THE UNIVERSITY *of* EDINBURGH

REPORT OF THE FOSSIL FUELS REVIEW GROUP

APRIL 2015

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Fossil Fuels Review Group Report April 2015

1. *Background and Introduction*

This is the report of the University of Edinburgh Fossil Fuels Review Group. It summarises the group's working method and the evidence it reviewed, and presents options for the University's Central Management Group (CMG) to consider.

The University of Edinburgh has a long history of engaging on responsible investment issues since the development of its first Responsible Investment policy in 2003 and the decision to divest from tobacco companies. In January 2013 the University became the first University in Europe and only the second in the world to sign the United Nations Principles for Responsible Investment.[1] As a result of that commitment, the University is actively reviewing its existing Responsible Investment policy – a process which has included consultation with staff, student and alumni communities as well as a review of best practice elsewhere.

During the process of consultation, the Edinburgh University Students' Association (EUSA) formally requested that the University consider divestment from fossil fuels and armaments companies and the request to consider divestment was agreed at the CMG meeting of 8th October 2014.

A short life review group (the Fossil Fuels Review Group- 'the group') was formed to consider the issue of divestment from fossil fuels in depth and to report back to the CMG on possible options in this area and the impact of those options. The remit of the group and membership is included as Annex 1.

The group was chaired by the Senior Vice-Principal, Professor Charlie Jeffery, and consisted of a range of experts in climate policy and science, geosciences and law, as well as representation from EUSA and senior University managers. The group met on 6 occasions between November 2014 and April 2015. The approach was evidence-led, drawing on evidence of various kinds to help assess the case for divestment against the following criteria provided by CMG:

- Whether investment in fossil fuel companies is an activity wholly contrary to the values and ethos of the university
- The impact of divestment on investment capital and returns
- The ease of avoiding investment within realistically available investment options
- The impact of divestment on other areas of University activity (research, teaching, fund raising, procurement)
- The University's view of future changes and 'direction of travel' in the area of fossil fuels

A summary of material reviewed is provided in Annex 2. The group sought clarification from EUSA on the definition of fossil fuels companies included within the scope of the request. It was clarified that the request referred to those companies whose primary business is the extraction of fossil fuels and that this could be identified via the Carbon Underground top 200.[2] The minutes and papers of the group's work are available here and further information on the University's endowment fund is available **here**.

[1] http://www.unpri.org/

[2] http://fossilfreeindexes.com/the-carbon-underground-2014/

2. Evidence Reviewed and Findings

This section summarises the type of evidence that the group reviewed during the course of its work.

a. Climate Science

It was important that the group understood the scientific evidence on changes to the climate system and the evidence of human impact due to fossil fuel use, together with predicted impacts of those changes. The group therefore reviewed the findings of the Inter-governmental Panel on Climate Change's Fifth Assessment report. In reviewing that material the group agreed the following statement as the foundation for its work:

"The Fossil Fuel Review Group takes, as its starting point, the findings of the recent Inter-governmental Panel on Climate Change (IPCC)'s Fifth Assessment Report. This noted that human influence on the climate system is clear; continued emission of greenhouse gases will cause further warming and long lasting changes in all components of the climate system; and strategies for adaptation and for substantial emissions reductions over the next few decades can reduce climate risks in the 21st Century and beyond. The Group agrees that the University of Edinburgh, as a global civic institution, should take a lead through our research, teaching and knowledge exchange in helping society understand, manage and reduce such climate risks."

b. Evidence Gathered from Other University Reviews

Information was provided to group members on decisions made by universities around the world on divestment questions related to fossil fuels, with decision documents related to three institutions considered in more detail. Those three were Harvard (no divestment), Glasgow (full divestment) and Stanford (partial divestment). Annex 3 provides links to further information.

After discussion, the group agreed that, whilst it had access to a potentially very wide range of further information on the decisions of other universities, it would draw its own conclusions.

c. Evidence on Fossil Fuel Dependence, Mitigation Strategies and Relative Contributions by Fuel Type

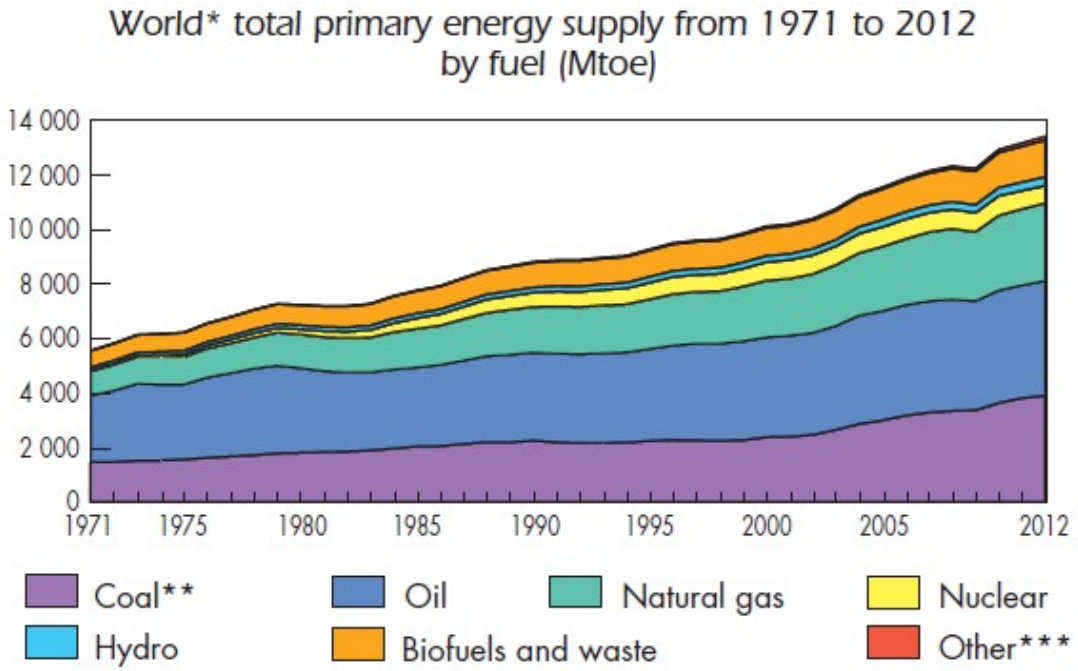
The group sought to understand the extent of society's current dependence on fossil fuels for energy and other uses, the relative contributions to climate emissions by different fuel types, and the extent to which cost-effective alternatives to energy and other uses were realistically available. More information is contained in the papers in Annex 2. The group noted that it was the release of carbon into the atmosphere that was connected with climate change, rather than the use of fossil fuels per se.

