Geological Society of America

This document provides an extension to information gathered for the report, *Irresponsible Science?: How the fossil fuel and arms industries finance professional engineering and science organizations*, published by Scientists for Global Responsibility (SGR) in October 2019.[1] Information sourced from the Geological Society of America (GSA)'s publicly available documents is provided first, followed by commentary by SGR.

Aims and policies

'The Geological Society of America —or simply the GSA – is a large professional organization with about 20,000 members in 100 countries.[2] Its formation dates to 1888 as an offspring of the American Association for the Advancement of Science (AAAS).[3]

Statement of purpose and values

The GSA summarises its main goals on its website as follows:[4]

Our Vision
To be the premier geological society supporting the global community in scientific discovery, communication, and application of geoscience knowledge.

Our Mission
To advance geoscience research and discovery, service to society, stewardship of Earth, and the geosciences profession.

Investment policy

The GSA does not appear to hold an ethical investment policy.

Investments

According to its Form 990 tax return information obtained via ProPublica, in December 2019 the GSA held $31.3m in publicly traded securities and other securities.[5] Of these other securities, $1.7m is held in real estate, $3m in private equity portfolio and $2.8m in pooled private funds.[6] We were unable to obtain further details about these investments.

Transparency

The GSA does not disclose the specific funds, corporations etc in which its $31.3m of investments are held, giving it zero transparency in this area.

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1 https://www.sgr.org.uk/publications/irresponsible-science
2 https://www.geosociety.org/GSA/About/Who_We_Are/GSA/About/Who_We_Are.aspx
3 https://www.earthmagazine.org/article/december-27-1888-geological-society-america-founded/
4 https://www.geosociety.org/GSA/About/Who_We_Are/Mission_Vision/GSA/About/Who_We_Are.aspx
5 https://projects.propublica.org/nonprofits/organizations/131659623/202120579349301617/full
6 https://projects.propublica.org/nonprofits/organizations/131659623/202120579349301617/IRS990ScheduleD

Corporate Patrons

The GSA has listed the following fossil fuel companies as sponsors for FY2020: ExxonMobil ('Double Diamond' sponsor); Chesapeake Energy ('Platinum' sponsor); Anadarko Petroleum [now Occidental Petroleum] and Chevron ('Gold' sponsors).[7] 'Double Diamond' sponsors donate $40,000+; 'Platinum' sponsors donate $10,000-$20,000; and 'Gold' sponsors donate $5,000-$10,000.

Education programmes and grants

The GSA has an ongoing grant that is sponsored by the fossil fuel corporation, ExxonMobil. As part of the ExxonMobil/GSA Student Geoscience Grants, ExxonMobil selects up to ten proposals out of 30 recommended by the GSA Research Grant Committee.[8]

Events sponsorship

The GSA's 2021 "Connects" event is sponsored by two fossil fuel corporations: Chevron and ExxonMobil.[9] Both are listed as "Gold" sponsors, donating between $5000 and $10,000 to the event.

Environmental policy

The GSA has released a position statement on climate change that supports the need for effective reduction strategies for greenhouse gas emissions, for planning to meet future problems of climate change, and for further research on climate change effects.[10] The GSA does not appear to have set itself any targets to reduce its emissions as an organization.

Other relevant information

Supported by a grant from the National Science Foundation (NSF), the GSA put together a report of information gathered from the geoscience community to identify ways in which geoscientists are able to translate their research into climate change solutions.[11]

SGR comments

SGR acknowledges that the GSA has made significant efforts to highlight the need for urgent action to tackle climate change, particularly in its position statement. Alongside the organization's stated position, it has also sent letters to policymakers about climate change research needs, among other topics.[12]

SGR has serious concerns, however, on the following aspects.

Transparency

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[7] https://www.geosociety.org/documents/gsa/about/fiscal/fy20/annual-report-fy20.pdf
[8] https://www.geosociety.org/documents/gsa/grants/SpecialAwards.pdf
[9] https://community.geosociety.org/gsa2021/showcase/sponsors
[10] https://www.geosociety.org/GSA/Science_Policy/Position_Statements/Current_Statements/gsa/positions/position10.aspx
[11] https://www.geosociety.org/documents/gsa/policy/gsa-climate-solutions-report-202106.pdf
[12] https://www.geosociety.org/documents/gsa/about/fiscal/fy20/annual-report-fy20.pdf, p. 24.

