How we're investing for the energy transition

Introduction

GMPF's approach to oil and gas companies and the climate challenge

GMPF believes that the energy sector will play a critical role in the transition of the world to a low-carbon economy

Playing our part to help solve the climate challenge

Climate change can no longer be ignored. It is evident in natural disasters across the world today – wildfires, flooding, droughts, heat waves and extreme weather events. These are just a few examples of the effect climate change is having on our environment. The world is finally realising that urgent action is needed to reduce the amount of greenhouse gases released into the atmosphere, and to do this on a large scale requires a massive amount of support and investment.

The OECD estimates that USD 6.9tn is needed per year up to 2030 to meet the Paris Agreement targets. The world needs to shift our reliance from old fossil fuels like oil, gas and coal to renewable sources of energy like solar, wind, geothermal and new ideas for carbon reduction and hydrogen. This is the so-called 'energy transition' and it needs investment to support the planet and society. Oil and gas companies are critical not just to the world as we know it today but also in the future.

Over the next few pages we will take you through our approach, why we firmly believe that as the UK's largest local authority pension fund, it is our responsibility to play an active role in the energy transition and how we are going about it.

Are all oil and gas companies 'bad' investments for a low-carbon future?

While the role of the energy sector in investment strategies has become controversial over recent years with increasing calls for divestment – or selling of these assets – GMPF believes that the energy sector will play a critical role in the transition of the world to a low-carbon economy. This paper outlines GMPF's approach to the energy sector and why GMPF believes that investment and active engagement is not only important but ultimately necessary in transitioning the sector to a low-carbon future.

The provision of energy will become increasingly important in the global economy going forward, and investor influence on how the sector evolves will determine the ability of the world to meet its carbon reduction targets and limit global warming to 1.5 degrees – the temperature target that is widely acknowledged as meaning fewer people will be frequently exposed to climate-related risks in the future. The energy sector will be one of the largest sources of funding for low-carbon distribution technologies, which will be essential in de-carbonising the entire transport sector.

Now more than ever, active dialogue and engagement with the energy sector are critical to ensure that companies transition their business models in light of these changes. Not all companies will be successful in this historical transformation, but GMPF believes that there are compelling investment opportunities for companies that are willing to embrace this historical transformation and become leaders in low-carbon energy in the future.

Active engagement with the sector is required not only to mitigate the carbon risks of the companies in the sector, but more importantly to work with the management of the leading companies in the sector to accelerate the transition of the energy sector toward low-carbon energy sources as quickly and as efficiently as possible.

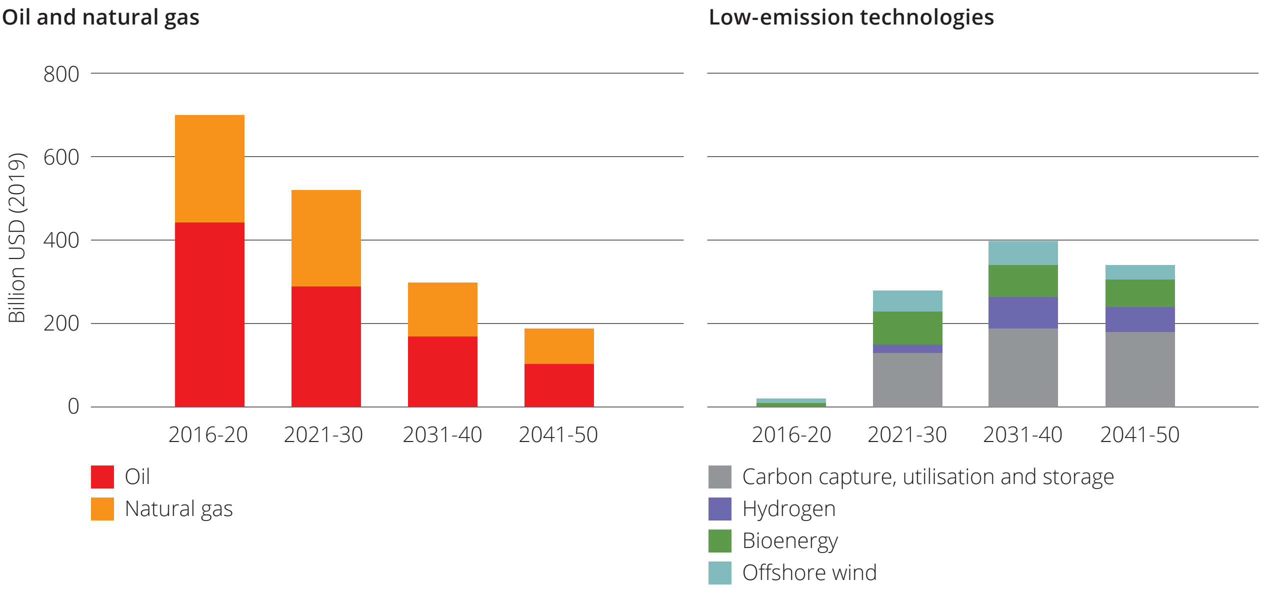
What is the energy transition and how are energy companies leading the way?

