14, 2014).



that dumped a year's worth of precipitation on Colorado in 24 hours in 2013³⁵, and most recently the unprecedented flooding in the United Kingdom³⁶.

Extreme weather is already causing economic harm, estimated at \$200 billion per year³⁷. Although no single weather event proves or disproves the science of climate change, the extreme weather events described here, along with many others, are consistent with predictions made by scientists about the effects of climate change. This portion of the report provided only a brief snapshot of the damage being wrought by the weather impacts of fossil fuel driven climate change.

CLIMATE CHANGE DESTROYS BIODIVERSITY

Climate change threatens near term mass-extinction of plants and animals at rates unprecedented in the prehistoric record³⁸. The EPA highlights a number of factors exasperated by climate change that contribute to extinction risk: a) changes in seasonal lifecycle events, b) shifts in habitat range, c) food web collapses, d) irreversible ecosystem loss, and e) parasites and diseases³⁹. According to Harvard, "Climate change alone is expected to threaten with extinction approximately one quarter or more of all species on land by the year 2050" and "All the changes we have seen to date ...the melting of glaciers, sea ice, and permafrost; the bleaching and dying of coral reefs; extreme storms and flooding, droughts, and heat waves; and major shifts in the ranges of organisms and in the timing of their biological cycles--have occurred with an average warming of the Earth's surface since the late 19th Century ...of less than 1 degree C."⁴⁰ Unless climate change is immediately arrested and enormous resources directed at biodiversity conservation, humans born after 2030 will only understand the animals and ecosystems that surround us today as part of a history lesson.

³⁵ Doyle Rice, "Colorado Flooding Unprecedented", USAToday Sept. 26, 2013, available at: <http://www.usatoday.com/story/weather/2013/09/25/colorado-flood-report/2870191/> (last accessed Feb. 14, 2014).

³⁶ Anthony Reuben. "Uk floods: How bad have these floods been?", BBC News Magazine, Feb. 13, 2014, available at <http://www.bbc.co.uk/news/magazine-26172688> (last accessed Feb 14. 2014).

³⁷ Victor Lipman, "Is Climate Change The Biggest Long-Term Management Problem Facing Business?", Forbes Feb. 4, 2014, available at: <http://www.forbes.com/sites/victorlipman/2014/02/04/is-climate-change-the-biggest-long-term-management-problem-facing-business/> (last accessed Feb. 14, 2014).

³⁸ "Climate Impacts on Ecosystems", EPA Sept. 2013, available at: <http://www.epa.gov/climatechange/impacts-adaptation/ecosystems.html#Extinction> (last accessed Feb. 16, 2014).

³⁹ *Id.*

⁴⁰ "Climate Change and Biodiversity Loss", Harvard School of Public Health", available at: <http://chge.med.harvard.edu/topic/climate-change-and-biodiversity-loss> (last visited February 16, 2014).



CLIMATE CHANGE CAUSES HUMAN CONFLICT AND SUFFERING

The resilience of human settlements and infrastructure is expected to decrease with climate change.⁴¹

Displacement of human communities. People may become displaced either within their own countries or across international borders due to: (1) climate-induced disasters, (2) changes or expansions in the areas considered too dangerous for human habitation, (3) environmental degradation, (4) loss of land due to inundation, or (5) conflicts caused by land, water, or food scarcity.

The effects of recent climate change are already evident in human communities and are predicted to increase in intensity. According to the Norwegian Refugee Council, in 2008 up to 20 million people were displaced by climate-related natural disasters.⁴² Strife in Chad and South Sudan has been exacerbated by regional climate change.⁴³ Approximately 4 million people living in the Arctic will face changes in the suitability of their homelands for human habitation.⁴⁴ Residents of Kivalina, Alaska are expected to be the first climate change refugees in America.⁴⁵ Similarly, major US coastal metropolises are in danger of substantial flooding⁴⁶ due to rising sea levels⁴⁷.

⁴¹ Core Writing Team, Pachauri, and Reisinger, "Contribution of working groups I, II and III to the fourth assessment report of the Intergovernmental Panel on Climate Change", *IPCC*. 2007, available at: http://www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html (last accessed October. 13, 2012).

⁴² "Climate change, natural disasters and human displacement: a UNHCR perspective", U.N. High Commissioner for Refugees 2009, available at: <http://www.unhcr.org/4901e81a4.html> (last accessed October 2, 2013)

⁴³ *Id.*

⁴⁴ Elizabeth Ferris, "A complex constellation: displacement, climate change and Arctic peoples", \Brookings Institute 2013, available at: <http://www.brookings.edu/research/papers/2013/01/30-arctic-ferris> (last accessed September 26, 2013)

⁴⁵ Anthony Bond, "America's first climate change refugees: Hundreds forced to flee their Alaskan village before it disappears underwater within a decade", *The Daily Mail* Aug. 16, 2013, available at: <http://www.dailymail.co.uk/news/article-2381218/Kivalina-Americas-climate-change-refugees-Hundreds-forced-flee-Alaskan-village-disappears-underwater-decade.html> (last accessed Feb 14. 2014).

⁴⁶ "Which Coastal Cities Are at Highest Risk of Damaging Floods? New Study Crunches the Numbers", *Worldbank* Aug. 19, 2013, available at: <http://www.worldbank.org/en/news/feature/2013/08/19/coastal-cities-at-highest-risk-floods> (last accessed Feb 14. 2014)

⁴⁷ "What Could Disappear", *NYT* Nov. 12, 2012, available at: <http://www.nytimes.com/interactive/2012/11/24/opinion/sunday/what-could-disappear.html> (last accessed Feb 14. 2014)



Many pacific island countries are in near-term jeopardy and are considering evacuation.⁴⁸ These increasing numbers of refugees create complex political challenges⁴⁹.

Climate change creates and exacerbates poverty, resulting in social unrest. Climate change exacerbates existing poverty problems and causes more people to fall into poverty⁵⁰. For those already on the edge of financial stability or participants in subsistence economies, climate change may present an unmanageable set of problems. As climate change transforms the environment, traditional modes of earning are no longer always possible, exacerbating both the migration problem highlighted above and causing more people to fall into poverty⁵¹. The changing environment undermines weather patterns that make agriculture possible, hurting farmers and forcing adaptation on a global scale⁵². The agricultural disruption caused by weather irregularity can also lead to commodity shortages and price volatility⁵³, and social unrest as basic necessities suddenly become unaffordable for consumers⁵⁴. Indeed, the Center for American Progress has

⁴⁸ "Island Neighbors at the Mercy of Rising Tides", ABC AU Dec. 9 2011, available at: <http://www.abc.net.au/news/2011-12-09/tuvalu-kiribati-climate-change/3720408>; see also M. Crocker, "Fiji latest country to relocate climate refugees", available at: <http://aosis.org/reports-fiji-latest-country-to-relocate-climate-refugees/> (last accessed Feb 14. 2014).

