

FOSSIL FUELS REVIEW GROUP 2014-2015

INPUT FROM STAFF IN THE SCHOOL OF GEOSCIENCES

Compiled & Edited (Anonymised) by Andrew Curtis

This document compiles all of the input from staff in the School of GeoSciences to the discussion currently underway about how the University should respond to EUSA's request to divest from the fossil fuels sector. The process followed was:

1. For each of the three Institutes in the School, the Editor introduced the subject at an Institute meeting. He initiated discussion on the topic, and outlined this process to the staff.
2. Within a day, the Editor sent an email to all staff in that Institute, inviting their input. That email also outlined this process. An example email of invitation is included below.
3. As staff sent input, the Editor wrote back to them, checking how he should edit their text to make it anonymous (where this was not already clear from their submitted input).
4. Once a form of words was agreed, the Editor included their anonymised input in this document.

The rest of this document consists of the input received. This has been organised into three categories:

1. Input that is clearly anti-divestment
2. Input that is either neutral, conveys a very marginal preference, or advocates conditional divestment within this sector
3. Input that is clearly pro-divestment

While categorisation of input might be argued as subjective, almost all input is clearly in a single category; any input that was not clearly in categories 1 or 3 has been included under category 2.

EXAMPLE INVITATION FOR INPUT SENT TO INSTITUTE STAFF

(invitations vary as they depend on what was discussed at that Institute's meeting)

Dear Global Change Institute academic staff.

Thank you for your time at the GC Institute meeting yesterday, and for beginning the discussion concerning the university's investments in fossil fuels. As requested, I describe the issue further below, and outline many of the points discussed at the meeting.

I now invite you to submit individual written input describing your views, in the form of email replies to me.

Your input will be anonymised, and I will check back with you that you are happy with how I have done so. (Alternatively simply send me text that does not identify you - email headers and all names etc. will of course be removed). I will then add your input to a document that contains all input from all staff in the School who have contributed. The final document with all input will then be sent out to all those who have contributed, and will also be submitted as input to the Fossil Fuels Review Group which is considering the issue on behalf of the university.

Best wishes,

Andrew.

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CONTEXT

EUSA submitted a request for divestment of university funds from the Fossil Fuels sector. This followed a university-wide survey of investment/divestment preferences in February 2014, and a collection of 1400 signatures supporting such divestment (these signatures were from inside and outside the university). EUSA's request is part of a movement that has requested divestment at a large number of institutions (particularly universities) worldwide; up to 200 have divested, a few of which are major institutions (e.g., the Rockefeller Foundation has made a partial divestment), but other major institutions have made it known publicly that (and why) they refused the request to divest (e.g., Harvard University). Some institutions decided on mixed responses - for example Stanford University decided to divest from coal companies only. Others prefer a strategy of maintaining and using these investments as leverage to effect change, e.g., by threatening divestment or share-holder resolutions in fossil fuel-related companies who do not create and implement a strategy towards lower carbon-emissions energy or specifically renewables (e.g., The Church Commissioners and Church of England Pensions Board).

The University's Central Management Group (CMG) set up the "Fossil Fuels Review Group" to examine the issues surrounding EUSA's request to divest. The remit of this group is to consider the request in the fullest possible context, and provide a recommendation to the CMG around March 2015 about what set of actions the university should take in response. For the avoidance of doubt, any and all options are on the table as to what this response should be - not only a yes/no recommendation. I am a member of this group.

A separate group will thereafter be set up by CMG to consider another request for divestment from arms/military-related companies (including satellites and drones - which may affect some other work in the School). Hence the principles/reasons based on which we make the fossil fuels-related recommendations may also be applied to that group, and to future groups considering other divestments. They must therefore be well-reasoned and sound.

Dimensions discussed at the meeting included:

DIMENSIONS OF THE ISSUE

- Everyone in the School seems to agree with a transition to a low-carbon/emissions economy: only questions are when, and how.
- Choices must be made: can not remove hydrocarbons without alternatives
- Our largest contribution to transition is through our research: viable alternatives/mitigations/reductions in energy usage must be invented.
- Climate change / CO2 emissions
- Global energy provision
- Do alternatives exist? Is widespread nuclear energy ok?
- Financial investment returns on the University's endowments
- Whether we should use bestowed endowments as instruments for change
- Effects on teaching (Geology, Geophysics - 7 degree streams)
 - on research (if we divest, why would they invest in us?)
 - on academic freedom (in the context of limiting research)
 - on the university image to future UG's/PG's/public/society
- Human rights
- Corporate responsibility

- Largest companies aren't publicly listed/affected (National Oil Co's)
- Much responsibility for hydrocarbon volumes extracted by companies rests with ourselves (people) through our actions/commuting/flying/buying/using/behaviour: how should we most effectively punish ourselves?
- Not simply a yes/no or right/wrong issue that campaigners convey

DIMENSIONS OF POTENTIAL RESPONSES

- How do we maximise the leverage of our share-holdings?
- What is the definition of "Fossil Fuel Sector"? How much does it include of the power, car/transport/aviation, hydrocarbon/ore/resource-extraction, plastics, fuel, manufacturing sectors - who all buy hydrocarbons because we buy their resulting products & services?
- Timescale over which any action should be taken
- Use our shareholdings to issue warnings/threats of divestment if transition strategies are not created and carried out
- Should we construct principles for Divestment? What should they be?
- Rather than divest (a provocative move), simply dilute such investments by INvesting in future in renewables/alternatives/remediation companies/sectors

One piece of context noted at the meeting that is concerning large numbers of staff in the School is the following: if we were to divest, there is the possibility that it will become untenable to maintain research and teaching programs related (in part) to hydrocarbons-related sectors. This most significantly effects ~35% of staff across the School (all within EPS and GC Institutes) by threatening the viability of the Geology and Geophysics related undergraduate/postgraduate programmes in which they teach, and the associated School income. It also threatens the majority of the industry-related 10-15% of the School's FEC research income that contributes to staff costs across the whole School, and the total research income which funds research programs in hydrocarbons-related work, fundamental physics and mathematics on modelling and imaging that relates to many sectors, and carbon capture and storage: for all of these the hydrocarbon companies are the principal industrial sponsors. The argument goes, if we don't invest in them, why would they invest in us?

The case example is Glasgow University who announced their divestment plans around a month ago: some existing industrial research contracts and negotiations for future contracts were cancelled immediately, and students complained on-line that the value of their degrees had been undermined. These are not necessarily over-riding concerns, but they mean that there are potentially serious consequences of our university's decision for academics, and for our School most specifically.

The above is all just context and the extent of any of these dimensions is unknown. None of the

above is meant to imply that divestment is either a good or a bad choice, but simply that the issues are complex, multi-faceted, have implications for all of us, and consequently we may all have differing views using a wide variety of different lines of reason. These lines of reason are now important to set out clearly in a single document for consideration by the Fossil Fuels Review Group.

I therefore invite you all to submit your points of view on the topic (even if you are undecided). All of your input will be presented at the Fossil Fuels Review Group (anonymised), and will inform future recommendations to CMG.