The energy sector is at the heart of the 'energy transition' – the historical transformation of our global energy system away from dependency on fossil fuels and toward low-carbon energy by the second half of this century.

The chart below shows how this transition is expected to happen if we are to achieve net zero by 2050. Energy companies are already shifting into greener business activities such as offshore wind, liquid biofuels and carbon capture and storage, with many of the oil and gas companies aiming to reinvent themselves into sustainable energy companies of the future.

GMPF view companies that are already setting out their energy transition strategies as potential long-term winners – winners from an investment perspective but also winners for the planet. However, GMPF has high expectations for the companies it invests in and a decarbonisation roadmap is essential.

Annual average investment in oil and gas and low emissions technologies with synergies for the oil and gas industry in the Net Zero Emissions by 2050 Scenario (NZE)



Source: IEA Net Zero by 2050: A Roadmap for the Global Energy Sector (May 2021)

Investment in low-emissions technologies suited to the skills and expertise of oil and gas companies is forecast to exceed investments in traditional operations by 2030

GMPF's fiduciary duties

GMPF is proud to be an activist investor, driving the climate transition, rather than selling these assets to others who might not hold these investee firms to account.

Are environmental, social and governance (ESG) factors taken into consideration as a part of GMPF's fiduciary duties?

As a local authority pension scheme GMPF is obliged, by law, to make the *pursuit of a financial return* our predominant concern. GMPF may take *non-financial considerations* (e.g. environmental, social or governance concerns) into account only if this would not involve significant risk of financial detriment to the scheme and where GMPF has good reason to think that scheme members would support our decision.

With this in mind, GMPF has a key duty to:

(i) deliver investment returns needed to ensure GMPF can pay the pensions our members have worked hard to earn; and

(ii) to protect local tax-payers from high pension costs.

This is called our fiduciary duty. Any investment decisions GMPF make need to be backed by investment rigour. GMPF believe that climate-related (non-financial) risks and opportunities are in fact financially material to the performance of the investment portfolio and will become more so. This includes the risk of inflation in the energy industry due to under-investment in supply. These risks will become even more so over the expected lifetime of GMPF given the climate challenge we're facing right now and the energy transition just discussed, so GMPF already integrate climate change considerations into our overall investment strategy. GMPF's aim is to minimise adverse financial impacts and maximise opportunities for long-term economic returns in all asset classes.

What does 'active ownership' mean and how is GMPF playing a part?

GMPF is prioritising 'active ownership' across its investments. What that means is GMPF aims to be an active voice in the calls for companies to lower their carbon emissions. It's sometimes called being an 'activist shareholder'. As the UK's largest local authority pension fund with over GBP 28bn to invest, our voice has an impact on the companies GMPF holds in its portfolios. When it comes to climate change, GMPF sends a loud and consistent message to the directors of our investee companies. GMPF expects companies to have an action plan for carbon emissions reduction and to provide the market with detailed information on how they intend to get to net zero carbon emissions by 2050.

That means being transparent with us about their short-term and long-term commitments and GMPF holding management accountable for their actions.

What concrete actions are GMPF taking to be an 'activist shareholder'?