⁴⁹ "Climate Refugees", National Geographic, available at: http://education.nationalgeographic.com/education/encyclopedia/climate-refugee/?ar_a=1 (last accessed Feb 14. 2014).

⁵⁰ "Poverty and Climate Change: Reducing Vulnerability of the Poor Through Adaptation", OECD 2002, available at: <http://www.oecd.org/env/cc/2502872.pdf> (last accessed Feb 14. 2014).

⁵¹ *Id.*

⁵² Donnelle Eller, "World Food Prize today: Farmers globally struggle with profitability, climate change, panelists say", DesMoines Register Oct. 16, 2013, available at: <http://blogs.desmoinesregister.com/dmr/index.php/2013/10/16/farmers-globally-struggle-with-profitability-climate-change-panelists-say/article> (last accessed Feb 14. 2014).

⁵³ Dirk Willenbockel, "Extreme Weather Events and Crop price Spikes in a Changing Climate", Oxfam Sept. 2012, available at: <http://www.oxfam.org/sites/www.oxfam.org/files/rr-extreme-weather-events-crop-price-spikes-05092012-en.pdf>, see also: Charlie Cooper, "Sudden spikes in global food prices to 'become the norm'", The Independent Sept. 5, 2012, available at: <http://www.independent.co.uk/environment/climate-change/sudden-spikes-in-global-food-prices-to-become-the-norm-8104827.html> (last accessed Feb 14. 2014).

⁵⁴ Alexandra Raphael, "Commodity prices and conflict: How price shocks affect civil unrest", Journalist Resource July 31, 2013, available at: <http://journalistsresource.org/studies/international/conflicts/commodity-prices-food-violent-conflict-research> (last accessed Feb 14. 2014).



suggested that shocks in foods prices are one of the factors that contributed to and accelerated the Arab Spring revolutions⁵⁵.

Economic losses. Climate change is causing large and growing economic losses. The pivotal Stern Review, published in 2006, showed that climate change is costing at least 5% of global GDP annually, a figure forecast to increase to 20% without swift intervention⁵⁶. These staggering losses are absorbed primarily by government budgets and households.

Summary. A public statement made by Yeb Sano, the delegate from the Philippines at the COP 19 Climate Change Conference, held during the aftermath of Super Typhoon Haiyan, puts the situation bluntly:

“... we cannot afford to procrastinate on climate action...What my country is going through as a result of this extreme climate event is madness...We cannot sit and stay helpless staring at this international climate stalemate. It is now time to take action. We need an emergency climate pathway. I speak for my delegation. But more than that, I speak for the countless people who will no longer be able to speak for themselves after perishing from the storm. I also speak for those who have been orphaned by this tragedy. I also speak for the people now racing against time to save survivors and alleviate the suffering of the people affected by the disaster. We can take drastic action now to ensure that we prevent a future where super typhoons are a way of life... We must put the money where our mouths are.”⁵⁷

As described in this section, unmitigated climate change suggests a future for humanity that is dangerous and uncertain. This future is suggested both by observed climatic changes and weather-related disasters, and by scientific models. The link between these dangers and current human activities – excessive use of fossil fuels – is well established. The need for action – reduced carbon emissions – is formally recognized by governments worldwide through the Copenhagen Accord and other such agreements. However, there is a lack of political will to follow through on these agreements. In the following section we outline how fossil fuel divestment can challenge this lack of will and thus deliver a tangible improvement to future wellbeing.

⁵⁵ Ines Perez, “Climate Change and Rising Food Prices Heightened Arab Spring”, Scientific American May 4, 2013, available at: <http://www.scientificamerican.com/article/climate-change-and-rising-food-prices-heightened-arab-spring/> (last accessed Feb 14. 2014).

⁵⁶ “STERN REVIEW: The Economics of Climate Change Summary of Conclusions Factsheet”, NORAD, available at: <http://www.norad.no/attachment/126584?download=true> (last accessed Feb 14. 2014).

⁵⁷ “It’s time to stop this madness” – Philippines plea at UN climate talks”, RTCC Nov. 12, 2013, available at: <http://www.rtcc.org/2013/11/11/its-time-to-stop-this-madness-philippines-plea-at-un-climate-talks/> (last accessed Feb 14. 2014).



Divestment is the Right Choice for Duke University

DIVESTMENT PROVIDES CONSISTENCY AND MEANING TO DUKE'S SUSTAINABILITY COMMITMENTS

In 2007, in accordance with Duke's long-established identity as a socially conscious and conscientious school, Duke pledged to become carbon neutral by 2024. This goal is laudable, however, it is undermined by Duke's endorsement of fossil fuel companies' actions through its investment decisions. These companies have a clear, stated aim of developing fossil fuel resources which is inconsistent with the implications of climate change research and Duke's own sustainability policies. Continued investment in fossil fuel assets is in direct conflict with the University's own commitments.

Duke has produced some of the leading research demonstrating the impacts of extraction of fossil fuels⁵⁸, the potential impacts of fossil fuel use on our environment due to fossil fuels' distribution⁵⁹, and the emissions released by fossil fuel consumption⁶⁰. Though Duke produces knowledge about fossil fuel harms, its continued investments in fossil fuel companies erodes its own mission to "provide real leadership in the educational world"⁶¹.

DUKE UNIVERSITY HAS ENGAGED IN EXTENSIVE DISCOURSE ON DIVESTMENT

Through its engagement of students, alumni, faculty and staff, the Divest Duke campaign has demonstrated that broad support exists for fossil fuel divestment.

Divest Duke has had on and off-campus support. As of February 2, 121 students, staff and faculty have signed a petition urging the administration to divest from the Carbon Tracker 200 fossil fuel companies. The campaign has built a coalition of 36 student organizations, faculty

⁵⁸ See: Palmer, Margaret A., et al. "Mountaintop mining consequences." *Science* 327.5962 (2010): 148-149; Lindberg, T. Ty, et al. "Cumulative impacts of mountaintop mining on an Appalachian watershed." *Proceedings of the National Academy of Sciences* 108.52 (2011): 20929-20934; Osborn, Stephen G., et al. "Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing." *Proceedings of the National Academy of Sciences* 108.20 (2011): 8172-8176; Jackson, Robert B., et al. "Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction." *Proceedings of the National Academy of Sciences* 110.28 (2013): 11250-11255.

⁵⁹ Phillips, Nathan G., et al. "Mapping urban pipeline leaks: Methane leaks across Boston." *Environmental pollution* 173 (2013): 1-4.

⁶⁰ Ellsworth, David S., et al. "Elevated CO₂ affects photosynthetic responses in canopy pine and subcanopy deciduous trees over 10 years: a synthesis from Duke FACE." *Global Change Biology* 18.1 (2012): 223-242.