Evidence gathered highlighted the high level of carbon emissions within the energy system arising from the generation, transmission and distribution of energy using fossil fuels, increased by inefficiencies within the overall system, and similarly within manufacturing systems arising from the use of fossil fuels in the production of products such as steel, fertilisers or plastics.

Coal is predominantly used in industry and power stations; oil in chemicals and transport applications, and gas in a variety of industrial uses, agriculture and power stations. In terms of carbon intensity, broadly speaking coal is higher in intensity than oil which in turn is higher in intensity than gas, with coal having approximately twice the carbon intensity per unit of energy as gas. Thus although oil makes up a larger percentage of global fossil fuel use, coal is the source of over 40% of global emissions.

Despite strong recent growth in renewables, fossil fuel continues to dominate global energy consumption. The evidence highlighted the dependence of society on fossil fuels for energy and for a range of non-energy products and uses of fossil fuels in manufacturing and agriculture. It was also clear that there were no readily developed alternatives to some fossil fuel uses at present. In particular, fossil fuel-derived products such as plastics and chemicals, certain industrial processes, and energy dense transport applications (air travel; heavy goods vehicles) are poorly served by alternatives. Alternatives are available at reasonable cost for bulk energy use in electricity generation, heating and short-distance travel in developed countries, and increasingly in developing countries. However, the provision of heating, clean water and refrigeration in many developing countries is still wholly dependent on fossil fuel usage, and an abrupt shift away from fossil fuel use would seriously impact the well-being and human rights of some of the world's poorest communities.

The group noted the 'stranded assets argument'.[3] That is, it is now widely accepted that there is a limit to the aggregate amount of carbon that can be released to the atmosphere if the increase in global temperatures is to be kept to a maximum of 2 degrees.[4] The stranded assets argument makes the claim that this physical limit will impact on fossil fuel companies' book value because not all of the oil, gas and coal currently within known company reserves will be able to be exploited. It is generally accepted that in the absence of successful means to capture and store carbon released during fossil fuel burning, only around 20-30% of known reserves could be exploited while still keeping to the 2 degree limit.[5] The group noted that this is an argument highlighted, alongside other concerns expressed on ethical grounds, by divestment campaigners as a financial argument for divestment from fossil fuels companies.



Source: IEA World Key Energy Statistics

[3] http://www.smithschool.ox.ac.uk/research-programmes/stranded-assets/

[4] See for example: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

[5] See for example http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf

d. University Learning and Teaching and Research

The group recognised the central importance of learning and teaching and research to the mission, values and activities of the University community. The group agreed that in coming to its recommendations, it was important to recognise the potential implications of any decisions on fossil fuel investments for these activities, and in particular the possible impact on academic freedom.

Evidence reviewed suggested that the balance of teaching between climate mitigation/sustainability and fossil fuels exploitation/exploration is strongly towards climate mitigation/sustainability, and the trend is increasing in that direction. The evidence also indicated that the University continues to have a significant provision of teaching in the exploration/exploitation of fossil fuels.

Evidence gathered on careers was limited by definitional difficulties and an inability to track graduates beyond their first career job, but suggested that careers in fossil fuel based businesses were a small but significant component of graduate careers.

Evidence indicated that while the University already supported students to appreciate the range of ethical, social justice and global environmental issues surrounding professional development and career pathways, the group felt that more could be done to offer further scope for students to explore these issues across the curriculum as part of the student offering.

Evidence on research was drawn from submissions to UK-wide research assessment processes and research income data. Review of the evidence from the Research Excellence Framework (REF) and Research Assessment Exercise (RAE) submissions over the period 2001-2014 suggested a strong and increasing presence of research designed to better understand the earth and its climate and other systems, and of research on the development of climate change mitigation strategies including renewables development and carbon capture and storage (CCS). At the same time there was a smaller but significant element of research devoted to fossil fuel and resource exploration and exploitation. Often the mitigation/sustainability and exploration/exploitation research had linkages and synergies, notably in the field of CCS.

There are significant challenges in the precise attribution of research income to different fields of research at University level. However a detailed examination was carried out of research income generated in the School of GeoSciences, which has a high degree of research involvement in both climate systems/climate change and fossil fuels exploration/exploitation. Total external research income to the School from all sources (research councils, charities, industry, governmental organisations and non-governmental organisations) is on average around £14M per annum (pa). This comprises around £5M pa for research related to anthropogenically-driven climate and environmental change and its deep-time geological baselines, around £2M pa to research related to alternative energy sources or to climate change mitigation strategies and technologies such as CCS, and around £1M pa to research that may be applied to hydrocarbon production. Around £6M pa funds research that is unrelated to climate change, fossil fuels or energy.

The group noted a number of submissions from the University community and wider, appealing to different aspects of the University's values and reflecting a diversity of views from opposing any divestment to requesting full divestment. These submissions included a note from the Management Committee of the School of Engineering opposing divestment and arguing that divestment could compromise its freedom in delivering its teaching, research and industry engagement. They also included a submission from the Edinburgh

branch of the People and Planet society, and a letter from a group of University academics. Both of the latter called for full divestment, highlighting ethical arguments and referencing the University's commitments to addressing major global problems like climate change. In the School of GeoSciences, the views of staff were solicited and exhibited a range of views, with cogent, evidence-based arguments, appealing to different kinds of values, proposed both for and against divestment.

e. University Values

In coming to a view as to whether fossil fuel investments are wholly contrary to University values, it was important to understand what these values are.

