

**FOSSIL-FUEL INVESTMENTS IN THE
NORWEGIAN GOVERNMENT PENSION FUND
GLOBAL:**

**ADDRESSING CLIMATE ISSUES THROUGH
EXCLUSION AND ACTIVE OWNERSHIP**

**A REPORT BY THE EXPERT GROUP APPOINTED BY THE
NORWEGIAN MINISTRY OF FINANCE**

**Martin Skancke, Elroy Dimson, Michael Hoel, Magdalena Kettis, Gro
Nystuen and Laura Starks**

3 December, 2014

Contents	Page
Executive Summary	3
I. Introduction	5
II. The Investment Strategy of the GPFG	9
III. Responsible Investments in the GPFG	14
The Work of the Council on Ethics	16
NBIM’s Active Ownership	21
IV. The Fund’s Present Investments in Carbon-Related Industries.....	25
V. Fossil Fuel Extraction, Carbon Risk and the Market for CO ₂	27
Fossil Fuel Extraction, Carbon Risk and the Norwegian Economy	27
Climate Change, the Pricing of CO ₂ and the “Carbon Bubble”	29
VI. Engagement, Ownership and Exclusion to “Address Climate Change”	44
A. Climate-Related Exclusions Within the Present Framework.....	45
B. Climate- Related Ownership Strategies within the Present Framework	53
C. Synergies and Spillover Effects	57
D. Exclusions and Active Ownership as Climate Policy Instruments	63
VII. Concluding remarks	66
Annex I - The Mandate for the Expert Group.....	68
Annex II - The Members of the Expert Group	70

EXECUTIVE SUMMARY

i. The Ministry of Finance appointed the Expert Group on April 4th 2014 to assess the Government Pension Fund Global's (GPFG) use of exclusion and ownership strategies in coal and petroleum companies, based on a parliamentary request. We were asked to evaluate whether the exclusion of coal and petroleum companies is a “more effective strategy for addressing climate issues and promoting future change than the exercise of ownership and exertion of influence.”¹ In line with the parliamentary decision, we were also asked to “advise on potential exclusion criteria for these types of companies”. The Mandate is reprinted in its entirety in Annex I. Brief biographies for members of the Expert Group are provided in Annex II.

ii. In this report we present our findings. As background for our recommendations, we discuss relevant aspects of existing GPFG strategy and operational priorities and provide background on climate change, economic theory, and the wider ongoing international debate regarding investments in fossil fuels.

iii. To be credible and effective, the GPFG's ownership strategies are based on the Fund's role as a financial investor, as the Mandate for the Fund also makes clear. We believe that the economic aspects of climate change risk create a credible background for relevant climate-related ownership activities for the Fund and for working together with other investors to achieve a more effective ownership effort. From this point of view, we believe active ownership and engagement are appropriate primary tools for the GPFG to use to address climate-related issues. In this report, we recommend ways of enhancing the Fund's efforts in this area.

iv. In a broader sense, the ownership strategies of the Fund reflect its long-term orientation. Fossil fuel companies face the prospect of decline and must adapt to new circumstances to survive. If managed well, this adaptation can enable them to leverage their present strengths in a low-carbon energy system. Since this transition inevitably will take time, these companies will need the engagement and support of large long-term investors. By engaging on climate resilience and transition strategies for fossil fuel companies, the Fund will be actively managing the climate change related risk exposure to its portfolio and protecting the long-term value of its investments.

v. In addition to engaging with individual companies in the portfolio, the Fund has a broader ownership effort directed at regulators, standard-setters, industry organizations and investor initiatives. This is entirely appropriate and in line with practices in other leading funds. In many cases, these efforts can be more effective if they target industry sector standards rather than individual company conduct. Clearly, climate change is such an issue.

vi. As a supplement to enhanced ownership strategies, we recommend that a new criterion – “contribution to climate change” – be included in the Guidelines for

¹ Mandate for the Expert Group on investments in coal and petroleum companies.

Observation and Exclusion. This would allow for exclusion of companies on a case-by-case basis where there is an unacceptable risk that the company contributes to or is responsible for acts or omissions that, on an aggregate company level, are severely harmful to the climate. The interpretation and application of the criterion should be left to the Council on Ethics. This would reflect the division of roles and responsibilities already established in the present system. The threshold for exclusion should remain high and be consistent with the threshold already established for exclusions under other criteria. We discuss issues related to the application of such a criterion in the report.

vii. However, we do not think climate issues can effectively be addressed through automatically excluding all coal or petroleum producers from the Fund. In our view, fossil fuel companies' energy production, energy use or CO₂ emissions cannot *per se* be said to be contrary to generally accepted ethical norms. Such products and activities constitute an important basis for our society, and fossil fuels – both petroleum and coal – will remain part of the energy mix for decades to come. The average investor must thus by definition be an owner of fossil fuel companies. The question is thus not *whether* investors will own these companies, but *which* investors are “good” owners of these assets from a financial and ethical perspective. As a large, long-term owner with a clearly articulated active ownership and engagement strategy towards climate change and the clout and perseverance to implement it, the Fund has every opportunity to be a “good” owner in this sense. It is also hard to see how a general coal and/or petroleum exclusion criterion could be consistent with other Norwegian policies and commitments, including the Government's role in the production of both petroleum and coal.

viii. Finally, we do not believe the concept of “stranded assets” to be an appropriate guide to investment strategy for the GPFG. As a baseline, one should assume that asset prices, by and large, provide a reasonable compensation for investment risk on an *ex ante* basis. This has so far been the basis for investment decisions made by the Ministry of Finance as the Fund's formal owner, and there is no reason to make an exception for fossil fuel related investments. This is, however, *not* the same as stating that the issue of stranded assets is immaterial to investors or that one should be indifferent to the issue. We discuss some of these issues in this report, in particular the possible links to ownership strategies.

ix. In conclusion, we consider climate change raises important ethical and financial questions that the GPFG's strategy must address. We propose a strengthening of existing active ownership priorities. This should be the primary tool for the GPFG to address climate change risk. We also propose that the Fund continues to support relevant climate change research. Finally, we propose a mechanism whereby the worst cases of climate offenders can be excluded from the Fund on a case-by-case basis. The ownership efforts should be the primary tool, and the exclusions and engagement processes should work together in a coordinated way. However, we believe the use of the Fund as a climate policy instrument beyond what is compatible with its role as a financial investor would be both inappropriate and ineffective.

I. INTRODUCTION

Background on the Expert Group

1. **The Ministry of Finance appointed the Expert Group on April 4th 2014 to assess the Government Pension Fund Global's (GPFG) use of various instruments with regard to investments in coal and petroleum companies, based on a parliamentary request.** The Group was asked to evaluate whether the exclusion of coal and petroleum companies is a “more effective strategy for addressing climate issues and promoting future change than the exercise of ownership and exertion of influence.”² In line with the parliamentary decision, the Expert Group was also asked to advise on potential exclusion criteria for these types of companies. The Group’s report should be presented no later than November 2014. The Mandate is reprinted in its entirety in Annex I.

2. **The Expert Group has six members, and is chaired by Mr. Martin Skancke. The other members are Professor Elroy Dimson, Professor Michael Hoel, Dr. Magdalena Kettis, Dr. Juris Gro Nystuen and Professor Laura Starks.** Brief biographies for members of the Expert Group are provided in Annex II. The group held individual meetings with Norges Bank, the Council on Ethics and Folketrygdfondet and meetings with experts on climate change, economics and finance. The Expert Group also held a meeting in June 2014 with several NGOs and other stakeholders, such as representatives for the coal industry, and held follow-up meetings in August 2014 with the NGOs Future in our Hands and World Wildlife Fund Norway. Written input received at these meetings is available on the Ministry of Finance website.³ We are grateful for the inputs received through the various meetings we have held, and for the assistance of Mr. Wilhelm Mohn in preparing this report.⁴

3. **We are mindful of the importance of the broader climate issue, and of the importance of a well-managed Fund for the present and future citizens of Norway.** The challenge of carbon-related investments is an important dilemma that is linked to the very serious problems of environmental degradation and global conservation policies.

Scope of Mandate and Structure of the Report

4. **The Expert Group’s Mandate at the very least requires an analysis of the appropriate use of exclusion of and/or engagement with coal and petroleum companies to address the question of climate change.** The Mandate also requests an explicit analysis and proposal for exclusion criteria. Where relevant for our analysis, we have considered carbon emissions from companies in the Fund's portfolio more generally, and not from coal or petroleum companies only. These issues, which are fundamental to our final recommendations, are discussed primarily in Chapter VI,

² Mandate for the Expert Group on investments in coal and petroleum companies.

³ See: <http://www.regjeringen.no/nb/dep/fin/aktuelt/nyheter/2014/Ekspertgruppen-om-investeringer-i-kull--og-petroleumselskaper-inviterer-til-innspillsmote.html?id=761423>

⁴ In the final stages of our work we also received valuable assistance from Ms. Ellen Quigley and Ms. Randi Næs.

with our final recommendations presented in Chapter VII. We provide the background necessary to support our recommendations in Chapters I-V.

5. **Our discussions on the issues are based on climate science, a set of economic assumptions, and on ethical considerations, as well as attention to the Fund’s special characteristics, its role in Norwegian society, and the framework for governance and investment strategy.** Therefore, we discuss the Fund’s current strategy in Chapters II and III. We give an overview of the Fund’s current investments in coal and petroleum companies in Chapter IV. Various economic and financial aspects of the carbon markets, relevant to the questions we seek to answer, are reviewed in Chapter V.

6. **The Mandate explicitly mentions that the effectiveness of the strategies we analyze must be evaluated with respect to their potential for addressing climate issues and promoting future change.** The key section of the Mandate reads as follows:

“The Expert Group shall evaluate whether the exclusion of coal and petroleum companies is a more effective strategy for addressing climate change than the exercise of ownership and exertion of influence. The Group shall also advise on possible criteria for the potential exclusion of these types of companies.”

7. **The stated objective of “addressing climate change” can be interpreted in different ways.** One – more limited – interpretation is to consider if and how climate issues can be addressed within the present framework for responsible investment practices for the Fund.⁵ We have considered this issue for the use of exclusion, ownership, and engagement strategies. A wider interpretation – supported by the addition of “promoting future change” in the mandate – would be that the Group is asked to consider how the use of exclusion and/or ownership strategies can promote objectives related to climate policies.

8. **Using the Fund as a possible agent or instrument in achieving objectives related to climate policies is an entirely new way of considering the Fund’s role.** It has so far been agreed that the Fund is not an instrument to achieve objectives other than those directly linked to its role of supporting macroeconomic objectives and the transfer of financial wealth to future generations. The argument for exclusion on ethical grounds has thus far been based on the avoidance of contributions to unethical acts or omissions through ownership. The ownership and engagement strategies of the Fund have focused on issues deemed relevant for the long-term risks and returns of the Fund. The Expert Group has nevertheless been mandated to assess whether exclusion would be effective in addressing climate change issues, or whether exercise of ownership would be more effective. It is obviously very difficult to establish whether the exclusion of companies or exercise of ownership could have concrete, quantifiable effects on the climate. Hence, we emphasize the possible transmission

⁵ This interpretation may be supported by the majority comments in Recommendation no 141 S (2013-2014) which reiterates the Fund’s financial objective and our Mandate which explicitly states that we should not give general advice about the GPFG strategy. A wider interpretation would necessarily also lead to much wider strategy changes for the Fund. The original Norwegian document is available at: <https://www.stortinget.no/Global/pdf/Innstillinger/Stortinget/2013-2014/inns-201314-141.pdf>

mechanisms from the Fund's actions and policies to the realization of climate policy objectives.

9. **Furthermore, our mandate explicitly mentions that we should not advise on the general strategy for responsible investment practice or other aspects of the GPFG's management strategy.** We have interpreted this to mean that we are not asked to give advice on aspects of the Fund's investment management that go beyond our assignment, such as advice on whether to invest in green energy sources etc., and that we should take the overarching framework of the Fund as given. This is in line with the priorities as we read them in Recommendation no. 141 S (2013-2014), where the majority points directly to the section of the management mandate that concerns the Fund's financial objective (our translation):

"The majority would point out that section 2-1(1) of the investment mandate for the Government Pension Fund Global states:

"The management of the investment portfolio shall be based on the goal of achieving the highest possible return, cf. section 1-2, third paragraph. A good return in the long term is regarded as being dependent upon sustainable development in economic, environmental and social terms, as well as well-functioning, legitimate and effective markets."

It follows that any strategy we discuss must meet two requirements:

- Be compatible with the Fund's overall strategy and role as a financial investor
- Be a relevant way of addressing climate issues

10. **Our interpretation of the Mandate's specific reference to exclusion criteria is that these should be implementable through an added criterion on severe harm to the climate.** Based on the outcome of the Parliament's (*Stortinget*) deliberations on this year's White Paper on the management of the Fund, this implies an amendment which can be incorporated in the present Guidelines for Observation and Exclusion of Companies from the GPFG and applied by the Council on Ethics through recommendations on exclusions or observation, prior to decisions by Norges Bank. The question of how a potential exclusion criterion related to coal and petroleum companies should be formulated will be discussed in chapter VI.

11. **Our mandate states that we should "build on the conclusions reached following the consideration of the recommendations made by the Strategy Council for the GPFG regarding the strengthening of the work on responsible investment."** The outcome of the parliamentary debate was that the overall system largely remains as it has hitherto been. Thus, this part of the Mandate has provided less guidance than perhaps originally assumed. The Expert Group has noted, however, that the purpose of the transfer of the actual decision on exclusion to Norges Bank (in part) is to achieve a more integrated and concerted ownership and exclusion strategy. As of November 2014, the Ministry has yet to announce the implementation of other proposals put forward by the Strategy Council, such as the clarification of the objective for responsible investments or increased transparency about Norges Bank's active ownership agenda. The points mentioned above must be seen as relevant to the

way in which we interpret the Mandate and to some of the recommendations we make in this report.