INPUT THAT IS CLEARLY ANTI-DIVESTMENT

To my mind it makes no sense to shut the door to the fossil fuel (FF) sector. Instead, we need to keep the door open and have a better discussion. What is clear is:

a) The world is heavily dependent upon FF for its energy supplies now. This dependency globally will very probably still be there in 2030 and probably in 2050. We are considerably locked-in to FFs and it will take time for the transition out of them to something more sustainable. How long it will take is of course not known and will depend on how rapidly low- and zero-carbon power generation sources can be developed. Renewables are currently unable to operate in a grid without baseload back-up from either CCGT or nuclear. That might change in the future as energy storage devices are improved, but we're nowhere near that point as yet. Nuclear has considerable downsides, in particular enormous future liabilities associated with nuclear waste storage and risk of catastrophic failure, nuclear weapons proliferation, etc. All options except using less energy come with disadvantages and problems. While using less energy would be the best option, this seems difficult to achieve without major price hikes or top-down regulations which would face opposition. It is how these issues would appear to the publics and stakeholders of China, India, Indonesia, etc. that matters as much as (or more than) how it appears to publics in the old mature economies.

b) We do need to keep a lot (50 – 80% of known reserves depending on the climate sensitivity, etc.) of the fossil fuel reserves in the ground if are to meet the cumulative carbon (3 trillion tonnes CO₂) target (= 2 degrees global mean surface temperature change). The other option is that we continue to use FFs but deploy CCS rapidly. We need to become very good at CCS quickly. The current rate of progress on CCS is nowhere near sufficient.

c) Large economies will drive the bulk of the demand - China, India, USA, etc. The UK is not very important and becomes even less relevant by 2030/2050. Does divestment unilaterally make any sense? The shares we would sell can only be sold if they are bought by others. The divestment is symbolic (a point acknowledged by proponents of divestment), more about us feeling we've done something, but its not the only (or in my view the most effective) way in which the University of Edinburgh can express our collective values and concerns on this matter.

d) FFs have without doubt been instrumental in the alleviation of poverty in China and elsewhere. Like it or not, FFs have increased human welfare enormously. We are not in a position (politically and I would say morally) to deny those benefits to others living in poverty or at low-incomes given that FFs are, in many circumstances, the most attractive energy carrier. To give a simple example, use of CNG, propane and other bottled fuels in many large developing country cities has been instrumental in reducing air pollution from burning biomass for cooking and from dirty petrol / diesel engines.

e) While a moral argument can be made for divestment in, say, the tobacco sector or in companies that knowingly exploit its (direct or indirect) workers, or in defence industry firms that sell their goods to regimes which abuse human rights, the argument about FF is not so morally clear - at least not to me. We all use FF all the time (directly or indirectly) and we don't have a lot of choice in the matter. Our personal actions are in and of themselves not 'bad' (we're just keeping warm, driving to the shops, using the train to see our relatives, flying to an EU project meeting or as an overseas student to undertake a degree course at the University of Edinburgh, etc. etc.). There is no intention to harm though it is likely that there is some harm arising from climate change at some point in the

future. As science progresses, it is feasible that it may be possible to attribute some harm to fossil fuel use in which case the moral argument could change.

f) Whether we are arguing to keep the FF in the ground, and/or working on speeding-up the implementation of CCS so more of the FF can still be utilised, the best way for the UEDIN to influence matters is to keep talking to the FF industry, not treating them like they are the 'enemy'. There are many good people in the FF sector who are also concerned about anthropogenic climate change and are trying to do the 'right thing'. In my view, we will only solve climate change if we can create a broad social consensus that has to include the majority of people who use FFs as an integral part of their daily lives (and the politicians who represent them from the right as well as centre and left). If we get into a situation of 'them' and 'us' dichotomy, we end up unlikely to pass effective carbon reduction policies in a democratic state. We are all in this problem together and we all contribute to the problem through daily practices. We have to keep that collective sense of responsibility if we are going to create a political consensus to take effective action nationally and argue for the same internationally.

g) The UEDIN has major strengths in CCS and carbon removal techniques, perhaps the leading UK university in this RD&D domain. UEDIN has major strengths in marine renewables. We are the ones who need to be pushing the agenda and getting companies to invest money in these idea / help firms and governments do a better job of 'low-carbon' technologies and innovation. How are we going to do this effectively if we reject the FF sector? We cannot do CCS without the involvement of the FF sector itself. If Universities pull out of CCS RD&D, we are reducing involvement of non-private sector players in the CCS sector. Stuart Haszeldine has been a major voice arguing for the importance of developing CCS in response to the need for deep carbon cuts. Having an academic making the argument is important in helping to make the argument more credible than if it were just Shell or Total presenting the case. If we stay engaged, we can influence how CCS develops and push for more public engagement in that development process rather than having it imposed top-down.

h) Lets focus more on what we as a community can do by our actions - can we reduce aviation emissions from work-related travel? Should we as a University be looking at the internationalisation policy given all the implied carbon emissions associated with it? (e.g. more remote based learning). What about we as a school start keeping voluntary records of our work-related carbon emissions as part of an effort to reduce them? We could think about a tradeable quota system as a pilot with the School of GeoSciences. These seem more positive actions that also recognise that we are all the problem - not just FF companies.

Whilst I agree in principle with the aim of the hydrocarbon divestment movement to de-carbonise energy sources it is somewhat simplistic. Put very simply we have not got a problem with fossil fuel combustion, we have a problem with the ensuing CO₂ emissions that this combustion creates and the resulting climate consequences. Given that we have more than enough hydrocarbon reserves to provide secure energy for at least the next 100 years (at least) any policy to reduce the climate impact of fossil fuels must focus on the CO₂ that their combustion produces, not the fuel itself. This

has been clearly outlined by the recent IPCC 5th Assessment synthesis report which has clearly outlined that low-carbon electricity supply (comprising renewables, nuclear and CO₂ capture and storage - CCS) must increase from the current 30% share to more than 80% by 2050 and that fossil fuel power generation without CO₂ capture and storage must be phased out entirely by 2100. This is the challenge that has been set and all low C energy sources are going to be required to meet this - not just renewable sources which cannot achieve this on their own. Hence, what is required is not divestment but real investment in clean fossil fuels through development and wide spread roll out of CCS. The hydrocarbon industry has the required skills and knowledge to achieve this goal, but needs the political and economic drivers in place to allow them to make money in CCS. I strongly believe that more effort should be placed in putting these drivers in place, to enable investment rather than deter investment which could result in unintended consequences which may actually increase CO₂ emissions. Earlier this month the International Energy Agency released the World Energy Investment Outlook special report that highlighted the significant investment needed to secure the world's energy system. It contained an interesting cautionary note on coal financing (on page 125):

“While increased investor awareness of climate-related issues is a positive development, policies deliberately adverse to coal may have unintended consequences. In the 450 Scenario, which limits the global average temperature increase to 2°C, world investment in coal-fired capacity totals \$1.9 trillion (25% higher than in the New Policies Scenario), of which \$800 billion is for plants fitted with carbon capture and storage (CCS). Coal-fired power plants become more expensive on average because, in most regions, more efficient technologies are deployed, as well as greater emphasis on CCS technologies. If development banks withhold financing for coal-fired power plants, countries that build new capacity will be less inclined to select the most efficient designs because they are more expensive, consequently raising CO₂ emissions and reducing the scope for the installation of CCS. In addition, many of the countries that build coal-fired capacity in the 450 Scenario need to provide electricity supply to those who are still without it, a problem that may be resolved less quickly if investment in coal-fired power plants cannot be financed.”

Another critical issue in this debate is the unintended consequences of a divestment campaign on the University itself, the research it conducts and the students that we teach. The University receives substantial investment from hydrocarbon companies and whilst some of this is focused on addressing industry specific needs, a significant amount is used in areas where there is significant cross-over with other industry needs and areas which are related to hydrocarbons but are not directly looking at their extraction, such as CCS research and environmental monitoring of hydrocarbon extraction. The recent experience from the University of Glasgow's divestment announcement has shown that many companies are uneasy about future investment into the University. Furthermore, a large number of the University of Edinburgh's students go on to work in the hydrocarbon and related industries, and it is reprehensible that the University should take a position that makes it clear that morally it wants to discourage graduates working in these sectors. Surely, instead of discouraging students from this sector we should be provide them with a clear understanding of the challenges and consequences of climate change and enable some of the most able Edinburgh graduates in science and engineering to gain employment in the sector to help them meet this challenge.

In light of the above arguments I believe it would be much more constructive if the University were to direct its investment into the areas that it feels meet its strategic aims, rather than divesting

individually from particular sectors. This would send a clear message that the University understands the issues surrounding ethical investment and is not simply picking and choosing its investment portfolio on knee jerk reactions to lobby groups which have simplistic understanding of the issues facing secure low carbon energy supply.

I am against University divestment from fossil fuels. It is too simplistic a stance.