⁶¹ Board of Trustees, "Mission Statement", Duke University 2001, available at: <http://trustees.duke.edu/governing/mission.php> (last accessed Feb. 16, 2014).



members and alumni calling upon the administration to take the lead in a growing movement of schools around the country that are committed to preventing a more extreme climate by moving Duke University's endowment beyond fossil fuels. The campaign is also accumulating commitments from alumni to not donate until Duke University divests.

Divest Duke has held numerous, well attended meeting and events. During the fall 2013 semester, the Divest Duke campaign held weekly meetings for volunteers. This core volunteer network created four working groups focused on different aspects of the campaign, each with at least five active members. The campaigns showed consistent growth through spring of 2013, when it first met with President Brodhead, and into fall of 2013.

Divest Duke held its 2014 kick-off meeting in early September with 38 attendees. Smaller events followed throughout the semester: in October, a "Stand Up, Speak Out, Stop Climate Change" event was held outside the Allen Building with media in attendance. In November, the Divest Duke Campaign organized an informative panel with local climate and sustainable investment experts. Panel speakers included: Dr. Rob Jackson, Nicholas School Professor of Global Change; Dr. Apurva Dave, Postdoctoral Associate of Earth and Ocean Sciences; Chris Demetropoulos, Portfolio Associate at Trillium Asset Management; Sammy Slade, field Organizer with NC WARN; Steve Wiley, NCSU Professor of Communications and former student leader of the Swarthmore Anti-Apartheid Divestiture Committee. At the panel event, student and community-member questions regarding climate change, fossil fuel industries and the divestment process were directly answered by the panelists.

Divest Duke's January 2014 semester kick-off meeting recorded the higher attendance than the previous kickoff: 51 volunteers. Planning meeting attendance has also risen to an average of 10 core members per week. The campaign's most recent event, a student support and visibility day in Mid-February, turned out 14 volunteers, generated over 80 sign-ons of student support and 60 photo petitions before it was forced to close 2 hours early due to a snowstorm that shut down normal operations on Duke's campus. The data shows that the campaign is building momentum and energy every semester, and that it is widely supported by students, coalition partners, and the public.

Divest Duke's campaign has gained the support of students and recognition of local and national media.

- *Duke Chronicle*, Article, September 9, 2013, "Student-led campaign aims to divest Duke from fossil fuel industries," Grace Wang.
- *NewsWire*, Article, September 9, 2013, "Student-led campaign aims to divest Duke from fossil fuel industries."
- *Renewable Thinking*, Nicholas School Student Blog, September 23, 2013, "Divest Duke Movement," Alex Osteen.
- *Duke Chronicle*, Article, October 10, 2013, "Student group demands divestment from fossil fuel companies," Timothy McDermott.



- *Herald Sun*, Article, October 9, 2013, “Student group asks Duke to remove investments in fossil fuel industry,” April Dudash.
- *Duke Chronicle*, Article, October 30, 2013, “GPSC focuses on graduate students’ housing,” Carleigh Stiehm.
- *Herald Sun*, Article, November 14, 2013, “Panel pushes for Duke fossil fuel divestment,” April Dudash.
- *Duke Chronicle*, Week in Photos (photo), November 21, 2013, “Divest Duke hosted a panel last Thursday to discuss ways that Duke can reduce its investment in fossil fuels.”
- *Fossil Free*, Blog post, November 27, 2013, “Divest Duke delivers strong message: It’s time for bold climate action- on all fronts,” Cristina Duque.
- *USA Today*, Article, December 5, 2013, “Students push for fossil fuel endowment divestment”, Cara Newlon.

Divestment is something that the Duke community wants to see happen. In 1986, H. Keith Brodie said of South African divestment “I think this delivers what the university’s constituencies have asked us to deliver,”⁶². Duke University should fulfill its mandate to its constituencies once again.

Divestment Materially Alleviates the Social Injury Caused By Climate Change

A solution to the global challenges is possible; part of that solution requires the US to act on climate change. US action and leadership are both key to global agreements on climate change and US ambivalence has been a stumbling block in international dialogues thus far. Think-tank C2ES says that “For years, despite a steady accumulation of science showing the clear and present dangers of global climate change, efforts toward an effective international response have been at a virtual standstill. The principal reason is that the United States has refused to play.”⁶³ As the largest emitters, the US and China (with China only recently surpassing US emissions despite the fact its population is almost five times the size of the US’ population⁶⁴) are the keys to international climate agreements. Yet, domestic political support for meaningful US action on

⁶² “DUKE WOULD SELL ITS HOLDINGS IN SOUTH AFRICA”, New York Times May 4, 1986, available at: <http://www.nytimes.com/1986/05/04/us/duke-would-sell-its-holdings-in-south-africa.html> (last accessed Feb. 14, 2014)

⁶³ Eileen Claussen, Elliot Diringer, “A New Climate Treaty: US Leadership After Kyoto”, C2ES Spring 2007, available at: <http://www.c2es.org/newsroom/articles/new-climate-treaty-us-leadership-after-kyoto> (last accessed Feb 14, 2014).

⁶⁴ Robert Schlesinger, The 2014 U.S. and World Populations, U.S.News and World Report Dec. 31, 2013, available at: <http://www.usnews.com/opinion/blogs/robert-schlesinger/2013/12/31/us-population-2014-317-million-and-71-billion-in-the-world> (last accessed Feb 14, 2014).



climate change to date due has been out of reach. Tangible progress by government has been slow, and can only be accelerated through a strong push from citizens, businesses and civic institutions, including universities.

This domestic and international policy stalemate is where the divestment movement plays a vital role. The divestment movement calls on institutions, such as Duke University, to honor the well-established science on climate change (some of it produced by Duke University⁶⁵) by divesting financial portfolios of fossil fuel assets. Divestment asks for Duke University to take a public, moral position against activities, which damage the wellbeing of current and future generations. Duke University should refuse to endorse and facilitate, through its investments, further expansion of the fossil fuel industry. In doing so, divestment materially alleviates the suffering caused by climate change by creating market and political momentum for government action.