12. **One aspect of the discussion about whether or not to exclude coal and petroleum companies from the Fund has been the notion that these companies' business models are under pressure and that there could be financial reasons for excluding them.** Here, the focus is not on the Fund as a possible instrument of climate policies, but rather on the possible effects of climate policies on the value and risk of the Fund's investments. In Recommendation no. 200S (2013-2014) from the Finance Committee, the Committee notes that "*an Expert Group shall be established [...] which will also look at the financial risks surrounding investments in coal and petroleum companies*".⁶ We interpret this as an expectation from Parliament that such financial considerations will be included in our report, even if this does not follow from the Mandate itself. The potential financial aspects of carbon risks are complex questions to which we will not attempt to respond conclusively. We have, however, included a section in Chapter VI on the "stranded assets debate," along with a discussion of the merits and relevance of these arguments in the context of the GPFG. In this discussion, we focus on carbon markets and carbon risk. These financial arguments are relevant as they may serve to support active ownership over exclusion or exclusion over active ownership.

13. **We also take this opportunity to introduce key terminology used in the report.** In debates about investments in fossil fuel companies, the concepts of exclusion and divestment are often used interchangeably. For the GPFG, it is useful to draw a distinction between the two. In this report *exclusion* refers to decisions *by the owner* (formally, the Ministry of Finance) to remove an asset from the Fund's investment universe. The rationale for exclusions is (or at least so far has been) purely ethical and based on avoiding investments in grossly unethical products and activities. Exclusions are based on pre-defined criteria and publicly disclosed. In this report *divestments* denotes operational decisions *by the manager* (Norges Bank) that involve the selling of shares of specific companies, within the bounds of active management. The reasons for these divestments can be purely financial, or they can be backed by broader sustainability considerations relevant to safeguarding the GPFG's long-term return. They need not be publicly disclosed. In our discussion about active ownership and engagement strategies for the Fund, we have found it useful to distinguish between the term *engagement* which we use to describe GPFG activities directed at companies in the portfolio, including company dialogue, and *active ownership* which we use to refer to a wider set of tools and activities. Such tools include, but are not limited to, company-directed activities as well as activities such as sector initiatives or dialogue with standard setters and stakeholders, voting, filing shareholder resolutions and portfolio adjustments. We use the general term *fossil fuel investments* to refer to investments in companies that either extract fossil fuels (coal or petroleum businesses) or are large users of fossil fuels and therefore exposed to increases in the cost of this input (for example, a coal-fired power station). Where we need to be more specific, we will refer to a particular sector, such as coal, oil or gas companies.

⁶ Inns. 200S (2013-2014), page 7, our translation. Original Norwegian document available at: <https://www.stortinget.no/Global/pdf/Innstillinger/Stortinget/2013-2014/inns-201314-200.pdf>

Finally, when we discuss the financial side of climate change and the management of the GPFG, we use the term *climate change risk* to denote potential financial risk stemming from either changes in climate policies or physical climate change. We also use the term *carbon risk*, to specifically denote the risk of an increase in the carbon price for businesses or industries.

II. THE INVESTMENT STRATEGY OF THE GPFG⁷

Background

14. **The accumulation of assets in the Government Pension Fund Global (GPFG) reflects a gradual reduction of fossil fuel-related assets in the form of oil and gas resources in the ground.** The petroleum activities began in the early 1970s, and have been crucial for the growth of Norway's financial wealth. Norway is ranked as the tenth largest oil exporter and the fifteenth largest oil producer in the world. In 2012, Norway was the world's third largest gas exporter, and the world's sixth largest gas producer. The State holds large oil and gas reserves on the Norwegian continental shelf. So far, about 44 percent of the estimated total recoverable resources have been extracted. Large remaining recoverable resources on the shelf suggest that the petroleum industry will be a key activity in Norway for decades to come. The present value of Norway's future petroleum (oil and gas) related cash flow is estimated at NOK 4,300 billion in the revised budget for 2014, of which the Government's share is estimated at close to NOK 4,100 billion. Current production projections show that production will increase somewhat until 2022, and then begin a gradual decline. However, production will remain above 100 standard cubic meter oil equivalents (Sm³ o.e.) until the mid 2040s, compared to 2013's 214 million Sm³ o.e. This corresponds to an estimated net cash flow of about NOK 100 billion in 2045 (compared to NOK 345 billion in 2013).

15. **The GPFG is an instrument for long-term savings.** The stated purpose of the Fund is to facilitate government savings to finance rising public pension expenditures, and support long-term considerations in the spending of government petroleum revenues. Sound long-term management of the Government Pension Fund Global ensures that the petroleum wealth will benefit current and future generations. Government revenues from petroleum activities are transferred to the GPFG.

16. **Since the first allocation to the Fund was made in 1996, the Fund has grown considerably, making it the largest Sovereign Wealth Fund (SWF) in the world.** The value of the Fund at the beginning of October 2014 was in excess of NOK 5,500 billion (USD 850 billion). This represents a fairly swift conversion of wealth from oil and gas to financial assets. In 2000, the value of expected future revenues from the petroleum sector was close to four times the GDP of the mainland economy. Projections from the Ministry of Finance show that, in 2030, the value of the Fund

⁷ These sections are intended to be descriptive summaries of the Fund's strategy and framework. Sources include the Ministry of Finance's website, the Management Mandate and the Guidelines for Observation and Exclusion of Companies, as well as the annual White Paper on the Management of the Fund. See, for example, <http://www.regjeringen.no/en/dep/fin/Selected-topics/the-government-pension-fund/government-pension-fund-global-gpfg.html?id=697027>

after 2030 is expected to be about 50 percent of mainland GDP. Over the same period, the value of the GPFG is expected to increase from about 30 percent of the mainland economy to about 240 percent.

17. **The fiscal rule implies that only the real returns on the Fund will be withdrawn and spent as a portion of the Government's budget.** In effect, this makes the Fund an endowment for the Norwegian people with an investment horizon that – in principle – is infinitely long.

18. **The Fund's investment strategy has been formulated for the Fund in isolation, and does not attempt to take a "national wealth perspective".** Its focus is on diversification of financial assets held within the Fund, and it has been developed gradually over time on the basis of comprehensive professional assessments. Such assessments also underpin the broad support for the strategy of the Fund in the Norwegian Parliament. By diversifying the investments in a portfolio, the overall risk will be lower than the sum total of the risk of each individual investment. The long-term investment strategy stipulates a fixed equity target of 60 percent. The size of the equity portion largely determines the risk level of the Fund. The Ministry has adopted a benchmark index for the GPFG, which implies that the composition of investments in equities and corporate bonds reflect free-float market weights, while the composition of investments in government bonds is based on the sizes of countries' economies, as measured by gross domestic product (GDP) weights. By holding a portion of companies worldwide, the Fund can, over time, reap a return close to the overall return in global capital markets. Other key elements of the strategy are responsible investment practices, cost-effectiveness, moderate limits for deviations from the benchmark index (active management), and a clear governance structure. The investment strategy is further characterized by seeking to exploit the long horizon of the Fund and profiting from investments that offer risk premia over time.

Governance

19. **The governance structure is based on a clear division of roles and responsibilities between the Ministry of Finance as formal owner of the Fund and Norges Bank (through its investment management division NBIM) as the operational manager.** The GPFG is not a separate legal entity. The legal framework of the GPFG is established by the Government Pension Fund Act. Parliament has given the Ministry of Finance responsibility for managing the Fund. The Act requires the operational management to be carried out by Norges Bank. The Ministry has issued a Mandate for the Fund's management, which sets the terms for the Fund's investments through regulations and supplementary provisions. It also lays down ethical guidelines for the Fund's management. The Mandate further specifies that Norges Bank should make investment decisions independently of the Ministry.

20. **The governance structure of the Fund must enable both sufficient parliamentary control of the important decisions in the Fund strategy, and operational efficiency in asset management.** On the one hand, the governance structure must ensure that important decisions relating to portfolio risk have the support of the Fund's owners, represented by the Norwegian Parliament. On the other hand, there must be sufficient delegation of authority to allow day-to-day decisions in the operational management of the Fund to be made by professionals who are close to

the markets in which the Fund is invested. It is important that there be a clear division of roles and responsibilities among all governance levels involved in the management of the Fund, from Parliament down to each individual manager.

21. **This clear division of roles and responsibilities is also important in the area of responsible investments.** In the recommendation from the Standing Committee on Finance following the 2014 annual report to Parliament on the management of the Fund, the Committee expressed support for this clear division of roles and responsibilities in the area of responsible investments, and repeated that the investment goal for the fund is to maximize return within a moderate level of risk.⁸

22. **Widespread support for the main principles underpinning the management of the Government Pension Fund Global contributes to a stable long-term strategy, even during periods of market turmoil.** Good long-term management is necessary to ensure that the revenues from the petroleum resources will benefit both future and current generations. Transparency is a prerequisite for securing widespread confidence in the management of the Government Pension Fund Global. The Ministry states that it seeks to facilitate a broad-based debate on important aspects of the investment strategy of the Fund. Material changes to the strategy are submitted to Parliament. A thorough decision-making process is one of the strengths of the governance structure and supports the implementation of the Fund's investment strategy.

Investment Beliefs

23. **The investment strategy of the Fund builds on a set of stated investment beliefs.** These investment beliefs represent views on how financial markets function and the special characteristics of the Fund as an investor. Building on a set of stated investment beliefs ensures internal consistency in how various investment strategy issues are treated, and may also help communicate the basis for the strategy externally.

24. **One of the defining characteristics of the Fund is that it is very large with no explicit liabilities or short-term liquidity needs.** This has several implications for its investments and creates both opportunities and constraints. *First*, the large size of the Fund, relative to any realistic short- and medium-term necessity to draw on its resources, results in a high capacity to tolerate fluctuations in the market value of the Fund's investments over the short and medium term. *Second*, the Fund is so large that, in practice, it is forced to hold a significant part of its assets in the large markets for listed securities. At present, the markets for unlisted assets such as private equity are likely to be too small to absorb a significant allocation from the Fund. Even in the large and relatively liquid markets for publicly traded assets, the Fund is so large that it can incur significant trading costs if it tries to make substantial changes in its asset allocation over a short period of time; in practice, the pace of change in asset allocation must be slow. This also implies that there are investment strategies that are infeasible for the Fund to pursue. *Third*, the size of the Fund makes it a significant owner in the companies in which it invests, even when the portfolio is diversified over

⁸ See Inns. 200S (2013-2014), committee remarks pp. 7 and 8.

a large number of individual companies. This is an important factor when assessing the scope and usefulness of ownership strategies. *Fourth*, the size of the Fund may mean that companies which are excluded or divested on ethical grounds – even if the actual investment itself is relatively small – may suffer reputational damage and thus such exclusions or divestments may potentially induce other companies to try to avoid such an event. This is a relevant factor when assessing the potential usefulness of exclusion and divestment criteria for carbon-intensive companies.

25. **The size of the Fund, combined with the spending rule, necessitates a very long investment horizon.** This is of particular relevance for discussing the possible implications of carbon pricing or climate change – the effects of which will probably play out over a long period of time. In general, this feature of the Fund also has implications for its capacity to hold assets with larger short-term variations in returns.

26. **The Fund is state-owned. The implications of this distinctive characteristic are partly felt through the governance structure and the decision-making processes of the Fund.** The requirement of a basis in Parliament for important investment decisions gives the Fund the important advantage of greater support for staying the course with its long-term strategy, together with a reduced likelihood of knee-jerk responses to short term changes in the market environment. At the same time, it limits the Fund's ability to react quickly to changes in the market environment. The issue of state ownership is also relevant for the discussion of the ethical aspects of the Fund's investment – the policies of the Fund should be consistent with the values of its ultimate owners, the Norwegian people.

27. **The investment strategy is generally predicated on an assumption of market efficiency.** This implies that prices of financial assets are generally assumed to be "fair" in the sense that there is no easy way for the owner to "beat the market" on a risk-adjusted basis. The owner delegates to the manager (Norges Bank) the task of identifying and benefitting from any mispricing in financial markets. The assumption of market efficiency is a relevant starting point for discussing if and how risks related to climate change and climate policies are broadly reflected in the value of the Fund's assets.

28. **Furthermore, the strategy is based on an assumption of a positive relationship between risk and expected return in financial markets.** Investors who are willing to accept higher risk generally expect to get paid in the form of a higher return over the long haul, as compared to the return on more secure investments. The objective for the GPF's investments is to achieve the highest possible international purchasing power for the Fund's capital over time, subject to a moderate risk level. Avoiding all risk is not an objective for the management of the Fund. On the contrary, accepting a moderate level of risk provides higher expected returns over time. The Fund has the capacity to bear fluctuations in returns from year to year. However, historical volatility in itself does not reflect all of the underlying risks in the Fund. That is, some risks are more difficult to identify *ex ante* when market conditions are normal, but may nevertheless have large *ex post* effects, for example during financial crises. The investment strategy is therefore not simply aimed at minimizing short-term fluctuations in value, but is also designed to identify, manage, and communicate risk exposure. This is crucial in order to be able to maintain the long-term strategy in times

of market stress. A strategy focused exclusively on minimizing risk would produce significantly lower expected returns over time.

29. **One consequence of this set of beliefs is that the Fund is set up to be a moderately *contrarian* investor.** The Fund does this through a so-called rebalancing strategy, i.e. by regularly adjusting the portfolio back to pre-set allocations to various asset classes. The implication of this strategy is that the Fund systematically sells assets when they are increasing in price and buys assets when their price falls. Over time, this approach has added value to the Fund.⁹

30. **It is thus useful to distinguish between strategies that are beneficial to the Fund because they are *not* followed by other investors and strategies that are beneficial to the Fund when others are also applying these strategies.** With the rebalancing strategy described above, the Fund increases returns by buying assets when other investors want to sell and by selling when others want to buy. In practice, this is not a strategy which can be followed simultaneously by all investors. Active ownership and engagement, on the other hand, *can* be pursued by all investors simultaneously and is an example of strategies with positive spill-over effects among investors. For example, investors in a firm benefit when other owners are actively pursuing improved governance in investee companies. When discussing issues concerning carbon-related investments, it will be useful to keep in mind this distinction between strategies that may work well because other investors do *not* copy them and strategies that may serve as an example to and be beneficial for other investors.