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As part of its investment strategy, GMPF is a signatory of the UK Stewardship Code. This has 12 principles to comply with, including:

- Principle 7: Signatories systematically integrate stewardship and investment, including material environmental, social and governance issues, and climate change, to fulfil their responsibilities.
- Principle 10: Signatories, where necessary, participate in collaborative engagement to influence issuers.

By joining forces with more than 80 other Local Government Pension Scheme funds within the Local Authority Pension Fund Forum, GMPF collectively has a very powerful voice in challenging companies to disclose their business models and the assumptions that underpin their investment decisions, leading to greater capital discipline. This could have the dual success of enhancing shareholder value, whilst also reducing greenhouse gas emissions.

When it comes to the oil and gas industry, GMPF's voice is amplified by the power of a collection of influential global pension funds representing over USD 60 trillion in investments. GMPF's appointed external asset managers, such as UBS Asset Management, are expected to operate a policy of constructive shareholder engagement with companies as part of the investment process. Our asset manager, UBS Asset Management, is part of Climate Action 100+, a collaborative initiative of 615 investors, aimed at collectively influencing high greenhouse gas polluters and other companies to drive the clean energy transition, helping achieve the goals of the Paris agreement on Climate Change. Climate Action 100+ collectively are able to engage with 167 companies who, between them make up 80% of global industrial emissions.

Climate Action 100+
Global Investors Driving Business Transition

Climate Action 100+ is	With	Working with	Who make up
615	$60 trillion	167	80%+
investors working together	in assets managed by investors participating in the initiative	companies	global industrial emissions

Driving the climate change agenda

A consistent approach is taken across our active equity holdings and provides clarity about our expectations to the companies in which GMPF invests

How does GMPF vote to help drive lower carbon emissions?

GMPF retains the maximum possible authority to vote *directly* at investee company meetings, rather than delegating authority to active asset managers. GMPF has dedicated voting guidelines that inform how its votes are cast. This combination of retained authority and a clear framework ensures a consistent approach is taken across our active equity holdings and provides clarity about our expectations to the companies in which GMPF invests. Both GMPF and UBS Asset Management voted against Total's climate transition plan as we felt the strategy was not in line with expectations, and the company had not committed to a periodic vote on the topic.

Should GMPF divest or engage with investee companies to drive the climate change agenda?

The urgency of the climate crisis has led to increasing calls for divestment from the energy sector, but GMPF believes that a much more productive and impactful approach is to remain invested and engage with energy companies to drive positive change.

First and foremost, by retaining our shares and voting rights rather than divesting from energy companies, GMPF maintains the ability to influence management of these companies and to work with them through our engagement strategy to accelerate the transition toward a low-carbon economy.

Second, given that the energy sector is itself a large source of carbon emissions, it is our responsibility to engage with companies in the sector to drive reductions on their carbon footprint.

Third, energy sector companies play a critical role in supplying the basis for all forms of transportation, and they will be critical in determining the manner and speed with which transportation will de-carbonise. It is our responsibility to help propel energy sector companies to re-orient their business strategies in order to transition modern transportation from a reliance on fossil fuels to one which moves toward renewable energy sources.

Fourth, calls for divestment not only overlook our essential role in influencing companies in the sector, but it also treats the sector with a broad brush and fails to recognise the important steps that the leading companies in the sector are taking to transition their businesses towards renewables.

While GMPF sees risk in investing in energy companies that are slow to embrace the changes facing the sector and will avoid them in its investment strategies, GMPF sees opportunity in investing and engaging with those companies that are moving their business models toward a low-carbon future.