Research tells us that the fossil fuel divestment movement is growing more quickly, more rapidly and more effectively than previous successful divestment movements⁶⁶. The power of the fossil fuel divestment movement is in its ability to build the momentum required for strong policy and market responses to climate change. It is important to note that while the divestment movement has financial components, it does not claim to have an immediate effect on stock price. Instead, the divestment movement aims to revoke the ‘social license’ of fossil fuel companies, which seek to continue business as usual. It aims to encourage a movement away from financially condoning fossil fuels by both stigmatizing the industry and simultaneously catalyzing market and policy shifts towards alternatives. A report by researchers at Oxford University concluded that: “Even if the direct impacts of divestment outflows are meagre in the short term, a campaign can create long-term impact on the enterprise value of a target firm if the divestment campaign causes neutral equity and/or debt investors to lower the subjective probability of target firm’s net cash flows. The outcome of the stigmatization process, which the fossil fuel divestment campaign has now triggered, poses the most far-reaching threat to fossil fuel companies and the vast energy value chain. Any direct [financial] impacts pale in comparison.”⁶⁷ The report goes on to illuminate the ways in which stigmatization from divestment impacts target firms⁶⁸:

⁶⁵ CGC PUBLICATIONS, Center on Global Climate Change, Duke University, available at: <https://nicholas.duke.edu/cgc/publications.html> (last accessed Feb 14, 2014).

⁶⁶ Atif Ansar, Ben Caldecott, James Tilbury, “Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets?”, Oxford University Smith School of Enterprise and Environment, Stranded Assets Program 2013, available at: <http://www.smithschool.ox.ac.uk/research/stranded-assets/SAP-divestment-report-final.pdf> p. 50 (last accessed Feb 14, 2014).

⁶⁷ *Id.* p. 13

⁶⁸ *Supra* note 63 p.14



- **Reduced brand value:** Image problems chill or sour employee, vendor, contractor and regulatory relationships.
- **Limited business development options:** Stigmatized firms can be barred from participating in government procurement processes.
- **Poison pills:** Industry stigma can destroy high value mergers and contracts.
- **Diminished sales:** Sales can be harmed by customers who seek to avoid association with the stigmatized firm's product.
- **Restrictive legislation:** Most importantly, "In almost every divestment campaign we reviewed from adult services to Darfur, from tobacco to South Africa, divestment campaigns were successful in lobbying for restrictive legislation affecting stigmatized firms."

Divest Duke recognizes that our society currently relies heavily on fossil fuels, and that this reliance cannot be undone instantly. However, there is a clear and widely acknowledged need to reduce this reliance, which will only occur through social and political pressure to do so, such as that caused by divestment. Divestment makes a strong statement that further investments in fossil fuels – investments which last decades – are unacceptable. Only by shifting investments away from fossil fuels and towards the many profitable alternatives, which already exist can this reliance start to be reduced.

DIVESTMENT IS ALREADY SUCCEEDING

The Divestment Movement is enormous, and continues to grow, in size and determination . The divestment movement has grown to over 500 campuses in the course of two years⁶⁹, and has spilled off campus with divestment being advocated for and adopted in churches, cities, states, corporations⁷⁰ and is encouraged by the United Nations⁷¹. The coalition of organizations who have committed to divest represent billions of dollars under management. So far nine colleges, community colleges and universities; twenty-two cities, two counties, twenty churches, twenty

⁶⁹ Laura Mistretta, "Fossil Fuel Divestment", Duke University Nicholas School, Lori Bennear Research Group Jan. 31, 2014, available at: <https://sites.nicholas.duke.edu/loribennear/2014/01/31/fossil-fuel-divestment/> (last accessed Feb 14. 2014).

⁷⁰ "Rabobank, Storebrand Dump Fossil Fuel Companies", Environmental Leader July 8, 2013, available at: <http://www.environmentalleader.com/2013/07/08/rabobank-storebrand-dump-fossil-fuel-companies/> (last accessed Feb 14. 2014).

⁷¹ Ed King, "World Bank chief backs fossil fuel divestment drive," RTCC January 27, 2014, available at: <http://www.rtcc.org/2014/01/27/world-bank-chief-backs-fossil-fuel-divestment-drive/>; see also: Matt McGrath, "Get your cash out of fossil fuel backed funds says UN climate chief", BBC News Jan. 15, 2014, available at: <http://www.bbc.co.uk/news/science-environment-25743457> (last accessed Feb 14. 2014).



foundations, five nonprofit organizations, and one water district have all committed to divest⁷². Based on internal estimates, the divestment movement represents approximately ten thousand students nationally⁷³, not including those involved in divestment campaigns in cities, states, pensions, foundations and other organizations.

Divestment is changing the public conversation about fossil fuels. According to internal divestment movement records, the divestment movement has garnered thousands of press hits nationally and internationally since its 2011 inception. This includes repeated coverage in the Wall Street Journal, New York Times, Washington Post, USA Today (which covered Divest Duke⁷⁴), and most other major US news outlets, including the media hits highlighted above. This change in tone has empowered financial leaders to come forward to join the public discussion on fossil fuel risk. Former US Secretary of the Treasury Hank Paulsen, former Yale endowment advisor Tom Steyer of Farallon capital and former New York City Mayor Michael Bloomberg have joined forces on a project titled “Risky Business” in which they publicly raise awareness of the ongoing financial risk of fossil fuel investment, and in which they measure the regional economic costs of climate change⁷⁵. Similarly, Al Gore and David Blood of Generation Management, who manage \$7 billion dollars in fossil free investments, said “sociopolitical pressures (e.g., fossil-fuel divestment campaigns, environmental advocacy, grass-roots protests and changing public opinion) could create an environment in which carbon-intensive businesses could lose their “license to operate”, thereby “stranding assets...”⁷⁶. That this argument was included in the Wall Street Journal at all indicates the change in tone on fossil fuel investments in the financial sector; the stigmatization caused by divestment is becoming more and more apparent and is beginning to require serious consideration by industry supporters. A Stratfor

⁷² Fossil Free, available at: GoFossilFree.org (last accessed Feb 14, 2014).

⁷³ The Powershift conference only represents a fraction of students involved in the divestment movement; Ted Glick, “Climate Movement on the Move”, Grist.org Feb. 8, 2014, available at: <http://grist.org/article/climate-movement-on-the-move/> (last accessed Feb 14, 2014).

⁷⁴ Cara Newlon, “Students push for fossil fuel endowment divestment”, *USA Today*, Article, Dec. 5, 2013, available at: <http://www.usatoday.com/story/news/nation/2013/12/04/university-fossil-fuel-endowments/3866879/> (last accessed Feb. 16, 2014).

⁷⁵ Risky Business: The Economic Risks of Climate Change in the United States, available at: <http://riskybusiness.org/> (last accessed Feb 14, 2014).

⁷⁶ David Blood, Al Gore “The Coming Carbon Asset Bubble”, WSJ Oct. 2013, available at: <http://online.wsj.com/news/articles/SB10001424052702304655104579163663464339836> (last accessed February 16, 2014).



consulting presentation describes the “worst case scenario” for the fossil fuel industry: “Campaign becomes the most significant environmental campaign of the decade ...”⁷⁷.