31. **The strategy of the Fund is also based on the recognition of important *principal-agent problems* in financial markets.** Principal-agent problems arise whenever a manager (agent) does not have the same incentives and interests as the ultimate owner (principal), and may therefore behave in a way that is not optimal from the owner's point of view. Principal-agent problems may therefore hamper investment performance. In capital markets, principal-agent problems generally arise between shareholders and company managers and between asset owners and asset managers. Public focus on quarterly performance measures and headline risk aversion are two possible reasons a manager may not act in accordance with the owner's long investment horizon. Engagement strategies consonant with recognized corporate governance principles and other standards that seek to promote long-term or sustainable behavior may reduce principal-agent problems by narrowing the gap between the interests of a company and its owners.

32. **Several of the investment beliefs discussed above are relevant to the issues discussed in this report.** The Fund's *long investment horizon* means that long-term risks and opportunities matter. Climate change is clearly one such long-term issue. The Fund's *contrarian approach* generally means the Fund seeks higher returns by buying assets when other investors want to sell and selling them when there is

⁹ See, for example, analysis presented in Report to Parliament no 17 (2011–2012) The Management of the Government Pension Fund in 2011. Available at: <http://www.regjeringen.no/en/dep/fin/Documents-and-publications/propositions-and-reports/Reports-to-the-Storting/2011-2012/meld-st-17-20112012-2/2/5/3.html?id=680537>

strong demand in the market. It is useful to consider how this might extend to assets affected by climate risk. Broad *diversification* means that issues that are external to the individual companies in the Fund's portfolio may be internalized for the portfolio as a whole. Again, climate change is one such issue. Being *state-owned* has, among other things, led to a specific set of ethical restrictions for the Fund. These will be central to how climate-related policies for the Fund could be implemented. Finally, *principal-agent* problems between owners of companies and managers of companies clearly have an impact both on the prioritizations and results of engagement activities. As we will discuss below, the question of whether managers of carbon-intensive companies are properly incentivized to consider climate risk in their investment decisions is relevant in the context of the issues considered in this report.

III. RESPONSIBLE INVESTMENTS IN THE GPFG

The Development of the Strategy for Responsible Investments over Time

33. **The strategy for responsible investments in the GPFG has been developed over time.** That the Fund should be a responsible financial investor, one which promotes corporate governance and takes environmental and social considerations into account, follows from the Fund's Mandate and enjoys broad parliamentary support.¹⁰ The GPFG's owner, the Ministry of Finance, has stated that it considers sound financial return over time to be conditional upon sustainable economic, environmental and social development, as well as well-functioning, legitimate and efficient markets. The Ministry has adopted a set of ethical criteria for the exclusion of companies, based on their products or activities. In this chapter, we present the overall development of the strategy for responsible investment in the GPFG first, before describing the work of the Council on Ethics and the strategies of Norges Bank.

34. **Ethical guidelines for the management of the GPFG have been in place since 2004, based on proposals contained in the report from the Graver Committee.**¹¹ These guidelines received support from all political parties in Parliament. The guidelines were based on two principles. *First*, that the Fund should be managed with the aim of a high return, so that future generations can also share in the country's oil wealth. This ethical obligation is safeguarded through the ongoing work of securing a high return at moderate risk, including exercising ownership rights to safeguard the Fund's financial interests. *Second*, that the Fund should avoid investments that represent an unacceptable risk of the Fund contributing to grossly unethical activities.

35. **The ethical guidelines provide for the use of two instruments: exclusion of companies from the portfolio and the exercise of ownership rights.** The exclusion criteria were based on a perceived overlapping consensus amongst the Norwegian population. An independent Council on Ethics was appointed to advise the Ministry of Finance on the exclusion of companies, and Norges Bank was given the

¹⁰ However, when the Fund started to invest in equities in the late 1990s, it explicitly did not exercise active ownership and there were no provisions for the ethical exclusion of companies.

¹¹ NOU 2003:22 Investments for the Future.

task of exercising ownership rights. These guidelines were evaluated in 2009. The evaluation resulted in the introduction of new measures and tools to strengthen the Fund's responsible investment practice.

36. **In line with international developments, over time more emphasis has been placed on integrating environmental, social and corporate governance considerations into investment activities.** Using available active ownership tools in a coordinated, predictable, and consistent manner has also been a priority. Accordingly, environmental, social, and governance issues are integrated into the investment and risk management processes. The responsible investment strategy for the management of the Government Pension Fund Global currently encompasses the following areas:

- a. active ownership
- b. observation and exclusion of companies on ethical grounds
- c. international collaboration and contribution to the development of best practice
- d. research and analysis
- e. environment-related investments

Active ownership has been fully delegated to Norges Bank, as has the operationalization of environment-related investments. The responsibility for providing recommendations on exclusions and observations has been given to the Council on Ethics. There are established routines for coordination and the exchange of information between Norges Bank and the Council on Ethics.

37. **Norges Bank, in its management of the GPF, was in many ways a forerunner within responsible investment.** Norges Bank was amongst the group of asset owners who developed the Principles for Responsible Investment (PRI)¹² and was a founding signatory of the Principles. Norges Bank was also a pioneer in other areas, such as in the development of expectations documents¹³ and the integration of environmental, social, and governance (ESG) factors in the Fund's management. Most particularly, Norges Bank was an early adopter in establishing climate change risk as a specific focus area in its exercise of ownership.

38. **Climate change-related criteria were considered in the work on the exclusion mechanism in 2004, but were not included.** The Graver committee noted, for example, that energy production based on fossil fuels has an indisputable impact on the environment and that the Norwegian authorities are working to reduce greenhouse gas emissions through binding international agreements. Nevertheless, the Committee concluded that this did not constitute an adequate basis for claiming that such production is so unethical that it should absolutely not be contributed to, particularly given that the Norwegian State has large, direct oil and gas interests. The committee also noted that a precondition for using environmental conventions as a basis for requiring certain environmental standards by companies must be that such

¹² See <http://www.unpri.org/>

¹³ See http://www.nbim.no/globalassets/brochures/climate_september_2012_til_net.pdf and <http://www.nbim.no/en/responsibility/responsible-investments/climate-change/>

conventions govern environmental matters over which the companies in question have some degree of control. For example, the UN Framework Convention on Climate Change¹⁴ identifies greenhouse gas emissions as a problem and has led to associated national commitments to reduce emissions, but does not regulate which emissions are to be reduced in individual countries, or how. It is for the relevant national authorities to select strategies and instruments that regulate company conduct.

39. **Another reason that climate emissions were not included as a basis for exclusion was the requirement that there must be a clear causal link between the excluded company and concrete damage.** This requirement follows from the stated *aim* behind the exclusion mechanism: it is to avoid being “complicit” in unethical conduct or production through ownership. Unless a concrete unethical result were directly attributable to a company, complicity to such a result would be equally hard to establish. Contribution to climate change has thus not been evaluated under the environmental exclusion criterion, where the focus has been on explicit breaches of standards or regulations or severe (but local) environmental damage.

40. **Specific environment-related investment mandates were established as the result of the evaluation of the ethical guidelines.** NBIM has implemented both internal and external mandates since 2009. The environment-related investments are made within the same framework as the Fund’s other investments in equities and bonds, and are subject to the same return requirements as the Fund’s other investments. It was decided in 2014 to increase the allocation to such investments significantly, to NOK 30-50 billion. The investments are made in equity securities of listed companies with a focus on water and waste management and clean energy. At the end of 2013 these investments totaled NOK 31.4 billion.¹⁵ Norges Bank uses both internal and external managers for these investments and is currently strengthening the environmental investment team.¹⁶

41. **The GPF’s strategy for responsible investments is not based on excluding companies.** Exclusion has been limited to the worst offenders. The strategy is focused on, where financially relevant, exercising ownership to safeguard the Fund’s current investments by reducing risk and promoting good corporate governance standards, including in terms of ESG. The tools the Fund utilizes in this strategy more often than not reflects an assumption that *ownership*, rather than *exclusion*, will be successful.

The Work of the Council on Ethics

42. **The Council on Ethics has been given the task of monitoring the Fund portfolio for companies that might be in violation of the criteria in the ethical**

¹⁴ See http://unfccc.int/essential_background/convention/items/6036.php

¹⁵ The environment-related investment universe is not unambiguously defined, and identifying such investments involves a number of demarcation problems. About 6 percent of the value of the GPF’s equity benchmark, corresponding to about NOK 180 billion, is already accounted for by companies that derive more than 20 percent of their earnings from environment-related activities, and which therefore meet the environmental requirements in the FTSE Environmental Opportunities All-Share Index.

¹⁶ See http://www.nbim.no/globalassets/documents/submissions/2014/experience-with-environment-related-mandates---final_10-march-2014.pdf

guidelines. Under the guidelines, companies are to be excluded if they produce certain products or sell weapons to specific states. Companies may also be excluded if there is an unacceptable risk that they may contribute to, or are themselves responsible for, certain grossly unethical activities.

43. **The exclusion criteria are divided into two main categories; *product-based* exclusions and *conduct-based* exclusions.** Concerning the first category, the guidelines stipulate that the Fund assets shall not be invested in companies that, themselves or through entities they control:

- a. produce weapons that violate fundamental humanitarian principles through their normal use;
- b. produce tobacco; or
- c. sell weapons or military material to states whose government bonds are excluded from the Fund.¹⁷

44. **The Revised National Budget for 2004 provides an exhaustive list of weapons covered by the product-based exclusion criteria.**¹⁸ It lists chemical weapons, biological weapons, anti-personnel mines, undetectable fragmentation weapons, incendiary weapons, blinding laser weapons, cluster munitions, and nuclear weapons. The Fund is not permitted to invest in companies that develop or produce key components for these types of weapons.

45. **The criterion for the exclusion of companies that produce tobacco is limited to the actual tobacco product and does not include associated products such as filters and flavor additives or the sale of tobacco products or tobacco substitutes.** This interpretation of the tobacco ban was established by the Ministry of Finance. All companies that, themselves or through entities they control, grow tobacco plants or process tobacco into end products are excluded, regardless of how large or small a share of the company's overall operations such tobacco production represents. Tobacco was added as a criterion because it has proven to be a significant health hazard for all users.

46. **The second category of exclusion criteria pertains to company conduct.** A company may be excluded from the Fund if there is an unacceptable risk that the company contributes to, or is itself responsible for:

- a. serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labor, the worst forms of child labor, and other child exploitation;
- b. serious violations of individuals' rights in situations of war or conflict;
- c. severe environmental damage;
- d. gross corruption; or
- e. other particularly serious violations of fundamental ethical norms.

¹⁷ The criteria for such government bond restrictions are given in the management mandate for the GPFG.

¹⁸ A version of the list in English is provided in section 5.3.1.2 in <http://www.regjeringen.no/en/dep/fin/Selected-topics/the-government-pension-fund/responsible-investments/The-Graver-Committee---documents/Report-on-ethical-guidelines.html?id=420232>

47. **The Council on Ethics uses a systematic monitoring process of portfolio companies as well as an incident-driven approach based on news monitoring, initiatives from special interest groups and systematic evaluation of problem areas.** The Council on Ethics monitors the portfolio to identify companies which engage in the production of the products listed in the criteria, or which contribute to or are themselves responsible for the unethical conduct described in the criteria for exclusion. The Council has agreements with several service providers who supply information and in-depth studies about the investee companies. If the Council considers that a company should be excluded, the company will have the opportunity to comment on a draft recommendation for exclusion and the grounds on which it is based. The Council on Ethics may also engage in dialogue with companies at an earlier stage.

48. **The first exclusion on environmental grounds came in 2006, and since then, 15 companies have been excluded on the basis of this criterion. In 2010, the Council on Ethics decided to specifically examine nine environmental issues, reflecting a more theme-based approach to the Fund's investments.** This has been followed up by the Council on Ethics in, for example, the following areas: oil production entailing major local pollution problems, certain types of mining activities in which waste handling involves special risk, unlawful logging and other particularly damaging logging, unlawful fishing and other particularly damaging fishing activities, dam projects which may cause serious environmental damage, and activities with severe and irreversible consequences for particularly valuable and/or protected areas.

49. **The Council on Ethics has as yet not recommended the exclusion of any company from the Fund based solely on climate damage, since it was expressly set out in the preparatory work of the ethical guidelines that climate change not be included in the environmental damage criterion.** The Council has, however, referred to climate issues in the evaluation of, for example, some tropical logging companies. In its assessments of the oil sands the Council has noted that this industry has been subject to much criticism due to the climate effects of its activities, the conversion of wilderness areas into mines, and local pollution. The Council noted in its 2013 Annual Report that oil sands operations involve major interventions in nature that have a negative effect on the populations of certain animal species and have clearly caused local air and water pollution. The latter two examples show that the wording of the environmental criterion itself does not exclude its applicability to climate-related activities.

50. **In all, exclusion has hitherto been a very visible, but a reasonably limited tool.** The Ministry has currently¹⁹ excluded 61 companies on the basis of recommendations from the Council on Ethics, out of a total of some 8,000 companies in the Fund's portfolio. These companies represented around 2.8 percent of the market value of the strategic equities benchmark of the Fund at the end of 2013.²⁰ It is thus clear that this mechanism is intended to avoid, in the portfolio, the very worst offenders against ethical norms.

¹⁹ As of Oct 1 2014.

²⁰ 1.65 percent if excluded tobacco companies are not included.

Box 1: Investor initiatives and international trends

Since the establishment of the first ethical guidelines, the financial industry's approach to responsible investments has changed significantly. Investor initiatives, coalitions, and standards have appeared covering a range of topics under the responsibility or "ESG" umbrella.²¹ This box gives some more information on some of the initiatives particularly relevant for this report.

Climate change investor initiatives

Over the past decade various initiatives that target climate change from the institutional investor's perspective have appeared. These include the four regional climate change investor groups – the Investor Network on Climate Risk (North America), the Institutional Investors Group on Climate Change (Europe), the Investor Group on Climate Change (Australia & New Zealand) and the Asia Investor Group on Climate Change (Asia), who have formed a global coalition. The coalition coordinates shared initiatives on climate policy, international agreements and international projects of common interest. Called the Global Investor Coalition on Climate Change, the coalition provides a global platform for dialogue between and amongst investors and governments on international policy and investment practice related to climate change. A Climate Change Working Group (CCWG) has also been established by the UNEP Finance Initiative. CCWG seeks to raise awareness and to communicate the problem of climate change to financial institutions, policymakers and the public at large. There have also been regular letters and Investor Statements on Climate Change since 2009, sponsored by the groups mentioned above, and The Principles for Responsible Investment (PRI), signed by hundreds of investors representing around USD 24 trillion under management.²² The statements seek to present institutional investors' views on climate change and focus on, for example, reducing risks, seizing opportunities and the framework for institutional investors' "climate-related" investments.