The University of Edinburgh aims to recruit and develop the world's most promising students and most outstanding staff and be a truly global university benefiting society as a whole. It is committed to principles of academic freedom in teaching and research.

The Mission of the University, as a world-leading centre of academic excellence, requires that alongside our commitments to research, teaching and employability outcomes we also make:

> "A significant, sustainable and socially responsible contribution to Scotland, the UK and the world, promoting health, economic growth and cultural wellbeing."

The values embedded in this statement resonate through our Social Responsibility and Sustainability Strategy (2010-20) and our Climate Change Action plan. These documents explicitly recognise the need for the University to provide holistic solutions to important global challenges, through research and teaching, and both to reduce our carbon footprint and to contribute to wider societal action on mitigating and adapting to climate change.

In reflecting on the University's values the group found that it was difficult to conclude that investment in fossil fuels per se could be deemed 'wholly contrary' to those values, for a number of reasons: there are currently no suitable alternatives to the global use of fossil fuels for certain activities or in certain countries, especially developing countries; fossil fuel-related knowledge and developments directly enables potentially-transformative carbon mitigation strategies or technologies such as carbon capture and storage; and the University's activities and investments related to fossil fuels are greatly outweighed by activities and investments outside of the fossil fuels sector including in particular activities related to climate change and its mitigation.

However the group felt that the University was on a direction of travel - apparent in the changing portfolio of research and teaching – that supported a goal of transition from a high carbon to a low carbon society. It concluded that it would be consistent with this direction of travel for the University to seek means through its investments to support that transition as long as actions taken remained aligned with other University objectives and values. It recognised that different aspects of the University's values could stand in tension with one another, requiring careful judgements about the balance of different aspects.

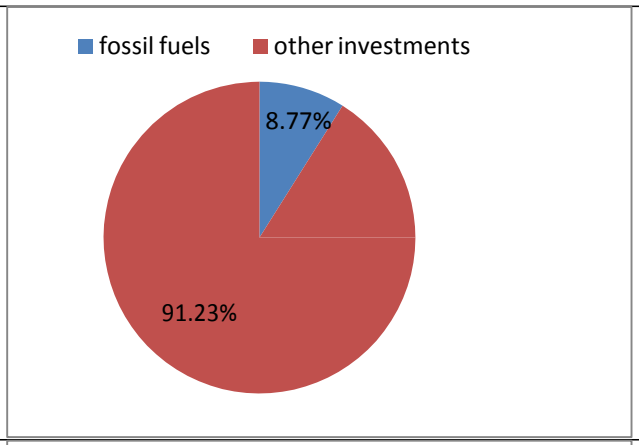
f. Investment, Financial and Behavioural Issues

The purpose of the University's endowment funds and the reason why the donations were originally made were to ensure the University's continued development as a world leading institution. The group was clear that the primary contribution the University makes to solving the climate question comes from the university's research, knowledge exchange and teaching activities, with operational activities and investment impact important, but essentially second order contributions.

Impact on investment - Evidence gathered suggested a significant component of the University's endowment funds were invested in fossil fuel activities (c8-9%). Advice suggested that the impact of any decision to divest from fossil fuels might be felt more around the increased risk to the portfolio from a smaller investment universe, as opposed to direct and significant immediate impact on annual returns. Figure 1 summarises the University's endowment fund's exposure to fossil fuel exploration and mining companies as at December 2014.

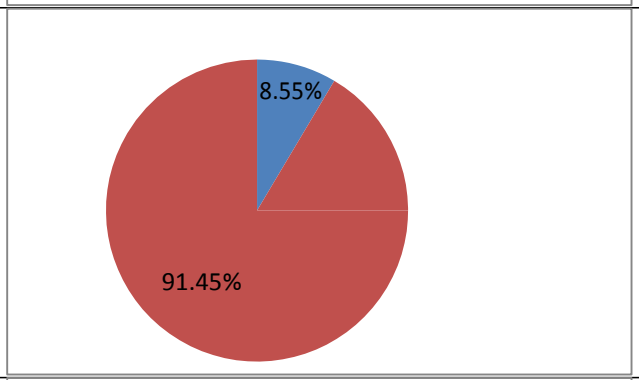
Figure 1 - University of Edinburgh Endowment Fund - Exposure to Fossil Fuels as at 31st December 2014

Total exposure



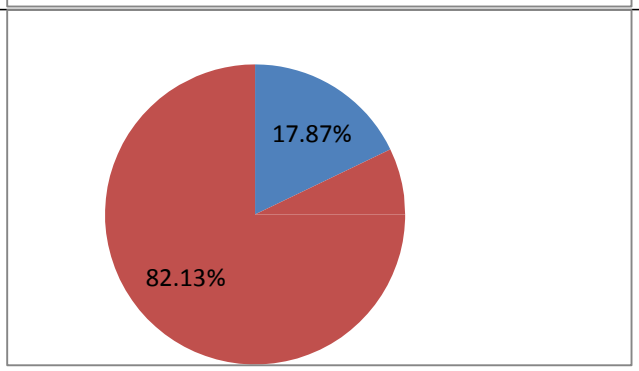
Fund manager	% managed	Total £m	Other £m	Fossil Fuels £m
BG	47.08%	145	133	12
BlackRock	18.51%	57	47	10
RLAM	14.29%	44	39	5
Other	20.13%	62	62	0
		308	**281**	**27**
			91.23%	8.77%

Baillie Gifford (BG)



