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# Low-carbon transition through a duty to divest: Back to the future, ahead to the past

## Renewable and Sustainable Energy Reviews

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#### 1. Exploring divestment as a strategy for change

We have read with great interest the article "Mobilizing private finance for low-carbon innovation – A systematic review of barriers and solutions. *Renewable and Sustainable Energy Reviews*, Volume 77, September 2017, Pages 525–535" authored by Friedemann Polzin [1]. The title of that article promises much useful information, since the author studied the barriers and solutions to low-carbon transitioning, asserting that policymakers need to take a systemic approach to enable the redirection of diverse financial sources. Amongst these, it is clear that higher education institutions (HEIs) can play a constructive role both in generating and acting upon the knowledge needed to shift investments from mainstream high-carbon markets to niche markets that use low-carbon technology.

HEIs, and universities in particular, have continuously striven to adapt to changing times and the basic needs of society, in order to improve living conditions [2,3]. In fact, the long-term goal of HEIs is not to advance science simply for science's sake. Rather, "advancing science, serving society"<sup>1</sup> is the ultimate goal, as HEIs seek to improve all aspects of life, which necessarily entails paying attention to the principal needs of society [4]. Reflecting this tradition, universities that have in recent years been involved in sustainable development are entering into a new era in which the functions of "higher education for

sustainable development"<sup>2</sup> could be interpreted as the seeds of a newly emerging mission for universities [5]. As universities have proved to be leaders in, amongst other things, the space race and the war on cancer, they can potentially play a critical leadership role in this new era.

In pursuing a more sustainable world through this new mission, universities have encountered climate change as one of the most significant challenges affecting the world today, and it is expected that they will play a key practical role in helping to solve the problems it will engender. However, there is no unanimous consensus among scholars, scientists and university leaders about how universities should respond to this global challenge. In this regard, since 2012 there have been calls for universities to divest their financial interests in the fossil fuel industry [6]. As a consequence of this pressure, which has emerged through social movement campaigns, many HEIs worldwide have committed to divest from fossil fuels or to otherwise revise their investment strategies, while others have rejected the idea [7]. As such divestment decisions are not without conflict [8,9], we wish to present several compelling reasons why universities should divest.

#### 2. The movement - at a glance

Fossil fuel divestment began in 2010 among HEIs with small

endowments and low enrolments [10]. The first campaigns in favor of divestment were initiated by groups of students. A few months after the first activists began their activities, other HEIs started to join the coal divestment movements. These student campaigns attracted the attention of national and international activist groups, leading to the launch of 350.org, which further expanded the scope of divestment [11]. In this period, the movement extended its focus to the 200 largest fossil fuel companies, based on the carbon content of reported reserves (CU200). Although some HEIs did divest after the first rounds of protests and resolutions, other campaigns faced strong administrative resistance.

Among the 81 HEIs that officially committed to divestment, around half of them — 25 private and 15 public — are in the United States [12], indicating the key role of this country in the movement. The rest of the institutions are in the United Kingdom, Australia, New Zealand, Sweden, Denmark, Canada and the Marshall Islands. Fig. 1 shows the fossil fuel divestment commitments of HEIs in the United States. Hampshire College and Unity College are the two schools that divested during the first two years of the movement [13]. Following this, eight and nine schools divested in 2013 and 2014, respectively. The year 2015 stands out, with eighteen HEIs — including high profile schools — committing to divest. In 2016, Boston University, University of Maryland and Yale University committed

to divest their billion-dollar endowments.

Noel Healy & Jessica Debski [12] recently categorized the different divestment strategies employed by HEIs into three major groups: “inclusive”, “selective” and “targeted”. They identify inclusive divestment as the most comprehensive method to accomplish divestment goals, although they found selective divestment to be the standard plan for “full divestment”, based on divesting from the CU200 — the top 100 coal and top 100 oil and gas companies, ranked by potential emissions contents. They also state that targeted divestment has the narrowest scope, involving divestment from one or more specific industries. As can be seen in Fig. 1, seventeen HEIs have pursued inclusive divestment (divesting from all coal, oil, and gas companies), fourteen HEIs selective divestment (using the CU200 list as a guide), and nine HEIs targeted divestment (divesting from specific carbon-emitting sectors). Among these, HEIs that have followed targeted divestment, such as Stanford University, are still under pressure from activists to commit to more extensive divestment.