Exclusion or divestment initiatives

There have also been initiatives targeting exclusion or divestment directly. These campaigns largely began in the last three years on campuses and are now active at hundreds of colleges and universities globally. They have spread to religious organizations, cities, pension funds, hospitals, foundations, and individuals. The largest "fossil free" divestment campaign was initiated by 350.org. The online campaigns, grassroots organizing, and mass public actions are coordinated by a global network active in over 188 countries. Another fossil fuel divestment campaign is run by As You Sow – an organization promoting environmental, social, and governance issues (ESG) through shareholder advocacy. As You Sow states that "*divestment is a bold, dynamic escalation of the climate conversation that highlights the fossil fuel industry's central role in climate change. Carbon-free investment allows markets to accelerate the transition to a low carbon economy while helping investors hedge against the carbon bubble.*"

²¹ Environmental, social and governance issues.

²² NBIM signed the 2011 statement, see <http://www.nbim.no/en/transparency/news-list/2011-and-older/2011/nbim-signs-investor-statement-on-climate-change/>. See the following links for the relevant statements:

2009: <http://1gkvgy43ybi53fr04g4elpcdhfr.wpengine.netdna-cdn.com/wp-content/uploads/2012/11/2009-Investor-Statement-on-a-Global-Agreement-FINAL.pdf>

2011: <http://1gkvgy43ybi53fr04g4elpcdhfr.wpengine.netdna-cdn.com/wp-content/uploads/2012/11/2011-Investor-Global-Statement-FINAL-NOT-EMBARGOED.pdf>

New index products and active investing

Products have also been developed to cater to the new demand for “fossil free” indices or more active strategic allocations. In May 2014, the world’s largest fund manager BlackRock teamed up with London’s FTSE Group and the Natural Resources Group to create a new set of indices excluding fossil fuel companies: The FTSE Developed ex-Fossil Fuels Index Series excludes companies linked to exploration, ownership or extraction of carbon-based fossil fuel reserves. FTSE reports that the index would have had about the same annualized return and volatility as the unconstrained FTSE All World index since 2009, with a tracking error against the unconstrained index of 140 bps.²³ Another ex-fossil fuel index – the Fossil Free Indexes LLC - was established in 2013. Most recently, the index provider MSCI announced in September 2014 that it has launched a new MSCI Global Low Carbon Leaders family of indices. The indices seek to address two dimensions of carbon exposures: carbon emissions and fossil fuel reserves.²⁴ Some asset managers, for example Impax Asset Management and Generation Asset Management, offer various active renewable energy or climate products.

Shareholder resolutions

Climate-based shareholder resolutions also appear to be gaining ground. Between 2013 and 2014 there was a large increase in the number of proposals asking companies to take more aggressive action to combat climate change. Topics of proposals include carbon accounting and risk management disclosure, with 66 resolutions registered on these topics (up from 41 last year), while another 25 address additional energy matters (up from 17 in 2013).²⁵

Initiatives aimed at engagement

Some initiatives are targeting companies directly, highlighting their continued investments in fossil fuels as a threat to shareholder value. The Carbon Tracker Initiative has published many reports in the last few years covering sectors such as coal and petroleum. The key argument is that companies ignore the potential for a more combative world stance on climate change at their peril and that companies need to view potential long-term profits from a perspective that also assesses the possibility of the emergence of a world with much more stringent restrictions or taxes on greenhouse gas emissions than today. The Carbon Tracker Initiative does not argue for exclusion, but for a more nuanced stance from investors, analysts, regulators and policy makers alike, with a risk framework that accounts for different emissions scenarios. Investors are, for example, specifically encouraged to challenge the strategies of companies and reduce holdings in carbon-intensive companies, identify those with a majority of capital expenditure earmarked for high-cost projects and focus engagements on such projects, ensure that remuneration policies are in line with shareholder return objectives (not, for example, rewarding unwarranted spending or reserve replacement), and require more transparency on demand and price assumptions underpinning investment planning.

Disclosure initiatives

One prominent long-running example of a climate disclosure initiative is the Carbon Disclosure Project (CDP). CDP is a reporting initiative, backed in 2014 by more than 767 institutional investors representing more than USD 92 trillion in assets. It gives investors access to a global source of year-on-year information that supports long-term objective analysis. This includes evidence and insight into companies’ greenhouse gas emissions, water usage, and strategies for managing climate change, water and deforestation risks. The analyst Trucost has a database covering standardized greenhouse emissions for 4,500 companies going back to the year 2000. Other analysts, such as South Pole Carbon and MSCI ESG Research also provide carbon emissions measures at the company level. Carbon Action is a CDP

²³ See FTSE Developed ex Fossil Fuel Index Series (2014)
http://www.ftse.com/products/downloads/FTSE_Stranded_Assets.pdf

²⁴ See
http://www.msci.com/resources/pressreleases/MSCI_Launches_Innovative_Family_of_Low_Carbon_Indices_16Sep2014.pdf

²⁵ As you sow (2014) Proxy Preview 2014, p 21.

investor-led initiative to accelerate corporate action on carbon reduction and energy efficiency activities that are intended to deliver a satisfactory return on investment. These 254 investors, with USD 19 trillion in assets under management, ask the world's highest-emitting companies to make emissions reductions (year-on-year) with publicly disclosed targets. Some 300 companies received this request in 2013. Finally, other examples include the Carbon Asset Risk (CAR) initiative initiated in October 2013, coordinated by Ceres and the Carbon Tracker initiative with support from the Global Investor Coalition on Climate Change and the ICCR's Raising the Bar campaign, which aid ICCR members to develop bolder shareholder engagement strategies that will move companies to drastically reduce their emissions and accelerate the transition away from fossil fuels.

Disclosure initiatives also target asset owners directly and there has been an increase in funds reporting on the CO₂ emissions of their portfolios and so-called carbon footprints. The Asset Owners Disclosure Project (AODP), for example, is a global NGO directed specifically at pension funds. The AODP's objective is to protect members' retirement savings from the risks posed by climate change by improving the level of disclosure and industry best practice. The AODP surveys pension funds annually and produces an index on how they address climate change risk.

NBIM's Active Ownership

51. **As is clear from Box 1, over the last decade many different shareholder initiatives and campaigns that target climate change have appeared.** In this section, more detail is provided on NBIM's responsible investment strategy and active ownership activities. The Investment Mandate stipulates that Norges Bank integrate considerations of good corporate governance and environmental and social issues into investment activities, in line with internationally recognized principles for responsible investment. Norges Bank's responsible investments strategy and activities take into consideration standards such as the UN Global Compact, the OECD Principles for Corporate Governance, the OECD Guidelines for Multinational Enterprises and the Principles for Responsible Investment (PRI).

52. **Norges Bank believes that good corporate governance paves the way for profitable business, safeguards shareholder rights, and contributes to an equitable distribution of profits.** NBIM's 2014-2016 Strategy Plan²⁶ addresses the following responsible investment strategies:

- a. *Standard setting*: This includes NBIM's efforts to contribute to international standards and communication of NBIM's own principles, positions, and expectations. NBIM's responsible investment research is included in this category.
- b. *Risk monitoring*: This includes country-, sector- and company-level analysis, as well as NBIM's work within its focus areas and industry initiatives. Adjustments to the investment universe are also included in this category.
- c. *Owner*: NBIM votes at shareholder meetings and interacts with companies and their boards.
- d. *Environment-related technologies*: This includes the Fund's investments in environment-related mandates.

²⁶ See http://www.nbim.no/globalassets/documents/governance/strategy_final-printed.pdf

Norges Bank encourages companies to take responsibility for improving social and environmental practices that may have a negative impact on their development and, consequently, the Fund's investments. Norges Bank has chosen specific focus areas for its active ownership: Equal treatment of shareholders; shareholder influence and board accountability; well-functioning, legitimate and efficient markets; children's rights; climate change risk management and water management. Since 2006 climate change has been a specific priority area for NBIM in its engagement with industry sectors that are relevant in this context.

53. **In its annual report on the management of the GPFG in 2013, NBIM states that its investment analysis includes analyses of countries, markets and companies, as well as risk assessments of environmental, social and corporate governance issues.** Similarly, the Bank finds that the dialogue with companies becomes more consistent when active ownership is considered in the context of investment decisions.²⁷ Over the years, NBIM has consistently and clearly stated that the long-term return of the GPFG depends on sustainable development in economic, environmental and social terms and that responsible investment and active ownership are priorities for the management of the GPFG. Ownership activities are based on the principles laid down in the UN Global Compact and the OECD Guidelines Principles for Corporate Governance and Multinational Enterprises.

54. **Climate change was identified as a focus area for NBIM's ownership activities in 2006.** In 2007, NBIM reported on company dialogues regarding climate change, particularly among leading U.S. energy companies. In 2009 NBIM's Investor Expectations on Climate Change booklet²⁸ was published, which outlined NBIM's expectations for how companies should manage risk associated with the causes and impacts of climate change resulting from green-house gas emissions and the production and consumption of fossil fuel based energy. NBIM states that *“Establishing expectations and monitoring companies’ responses to climate change risk is a priority for investors as there is overwhelming scientific evidence that climate change threatens long-term financial returns”*.²⁹ In 2012, the NBIM Investor Expectations on Climate Change added expectations on the management of business activities that adversely affect the global climate by contributing to tropical deforestation.

55. **NBIM’s Expectations have been communicated to a number of boards of companies in which the Fund is invested, with the assumption that strategies to address them will be developed.** A systematic assessment of climate change reporting by companies in elevated risk sectors against the Investor Expectations on Climate Change has been conducted by external service providers annually since 2009. The results were analyzed by NBIM and summarized in “Sector Compliance Reports” issued annually between 2009 and 2012. The data presented in the report provided information on how companies with the highest risk exposure to climate change had put in place policies, strategies, action plans, and reporting practices in regards to climate change risk.

²⁷ Norges Bank Hearing Submission to the Ministry of Finance on the Strategy Council's 2013 Report. Available at <http://www.nbim.no/en/transparency/submissions-to-ministry/2014/consultation--responsible-investment-strategy-for-the-government-pension-fund-global/>

²⁸ See <http://www.norges-bank.no/Upload/NBIM/CG/Climate%20Changes.pdf>

²⁹ NBIM Investor Expectations on Climate Change, 2012.

The assessments tracked risk exposure and developments on the company and industry sector level. The main sources of information have been annual sustainability reports, company websites, and Carbon Disclosure Project (CDP) data. In its 2013 annual report, NBIM states that data from CDP were used directly in examining reporting within strategic focus areas beginning in 2013. Also in 2013 Norges Bank prepared 515 internal reports on companies in high-risk climate change sectors to see whether they have put in place relevant policies, strategies, action plans and reporting practices.

56. **The results of the assessments were summarized in individual company scorecards and communicated to portfolio companies.** A number of NBIM contacts were established as a follow-up to the measurements up to 2012. In 2012 and 2013 NBIM also contacted the boards in more than 100 companies about potential weak disclosure on the risk management of climate change related risk. The Bank believes it is important to consider active ownership and investment decisions in tandem in companies in which the Fund is a major owner.³⁰ Priority is given according to a combination of the size of the holding and ownership percentage. The Bank also takes into account whether an issue can be said to be of material importance at the company level, and whether it may have an impact on the valuation of the company. Today all portfolio managers have access to ESG data including information on climate change covering more than 4,000 companies. In the strategy document for 2014-2016, NBIM envisages an increased interaction with boards of the 100 companies in which it has the largest holdings, and in special situations.

57. **Voting is an important ownership tool.** The Bank votes at general meetings and submits shareholder proposals. The year 2013 saw more than 2,300 meetings between representatives of the fund and companies' management, and Norges Bank voted at more than 9,500 shareholder meetings. Shareholder proposals related to climate change are analyzed and voted on case-by-case. From the third quarter of 2013, the voting record was published on the Norges Bank website on the day after the votes were cast.

58. **Standard setting and promotional activities are other active ownership tools that NBIM has used, including with respect to climate change.** Whereas company interaction can influence individual companies, dialogue with standard-setters, may, according to Norges Bank, have an impact on all or major parts of the fund portfolio. NBIM writes in its strategy document for 2014-2016 that it will give priority to industry-specific initiatives when it sees challenges that may have an impact on the Fund's long-term return. NBIM has been in dialogue with a number of investor coalitions on climate change. In 2009 and 2011 NBIM signed the Interfaith Center on Corporate Responsibility (ICCR) climate investor statements. The Fund has supported the CDP initiative to standardize and expand global climate risk reporting in order to improve the management of environmental risks. NBIM also participates in seminars and conferences and also writes articles on the subject of climate change.

59. **In 2013, Norges Bank supported the development of international standards by, *inter alia*, making recommendations to the International Integrated Reporting Council (IIRC).** Integrated corporate reporting enhances the quality of the information disclosed to investors, especially in relation to environmental, social and

³⁰ Norges Bank Hearing Submission to the Ministry of Finance on the Strategy Council's 2013 Report. Available at <http://www.nbim.no/en/transparency/submissions-to-ministry/2014/consultation--responsible-investment-strategy-for-the-government-pension-fund-global/>

corporate governance matters. The Bank also supported research into responsible investment. In 2014 the Bank published plans to initiate a research project with Colombia University and Washington-based NGOs, the World Rights and Resources Initiative (RRI) to look at the links between mining companies' profitability and environmental, social and governance (ESG) risk factors.

60. **In 2014 Norges Bank provided support and recommendations on the reporting framework issued by the Climate Standards Disclosure Board (CDSB).** The intention of this voluntary framework is to assist companies in providing climate change-related information of value to investors in financial reports. The development of this framework also influences the CDP climate questionnaire. In its submission regarding the new draft framework, NBIM supported the overall project and provided some comments and suggestions.