For example, I have received funding from the UK's Coal Authority to research using the iron precipitates from treating coal mine drainage (currently landfilled) from capturing phosphorus from sewage effluent to recycle as a fertiliser. A blanket divestment from fossil fuels has wide-ranging and potentially unforeseen effects.

To really make a difference the University is better off:

- 1) influencing and researching solutions. This includes social dimensions, justice and human-environment interactions as well as technical solutions.
 - 2) critically evaluating its own activities, for example jetting off to the Amazon to explore the effects of climate change on tropical ecosystems or driving to wind farms to research the impact of their development on carbon losses from peatlands.
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My initial reaction is to say stock market investment is one thing and research funding another. Anyway I think the university should resist this move strongly. Hydrocarbons are not tobacco. Everyone uses them. We should strongly oppose cutting research links and funding of course-would be disastrous for geology.

My take on this is:

- 1) Being seen as serious about environmental sustainability in this way will go down well with the majority of students (and likely staff), and likely help with recruitment. The Uni may see this as an advantage. They may also think Glasgow has stolen a march on us in this.
- 2) The finance department may be nervous about this - they have a duty of care to produce a

guaranteed return to ensure donors' wishes are respected (the scholarship or new building can be paid for). If this is to do with endowment investments then the money belongs to the donors, not the University - posters from the lobby saying "it's your money" are factually incorrect. Many sponsors invest their own money, and the Uni has no control over this. If the Uni divests on moral or ethical grounds, will it refuse such donations unless consistent with its own policy?

3) As the academics at Glasgow have pointed out, this will probably have a negative impact on all relations with oil companies unless handled extremely carefully. It is indeed intended to. The scale and duration of the impact will depend on the degree of herding (either way) that occurs in the University sector in responding to this world-wide lobby.

4) There are risks if the reasons given are ethical rather than financial. When the Uni divested in tobacco on ethical grounds (specifically not because it was a bad long-term investment in purely financial terms), it also banned smoking on its premises well before this was a legal requirement, and stopped taking any funds from tobacco companies. This integrated and consistent approach won't be possible with fossil fuels (will the Uni ban shipped 'fair trade' products in its shops?), opening us up to accusations of hypocrisy.

5) Science and engineering is concerned in general about the impact of such a decision on research funding. I think there are also big risks on future REF submissions with the 'Impact' agenda, which requires a continuous narrative between research publications and auditable financial or societal outcomes, up to 20 years later. There are also concerns about academic freedom if the policy is broadened out from divestment per se. These are real disadvantages.

6) There is a good argument for 'constructive engagement' or 'active investment', supporting companies who are contributing to CO2 storage projects for example, or to developing renewables themselves. This may be more effective in the long run in moving to a sustainable future in a managed way, without harming emergent economies that depend on global trade to move their populations out of poverty.

My personal response is that would be very detrimental for the University to cut off links with the hydrocarbons (HC) industry both in terms of teaching and research. Main points are:

1. The industry is the main recruiter of our graduates. Maintaining close links is vital for our ability to attract the best students, especially overseas students such as the 2+2 cohort. We will lose a lot of students if we sever links with the main employer of our graduates.

2. It is unfair to single out the HC industry. They are certainly no worse than many other large industries. Why not also include mining companies, ore processing plants, major pharmaceutical companies etc? Surely it is the role of major universities to engage with industry and promote

greener technologies, rather than severing links. We all use the products of these industries, and a significant proportion of funding in the UK is generated directly or indirectly by the HC industry. The stance adopted by Glasgow is hypocritical to say the least.

3. The HC industry is, unlike most other large sectors, not risk averse. They are obviously profit driven but there are several potential future green technologies which will realistically only get off the ground with buy in from big HC companies (e.g. anything to do with a global hydrogen economy, CCS). We have to engage fully with the HC have any impact on climate change.

4. HC funded research impacts many other areas of research. I have never had funding from the sector and cannot foresee an instance where I ever have significant, direct funding. However, advances in seismic techniques are directly applicable to everything I do.

Here a politically correct statement of a strongly held view:

Hydrocarbons contribute to the increase in the CO₂ in the atmosphere, which is a pollutant. We have the duty to reduce this pollution for the sustainability of the earth's environment. Humanity depends on hydrocarbons for its current state of life and needs them in almost all areas of society. Universities and other research bodies can apply scientific expertise to reduce the carbon environmental impact of hydrocarbon exploration, recovery and exploitation. Divestment will be removing funds and influence which can assist in addressing the problem, and is therefore defeating its object.

Hydrocarbons is only 1 potential controversial area in which UoE may invest, it seems odd to single that area out for scrutiny while ignoring other controversial areas such as arms manufacture, pharmaceuticals and consumer goods such as cheap clothing.

It is illogical (hypocritical?) to disinvest in a business, but to continue to purchase the products. In this context, if the University dis-invests from the fossil fuel industry, it should refuse to purchase their products - which is effectively everything (!) but especially presumably direct products such as fuel for cars, and indirect products such as taxi, train and air travel.

It should be noted that our lifestyle is entirely dependent upon fossil fuel consumption.

I separate my points into arguments to divest from oil companies, and the value that my research gets from the oil industry.

Divestment arguments:

To argue that any institution should divest its funds from oil/coal/gas companies based on the negative impacts these industries have on the global climate through their CO₂e emissions, one must consider also divestment from all industries with substantial climate impacts. If we are going to divest from fossil fuels we should also be divesting from companies that have activities in agriculture (CO₂ emissions from land use change, and fossil fuel consumption for the production of fertiliser), specifically the raising of meat products (CH₄ and N₂O emissions), industries that produce other powerful greenhouse gasses SF₆, and CFCs for example.

It is also a weak moral argument to only target the producers of fossil fuels and not other industries that create a demand for fossil fuels, shipping, aviation, metal production.

It is wrong to assess the value of the fossil fuel industry only by its negative impact on the climate. Without fossil fuels the quality and quantity of life for humanity would be much lower. Without fossil fuels we would not be able to produce enough fertiliser to grow enough food to keep the current population of the world alive. Without fossil fuels we could not live in cities as large as we do. We couldn't heat our homes or transport our food to us. We would not be able to travel as far or live as long.

Value of fossil fuel industry to my research:

The main focus of my research areas, and a large part of the UK geoscientific community, is to characterise and understand the past climate of the earth. My focus has been on past changes in sea level and ocean circulation. Much of this research has involved reconstituting climate archives from marine sediments. While I do not work directly with fossil fuel companies I (and my research) have benefited from their activities.

The collection of deep sea climate records requires information on the subsurface geology of the sea floor. For expeditions that go out into the ocean to recover these archives it is essential to have as much information as possible before you drill into the seabed. This research relies on the fossil fuel industry, not for direct funding, but through the provision of data to enable us to sample in the right place. This collaboration between industry and climate scientist has proved very beneficial over the past 50 years. Without the oil industry there would have been no scientific drilling in the ocean we would know almost nothing about the nature of the sea floor or the history of the ocean. More specifically I have been involved in research expeditions to recover sea level records from coral reefs which have made use of developments in drilling technology made possible by the fossil fuel industry.

If universities were to divest from the fossil fuel industry this would jeopardise the scientific services that the oil companies provide to the scientific community. It is not just the massive direct funding that universities receive from oil companies that is at risk it is the free flow of information and ideas between academia and industry that will be threatened as well.

One other thing. The university has three onsite power stations (KB, down town and pollock). While these are energy efficient CHP plants they are still gas fired. Does the divestment plan expect the university to get rid of these and rely on renewables only for heating and power?

In parallel with the effort to harness renewable energy sources for electricity generation, it is recognized that Europe will be dependent on non-renewable energy sources for several decades, not only for electricity generation, but also for heating and transport. Hydrocarbon gas, mostly methane, is the dominant energy source for heating in many European countries. Since it produces substantially lower greenhouse gas emissions than coal, per kilowatt of electricity generated, greenhouse gas emissions can be reduced by switching from coal to gas for electricity generation. Growing European dependence on imported gas has emphasized the need to investigate the potential of Europe's non-conventional sources of gas, including shale gas.

