

Divest DU Report

April, 2016

Divest DU Report	1
Foreword	3
Introduction: University of Denver's Mission	4
Climate Change	6
Social Justice and Environmental Racism	8
Colorado's Climate and Energy	11
Divestment	13
The Moral Imperative	15
Market Failures in the Economics of Climate Change	16
The Economic Case for Divestment	18
The Global Divestment Movement	22
Divest DU	24
Our Ask	25
The List	25
Reinvest in a Renewable Future	25
Pioneering Change	28
Notes	29
Appendices	33

Foreword

We are proud of the students at the University of Denver who have invested their time, their effort and their intellectual energy to the issue of fossil fuel divestment. Through their efforts they demonstrate their commitment to ideals, their willingness to engage with complex social and economic issues and their confidence that what they do can make a difference.

Divest DU takes the University of Denver's vision --"a great private University dedicated to the public good" -- as a real commitment to guide our conduct. They challenge us all to do the same. They understand that a University that does not address how it affects the world, physically and economically, cannot hope to achieve such an ambitious goal. Statement, Page 3.

The climate crisis, more than any other issue of our time, is likely to affect the long-term welfare of our students, the other members of their generation and their generation's children. They understand the pressing need to take action now.

The students of Divest DU understand that both the movement for divestment and the necessary transformation to a low carbon economy will have economic consequences. However, they have looked beyond the superficial rhetoric of climate change politics to understand fundamental realities. They understand that investment in fossil fuels in the short-term is an unnecessary expedient. Universities across the country and investment funds around the world have divested from fossil fuels without significant economic cost. They understand that investment in fossil fuels in the long term is economically unwise. As they point out, companies deeply engaged in the fossil fuel industry are demonstrably overvalued. These companies base their stated value on fossil fuel reserves that can never be burned if we hope to stabilize planetary climate. Statement, Pages 10-14.

Most heartening, the students of Divest DU understand the "moral imperative". They understand that the wealth and convenience we enjoy every day at the University of Denver is founded on centuries of unrestrained fossil fuel combustion. They understand that the environmental and social costs of that consumption are being borne and will be borne largely by people in the less developed world who contributed little to the problem and by future generations who have not contributed to the problem at all.

We urge the University of Denver to consider the arguments offered by Divest DU, to rise to the moral challenge they present, to divest from major fossil fuel companies and invest in solutions to the climate crisis.

Rebecca Powell Current Chair, DU Sustainability Council Associate Professor, Department of Geography and the Environment

Federico Cheever Founding Chair, DU Sustainability Council Professor, Sturm College of Law

Introduction: University of Denver's Mission

Vision: The University of Denver will be a great private university dedicated to the public good.

Values: In all that we do, we strive for excellence, innovation, engagement, integrity and inclusiveness.

Mission: The mission of the University of Denver is to promote learning by engaging with students in advancing scholarly inquiry, cultivating critical and creative thought, and generating knowledge. Our active partnerships with local and global communities contribute to a sustainable common good.¹

The sustainability-focused component of the University of Denver's mission statement has been exemplified in recent years by former Chancellor Coombe's signing of the American College & University Presidents' Climate Commitment (ACUPCC) in 2007.² The ACUPCC provides a framework and support for American colleges and universities to implement comprehensive plans in pursuit of climate neutrality.³ Through this pledge, Chancellor Coombe committed the University of Denver to becoming



"Academic institutions that are still vested in fossil fuels should ask themselves whether they are in breach of their social responsibility to serve the community, the nation, and the world."



Christiana Figueres

carbon neutral by 2050.4 Chancellor Coombe explained this decision in the University of Denver Magazine, saying that "Universities are agents of change, and when it comes to an appropriate response to climate change and sustainability, we should be on the leading edge". He went on to say that as a university, we are good at change and because of that, we will be able to move vigorously on issues of sustainability.⁵

We were fortunate to have Chancellor Coombe's leadership, and are equally fortunate to have gained Rebecca Chopp as his successor. Chancellor Chopp has reaffirmed this commitment by re-signing ACUPCC on behalf of DU and continuing our commitment to sustainability initiatives.⁶ At her previous position as President of Swarthmore College, Chopp encountered the fossil fuel divestment movement. Indeed,

the student group Swarthmore Mountain Justice is largely credited with pioneering the movement. Chopp, being the first of many administrators to respond to divestment, set a tune that has commonly been sung by many other administrations in response to these campus campaigns. She addressed divestment in an Op-Ed in the Swarthmore College Daily Gazette, indicating her disapproval of divestment as an effective strategy to combat climate change. Instead, the Op-Ed highlights and endorses a variety of other student-led efforts to make Swarthmore more sustainable. However, undertaking energy-saving retrofits, forming committees, expanding environmental academic programs, recycling, and buying carbon credits are only a few drops in the bucket when it comes to the needs mitigating climate change. While these small-scale campuscentric measures are very important, they should have happened decades ago and are no replacement for deeper climate action. We no longer have the luxury of only undertaking incremental, small-scale action; we need to think of our presence as an institution in terms that transcend our campus facilities.

Despite both Chancellors' outspoken commitment to sustainability, DU's



"What has become clear from the science is that we cannot burn all of the fossil fuels without creating a very different planet."

James Hansen

endowment is still invested in the very fossil fuel companies that society must move away from. DU states that it is dedicated to the public good, vet it is monetarily supporting and benefiting from companies profiting from climate wreckage (and in some cases directly acting against the public good via human rights violations, jeopardizing public health, and/or polluting the environment). By investing in these companies, DU is betting on the future success of these companies. Conversely, divesting from fossil fuel companies would act as a moral stand demonstrating our University's support of the well being of current and future generations of graduating pioneers. Both of our most recent Chancellors have talked about prioritizing sustainability, but now we need to transform these verbal commitments into bold actions that advance the people's climate movement in addition to the University's image.

The University of Denver should be proud of its efforts to build and promote

campus sustainability, but it is time that our university steps up and actually contributes to the broader public discourse that we are actively trying to change. Universities have long held reputations for being institutions of radical social progress; let us live up to this reputation and that of our Pioneer mascot, let us lead and contribute to the public conversation rather than merely reacting to it.

Climate Change

Climate change is real, it is anthropogenically driven, and it poses an existential threat to the future of humanity. Deserts are growing while the world's ice caps are melting. Our oceans are acidifying, and we can see the pollution hanging over our greatest cities. Record-breaking heat, droughts, and hurricanes threaten millions of people. Experts agree that global warming caused by the combustion of fossil fuels will continue to hasten and intensify these tragic climate disasters. These undeniable consequences of climate change are accelerating and threaten the economic and social stability of the United States and the world.



"As leaders we have a responsibility to fully articulate the risks our people face. If the politics are not favorable to speaking truthfully, then clearly we must devote more energy to changing the politics."

Marlene Moses

There is increasing evidence that the global climate is entering a state never before experienced by humans. The past thirty years in a row temperatures have been above the global average; this 30-year streak has a particularly acute significance: because climatology defines "normalcy" for a given location by a continuous 30-year stretch of data, this streak effectively allows climate scientists to understand global warming as the new global normal. 2015 was the hottest year on record, 2014 the second hottest, and the 10 hottest years on record have been post 1998.8 In March 2015, the carbon dioxide concentration in the atmosphere remained above 400 parts per million for a full month, a threshold last surpassed over a million years ago at a time when modern humans had yet to evolve.9

"What's the use of having developed a science well enough to make predictions if, in the end, all we're going to do is stand around and wait for them to come true?"

F. Sherwood Rowland



Left unchanged, our society will quickly approach the critical two degrees Celsius of warming, a limit internationally agreed upon at the Copenhagen Conference delineating a 'safe' increase in average global temperature. Any temperature increase in excess of this limit will severely impact the planet in ways that are irreversible. In fact, in March temperatures in the Northern Hemisphere surpassed two degrees Celsius above 'normal' for the first time in recorded history. ¹⁰ If average global warming exceeds this limit, an estimated 150 million people worldwide will be displaced by rising sea levels. Climate change will disrupt the societal structures around the globe, especially in more underdeveloped nations. The displacement of populations, disease, droughts, and the instability of agricultural industries will lead to massive conflict. In fact, the recent political uprising and conflict in Syria has been linked to a massive drought that ravaged the middle east from 2006-2009. This drought was shown to be exacerbated by climate change, demonstrating that climate change is beginning to intensify pre-existing conflicts. ¹¹

World leaders are becoming more and more cognizant of the growing threat of climate change. UN Secretary-General Ban Ki Moon states that "climate change is the single greatest threat to sustainable development." As world leaders and organizations continue to explore the potential outcomes of an impaired climate, new issues continue to surface about how billions of the world's population will be impacted by raising global temperatures. On March 30th, 2014, the Intergovernmental Panel on Climate Change stated:

"Throughout the 21st century, climate-change impacts are projected to slow down economic growth, make poverty more difficult, further erode food security, and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger." 13

Unfortunately, predicted effects of climate change are presenting themselves much earlier than expected. On May 6th, 2014, the White House released a climate report stating, "climate change, once considered an issue for a distant future, has moved firmly into the present," and that "there is mounting evidence that harm to the nation will increase substantially in the future unless global emissions of heat-trapping gases are greatly reduced."14

Not only is climate change already impacting the way mankind lives on earth, but it is having dramatic impacts on our natural world in virtually every ecosystem. The biodiversity that supports the complex systems upon which all life depends are in grave danger. Conservative reports from The Nature Conservancy predict that 25% of earth's species may face extinction by 2050 due to the effects of climate change if immediate action is not taken. The significance of this trend cannot be understated. Scientists continue to discover new interconnections between human activity and the biodiversity that supports our livelihood. The more biodiversity we compromise by altering the climate it is perfectly adapted to, the higher the risk we pose to human society by diminishing necessary ecosystem services. Furthermore, the longer we wait to act on our changing climate, the more we stand to lose in terms of health, stability, and prosperity.