61. **Portfolio adjustments are another way to reflect the potential impact of environmental, social and governance risks on the Fund's return.** Since 2012, Norges Bank has decided to divest from 27 palm oil producers, 16 gold-mining companies, and 11 coal-mining companies because of the high risk exposure to certain sustainability issues in these sectors and because their business models were deemed unsustainable. In its 2013 annual report, NBIM writes that they have continued to adjust the portfolio due to environmental and social risks and that these adjustments were based on sector and company analyses designed to identify business models which are considered less sustainable and profitable in the longer term.³¹ Norges Bank writes in its strategy document for 2014-2016 that it will further strengthen the risk monitoring of holdings, and develop the criteria by which the bank decides on investments. Norges Bank also states that there may be countries, sectors, and companies it chooses not to invest in, due to sustainability issues, and that there may be cases of divestment after other initiatives have failed. Norges Bank divested from 65 companies in 2012 and 2013 due to financial, social and environmental considerations.

62. **In 2013 the Ministry specifically asked Norges Bank to engage actively with two major oil companies with activities in the Niger Delta.** The two companies in question had been recommended for observation by the Council on Ethics. Norges Bank is expected to report directly on the results of the targeted engagement, and the horizon for engagement was set at 5 to 10 years. The Ministry has also asked Norges Bank to exercise ownership rights with a mining company with activities in Africa.

Reforms following the Report by the Strategy Council

63. **In White Paper no. 19 to the Storting (2013-2014) regarding the management of the Fund in 2013, the Ministry of Finance presented plans to reorganize the work on responsible investments.** A key part of this plan was to strengthen the responsible investment strategy by achieving a more integrated chain of decision-making on ownership and exclusion, thereby improving the results of the strategy. Embedded in this proposal was a plan to vest in Norges Bank the competence to

³¹ See http://www.nbim.no/globalassets/reports/2013/annual-report/annual-report_2013_web.pdf

make exclusion decisions. The Ministry's proposals follow from a report from the 2013 Strategy Council and a public hearing process based on the report.³²

64. **On June 3rd 2014, the Norwegian Parliament decided that the Council on Ethics should remain an independent body publicly advising on the exclusion and observation of companies from the Fund on the basis of the Guidelines for Observation and Exclusion of Companies.**³³ The criteria for exclusions will still be determined by the Ministry. Parliament also decided to shift the actual exclusion decision-making competence from the Ministry of Finance to Norges Bank, in order to achieve clearer lines of responsibility and a more integrated approach to exclusion and ownership decisions. The Ministry has yet to announce any intentions to implement other proposals put forward by the Strategy Council, such as the clarification of the objective for responsible investments or increased transparency about Norges Bank's active ownership and engagement agenda.

IV. THE FUND'S PRESENT INVESTMENTS IN CARBON-RELATED INDUSTRIES

65. **The Fund has large investments in carbon-related industries, including both energy and extractive industries.** At year-end 2013, some 8 percent of the Fund's equity portfolio was invested in the oil and gas sector, or NOK 255 billion. The Fund also had holdings of 40 billion in around 90 mining companies, of which only 2.5 billion were in approximately 40 purely coal-mining companies. Further, the Fund had some NOK 107 billion invested in utilities, of which there were at least 150 individual companies with coal-based power plants. Finally, the Fund had some 14 billion invested in various renewable or alternative energy-sector assets. See Table 1 for more details of this breakdown. The bond exposure to these sectors was somewhat more limited, in all some NOK 53 billion in the sectors mentioned above.³⁴

³² The proposal from the Government, following the advice of the Strategy Council, was to move the implementation of the exclusion guidelines from the Council on Ethics to NBIM. There was, however, insufficient parliamentary support for this part of the proposal.

³³ Inns. 200S (2013-2014). Original Norwegian document available at: <https://www.stortinget.no/Global/pdf/Innstillinger/Stortinget/2013-2014/inns-201314-200.pdf>.

³⁴ Some 2.5 billion for general mining, 30 billion for oil and gas and 21 billion for utilities, of which some 15 billion in conventional electricity.

Table 1. Energy-related investments in the GPFG's equity portfolio (31.12.2013)

Industry	Subsector	Market value (NOK millions)	GPFG Portfolio weight	GPFG Benchmark weight	Difference (percentage points)	Difference (NOK millions)
Oil & Gas	Alternative Fuels	345	0.01 %	0.00 %	0.01 %	345
Oil & Gas	Exploration & Production	53,351	1.72 %	1.90 %	-0.18 %	-5,583
Oil & Gas	Integrated Oil & Gas	162,088	5.22 %	5.39 %	-0.17 %	-5,279
Oil & Gas	Oil Equipment & Services	31,351	1.01 %	1.06 %	-0.05 %	-1,552
Oil & Gas	Pipelines	8,040	0.26 %	0.25 %	0.01 %	309
Oil & Gas	Renewable Energy Equipment	5,926	0.19 %	0.09 %	0.10 %	3,119
Basic Materials	Coal	2,534	0.08 %	0.12 %	-0.04 %	-1,267
Basic Materials	General Mining	36,633	1.18 %	1.17 %	0.01 %	310
Utilities	Alternative Electricity	7,598	0.24 %	0.15 %	0.09 %	2,849
Utilities	Conventional Electricity	50,155	1.61 %	1.62 %	-0.01 %	-312
Utilities	Gas Distribution	14,528	0.47 %	0.57 %	-0.10 %	-3,091
Utilities	Multiutilities	27,136	0.87 %	0.89 %	-0.02 %	-624
Utilities	Water	8,024	0.26 %	0.20 %	0.06 %	1,852

Source: Norges Bank

66. **Comparisons of the Fund's actual investments with the market weights in the Fund's benchmark index show that at year-end 2013 the Fund was somewhat underweighted in these sectors.**³⁵ In all it would appear that the Fund had around NOK 40 billion less invested in fossil fuels sectors compared to index weights.³⁶ Last year,

³⁵ Underweighting amounted to 0.55 percentage points for the equities portfolio and 1.15 percentage points in the bond portfolio, bringing the Fund's equity allocation to these sectors down from some 13 percent to 12.45 percent and bond allocation from some 3.9 percent to 2.75 percent. Sectors included: Oil & Gas (Exploration & Production, Integrated Oil & Gas, Oil Equipment & Services, Pipelines), Coal (equities only), General Mining and Utilities (Conventional Electricity, Gas Distribution and Multiutilities). We have not evaluated individual company exposure-, and index classification and structure follows the ICB system for equities.

³⁶ This includes both equities and bonds. For bonds, one seemingly relatively large underweight is the utilities sector, where the Fund had investments equal to some 1.1 percent of the Fund, as opposed to an index weight of around 2 percent. Sectors included: Oil & Gas (Exploration & Production, Integrated Oil & Gas, Oil Equipment & Services, Pipelines), Coal (equities only), General Mining and Utilities (Conventional Electricity, Gas Distribution and Multiutilities).

Norges Bank performed a risk assessment of sectors that pose particular environmental challenges. Based on this assessment, its holdings in 27 mining companies, including 11 coal-mining companies, were divested. Note that these decisions are different from exclusions. They are made within the current investment mandate based on assessments of risk exposure and sustainability of business models. The Fund similarly had an apparent overweight in renewable energy and alternatives of around NOK 6 billion, with total investments in those sectors of some NOK 23 billion.³⁷ These numbers of course only give a static, one-off picture of the portfolio distribution and are based on end-2013 estimates.

V. FOSSIL FUEL EXTRACTION, CARBON RISK AND THE MARKET FOR CO₂

Fossil Fuel Extraction, Carbon Risk and the Norwegian Economy

67. **Norway has a large petroleum sector, and will probably be a major producer of oil and gas for many decades.**³⁸ Petroleum activities have been crucial for Norway's economic growth. Over time, petroleum production has added more than NOK 11,000 billion to the country's GDP. In 2013, the petroleum sector represented more than 20 percent of the country's total GDP, about one third of government revenues and half of all Norwegian exports. The State holds large oil and gas reserves on the Norwegian continental shelf. To date, about 44 percent of the estimated total recoverable resources have been extracted. Large remaining recoverable resources on the shelf contribute to the belief that the petroleum industry will be a key sector in Norway for decades to come. These facts naturally raise the question of possible implications for the investment strategy for the GPF. G.

68. **This issue was discussed in the White Paper from the Ministry of Finance presented to Parliament in April this year.**³⁹ The analyses were based on historical data on oil prices and stock returns. The Ministry does not make any assumptions concerning the future price path for oil. The conclusion in the White Paper is that GPF equity holdings in oil and gas companies should *not* be divested from to reduce the oil price risk of the Norwegian economy. The main arguments from the Ministry are:

- a. The main instrument to handle oil price risk is the establishment of the Fund itself, which is a mechanism for converting oil assets "in the ground" to a broadly diversified portfolio of financial assets.
- b. By allocating the ongoing revenues from the extraction of oil and gas to the GPF, the effects of oil price changes on the Norwegian economy are reduced. This reallocation is taking place at a fairly rapid pace. The petroleum reserves have been more than halved over the last 15 years.

³⁷ Renewable energy and alternatives include hydroelectric power. To the overweight in Table 1 we have subtracted an apparent underweight in the bond portfolio of about 0.12 percentage points in hydroelectric power.

³⁸ The numbers can be found in FACTS2014, the Norwegian Petroleum Sector. Available at: http://www.regjeringen.no/upload/OED/pdf%20filer/Faktaheftet/Fakta2014OG/Facts_2014_net .pdf.

³⁹ Report No 19 (2013-2014) The Management of the Government Pension Fund in 2013. Available at: http://www.regjeringen.no/pages/38671176/translation1_2.pdf

- c. Whereas oil and gas equities are more sensitive to oil price changes than are equities in other sectors in the short run, general stock market returns appear to have a larger impact on oil and gas companies than do oil price developments in the longer run. One reason for this may be that the long-term price risk is borne by the “resource owner”. In the longer run, then, oil and gas companies will end up with a similar profitability as will other sectors. Oil price changes may also be caused by changes in extraction costs, in which case price changes will have little impact on the oil companies’ profits.
- d. A prerequisite for reducing the oil price risk of the State through changes to the composition of GPFG investments is the existence of robust long-term relationships between changes in financial market values and oil price developments. However, a review of the research on historical relationships among oil prices, the macroeconomy, and financial markets in general shows that there is no clear understanding of such relationships.

69. **A full analysis of this issue is not covered by our mandate and falls well outside the scope of this report.** The Norwegian economy as a whole is exposed to oil price and carbon risk, not just directly through the oil and gas sector and the physical reserves but also through the linkages they have to the human capital component of national wealth. From a national wealth point of view, this is a relevant discussion, but given the mandate of the group it falls outside the scope of this report. It also falls outside the present model for the management of the Fund, in which the investment strategy reflects the Fund’s financial objective on a standalone basis and does not attempt to address wider national wealth considerations.

70. **It could be useful to carry out further work on this issue.** There are several extensions of the Ministry’s work that would give a more complete picture of the issue and a more solid basis for discussing the role of petroleum producers in the Fund portfolio, potentially also with a view to addressing the overall oil price risk for the Norwegian economy. Future studies might usefully

- a. elaborate further on the historical relationships between the oil price, the macroeconomy and the financial markets – this is a natural starting point for discussing the links between oil price risk from an investment perspective and oil price risk as a macroeconomic issue;
- b. discuss whether it is possible to evaluate the relevance of, and alternatives to, historical data in a world that is gradually coming off its dependence on fossil fuels;
- c. discuss to what extent the estimate of petroleum wealth underestimates the true share of petroleum in national wealth, given that the value of human capital also – to some extent – is affected by oil revenues;

- d. discuss how the Fund's equities in oil and gas contribute to the Government's total oil price risk exposure;⁴⁰
- e. discuss what other tools for mitigating oil price risk are available, and how the costs and benefits of achieving this through changing the investment strategy of the Fund compare to other options;
- f. discuss whether exclusion of petroleum producers could expose the Fund to an increase in other risks by overweighting other sectors – the recent financial crisis, for instance, revealed how exposed the financial sector was to global liquidity conditions and how correlated the investments in that sector were with the value of the human capital component of national wealth, which is many times larger than the value of petroleum resources, through effects on employment.

Climate Change, the Pricing of CO₂ and the “Carbon Bubble”⁴¹

71. **There is broad agreement that a relationship exists between man-made CO₂ emissions and climate change.** The scientific research on this issue is summarized in the Fifth Assessment Report (AR5) from the Intergovernmental Panel on Climate Change (IPCC).⁴² AR5 consists of three Working Group (WG) reports and a Synthesis report (SYR).⁴³ The IPCC reports show that global emissions of greenhouse gases have risen to unprecedented levels, despite a growing number of policies to reduce climate change. Emissions grew more quickly between 2000 and 2010 than in each of the three previous decades. Based on current emissions trends, IPCC projections show global warming of up to 5°C by the end of this century.⁴⁴ It is clear that further policy action is needed to curb global climate change.

⁴⁰ Clearly, other Norwegian state assets such as Petoro and Statoil result in significant oil price risk exposure too, in absolute numbers much higher than the value of the Fund's oil investments. At the end of 2013, the Government's shares in Statoil alone were worth around NOK 315 billion, or over 20 percent more than the total value of oil and gas shares in the Fund.

⁴¹ The numbers we present on climate change in this section are all taken from public sources. We hope it gives a relevant background to, and balanced presentation of, the questions we discuss. The intention is not to present the scientific basis for climate change. Other reports already do this, and we aim to highlight some of them in what follows. Some of the discussions, such as the one on stranded assets, are ongoing and our presentation here is not intended to give definite answers, but rather highlight considerations we believe to be important in the GPFG context.

⁴² IPCC (2013) Climate Change 2013: The Physical Science Basis. Available at: <http://www.ipcc.ch/report/ar5/wg1/>

⁴³ SYR is the final part of the IPCC's AR5 and provides an integrated view of climate change. Available at: http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_LONGERREPORT.pdf

⁴⁴ Climate science is complex. There are always many unknowns in future projections, such as the size and timing of emissions. The models are by necessity simplifications. While the warming trend is clear, future estimates will always be subject to much uncertainty. In a recent publication, the Global Carbon Project writes that "[...] *current trajectories of fossil fuel emissions are tracking some of the most carbon intensive emission scenarios used in the Intergovernmental Panel on Climate Change (IPCC). The current trajectory is tracking baseline scenarios in the latest family of IPCC scenarios that takes the planet's average temperature to about 3.2°C to 5.4°C above pre-industrial times by 2100.*" See <http://www.globalcarbonproject.org/carbonbudget/14/hl-full.htm> for more details.

