

## **Ethical Investment Advisory Committee**

April 2019 Report to the Investment Committee

### **Recommendations**

The EIAC recommends the following actions:

1. That the University become a signatory to the Climate Action 100+ coalition;
2. That the Investment Committee adopt the following resolution: "The University of Rochester pledges to make no direct investments in companies engaged in substantial production of thermal coal or oil from tar sands, with the understanding that the EIAC will revisit this pledge if the facts underlying this recommendation should change." The Investment Pool does not currently include any direct investments of these kinds, so making this pledge would not require any changes to existing investments.

### **Background**

The impetus to form our committee came from a groundswell of support among students and faculty for some form of divestment related to climate change. After working closely with Doug Phillips and the Investment Office for nearly two years, we recognize the limitations of sweeping investment screens as a strategy for aligning the University's Investment Pool with its institutional values and ethical commitments. Accordingly, we have explored alternative forms of engagement to advance the University's values without undermining investment performance. The most constructive form of shareholder engagement we have identified is that of the Climate Action 100+ coalition, described below. Meetings with the University of Rochester Sustainability Council, the Faculty Senate, open forums, and our own analyses lead us to also recommend two non-investment pledges pertaining to business sectors in which the University does not currently have direct investments: thermal coal production and tar sands. Concerns about other business sectors, including for-profit prisons, are under review.

Climate destabilization is a fundamental threat to human well-being, and universities and other institutions have ethical responsibilities to limit the negative externalities or harms caused by their own activities and associated with their investments. As institutions committed to education and advancing knowledge in the public interest, universities also have obligations to educate, inquire, and lead by example in seeking solutions to the challenges that the society and world must overcome. In the sphere of investment policy, the underlying ethical principle is that investments should be consistent with these fundamental institutional commitments and with the fundamental moral obligation of all institutions and individuals to take care to avoid causing harm. In applying this principle, it should be understood that investing in a business makes the investor a party to any harms imposed by the business as well as any benefits that might in some cases justify the risk of harm.

The University of Rochester has taken some meaningful steps toward reducing its harmful environmental impact since President Seligman established the University Council on Sustainability over a decade ago, but in many respects it has lagged behind peer institutions. In

the meantime, the harms of climate destabilization arising from greenhouse emissions (GHGs) are already substantial.<sup>1</sup> The scientific and inter-governmental consensus on climate destabilization has been consolidated, global institutions such as the World Bank have reshaped development policy to align with sustainability, and the professional associations to which many of our alumni belong have made ethical commitments to environmental protection and sustainability.<sup>2</sup>

The pace of observed manifestations and costs of climate destabilization has also been accelerating.<sup>3</sup> Ecosystems are being disrupted, water scarcity is growing more acute, food production in many regions is at risk or already collapsing, and climate refugees are on the move as their lands become uninhabitable.<sup>4</sup> Meanwhile, populations of mammals, reptiles, amphibians,

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<sup>1</sup> A 2011 United Nations Environmental Programme report estimated that environmental damage cost \$6.6 trillion or 11% of global economic production in 2008, and could reach \$28.6 trillion by 2050 on a business-as-usual scenario (UNEP FI, *Universal Ownership: Why Environmental Externalities Matter to Institutional Investors*. Report prepared by Trucost Plc for PRI Association and UN Environmental Programme Finance Initiative (Geneva, Switzerland, 2011), p. 88. For cost estimates limited to climate disruption that is already occurring, see NRDC, Groundbreaking Study Quantifies Health Costs of U.S. Climate Change-Related Disasters & Disease, published online 8 Nov. 2011, <http://www.nrdc.org/health/climate/extreme-weather-ticker-2012.asp>; WWF, 2012 Weather Extremes: Year-to-Date Review, published online Dec. 6, 2012, at <http://www.wwfblogs.org/climate/sites/default/files/2012-Weather-Extremes-Fact-Sheet-6-dec-2012-final.pdf>. The giant reinsurance company, Munich Re, reported in *Highs and Lows: Weather Risks in Central Europe* (Munich, 2008) that, "Our database clearly shows that the number of weather-related natural catastrophes in Europe has more than doubled since 1980. There is increasing evidence that this trend is already driven by climate change." For an analysis of which extreme weather events can be attributed to human induced climate destabilization, see Stephanie C. Herring, M. P. Hoerling, T. C. Peterson, and P. A. Scott, eds., *Explaining Extreme Events of 2013 From a Climate Perspective*, Special Supplement of the American Meteorological Society 95, no. 9 (Sept. 2014): S1-S96, <http://journals.ametsoc.org/doi/pdf/10.1175/1520-0477-95.9.S1.1>. See also, Gernot Wagner and Martin L. Weitzman, *Climate Shock: The Economic Consequences of a Hotter Planet* (Princeton: Princeton University Press, 2015). A landmark 2006 report by the Treasury of the United Kingdom quantified the costs owing to climate destabilization, projecting a 20% decline in global average consumption on a business-as-usual scenario (Nicholas Stern, *Stern Review on The Economics of Climate Change* [London: HM Treasury, 2006], archived at: [http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/sternreview_index.htm)).