We need energy and we need to stop polluting the planet. We have get recognition of both these things to have any sort of sensible debate.

I am going to be fairly brief in my response - we could of course each write a long response along the lines of a well considered undergraduate essay (and perhaps all undergrads in GeoSciences should...). In short, I don't think we should divest. I think it would be an inappropriate reaction to what is a very difficult moral, environmental, intellectual, social (etc - the list is endless) issue.

We as individuals, a School, University, nation and world are dependent currently on fossil fuels and that will remain the case for a long time to come, irrespective of what decision is made by the University re divestment. I believe unequivocally that we should be trying to reduce our reliance on fossil fuels but the world still needs them and a lot of them. As a School and University, there are numerous ways that we may be able to help in reducing energy costs/reliance on fossil fuel even if, in some cases, that is simply by finding more energy efficient ways of extracting the fuel through leading research. I believe we are better served by maintaining the potential of being engaged fully with the relevant industries and divestment would remove opportunities to be involved in many interactions. I actually believe that issues such as whether individual academics get research money through hydrocarbon related funding is less relevant and is not critical to the wider argument.

I personally believe that petroleum divestment is a simplistic, naive proposal that, if implemented, may have unexpected and quite chilling effects for the School of GeoSciences. A great percentage of our students go on to work in the petroleum industry and much of our research funding comes from petroleum companies (who sponsor a great diversity of research, much of it having little to do with petroleum, which the public and students probably do not realize). I would expect our student intake and research funding to both drastically drop if the University takes a formal position to alienate the petroleum industry. Furthermore, I am one of the academic administrators of the School's very successful 2+2 program, which allows high achieving students from five Chinese partner universities to study for two years in Edinburgh and attain a University of Edinburgh GeoSciences undergraduate degree. One of our partner universities in Beijing is the China University of Petroleum, and I would estimate that somewhere close to 80-90% of the students in the program come here with the express purpose of learning skills that will make them employable in the petroleum industry in China. There is no doubt that divestment would jeopardize, and very likely kill, this ever-growing and successful program, which provides incredible opportunities for international exchange with the world's most populous country and also brings in a large amount of funding for the School.

The petroleum industry is a convenient whipping boy for many who are concerned about pollution, climate change, wealth inequality, and the political power of large corporations. As a progressive voter, I share those concerns. However, I do not feel like divesting from the petroleum industry will rectify any of them. Climate change is a global problem and putting the blame squarely on companies that extract petroleum is naive. Shall we also divest from any company that uses petroleum to transport goods or heat their offices? The political and social powers held by large corporations are, in my opinion, one of the largest threats we face in the western world. But why single out petroleum companies? Why not instead divest from those mega corporations that have most put our modern world at risk: the reckless investment banks that are "too big to fail" but nearly destroyed the global economy a few years ago? As many of our funds are surely held by these banks, why not stop investing entirely? I don't support any of these positions, but simply list them to expose what I think is the logical fallacy of divesting in petroleum.

I will close by making a point that maybe hasn't been considered. The University of Edinburgh is Scotland's flagship university. Last month 45% of Scottish residents voted to go independent from the UK, based on a proposal in which an independent Scotland would support its government and public services based almost entirely on North Sea oil revenue. The oil industry is tremendously important in Scotland. It provides many jobs, buoys many communities, and provides a huge amount of tax revenue. I do not believe Scotland's most prestigious university should cavalierly cut ties with the oil industry in a naive attempt to make a political point.

The comments in the article below from Paul Younger and Rob Ellam suggest Glasgow academics were largely ignored in the decision there and I agree with their comments.

<http://www.timeshighereducation.co.uk/news/fossil-fuel-divestment-plan-provokes-heated-response/2016356.article>

I cannot understand what the people proposing this hope to achieve other than some very short term publicity for themselves. The potential impact for those engaged in research with the oil industry in Edinburgh could be significant. You can bet Heriot Watt will not be doing this and will be more than happy to accept any funding that leaves Edinburgh.

Given where the vast majority of earth science UG and PG students end up it has the potential to affect our (earth science) students far more than any other part of the university. This fact is unlikely to be appreciated by those outside our part of the school.

The proponents of this scheme seem to be promoting the idea that oil companies should be viewed on a par with tobacco companies and that they deliver no benefit to society. Yet we are reliant on them and the products they create for our way of life, and will be for decades to come (The UK is building 30 new gas fired power stations by 2030). The hypocrisy of proposing a boycott of these companies whilst enjoying all the benefits they provide really needs to be highlighted.

The fact that a few thousand students signed an online petition should not be enough to allow things like this to be passed. The University divested from defence firm Ultra Electronics in 2013 because it made a component of the navigation system in US drone planes, I can at least understand the reasoning behind that. What is now being proposed is to boycott an entire industry on which we all rely. It is utterly ridiculous and makes me mad!

Since Glasgow is the first and only European university to divest from the hydrocarbon sector it will be an interesting test case for the downstream effects of divestment on inward investment. It's always struck me that divestment only transfers the university's shares in a company to someone who isn't bothered by owning them, while leaving the university voiceless as far as the industry is concerned. It can have little or no financial impact upon the companies themselves.

Why stop at hydrocarbon companies? The honest approach would be for the university to divest from every industrial sector (mining, biotech, pharmaceuticals, utilities, chemical industries etc) that is associated in any way with environmentally or ethically questionable activities. Divestment from companies that have any dealings with dodgy political regimes in other states would be another natural target.

For inward investment, then divestment would send a clear message to the hydrocarbon sector that Edinburgh doesn't want to be associated with them or their resources. It can only damage inward investment to Edinburgh (and again, rather inconsistent to distance ourselves from investing while still accepting research money from the sector). I expect lobby groups would prefer us not to accept research grants from the hydrocarbon sector, but that view misses the bigger picture. That investment from companies is a source of income to support staff and equipment that is used for a range of research, and much of that research would be considered to be on the plus side of the environmental ledger. Certainly such small hydrocarbon funding as I've ever had has been used to focus on research into fundamental sciences, not means of making more profits. The outcomes of that research can be applied to pulling more oil from reservoirs, but equally they can be applied to strategies for treatment of contaminated aquifers or to carbon capture and storage. While it's certainly true that the hydrocarbon sector doesn't fund research out of pure altruism, there are wider scientific and societal benefits that result from research funded by that industry. Probably others are better placed than me to point to specific cases, but the CCS group is one a prime example.

Overall, while I can appreciate the political and moral arguments that are associated with divestment policies (in their widest sense, not just for hydrocarbons) it seems that the only party negatively affected financially and in terms of its research base would be Edinburgh University.

If the University wanted to make a gesture on this then there is plenty it could do. It could change its investment strategy from maximising return to making a return while particularly supporting certain sectors, which might include companies trying to find a vaccine for Ebola, improve internet access in the 3rd world or create efficient solar panels.

Some of us might think this presumptuous and foolish, but there would be no real complaints.

Divestment goes beyond this, and represents a statement that the hydrocarbon sector is immoral and should be stopped. Without investment the activity would stop, so that is what is being argued for.

Unfortunately, a corollary to this is that our research is immoral, our teaching is immoral and the achievements of our students are immoral. I'm sure we would lose staff, students and sponsorship, but that doesn't really matter- what we do would simply become untenable at the University.

The implications of this would go beyond our area- the work of the University across the whole spectrum of energy research would rightly lose all credibility.

So to sum up, I think it's a bad idea.

INPUT THAT IS MARGINAL, CONDITIONAL OR NEUTRAL

1) There is very clear scientific evidence that global warming is proportional to total amount of CO2 emitted and this warming is very long lasting > 1000 years.

2) To avoid 2K warming (beyond which impacts of climate change might be damaging) requires limiting further emissions to around 300 GT of Carbon.

3) Known reserves of fossil fuels are about three times larger than the 300 GT "emission limit".