Climate change is accelerating. We are witnessing the increasing impacts of a warming planet more and more consistently; in this last year alone our country experienced record-breaking heat, droughts, and hurricanes, which impacted hundreds of thousands of people and cost our country hundreds of billions of dollars. The scientific consensus is clear and overwhelming; we cannot safely burn even half of global fossil-fuel reserves without dangerously warming the planet for several thousands of years. We are at a historical precipice, one where both our decisions as well as our indecisions will directly affect the future of the human species as well as the survival of our planet.

Social Justice and Environmental Racism

While climate change is absolutely an issue of environmental degradation, its destructive forces reach far beyond the planet we live on and into the communities we call home. As was the case with divestment from apartheid, the tobacco industry, and the Sudanese government, fossil fuel divestment is firmly grounded in social justice. Communities of color, particularly low-income, female, and/or indigenous, suffer most at the hands of global warming. While climate catastrophe itself is undiscriminating, the systems of oppression that dominate society predispose marginalized peoples to be victims of what is known as "environmental racism," or the reality that people of color and low income individuals, which are often the same groups, are most likely to live near contamination and away from clean water, air, and soil.16



This is not a novel concept. Environmental racism originated in imperialist and colonialist practices hundreds of years ago when European countries, and subsequently European descendants, stripped entire nations of their resources. White people, driven by profit motive and ideologies of supremacy, tore countries and indigenous communities in the Global South and in the US apart. The legacy of these colonial practices is perpetuated by the fossil fuel industry.

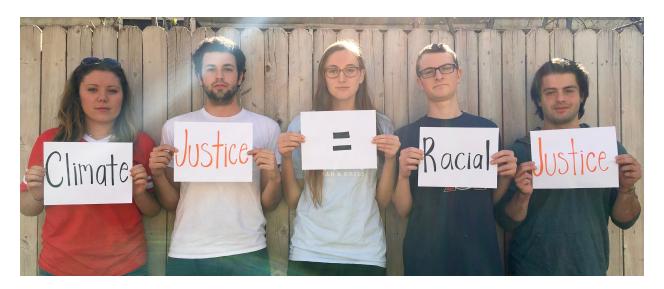
For example, in early 2016 a major oil pipeline ruptured in the Peruvian Amazon, spilling over 3,000 barrels of oil into the Chiriaco and Morana tributaries and jeopardizing the water supplies of more than 10,000 indigenous people¹⁷. Petroperú, Peru's state oil company, is the owner of the pipeline, and this is not an isolated incident for them. In fact, they have been responsible for at least 20 oil spills in just the last 5 years¹⁸. More than 70% of the Peruvian Amazon has been leased by the government to oil companies¹⁹. Enormous corporate entities are profiting off the disadvantaged economic position of Global South countries and in their methods further abusing indigenous communities and people of color. The international oil and gas industry, a manifestation of neocolonialism, puts communities of color in even greater positions of risk, to the point of killing them. Peru is not the only country in which environmental destruction disproportionately disadvantages people on the lowest rungs of the social hierarchy. Anthropogenically driven climate change is fueling conflict and violence worldwide.

However, environmental racism is a real and tangible issue within the US borders as well. Our own indigenous population is suffering as Indian reservations and communities from Louisiana to North Dakota have been targeted as sites for fracking, construction of dams, and installation of pipelines. The destruction of native lands has been a theme in US history, and the continued view of these territories as resources for economic benefit rather than sacred spaces and people's homes demonstrates the continuation of imperialist ideology. Nation-wide poor people of color have been caused irreversible physical, economic, and emotional damage. It is socially irresponsible and unethical to be invested in companies that profit from and perpetuate systems of oppression that destroy our Earth and the people that occupy it.

Again, the idea that an environmental disaster disproportionately hurts marginalized communities is nothing new. Over ten years ago Hurricane Katrina wreaked havoc on the southern United States. Due to economic marginalization and de facto segregation, African Americans were the primary residents of the below sea level area of New Orleans. Therefore, it was that community that found themselves stranded on rooftops and still to this day abandoned by the government that should have been protecting them. We expect climate driven disasters of this nature to occur more

"We can be quite sure that if wealthy White Americans had been the ones left without food and water for days in a giant sports stadium after Hurricane Katrina, even George W. Bush would have gotten serious about climate change."

Naomi Klein



frequently as climate change accelerates. In the case of Hurricane Sandy, we saw a parallel maltreatment of African Americans and other communities of color. Environmental disaster causes the aggravation of the problems vulnerable populations already face²⁰.

After the killing of unarmed black youth Mike Brown, a powerful social justice movement arose based on the idea (and hashtag) "Black Lives Matter." If we applied this idea that black and brown lives do in fact matter, the practices causing extreme climate degradation simply would not be allowed to occur, as their very existence and continuation depends on the abuse of those very bodies. Neglect and outright abuse occur across the timeline of climate catastrophe. It is morally unacceptable to make people of color carry the burden of environmental destruction. The refusal to acknowledge the intersections of racial and environmental justice means compliance with the adverse effects of climate change and support of their continuation.

The popular notion of what counts as an appropriate response to the climate crisis comes from the same neocolonialist lens of superiority that created such destruction in the first place. For example, the idea that a two degrees celsius rise in global temperature is what separates us from irreversible change, while in some ways accurate, does not tell the whole story. Two degrees for island nations and Sub-Saharan African countries experiencing horrific drought, amongst others, is, in the words of delegates from those very countries to the UN climate summit in Lima, Peru, "suicide." Two degrees is based on the idea that white lives, not black or brown lives, matter, and that the loss of life of poor people of color is an acceptable price to pay. Two degrees would tear those nations apart. As previously stated, millions of people will be displaced, disease and droughts will worsen, and the agricultural industry will be destabilized, all causing even more conflict. Racism is to account for procrastination and the overall lack of a sense of urgency around climate action.²¹

Environmental racism is institutionalized. It is not a one time occurrence, but rather a historical theme. Our notions of "dangerous" are skewed, because our lens comes from that of the victors, the profiteers, and the conquerors. But, when we realign

our perspective within a lens of social justice we see we have already passed the tipping point. This is not a problem to be solved a few years down the road when for entire populations, including within the United States, "it is either climate justice or death"²². This is why we must advocate for action rooted deeply in environmental justice, or the idea that in order to properly address climate change we must dismantle the systems of social discrimination and oppression at the very root of the issue. At the University of Denver we aim to have a "culture steeped in ethics and social responsibility." Being a great private university dedicated to the public good, investment practices that perpetuate systemic violence and institutional oppression are irreconcilable.

Colorado's Climate and Energy



"I believe that the more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction."

Rachel Carson

The Colorado economy and community is intimately connected with the natural environment. Our state was founded on extraction; Denver, in particular, was largely created in 1858 in search for gold.23 Extractive industries have persisted over the vears and continues to this day. Tourism, however, is a major factor for the strength of the Colorado economy. In 2013, Colorado had nearly 65 million visitors that spent about \$17.3 billion enjoying the outdoors, historical sites, and other attractions our state has to offer.24 Furthermore, our natural environment plays a significant role in drawing residents, and is a defining characteristic for millennials choosing Denver as the most desirable city to move to.25 The importance of this trend cannot be overemphasized, as the environmentally degrading nature of the extractive industry is incompatible with tourism and the passion of our citizens.

Colorado communities have historically proven resilient in the face of tragedies, especially natural disasters. However, they are now threatened by and vulnerable to experiencing more incidents related to our changing climate that could be even more costly. Colorado's rural economic strength is tightly tethered to the quality of our surrounding environment, as we depend on outdoor tourism, agriculture, and natural resources. On May 5th, 2015,

eleven mountain towns sent a letter to the Secretary of the U.S. Department of the Interior, Sally Jewell, expressing their concerns regarding climate change;

"Positioned in rural mountain areas and often surrounded by federal land, our communities are especially vulnerable to climate change...Economic, public health, and environmental damages from catastrophic wildfire, floods and reduced snowpack are some of the threats we face." ²⁶

Colorado is known for its profitable opportunities in the energy sector, especially in fossil fuels, given our available natural resources. According to the Energy Information Administration, Colorado's crude oil production rose by 146% from 2007 to 2013, and natural gas production rose by 38% from 2007 to 2012. Currently, 64% of our electricity is generated from coal, 20% is generated from natural gas, and only 17% is generated from renewable sources. The state has two of the largest oil fields in the country, and proven reserves continue to increase with more exploration. Our state is ranked 6th in the U.S. for natural gas production and we have immense coal reserves. However, the extractive fossil fuel industry that continues to grow is not worth the devastating effects Colorado will face. Or rather, the devastating effects this state is already experiencing.

"We need to remember that the work of our time is bigger than climate change. We need to be setting our sights higher and deeper. What we're really talking about, if we're honest with ourselves, is transforming everything about the way we live on this planet."