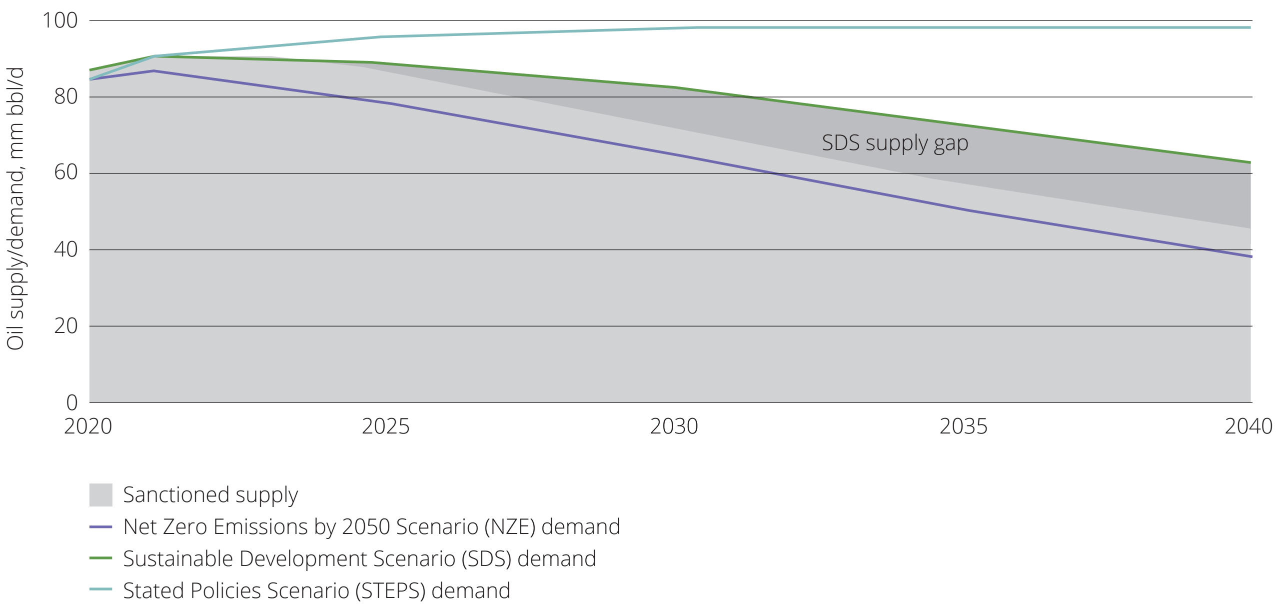
While it will no doubt be radically transformed over the coming decades, the energy sector will remain essential to the global economy. GMPF's investment and engagement strategy with energy companies will be critical to determine how the energy sector transforms, which will have significant implications for the pace of global warming. At GMPF we embrace this responsibility to influence and transform the sector and are proud to embrace this responsibility on behalf of our pension fund holders.

What will happen to the demand for fossil fuels?

GMPF recognises that there will continue to be demand for fossil fuels in the near term as the energy sector de-carbonises, and it will be critical that this transition occurs not only as quickly as possible but also in an orderly fashion. Significant price spikes as seen in the recent gas crisis, risk causing a reaction in public opinion against renewable energy, and it will be important that the move toward renewables occurs in a phased manner that allows for stability both in price and in the supply of energy as the world de-carbonises.

The chart below from the Carbon Tracker Initiative shows that until the world has moved onto a net zero pathway, there will continue to be demand for oil and gas – and that there will be an emerging gap between supply and demand.

Global oil demand under different IEA scenarios, and future supply from sanctioned projects