4) There is, possibly, enough carbon capture and storage to deal with the reserves but no one has yet deployed a full Carbon Capture and Storage (CCS) system. I personally am sceptical about CCS as a result.

5) 1-4 suggest that further investment in finding more fossil fuel is throwing away money. There is a significant risk that exploiting those resources will not be possible due to international agreement on limiting emissions of CO2.

So the University should ***cease*** investing in exploration for new FF resource, better exploitation of existing reserves or new plants that use FF. Its existing investments should stay.

6) There is a hierarchy of fossil fuels -- Gas is best, then Oil than Coal. IF CCS ****can be made to work**** then CCS + Gas would be a sensible place for the university to invest.

Divestment -- this is about sending a message. In my view the University should ****publicly**** divest from coal and plants/facilities that use coal. It should talk with the Oil Industry. If they do not have credible plans for CCS then it should ****publicly**** divest from that industry publicly stating that this is because of a lack of credible plans for CCS.

My opinion is that we in the University of Edinburgh should divest from fossil fuel companies who are taking no perceptible action to limit the effects of their products in climate change.

We should actively invest and support organisations where research on the company profile shows that they have authentic actions in place and are supporting climate mitigation.

Overall I have to admit a personal emotion that despite ever more frank warning and urgency (today's IPCC summary report as a prescient example) the lack of visible action does perhaps warrant some radical actions [Echoes of Sherwood Rowland's famous Nobel speech on the tragedy of making accurate predictions], but I remain to be convinced that divestment is the most appropriate action.

On the discussion of divestment...

I was one of the small number who responded to the consultation earlier this year, and one of the very small number (<20) of staff. I am concerned that physical sciences seem under-represented on the working group... some further detail as to its size and constituents would be interesting. To this end, I would be happy to be further involved if an early career researcher perspective was desired/useful and feel I could usefully contribute given my background in climate science and current work in energy de-carbonisation policy/politics.

First, I think the intended purpose of divestment needs to be discussed in greater detail. For example, is it intended to create publicity pressure for climate action on industry (and more so governments) [a reasonable target], or is the intent to genuinely de-value fossil fuel assets [in an energy hungry world I think achieving this latter seems unlikely particularly for oil and gas].

Reflecting on this, I feel it is arguably too simplistic to speak of 'fossil fuels'... coal, oil and gas are not the same (in actors, supply, use, value to society), fossil fuel industries are only at best a very loose sector (in intense competition with each other), and dividing into sub-types doesn't get one much further. Individual actors in the industry have very different attitudes and perspectives - from outright denial of climate change and obstruction of climate mitigation policies, to strong advocacy for climate action [as an example of the latter, Shell is one of the most vocal advocates of strengthening carbon pricing regimes and developing CCS - I can provide detailed evidence if useful]. Indeed, many of the oil and gas majors are among the most progressive (at least in strategic terms) in adapting business models to demands for climate mitigation - their internal assessment carbon prices are the highest in the world (table came from the Economist <http://www.economist.com/news/business/21591601-some-firms-are-preparing-carbon-price-would-make-big-difference-carbon-copy> -Statoil has also recently joined the list), albeit at present only for their own (upstream) emissions.

With respect to the role of a specifically 'university' investment fund, I feel there is an argument that its strategy should maybe not be solely to maximise returns, but to try to do so in a progressive and informed manner which reflects the broader ethos of the University and its role as a body of human betterment [I understand that to some extent this is already the case in the way the fund is managed]. Achieving/furthering this needs careful and informed deliberation - sweeping positions can miss many important nuances (e.g. as outlined above), which a case-by-case assessment to a progressive criteria might be able to better capture. When researching my response to the consultation with this perspective I came across this WSJ article (<http://online.wsj.com/articles/SB10001424052702304655104579163663464339836>) by Al Gore

and David Blood (maybe they need a co-author called Guts next!) where they advise selling out of investments to come lower on the list as a progressive strategy than requesting proper risk-assessment and exercising shareholder authority to direct corporate actions. Indeed, there are some success stories of shareholder engagement - ConocoPhillips has no option but to take note when 29% of its shareholders request it sets an internal emissions reduction target.

On the issue of research funding (and teaching), I feel under-experienced to comment in much detail. From a purely personal perspective, I would be uncomfortable undertaking research (funded or otherwise) that specifically enables increased fossil fuel use - but strongly recognise that defining a huge amount headline hydrocarbon research as such is erroneous... enhanced oil recovery is financing a hugely valuable accelerated development of CCS technology and infrastructure, shale gas (at least regionally) is displacing coal etc.

This is a passionate debate, as the "yes" campaign for an independent Scotland was. Passion may have the edge over reason (which doesn't mean that there are no legitimate reasons for wanting an independent Scotland or a low-carbon economy but the driver is passion - "hydrocarbon is evil").

Modern society is built on hydrocarbon. It is not just petrol but also plastic and all the energy sector. The distribution network (food, goods, medicines) is powered by hydrocarbon - if petrol supply completely stopped for two weeks, I am pretty sure hundreds of millions of people would die of illness or hunger or violent death (people would kill each other to survive, in particular in big cities). This has been mentioned in many books about "the end of civilization" and in articles in New Scientist where they also discussed the limited stocks available in supermarkets and hospitals (a few days to a week worth of supply available, typically).

Electric transport is not a miracle solution: electricity is produced from coal-powered plants in many place (though electric motors are more efficient than combustion ones). Batteries are not harmless: they contain a lot of toxic compounds that need to be extracted from the ground and then recycled at the end of the life of the vehicle (1.2 millions vehicles were scrapped in the UK last year - I remember seeing this figure on a BBC news video - this can cause huge pollution problems if all vehicles are electric!)

I think this represents a unique opportunity to convey to the public what the benefits to society provided by the "hydrocarbon sector" are --> I am in favour of a reasoned response with key facts describing these benefits and why divesting may not be such a good idea. A recent article in the Economist explained that fracking in the US is the cause of the recent drop in petrol price, with the US now rivalling with Saudi Arabia in terms of production. The massive drop in oil price should benefit the economy. They made a back of the envelope calculation: car users in the USA who spend

on average \$3000 a year on fuel may save \$800 a year, which would be immediately reinvested into the economy (people will buy goods with the money they save). We are talking about more than a billion dollars per year for the USA, which will boost growth and GDP.

In summary: I say yes to a low-carbon economy but it won't happen overnight (the alternatives are not there yet) and divesting may not benefit anyone.

First priority (if at all feasible):

1. Divest from oil and coal companies that actively support the climate change and science denial machine - finding which ones they are would be tricky but it's possible - these might by now be very few companies and we really would not want to financially support anti-science campaigns
 2. actively support companies that research in / build renewables and CCS
 3. Consider divesting from coal - coal is the most problematic energy source
-

Clearly this is a divisive issue. And I expect its prone to over-simplification. I also expect that some researchers in GeoSciences have a better informed view of this than many others in UoE.

My approach is that the two items should be de-coupled. That is:

- 1) investment in equities of carbon producing companies is one thing; and
- 2) Undertaking research is another.

To tackle these in reverse order:

The generic question of research is, to me, are there topics which are outlawed ?

Clearly the University, and the UK, thinks there are - usually dealing with social sciences, medicine, and with more difficulty - approaches to interpretation of politics or history are some recent examples. But the over-riding principle being that if the work is based on academic argument (judged by peers as "reasonable" - whatever that means), the the University accommodates "academic freedom" to investigate contentious and unpopular issues.

Basically, I agree with that.

So, in this case that could mean that researchers could work on hydrocarbon origins, finding, and extraction quite directly - and even receive direct funding from extraction companies. If this is now to be seen by peers as "an ethical issue" then that change of stance needs to be rationally debated and explained - as its clear that no individuals are directly harmed by those actions - unlike "ethics" in many other projects. Its also clear that ALL citizens in developed industrial economics depend utterly on fossil hydrocarbons, so there is no simple and easy instant transition to a no-carbon all-energy society.