Rebecca Tarbotton

While our state is famous for our rugged outdoor environments, our local ecosystems are extremely fragile. According to a recent report commissioned by the Colorado Energy Office (as part of a requirement of HB 13-1293), Colorado will need to endure more frequent and more severe droughts, wildfires, and floods. Additionally, our forests are threatened by the mountain pine beetle's radical outbreak due to climate change, and projections of annual reductions in snowpack are expected to significantly impact tourism. Instead of continuing to subject our beloved home to increased extraction that threatens the state's natural environment, local communities, and our economic diversity amongst industries, we should harness the available energy given to us by the unique environment we live in. We have an incredible capacity for utility scale wind and solar energy and have potential for geothermal as well.²⁹

As a prestigious university in Colorado, we need to remain cognizant of our responsibility to our surrounding community. Over the last year, the DU community has worked to come to terms with our past through investigating our founder's role in the Sand Creek Massacre. We must learn from John Evans' inability to act in a way that preserved life and promoted peace with local Native American communities, and

demonstrate our commitment to the public good moving forward. We need to ensure that our actions today will not give future administrators cause to investigate the morality of our actions. This means we must take definitive action on climate change to ensure the welfare of future generations. We need to be an inclusive institution that acts as a part of the larger Colorado community rather than an institution separate from it. We have a responsibility to help preserve and champion the well-being of our state and we must consequently act on every available opportunity to ensure our communities' sustainability.

Divestment

The brief history of divestment begins with its birth during the Anti-Apartheid Movement. In the 1970s and 1980s, many US and European institutions divested from all companies doing business with the apartheid regime. The campaign proved immensely successful, with Nelson Mandela crediting it as one of the most significant factors that led to the fall of apartheid.³⁰ Later, divestment was used to target 'big tobacco' with the purpose of morally stigmatizing political contributions from the industry.



"We cannot necessarily bankrupt the fossil fuel industry. But we can take steps to reduce its political clout, and hold those who rake in the profits accountable for cleaning up the mess. And the good news is that we don't have to start from scratch. Young people across the world have already begun to do something about it. The fossil fuel divestment campaign is the fastest growing corporate campaign of its kind in history."

Desmond Tutu

A decade ago, the University of Denver joined the divestment movement by divesting from companies involved with the Sudanese government. In fact, DU was one of the first 40 or 50 Universities to divest, helping to set the standard upon which other Universities quickly followed. To be clear, this divestiture was no small financial feat. Rather, the University of Denver divested 17,300 shares of directly-held stock worth

over \$1 million from a French oil field services company ranked fifth on the Sudan Divestment Task Force list of highest offending companies.³¹ The University additionally asked investment managers of commingled funds to evaluate their portfolios and divest from companies identified as offenders. Craig Woody, Vice Chancellor for Business and Financial affairs, explained that their decision to divest was driven by evidence demonstrating divestment as an effective strategy for social change.

Today, divestment has been reborn as one of the most prominent strategies to effectively remediate climate change; it seeks to target carbon emissions at the source to preemptively prevent irreversible climate destruction. More specifically, divestment targets the fossil fuel industry. This focus of the divestment movement can be summed up with three numbers outlined in Bill McKibben's 2012 Rolling Stone's Article, "Global Warming's Terrifying New Math."32

The first number is two degrees celsius. One of the few issues of climate



"Clearly, what gets declared a crisis is an expression of power and priorities as much as hard facts. But we need not be spectators in all this: politicians aren't the only ones with the power to declare a crisis. Mass movements of regular people can declare one too."

Naomi Klein

change that the international community has agreed upon is that anything greater than a two degree increase in global temperatures will have catastrophic consequences. It is important to note that this agreement is by its very nature conservative, as it had to garner international support. The second number is 565 gigatons of carbon emissions. In 2012, this was the amount of carbon humanity could emit before passing the two degree threshold. It can be understood as the 'safe' number of global carbon emissions. The third and most ominous number is 2,795 gigatons. This number describes the amount of carbon already accounted for in the proven fossil fuel reserves owned by the coal, oil, and gas industry in 2012, more easily understood as the amount of fossil fuels that have a 90% certainty of being extracted. The emissions from these reserves are estimated to be broken down as 65% attributed to coal, 22% to oil, and 13% to gas.

Thus, the fossil fuel industry owns nearly five times the amount of carbon that we can safely burn. It is this ominous understanding upon which divestment is rooted. If we are to ensure a safe and hospitable planet for future generations to enjoy, the fossil fuel industry must be forced to skip out on the profits of burning these reserves, something accountants refer to as 'stranded assets.' Divestment is the strategy that has been developed to ensure these companies do so.

The Moral Imperative

As a strategy, divestment is commonly misunderstood as being a financial attack on the fossil fuel industry. To clarify, this is inaccurate. We fully realize that the University of Denver divesting from fossil fuels will not significantly impact the fossil fuel industry. Rather, divestment from fossil fuels is first and foremost a moral stand. The campaign is meant to politically bankrupt the fossil fuel industry. Political donations from the fossil fuel industry must come to be seen in the same light as political funding from the tobacco industry; the politicians who are charged with regulating the fossil fuel industry must face political consequences for accepting donations from these companies.

By divesting from fossil fuels, the University of Denver sends a clear message that the fossil fuel industry is inherently immoral and unjust. Committing to divestment would demonstrate the University of Denver's refusal to remain complicit in profiting from the destruction of our environment. If we can agree that destroying the climate is wrong, then profiting from that same ruin is clearly unethical. Consequently, continuing to profit from climate catastrophe nullifies our university's moral clout. If the University wishes to uphold its mission to be a "great private university dedicated to the public good," it must realign its investment practices accordingly.







As a University we are presented with an incredible opportunity, and responsibility, to lead society forward. As centers of knowledge and ethics, universities have immense power to shape societal norms and discourse, to be role models in our community. Our political leaders look to universities for moral clarification. Furthermore, higher education is intimately linked with the future. As a result, it is our duty to integrate morality into our investments, ensuring that our money is being allocated to industries helping to build a more just and sustainable future. We believe such action on behalf of the University of Denver will not only be a sound decision for our institution's financial portfolio but also for the wellbeing of its current and future student body. These students have an inalienable right to raise their children on a safe and hospitable planet, as the University of Denver has the duty to ensure its actions contribute to this future.

Market Failures in the Economics of Climate Change

Climate change is a problem that extends to every facet of life. It will have far reaching effects in both our economy and society. Economics has traditionally focused on using market forces to improve global standards of living, but we are now faced with the urgency of how to sustain our economies within a biosphere that is threatened with drastic change. While market forces are powerful in driving economic growth, they often leave certain issues unaddressed — a reality commonly referred to as market failures. More specifically, these market failures revolve around imperfect competition, public goods, externalities, and common property.

"It is our predicament that we live in a finite world, and yet we behave as if it were infinite. Steady exponential material growth with no limits on resource consumption and population is the dominant conceptual model used by today's decision makers. This is an approximation of reality that is no longer accurate and [has] started to break down."

Rodrigo Castro

As claimed by Nicholas Stern, climate change is the biggest market failure in history.³³ Climate change, perpetuated by these unaddressed market failures, will have unconscionable economic repercussions given further delays to act to suppress greenhouse emissions. Industries as we know them will have to adapt to very different environments, if they can adapt at all. Unfortunately, the invisible hand of the market does not extend to that of our biosphere. We must be the hand that accounts for market failures—we must realign our social and moral imperatives with our economy to ensure progress.

Market forces work well when the structures are competitive and incentives are clear, but all too often, those fail to manifest in reality. While we would agree that policies need to be instituted to help correct these market failures by creating incentives for sustainable practices, the urgency of climate change requires action beyond this typical avenue:

"We must go beyond incentives and the institutions that can support them and examine the possibilities for changing preferences and the behaviour they generate. This can happen through information, discussion and education. It has been a key element in several policy approaches that involve externalities, including recycling, water conservation, alcohol and smoking."34

Our campaign along with the university's decision to divest from the fossil fuel industry can be a major avenue to spur discussion and education about how to actively combat climate change.

Beyond climate change being a market failure in and of itself, the industries that are the driving forces behind this ecological crisis also operate amongst market failures. By the very nature of its operation, the fossil fuel industry compromises our global public goods through their unchecked pollution and greenhouse gas emissions into the atmosphere. While billions around the world rely on public goods such as a stable climate and weather patterns to maintain their quality of life, the fossil fuel industry jeopardizes these by focusing on profits to the exclusion of important externalities. Meanwhile, the public has to pick up the tab for the cost of such externalities. A recent report released by the International Monetary Fund found our projected global subsidies for fossil fuels to be astoundingly high. As was so aptly stated by Shelagh Whitley from the Overseas Development Institute:

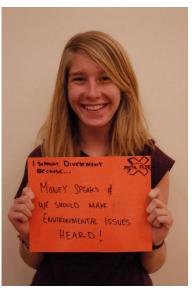
"The IMF report is yet another reminder that governments around the world are propping up a century-old energy model. Compounding the issue, our research shows that many of the energy subsidies highlighted by the IMF go toward finding new reserves of oil, gas, and coal, which we know must be left in the ground if we are to avoid catastrophic, irreversible climate change." 35

Specifically, the IMF projects that the fossil fuel industry is subsidized \$10 million per minute, or approximately \$5.3 trillion in 2015. This is in large part due to paying for the costs of pollution and the negative effects fossil fuels have on our global public health.³⁶ Nicholas Stern keenly expressed the implications of the report, stating that:

"The costs of fossil fuels are paid through the deaths and illness of present and future generations. That is why it is so important to create a level playing field for alternative energy sources and help to propel our economies away from their dependence on dirty and expensive fossil fuels."³⁷

Furthermore, such a rampant distortion in the market of fossil fuels seriously undermines fossil fuel companies' profitability as the call for energy subsidy reforms surge. Even the immense lobbying power of these companies will not be able to sustain





their efforts to stave off the inevitable increase in environmental regulation that is coming as more of the public begins to feel the adverse effects of climate change. The aforementioned Mountain Pact that eleven Colorado towns have signed and sent to the Secretary of the Interior is just one local example of this mounting call for action to hold fossil fuel companies financially accountable for so many of the destructive business practices they have previously been able to pass off onto the public.³⁸

Under current practices, the fossil fuel industry will continue to risk the presence and stability of public goods such as clean air, clean water, a biodiverse ecosystem, and even our public health. But they are also going to be increasingly hard-pressed to find communities willing to subsidize the true costs they incur to the health and well-being of our people and our environment that are conveniently not reflected in current market prices.