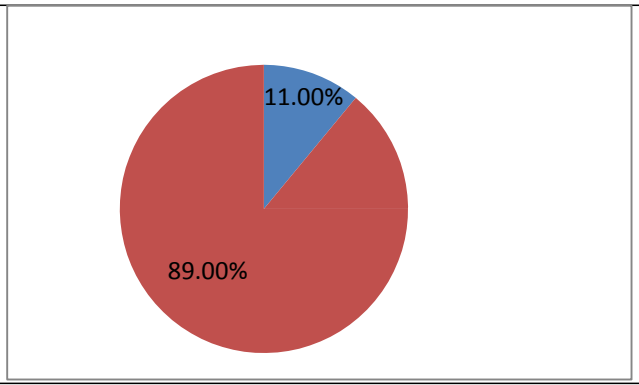
Sector	%	£m
fossil fuels	8.55%	12
Other	91.45%	133
		145

BlackRock



Sector	%	£m
fossil fuels	17.87%	10
Other	82.13%	47
		57

RLAM



Sector	%	£m
fossil fuels	11.00%	5
Other	89.00%	39
		44

Engagement with companies on climate issues - The group noted evidence that the University's investment managers are actively engaging with companies on a range of climate change related issues, particularly Blackrock and Baillie Gifford, and that climate change and material risks arising from this were of increasing importance to investors.

Evidence on Impact of Divestment Campaigns on Company Behaviour - Evidence gathered pointed to mixed views and a limited stock of evidence on the economic impact of divestment campaigns. There appeared to be limited impact, for example, on the capital available to tobacco companies subjected to previous campaigns.

Divestment from publicly listed companies also does not affect the behaviour of privately listed and state-owned entities which tended to be less amenable to changing behaviour through engagement and which control the majority of fossil fuel reserves. The group noted the argument that holding shares in a company provided some leverage and a say in the future direction of the company.

The group also noted evidence that suggests that the act or even the threat of divestment can have an important signal value in prompting change in either company or societal attitudes towards the targeted activity. Given these arguments about leverage and signal value, the group agreed that should CMG consider divestment or other action, the companies concerned should be given the opportunity to respond and potentially change behaviour over a reasonable timescale, prior to investment choices being finalised.

Investment Committee and investment management - The University's Endowment Fund of c £300 million is relatively modest in investment terms. Lack of scale meant that it made financial sense for the University's Investment Committee to outsource investment management activities. Thus some of the options available to larger endowments were neither cost-effective nor straightforward for the University to progress, including the appointment of Responsible Investment staff to directly track evidence and carry out environmental, social and governance analysis, or to create substantial stand-alone investment funds for responsible investment activities such as green technology start-ups. At the same time, use of expert investment managers such as Blackrock allowed the University to tap into the very large resources such companies tended to have for analysis and engagement.

The group noted the possibilities of requesting consideration of more investment in key low-carbon or transformation technologies. The group recognised that, in general terms, the more complex the strategy given to an investment manager the more costly it would be and the fewer the managers who would be willing to take it on. Currently there appeared to be relatively limited market incentives for investment managers to respond to calls for investment in low carbon or transformation technologies, but the group considered there was an opportunity for the University to signal leadership by directly engaging with investment managers to explore potential action in this field.

The group noted the value of harnessing in-house academic expertise in considering and guiding future thinking on responsible investment. This may take the form of specific research, or workshops with internal and external experts which may be useful in generating analysis and advice for the University and its committees to consider.

3. Establishing Options for Consideration

In reflecting on the evidence, it was clear to the group that whatever choice was made on the specific question of divestment the University, as a civic institution committed to social responsibility and sustainability, would continue to make a significant contribution through:

- its activities as a leading institution researching sustainability and climate change mitigation and management
- the significant range of courses and learning provided
- the commitment to sustainable and socially responsible operations such as its low carbon Combined Heat and Power schemes[6].

The group was also clear that any options put forward as a University contribution to addressing the climate problem via its investments needed to be weighed against its ability to make free choices on research and teaching. It recognised that certain options for action could increase financial risks, and that such risks would need to be weighed carefully against the broader financial health of the endowment funds.

In producing a range of options for CMG to consider, the group recognised that a wide range of possible options existed with 'no additional action' at one end of that range of possibilities, and full divestment at the other. It felt that the options at either end of this range were simplistic and did not reflect the complexities of the evidence the group had considered.

In addressing those complexities, the group felt that action could be taken in line with two distinct rationales: whether the focus for action was on climate change per se and the need to take action to reduce emissions ('a climate focus'); or whether the focus was on the impact of climate change on investment returns and risk ('a financial focus').

Drawing on the evidence and themes discussed above the group identified an initial range of six options. These were not understood as mutually exclusive. Each is described below and then evaluated in section 4 according to the criteria given to the group.

Option 1 – No Additional Action
No action taken on investment but the University continues to make a significant contribution to solving the climate problem through its research, teaching and operations.

This option would recognise that the University already makes a significant contribution to the mitigation of climate change through the research and teaching undertaken as explained above, and via the improvements it makes to its operations. This option would recognise the increasing contribution over time to the mitigation of climate change through the University's activities. No changes would be made to the investment strategy or portfolio.

Option 2 – Assess Stranded Assets Argument
The Investment Committee should keep the 'stranded assets' argument under active review, identify indicators that would suggest University capital or returns were at risk from stranded assets, and take action as appropriate

This option has a financial focus and reflects the 'stranded assets' argument prompted by global campaigns but also by work completed by groups such as Carbon Tracker.[7] This argument suggests that a number of energy companies invested in fossil fuels are over-

[6] See for example http://www.ed.ac.uk/polopoly_fs/1.134640!/fileManager/UoE%20CHP-DH%20Case%20Study.docx
[7] http://www.carbontracker.org/our-work/

valued due to potential future constraints on the unabated burning of fossil fuels, and therefore that this over-valuation represents a risk to capital or returns.

The form of action under this option would be to ask the University's Investment Committee to work with the University's investment managers to assess this argument and, should need be identified, to take action to protect the University's investments. In taking any such action, the University's Investment Committee should engage with companies via its investment managers to allow them to respond to the arguments made.