72. **Human influence on the climate system is clear.** Continued emissions of greenhouse gases will cause further warming and changes in all aspects of the climate system. Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions (IPCC, 2013).

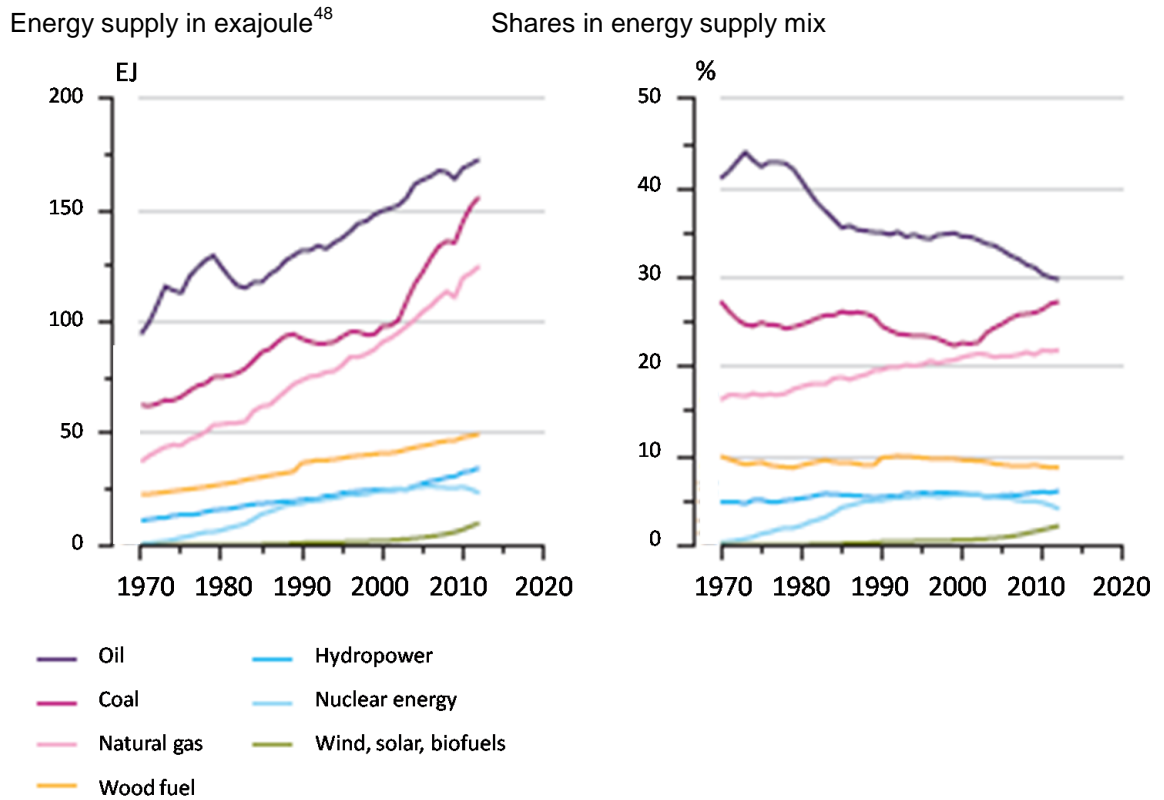
73. **CO₂ emissions from fossil fuels have increased by more than 50 percent since 1990 (IPCC, 2013).** Emissions growth between 2000 and 2010 has been larger than in the previous three decades. In particular, emissions from coal have increased in recent years. This is a reflection of population growth, economic growth in developing countries,⁴⁵ and the abundance of coal as a relatively cheap energy input. One implication of this is that the trend of decarbonization of energy may have slowed in recent years. The decarbonization of the energy supply will be a key determinant in future global climate change. Many technologies already exist to reduce greenhouse gas emissions, both through better energy efficiency and cleaner power production. As both energy infrastructure and carbon emissions have a long life,⁴⁶ the earlier increased energy inputs from renewable sources or cleaner fossil fuels is achieved, the larger the effect.⁴⁷ The world may therefore in some ways already be locked in to an unsustainable energy future in the medium term. Figures 1 and 2 below show the world energy mix and carbon emissions from fossil sources over time.

⁴⁵ So-called “Upper Mid-Income Countries” now emit roughly the same amount as High-Income Countries (according to the IPCC definition) and Lower Mid-Income Countries and Upper Mid-Income Countries have seen the largest relative increase in emissions from 1970 to 2010. Per capita the story is somewhat different, but China recently overtook the EU. See, for example, the IPCC WG III contribution to the IPCC Fifth Assessment Report for details. Available at: http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc_wg3_ar5_final-draft_postplenary_full.pdf

⁴⁶ Many decades for power plants, many centuries for carbon emissions. The International Energy Agency (IEA) warned in 2011 that “*four-fifths of the total energy-related CO₂ emissions permitted to 2035 in the 450 Scenario are already locked-in by existing capital stock, including power stations, buildings and factories. Without further action by 2017, the energy-related infrastructure then in place would generate all the CO₂ emissions allowed in the 450 Scenario up to 2035.*” See: <http://www.iea.org/newsroomandevents/pressreleases/2011/november/name,20318,en.html>

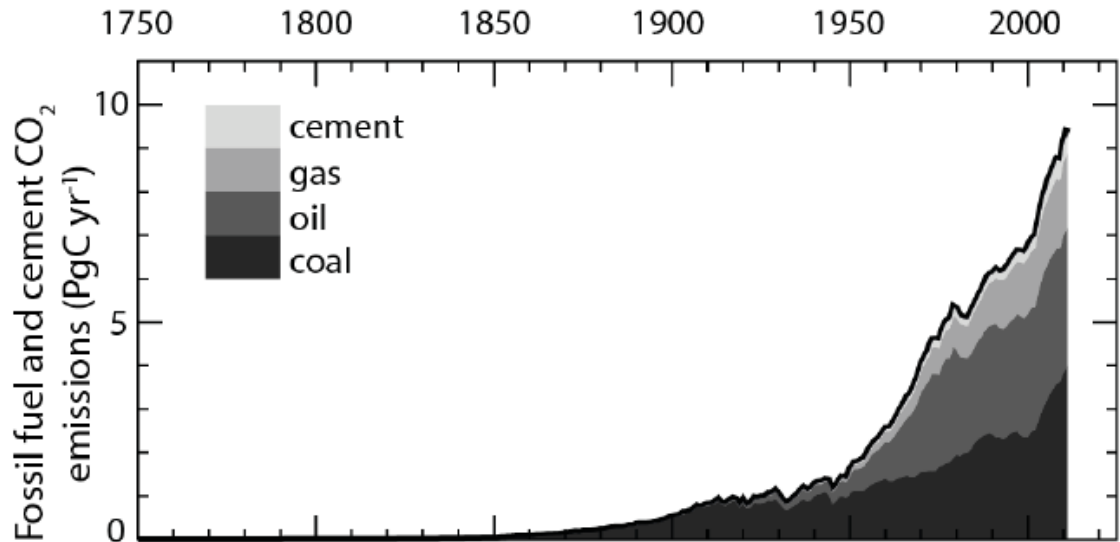
⁴⁷ IPCC (2014) notes that climate change adaptation and mitigation choices in the near term will affect the risks of climate change throughout the 21st century and also the way in which the benefits of adaptation and mitigation occur over different but overlapping timeframes. Projected global temperature increases over the next few decades are similar across emissions scenarios. In the second half of the 21st century and beyond, global temperature increases diverge across emissions scenarios. For this longer-term period, near-term and longer-term adaptation and mitigation, as well as development pathways, will determine the risks of climate change (IPCC, 2014: Summary for Policymakers. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability.) Available at: http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/ar5_wgII_spm_en.pdf

Figure 1: World Energy Supply Mix



Source: PBL Netherlands Environmental Assessment Agency 2013

Figure 2: Emissions from Fossil Fuel



Source: IPCC (2013)

⁴⁸ One exajoule is equal to one quintillion (10¹⁸) joules.

74. **In an economic sense, greenhouse gas emissions give rise to important externalities.** Externalities are production (or consumption) costs (or benefits) that do not accrue to the decision-maker. This means that the cost imposed on society by production or consumption is higher (or lower) than the cost paid by the producer or consumer him/herself. Examples may be costs relating to greenhouse gas emissions (negative) or education (positive). Externalities can lead to market failure and an economically suboptimal use of resources. Government-based solutions to externality problems include, for example, direct and indirect taxes as well as quotas. Subsidies may be introduced to encourage the consumption of a resource or a product.

75. **The Copenhagen Accord first established a “2-degree target” for climate change, often referred to as the “2-degree scenario” or “2DS”.**⁴⁹ This target, in turn, leads to an estimate of maximum allowable emissions of CO₂ into the atmosphere. This “budget” for emissions requires significant reductions in emissions from today’s levels. How such a reduction is achieved and its impact on various fossil fuels will depend on future technological development. Many observers have focused on coal, the most carbon-inefficient fuel source. At the same time, many projections of an energy mix compatible with the 2DS target include an assumption of the viability of carbon capture and storage (CCS).⁵⁰

76. **According to estimates from the Grantham Research Institute on Climate Change at the London School of Economics (LSE), 2DS translates to a carbon budget of around 900 GtCO₂**⁵¹ **in total accumulated emissions for the 2013-2050 period.**⁵² The Grantham budget is meant to give an 80 percent chance of limiting global warming to 2°C.⁵³ Along similar lines, the International Energy Agency (IEA), in its World Energy Outlook (2012), estimated that in order to have a 50 percent chance of reaching the 2DS, only a third of current fossil fuel reserves can be burned before 2050. This is the IEA 450 scenario. In this version of the “2-degree world”, oil demand starts to fall after 2020. Gas demand continues to increase, at least until 2035.^{54,55} Coal demand and generation of electricity from coal both start to fall almost immediately from current levels, and coal demand is reduced by roughly a third by 2035. Fossil fuels’ total share of the energy mix falls from about 80 percent today to 64 percent in 2035. In the IEA’s 2014 Energy Technologies Perspective, in the “2°C Scenario” (which in warming terms roughly corresponds to the 450 scenario in the World Energy Outlook publication) total

⁴⁹ The “two-degree scenario”.

⁵⁰ Carbon Capture and Storage (CCS), or carbon sequestration, refers to technologies designed to trap and store carbon emissions so that they do not enter the atmosphere.

⁵¹ Billion tons, or gigatons.

⁵² Grantham Institute (2013) Unburnable Carbon 2013: Wasted Capital and Stranded Assets, available at: <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2014/02/PB-unburnable-carbon-2013-wasted-capital-stranded-assets.pdf>

⁵³ A 66 percent chance of reaching 2DS would require a total budget of around 1000 GtCO₂ emitted, whereas a 50 percent chance would limit emissions to 1210 GtCO₂. However, inclusion of non-CO₂ greenhouse gases imposes a budget that is lower than these upper amounts. See http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf for details.

⁵⁴ IEA (2014), World Energy Outlook 2013, p 58.

⁵⁵ This is in the context of a shift to CCS.

energy demand increases by 25 percent to 2050 and fossil fuels deliver some 40 percent of world energy at this point in time.

77. **It is worth noting that the IEA, for example, does not have the 2DS as its “central scenario”.** The IEA central scenario is close to the “New Policies” scenario, in which the transition to a low carbon economy is slower than in the 450 or 2DS scenarios. The “New Policies” scenario takes into account broad policy commitments and plans that have been announced by countries, including national pledges to reduce greenhouse-gas emissions and plans to phase out fossil fuel subsidies, even if the measures to implement these commitments have yet to be identified or announced.⁵⁶ Other analyses show much the same thing; 2DS is currently not the most likely climate scenario.⁵⁷ The earlier described “lock-in” effect suggests that a global temperature increase that will exceed the 2DS seems likely.

78. **The transition to a low-carbon economy involves significant investments, but some studies indicate that these investments may have high returns for society.** As noted by the IEA: *“The deployment of a low-carbon energy system, as laid out in the ETP [Energy technology perspective] 2012’s 2°C Scenario (2DS), delivers wide benefits by enhancing energy security, environmental protection and economic growth. The world today is heavily dependent on finite fossil fuels, leading not only to significant emissions of climate-changing carbon dioxide (CO₂), but also posing broader environmental, economic, energy security and geopolitical challenges [...]”*⁵⁸ The IEA has quantified the required investments and potential benefits from a transition to a 2DS and find, for example, that an additional dollar invested in clean energy can generate 3 dollars in return by 2050 and that achieving the 2DS would require an additional USD 36 trillion between 2010 and 2050, equaling less than 1 percent of cumulative GDP over this period. The IEA estimates that the net benefit of moving to low-carbon energy technologies is USD 5 trillion using a 10 percent discount rate.⁵⁹

79. **Climate change is a global commons or coordination problem, the resolution of which would involve the establishment of sufficiently high costs of emitting CO₂ throughout most of the world through taxes or quotas.** Without sufficiently high carbon prices the road to lower emissions will be both harder and less direct. Today’s carbon markets are incomplete and subject to market failure, which reflects a political shortcoming. In particular, there exists a lack of relevant long-term price signals for companies and investors. Where markets exist, the current prices in most cases are far below the levels needed for a path towards the 2DS. At the same time, there is progress on many fronts. Today, countries that have implemented or announced specific carbon pricing mechanisms emit the equivalent of roughly 10 GtCO₂ per year,

⁵⁶ As we have seen, a static extrapolation of current trends may yield a slower transition still.

⁵⁷ The Global Commission on the Economy and Climate, in its 2014 New Climate Economy Report “Better Growth, Better Climate”, note that “without urgent action, warming could exceed 4°C by the end of the century, with extreme and potentially irreversible impacts” and that “[...] Without stronger mitigation efforts in the next 15 years, which lead global emissions to peak and then begin to decline, the risk of exceeding 2°C of warming will greatly increase”.