Source: Carbon Tracker Initiative

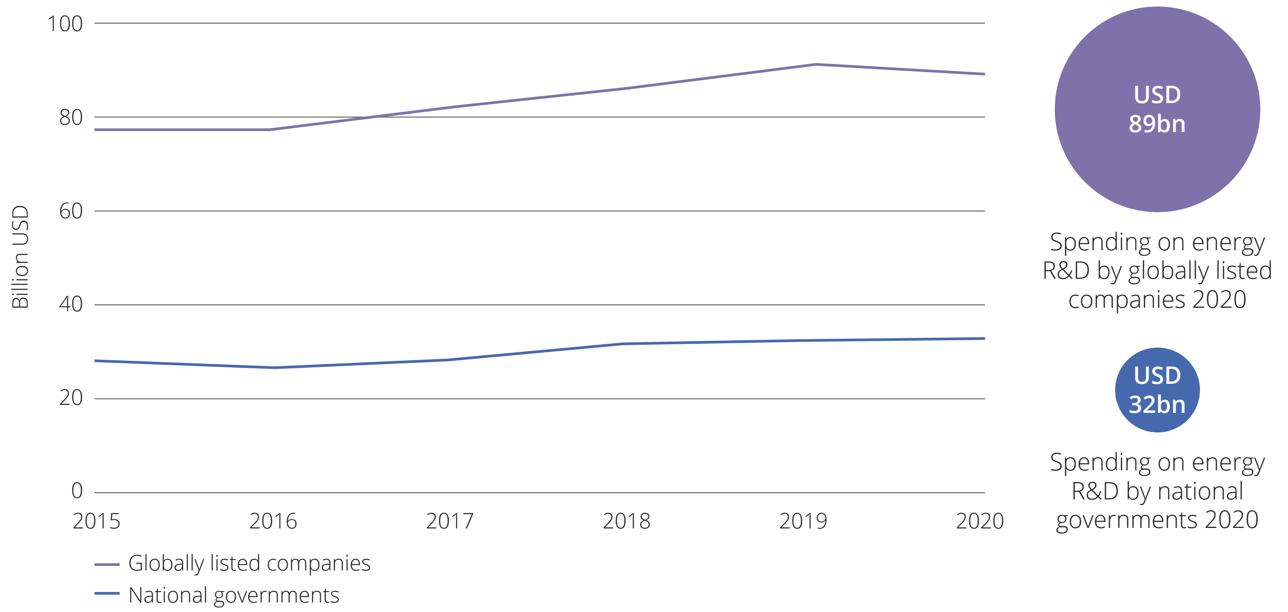
Investors in renewable energy

The energy sector will play a leading role in this transformation, as it will become one of the largest investors in renewable energy, infrastructure and technology

What is clear is that the energy sector will play a leading role in this transformation, as it will become one of the largest investors in renewable energy, infrastructure and technology, and GMPF anticipates that this trend will continue in the future.

The legacy energy companies will be critical to the energy transition as they are the only companies with the technical and engineering expertise to achieve critical parts of the transition while their legacy oil and gas businesses will give them the financial capability to invest heavily in renewable energy. In fact, they spend nearly three times what governments spend on research and development in this area.

Spending on energy research and development



Source: IEA

Technical know-how

Even when the world is able to move towards net zero pathway, fossil fuel companies will be a critical source of technology, know-how and investment

To provide some concrete examples of this huge investment in sustainable technologies, **Royal Dutch Shell** has indicated that it plans to be the world's largest supplier of renewable energy by 2030 and is almost certain to become the world leader in hydrogen due to its technical capabilities in this area.

Similarly, **Equinor** is likely to become the world leader in floating offshore wind due to its proprietary technology and its expertise in operating offshore platforms.

While these companies are early in their transition towards renewable energy, more advanced examples include **Orsted**, the former Danish Oil and Natural Gas, which is now the world leader in offshore wind and **Neste**, once Finland's state-controlled oil refiner and is now the world leader in advanced biofuels.

The percentage of energy sector capital expenditure going into sustainability and renewable energy initiatives has and will continue to grow, and GMPF believes that it is our obligation to continue to work with energy sector companies to accelerate these investments in order to limit global warming.

Even when the world is able to move towards net zero pathway, fossil fuel companies will be a critical source of technology, know-how and investment.

For example, **Equinor** expects to invest USD 23bn in renewables from 2021 to 2026 as part of a clear ambition to become a net zero energy company by 2050, including emissions from its production and final consumption.

BP says it will increase its annual clean energy investment from USD 500m in 2019 to USD 5bn per year by 2030, with an interim goal of USD 3-4bn per year by 2025.

Total has announced that some USD 2.5bn of its planned total investment of USD 12-13bn in 2021 will go into renewables and electricity (including gas-fired power).

Shell is targeting a 25% share of investment on clean energy capital expenditure by 2025.

How successful can engagement actually be?

While engagement will be critical going forward to transition the energy sector successfully, GMPF has already seen several positive examples of its engagement efforts thus far in its investee companies. Below are two examples of companies where GMPF has seen significant changes as a result of engagement efforts on our behalf by UBS Asset Management over the past several years.

Example 1: BP

UBS Asset Management identified BP as a company for engagement because of its carbon emissions trends and its fossil fuel exposure. UBS Asset Management established a dialogue based on bilateral meetings, as well as part of the Climate Action 100+ coalition. Portfolio managers, analysts and Sustainable Investment analysts have been in contact with company representatives, including board members, several times over the last two years in the context of investor, governance and Climate Action 100+ meetings.