Indeed, many coal stocks are already seeing depressed stock prices (some coal equities have lost 80% of their value), declining margins and weak quarterly returns⁷⁸. Coal’s demise is unfolding exactly as the Oxford Study predicted; it is the first fossil fuel industry subject to “restrictive legislation”- the EPA’s forthcoming new point source rules, which effectively prohibit the building of new coal plants without carbon capture technology⁷⁹, which is not yet commercially viable. Meanwhile coal is being replaced by cleaner fossil fuels and a combination of alternative fuels.

DIVESTMENT IS THE MOST EFFECTIVE METHOD FOR DUKE UNIVERSITY TO MATERIALLY COMBAT CLIMATE CHANGE

The divestment movement is making progress by changing the conversation about the fossil fuel industry. However, this change is not occurring as fast as the climate change is causing harm. Dramatic progress is needed; *a formidable university with billions of dollars under management must divest*. During the apartheid movement, the University of California’s total divestment of billions of dollars of assets from firms with South African ties sparked the divestment of other major US universities and private sector organizations⁸⁰. Duke could now play that role in the case of fossil fuels, and Duke should play that role.

Fossil fuel divestment is the most significant opportunity to show environmental leadership that Duke University has ever had. An institution with Duke’s reputation divesting its Carbon

⁷⁷ Katherine Bagley, “Worst-Case Scenario for Oil Sands Industry Has Come to Life, Leaked Document Shows”, Inside Climate News Dec. 5, 2013, available at: <http://insideclimatenews.org/news/20131205/worst-case-scenario-oil-sands-industry-has-come-life-leaked-document-shows> (last accessed Feb. 16, 2014). See also: quoted presentation, slide 36: <http://www.documentcloud.org/documents/873021-33714-suncor-presentation-12106.html>.

⁷⁸ Robert Ciura, “Are any coal stocks worth your money?”, Motley Fool Aug. 27, 2013, available at: <http://www.fool.com/investing/general/2013/08/27/are-any-coal-stocks-worth-your-money.aspx>. See also: Howard Rothman, “King coal losing its grip on its crown”, Motley Fool Sept. 10, 2013, available at: <http://www.fool.com/investing/general/2013/09/10/king-coal-losing-grip-on-its-crown.aspx> (last accessed Feb. 14, 2014)

⁷⁹ Tim Profeta, “EPA Issues New Source Rules, Separates Requirements for Coal and Gas-Fired Plants”, National Geographic Sept. 26, 2013, available at: <http://newswatch.nationalgeographic.com/2013/09/26/epa-issues-new-source-rules-separates-requirements-for-coal-and-gas-fired-plants/>. (last accessed Feb. 14, 2014)

⁸⁰ Dan Morian, “Divestment Forces Say Pressure Paid Off : South Africa: Advocates of economic sanctions count Mandela's visit a victory.”, LA Times July 1990, available at: http://articles.latimes.com/1990-07-01/news/mn-907_1_free-south-africa (last accessed Feb. 14, 2014). See also: Campaign Against Apartheid Ad Hoc Committee, “Divestment was hard to achieve”, The Daily Californian Jan. 30, 2014, available at: <http://www.dailycal.org/2014/01/30/divestment-hard-achieve/> (last accessed Feb. 14, 2014).



Tracker 200 assets would constitute one of the most significant statements made by a non-government entity on the issue of climate change. Duke is ranked 7th among U.S. universities⁸¹, is a recognized and highly esteemed brand, and university actions are headline news. Duke could be the first top-ten US academic institution to divest, and would also set the record for the largest endowment to commit to divestment. Duke has the institutional rigor and the capital leverage to make a tangible impact in the US response to climate change.

When Duke divested from its South African holdings in 1986, the decision was national news⁸². Duke now has an opportunity for leadership, which exceeds even that created by apartheid divestment. Divesting from fossil fuels will put the university on the “right side of history”, and help correct the course of US climate action, steering it towards toward hope, options and mitigation. Failing to seize this opportunity works to condemn us all to being on the losing end of an increasingly imperiled future.

IN CONCLUSION

Duke’s Statement of Ethical Principles and Code of Conduct specifically call on the University to ensure that its resources are used “prudently, ethically, and for their designated purposes”⁸³. Given that actions by fossil fuel companies directly threaten the wellbeing of current and future generations, Duke University’s financial resources – and by association, the public image of Duke University – should not be linked to such actions through continued investment.

In the past decade Duke University has increased its commitment to studying the implications of, and solutions for, climate change through initiatives such as the Climate Change Policy Partnership. Duke fashions itself as a leader in sustainability and has made laudable efforts through its commitment to carbon neutrality by 2024. However, this can only be a part of the University’s efforts to reduce and replace the fossil fuel use of society. This is acknowledged in Duke’s Climate Action Plan: “The University recognizes that many environmental challenges are at a critical juncture where knowledge and action are needed immediately... the awareness of this among the general public and policy makers is at an all-time high.”⁸⁴

⁸¹ “Duke University” USNEWS and World Report, available at: <http://colleges.usnews.rankingsandreviews.com/best-colleges/duke-university-2920> (last accessed Feb. 16, 2014).

⁸² “DUKE WOULD SELL ITS HOLDINGS IN SOUTH AFRICA”, New York Times May 4, 1986, available at: <http://www.nytimes.com/1986/05/04/us/duke-would-sell-its-holdings-in-south-africa.html> (last accessed Feb. 14, 2014)

⁸³ “Statement of Ethical Principals and Code of Conduct”, Duke University, available at: http://duke.edu/services/ethicscompliance/duke_code.pdf (last accessed Feb. 14, 2014)

⁸⁴ Executive Summary Climate Action Plan: [http://sustainability.duke.edu/climate action/Duke%20Climate%20Action%20Plan.pdf](http://sustainability.duke.edu/climate_action/Duke%20Climate%20Action%20Plan.pdf)



Divestment challenges our widespread dependence on fossil fuels by changing the conversation regarding further development of fossil fuel resources, and by creating social and political pressure for government action. There is a need and an opportunity for a major academic institution to make a strong statement on climate action through divestment. Duke is in a perfect position of wide-reaching influence and respect to launch this shift towards a more sustainable and safe future.

Divesting the Carbon Tracker 200 comports with Duke's divestment history in other major moral issues. President Brodhead recently pressed undergraduates to continue "reaching far beyond what you've done before, even at the cost of taking risks ...⁸⁵" This is especially true in the context of fossil fuel divestment.

In this report we have demonstrated the importance of confronting climate change; the productive impacts divestment can have on preventing a climate crisis, and the desire that exists among the university's students, faculty, and alumni for action. Climate change is a problem that merits swift action. As an institution intending to positively increase its global influence, Duke can and should show leadership by divesting now.

⁸⁵ Richard H. Brodhead, "Brodhead to Students: Let Your Passions Find You", Duke Today April 2013, available at: <http://today.duke.edu/2013/08/rhbconvocation13> (last accessed February 16, 2014).