The Economic Case for Divestment

"If all we see is cynicism and inaction, my generation won't embody the values necessary to combat climate change and make a difference in the world. To prepare the next generation of leaders, universities need to demonstrate leadership themselves."

Christina Cilento

In addition to strong moral arguments for divestment, there are also compelling financial reasons to transition to a fossil-free portfolio. We are pricing fossil fuel companies based on reserves that cannot be burned without surpassing safe temperature increases, and are "[failing] to properly account for the risks inherent in owning carbon-intensive assets." For instance, an HSBC analysis of six major oil and gas companies estimates that "the value at risk from unburnable

reserves would be equivalent to [as much as] 40-60% of the market capitalization."40

The phenomenon of overvalued fossil fuel stocks was first observed by the Carbon Tracker Institute, which recommended that "investors need to respond to this systemic risk to their portfolios and the threat it poses of a carbon bubble bursting."⁴¹ Given the current regulatory climate concerning fossil fuel extraction and use, especially with new methods such as fracking and tar sands extraction, current reserves held by companies are at risk. When New York state banned fracking in December 2014, all frackable reserves in the state became completely void.⁴² As more regions of the world start to realize the dangers of allowing oil, gas, and coal development, they will follow New York's example and further reduce the amount of reserves owned by fossil fuel companies. Fossil fuel stocks are becoming increasingly risky to own in a world that is quickly realizing the dangers of climate change.⁴³

While the idea of a carbon bubble is fairly new, it is rapidly gaining traction in the financial industry. The governor of the Bank of England commissioned an inquiry into the risks posed by stranded fossil fuel assets. Major financial institutions such as Goldman Sachs, Citibank, and Deutsche Bank are also recognizing the risk of fossil fuel investments and some, including the Norwegian financial services group Storebrand,

and the Dutch bank Rabobank have already begun divesting fossil fuel assets.⁴⁴ Even Bank of America has announced that it has made a decision "to continue to reduce [their] credit exposure over time, to the coal mining sector globally." As part of their announcement of this new coal policy, Bank of America also stated that:

"As one of the world's largest financial institutions, the bank has a responsibility to mitigate climate change by leveraging our scale and resources to accelerate the transition from a high-carbon to a low-carbon society, and from high-carbon to low-carbon sources of energy."45

In April of 2015, Newsweek published an article covering a private report released by HSBC that warns investors of the risk of having fossil fuel assets. Various factors contributing to the long-term risk of these particular assets included the likelihood of fossil fuel companies to have stranded assets due to their reserves being left in the ground as we move away from fossil fuels. In addition, the likelihood of increased regulation on carbon emissions and the disruption from clean technology as green energy becomes cheaper and more accessible will also threaten to greatly devalue fossil fuel assets. In the short-run, however, the report also warns investors of the risk of fossil fuel assets being devalued due to global oversupply. Their reported solutions included full fossil fuel divestment, divestment from high risk assets such as coal, or investor engagement with companies. Of the investors who choose to engage



with fossil fuel companies, the report argues that they will be seen as late movers and acting on the wrong side of history.⁴⁶

Additionally, there is a huge event risk in owning fossil fuel stocks. Fracking, mining, and railroad disasters, plus oil spills are common events associated with the fossil fuel industry, and account for much of the volatility of fossil fuel stocks. When the Deepwater Horizon well in the Gulf of Mexico burst in April 2010, within nine days the value of BP's stock had fallen 22%, knocking 40 billion dollars off of BP's market value.⁴⁷ With tighter regulations and more concern among the public about the dangers of climate change, fossil fuel production costs are rising. At the same time, prices are dropping for oil, gas, and coal as supply shadows demand. Fossil fuel companies, now more than ever, are incentivized to cut costs, resulting in an environment more prone to disasters such as the 2010 spill.

As the consequences of unchecked climate change worsen, countries take action to curb carbon emissions, and regulations tighten, the University of Denver's fossil fuel investments will become more volatile and at risk of becoming stranded assets. Our economic system is resting on top of a huge carbon bubble, and fossil fuel divestment offers a tremendous opportunity for DU's endowment to come out ahead of the curve.

Furthermore, divestment from fossil fuels is unlikely to harm our endowment. A study by the Aperio Group estimated a trivial 0.0034% theoretical return penalty from full divestment and found that a "full carbon divestment" portfolio outperformed the Russell 3000 benchmark in 73% of ten-year periods over a 22-year historical analysis. Another 22-year analysis by Advisor Partners found that the "simulated performance of [a] full divestment portfolio was virtually indistinguishable from that of the S&P 500 index. Furthermore, a shorter-term analysis by MSCI found that the portfolio formed by removing fossil fuels from the MSCI All Country World Index Investable Market Index (ACWI IMI) closely tracked the MSCI ACWI, but that the active return differential over the entire time series was 1.2% in favor of the fossil free portfolio.



"The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard."

Gaylord Nelson

Other studies by S&P Capital IQ and Impax Asset Management have found even more positive results. S&P Capital IQ found that over the past ten years, a \$1 billion endowment with no fossil fuel investments would have yielded \$119 million more than an endowment with typical fossil fuel investments.⁵¹ Impax found that portfolios containing significant investment in renewable and efficiency and no investment in fossil fuels tend to perform better than a typical portfolio.⁵² Each of these studies suggest that there is little risk to excluding fossil fuels from a well-managed portfolio.

Fund managers considering divestment often fear that investments must be withdrawn from the best-managed commingled funds. However, this is a backward looking and unfounded assumption. At least five mutual funds already offer fossil free options, and as the demand becomes apparent, other funds will begin to offer these options as well. In considering the financial impacts of divesting, we encourage the University of Denver not to be limited by the rigid thinking that has prevented some schools from taking advantage of this opportunity. DU can collaborate with other major universities and fund managers to create fossil fuel free options that continue to bring exceptionally high returns.

"We really can invest in new energy sources, divest from old sources, and make the economy stronger. So let's do it."

Paul Krugman

Not only is divestment from fossil fuels financially viable, but it is economically empowering. The simple truth is the University of Denver is not run on its endowment - we are a tuition driven institution. This is important, as divesting from fossil fuels has the potential to increase student interest and enrollment at the University, to help rebrand DU as a top tier institution.

If the University of Denver were to divest from fossil fuels, we would be the first major Colorado school to do so and thus have the potential to become a prominent leader in the international movement. This action would ensure that DU becomes a 'Pioneer' in social responsibility, and would help to rebrand the university as a leading, progressive institution. Future students will increasingly begin to consider if the schools they are applying to align with their values and moral compass, and therefore being seen as a progressive institution dedicated to environmental justice will encourage more students to apply. This progressive type of leadership would also make DU alumni proud of their alma mater and could entice them to donate to DU, to help continue the university's pioneering legacy.

In time, all of society will divest from fossil fuels. This future is inevitable if we are to ensure the continued existence of humanity. Thus, the question of divestment is not a matter of 'if', but rather a matter of 'when.' Divesting now is not only the right thing to do normatively, but it is also in our financial interest to set the University of Denver apart from the rest and help lay the foundation for DU to evolve into a top tier institution.

The Global Divestment Movement

"The outcome of the stigmatisation process, which the fossil fuel divestment campaign has now triggered, poses the most farreaching threat to fossil fuel companies and the vast energy value chain. Any direct impacts pale in comparison."

Ben Caldecott



The global fossil fuel divestment movement has gained significant social and economic momentum in the last few years. Over 800 institutions have divested from fossil fuels to date, committing nearly \$2.6 trillion dollars.

Several high-profile events related to fossil fuel divestment have captured media and popular attention in the past year. In May 2014, Stanford University committed to divestment from coal. In September 2014, the Rockefeller Brothers Fund, the philanthropic organization of the family whose forefathers built immense wealth in the oil industry, committed to divesting from all fossil fuels.53 In March 2015, Syracuse University, after an 18-day student sit-in, became the largest educational institution to fully divest its endowment.54 In April 2015, the Guardian Media Group's investment fund of over £800 million (\$1.2 billion) became the largest yet to divest from fossil fuels.55 On May 1st, 2015, the Church of England committed to divesting its stocks in

coal and tar sands.⁵⁶ On May 14th, the University of Washington Board of Regents voted to prohibit investments in coal companies.⁵⁷ On May 15th, mathematical economist and leading author of the Nobel Prize winning IPCC report, Graciela Chichilnisky joined students at Edinburgh University sitting in for divestment.⁵⁸ Following this 10 day occupation of the finance department that also garnered support from Naomi Klein and 300 alumni who pledged to boycott donations to the university, Edinburgh's investment committee voted to divest from three of the biggest fossil fuel producers.⁵⁹ On May 18th, U.K.'s second-largest university, Oxford University, banned investments in coal and tar sands. Because the university has rejected full fossil fuel divestment, 70 alumni will be handing back their degrees in protest.⁶⁰ On May 21st of 2015, the University of Hawaii state system also committed to fossil fuel divestment. Their arguments included a moral and leadership rationale as well as the long-term economic case that fossil fuel companies will be greatly devalued in the future due to their un-

"Push your own communities to adopt smarter practices. Invest. Divest. Remind folks there's no contradiction between a sound environment and strong economic growth."

President Barack Obama

burnable reserves.⁶¹ Forty-two cities, including Boulder, San Francisco, and Seattle, are taking steps to fulfill their commitments to divest from fossil fuels as well.