<sup>2</sup> See the World Bank sponsored study on which its development policies are now based: Potsdam Institute for Climate Impact Research and Climate Analysis, *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided* (Washington, D.C.: The World Bank, 2013). For an example of environmental and sustainability commitments in recent professional codes of ethics, see the National Society of Professional Engineers (NSPE), Code of Ethics for Engineers (2007), <https://www.nspe.org/resources/ethics/code-ethics>.

<sup>3</sup> See IPCC, *Global Warming of 1.5 °C*, 2018, <http://www.ipcc.ch/report/sr15/>, and for a summary of it, C. Davenport, "Major Climate Report Describes a Strong Risk of Crisis as Early as 2040," *New York Times* October 7, 2018, <https://www.nytimes.com/2018/10/07/climate/ipcc-climate-report-2040.html>. Based on an analysis of 6,000 studies, it was the first systematic effort to project the impact of 2.7 degrees Fahrenheit (1.5° C) of global surface mean warming. It estimated the costs of such warming at \$54 trillion and predicted severe heat waves, drought, food shortages, fires, coastal inundation, and die-offs of coral reefs (and the aquatic ecosystems they support) by 2040. To put this in perspective, global surface mean temperatures have risen from about the +0.2° C to +0.4° C range in the 1970s, to +0.4° C to +0.6° C in the 1980s, to +0.4° C to +0.8° C in the 1990s, to +0.8° C to +1.2° C since 2000.

<sup>4</sup> For an overview of key causes and manifestations of unsustainability, including those related to climate, see Randall Curren & Ellen Metzger, *Living Well Now and in the Future: Why Sustainability Matters* (Cambridge, MA: MIT Press, 2017), pp. 16-26. For region-by-region overviews, see UNEP, *Summary of the Sixth Global Environment Outlook, GEO-6, Regional Assessments: Key Findings and Policy Messages* (Nairobi: United Nations

fish, and birds have declined by sixty percent in just four decades, and human activities are causing the extinction of tens of thousands of species every year, making this era the sixth mass extinction event discernible in the 4 billion year history of life on this 4.5-billion-year-old planet.<sup>5</sup> The long geologic view of the matter, which we cannot afford to ignore, is that the advent of oxygenating photosynthetic lifeforms 3.5 billion years ago made oxygen-metabolizing lifeforms, such as our own, possible. It shaped the atmosphere and the temperate climate on which we depend, by oxygenating and removing massive quantities of carbon from the atmosphere in forms laid down as fossil hydrocarbons. Over just a couple hundred years of unearthing and burning fossil hydrocarbons as fuel, human beings have returned to the atmosphere a quantity of carbon that it took photosynthetic lifeforms a billion or so years to remove from the atmosphere. This will end very badly for us if we persist.

### **Climate Action 100+**

Climate Action 100+ is a coalition of 323 investors representing \$33 trillion under management that have agreed to engage the one hundred firms with the largest carbon footprints, as well as a variety of other important firms, on climate change issues. Specifically, they seek to convince these firms to publicly align their business strategies with the objectives of the Paris Agreement on Climate Change, to adopt a governance framework that “articulates the board’s accountability and oversight of climate change risk and opportunities,” and take concrete actions to reduce their firms’ greenhouse gas emissions. The coalition reserves the right to recommend that its members divest from individual firms in extreme cases, but so far its strategy has been to use shareholder engagement and the threat of public shaming to improve corporate social responsibility. The Sign-on Statement is here: [climateaction100.org](http://climateaction100.org).