The GSA has very low transparency on its company investments. While there are some details about how its investment portfolio is composed, there is no public information available on which specific funds the $31.9m highlighted in the company's 990 form for 2019 is held. It is, therefore, impossible to ascertain the extent to which the GSA is conducting its investments in a manner that complies with the spirit of its climate change position statement, emphasising the need for a move away from the fossil fuel "business model" of the US:

> "The use of abundant and cheap fossil fuels has contributed to the emergence of the United States as an economic power and has raised the standard of living for much of the developed world. This use, however, represents an energy business model that must change."[13]

Without this information, we cannot confirm that the GSA as an organization meets its own ethical standards for its members, who are expected to aspire to do the following:

> 'We will seek to demonstrate the relevance and importance of the geosciences to the general public and to future generations. We will strive to communicate our knowledge about Earth to protect the environment and provide appropriate stewardship of natural resources.'[14]

Beyond publicly available information, SGR has repeatedly reached out to executive director of the GSA, Vicki McConnell, along with the organization's board of directors, but has received no response regarding the organization's financial transparency.

The GSA occupies a prestigious position within the geosciences as a professional membership organization and journal publisher. The organization's lack of financial transparency in combination with its public financial ties to fossil fuel corporations is concerning given its role as a thought-leader.

Financial links to fossil fuel corporations

The GSA has known recent financial links with the following companies in the fossil fuel sector:

Sponsorship (education, corporate)

- Chevron
- ExxonMobil
- Chesapeake
- Anadarko Petroleum

Transition Pathway Initiative

According to the Transition Pathway Initiative (TPI), Chevron, ExxonMobil, and Anadarko Petroleum [now Occidental Petroleum] do not align with a pathway that would limit global warming to 2°C or below. Chesapeake Energy has not been analysed by the TPI but based on the initiative's analysis of

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13 https://www.geosociety.org/GSA/Science_Policy/Position_Statements/Current_Statements/gsa/positions/position25.aspx

14 https://www.geosociety.org/gsa/membership/code-of-ethics/gsa/membership/code-of-ethics.aspx

the oil and gas sector, it is very unlikely that Chesapeake, as a company with an energy portfolio comprised of onshore oil and natural gas, is aligned with the pathway.[15] (Please see the SGR document *Data on fossil fuel companies* for further details.)[16]

What's more, none of the companies listed above have committed to meeting the rigorous criteria set by the Science Based Targets initiative for emissions reductions, which numerous other leading corporations have signed up to. Until fossil fuel companies meet the criteria of the Science Based Targets initiative and have set targets to limit their emissions by 2050 in line with a 1.5 or 2℃ limit to warming, we are urging thought leaders such as the GSA to divest from these companies and so keep up the pressure on them.

In addition, there are concerns about these companies' wider environmental and corporate performance, including claims of severe environmental damage:

Chevron is known for its role in the controversial Athabasca Oil Sands Project as a 20% joint venture participant. Chevron was also judged in 2018 by Ecuador's Supreme Court to have deliberately discharged 72bn litres of toxic water into the environment, affecting 30,000 residents of the Amazon.[17]

ExxonMobil has been widely criticised for its efforts over many decades to cast doubt on the scientific evidence on the climate change threat, as well as undermining policies to tackle the problem.[18]

ExxonMobil is also an investor in the Athabasca oil sands, with a 30% stake in the Kearl Oil Sands Project alongside Imperial Oil which has a 70% stake. ExxonMobil also has a 69.9% ownership stake in Imperial Oil making it a majority shareholder of the Kearl site.[19]

Chevron, ExxonMobil, Chesapeake and Anadarko Petroleum appear to be unsuitable sponsors for the GSA, which states in its "GSA Actions to Support Diversity, Equity, and Inclusion" report that it plans on beginning an ongoing conversation with environmental justice and geosciences experts.[20]

SGR has concerns about investments in and financial ties to fossil fuel companies by professional science and engineering organizations for these reasons:

- Professional science and engineering organizations have considerable influence with politicians and the public and it's crucial that they put in place robust science-based targets and plans that are compatible with the goals of the Paris Agreement - and end lobbying behaviour that could undermine it;

- As the UK Health Alliance on Climate Change puts it, "engaging with companies whose business model relies on fuel extraction is of limited use—only divestment will stop extraction".[21] Worldwide, according to the Alliance, over 1,000 organizations with £7 trillion assets have committed to divesting from fossil fuels and instead investing in climate