DIVESTMENT FREQUENTLY ASKED QUESTIONS

Throughout the progression of the divestment movement, executive staff at Universities have expressed common concerns regarding divestment, some of which Divest Duke will address here as it relates to they relate to this proposal.

- Will divestment harm the endowment?

Several studies have shown that divested portfolios perform as well or better than portfolios that include the Carbon Tracker 200 stocks, demonstrating that divestment is financially feasible. Divested institutions also constitute case studies showing that divestment does not harm endowments. No studies have been produced that demonstrate the opposite.

- **Aperio Group**

Do the Investment Math: Building a Carbon-Free Portfolio. This study concluded that excluding the “Filthy Fifteen”, the most polluting coal companies in the US, from a portfolio increased tracking error by an insignificant .14%. Since this study was released, coal stocks have lost notable value, which may further reduce the risk of omitting them from a portfolio.

Available at:

http://www.aperiogroup.com/system/files/documents/building_a_carbon_free_portfolio.pdf

- **Morgan Stanley Capital International (MSCI)**

Responding to the Call for Fossil-fuel Free Portfolios. No significant differences in return or risk were observed from removing the MSCI ACWI Select Energy Producers IMI index from the MSCI All Country World Index Investible Market Index (MSCI ACWI IMI) (see chart below). The investigators applied a ten-year backtest to the CalSTERS portfolio with similar results. Available at:

http://www.msci.com/resources/factsheets/MSCI_ESG_Research_FAQ_on_Fossil-Free_Investing.pdf.

Comparison of an 'ex Carbon list' that excluded the MSCI ACWI Select Energy Producers IMI (ex-refining and marketing, and ex-uranium and renewable fuels) to the MSCI ACWI IMI: January 2008 – March 2013



* Note that this graph is an example only. Past performance is not indicative of future results.

- **Impax Investment**

Beyond Fossil Fuels: The Investment Case for Fossil Fuel Divestment.

This study demonstrated that, similar to MSCI, dropping fossil fuels did not harm a portfolio, but in fact “a portfolio replacing fossil stocks with a diversified environmental technology and resource optimization strategy would have delivered the highest returns and information ratio.” (p.6).

Available at: https://s3.amazonaws.com/s3.350.org/images/Impax--20130704_white_paper_fossil_fuel_divestment_uk_final.pdf

- **Tellus Institute**

Institutional Pathways to Fossil-Free Investing.

This publication outlines practical routes for divesting, and also discusses the impact of each on institutional portfolios. Divestment is clearly feasible and flexible according to the strategies described. Available at:

<http://631nj1ki9k11gbkx39b3qpzua.wpengine.netdna-cdn.com/files/2013/06/institutional-pathways-final-061813.pdf>

- Is divesting difficult for my financial manager to execute, or too expensive to do?

In consultation with third party investment managers for large institutions, Divest Duke has learned that divesting Carbon Tracker 200 assets should be a manageable task as part of regular rebalancing and reallocation processes over five years. As such, Divest Duke does not expect high fees to be associated with this process. Any financial manager that can manage the scale of assets contained in Duke University’s endowment has the



technical and technological capability to execute divestment of these assets, which we expect comprise a small portion of Duke University's overall portfolio.

Divest Duke recognizes that investment management product and manager procurement can be laborious, and that Duke University has a strong, long relationship with its current managers, who have a record of notable returns.

Divest Duke also recognizes that this may mean retooling the endowment's portfolio and unwinding positions in comingled funds from which Carbon Tracker 200 assets cannot be isolated and extracted. While the use of separate accounts help facilitate this process, these activities are not infrequent or impossible over a five year period, the proposed timeframe for divestment. Further, past experience indicates that despite sometimes expressing initial skepticism, managers are able to accommodate divestment requests. Divest Duke would be happy to connect the University's investment management team to divested institutions or financial managers who are experts in this area.

Finally, when considering or estimating any possible costs of divestment, weigh also the financial and nonfinancial costs of not divesting. Duke recalls the billion dollar loss its endowment suffered through the 2008-2010 recession, losses that were apparently not foreseen or prevented by its managers at that time⁸⁶. Major banks and experts estimate that losses from the collapse of the "carbon bubble" due to carbon asset risk market failures will be far more deep, extensive and harmful than the most recent recession⁸⁷.

- Don't we need fossil fuels?

Colonial Americans relied on whale blubber and bones in a similar manner as Americans now rely on petroleum products⁸⁸. After whale blubber, wood

⁸⁶ Lis Du, "Duke Endowment Feels the Downturn", the Duke Chronicle 2010, available at: <http://www.dukechronicle.com/articles/2010/03/24/duke-endowment-feels-downturn> (last accessed Feb. 16, 2014)

⁸⁷ Damian Carrington, "Carbon bubble will plunge the world into another financial crisis – report", Guardian April 2013, available at: <http://www.theguardian.com/environment/2013/apr/19/carbon-bubble-financial-crash-crisis> (last visited Feb. 16, 2014); *see also* Sean McElwee "Beware of the carbon bubble: The biggest threat to the environment you haven't heard of yet", Salon Dec 2013, available at: http://www.salon.com/2013/12/23/beware_of_the_carbon_bubble_the_biggest_threat_to_the_environment_you_havent_heard_of_yet/ (last visited Feb. 16, 2014).

⁸⁸ "American Whaling", New Bedford Whaling Museum, available at: <http://www.whalingmuseum.org/learn/research-topics/overview-of-north-american-whaling/american-whaling> (last visited Feb. 16, 2014).



incineration and processing was the basis for power and raw materials in America⁸⁹. After wood, coal. After coal, refined petroleum emerged⁹⁰. In each of these periods, people living daily with the resources they had available may have been unable to envision what would be next. Yet it is not hypocritical to envision, push for, encourage and bring about the transition to a more appropriate fuel source while still using fossil fuels, which divesting does.

Divesting from fossil fuels is not a denial of the fact that the US economy is currently a substantial user of fossil fuels. Nor does divesting deny that fossil fuels have played an important role in industrial development thus far. Divesting helps push for the necessary move away from fossil fuel dependence. It is understandable that a low-carbon economy can be difficult to imagine. People are used to fossil fuels, but what they are truly accustomed to are the benefits fossil fuels now deliver: power, transportation, raw materials. Increasingly, many of these benefits can be delivered through non-fossil fuel means, and this trend is rapidly accelerating. Divest Duke requests that those reviewing this proposal take an unemotional, detached view of fossil fuels, and consider an alternative future with greater reliance on non-carbon based energy, which is required of us by the challenge of climate change.