⁵⁸ See <http://www.iea.org/etp/faq/factsheets/widerbenefitsof2ds/>

⁵⁹ See <http://www.iea.org/etp/faq/factsheets/widerbenefitsof2ds/>

equal to about 20 percent of global emissions.⁶⁰ From 2007-2012, the share of global greenhouse gas emissions subject to some form of national legislation or emission-reduction strategy rose from 45 percent to 67 percent. Moreover, the world's major CO₂ emitters continue to enact significant new policies: Consider, for example, the United States Environmental Protection Agency's (US EPA) proposed new CO₂ standards for existing power plants and the plan for a hard cap on emissions in China in 2016.⁶¹ Globe International in its 2013 Climate Legislation Study,⁶² points out that there is also a trend wherein momentum in climate change legislation is shifting from developed countries to emerging markets. Globe identifies "flagship laws" – legal frameworks that serves as a comprehensive basis for climate change policy – in 62 out of the 66 countries in the study.

80. **We see from this section that "carbon price risk" is a form of political risk relating to the probability of the emergence of international climate agreements or national policies in the absence of such agreements.** The timing and extent of climate agreements will largely determine when and which assets will be affected. There is also important technological uncertainty that further influences an investor's ability to form long-term expectations about specific sectors, etc. The relative effect hinges on many "unknowns" about technological and social developments (CCS, fuel efficiency, demographics, economic growth, etc.). At the same time, it seems clear that both climate science and economics make an increasingly strong case for global action now. There is also a clear trend towards comprehensive climate legislation in a large part of the world and technological progress towards cheaper renewables and operational CCS technology. These developments already affect the relative prices of fossil and non-fossil fuel sources. Together with recent evidence of the increasing physical impacts of climate change globally, this may make the current lack of adequate response increasingly unsustainable and therefore force world governments to take action.

The Issue of "Stranded Assets"

81. **With current technologies, it is clear that the extraction of all identified petroleum and coal reserves in the world today are incompatible with the 2DS.**⁶³ At the same time, costs – especially solar energy costs – are coming down,⁶⁴ and may become competitive with coal even without subsidies within this decade.⁶⁵ Moreover,

⁶⁰ World Bank (2013) Mapping Carbon Pricing Initiatives – Developments and Prospects. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/15771/77955.pdf?sequence=1>

⁶¹ See <http://www2.epa.gov/carbon-pollution-standards> and <http://in.reuters.com/article/2014/06/03/uk-china-climatechange-idINKBN0EE0KB20140603>

⁶² Globe International (2014), The GLOBE Climate Legislation Study, Fourth Edition

⁶³ And, indeed, such extraction is also incompatible with scenarios forecasting more warming.

⁶⁴ The analysts at Citi find that: "Costs for solar and wind energy are falling rapidly, with learning rates of around 30% for solar and 7.4% for wind. As a result, wind power has already achieved cost parity with the most expensive of coal power plants in Europe and is expected to reach cost parity with the majority of coal plants by the end of the decade (see figure 36 below). While solar remains the most expensive major electricity source at present, Citi projects solar unit costs to fall to near those currently enjoyed by wind power by 2020." Citi, Energy 2020: The Revolution Will Not Be Televised as Disruptors Multiply, July 2014, p. 30

⁶⁵ Charles R. Franck, Jr. at the Brookings Institute, in a recent Global Economy & Development Working Paper "The Net Benefits of Low and No-Carbon Electricity Technologies" (May 2014), argues that

(continued)

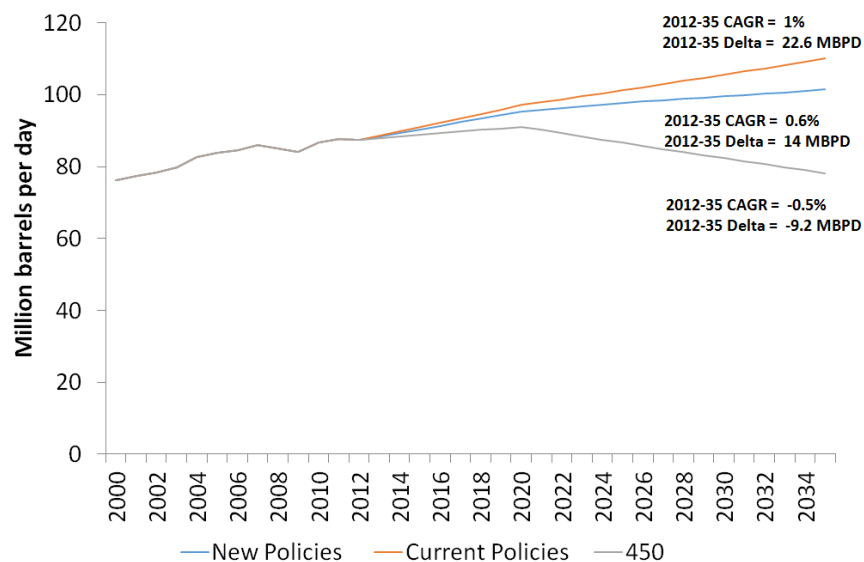
extraction of fossil fuels has become much more expensive in recent years. The increasing quantities of shale oil present in the market today are not cheap in a historical sense, at a break-even cost of USD 80 per barrel. At the same time, fossil fuel extraction and demand will remain for many decades to come and it is hard to forecast exactly how and when “stranding” will actually occur. As approximately 60 percent of total greenhouse gas emissions are related to the production and use of energy, it is clear that policies to combat climate change will have a large impact on the energy sector and that such policies could lead to capital being stranded in projects that are not viable at a higher carbon price. Research by the Grantham Institute at the LSE, Rystad Energy and the organization Carbon Tracker have tried to quantify the extent of such stranded resources in more detail. Rystad Energy finds that most lost production is expected to occur after 2050 and that *“oil fields currently in production or under development could be produced under the 2DS scenario, emitting in total 259 Gt. For fields not yet sanctioned for development, 59 percent of the resources must remain in the ground over the period 2013-2050. For undiscovered resources, 45 percent of the likely finds must remain in the ground to keep the emissions within the 2DS scenario.”*⁶⁶ In the Rystad Energy report coal fares worse than oil and gas, and the relative consumption of coal versus oil and gas is the main determinant of the 2DS oil and gas carbon budget. Figure 3 below shows oil demand in two IEA emissions scenarios.⁶⁷ Box 2, below, gives some more background on the stranded assets debate.

comparing leveled costs does not give the full picture of the relative merit of different energy sources and that costs and benefits should include benefits of a technology’s avoided carbon dioxide emissions, avoided energy costs and avoided capacity costs as well as costs such as its own carbon dioxide emissions, its own energy costs, and its own capacity costs. Some technologies have other specific costs associated to them. Wind, solar and some types of hydroelectric plants produce electricity intermittently and therefore generate additional system balancing and cycling costs that have to be taken into account. Article available at: <http://www.brookings.edu/~media/research/files/papers/2014/05/19%20low%20carbon%20future%20wind%20solar%20power%20frank/net%20benefits%20final.pdf>

⁶⁶ The Rystad Energy Report is available at: http://www.regjeringen.no/pages/38425303/2013_Rystad_Energy_Climate_report_Norwegian_Ministry_of_the_environment.pdf

⁶⁷ The analysis of energy costs per unit is complex and for our purposes the figure is an illustration only.

Figure 3: Oil Demand under IEA’s New Policies (4DS) and 450 (2DS) Scenarios



Source: CTI (2014)

82. **“Stranded reserves” will have no economic value given a price on CO₂ emissions corresponding to sustainable emission levels.** It is therefore natural to question what implications – if any – this would have for institutional investors’ investments in the fossil fuel sector. There have been attempts by analysts to illustrate the impact stranding would have on individual companies and their share prices. HSBC⁶⁸ writes that because of carbon risks’ long-term nature, it is doubtful that markets price the risk of loss of value. Depending on how one values wealth today relative to tomorrow – that is, how one discounts future cash flows – such an evaluation might be rational from an investment point of view. Generally, the analyses show that companies with high exposures to coal, or companies with higher than average production costs irrespective of type of fossil fuel resource, are most at risk. The oil majors and large mining companies are therefore less at risk, as their income is more diversified both from a product and cost perspective. At the same time, HSBC writes that, were lower demand to lead to lower oil and gas prices, the potential value at risk could be as high as 40-60 percent of market value.

83. **As with other investment decisions, in practice one sees different companies using different demand assumptions in their long-term planning.** For the bigger companies these assumptions are increasingly public.⁶⁹ Table 3 below shows some

⁶⁸ HSBC (2013) Oil & Carbon Revisited: Value at Risk from ‘Unburnable’ Reserves.

⁶⁹ CDP’s recent report says that 150 companies that report to CDP are using carbon pricing in their planning. See <https://www.cdp.net/CDPResults/global-price-on-carbon-report-2014.pdf>

underlying demand assumptions utilized by various companies. On average, the oil majors (Shell, BP and ExxonMobil) project 2012-2035 demand growth to be 5.5 MBPD (Million Barrels per Day)⁷⁰ higher than the IEA New Policies Scenario⁷¹ and 28.7 MBPD higher than the IEA 450 scenario. Many companies clearly do not currently plan according to a 2DS world.⁷² While there are many reasons for this perspective (notably the problems highlighted earlier in this section), this means that some of the investments these companies currently make will be at risk in a more climate-friendly environment. Industry reports such as the recent “What Next for the Oil and Gas Industry” point out, for example, both the increased risk of replacement of oil with oil-avoiding technologies within transportation and the uncertainties facing gas producers in markets defined by government policies towards alternative fuels for power generation.⁷³ These concerns are why organizations like CTI (Carbon Tracker Initiative) encourage companies to take seriously the potential for a 2°C pathway in their long-term energy outlooks. Analysts at Kepler Chevreux (2014) have estimated that USD 19.3 trillion of cumulated assets are at risk for the oil industry and USD 4.9 trillion for the coal industry between 2015 and 2035 in the IEA 450 scenario compared with the IEA New Policies Scenario.⁷⁴

Box 2: The Stranded Assets Debate

Oxford University’s Smith School of Enterprise and the Environment has a specific research program focused on stranded assets. On its website, the Smith School defines stranded assets as “[...] assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities and they can be caused by a variety of risks. Increasingly risk factors related to the environment are stranding assets and this trend is accelerating, potentially representing a discontinuity able to profoundly alter asset values across a wide range of sectors.” The Smith School also argues that “environment-related risks that could strand assets are poorly understood and regularly mispriced, resulting in an over-exposure to such risks throughout our financial and economic systems.” Cambridge Associates (CA), in a recent research note⁷⁵ on the stranding assets discussion, cites the following catalysts for the stranding of investments in fossil fuel reserves:

- **Policy.** Legislation to restrict carbon emissions or fossil fuel extraction would have the most immediate impact. CA notes, however, that the United Nations Framework Convention on Climate Change (UNFCCC) agreement is non-binding and in most large economies the potential for far-reaching and comprehensive carbon policies seems remote.
- **Substitution.** CA writes that a significant increase in the use of renewables could also have an impact on fossil fuel demand. According to the US Energy Information Administration, renewables currently account for just 8 percent of energy consumption, while oil, gas, and coal account for 36

⁷⁰ Carbon Tracker Initiative (2014), article available at:

<http://www.carbontracker.org/wp-content/uploads/2014/05/Chapter1ETAdemandfinal.pdf>

⁷¹ The New Policies Scenario models “the evolution of energy markets based on the continuation of existing policies and measures as well as cautious implementation of policies that have been announced by governments that are yet to come into effect” (2013 WEO: p. 33)

⁷² In fact, based on the above, they appear to be planning for a four-degree world or thereabouts. This still means, however, that they expect a more rapid transition to a low-carbon economy than a static extrapolation of current trends would indicate.

⁷³ Mitchell, Marcell and Mithcell, What Next for the Oil and Gas Industry, Chatham House (2012), available at:

http://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Energy,%20Environment%20and%20Development/1012pr_oilgas.pdf

⁷⁴ Report available at: http://www.keplerchevreux.com/pdf/research/EG_EG_253208.pdf

⁷⁵ Cambridge Associates (2014), Research Note June 2014. Available at:

<http://www.cambridgeassociates.com/our-insights/research/fossil-fuel-divestment/>.

percent, 25 percent, and 21 percent, respectively. While this mix will change in the future, projections show that fossil fuels will continue to be a large part of the energy mix for decades to come.

- **Sociopolitical Pressure.** CA observes that if public opinion shifts against fossil fuel extraction, divestment proponents believe that the companies will lose their social license to operate. While this will reduce the demand for fossil fuels, due to its current crucial position in the energy mix and for transportation it is hard to see how this shift in public opinion will strand a significant proportion of reserves on listed companies' balance sheets.

Data from Bank of America show that oil and gas investment in the US has soared to USD 200 billion per year. It has reached 20 percent of total US private fixed investment, the same share as home building.⁷⁶ The Carbon Tracker Initiative has recently published reports that look at the carbon supply cost curve specifically. The reports highlight marginal resources and resources at risk from a higher carbon price. According to the Carbon Tracker Initiative (2014),⁷⁷ listed companies have more exposure than national oil companies, especially as one moves up the cost curve. Oil sands and arctic drilling projects have been mentioned as being particularly at risk. The Carbon Tracker Initiative writes that companies are committing USD 1.1 trillion over the next decade to projects that require prices above USD 95 to break even. However, the oil majors appear to be, by and large, less exposed than smaller upstream companies. The Carbon Tracker Initiative points out that reducing high-cost options may be viewed favorably by the market as a way of cutting investments and maintaining dividends for such companies. Reports such as the ones developed by the Carbon Tracker Initiative enable investors to challenge companies on their underlying demand and price assumptions and should aid in engagements with such companies and in the efficient pricing of these companies.