Additionally its very true, but too subtle for many activists, that hydrocarbon activity has produced lots of data and information. That is of use for other purposes. For example understanding geothermal extraction, or understanding carbon disposal. And, even, getting carbon out of the ground with less impact. So blocking research on one topic, inherently closes down a swathe of additional topics.

The ethics argument on carbon extraction research is fashionable just now. But I think there are equally plausible "ethical" stances on research relating to nuclear weapons, defence missile and drone applications, remote sensing and so on and so on.... And also I also state that what is called "ethics" by many people is just their opinion of what is unacceptable to them, rather than fundamentally and inherently un-ethical. Which is a deep philosophical argument, probably ending in a view that nothing should be extracted from nature at all.

Lastly, I do think that it is justified to ask researchers to declare personal interests if they are doing research. For example if a person is a shareholder in Exxon, and undertaking work sponsored by Exxon - that should be declared. Likewise if researchers are involved e.g. as a employee or director of a carbon company (even if not directly benefitting), that should be declared. There are examples of senior staff at Glasgow, who are in this position, and have not declared, whilst advising and advocating carbon extraction development. I think that is incorrect, and wrong.

The second question, should Edinburgh dis-invest?

I see this entirely differently. To me this is an excercise of consumer power. Its analogous to choosing to buy Fair Trade, or Organic, because that's what you think is the right action to take, and sends a powerful message to companies. In reality the effect is tiny, because the University shouldn't be holding more that a few percent of direct oil company equities anyway. Although they may hold Shell and BP majors because of the reliable dividend....

The symbolic effect is, for me, worth disinvestment. Though again that can be too crudely chosen. I do not know of any coal company taking action to mitigate the global impact of consumers burning its products. So the University is indeed conspiring to support an organisation doing environmental bad. In just the same way as you (hopefully) would choose not to purchase hardwood furniture from an organisation known to be harvesting virgin rainforest. Those can be dumped. That still needs careful research as, for example, BHP states that it wishes to develop CCS. This is a really good example of responding to disinvestment in Australia and globally - BHP are trying to protect the value of their assets in the ground.

Then there are (say) oil companies who are not clearly doing anything to mitigate their harm e.g. Cairn, or BG. Those too can be dumped.

Then, I argue, are a third category of carbon companies who are doing a little to mitigate the harm, such as Shell, BP (a bit), Statoil. Even though 90 or 98% of their business may be carbon extraction, they are doing something to try and progress Governments into acting. Should we dump these equities because they have not been successful? No, I think we should support these companies making a public effort. I do not think disinvestment sends that message.

Two more points. The real culprits in all this are USA and UK governments, who talk the climate and mitigation talk, but don't walk the walk. We should clearly dis-invest from these Bonds in protest.

Second, academics are also culprits in generating some of the largest professional carbon travel footprints, for conferences and ego travel. That's all part of the job. But if the University chose to invest in genuine carbon offsets - or direct the financial equivalent into supporting carbon-reducing research internally or as spinout or external startups, that would be a positive, tangible, and smarter, statement.

So in summary

- 1) Do not block research, unless it is genuinely "unethical" in a true philosophical sense, rather than unfashionable.
 - 2) Disclose personal stakeholder interests (as should already occur)
 - 3) Research the detailed position of carbon extracting companies - and that "is likely to" disinvest from some coal.
 - 4) Research the detailed position of carbon extracting companies - and that "may" disinvest from some oil and gas.
 - 5) Dump UK Government bonds, due to explicit lack of leadership.
 - 6) University should pay its carbon debt, by money, or by investing in carbon-reduction research.
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I do think about this quite often. There is one extreme where we see scientists such as Michael Mann (hockey stick curve guy) being taken to court by groups funded by oil-related business. These are not scientific attempts to question the data, but vindictive attacks from self-interested groups. We must condemn this anti-science stand. I think there is also good reason to be concerned about drilling in the Arctic.

I am also against academics acting as consultants to the oil industry on behalf of the University purely for financial gain.

But - I do think research funding from the oil industry for the advancement of science and the development of technology to reduce carbon emissions should be a key part of a societally relevant academic institute. However, it's clear that in advancing our science, in many instances we will also be helping industry retrieve more hydrocarbons, otherwise they wouldn't fund us. I think this is where we have to make a judgement about the extent to which a piece of research is primarily aimed at immediate gains for the company (ie. consultancy) versus long-term benefits to the science as a whole.

I would like to hear a strong statement from the University to this effect. I would like to feel assured that we all aimed for socially conscious investment from industry rather than simply research income regardless of its generic scientific value. I'd also like to hear us make a stand on the Arctic. Its a tricky line to tread, but that's what lawyers are paid for!

The issue of divestment has now inevitably bubbled to the surface in the School of GeoSciences. Given that the issue of our engagement with fossil fuel companies was a [big talking point](#) in the School almost a year and a half ago, I'm surprised that it has taken so long for things to get going again. As a School, we have a rather special place in the discussion, given our oxymoronic position of simultaneously aiming to both minimise and optimise the the amount of CO2 ejected into the atmosphere.

Basic Principles

On the topic at hand — divestment — let me set out my own principles of how I approach this. Firstly, it is an ethical-moral issue, and as such, the decision of what is the right thing to do is made irrespective of the economic or HR impacts. Ethical decisions are not something where you weigh up the pros and cons, or work out “how much will it cost”. There is a word to describe people or institutions who balance ethics with economics, and it is not a nice word.

Once the ethical-moral path is decided — the “doing the right thing” — then the implementation and management decisions kick-in, and *that* is when you make the decisions about resourcing, balancing the books, HR implications (which may also have ethical implications) — the “doing things right”.

Secondly, I will always support the right of individual academics to conduct the research in the topics that they believe is appropriate. That is one of the basic tenets of academic freedom. While they are free to pursue the research, they need not necessarily be supported (either in terms of human resources or financial resources, including facilities) by the School or the University (and certainly their *methods* should always be scrutinised, hence the Ethics Committee). Collectively, the institution has the right to choose where to focus limited resources and appoint new staff.

My third principle is that rarely are things black-and-white. It means I generally don't trust indiscriminate decisions, or people who think the world is made up of good guys and bad guys. And that also means I am comfortable to differentiate divestment in companies from taking contract work from the same companies. For instance, I may be comfortable taking contract work for carbon capture and storage, but not for improving extraction methods. It's complicated.

What Is Divestment?

When you invest in a company, you give them money, and you aim to profit from their endeavours. For the large public companies (PLCs) the movement of the share price is about the only thing many CEOs worry about. Confidence in the company as a business and as an investment potential is driven by the share price. When you invest in a PLC you are not only effectively giving them spare cash to work with, but you have no control over how that capital is spent, and as a consequence you will

profit indiscriminately from all their activities, however unsustainable or unethical you might consider them to be.

Many universities and individuals, through their investment funds or their bank accounts, are investing in companies that they might consider, on reflection, to be misaligned with their own values. Despite their bad coverage lately, The Co-operative Bank is still the only viable option for ethical banking, which I discovered when looking for an ethical bank when starting [Carbomap](#). Interestingly, the Co-op have a very detailed [ethical investment policy](#), and when I applied for the company bank account they even insisted that I give additional details of what the company actually did in the “Forestry” sector.

The idea behind “divestment” is taking the steps towards an ethical investment portfolio by selling off some existing investments and replacing them with others so that your investments are in line with your values. Had the University already been implementing an ethical investment policy in a similar way to the Co-op Bank we would not need to be having a discussion about divestment in the first place. (Don’t you think it is quite remarkable that the University doesn’t already have an ethical investment policy? I do.)

One question than arises would be whether divestment is better/worse/same as taking contract funding from the same organisations. I would argue that it is different. Investment is indiscriminate in the application of the funds, and is directly profitable to the investor. Contract funding is for specific activities and, unless it is consultancy through ERI, is not directly profitable. If it is full economic cost funded project, then technically there is no profit. As a charity, the University does not add a profit margin to the services that are funded externally. I recognise that this might sound a little like I’m exploiting the small print, but what I am trying to argue is that we could, if we wanted, make a judgement on a case-by-case basis, rather than trying to implement a blanket ban.