Technological, economic and market factors are aligning in a manner which makes large scale adoption of renewable energy increasingly feasible in the near term. An NREL “*Renewable Energy Futures Study*” showed that using today’s technology, 80% of the US’s energy could come from renewable sources by 2050⁹¹. There is extensive research to show that the intermittent characteristics of renewable power, which exist, can be managed and do not create a problem until very high levels of penetration. The inability of alternative energy to displace and eventually replace fossil fuels is extraordinarily exaggerated by the fossil fuel industry to its own benefit and self-preservation. What is missing is not technical ability, but the political will to do so. Vested interest helps maintain a fossil-fuel status quo and stymies alternative energy development. Divestment challenges this by stigmatizing the fossil fuel industry to create the political space for change.

⁸⁹ “History of Energy Consumption in the US”, EIA Deb 2011, available at: <http://www.eia.gov/todayinenergy/detail.cfm?id=10> (last accessed Feb. 16, 2014).

⁹⁰ *Id.*

⁹¹ “Renewable Energy Futures Study”, NREL 2014, available at: http://www.nrel.gov/analysis/re_futures/ (last accessed Feb. 16, 2014).

- Poor people in developing nations need fossil fuels, so we should not divest.

This is another common misconception about fossil fuel dependence. To reiterate the above, people in developing nations need power and energy, but not necessarily energy generated by fossil fuel incineration.

- This argument typically states that developing nations need ‘cheap’ fossil fuels. It is unclear what this cost basis refers to. Not only are fossil fuels expensive per unit, require ongoing inputs, but fossil fuels have large public health and environmental costs. Fossil fuels are only ‘cheap’ due to the exclusion of both recognized and unrecognized negative externalities.
- Many developing nations are strong supporters of global climate change mitigation given their high levels of vulnerability to the effects of climate change⁹².
- Crude oil production is predicted to peak by 2019⁹³. It does not make sense for nations, developing or otherwise, to invest in infrastructure to deliver a finite resource whose prices are projected to continually rise⁹⁴. Further, with the UN’s endorsement of a carbon budget⁹⁵, it is unclear how long into the future international law will permit fossil fuel incineration, again challenging the rationale for investing in fossil fuel infrastructure, particularly instead of investing in low carbon infrastructure.
- Fossil fuel extraction in developing nations has often been associated with high political costs. Resource rents have reduced the accountability of governments, and contributed to abuses of power. True concern for developing nations should not ignore these additional costs of fossil fuels⁹⁶.

⁹² Mike Marshall, “Phillipines Begg for Climate Action Summit”, New Scientist Nov. 2013, available at: <http://www.newscientist.com/article/mg22029431.700-philippines-begs-for-action-at-climate-summit.html#.UwFPVldUc> (last accessed Feb. 16, 2014).

⁹³ “Market Trends Oil/Liquids”, EIA Annual Energy Outlook 2013, available at: http://www.eia.gov/forecasts/aeo/MT_liquidfuels.cfm, (last accessed Feb. 16, 2014).

⁹⁴ Charles Kennedy, “\$500 a barrel? How high could oil prices rise?”, ChristianScience Monitor June 5, 2013, available at: <http://www.csmonitor.com/Environment/Energy-Voices/2013/0605/500-a-barrel-How-high-could-oil-prices-rise> (last accessed Feb. 16, 2014).

⁹⁵ Fiona Harvey, “World Headed for Irreversible Climate Change — IEA”, Guardian Nov. 11, 2011, available at: <http://ourworld.unu.edu/en/world-headed-for-irreversible-climate-change-iea> (last accessed Feb. 16, 2014).

⁹⁶ For example, “Factsheet: Shell’s Environmental Devastation in Nigeria”, Center for Constitutional Rights, available at: <https://ccrjustice.org/learn-more/faqs/shell%2526%2523039%3Bs-environmental-devastation-nigeria> (last

- Renewable energy is a promising alternative for many developing countries. Many renewable energy technologies generate energy with very low marginal costs. Microgrids and distributed energy are an apt fit for energy supply needs in developing nations as they can operate independent of centralized transmission infrastructure that a developing nation may not have. The solar resources in developing nations are abundant⁹⁷.
- Does divesting violate fiduciary duty?

The concept of fiduciary duty is widely misunderstood. Many managers interpret fiduciary duty to be synonymous with earning the highest returns possible, but in fact, this interpretation lacks a strong legal basis. In reality, fiduciaries have more complicated obligations to their stakeholders than that, and maintain broad authority to make decisions under the ‘business judgment rule’ that comport with the best long term interests of their organizations, shareholders and stakeholders. The UN’s **UNEP Finance Initiative** has published several reports that address this issue.

 - The “Freshfields” Report, or “**A legal framework for the integration of environmental, social, and governance issues into institutional investment**” is one of the most cited publications on this issue, written by a renowned law firm, and which validates the concept of a broad view of fiduciary duty⁹⁸.
 - The update to the Freshfields Report is titled “**Legal and practical aspects of integrating environmental, social and governance issues into institutional**

accessed Feb. 16, 2014). *See also*: “Bowoto v. Chevron”, Center for Constitutional Rights, available at: <http://ccrjustice.org/ourcases/current-cases/bowoto-v.-chevron>, (last accessed Feb. 16, 2014).

⁹⁷ Saeed D. Foroudastan, Olivia Dees, “Solar Power and Sustainability in Developing Countries”, Proceedings of the International Conference on Renewable Energy for Developing Countries-2006, available at: <http://seedengr.com/documents/SolarPowerandSustainabilityinDevelopingCountries.pdf> (last accessed Feb. 16, 2014).

⁹⁸ Asset Management Working Group of the United Nations Environment Programme Finance Initiative, “A legal framework for the integration of environmental, social and governance issues into institutional investment”, UNEP-FI 2005, available at: http://www.unepfi.org/fileadmin/documents/freshfields_legal_resp_20051123.pdf (last accessed Feb. 16, 2014).



investment", and revisits and updates the concepts covered by the Freshfields report⁹⁹.

- **"Responsible investment and fiduciary duty"** also reviews these issues¹⁰⁰.

Additionally, the United Nation's Executive Secretary, Christiana Figueres, said that due to the severity of climate change impacts, financiers who fail to integrate climate change into their investing choices would be "blatantly in breach of their fiduciary duty."¹⁰¹ Divest Duke agrees that in the future, legal liability will be attached to those that fail to act on climate change.

- Duke University offers extensive sustainability and climate courses, employs professors who generate research on climate change and has on campus sustainability efforts. Isn't that enough?

While positive, Duke's on-campus sustainability and environmental education efforts are not a substitute for divestment. Divestment does not preclude Duke's existing activities. They should occur in tandem. The more Duke University pursues such admirable sustainability initiatives and climate research, the more hypocritical it becomes to hold assets that are invested in companies whose core business directly counters these sustainability efforts.

- Our endowment is not political.