The coalition was formed in 2017 by Asia Investor Group on Climate Change (AIGCC); Coalition for Environmentally Responsible Economies (CERES); Investor Group on Climate Change (IGCC); Institutional Investors Group on Climate Change (IIGCC); and Principles for Responsible Investment (PRI). In order for the University to become a signatory of the Climate Action 100+, it must first join one of the above-referenced founding organizations. The CERES Investor Network appears to be the most appropriate organization for the University to join.<sup>6</sup> Membership has an annual cost of approximately \$2,300. The Climate Action 100+ includes a number of powerful partners. Leading funds in the United States include CalPERS, the New York State Common Retirement Fund, New York City Pension Funds, Illinois State Treasurer’s

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Environmental Programme, 2016), <http://www.unep.org/publications/>. On the movement of climate refugees, and its role in civil war, see U.S. Department of Defense, “DoD Releases Report on Security Implications of Climate Change,” *DoD News* July 29, 2015, <http://www.defense.gov/News-Article-View/Article/612710>; J. Hammer, “Is a Lack of Water to Blame for the Conflict in Syria?” *Smithsonian Magazine* (June 2013), <http://www.smithsonianmag.com/innovation/is-a-lack-of-water-to-blame-for-the-conflict-in-syria-72513729/?no-ist>;

<sup>5</sup> R. Leakey & R. Lewin, *The Sixth Extinction: Patterns of Life and the Future of Humankind* (New York: Doubleday, 1995); Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History*. New York: Henry Holt and Co., 2015); World Wildlife Fund, *Living Planet Report 2018* (Gland, SZ: WWF International, 2018), [https://wwf.panda.org/knowledge\\_hub/all\\_publications/living\\_planet\\_report\\_2018/](https://wwf.panda.org/knowledge_hub/all_publications/living_planet_report_2018/).

<sup>6</sup> See <https://www.ceres.org/>.

Office, as well as pension funds from other cities and states, and several church denominations, including the Central Finance Board of the Methodist Church and the Presbyterian Church (USA). Foreign partners include the Church of England Pensions Board. It includes a number of major financial institutions, including Allianz SE; BNP Paribas Asset Management; HSBC Global Asset Management, Mitsubishi UFJ Trust & Banking Corporation, PIMCO, and UBS Asset Management. So far, the only U.S. educational institution that has joined the coalition is Amherst College.

The coalition has had some significant successes. On March 14, 2019, it announced an agreement with Shell, which adopted a three-year goal of reducing its net carbon footprint (NCF) by 2-3% below its 2016 level. Shell tied executive compensation for its top 150 executives to performance of this goal, and committed to adopting a more ambitious goal in 2020. On February 20, 2019, it announced an agreement with Glencore Mining, which agreed to align its objectives with the Paris Agreement on Climate Change and to refrain from expanding its coal mining capacity worldwide. On February 1, 2019 it announced an agreement with BP, which agreed to recommend that its shareholders support a resolution to align its strategy with the Paris Agreement.

The character, constitution, and early success of the Climate Action 100+ coalition make it an attractive avenue for advancing the University's fundamental values through a strategy of constructive engagement. Only one U.S. institution of higher education belongs to this coalition at present, so the University of Rochester has an opportunity to be a leader in this arena. This would be beneficial not only as a meaningful step toward advancing the University's long-term interest in a stable climate, but as a meaningful step toward overcoming a widespread perception that we lag far behind our institutional peers in this arena.

## **Coal production**

Coal production is a declining industry, owing to the hazards and liabilities of underground mining and more recently the emergence of lower-cost substitutes, chiefly natural gas. The share of coal-fired electricity generation in the United States has declined from about two-thirds in 2010 to approximately one-third today, and a number of states have taken actions to phase out coal-fired power plants.