### 3. Fossil fuel divestment: start small, think big

HEIs are drawing on scientific evidence that demonstrates, among other things, how some types of enterprises are known to lead to CO<sub>2</sub> emissions and thereby damage the environment [14]. A recent

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<sup>1</sup> The motto of the American Association for the Advancement of Science (AAAS).

<sup>2</sup> Higher education for social, environmental and economic well-being.

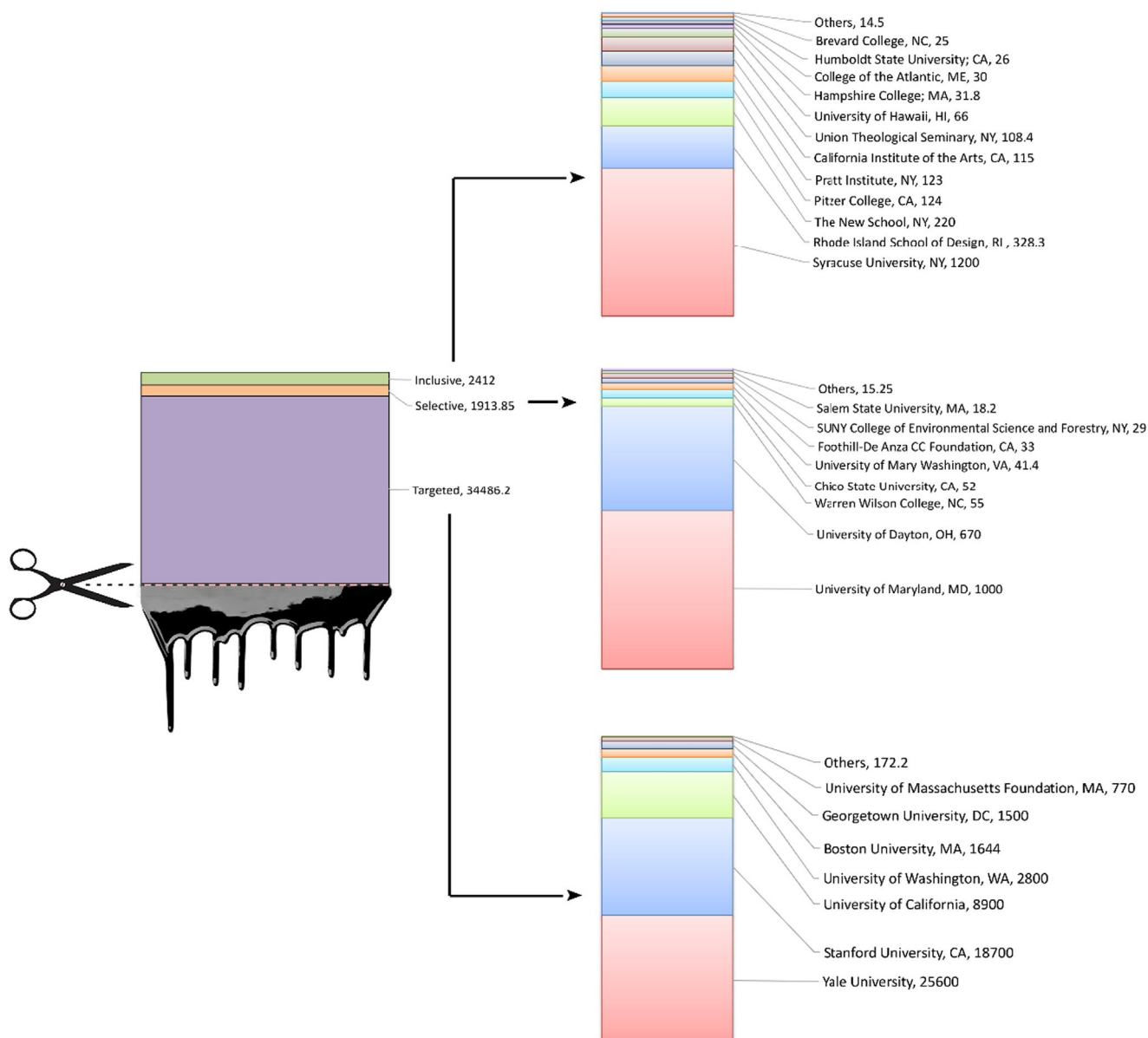


Fig. 1. Fossil fuel divestment commitments of 40 HEIs in the United States. (Unit: millions of dollars). Other universities that have chosen an inclusive divestment strategy are Goddard College, VT, and Unity College, ME, with 1 and 13.5 million dollars respectively. The rest of the universities categorized as proceeding with selective divestment are Sterling University, VT – 1, Green Mountain College, VT – 3.4, Naropa University, CO – 6.25, and Prescott College, AZ – 4.6. Other universities that have divested based on a targeted approach are San Francisco State University Foundation, CA – 51.2, and University of Maine System, ME – 121.