Divesting does not 'politicize' an endowment; rather, divesting is a moral choice. Climate change forces this choice. Inaction, or even insufficiently slow change, means tacitly supporting a specific outcome: dangerous climate change, and a continuation of the negative impacts of fossil fuel resource development.

- Why the Carbon Tracker 200?

⁹⁹ Asset Management Working Group of the United Nations Environment Programme Finance Initiative, "Fiduciary Responsibility: Legal and practical aspects of integrating environmental, social and governance issues into institutional investment", UNEP-FI 2009, available at: <http://www.unepfi.org/fileadmin/documents/fiduciaryII.pdf> (last accessed Feb. 16, 2014).

¹⁰⁰ "Responsible Investment and fiduciary duty", UN Principles for Responsible Investment, available at: <http://www.unpri.org/viewer/?file=wp-content/uploads/3.Responsibleinvestmentandfiduciaryduty.pdf>. (last accessed Feb. 16, 2014).

¹⁰¹ Ed King, "Fund managers who ignore climate risk breaching 'fiduciary duty'", RTCC Jan. 16, 2014, available at: <http://www.rtcc.org/2014/01/16/fund-managers-who-ignore-climate-risks-breaching-fiduciary-duty/> (last accessed Feb. 14, 2014).



Carbon Tracker issued a report, **Unburnable Carbon: Are the World's Financial Markets Carrying a Carbon Bubble**¹⁰². This report shows that as much as 60-80% of known fossil fuel reserves can never be burned. This is based on the agreement already made by Governments, that 2 degrees Celsius is the desired upper limit for human induced global warming above preindustrial levels¹⁰³. No more than 884 billion tonnes (Gt) of carbon dioxide can be emitted between 2012 and 2050 for a 50 percent chance of achieving the goal.

The 200 fossil fuel companies in the Carbon Tracker 200 have proven reserves of 745 Gt¹⁰⁴. In combination with governments and other private companies, the total known reserves of carbon are 2860 Gt. There is no way to both realize the profit from these assets, and to prevent dangerous climate change. If Governments take action to prevent dangerous climate change, as they have committed to under the UNFCC process, 60 to 80 % of reserves would become 'stranded' assets. Analysis from HSBC suggests that equity valuations could be reduced by 40-60 % in a low emissions scenario, and that this risk is not currently priced in the market¹⁰⁵. Even without government action in the short term, growing concern over climate change may cause a decline in the value of carbon-based companies. This could occur rapidly in response to a shift in public opinion, following a natural disaster or a successful international agreement, for instance.

This suggests that the current stock prices of these companies are subject to risk above and beyond less carbon-intensive investments in our economy. Divesting is a conservative financial option that minimizes the Duke University endowment's exposure to carbon asset risk. Carbon asset risk is increasingly recognized by the financial community. The Wall Street Journal, Forbes, and many other financial news outlets have covered the carbon asset risk story.

- If we divest, where would Duke put the divested money?

¹⁰² "Unburnable Carbon: Are the world's financial markets carrying a carbon bubble?", Carbon Tracker 2013, available at: <http://www.carbontracker.org/wp-content/uploads/downloads/2011/07/Unburnable-Carbon-Full-rev2.pdf> (last accessed Feb. 14, 2014).

¹⁰³ UNFCC (2013) 'The International Response to Climate Change', United Nations Framework Convention on Climate Change, available online < http://unfccc.int/essential_background/items/6031.php >

¹⁰⁴ IEA (2012) 'World Energy Outlook'. Available at: <http://www.worldenergyoutlook.org/publications/weo-2012/> (last accessed Feb. 16, 2014).

¹⁰⁵ HSBC (2013) 'Oil and Carbon revisited: Value at risk from 'unburnable' reserves', available online at < <http://gofossilfree.org/files/2013/02/HSBCOilJan13.pdf> >



The University's financial management team and third party asset managers will be best able to provide reinvestment scenarios and options. Every institution's reinvestment plan will differ based its investment guidelines, risk preferences and required returns.

“Reinvesting”, that is, purposefully reinvesting divested assets in low-carbon energy assets and infrastructure, is an increasingly popular investable theme that also acts as a hedge against the financial impacts of climate change. Fossil free investment vehicles on both the equity¹⁰⁶ and debt¹⁰⁷ sides are expanding rapidly and suitable investments are available for large institutions. Another option would be for Duke to devote divested funds to community-level investments, or to invest more heavily in the “Duke University Green Fund Grants” program. A third alternative is for the University to simply rebalance its portfolio and increase its position in non-Carbon Tracker 200 holdings.

There are a tremendous variety of options for reinvestment, and Divest Duke would be happy to work with the administration on this matter going forward.

- Divesting is not the best strategy and won't work.

This pessimism is not based in fact; signs of success are growing clearer.

- Fossil fuel divestment is growing faster than the Apartheid divestment movement, and is an easier ask; divestment from South African linked assets during Apartheid implied divesting from a significant portion of the S&P 500.
- The UN now recommends divestment.
- Divestment campaigns at schools that have initially declined to divest are regrouping.
- Carbon asset risk is persuasive to many investors. Morgan Stanley recently recommend divestment as a ‘trend to watch’, saying that “...the

¹⁰⁶ Danielle Fugere “Cleantech Redefined: Why the Next Wave of Cleantech Infrastructure, Technology and Services Will Thrive in the 21st Century”, available at: http://www.asyousow.org/health_safety/cleantech-redefined.shtml (last accessed Feb. 14, 2014).

¹⁰⁷ Climatebonds, HSBC “Bonds and Climate Change: The State of the Market in 2013”, Climatebonds 2013, available at: http://www.climatebonds.net/wp-content/uploads/2013/08/Bonds_Climate_Change_2013_A3.pdf (last accessed Feb. 14, 2014).



main thesis of the divestment movement has raised some uncomfortable questions. While there is a range of opinions about the rise in global temperatures, the scientific consensus is that the atmospheric CO2 level needs to be kept under 450 parts per million (ppm). The world's fossil fuel producers have carbon reserves up to five times higher than this limit would allow. Purely from a financial perspective, even the outside chance that some reserves could become 'stranded assets' if a red line is breached should prompt a hard look at the assumptions underlying the valuation of fossil fuel producers."

Every social movement in the history of the US has been faced doubters and detractors, particularly at its beginning. But for the "Millennial Generation", halting climate change and preserving as much of the world we grew up with as possible is the self-interested choice. This movement is not going away, and will only grow stronger as climate change continues to ravage communities in increasingly devastating and graphic ways.

During the Apartheid movement, institutions like Harvard initially opted not to divest, but eventually relented; we expect to see this pattern repeat. The only real questions are: which major American University will have foresight to claim the value and fame associated with being the first mover, and how long will it take that institution to do so?

Duke University should be that leader.