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[15] https://www.transitionpathwayinitiative.org/sectors/oil-gas
[16] https://www.sgr.org.uk/sites/default/files/2021-06/Data_on_fossil_fuel_companies.pdf
[17] https://www.business-humanrights.org/en/latest-news/top-ecuador-court-upholds-9-billion-ruling-against-chevron/
[18] https://www.sgr.org.uk/sites/default/files/2019-04/SGR_corp_science_full.pdf, https://exxonknew.org/, https://iopscience.iop.org/article/10.1088/1748-9326/aa815f, https://www.theguardian.com/environment/2006/sep/20/oilandpetrol.business,
[19] https://corporate.exxonmobil.com/Locations/Canada
[20] https://www.geosociety.org/documents/gsa/diversity/dei-action-202006.pdf?v=20200626
[21] http://ukhealthalliance.org/divestment

solutions.[22] Research indicates that divestment reduces the price of fossil fuel shares. According to a team at the University of Waterloo in Canada, "lower share prices increase the costs of capital for the fossil fuel industry, which in turn decreases their ability to explore new resources and exploit proven resources".[23] The greater the likelihood of these fossil fuel resources staying in the ground, the more likely we are to meet the international climate change targets agreed under the Paris Agreement in order to prevent potentially catastrophic climate change;

- In order to keep to the below 2℃ target, only one-fifth of known fossil fuel reserves can be burned, putting these assets at risk of becoming stranded. The fraction is even smaller when considering how to meet the 1.5℃ target. According to the UK Health Alliance on Climate Change, fossil fuels are an increasingly risky investment and fossil fuel free indexes equalled or outperformed unsustainable alternatives for 5-10 years. "Divestment announcements by prominent investors signal financial risks to the market, which in turn depress share prices," say the University of Waterloo researchers. "Therefore, divestment announcements can have a measurable impact on the fossil fuel industry." Shell said in 2018 that divestment had become a material risk to its business.[24] In 2020 fund manager CCLA, which invests on behalf of charities including Church of England dioceses, dropped its investments in oil giants Shell and Total for financial reasons.[25] On January 27th 2021, ratings agency S&P warned 13 oil and gas companies, including Royal Dutch Shell and Total, that it is considering downgrading their credit ratings. The agency has increased its risk rating for the oil and gas sector as a whole from "intermediate" to "moderately high" because of the move away from fossil fuels, poor profitability and volatile prices, according to news reports.[26] There are also signs that oil companies may struggle to recruit employees with the skills they need.[27]

- Many fossil fuel companies are relying on carbon capture technology and nature-based solutions being deployed at a huge scale to offset their planned emissions.[28] Heavy reliance on the global scale deployment of carbon capture and storage technologies is misplaced given the lack of progress in this area for the last 20 years. According to an international group of 41 scientists and academics, such technologies are "expensive, energy intensive, risky, and their deployment at scale is unproven.[29] It is irresponsible to base net zero targets on the assumption that uncertain future technologies will compensate for present day emissions"

For those keen to retain support for the energy sector, there are plenty of companies that are much more progressive than fossil fuel companies in which to invest. For example, Orsted (formerly DONG, Danish Oil and Natural Gas) has shifted from being a fossil fuel dominated company to one heavily focused on renewable energy. Similarly, some large German engineering companies, such as Siemens [30] and E.ON, have also made major shifts away from fossil-fuel related work.

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[22] https://www.divestinvest.org/11-trillion-counting-divestinvest/
[23] https://theconversation.com/how-divesting-of-fossil-fuels-could-help-save-the-planet-88147
[24] https://www.theguardian.com/commentisfree/2019/oct/13/divestment-bank-european-investment-fossil-fuels
[25] https://www.divestinvest.org/church-of-england-fund-drops-remaining-fossil-fuel-investments/
[26] https://www.theguardian.com/business/2021/jan/27/rating-agency-sp-warns-13-oil-and-gas-companies-they
[27] https://www.ft.com/content/3b53f1bd-4625-4733-afb9-af4301257506
[28] https://insideclimatenews.org/news/16072020/oil-gas-climate-pledges-bp-shell-exxon/
[29] https://www.climatechangenews.com/2020/12/11/10-myths-net-zero-targets-carbon-offsetting-busted/
[30] Siemens has committed to the 1.5℃ target under the SBTi and E.ON's carbon emissions are aligned with the below 2℃ pathway according to TPI.

There is, of course, a narrow window of opportunity to keep global temperature rise below 1.5℃ that warrants a fast transition away from fossil fuel dependency. We think that investment in the renewable energy and energy storage sectors would meet demand for energy more cost-effectively and more sustainably whilst continuing to provide jobs for geologists, investment in green chemistry would promote the use of alternative renewable feedstocks, and investment in energy conservation measures would reduce the energy demand.

As with the long-term financial risk associated with investing in fossil fuels, we propose that divesting fossil fuel firms as corporate sponsors for the GSA will make this income stream more sustainable as a long-term proposition, as well as minimizing risk to the GSA’s reputation.