Option 3 – Identify and Replace
Commit to low or zero carbon investment products that deliver the same level of return and risk as existing investments

This option has a financial focus whilst recognising the desirability of the University contributing to supporting the transition to a low-carbon economy. As part of its overall approach to investment, the University's Investment Committee assesses risk and desired levels of capital protection and investment returns. This option would commit the University to investments in low or zero carbon investment products that deliver the same level of return and risk as existing investments.

In practice, this might mean that where two products within an investment class exist but one has lower carbon emissions, for example two stock market trackers, and where risks and returns are similar, that the University would opt to invest in the low or zero carbon alternative. Clearly, there will not always be suitable products to invest in, and there may be occasions where unacceptable risks or returns would follow, but overall the option seeks to recognise the need for good financial returns, whilst using the University's leverage to drive change. Where no such products or opportunities currently exist, the option calls also for the University to use its leverage to press for new opportunities.

Option 4 – Report, Benchmark and Improve
Press companies to measure and monitor their carbon emissions and to effect more efficient uses of energy across the chain of fossil fuel production, refining and use

This option has a climate focus. It is premised on asking our investment managers to engage with companies on a "comply or explain" basis about whether they (a) are monitoring, measuring and reporting their carbon emissions according to internationally agreed standards; and (b) meeting or exceeding international benchmarks for the carbon efficiency of their products and services. This option would extend beyond fossil fuels companies to encompass companies involved in the full range of activities associated with emissions, ranging from energy exploration and production, through manufacture and refining to energy end use. If companies were not prepared to meet these expectations on reporting and benchmarking their performance, the University would consider divestment.

Taking up this option would have two elements. The first would involve the University working through its investment managers to identify appropriate investment products that distinguished companies that monitor, measure and report their carbon emissions according to international carbon accounting standards from those that did not. There is widespread demand from institutional investors for listed companies to properly measure and report emissions. It would not be appropriate for the University to invest in listed companies that did not meet agreed international standards of carbon reporting, as the University is itself required to do. The University would engage with companies, via our investment managers, to seek such change.

The second element would involve the University working through its investment managers to identify appropriate investment products that distinguished the carbon efficiency of companies with the aspiration of investing only in those that meet agreed international benchmarks. For example, companies might be asked to make improvements over time to the level of carbon emitted per quantity of product made or service provided. Whilst such benchmarking is increasingly common and used to inform investment decisions in energy intensive industries, we note that appropriate investment products are not available today across all sectors. There would therefore need to be a period of transition as new investment products are introduced into the market. The University could work through its investment managers to support the development of such products.

In addition to action via direct investments, this option would also call upon the University itself to build further on its good record in embedding sustainability into its procurement activities, by further driving action across its supply chain. The University has a sustainable procurement policy in place and has been active in working with the sector's collaborative buying organisation and students to create a measurement and reporting tool for carbon emissions associated with procurement. Additionally, the impending review of Scottish procurement law may add further requirements in this field.

Option 5 – Divest From Highest Carbon-Emitting Fuels Where Alternatives Exist
Divest from companies that are substantially engaged in the production or refining of high carbon-intensity fuels (such as coal or tar sands), where alternatives exist and where they do not also invest sufficiently in carbon emissions reduction technology

This option has a climate focus and seeks to take proportionate and effective action to support the transition to a low carbon world, consistent with the University's values, financial objectives and other activities.

This option recognises that there is a wide variety in the carbon emissions of fossil fuel activities, particularly by fuel type. It also recognises that whilst low carbon alternatives are well developed for some uses, they remain poorly developed or uneconomic for others. This option would involve the University divesting from companies involved in the highest carbon-emitting fuels, where feasible alternatives exist and where the companies are not also investing sufficiently in technology such as CCS to significantly reduce or eliminate their carbon emissions to the atmosphere.

It should be recognised that the definition of 'highest carbon-emitting' and 'where alternatives exist' will change over time, so that the exact nature of the investment decisions may change over time. It should also recognise that certain activities may move in and out of scope as technology develops. For example, the development of cost effective CCS technologies may allow certain activities currently classed as high carbon-emitting to move to low carbon-emitting. What matters is the actual carbon emitted to the atmosphere, rather than the carbon content of fuels per se.

That said, for the sake of clarity, the group considers that at present lower-carbon emitting alternatives exist for the heating and electricity sectors, and that some companies involved in producing the highest carbon-emitting fuels are not currently investing heavily in technologies to reduce emissions. Companies associated with those activities should therefore be subject to divestment should initial engagement not bring about change in behaviour. This would currently include companies involved in the exploitation of coal and tar sands. The University would ask the Investment Committee to work with its investment managers to prepare a list of companies associated with fuels that would currently be

considered high carbon and to engage with them, giving them the opportunity to respond and, ideally, change behaviour prior to any final decision on divestment.

Option 6 – Full Divestment from All Energy Related Fossil Fuel Companies
Full divestment from all energy-related fossil fuel production and exploration companies over, say, a period of 5 years

This option proposes full divestment from all energy-related fossil fuel production and exploration companies. For the sake of clarity, the group has assumed this would be over a period of 5 years, which would give investment managers sufficient time to refocus investments. This option goes further than the original EUSA request in considering divestment from all energy related fossil fuel companies and not simply the top 200.

The group also assumes that engagement with companies to discuss the threat of divestment would be undertaken under this option, prior to any final decision to divest.

4. Evaluating the Options

In evaluating the options the group considered the five criteria provided to it by CMG (alignment to values; impact on capital, risks and returns; availability of investment products; impact on other areas of activity; alignment to University direction of travel).

Option 1 - No Additional Action
It is possible to argue that the option of taking no action is aligned to the University's values, as action is taken elsewhere on learning and teaching, research and in operating sustainably. The group was clear that whatever decision was taken on divestment the University's contribution to mitigating climate change was strong and increasing over time. Additionally, it could be argued that with the majority of world energy consumption continuing to be in the form of fossil fuels, and with limited alternatives for many parts of the world, including the poorest, that continued investment in fossil fuels was essential.