investigative report on how to make sustainable development a reality for the future is an example of this [15]. The recent global movement towards divestment from fossil fuels is pressuring HEIs to limit or avoid investment in fossil fuel companies. Pressured HEIs and increasing faculty involvement have provided the basis for the formulation of climate change mitigation strategies [16]. The involvement of the campaign with national energy use has the ultimate aim of helping to meet the targets and agendas set at the 2015 United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP21) in Paris, adding a unique perspective to help make sustainability a reality [17].

Significant arguments provide evidence for the tangible advantages brought about by the involvement of HEIs in scaling up climate action toward effective sustainability [18,19]. Some iconic universities, such as Harvard, recently signed the United Nations-backed code of responsible investment [20]. The University of Massachusetts, Cambridge University, University of London, Glasgow University, and the

University of Sydney, among others, are examples of major universities that have chosen to divest from fossil fuels, as all of them have realized that divestment is the rational path to a sustainable future.

Stanford University recently took one further step forward in addressing the challenge posed by climate change, and called for divestment from all fossil-fuel energy companies [21]. Boston University was also urged to dump fossil fuels from its investment portfolio. The University of California is following a similar path towards a better understanding of divestment, which has required engagement between alumni, climate scientists, students and representatives of the fossil fuel industry [22]. Yale University recently considered the opportunity to demonstrate their divestment from coal-powered energy through a platform that shares and acts upon current climate change initiatives. In the UK, certain universities have emerged as divestment leaders, which has encouraged more than fifty campuses across the country to take action against fossil fuel investment [23]. Some Canadian universities, such as the University of Toronto, are also looking to divest from fossil-

fuel energy companies, despite others rejecting recommendations to divest [24]. The main aim of the HEIs that have shown an interest in divesting is to explore how to divest from companies whose principal business is fossil-fuels [25].

Following these recent examples of divestment, it is important to highlight the need for concrete, empirical targets that make sustainability more certain. Importantly, some fundamental studies are required to show the way forward and highlight why HEIs should further extend the scope of divestment. It is important to remember that, in order to achieve a sustainable and livable future, HEIs and industry should be striving to conduct their business based on the ecological emissions levels of the 1900s, to avoid the current problems of global warming [18]. Thus, future research should quantify the pros and cons of divesting from the fossil fuel industry. Importantly, it should highlight the important reasons why HEIs should address the feasibility of divesting, by examining effective and efficient strategies to address climate change, bearing in mind the potential for future climate vulnerability.

#### 4. Why search for a new paradigm?

As private companies can obtain advantages when addressing climate change issues [26], a range of advantages can also be expected for HEIs that have embraced fossil fuel divestment. These advantages range from the intangible to the more tangible — intangible advantages are not linked to immediate gains, while tangible advantages can be measured, and impact the performance of HEIs in the short term. Several of these advantages are highlighted below.

##### 4.1. Morally-oriented sustainability leadership

HEIs are expected to be at the forefront of cutting-edge research and technologies, building for the future and teaching the most advanced and socially meaningful concepts. However, in terms of strategic fossil fuel divestment, HEIs are still at the exploratory stage. While examples of divestment in the higher education sector have emerged, HEIs' stakeholders — mainly students, staff members, and not-for-profit organizations — have exerted pressure towards a truly decarbonized society [27]. Acting as institutional sustainability leaders, HEIs which have divested will signal the moral duty of building a better future for students and society [28].

##### 4.2. Improving sustainability reputation

As the term “sustainability” is often cited in the missions and vision statements of HEIs, divestment initiatives can have a positive impact on improving the corporate reputation of HEIs. As investing in fossil fuels conflicts with HEIs' declarations of being pro-sustainability, decarbonized HEIs will benefit from gains to their reputation [29]. Divestment aligns well with sustainability topics that are frequently taught and researched in modern HEIs. It will also improve HEIs' brands, highlighting them as being aligned with sustainability, and allowing them to be perceived as sustainability leaders by current and potential future stakeholders.