With individuals such as President Barack Obama, the UN Secretary General Ban Ki-Moon, World Bank President Jim Yong Kim, Desmond Tutu, and Noam Chomsky endorsing divestment, widespread awareness about the movement has swept the globe. 62 On February 13th, 2015, on the first ever Global Divestment Day, over 450 separate events were held in 60 countries, demonstrating the international solidarity that characterizes today's divestment movement. 63 Immediately afterwards, many college campuses in the U.S. participated in coordinated escalation of nonviolent protest. Swarthmore College students occupied their administration's building for thirty-two days to demand serious conversation about divestment. Mary Washington University, Bowdoin College, Harvard University, CU Boulder, and others held similar sit-ins and events. Many of these actions proved successful. For example, the Swarthmore Faculty passed a fossil fuel divestment resolution formally calling on the Board of Managers to divest from fossil fuels on the twenty-ninth day of the sit-in:

"Resolved: The faculty requests the board of managers announce divestment from the 200 fossil free index companies in separately managed funds, with reinvestment in energy efficiency and renewables." 64

Because of the attention that the movement has been receiving, the issue of fossil fuel divestment has even appeared on mainstream news outlets for young adults. MTV News published an article on May 12th with the subtitle, "Here's what you need to know about fossil fuel divestment and how college students are basically trying to save the world." The fact that divestment has been gaining a more popular, pre-college audience is very important. For those universities that have already divested, favorable press, targeted at younger audiences, always follows. It is in every university's best interest to pay attention to what their future applicant pool is going to be looking for when they make their choices of which academic institution to attend.

Concerning this growing momentum, American psychiatrist Robert Jay Lifton says,

"The divestment movement is gathering strength, and it has to be looked at not just in terms of what it denies the fossil fuel corporations--we're not about to bankrupt them--but rather what it says in connection with the mounting climate movement, which is taking shape. It's part of what I call the climate swerve, meaning a whole tendency toward increased awareness of truths about climate threat. And the divestment movement is right at the heart of it, very admirably."66

Divest DU

Divest DU's campaign has grown rapidly since its birth two and a half years ago in October of 2013, generating broad and widespread support throughout the campus. To date, we have gathered over 1,600 DU student petition signatures, the official endorsements from 21 student organizations, and the signatures of 58 Faculty Members onto the Faculty Open Letter (included in Appendix A). We have also received the unanimous endorsement from the Sustainability Council, a governing body formed upon Chancellor Coombe's signature of the Presidents' Climate Commitment in 2007, and endorsements from three community groups including Coloradans for Community Rights, 350 Denver, and 350 Colorado. The official endorsements from USG and the Sustainability council are included in Appendices B & C.







Along the way, Divest DU has been in close contact with the administration of the University of Denver. In the spring of 2014, members of Divest DU met with the Investment Committee of the DU Board of Trustees to illustrate why divestment from fossil fuel companies would have a positive impact on the school. In May of 2015, members of the campaign met with Chancellor Rebecca Chopp and Vice Chancellor Craig Woody to further discuss the topic of divestment. More recently, Divest DU was invited to meet with Chancellor Rebecca Chopp, Vice Chancellor Craig Woody, Chair of the Board of Trustees Doug Scrivner, and Chair of the Board of Trustees Investment Committee KC Gallagher in November of 2015.

Furthermore, on October 23, the Faculty Senate voted unanimously to form an Ad Hoc committee to investigate the merits and demerits of divestment as it pertains to the University of Denver, and will be presenting these findings to the council by the end of April. Given this far reaching support, we firmly believe that Divest DU will continue to grow and that with such broad support, divestment from fossil fuels will become inevitable. For up to date statistics, please visit our website at <u>DivestDU.org</u>.

Our Ask

Our ask from the University of Denver is two fold. First, we ask that that DU immediately freeze any new investment in fossil-fuel companies. Second, we ask that the University of Denver divest from direct and indirect ownership of fossil fuel stocks, public equities, and corporate bonds over five years.

More specifically, we ask that the University of Denver divests from the top 100 coal companies and the top 100 oil and gas companies, as defined by the potential carbon emissions from their reserves. These 200 entities own the vast majority of carbon reserves, as the companies who fall beyond these 200 entities control less than 0.15 GtCO2 in reserves.⁶⁷ Thus, limiting divestment to this list achieves the mission of morally stigmatizing the fossil fuel industry while making the divestment process more manageable, viable, and realistic.

The List

Top 200 Selection (the full list is located in Appendix D):

"The companies selected to be included in this assessment were the top 100 coal companies and the top 100 oil and gas companies, assessed on the potential carbon emissions from their reserves. There will be further fossil fuel reserves listed on the world's financial markets. However, the levels of reserves reported by these companies would not significantly affect the findings of this report. Each company beyond the top 100 coal and oil & gas companies considered here has less than 0.15 GtCO2 in reserves. This extra carbon only adds to the overall volume that is listed on the world's stock markets." 68

Reinvest in a Renewable Future

A clean energy future that ensures the safety of our climate cannot include significant utilization of hydrocarbons. Even the International Energy Agency's GAS scenario, which focuses on replacing coal and oil with natural gas, puts us on a path toward at least 3.5 degrees Celsius of warming. ⁶⁹ Natural gas is not a solution to our climate crisis. In cases with significant methane leaks, natural gas can be even worse than coal or oil and recent research indicates that the scale of these leaks in the US is much more significant than previously recognized. ⁷⁰ Increased investment in natural gas has also diverted funds away from renewable energy projects and is locking us into an unsustainable generation mix for the next several decades.

In order to secure a clean and prosperous future, we must rapidly shift our energy system toward renewable resources. While fossil fuel companies often tout their investment in renewable energy, they have done everything in their power to prevent this shift. The \$9 billion that US oil companies have invested in renewable over the past decade is just a tiny fraction of total US renewables investment, which exceeded \$250 billion over the same time frame.⁷¹ This \$9 billion appears even more minuscule when compared with the annual profits of these companies. ExxonMobil made \$44.9 billion in



"It seems to me that our problem has a lot less to do with the mechanics of solar power than the politics of human power—specifically whether there can be a shift in who wields it, a shift away from corporations and toward communities, which in turn depends on whether or not the great many people who are getting a rotten deal under the current system can build a determined and diverse enough social force to change the balance of power."

Naomi Klein

2012 alone. ⁷² The five largest oil and gas companies have recorded more than \$1 trillion in profits over the past decade. ⁷³

Beyond the sheer scale of the financial resources of these companies, the more relevant comparison lies in their active investments in new fossil fuel reserves. Any renewable investments by fossil fuel companies are dwarfed by expenditure on exploration for new fossil fuel reserves. The oil industry has poured \$341 billion into the development of new tar sands resources. ExxonMobil alone plans to invest \$190 billion in the exploration and development of new oil and gas resources over the next five years. Although the world's current fossil fuel reserves are already enough to warm our planet by devastating 4-6 degrees Celsius, these companies continue to use their vast financial capital to secure new reserves.

While divestment may not bankrupt fossil fuel companies, re-investment in local communities and renewable energy could lead to dramatic shifts in investments in solutions to help mitigate climate change. Some universities may claim that they are providing climate change solutions in the form of research, technology, and available academic programs. However, the only way research and technology spearheaded by various academic institutions will ever become mainstream enough to begin to fully transition us from a high carbon economy to a low carbon economy is if there is enough capital to support their continued development and improvement. A significant increase in investments made in the renewable energy sector will put us on the right path to more sustainable communities.

These fossil fuel companies that we invest in with our endowment, are not committed to forging a renewable future. They are committed to profiting as much as possible from their existing and expanding fossil fuel reserves, unconcerned with the long-term negative impacts that these decisions will have on our world. Their business model is incompatible with a livable climate, and the University of Denver cannot

continue to invest in the destruction of our planet jeopardizing future generations of Pioneers to come. Scientists from across the nation clearly show that a renewable energy future is technologically and economically feasible, and becomes more economical and efficient everyday. Rather, it is the lack of political will that is keeping us from transitioning to a clean energy economy. Money talks, and investing in renewables and other local sustainable solutions could pressure future policy measures.

We may not be investment portfolio managers, but there are many available resources to inform re-investment policies and more resources will continue to emerge, especially as large financial institutions continue to see increased demand for such financial advice. Even though re-investment could manifest in a myriad of different investment choices dependent upon our values, we are absolute in our conviction that investing in fossil fuel companies — and funding their extractive activities, including all of their fossil fuel exploration and lobbying — is not a viable way to get to a more sustainable society.



"The eyes of the future are looking back at us and they are praying for us to see beyond our own time."

Pioneering Change

The University of Denver has a purpose dedicated to benefiting the public good. We claim to have a "culture steeped in ethics and social responsibility;" a mission to contribute to a "sustainable common good", and a vision of being a "great private university dedicated to the public good." This is a purpose that Divest DU strongly identifies with and commends. However, it is a purpose that is irreconcilable with our current investment practices. If the University of Denver wishes to embody and embrace its values, it must first re-align its investment practices accordingly.

Fortunately, the University of Denver has already taken considerable steps in addressing sustainability on campus. Beginning in 2007 with Chancellor Coombe's signature onto the "American College and University President's Climate Commitment," the University of Denver truly began to embrace its role as a University and its duty to encourage and embody sustainability. Since then, the University has made considerable progress, forming the Sustainability Council and creating the Center For Sustainability headed by the newly hired Director of Sustainability, Chad King. This commitment has continued even as leadership has transitioned, with Chancellor Chopp initiating the Imagine DU campaign as well as the Sustainability Task Force.

These developments are commendable and have set the University on the right track towards becoming a leader in environmental justice. However, these commitments to sustainability must be taken with a grain of salt as long as the University continues to profit from climate catastrophe. It is unethical for the University of Denver to invest in the companies responsible for driving climate change. It is impossible for DU to maintain its commitment to the public good and to sustainability initiatives as long as these investment practices remain intact.