In May 2019, UBS Asset Management co-filed a shareholder resolution with other investors urging the company to align its capital expenditure with the Paris agreement, long-term emissions reduction targets, and targets in executive compensation. Underlining the quality of the dialogue, as well as the ability to achieve action, company management ultimately recommended shareholders to vote for this resolution and it was strongly supported by investors.

Around this time, BP also appointed a new Chair and CEO, both of whom have a strong understanding of the importance of climate change. In 2020, the company announced a net zero emissions target by 2050 including scope 1, 2 and 3 emissions. As the first steps to this, in August 2020 the company announced a 10x increase in low-carbon investments, an increase in renewable investments by 20x, and a 40% reduction in oil and gas production by 2030. Over the last three years, proactive engagement, directly and collaboratively with other asset managers, has led to a positive change leading to BP unveiling one of the most ambitious transformation programs in the oil and gas sector.

Example 2: Equinor

Another example of successful active engagement on our behalf is Equinor. UBS Asset Management flagged Equinor because of carbon emissions trends and fossil fuel exposure. In 2017, the company was considered one of the world's top 100 greenhouse gas emitters. But its stock had been attractive because of its exposure to large oil fields and its increasing investments in renewables, other low-carbon technologies and emission management solutions. UBS Asset Management began a dialogue with Equinor, in collaboration with two other asset managers as part of Climate Action 100+. With strategic engagement objectives set, the collective held a series of productive meetings with senior management, Equinor agreed to assess its portfolio, including new material capital expenditure investments, in relation to a "well below 2°C scenario" from 2020 onwards.

The company also committed to reviewing existing climate-related targets up to 2030 and set out new ambitions beyond 2030 for its business activities, informed by its assessment, stress testing and business strategy. These strategic commitments were followed by additional dialogue with the company in the following year. As part of these efforts, in February 2020, Equinor announced additional, more ambitious climate change goals, including for example:

- Carbon neutrality of global operations (operated) by 2030.
- A 40% reduction in absolute greenhouse gas emissions in Norway by 2030, 70% by 2040, and near 0 absolute greenhouse gas emissions in Norway by 2050.
- Growing renewable energy capacity tenfold by 2026, and 30 times by 2035, becoming a global offshore wind major.
- Reducing net carbon intensity/ net energy production by at least 50% by 2050.

At the end of 2020, Equinor then announced a net-zero commitment by 2050 across its entire value chain, one of the most ambitious net-zero commitments in the entire energy sector. This was one of the main goals of UBS Asset Management's collaborative engagement, and it has been extremely rewarding to see the success and realisation of these engagement objectives. Ultimately, UBS Asset Management believes that in just three years, the proactive engagement, collaboratively with other asset managers and on behalf of investors like GMPF, has been successful in realising positive change through engagement goals linked to science-based targets.

Risks

UBS *As long-term investors we make assessments of the capital investment strategies of energy companies and the likely impact on returns of pursuing particular strategies.*

What risks are involved for GMPF in being such a large shareholder in the energy sector? Won't that mean GMPF is stuck with 'stranded' assets?

GMPF wants to ensure the views of its asset managers are aligned with theirs on the climate transition, and so GMPF put the following questions on the oil and gas transition challenge to one of them – UBS Asset Management.

GMPF: Is there a risk that our energy investments and their assets will become stranded or worthless in the future?

UBS: Share investing comes with inherent risks, many of which apply universally. Climate change creates an additional potential risk across many industries, but particularly in the energy sector. As such, our portfolio managers pay specific attention to assessing the following areas of risk when assessing companies to include in our portfolio - stranded assets, financial risk, regulatory change, market acceleration and technological change.

Spotlight on risk of stranded assets GMPF: What do "stranded assets" mean?

UBS: In their analysis of the energy sector the portfolio managers have considered the possible impact of assets becoming redundant or "stranded" by the energy transition away from fossil fuels and the impact that could have on future cash flows.

Stranded assets refer to both existing infrastructure as well as future potential investments. Environmental considerations which result in the rapid phase-out of hydrocarbons are more likely to impact the latter rather than the former. Even the most aggressive phase-out scenarios, such as the IPCC 1.5 degree or the IEA Below 2 degree scenarios, envisage significant usage of hydrocarbons until 2050 and only a modest reduction in demand between now and 2030. Indeed, the recent retail fuel supply crisis in the UK served as a demonstration of how important hydrocarbons are to our present day lives.