Moving Forward

If we believe our own rhetoric about being “world-leading” then let us *lead*. Let us aim to be *exemplar* instead of merely *compliant*. We do not have to wait to see what the University decides to make some changes in how we do things in the School.

We could, for instance, formulate a School-wide policy on what we consider to be sustainable activities within the School. The Co-operative Bank’s Ethical Policy forms a clear model upon which we could build. We would not stop people conducting research in particular areas, but the School would not support activities that were contrary to our shared values within the context of research.

The idea that a School-wide policy might restrict the kinds of research we do is not new. In principle, we do this already through the Ethics Committee, although our School policy (as I understand it) is merely an act of compliance, not a demonstration of leadership. But surely it would be possible to lead by example here and extend our concept of “ethical research” to more broadly include social and environmental responsibility? Let’s face it, given NERC’s recent track record (e.g. their MOU with Shell) it is unlikely that NERC will be leading on this kind of activity any time soon.

Filling the Value-Vacuum

The main challenge is actually implementing such a procedure in what is largely perceived to be a value-free research culture. The word “values” does have a tendency to make people think I’m talking about sitting around the campfire holding hands and singing kumbaya, but it is not that — it’s about being clear about those lines we aren’t willing to cross. We probably agree on most of those,

but few of them are written down. Our ethics policy is probably the nearest thing we have to any expression of our values.

Perhaps a different way forward is for the School of GeoSciences to create a Climate Change Forum (for want of a better word). We have an amazing range of expertise and talents on sustainability, carbon management, development, social justice, climate change, as well as on natural resource exploration, fossil fuel extraction and carbon capture and storage. Surely together we could map out a feasible path towards a fossil-free world, and then use that path as our main guide to evaluate the research we support — research that deviates from, or contradicts, a move towards a fossil free world would not be supported. It might take 20... 50... 100 years to achieve a fossil fuel free world, but hey, the University will still be here on those time scales. And we are supposed to be experts on this kind of stuff. Surely together we could determine the boundaries of what needs to happen by when. And then put some constraints on what is or isn't feasible or desirable. Even if it is simply comprehensively reviewing what has already been done, it is surely something that GeoSciences is extremely well qualified to attempt. I'm sure that even if we fail, we will have made huge inroads on addressing the issue.

The alternative is that we will eventually be led by others, and once again we merely tick the "compliant" box instead of the "exemplar" box. Which path would you rather see?

INPUT THAT IS CLEARLY PRO-DIVESTMENT

*[NOTE FROM THE EDITOR: THIS EMAIL IS REFERRED TO BY OTHERS BELOW. I HAVE MARKED THIS EMAIL "***" AND CHANGED THE REFERENCES IN CONTRIBUTIONS BELOW TO REFER TO "EMAIL ***"]*

Following today's discussion, and Andy's email, on the University's potential divestment from fossil fuels, as requested by a few people I am providing some links to further information.

Some links:

The divestment campaign website: <http://gofossilfree.org/>

The campaign's science base is in the idea of 'carbon budgets' (the upshot being that we can burn 565 GT of carbon to stand a good chance of limiting warming to 2°C - which is about 12 years' worth on current trends). The seminal Nature paper is:

<http://www.nature.com/nature/journal/v458/n7242/full/nature08017.html>.

The idea was popularized by Bill McKibben in Rolling Stone (15.7k tweets and counting):

<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719?page=4>

This week the New Scientist had a debate between a vocal anti-divestment scientist at Glasgow, Paul Younger, and a lead divestment campaigner:

<http://www.newscientist.com/article/mg22429952.800-should-we-all-get-out-of-fossil-fuels-now.html>

(Prof Younger is also Director of Five Quarter Energy, who are aiming to conduct coalbed gasification in the Firth of Forth next year)

Tim Haywood (UofE Politics) has a piece here:

http://www.academia.edu/7488863/Fossil_Fuel_Divestment_not_whether_but_when

My own pro-divestment piece:

http://www.theecologist.org/blogs_and_comments/commentators/2602296/to_hit_fossil_fuel_firms_where_it_hurts_support_divestment.html

Market analysis of stranded hydrocarbon assets and the carbon bubble:

[http://www.carbontracker.org/library/#carbon-bubble;](http://www.carbontracker.org/library/#carbon-bubble)
<http://www.carbontracker.org/library/#stranded-assets>

An NGO analysis of links between fossil fuels and universities: <http://platformlondon.org/publications/unis/>

There are many other sources.

For what its worth, I think its clear that any decision by Edinburgh would have far-reaching potential implications for the University's relationship to fossil fuel companies. If divestment is chosen, it would underscore our commitment to the transition to a post-carbon world, and a more sustainable and equitable energy sector. It would support the divestment campaign's aim to reduce the political power of large fossil fuel companies, which have disproportionate influence, a history of attacking climate science, and many of which have records of environmental disaster and human rights violation (references available). Additionally, divestment would have potential impacts on research and teaching norms, funding and collaborations. Thus there would be a need to (as they say) mitigate any potential negative impacts on particular constituencies in the School of Geosciences, should the University choose to divest. It should be noted that these potential negative impacts are speculative and not the question at hand. The question at hand is how the University uses its investment portfolio. Moreover, given that climate change is a moral and political problem, our actions should not be guided by expediency or institutional self-interest. Finally, the urgency of climate change (confirmed by even a casual glance at the IPCC report) means we do not have three or more decades to act.

My view is that the University should indeed divest from fossil fuels. Yes, there may be some financial impacts in terms of ROI and fossil fuel industry funding, but these should not take precedence over other arguments. If we acknowledge that the work of our climate change colleagues at Edinburgh and around the world is robust (I do), then we cannot escape the fact that continued fossil fuel extraction and use at the current rate will make avoiding a 2 degrees C post-industrial average temperature increase impossible. Yes, we should support decarbonisation of the fossil-fuel energy sector, including improvements in efficiency, development of CCS etc. But unless we can be sure that our investment is supporting such decarbonisation activity (i.e. hypothecated), and not actually supporting even more fossil fuel extraction and use, then our current position as a School and University working for the global good is untenable.

I am one of the academic colleagues that signed-up to the letter that students from EUSA circulated around to us, urging that the University seriously consider divesting from fossil fuel companies. As such, I continue to support this position taken and advocated by our student body.

My sense is that divesting from fossil fuel companies upholds both principles 2 and 5; principle 2 in particular is relevant as it explicitly seems to be committed to “ethical and social impact and environmental sustainability” and trying to ensure that the University should “exploit opportunities to act as an agent for change”. Divesting from fossil fuel companies then is a real opportunity for the University to be the agent for change that speaks to its principles around ethical and social responsibility, and environmental sustainability.

Since climate change is real, environmental challenges are real, to shy away from our commitments to global society by not adopting a stance similar to that of the University of Glasgow may be real missed opportunity at this crucial juncture where there is a divestment campaign nationally and globally. By being the agent for change, the University would be sending a clear and strong signal to fossil fuel companies [indeed the consideration that this may be the case] that they need to be investing in alternative energy sources in a serious way. These conversations similarly should be sending strong signals to our colleagues within SGS that they too should be shifting their research agendas, and by doing so collaborating with fossil fuel companies to explore alternative energy sources; rather than business as usual.

In addition to all the issues around environmental challenges that lay ahead of us, continuing with the status-quo is also to neglect the ways in which many energy giants are implicated – either directly or indirectly – with violence [from the everyday to the extraordinary political violence] that blights the world today. The political instability in ME regions and the violence around the region are also about the politics associated with oil production and distribution (just to speak of one industry); it is also linked to how wealth creation by energy giants has never been associated with wealth distribution and redressing material inequality.