The impact on capital, returns and risk would be nil, although this option does ignore any risk posed by the 'stranded assets' argument. As no action is being proposed, there is no impact on the availability of investment products, nor on other activities such as research or teaching. Taking no action would address the concerns of some academics within the university community that research options or teaching might be constrained by a divestment decision.

However, taking no action does not, in the group's view, reflect sufficiently seriously the University concern on climate change issues or the direction of travel evident across the University's activities of supporting the transition to a low carbon society.

The group's discussions had indicated that the University's investments should play a role in supporting the transition to a low-carbon future, and felt that proportionate and useful action could be taken, commensurate with the values of the University, its financial objectives and its broader research and teaching portfolio. Taking no action did not seem consistent with this goal, and the group therefore could not recommend it.

Option 2 - Assess Stranded Assets Argument
As with option 1 it could be argued that this option is consistent with the University's values as although no immediate action is proposed, there is already action undertaken elsewhere on learning, and teaching, research and sustainable operations. If a need for action were identified, the impact on capital, returns and risks would be by definition

positive, as the purpose of the option is to protect the University's investment arising from the threat of overvaluation of a key sector of the market. This option would not have any impact on other areas of activity such as research, teaching or procurement.

The group felt that this option was aligned to the University's direction of travel as it was consistent with the desire to take action on climate change. It was also clearly focused on limiting financial risk. However the group felt that this option was essentially a reactive one and did not as a result and in itself appear to align with a direction of travel that supported transition from a high carbon to a low carbon society.

The group felt that an initial assessment should be completed over the next 6 months to ensure that a timely response to the risk is available. Further, the group recommends that this argument and associated risk is kept under active review, and that consideration is given to the 'triggers' that might indicate that the risk is materialising. Subject to any findings, action would be taken by the Investment Committee across its normal decision making cycle. If the assessment points to no immediate action, it is recommended that further assessments are completed when agreed triggers suggest that the risk is becoming material.

In conclusion the group felt that while this option had merit, it did not represent a full response to the issues identified. It should though be considered as one part of a wider package of measures.

Option 3 - Identify and Replace

The University would ask its Investment Committee to work with its investment managers to examine the range of low-carbon investment products and where suitable to begin the process of switching. Where no such products exist, the University would ask the Investment Committee to consider the best means to encourage the development of alternatives.

This option appeared to be compatible with the University's values as it sought to make changes to take action on climate change, but in a way consistent with other values. In principle the option should be fully compatible with the goal to protect capital, risk and returns as it was designed to mimic existing performance. In practice, it was not clear that the range of necessary products was currently available, or that indeed performance could be maintained whilst restricting the investment universe.

This option would appear to have limited impact on other areas of activity such as research, teaching and procurement. The option appeared well aligned to the University's direction of travel - in terms of values, existing investment approach and by potentially increasing demand for low or zero carbon investment products. There would also be a strong signal value arising from this option as the University would be effectively seeking to create a demand for new investment products where none existed.

Overall the group felt that this option should be recommended to CMG, either on its own or as part of a broader package of measures.

Option 4 – Report, Benchmark and Improve

On the investment side, exploratory action could begin immediately with the University investment managers. However, because of a lack of readily available investment products, we note that there would need to be a transition phase to the ultimate aspiration of only investing in companies that meet international standards for monitoring, measuring and reporting their emissions; and investing only in companies that meet or exceed

international benchmarks for the carbon efficiency of their products and services. The University could also work with the wider investment industry to encourage the provision of the necessary corporate data and information to enable the development of appropriate investment products. This approach works with the grain of current industry initiatives, including the Carbon Disclosure Project and the existing UN PRI Montreal Pledge.

On the issue of procurement, action would contribute to the University's ongoing commitment to sustainable procurement; to the further development of its carbon-reporting tool; and in complying with the implementation of new national procurement rules.

This option aligns with the University's expressed values and its direction of travel in relation to fossil fuels and climate change. However, as we noted in section 2e, different aspects of the University's values may stand in tension with one another. The group recognised that taking this option may raise questions about University research activity focused on a sector or companies subject to a possible divestment decision under this option and could be seen as a limitation of academic freedom. The group addresses this in an additional recommendation on research ethics in section 5 of the report.

There is unlikely to be any immediate impact on the University's capital, risk and returns, since the University would need to work with its investment managers to understand, and contribute to, emerging investment products that focus on carbon reporting and benchmarking. Overall the group felt that this option should be recommended to CMG, either on its own or as part of a broader package of measures.

Option 5 - Divest From Highest Carbon-Emitting Fuels Where Alternatives Exist
The University would ask the Investment Committee to identify companies involved in the extraction of high carbon-emitting fuels where alternative low-carbon options exist, and where the companies are not investing significantly in emissions-reduction technologies such as carbon capture and storage.

Initially, an engagement process would be undertaken to explore ways to prioritise other areas of company activity or to substantially increase investment in emissions-reduction technologies to meaningful levels. Where companies did not respond the Investment Committee would be asked to develop a plan to divest from those activities where currently contained in the portfolio, over a reasonable timescale. Additionally, given the fast pace of change in this area, the University would request a review of these matters every 3 years to ensure any investment policy reflected the current state of technology and economic developments (which could, for example, remove particular fuel types from the highest-emitting category).

It was recognised that there could be some impact on capital, returns and risks but this seemed likely to be limited in effect. The group felt that it should be possible to identify investment products to deliver this option, though this would require further investigation. There may be costs in maintaining a list of companies or activities which would not be invested in; there could also be some impact on management fees. However the evidence on emissions and their climate effects suggested that some loss of financial return or increase in risk might be appropriate, should companies fail to take action over time.