Since most publicly listed energy companies have relatively short reserve lives of between 7 and 15 years, the main impact of carbon mitigation will be to preclude or limit their future investment opportunities in oil and gas projects.

GMPF: How do our portfolio managers assess, manage and mitigate the risks of investing in oil and gas companies?

UBS: We have a multi-layered investment approach that is aimed at mitigating risks like this.

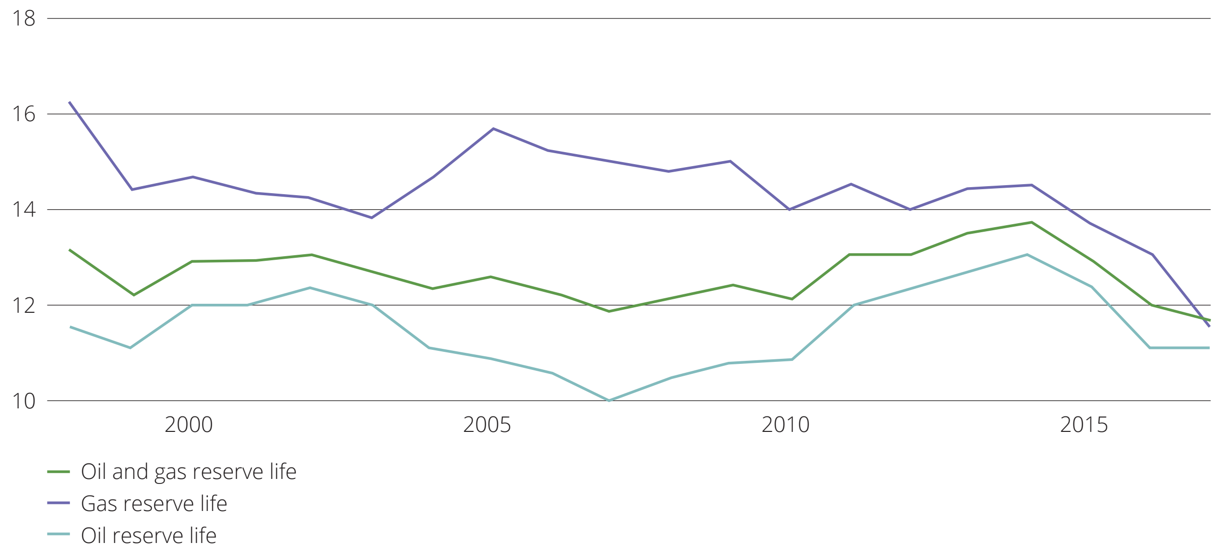
1) Our portfolio managers are selective about which companies we invest in. They exclude those where we feel the combination of risks are too high (e.g. avoid oil explorers in high cost regions). The process for excluding stocks includes use of UBS's proprietary ESG Risk Dashboard in combination with specialist sustainability analysts and energy sector specialists.

2) We invest where management teams seek to mitigate these risks through pursuing energy transition strategies. As long-term investors we make assessments of the capital investment strategies of energy companies and the likely impact on returns of pursuing particular strategies. These assessments are supported by regular engagements with board members of companies that we invest in, as illustrated in the BP and Equinor case studies.

3) Our portfolio managers do not place a value on future hydrocarbon projects when assessing energy companies. Applying this highly conservative valuation methodology means that the potential cost and risk of stranded assets becomes contained from a financial perspective.

Oil majors' reserves life

Reserves life for the world's top 8 oil and gas companies are at their lowest in 20 years



Source: Reuters Graphics, 2021

Risks (continued)

4) As energy companies run down their legacy businesses, they are expected to generate substantial cash flows, reducing investment risk and facilitating accelerated investment in green energy.

   The cash flow from energy companies can fund investment in green energy and provide good dividends and returns to shareholders.