##### 4.3. Sustainability-aligned human resources strategy

Divesting can contribute to the motivation and institutional engagement of staff. HEIs can benefit from engaging staff members in the debate on divestment, identifying this area as an opportunity for improving organizational citizenship, and overall proactive behavior. Commitment to divestment can improve morale in HEIs, attract skilled workers, improve the retention of high-caliber workers, and reduce turnover [30].

##### 4.4. Obtaining first-mover gains through anticipating and influencing climate change regulations

In a context in which divestment has been seen as demonstrating a proactive attitude, HEIs which divest will be able to exert influence on the ongoing discussion about greener universities at local, regional, national, and international levels. They will thus bring valuable insights to the standards that are being developed to address climate change. Anticipating fossil fuel divestment regulations will prepare HEIs for the more stringent climate change regulations that could emerge in the future [16].

##### 4.5. Sustainability-oriented risk management

As natural disasters are expected to become more frequent, insurers will increasingly prefer to work with decarbonized organizations. There is a risk associated with the cost of greenhouse emissions under a global mitigation scheme, in which case the HEIs that did not divest could face a surge of unexpected expenses, such as fines and taxes. Unstable fossil fuel prices have also made investments in oil risky.

##### 4.6. New market opportunities, in terms of attraction and retention of students, new sources of funding, and wider academic portfolio

Future developments may see the emergence of new areas of expertise, academic programs, research centers, projects and thematic research clusters that are more aligned with sustainability [30]. A new niche for start-up firms and knowledge exchange programs to combat climate change may also emerge, and universities could benefit from early involvement in such initiatives.

##### 4.7. Bi-directional flux of clean capital

New sources of capital that prioritize investment in clean projects will arguably be more willing to invest in decarbonized HEIs. Bi-directional routes will become available once universities start investing in clean projects, as well as the ability to attract an influx of sustainable investments and donations [31].

##### 4.8. Virtuous cycle for sustainability-based co-benefits

Adopting a divestment perspective will create a virtuous atmosphere in which there will be a constant search for environmental improvements in everyday operations. This will not only refresh the way HEIs relate to fossil fuel-based firms, but will also re-conceptualize the way HEIs approach their environmental impact [32]. Operational cost reduction can be obtained, for example, through co-beneficial, win-win, long-term investment in low-carbon buildings and vehicles, green campus initiatives, energy efficiency strategies, water saving, and green communications.

#### 5. The past is behind, learn from it. The future is ahead, prepare for it

There is a full consensus in the scientific community that climate change is being intensified by anthropogenic greenhouse gas emissions, as recently summarized in the 5th Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 5AR). Reflecting on this, 641 HEIs around the world have made significant changes to their portfolios, with over \$3.4 trillion already divested from fossil fuel companies [27]. As universities become more aware of the societal implications of their actions, even greater levels of divestment are expected, as a sign of environmental commitment and, even more, a sign of social responsibility [3].

The context within which divestment takes place may determine how successfully such practices are received and accepted by an

organization, but finding opportunities for innovative divestment first requires an understanding of what it really is, and of the direction in which the envisaged divestment should take place (e.g. protecting biodiversity, improving the ecological environment, helping to conserve resources etc.) To actualize the role of HEIs in managing the end of the fossil fuel era, a seemingly pertinent question would be: “how to guide the movement towards a desired future?” In response to this question, the opportunities and barriers to divestment should be analyzed from the perspective of various stakeholders within the university, e.g. teaching staff, students, and administration. If properly pursued, divestment may also help universities meet the many demands being made on them to make sure their work is socially responsible, ethically just and economically sound.

It is crystal clear that the use of fossil fuels cannot be stopped abruptly, something that has been recognized from the beginning of the divestment movement. Although recent studies corroborate the belief that this movement alone might be able to strongly influence future climate policy [33], a collaborative approach involving HEIs, governments and companies is needed to facilitate it, focusing on forging a common vision for a long-term plan. It is evident that the next step of this movement will be the encouragement of HEIs to reinvest their funds into more sustainable organizations, including those focused on renewable energy.

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