From an environmental perspective, coal is the worst of the available means of generating electricity. Regarding climate stability in particular, coal is the worst current option because it releases more greenhouse gasses (GHGs) per unit of electricity delivered than natural gas, solar, wind, or nuclear generators. At 109 grams of carbon dioxide (CO<sub>2</sub>) equivalent per kilowatt hour of electricity generated, coal compares badly with natural gas (78 grams), solar (6 grams) and wind and nuclear (4 grams).<sup>7</sup> This unfavorable ratio of emissions to energy yield arises in part from a low EROEI, or energy return on energy invested, arising from the large quantities of energy required to mine, process, and deliver coal to coal-fired generators. Another contributing factor is the unfavorable proportions of different GHGs produced by mining and burning coal. These include nitrous oxide (N<sub>2</sub>O), which is almost 300 times as potent a GHG as CO<sub>2</sub>, and

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<sup>7</sup> Carbon Brief.org, Dec. 8, 2017, <https://www.carbonbrief.org/solar-wind-nuclear-amazingly-low-carbon-footprints>.

methane ( $\text{CH}_4$ ), which is 87 times more potent than carbon dioxide. From an ethical standpoint, the use of energy technologies that are more carbon-intensive than available alternatives cannot be justified unless they have compensating benefits that offset the harms of climate destabilization caused by the unnecessary GHG emissions. Coal has no such benefits, and its additional hazards to life, health, and property are substantial.

Apart from the contributions of thermal coal to climate destabilization, it causes local, regional, and cross-border harms to health and property. Coal combustion produces sulfur dioxide ( $\text{SO}_2$ ) and nitrogen oxides that cause acid rain,  $\text{N}_2\text{O}$  that triggers asthma and heart attacks, fine particulate matter that causes pulmonary diseases, and substantial quantities of lead and mercury (which are present in coal deposits). It is primarily owing to mercury pollution from coal plants that in 2004, the U.S. Centers for Disease Control found that “1 in 12 women of childbearing age had blood levels of mercury able to cause neurological and developmental harms to her unborn children.”<sup>8</sup>

Additional environmental concerns arise from each of the available means of extracting coal from the ground. Strip mining, mountaintop removal, and deep underground coal mining cause different kinds of environmental degradation, but in each case the damage is severe. Natural landscapes, forests, and wildlife habitats are destroyed, and groundwater sources that feed into the nation’s rivers and streams are polluted. Prominent coal-mining operations are filing for bankruptcy, and the increasingly precarious firms that continue to engage in coal production are unlikely to survive to pay for expensive environmental clean-ups, leaving those costs to be borne by the public.

A further ethical concern is the health and safety of coal miners. Coal mining is an extraordinarily dangerous profession, which has been made more dangerous by criminal negligence by some of the major mining companies. Further, in spite of regulations intended to safeguard the health of miners by improving air quality in the mines, the incidence of severe chronic obstructive pulmonary disease (COPD) has dramatically increased among miners in recent decades. The apparent cause of the increase is that the exhaustion of easily-accessible coal veins has required miners to cut through more sandstone, which deposits silica in the lungs, leading to silicosis.

## **Oil from tar sands**

Oil production from tar sands has not been profitable at the low oil prices that have prevailed in recent years, so major new investments and expansions in the industry have been frozen. At today’s oil prices in the low to mid \$60-range per barrel, industry analysts estimate that established projects will barely break even.

Extracting oil from tar sands is so energy-inefficient that it cannot be unequivocally regarded as a source of energy, as opposed to a process through which readily usable fuels are expended in the production of liquid petroleum. In this process, oil is extracted from bitumen, a waxy

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<sup>8</sup> Kristin Shrader-Frechette, *Taking Action, Saving Lives* (Oxford: Oxford University Press, 2007, p. 20; citing CDC, *Blood Mercury Levels in Young Children and Childbearing-Age Women* (Washington, D.C., 2007), p. 7.