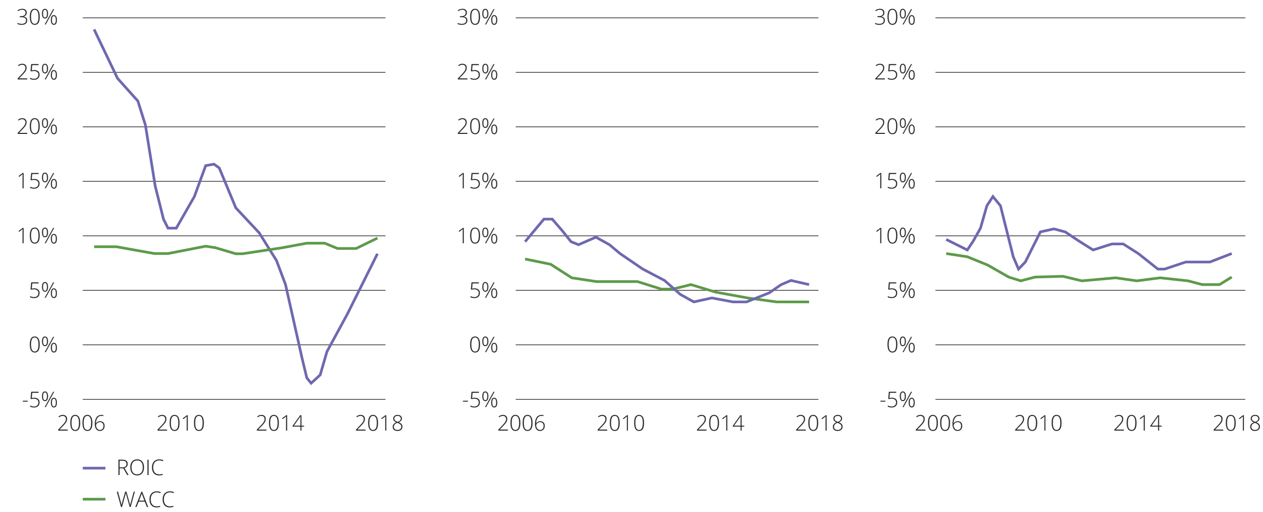
5) As oil and gas companies focus on more sustainable energies, on average, the returns on new investments in low carbon or non-carbon energy sources will be lower than historic financial returns on carbon-based energy investments. However, the returns they make are expected to be of higher quality and more sustainability-focused and therefore mitigate the impact of lower absolute returns. Indeed, we expect that as oil and gas companies progress the shift in their business activities away from carbon-based energies they are likely to become more highly valued by investors. This can be evidenced in the high stock market valuation of carbon-free energy producers, as compared to traditional oil and gas stocks.

By investing in companies that are on the journey of shifting towards carbon-free energy, rather than those companies that are already there, we are able to marry the sustainability case with our fiduciary responsibility to achieve positive returns for the Fund.

Over time, the oil and gas industry has shown higher, but volatile, return on investment; in power-related sectors, returns have been steadier, but lower

Return on invested capital (ROIC) and after-tax weighted average cost of capital (WACC) for listed energy companies

Top oil & gas companies (by production) | **Top power companies (by renewables ownership)** | **Top smart grid companies (by revenues)**



Source: IEA World Energy Investment 2019

Climate change is everyone's challenge

GMPF firmly believes that climate change is everyone's challenge to help tackle.

That is why, like UBS Asset Management, GMPF recently co-signed the 2021 Global Investor Statement to Governments on the Climate Crisis coordinated by the Institutional Investors Group on Climate Change, which asks governments to raise their climate ambition and implement robust policies by COP26 in November.

GMPF has called upon Government to urgently undertake the following five actions:

- Strengthen Nationally Determined Contributions for 2030 in line with limiting warming to 1.5°C.
- Commit to a mid-century net zero emissions target with clear sectoral decarbonisation roadmaps.
- Ensure ambitious pre-2030 policy action including strengthened carbon pricing, phasing out fossil fuel subsidies and thermal coal-based power, avoiding new carbon-intensive infrastructure (no new coal power plants) and developing just transition plans.
- Ensure COVID-19 economic recovery plans support the transition to net zero emissions.
- Commit to implementing mandatory climate risk disclosure requirements.

GMPF's view is that everyone (councillors, MPs and all pension scheme members) should be playing their part in the transition. Read more about this on the GMPF website and also how you can be part of the solution.