We are proud Pioneers. We want our university to grow and set an example for other schools around the world. Climate change is the defining conflict of our time, and it is imperative that we act today in ways that we can proudly share with our grandchildren.

Thank you for taking the time to consider our proposal. In the words of Chancellor Chopp, "an inclusive community must engage in clamorous debates." As members of the DU community, it is our duty to engage in an educated discussion regarding divestment. It is wrong to profit from wrecking the climate. Help us make history, and divest from fossil fuels immediately.

Notes

¹ "University Vision." University of Denver. N.p., 2014. Web. 10 May 2014.

- ² "American College & University Presidents' Climate Commitment." *Signatory List by Institution Name.* Presidents' Climate Commitment, 2014. Web. 10 May 2014.
- ³ "American College & University Presidents' Climate Commitment." *Mission and History.* N.p., 2014. Web. 13 May 2014.
- ⁴ "Climate Action Plans." *ACUPCC Reports.* American College & University Presidents' Climate Commitment, 2014. Web. 11 May 2014.
- ⁵ "Interview: Chancellor Robert Coombe Discusses Sustainability." University of Denver Magazine, 1 June 2008. Web. 11 May 2014.
- ⁶ "American College & University Presidents' Climate Commitment." *Signatory List by Institution Name.* Presidents' Climate Commitment, 2014. Web. 10 May 2015.
- ⁷ Chopp, Rebecca. "Op-Ed: Chopp on Divestment." *The Daily Gazette*. The Daily Gazette, 19 Apr. 2012. Web. 10 May 2015.
- ⁸ Kahn, Brian. "One For the Record Books: 2014 Officially Hottest Year." *Climate Central*. Climate Central, 05 January 2015. Web. 13 May 2015.
- ⁹ Vaughan, Adam. "Global Carbon Dioxide Levels Break 400ppm Milestone." *The Guardian*. The Guardian News and Media Ltd., 06 May 2015. Web. 13 May 2015.
- ¹⁰ Holthaus, Eric. "NASA Confirms Earth's Temperature Reached an Even-More-Terrifying Milestone in February." *Slate*. N.p., 12 Mar. 2016. Web.
- ¹¹ Fountain, Henry. "Researchers Link Syrian Conflict to a Drought Made Worse by Climate Change." *The New York Times*. The New York Times, 2 March 2015. Web. 21 May 2015.
- ¹² "Greater Financial Investment Needed to Combat Climate Change UN Chief." *UN News Center.* UN, 13 Oct. 2013. Web. 14 May 2014.
- ¹³ Intergovernmental Panel on Climate Change. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Summary for Policymakers. N.p.: Intergovernmental Panel on Climate Change, 2014. Web.
- 14 "National Climate Assessment." National Climate Assessment. Global Change, 6 May 2014. Web. 21 May 2015.
- ¹⁵ "Wildlife at Risk From Climate Change." The Nature Conservancy. The Nature Conservancy, n.d. Web 14 May 2014.
- ¹⁶Covert, Bryce. "Race Best Predicts Whether You Live Near Pollution." *The Nation.* The Nation, 18 Feb. 2016. Web.
- ¹⁷ Knight, Nika. "As Rivers Run Black in Peru, Indigenous Tribes Left Cleaning Big Oil's Disaster." *Common Dreams*. Common Dreams, 23 Feb. 2016. Web.
- 18 Holman, John. "Another Year, Another Major Oil Spill in Peru." Aljazeera. Aljazeera, 5 Mar. 2016. Web.
- ¹⁹ Knight, Nika. "As Rivers Run Black in Peru, Indigenous Tribes Left Cleaning Big Oil's Disaster." *Common Dreams*. Common Dreams, 23 Feb. 2016. Web.
- ²⁰ Klein, Naomi. "Why #BlackLivesMatter Should Transform the Climate Debate." *The Nation.* The Nation, 12 Dec. 2014. Web.

²¹ Klein, Naomi. "Why #BlackLivesMatter Should Transform the Climate Debate." *The Nation*. The Nation, 12 Dec. 2014. Web.

²² Klein, Naomi. "Why #BlackLivesMatter Should Transform the Climate Debate." *The Nation.* The Nation, 12 Dec. 2014. Web.

²³ "Early Denver History." Denver: The Mile High City. N.p., 2015. Web. http://www.denver.org/about-denver/denver-history/.

²⁴ "Colorado Tourism." OEDIT. Office of Economic Development and International Trade, 2014. Web. 20 May 2015.

²⁵ Griffin, Greg. "People Moving Into Colorado Faster Than State Can Create Jobs For Them." The Denver Post. The Denver Post, 24 March 2010. Web. 21 May 2015.

²⁶ "Letter to Department of Interior." The Mountain PACT. 5 May 2015. Web. 23 May 2015.

²⁷ "Colorado State Profile and Energy Estimates." U.S. Energy Information Administration - EIA - Independent Statistics and Analysis. U.S. Energy Information Administration, 21 Aug. 2014. Web. 20 May 2015.

²⁸ Childress, Amber, Eric Gordon, Theresa Jedd, Roberta Klein, Jeff Lukas, and Rebecca McKeown. Colorado Climate Change Vulnerability Study. Rep. Ed. Eric Gordon and Dennis Ojima. N.p.: U of Colorado Boulder and Colorado State U, 2015. Jan. 2015. Web.

²⁹ "Colorado State Profile and Energy Estimates." U.S. Energy Information Administration - EIA - Independent Statistics and Analysis. U.S. Energy Information Administration, 21 Aug. 2014. Web. 20 May 2015.

³⁰ Mandela, Nelson. "We Cannot Turn Back." Oakland-Alameda County Coliseum Speech, Oakland. 30 June 1990. Speech.

³¹ Gillen, Brenda. "University to Divest Holdings in Companies Tied to Sudan." University of Denver Magazine. N.p., 8 June 2007. Web. http://magazine.du.edu/campus-community/university-to-divest-holdings-in-companies-tied-to-sudan/>.

32 McKibben, Bill. "Global Warming's Terrifying New Math." Rolling Stone 19 July 2012: n. pag. Print.

33 Stern, N. H. The Economics of Climate Change: The Stern Review. Cambridge, UK: Cambridge UP, 2007. Print.

34 Stern, Nicholas. "What is the Economics of Climate Change?" World Economics 7.2 (2006): n. pag. Web.

³⁵ Carrington, Damian. "Fossil Fuels Subsidized by \$10m a Minute, Says IMF." The Guardian, 18 May 2015. Web. 18 May 2015.

³⁶ Coady, David, Ian Parry, Louis Sears, and Baoping Shang. "How Large Are Global Energy Subsidies?" International Monetary Fund, 18 May 2015. Web. 18 May 2015.

³⁷ Stern, Nicholas. "Dirty Air and Disease: Why We Must End the Subsidy of Fossil Fuels." The Guardian, 20 May 2015. Web. 20 May 2015.

38 "Letter to Department of Interior." The Mountain PACT. 5 May 2015. Web. 23 May 2015.

39 "Stranded Carbon Assets." Generation Foundation, 30 Oct. 2013. Web. 10 May 2014.

⁴⁰ Spedding, Paul, Kirtan Mehta, and Nick Robins. "Oil & Carbon Revisited: Value at Risk from 'unburnable' Reserves." HSBC Global Research, 25 Jan. 2013. Web. 10 May 2014.

⁴¹ Carbon Tracker Initiative. Unburnable Carbon – Are the World's Financial Markets Carrying a Carbon Bubble? Rep. N.p.: n.p., 2012. Print.

⁴² Nicks, Denver. "New York Bans Fracking." Time, 2014. Web. 2015.

⁴³ Longstreth, Bevis. "The Financial Case for Divestment of Fossil Fuel Companies by Endowment Fiduciaries." The Huffington Post. The Huffington Post, 02 November 2013. Web. 21 May 2015.