hydrocarbon that must be liquefied and separated from large quantities of inorganic material. The energy return on conventional extraction of liquid petroleum from oil wells has sharply declined from an energy return on energy invested (EROEI) of about 100:1 in the 1940s to an average of 15:1 today and 10:1 for deep water drilling.<sup>9</sup> Tar sands mined on the surface have an EROEI of only 5:1, and oil extracted from tar sands below the surface by steam injection has an EROEI as low as 1:1. Some of the deposits that have been developed sit as far as one kilometer below the surface. Surface deposits account for a small fraction of tar sands reserves and production, so the average EROEI for tar sands development is barely above 1:1. There is, in other words, almost no net energy gain from the development of tar sands. In the absence of a substantial energy gain, the excess carbon emissions involved in producing and burning tar sands petroleum cannot possibly be justified as a necessary byproduct of energy essential to human well-being. A starting point for estimating the magnitude of these excess emissions is that “fuel extracted and refined from Canadian oil sands will release approximately 20 percent more carbon into the atmosphere over its lifetime than fuel from conventional domestic crude sources.”<sup>10</sup> Making some allowance for costs and rate of conversion to a more carbon-efficient transportation system, a better estimate of the magnitude of excess emissions would consider lower-intensity alternatives to continued reliance on domestic crude oil, such as electric vehicles that rely on solar, wind, or nuclear derived electricity. From the ethically weighty perspective of the hundreds of years of climate stability that are at stake, the most sensible policy would be to leave the carbon in tar sands deposits in the ground.

## **Actions by Peer Institutions**

The Investment Office has prepared an analysis of related actions by peer institutions, which will be distributed at the meeting. Most of our peer institutions have not yet taken action; several have gone further than our recommendations; and a couple have made the decision not to take action on fossil fuels. Sixteen of the thirty-one institutions identified as peers have established ethical investment advisory committees. Yale University has instructed its managers to refrain from investing in companies that “refuse to acknowledge the social and financial costs of climate change” and that do not make efforts to reduce greenhouse gas emissions. Columbia University has decided not to invest in any company deriving more than 35% of its revenue from thermal coal production. Johns Hopkins has divested from direct investments in thermal coal and pledged not to make new ones. Brandeis University has pledged to make no direct investments in production of thermal coal, to suspend new investments in limited partnerships engaged in fossil fuel exploration or production, to increase investment in renewable energy sources, but not to divest from commingled funds that include fossil fuel investments. Duke University’s Committee plans to make a decision on fossil fuel divestment this year. Several universities, while not undertaking divestment or pledges to refrain from investing in particular sectors, have

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<sup>9</sup> Joseph Tainter and Tadeusz Patzek, *Drilling Down* (New York: Springer, 2012), p. 200. Patzek is a prominent oil industry analyst. Over the course of his career, Tainter has documented and explained the pattern of increasingly expensive complexity and declining marginal return on investment observed in the petroleum industry. There is ample reason to expect the pattern of declining EROEIs and rising carbon-intensity of fossil fuel development to continue.

<sup>10</sup> Phys.org, “Analysis shows increased carbon intensity from Canadian tar sands,” June 26, 2015, <https://phys.org/news/2015-06-analysis-carbon-intensity-canadian-oil.html>). A wider perspective on excess carbon emissions would consider lower-intensity alternatives to continued reliance on domestic crude oil, such as electric vehicles that are charged using solar, wind, or nuclear derived electricity.

adopted guidelines on environmental, social and governance criteria to use in making such decisions. This includes Stanford and the University of Pennsylvania, which have written policies, and Harvard University, which has adopted the UN Principles for Responsible Investment.

Several peer institutions that have not taken action on climate change have faced considerable pressure from divestment movements on campus. These include Boston College, Carnegie Mellon University, Case Western Reserve University, Cornell University, Emory University, NYU, the University of Chicago, and Washington University. Most of these universities have not yet taken any official actions in response. Cornell University's Board of Trustees and NYU's Board of Trustees voted against fossil fuel divestment in 2016, and Washington University's Chancellor announced in 2017 that the University would not divest from fossil fuels. Our committee would similarly not recommend full divestment from fossil fuels, which we believe would be an impractical policy and inconsistent with the sound investment of the endowment. We think our recommended strategy of constructive engagement with a broad coalition of concerned investors, combined with selective signaling about particularly unsustainable practices, is much more justified. It is broadly consistent with an emerging consensus among our peer institutions, and provides an opportunity for the University of Rochester to exercise some leadership within that group. We also believe that this strategy will enjoy the broad support of the student body, alumni, faculty and staff, and will not entail any cost to the institution.