The option appeared well aligned to the direction of travel of the University to make an effective contribution to the need for action on climate change, particularly by seeking to achieve change in a clearly targeted way. However, the group recognised that taking this option could raise questions about research and teaching activity focused on the exploitation of high carbon fuel reserves without balancing research and teaching activity on emissions-reduction technology, and hence be seen as limiting academic freedom. This

concern was raised in the note received from the School of Engineering. The group addresses this issue in an additional recommendation on research ethics in section 5 of the report.

Option 6 - Full Divestment from All Energy Related Fossil Fuel Activities
As noted above, the group did not feel that this option could be recommended. Though the option appeared aligned with the goal to move to a low carbon future it was felt to be inconsistent with the overall values of the University to propose full divestment given the extent of learning and teaching and research activity in this field under way at the University. A broad-brush decision to divest would likely be seen as a sweeping and undue limitation to academic freedom. This option would also appear to increase the risk to capital and overall risks to the investment portfolio as well as raising serious concerns around the impact on the University's existing investment approach. The group also felt that the lack of fully developed alternatives for some fossil fuel uses meant that full divestment could jeopardise human well-being, especially in developing countries where there are no currently feasible alternatives to the use of fossil fuels in addressing basic human needs such as heating, clean water and refrigeration.

Overall, the group did not feel that such an option would be consistent with the values of the University, nor its financial objectives, and felt that the impacts on other aspects of the University would be unacceptable.

On the basis of the assessment of the six options generated, the group drew the following conclusions. The group concluded that to take no action on investment would be inconsistent with a wider direction of travel supporting the transition to a low carbon economy. However, the group does not consider that full divestment from energy-related fossil fuel activities is desirable as it is neither consistent with the values of the university, brings significant investment risk and could jeopardise human well-being. Full divestment would also impact detrimentally and in an unduly sweeping way on other key areas of University activity. The group could not therefore recommend either Options 1 or 6.

The group felt that Option 2 - Assessment of the stranded assets argument, was an important option to pursue but should not be pursued in isolation and could not therefore be recommended on its own. The group felt that options 3, 4 and 5 could be recommended to CMG, either on their own or as part of a wider package of measures. The decision on which package of options to pursue is a decision for CMG, but on balance the group recommends that options 2,3,4 and 5 should all be pursued.

5. Additional Recommendations to the University

The group noted the clear contribution that the University makes to addressing the challenge of climate change. Going forward the group feels it is desirable for the University to continue to explore opportunities to take action across the full range of its operational, commercialisation, research and teaching activities. The group noted the increasing importance of fairness in understanding and researching climate action questions. The group recognised important concerns around the concept of climate justice,[8] the argument that it is unfair that, having historically burned fossil fuels in order to facilitate its own development, arguments from the developed world should now call for restrictions on fossil fuel use, without giving further consideration to the need for development in less developed parts of the world. Continuing to grow the University's portfolio of teaching and research in the field of climate justice would be desirable.

[8] See for example: http://www.mrfcj.org/

In reviewing the evidence and drawing conclusions, the group has a number of additional recommendations that it wishes to make to the University for consideration;

Recommendation 1 - Further action on learning and teaching
Working through the Senate Learning and Teaching Committee and with the support of academic colleagues, the University should explore further means to enhance the student offer on climate change and sustainability issues within the curriculum building on the existing strong foundation.

Recommendation 2 - Scanning and Advice
The group recommends that horizon scanning to identify sustainability and social responsibility issues of concern should be formally embedded in the activities of the Investment Committee to assist it in anticipating future issues, taking the advice of the SRS Committee as appropriate.

Recommendation 3 - Further Embedding of Environment, Social and Governance (ESG) Issues
The group noted that the PRI commitment requires the embedding of ESG issues into the investment strategy and the appointment of investment managers and recommends that guidance is produced as soon as possible on how this is to be done by the University.

Recommendation 4 - Single Statement of Values
The group noted the difficulty of assessing issues against the University's values in the absence of a consolidated single statement and that therefore the University might wish to reflect on this point.

Recommendation 5 - Research Ethics
The group recognised that different aspects of the University's values could stand in tension with one another. The group was concerned to ensure that individual academics were free to continue to develop their research and teaching in line with principles of academic freedom, but within a framework that was able to take account of the sorts of issues raised by investment choices, including decisions of the University to divest from specific types of economic activity. This is not a new issue – it has for example existed for some time around the tobacco industry – but the University does not have an explicit means to address it. The group considered that the most appropriate means of addressing the issue was through the research ethics process, and recommends that the Research Policy Group should consider this issue as part of its review of governance and procedures.

6. Conclusions and Recommendations

The review group was formed to consider the issue of divestment from fossil fuels in depth and to report back to the CMG on possible options in this area and the impact of those options.

The group concluded that the evidence on the changes happening to the climate was clear and that a substantial transition to a low carbon future is required over the coming decades. The Group agreed that the University of Edinburgh, as a global civic institution, should take a lead through our research, teaching and knowledge exchange in helping society understand, manage and reduce such climate risks.

The range of decisions made by other Universities led the group to conclude that the nature of these decisions is complex and that each University must decide based on its

own values, institutional context and impacts applying expert judgement to questions where the evidence was unclear, partial or contradictory. The group came to the clear conclusion from this evidence that taking no action on this issue was unacceptable.

It was also clear that whatever choice was made on the specific question of divestment, the University would continue to make a significant contribution to mitigating risks associated with climate change through its teaching, research and procurement activities.

The review of University values indicated that the University should be involved in activities to mitigate, and adapt to, climate change. However the group concluded that investment in fossil fuels per se could not be deemed 'wholly contrary' to the University's values. Beyond the agreement that action should be taken, the question appeared to the group to become one of balancing the evidence and making a judgement about which actions were most likely to make an effective contribution in a way that was commensurate with the other values and activities of the university.

The group concluded that full divestment would have an impact on learning and teaching and research. Full divestment could – and likely would – be seen as calling into question the appropriateness of teaching about fossil fuel exploration, and the appropriateness of carrying out research on means of exploitation of fossil fuel resources. Students and staff wished to know about, and understand fossil fuels and their usage and impacts. Full divestment would amount to an undue limitation on academic freedom and potentially impact negatively on interlinked research such as Carbon Capture and Storage. Full divestment from fossil fuels could increase the risks associated with investments, due to the reduced range of investments that could be used.