- 44 "Rabobank, Storebrand Boost Fossil Fuels Divestment Campaign." EurActiv. N.p., 2013. Web. 21 May 2015.
- ⁴⁵ Sheppard, Kate. "Bank of America Backs Away From Funding Coal Mining." Huffington Post, 6 May 2015. Web. 15 May 2015.
- 46 Hurst, Luke. "HSBC Warns Clients of Fossil Fuel Investment Risks." Newsweek, 21 Apr. 2015. Web. 20 May 2015.
- ⁴⁷ Aenlle, Conrad. "BP Stock Looks Cheap After Spill Leads to Panic Selling." CBS Money Watch. CBS, 06 May 2010. Web. 18 May 2015.
- ⁴⁸ "Building a Carbon-Free Equity Portfolio." Aperio Group. N.p., 2014. Web. 21 May 2015.
- ⁴⁹ "Fossil Fuel Divestment: Risks and Opportunities." Advisor Partners. N.p., N.d. Web. 21 May 2015.
- ⁵⁰ "Responding to the Call for Fossil-fuel Free Portfolios." MSCI. December, 2013. Web. 21 May 2015.
- ⁵¹ "Fossil Fuel Divestment." Associated Students Environmental Affairs Board. N.p., N.d. 21 May 2015.
- 52 "Beyond Fossil Fuels: The Investment Case for Fossil Fuel Divestment." Impax Asset Management, n.d. Web. 2015.
- 53 "Divestment Statement." Rockefeller Brothers Fund, Sept. 2014. Web. 23 May 2015.
- ⁵⁴ Swann, Sara. "Syracuse University announces that it will divest from fossil fuels." The Daily Orange. The Daily Orange, 31 March 2015. Web. 20 May 2015.
- ⁵⁵ Carrington, Damian. "Guardian Media Group to divest its £800m fund from fossil fuels." The Guardian. Guardian Media Group, 01 April 2015. Web. 20 May 2015.
- ⁵⁶ Howard, Emma. "Church of England Latest to Join Divestment Movement." The Guardian, 1 May 2015. Web. 20 May 2015.
- ⁵⁷ Howard, Emma. "University of Washington to divest from coal companies." The Guardian. The Guardian Media Group, 15 May 2015. Web. 21 May 2015.
- ⁵⁸ Howard, Emma. "University of Washington to divest from coal companies." The Guardian. The Guardian Media Group, 15 May 2015. Web. 21 May 2015.
- ⁵⁹ Brooks, Libby. "University of Edinburgh to Divest from Three Major Fossil Fuel Providers." The Guardian, 26 May 2015. Web. 26 May 2015.
- ⁶⁰ Carrington, Damian. "Oxford University rules out investing in coal and tar sands." The Guardian. Guardian Media Group, 18 May 2015. Web. 21 May 2015.
- ⁶¹ Howard, Emma. "University of Hawaii System Votes to Divest from Fossil Fuels." The Guardian, 22 May 2015. Web. 23 May 2015.
- 62 GoFossilFree.org. "Endorsements." Gofossilfree.org. 350.org, n.d. Web. 20 May 2015.
- ⁶³ Wong-Weissman, Zoë. "February Divest Digest: the Global Divestment Day Edition." Gofossilfree.org. 350.org, 27 February 2015. Web. 14 May 2015
- ⁶⁴ Fulton, Deirdre. "At Swarthmore College, Longest Ever Divestment Sit-In Ends on Hopeful Note." Common Dreams, 21 Apr. 2015. Web. 21 May 2015.

⁶⁵ Paoletta, Rachel. "Have College Students Discovered The Key To Climate Change Catastrophe?" MTV News. Viacom International Inc., 12 May 2015. Web. 21 May 2015.

66 Democracy Now! "Robert Jay Lifton on How Climate Change Joins Nuclear War in Threatening Human Survival." Democracy Now. Democracy Now, 07 May 2015. Web. 21 May 2015.

⁶⁷ Leaton, James. *Unburnable Carbon - Are the World's Financial Markets Carrying a Carbon Bubble?* Rep. Ed. Jeremy Leggett, Nick Robins, Mark Campanale, and Cary Krosinsky. Carbon Tracker Initiative, July 2011. Web.

⁶⁸ Leaton, James. *Unburnable Carbon - Are the World's Financial Markets Carrying a Carbon Bubble?* Rep. Ed. Jeremy Leggett, Nick Robins, Mark Campanale, and Cary Krosinsky. Carbon Tracker Initiative, July 2011. Web.

69 "World Energy Outlook 2011 Special Report Fact Sheet: Are We Entering a Golden Age of Gas?" International Energy Agency, 2011. Web. 23 May 2015.

⁷⁰ Howarth, Robert, Renee Santoro, and Anthony Ingraffea. "Methane and the Greenhouse-gas Footprint of Natural Gas from Shale Formations." Cornell University, 13 Mar. 2011. Web. 23 May 2015.

⁷¹ Wells, Ken. "Big Oil's Big in Biofuels." BloombergBusiness, 10 May 2012. Web. 23 May 2015.

72 "Exxon Mobil Profit Is Just Short of Record." CNNMoney. CNN, 1 Feb. 2013. Web. 10 May 2014.

⁷³ Weiss, Daniel, and Valerie Vasquez. "Big Oil's Mountain of Cash." Center for American Progress, 27 Sept. 2011. Web. 10 May 2014.

⁷⁴ Wells, Ken. "Big Oil's Big in Biofuels." BloombergBusiness, 10 May 2012. Web. 23 May 2015.

⁷⁵ Fowler, Tom, and Melodie Warner. "Exxon to Invest \$190 Billion Upstream Over Five Years." Wall Street Journal, 6 Mar. 2013. Web. 23 May 2015.

⁷⁶ Jacobson, Mark, and Mark Delucchi. "A Path to Sustainable Energy by 2030." Scientific American 1 Nov. 2009: 58-65. Print.

Appendices

Appendix A: Faculty Open Letter

An Open Letter from the Faculty to Chancellor Chopp and the Board of Trustees

We, the undersigned Faculty of the University of Denver, sincerely believe that the University of Denver is a "private university dedicated to the public good." As such, we call upon the University of Denver to divest the University's portfolio of all investments in the 200 publicly traded fossil fuel companies with the largest carbon reserves (1).

We applaud the University of Denver for its successful and cost-effective efforts to reduce its carbon footprint and for its acceptance, in the American College & University Presidents' Climate Commitment (2), of "the scientific consensus that global warming is real and is largely being caused by humans." We further support the University's recognition of "the need to reduce the global emission of greenhouse gases by 80% by mid-century at the latest, in order to avert the worst impacts of global warming," and its understanding that exerting "leadership in addressing climate change will stabilize and reduce their long-term energy costs, attract excellent students and faculty, attract new sources of funding, and increase the support of alumni and local communities."

We understand that fossil fuel divestment is an international movement on university and college campuses to inspire action on behalf of these educational institutions to move away from investment in fossil fuel companies whose activities threaten climate stability. We understand 58 colleges have already fully or partially divested from fossil fuels, acting as positive examples for the University of Denver while leaving space for us to be among the leaders in a social movement (3).

We further understand that the moral imperative to divest from fossil fuels must be balanced against the well-being of the members of the University of Denver community supported by student scholarships and faculty and staff compensation. However, there is mounting evidence that divestment can be achieved without financial cost. Indeed, after the December 2015 COP21 Paris Agreement, there is a strong argument that divestment from fossil fuels is the only wise long-term investment strategy.

Accordingly we call on the University of Denver Board of Trustees to initiate an open process to:

- 1. Immediately freeze new investments in the 200 fossil fuel companies with the largest carbon reserves,
- 2. Develop a plan to divest all current holdings in these companies within five years,
- 3. Reinvest in climate solutions.

On behalf of the public good, it is time for the University of Denver to act.

Appendix B: Undergraduate Student Government Resolution

UNIVERSITY OF DENVER Undergraduate Student Government Senate 2014-2015

Resolution #2 – Fossil Fuel Divestment Author: Junior Class Senator Sacco

Whereas, The University of Denver's Undergraduate Student Government has supported sustainable efforts from prior student organizations,

Whereas, The University of Denver's vision is to be a "Private University Dedicated to the Public good,"

Whereas, Divest DU was created to encourage The University of Denver to better reflect a University that is dedicated to sustainability and therefore the public good,

Whereas, The University of Denver strives to be a pioneer in every sense of the word, attempting to trail blaze both academically, within its community, and professionally,

Whereas, Divest as a national movement is on university and college campuses nationwide in order to spark action on behalf of these educational institutions in jumpstarting a movement to divest in fossil fuels,

Whereas, eighteen colleges have already divested in fossil fuels, acting as positive examples for the University of Denver while leaving space for us to be among the leaders in a social movement,

Be it Resolved, The University of Denver's Undergraduate Student Government, as DU's Undergraduate representative body; endorse Divest DU's efforts in convincing the Board Of Trustee's Investment Committee to commit to divesting in Fossil Fuels in the future.

Signatories: (Signed Unanimously)

USG President Hayden Johnson

USG Vice President Natalie Casey

President Pro Tempore Uriel Berrum

Chair of DUPD Richard Maez

Secretary of Communications Sasha Goldblatt

Secretary of Recreation Cody Hansen

Secretary of Intercollegiate Athletics Allison Proehl Secretary of Greek Affairs Maddie Hayes

Secretary of Inclusive Excellene Jacqueline Juarez

Secretary of Traditions Kaley Rickert

Secretary of Internationalization Zivang Qiu

University Technology Services Liason Spencer Cunningham Secretary of Community

Partnerships Adam Hammerman First Year Senator Eli Friedland

First Year Senator Tyler Linnebur

Sophomore Senator Emma Decker

Sophomore Senator VanMichael Moore

Junior Senator Nick Schwartz

Junior Senator Lindsay Sacco

Senior Senator Sophic Abual-Saud

Senior Senator Jack Jenson

AHUM Senator Uriel Berrum

Daniels Senator Aish Narang

Daniels Senator Sam Garry

FKSHM Sentor Max Gleicher

JKSIS Senator Holly Gordon

NSME Senator Dillon Lynch

Performing Arts Senator Sonora Dolce

RSECS Senator Daniel Kim

SOS Senator Alex Hess

On-Campus Senator Alejandro Garcia

On Campus Senator Joe Bellafiore

Off Campus Senator Mark McCarthy

Off Campus Senator Tiffany Wilk

Appendix C: Sustainability Council Resolution

UNIVERSITY OF DENVER Sustainability Council 2014-2015 Resolution on Fossil Fuel Divestment

WHEREAS the University of Denver's is a "private university dedicated to the public good."

WHEREAS the University of Denver created the Sustainability Council to assist in carrying out its obligations under the American College & University Presidents' Climate Commitment.

WHEREAS, in that commitment, the University of Denver recognizes "the scientific consensus that global warming is real and is largely being caused by humans."

WHEREAS the University further recognizes "the need to reduce the global emission of greenhouse gases by 80% by midcentury at the latest, in order to avert the worst impacts of global warming."

WHEREAS, in that commitment, the University recognizes that colleges and universities "that exert leadership in addressing climate change will stabilize and reduce their long-term energy costs, attract excellent students and faculty, attract new sources of funding, and increase the support of alumni and local communities."

WHEREAS the University of Denver cannot achieve its climate goals merely by achieving carbon neutrality for University activities; our leadership must embrace our role in the larger community.