For these and other reasons (too numerous to mention; and already shared [*in the email marked “**” above, Ed.*] to all of us), I will take the position that the University ought to be divesting from investing in fossil fuels. I also don’t think – contrary to views expressed some colleagues – that taking this view is hypocritical. While I am acutely aware of the ways in which I consume gas and energy in different ways in my everyday life [although don’t own a car, cycle, walk and tend to take public transport!], like those from previous generations* I do think we can advocate and find ways of creating an alternative, equitable and more environmentally-friendly world. Otherwise, we do put at peril future generations; and that would be ethically and socially irresponsible.

[*Whether, it be slave owners who advocated for civil liberties of African-Americans, or those involved in the slave trade who advocated for its abolishment, or suffragettes [men included] advocated for equality between men and women, or those in colonial Britain who advocated for freeing the colonies, all these pioneering voices were crucial for ensuring that we have the world we do today. They took the position they did, despite in many instances profiting directly from the social system in existence; I doubt any of us would call these pioneers hypocrites today.]

Thanks for seeking our input and coming along to the RIGLE meeting to discuss this important issue. I'm sympathetic to the situation of staff or researchers who may be affected by divestment, but I still believe we need to consider the bigger (ethical) picture and the potential positive effect of institutions divesting in fossil fuels. I have to say that when the Rockefeller Brothers Fund announced their plans to divest, I recognised this was becoming a much broader movement.

Although I've followed the debate to some extent as a matter of professional and personal interest, people more well-read on the topic than myself have presented balanced arguments about why divestment makes sense. *[The email marked "***" above, Ed.]* sets out much of this material, and I would also underline the usefulness of the piece by Tim Hayward at Edinburgh which reasons through the debate:

http://www.academia.edu/7488863/Fossil_Fuel_Divestment_not_whether_but_when

Again, I really appreciate your gathering input on this.

I strongly support divestment from fossil fuels. As the IEA announced recently the support for fossil fuels is a major threat to an increase of renewable energies which is strongly required to limit global warming to under 2°C. The only kind of accepted investments from fossil fuel companies needs to be those that target their transition to a low carbon future, and that needs to be very clear and transparent showing their intention is true and not only in pretence to gain better reputation. Otherwise, fossil fuel investments would strengthen the power of profit-oriented companies that undermine a sustainable future and thus would oppose the University's Principles.

We should urgently put together a strategy that anticipates divestment of research funding from private companies involved the Fossil Fuel sector.

In divesting from the fossil fuel sector, we should seize the opportunity to direct our efforts towards renewables and alternate research fields. We must acknowledge that future funding streams will never be as great as they have been from the Fossil Fuel sector.

There are many alternative research challenges we can turn our hand to as a School - in renewables integration, in strategic environmental analysis as an alternative to conventional EIA, in REDD projects and the problem of leakage and community engagement, in smart grid/digital urban, and geothermic renewables. This can be an endeavour shared across all staff within the School.

Why the urgency?

Because the School is hugely dependent on funding from the Fossil Fuels sector and it will take time to lean itself from that dependency.

Urgent because unless we can show we have a clear strategy, the rest of the University will gradually make those decisions for us. I worry that we risk becoming something of a pariah within the College and the wider University if do not seize the initiative.

I do not have another view to add to those already expressed so well [*in the email marked "*** above, Ed.*] on this occasion and many others. Your summarisation of the fallout for the School is a sober warning of the potential local and shorter term consequences of divestment. One which means there are sure to be opposing voices brought into this conversation over the right thing to do. At the same time I am fairly confident that this school, given its knowledge of climate change and commitment to minimising it, has many of the most ardent supporters of fossil fuel divestment on campus. I count myself among them.

Firstly, it would be interesting to know the extent of the issue. I have absolutely no idea how much money the University invests and with whom. Is this information publically available? I hadn't given the issue much thought before the idea of fossil fuel divestment was suggested, but it seems like an important issue that University staff and students should be aware of. I like to think the University is a reasonably transparent and democratic institution, and I would consequently like to think that its staff and students have some say in where its money is invested.

If I had money to invest, I would think carefully about where to invest it. I absolutely take the view that carefully directed investments should be used as an instrument of change. I am fairly sure I wouldn't choose to invest in companies focussed on fossil fuels (or tobacco, or arm manufacturers, etc.). I like to think I would invest it in areas that are more progressive and sustainable. Whilst I appreciate that some fossil fuel dominated companies are diversifying into more sustainable energy sources, I would be very wary of this as a 'greenwash' (i.e. fairly shallow window-dressing to improve their public image). The point about 'what is the FF sector' is important, but hardly intractable – it just needs a clear definition. Whilst FF use is pervasive across society, I think it is fairly clear some companies are more FF-related than others. On this basis I would encourage the University to divest from fossil fuel dominated companies.

I don't really buy the argument that 'why should they invest in us, if we don't invest in them?' This is surely mixing up two entirely separate issues, and conflating them appears little short of blackmail. Does the University only invest in companies that return the favour? This sounds quite like bribery and corruption to me. Surely companies invest in 'us' if we can provide them with a useful service, one better than they could obtain elsewhere. I hadn't realised that 10-15% of the School's income was mainly due to the investment profile of the University; I had ridiculously thought it was because we were doing competitive science. If we can provide the best expertise in fossil fuel exploration, or carbon capture and storage, then surely companies would be foolish not to do business with us? Why would they only do business with us if we also invest in them? This sounds like scaremongering to me.

I also don't buy the argument that just because we all use fossil fuels we must also therefore be keen to invest in them, to maintain the status quo. I'd like the opposite: to see things change. We only use fossil fuels so much because there are few alternatives available. This is partly because FFs are an incredibly intense source of energy, that is easily extracted and used, and they are comparatively cheap. However, they are only cheap because their environmental impacts are insufficiently taxed (we're not good at considering impacts 50+ years down the line). Society is apparently resistant to carbon taxes (obviously they need an alternative name that doesn't involve the word tax), but it really shouldn't be. I would like high carbon taxes and FF alternatives to be more widespread. Divestment in FF seems like a small step in the right direction.

My final comment is about unbiased representation in this debate. It seems like having Andrew (I thought sponsored by Total, the oil company) as GeoScience's sole representative on this topic is inappropriate. Clearly, he has quite some vested interests in this topic (and those should be represented). However, whilst he has made some efforts to be unbiased in the email he sent around to solicit our responses, I think it is fair to say that email is not exactly neutral. It also seems likely that some staff would be sufficiently intimidated in having to submit their responses via him that they would not bother. Aren't there such things as truly anonymous surveys readily available, to avoid such situations?

EDITOR'S NOTE – Responding to the above comment made about the Editor personally (“Andrew” above), some factual corrections and clarifications follow:

- a) The TOTAL Chair sponsorship no longer exists – the Editor’s Chair is not sponsored.*
- b) The above contributor does not know the Editor’s view on the topic. As shown herein, the range of views and reasoning across the School is diverse: assumptions about individuals’ views may well be incorrect.*
- c) The Editor is not GeoScience’s sole representative on the Fossil Fuel Review Group (FFRG): Andy Kerr, Director of the Edinburgh Centre for Carbon Innovation (ECCI), is a member of the group.*
- d) We are all biased by our past choices and experience; those biases would be just as strong in anyone else in the School, but different. When we assume any role in the University our job is to be evidence based. Evidence helps us to be as objective, or at least as fair and representative as possible. That is the Editor’s role in this panel, and he is as capable of performing it as anyone else in the School.*
- e) This School-wide request for input was not solicited by the FFRG: it was instigated solely by the Editor. He wished to solicit considered views so as to better understand the issue from all points of view across this peculiarly well-informed School, so that his input to the FFRG can be as considered and fair as possible. He requested of the FFRG to be allowed to submit this document as input to the process in anonymised but otherwise unedited form; thus everyone has a chance to submit their own considered views and evidence, rather than simply signing or not signing a petition or a form letter from EUSA, or being represented by two members of the FFRG. This process may not be perfect, but it represents the most direct channel of communication between the staff of any School and the FFRG.*
- f) Finally, for the avoidance of doubt, the Editor strongly encourages any contribution on the topic on either side of the debate:*

⇒ Fear not: Contribute! Change the world! Or at least some other people’s views.