The group noted that there are mixed views on the impact of divestment campaigns on capital availability and the value of targeted activities. However, campaigns can have important signal value to society. The desire expressed in University strategic documents to act as an agent of change suggested concentrating action where most impact can be made and that engagement with companies can be an important part of that process.

The group concluded that the aim of any options put forward should be to assist the University in making a contribution to solving the climate problem via its investments, but not in a way that inappropriately restricts its ability to make free choices on research and teaching. Action taken may accept some financial impact but should not be at the expense of the broader financial health of the endowment funds. In producing a range of options for CMG to consider, the group considered that there were a series of options and choices that existed, beyond a simplistic choice between divestment and non-divestment.

The group considered six main options. The options developed were not mutually exclusive but drew upon the evidence and themes discussed above. The group could not recommend either Options 1 (no action) or 6 (full divestment).

The group felt that Option 2- Assessment of the stranded assets argument, was a necessary option to pursue but should not be pursued in isolation and could not therefore be recommended on its own. The group developed further options to: Identify and replace investments with lower carbon alternatives (Option 3); Report, benchmark and improve (focus on companies that are the highest emitters to reduce carbon emissions) (Option 4) and Divest from highest carbon activities where alternatives exist (Option 5). The group felt that options 3, 4 and 5 could be recommended to CMG, either on their own or as part of a wider package of measures.

The decision on which package of options to pursue is a decision for University management, but on balance the group recommends that options 2,3,4 and 5 should all be pursued.

The Group also makes a series of further recommendations for the CMG to consider.

Annex 1 - Remit and Membership of the Fossil Fuels Review Group

Remit

The remit of the Fossil Fuel Review Group is to examine the case for, and impacts of, the University endowment fund divesting from fossil fuels and to report back as in a timely, considered and thorough manner to Central Management Group on the options, impacts and consequences of any decisions it may make. In coming to its view the group should:

- Ensure that its deliberations are fully in line with the Responsible Investment policy and taking account of views expressed via the responsible investment consultation process
- Examine the range of opinion and action from other universities and asset owners in this field
- Ensure clarity over the meaning of, and options attached to, terms such as 'fossil fuels'
- Ensure that it provides clear and well justified options for action for CMG to consider, across a range of possibilities and with clear impacts and consequences attached to each option presented
- Involve the Investment Committee in providing investment and risk advice and where necessary consulting with the University's investment managers
- Seek to ensure consensus if possible on the options presented
- Consider the need for further consultation prior to finalising its work, including specific conversations with donors
- Ensure that the options are reported against the criteria contained in the policy, namely:
- "An activity wholly contrary to the values and ethos of the university
- Impact on investment capital and returns
- Ease of avoiding investment within realistically available investment options
- Impact on other areas of University activity (research, teaching, fund raising, procurement)
- The University's view of future changes and 'direction of travel' in the area proposed"

Membership

- Prof Charlie Jeffery, Senior Vice Principal (Convenor)
- Dave Gorman, Director of Social Responsibility & Sustainability
- Tasha Boardman, Vice President Services, Edinburgh University Students' Association
- Mark Connolly, CIO, Fixed Income, Aviva Investors (Member of Investment Committee)
- Prof Andrew Curtis, Professor of Mathematical Geoscience
- Dr Andy Kerr, Executive Director, Edinburgh Centre on Carbon Innovation
- Prof Lesley McAra, Chair of Penology, School of Law
- Phil McNaull, Director of Finance
- Tracey Slaven, Deputy Secretary, Strategic Planning

Annex 2 - Material Produced and Reviewed by Fossil Fuels Review Group

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Annex 3 - Summaries of Three Specific University Decisions

University of Harvard – no divestment

Fossil fuel divestment statement, http://www.harvard.edu/president/fossil-fuels 3rd October 2014
Follow-up statement from Office of the President, *Confronting climate change*, http://www.harvard.edu/president/news/2014/confronting-climate-change 7th April 2014
Summary of decision and why:
At the University of Harvard, the decision has been made not to divest from fossil fuels, based on the position that the university is not a political actor and that endowment funds have the purpose of generating financial returns to advance the university's mission of education and research. It was concluded that divestment from fossil fuels would substantially decrease financial returns, and would remove the opportunity to engage with big energy companies who have the power to develop more sustainable approaches. Recognising the role the university must play in enabling and accelerating the transition away from fossil fuels, contributions to tackling climate change are made through teaching, research and operational sustainability on campus, and a commitment to sustainable investing.

Stanford University – divestment from coal

Stanford to divest from coal companies, http://news.stanford.edu/news/2014/may/divest-coal-trustees-050714.html 6th May 2014
Summary of decision and why:
Stanford University Board of Trustees has made the decision to stop investing directly in coal mining companies (that is, those whose principal business is the mining of coal for energy generation), following the advice of the university's Advisory Panel on Investment Responsibility and Licensing, which includes representatives of students, faculty, staff and alumni. The decision was made based on evidence that coal is one of the most carbon-intensive methods of energy generation, and that other energy sources with lower greenhouse gas emissions are readily available.

University of Glasgow – divestment from all fossil fuels

Glasgow becomes first UK University to divest from fossil fuel industry, http://www.gla.ac.uk/news/headline_364008_en.html 8th October 2014
Summary of decision and why:
The University of Glasgow has become the first in the UK to commit to divesting from fossil fuels completely over the next ten years, with the caveat that financial impacts must be 'acceptable'. An independent working group heard a range of views on divestment. Evidence from Glasgow University Climate Action Society and the University Investment Committee on the ethical case for divestment based on the effects of climate change on people and planet, and the need to reduce our dependence on fossil fuels, contributed to the decision to divest from all fossil fuels.