WHEREAS continued investment in fossil fuels is inconsistent with the University of Denver's core values of sustainability and the public good.

WHEREAS University of Denver students created DivestDU to encourage the University of Denver to better reflect the values of a University that is dedicated to sustainability and the public good,

WHEREAS fossil fuel divestment is a national movement on university and college campuses to inspire action on behalf of these educational institutions to move away from investment in fossil fuel companies whose activities are endangering climate stability,

WHEREAS twentyeight colleges and universities, 42 cities, and hundreds of other institutions have already divested from fossil fuels, acting as positive examples for the University of Denver while leaving space for us to be among the leaders in a social movement,

ACCORDINGLY, the University of Denver Sustainability Council supports DivestDU's efforts and urges the Board of Trustees Investment Committee and the Administration of the University of Denver to commit to divesting from fossil fuels.

Signatories (Signed Unaminously)

Jaser Alsharhan

Stuart Anderson

Fred Cheever

Madelaine DeVan

Cara DiEnno

Mollie Doerner

Ben Gerig

Tram Ha

Andrea Howland

Zak Jacobsen

Gina Johnson

Kristin Kemp

Chad King

Jane Loefgren

Tom McGee

Cortnee McIlwee

Becky Powell

Sarah Schmidt

Erin Smith

Nick Stubler

Emily Thomas

Randy Wagner

Chelsea Warren

Chris Wera

Appendix D: The List of Fossil Fuel Companies

Oil and Gas Companies

- Lukoil Holdings
- 2. Exxon Mobil Corp.
- 3. BP PLC
- Gazprom OAO
- 5. Chevron Corp.
- 6. ConocoPhillips
- 7. Total S.A.
- 8. Royal Dutch Shell PLC
- 9. Petrobas
- 10. Rosneft
- 11. ENI S.p.A.
- 12. Occidental Petroleum Corp.
- 13. Bashneft
- 14. SINOPEC Shandong Taishan Petroleum Co. Ltd.
- 15. Canadian Natural Resources Ltd.
- 16. Devon Energy Corp.
- 17. Suncor Energy Inc.
- 18. Apache Corp.
- 19. Anadarko Petroleum Corp.
- 20. Hess Corp.
- 21. Repsol YPF S.A.
- 22. BG Group PLC
- 23. Marathon Oil Corp.
- 24. Inpex Corp.
- 25. Statoil ASA
- 26. BHP Billiton
- 27. CNOOC Ltd.
- 28. Husky Energy Inc.
- 29. YPF S.A.
- 30. Novatek
- 31. Talisman Energy Inc.
- 32. Pioneer Natural Resources Co.
- 33. SK Holdings Co. Ltd.
- 34. Petroleum Development Corp.
- 35. Cenovus Energy Inc.
- 36. Nexen Inc.
- 37. EOG Resources Inc.
- 38. Noble Energy Inc.
- 39. OMV AG
- 40. Chesapeake Energy Corp.
- 41. Penn West Petroleum Ltd.
- 42. Oil Search Ltd.
- 43. Woodside Petroleum Ltd.
- 44. Canadian Oil Sands Ltd.
- 45. Imperial Oil Ltd.
- 46. Murphy Oil Corp.
- 47. Whiting Petroleum Corp.
- 48. EnCana Corp.
- 49. Plains Exploration & Production Co.
- 50: Newfield Exploration Co.

- 51. Denbury Resources Inc.
- 52. Continental Resources Inc. Oklahoma
- 53. Linn Energy LLC
- 54. Pacific Rubiales Energy Corp.
- 55. Crescent Point Energy Corp.
- 56. Concho Resources Inc.
- 57. Quicksilver Resources Inc.
- 58. PTT PCL
- 59. Berry Petroleum Co. (CI A)
- 60. Range Resources Corp.
- 61. Energen Corp.
- 62. Enerplus Corp.
- 63. Tullow Oil PLC
- 64. Ecopetral S.A.
- 65. Santos Ltd.
- 66. SandRidge Energy Inc.
- 67. Cairn Energy PLC
- 68. Arc Resources Ltd.
- 69. El Paso Corp.
- 70. Pengrowth Energy Corp.
- 71. Lundin Petroleum AB
- 72. Petrobank Energy & Resources Ltd.
- 73. Baytex Energy Corp.
- 74. Forest Oil Corp.
- 75. Mariner Energy
- 76. ATP Oil & Gas Corp.
- 77. Bankers Petroleum Ltd.
- 78. Soco International PLC
- 79. Zhaikmunai L.P.
- 80. Cimarex Energy Co.
- 81. Questar Corp.
- 82. GDF Suez S.A.
- 83. Swift Energy Co.
- 84. Comania Espanola de Petroleos S.A.
- 85. PetroBakken Energy Ltd.
- 86. Premier Oil PLC
- 87. Bonavista Energy Corp
- 88. MOL Hungarian Oil and Gas Plc
- 89. SM Energy Co.
- 90. Williams Cos.
- 91. EQT Corp.
- 92. Oil and Natural Gas Corp. Ltd.
- 93. Global Energy Development PLC
- 94. Oil India Ltd.
- 95. Venoco Inc.
- 96. INA-Industrija Nafte
- 97. PA Resources AB
- 98. Ultra Petroleum Corp.
- 99. Resolute Energy Corp.
- 100. Southwestern Energy Co.

Coal Companies

- 1. Severstal JSC
- 2. Anglo American PLC
- 3. BHP Billiton
- 4. Shanxi Coking Co. Ltd.
- 5. Exxaro Resources Ltd.
- 6. Xstrata PLC
- 7. Datang International Power Generation Co. Ltd.
- 8. Peabody Energy Corp.
- 9. Mechel OAO
- 10. Inner Mongolia Yitai Coal Co. Ltd.
- 11. China Shenhua Energy Co. Ltd.
- 12. Coal India Ltd.
- Arch Coal Inc.
- 14. Rio Tinto
- 15. Evraz Group S.A.
- 16. Public Power Corp. S.A.
- 17. Consol Energy Inc.
- 18. Yanzhou Coal Mining Co. Ltd.
- 19. Mitsubishi Corp.
- 20. Datong Coal Industry Co. Ltd.
- 21. Bumi Resources
- 22. United Co. Rusal PLC
- 23. Vale SA
- 24. Pingdingshan Tianan Coal Mining Co. Ltd.
- 25. Tata Steel Ltd.
- 26. Tack Resources Ltd.
- 27. Banpou PCL
- 28. Sasol Ltd.
- 29. United Industrial Corp. Ltd.
- 30. Polyus Gold OAO
- 31. Alpha Natural Resources Inc.
- 32. Magnitogorsk Iron & Steel Works
- 33. Raspadskaya OJSC
- 34. Kuzbassenergo
- 35. RWE AG
- 36. Massey Energy Co.
- 37. Eurasion Natural Resources Corp. PLC
- 38. Wesfarmers Ltd.
- 39. Churchill Mining PLC
- 40. Idemitsu Kosan Co. Ltd.
- 41. Tata Power Co. Ltd.
- 42. Alliance Resource Partners L.P.
- 43. NACCO Industries Inc. (CI A)
- 44. Novolipetsk Steel OJSC
- 45. New Hope Corp. Ltd.
- 46. TransAlta Corp.
- 47. Sherritt International Corp.
- 48. PT Bayan Resources
- 49. New World Resources N.V.
- 50. Mitsui & Co. Ltd.

- 51. Kazakhmys PLC
- 52. African Rainbow Minerals Ltd.
- 53. International Coal Group Inc.
- 54. Patriot Coal Corp.
- 55. Aston Resources Pty. Ltd.
- 56. AGL Energy
- 57. Tokyo Electric Power Co. Inc.
- 58. Cloud Peak Energy Inc.
- 59. CLP Holdings Ltd.
- 60. Polo Resources Ltd.
- 61. Whitehaven Coal Ltd.
- 62. Mongolian Mining Corp.
- 63. PT Adaro Energy
- 64. Allete Inc.
- 65. Optimum Coal Holdings Ltd.
- 66. ArcelorMittal
- 67. Coal of Africa Ltd.
- 68. James River Coal Co.
- 69. Westmoreland Coal Co.
- 70. Aquila Resources Ltd.
- 71. Macarthur Coal Pty Ltd.
- 72. FirstEnergy Corp.
- 73. Western Coal Corp.
- 74. Cliffs Natural Resources Inc.
- 75. Wescoal Holdings Ltd.
- 76. Walter Energy, Inc.
- 77. Huolinhe Opencut Coal Industry Corp. Ltd.
- 78. Gujarat NRE Coke Ltd.
- 79. Straits Asia Resources Ltd.
- 80. Capital Power Corp.
- 81. Fushan International Energy Group Ltd.
- 82. Noble Group Ltd.
- 83. Itochu Corp.
- 84. Jizhong Energy Resources Co. Ltd.
- 85. Northern Energy Corp. Ltd.
- 86. NTPC Ltd.
- 87. Prophecy Resource Corp.
- 88. Mitsui Matsumisha Co. Ltd.
- 89. Fortune Minerals Ltd.
- 90. Black Hills Corp.
- 91. Jindal Steel & Power Ltd.
- 92. Grupo Mexico S.A.B. de C.V.
- 93. Gansu Jingyuan Coal Industry & Electricity Power
- 94. Bandanna Energy Ltd.
- 95. Irkutskenergo
- 96. Alcoa Inc.
- 97. Homeland Energy Group Ltd.
- 98. Neyveli Lignite Corp. Ltd.
- 99. Zhengzhou Coal Industry & Electric Power Co. Ltd.
- 100. Gujarat NRE Coking Coal Ltd.