Analysts at Kepler Chevreux use many of the same arguments as the Carbon Tracker Initiative but find that, even in a business-as-usual scenario, there could be real risks to the oil industry from continued high oil demand and rising oil prices *“as combined with continuing reductions in the costs of renewable technologies this could drive the accelerated substitution of oil in the global energy mix over the next two decades.”*⁷⁸

The investment bank Citigroup,⁷⁹ in a similar vein, writes that *“US gas and International coal prices have already fallen far from their peaks, but oil remains supported by volatile geopolitics. The update to Citi’s global oil demand model shows demand growth continuing through the end of this decade, but at a much diminished rate. This combined with geopolitical turmoil may keep oil prices supported, but this only increases the incentive to find substitutes and gives them more room to compete.”*

⁷⁶ Evans-Pritchard (2014), Daily Telegraph Website, see http://www.telegraph.co.uk/finance/comment/ambroseevans_pritchard/10957292/Fossil-industry-is-the-subprime-danger-of-this-cycle.html

⁷⁷ Carbon Tracker Initiative (2014), report available at: <http://www.carbontracker.org/site/carbon-supply-cost-curves-evaluating-financial-risk-to-oil-capital-expenditure>

⁷⁸ Report available at: http://www.keplerchevreux.com/pdf/research/EG_EG_253208.pdf

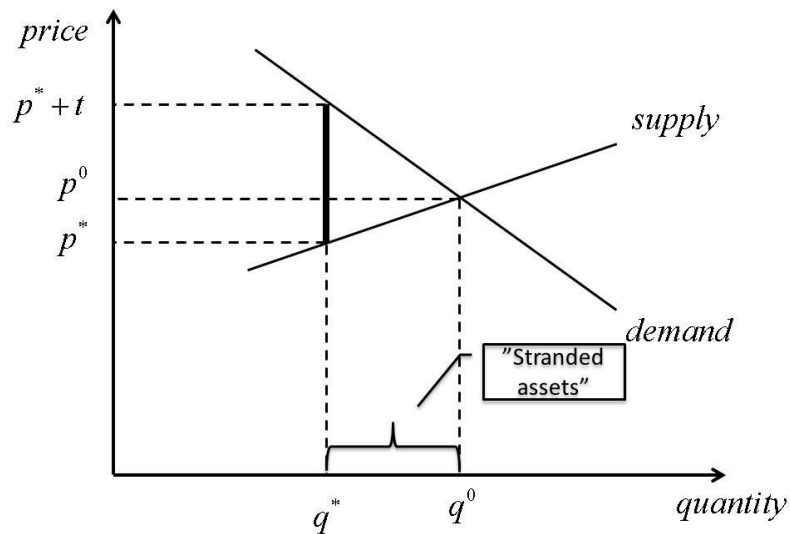
⁷⁹ Citi, Energy 2020: The Revolution Will Not Be Televised as Disruptors Multiply, July 2014, p 1.

Table 3: Change in Oil Demand under Different Scenarios, 2012 – 2035

	Change in Oil Demand (MBPD) 2012-2035	Annual Growth in Oil Demand, 2012-2035
IEA – New Policies	14.0	0.6 %
IEA – 450	-9.2	- 0.5%
BP	18.1	0.8 %
ExxonMobil	20.2	0.8 %
Shell – Mountains scenario	13.7	0.6 %
Shell – Oceans scenario	26.1	1.1 %

Source: Adapted from CTI (2014)

84. **“Stranded assets” can be analyzed through simple supply and demand curves.** A price increase for greenhouse gas emissions – be it from increased taxation or quota prices (t) – will lead to a fall in demand for greenhouse gas-intensive energy sources, and production will shift to the left as illustrated in Figure 4. The equilibrium production will fall from q^0 (without the tax/quota) to q^* (with the tax/quota). This will have exactly the same effect as a fall in demand (due to, for instance, lower global economic growth) to the point q^*/p^* on the supply curve. The tax/quota (or equivalent fall in demand) would “strand” the resources available to the right of this quantity on the supply curve – those resources that are relatively more costly to produce. Another source of “stranding” can be substitution along the supply curve, with newer, cheaper sources of supply making more expensive sources uncompetitive for a given demand level. It is (by definition) true that high-cost resources are more vulnerable to demand shocks or supply-side substitution. It is, however, hard to see why, for example, an oil company should find the concept of a marginal resource hard to conceptualize in its internal planning.

Figure 4: Supply and Demand and the Concept of Stranded Assets

85. **There is nothing inherently new about “stranded assets”.** The terminology of stranded assets is new language for an old idea. In principle, any asset can become “stranded” – a commercial property can lose much of its value if a nearby main road is moved away from it or a train station close by closes down, a production facility for patented drugs can lose value when the patent expires, a hotel can lose value if there is political unrest in the country where it is located, a power distribution system can lose value if government-controlled tariffs are cut, and a factory for mobile phones can lose value if competitors develop superior products. All companies face various degrees of political and/or technological risk that can have a significant impact on the demand for, and therefore value of, its assets. Since the early days of option theory, natural resource companies have been modeled as providing options on an underlying resource price. In the finance literature, the standard example is a gold mine that has to be abandoned if gold prices drop precipitously. The dilemma of sunk costs is older than that, however. In the economic history literature, there is discussion of how waterways were superseded by railroads. In regulated-utility hearings, there have been discussions over several decades of underutilized capacity arising from overbuilding.

86. **It is not obvious that markets are incapable of pricing such a risk efficiently.** By definition, the average investor must hold the market-weighted average of all available assets in the financial markets. While one individual investor may reduce his or her exposure to the risk of stranded assets by divesting, this option is not available to the sum of all investors collectively. Whenever one investor sells assets to reduce risk, there must by definition be a buyer on the other side of that trade. The market price set in such trades must be such that it gives the buyers a perceived fair compensation for the risk that they take on – otherwise the trade would not happen. Of course, different investors can have very different expectations regarding future carbon prices and the implicit risk of assets being stranded. This is, in principle, no different from having different expectations regarding any future event that could influence the value of an investment. In a competitive market, equilibrium prices should, by and large, reflect the best collective judgment of buyers and sellers regarding the probability of such events. Market prices of various assets today should adjust to give an expected return that provides adequate compensation for investment risks. This is true also if management of these companies is not properly incentivized to align investment decisions with

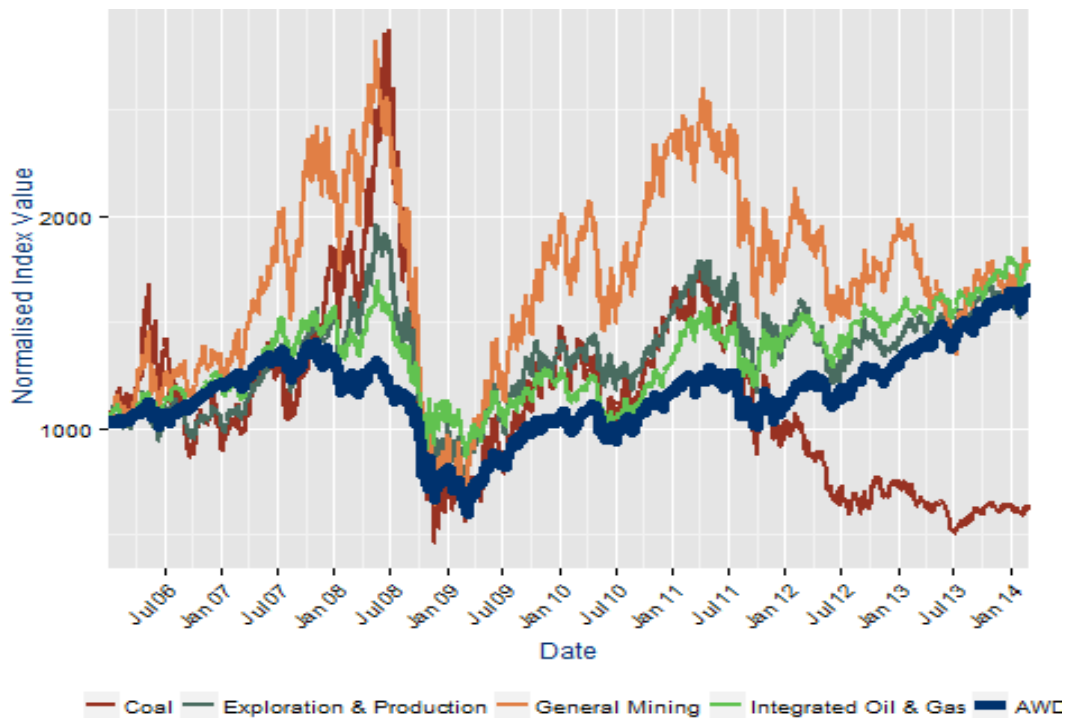
shareholders' interests. To the extent that investors are aware of the risk of such misalignment, this is also something that should be factored into asset prices. These types of principal-agent problems are, however, a natural issue to address through active ownership activities, as we will discuss below.

87. **The quantity of potentially “stranded assets” does not directly translate to losses for a financial investor.** First of all, there is significant risk sharing between petroleum companies and host governments through taxation of upstream activities. Only changes in after-tax cash flows are relevant for the pricing of financial assets. It is also clear that companies can redirect investments during a project's lifetime. In other words, that a resource has been discovered does not mean that the capital expenditure needed to extract it will necessarily be incurred. In this way, direct comparisons between future potential capital expenditure and “wealth at risk”, while illustrative, are perhaps unhelpfully static.

88. **If these risks have not in the past been fully priced by asset markets, then developments in the last few years may make it less likely that this will still be the case.** In 2013, the financial data provider Bloomberg introduced the Carbon Risk Valuation Tool, which allows users to test companies' valuations against various oil price or “decarbonization” scenarios. Recently, the financial services provider MSCI launched a Carbon Emissions and Fossil Fuels Reserves Analytics, designed to support carbon reduction and fossil fuel-free investment strategies and reporting on carbon exposures.⁸⁰ As climate risk has been articulated very clearly, markets can be expected to incorporate stranded-asset risk into security prices. That will tend to lower stock prices and raise expected returns. Figure 5 below shows the return of different carbon-related sectors since 2006 and seems to indicate a current low market appetite for coal. One interpretation of this figure is that the valuation of coal companies has fallen so low that expected cash flows to investors going forward give an expected return that compensates for the risk involved.

⁸⁰ See <http://news.msci.com/read/archive?id=8166&e=wm%40fin.dep.no&x=4fc169c3>

Figure 5: The Performance of “Fossil Fuel Sectors” and the World Index Since 2006



Source: FTSE Group (2014)

89. **Some investors have linked this issue to specific beliefs about how expectations are formed in the market.** Robert Litterman⁸¹ has argued that while it is well known that emissions markets have not yet priced climate risk appropriately, what is not well understood is that today’s equity markets build in expectations that climate risk will not be priced rationally for a very long time. The market expects a slow increase in emissions prices over the next several decades. What the market does not yet realize, according to Litterman, is that this expectation, sometimes referred to as the “*slow policy ramp*,” is irrational. Litterman writes that the actual rational expectation for the price path of emissions is a sudden jump of global carbon emissions prices to a level high enough so that incentives are created that will, with extremely high probability, eliminate any threat of catastrophic climate change. He also expects this “rational pricing of emissions” to be much higher and to arrive much sooner than the market expects. More generally, investor short-termism is an argument observers often use in this context.⁸² In some ways, this would seem to create a financial window of opportunity for an active investor.

⁸¹ What follows is our summary of Litterman’s main argument; for more details see <http://ensia.com/voices/the-other-reason-for-divestment/>

⁸² For example, Caldecott and McDaniels (2014) write that the phenomenon of short-termism in financial markets undermines the ability to invest and manage risk with due consideration for environmental-related risk factors report. They link this short-termism to the practices and regulations that govern financial institutions, such as, for example, benchmarks for performance measurement, decreasing CEO tenure, the application of mark-to-market accounting practices, and liquidity requirements, see Caldecott and McDaniels (2014), Smith School of Enterprise and the Environment Working Paper, Financial Dynamics of the Environment: Risks, Impacts, and Barriers to Resilience, Working Paper for the UNEP Inquiry

(continued)

90. **We should note that the empirical evidence on short-termism in financial markets is mixed.** It is true that average turnover in the stock market has increased significantly and that investors can be said to be more short-termist in this sense.⁸³ This is not the same as saying that investors systematically attach too little weight to future events – such as the possibility of higher carbon prices – that may influence corporate earnings. For instance, there is solid empirical evidence showing that over the long term, investing in companies with above-average growth prospects (as indicated by a high ratio of stock price to book value or dividends) has produced a disappointingly low return. Conversely, investing in companies that have below-average growth prospects has produced a superior long-term return. So, in hindsight, investors have been too *long-termist*, in the sense that they have let assumptions about growth in revenues in the future color their present valuation of assets too much.⁸⁴ The strategy for the GPFG should not be founded on an assumption that investor short-termism lead to systematic mis-pricing of fossil-fuel companies' shares.

91. **Investors who have a firm belief that markets generally mis-price assets exposed to carbon risk could seek to benefit from this by deviating from a market-weighted portfolio.** This is a parallel to other types of active investment decisions. It is, however, important to note that such a strategy would quickly imply active risk taking at a level not hitherto considered for the Fund. Size constraints might also conceivably present themselves without a major change in the Fund's risk limits and the available asset classes. That is not to say that such active investment options would necessarily be irrelevant to the Fund. As we have seen, Norges Bank is somewhat underweighted in the fossil fuel sector relative to a market-weighted portfolio and has divested from 11 companies engaged in coal mining.

92. **While such assumptions about mis-pricing might turn out be correct, it is still the case that not all investors can divest from carbon-related assets on this – or any other – basis.** In a market-weighted portfolio, even in the long term and in a 2DS, we are likely to find coal and petroleum companies still operating.⁸⁵ After all, as discussed above, the IEA's 2DS, for example, estimates a growth in global energy use of 25 percent until 2050, and that over 40 percent of energy used at that time will come from fossil fuels.⁸⁶ The value of these assets should be adjusted to provide an expected return that reflects the risks these companies are facing. Since the average investor by definition must hold a market-weighted portfolio of assets, the issue is not *whether* investors will own these assets, but *which* investors will hold them. A relevant question is, then, what the characteristics of the "optimal investors" of such assets are and how this fits with the GPFG's special characteristics as discussed above.

available at: <http://www.smithschool.ox.ac.uk/research/stranded-assets/UNEP-SSEE%20Working%20Paper%20-%20Financial%20Dynamics%20of%20the%20Environment.pdf>

⁸³ One should be a bit careful with this interpretation, however, since much of the increase in turnover is due to the advent of high-frequency trading and thus might not represent an increase in the holding period of the median investor.

⁸⁴ Elroy Dimson, Paul Marsh, and Mike Staunton, *Global Investment Returns Sourcebook 2014*, pp. 49–51.

⁸⁵ And presently, 2DS is probably not the most likely scenario.

⁸⁶ IEA (2014) Energy Technology Perspectives 2014.

93. **For the GPF, this issue is also linked to its governance structure.** As we have described, Norges Bank manages the Fund according to a Mandate from the Ministry. This Mandate stipulates the extent to which the Fund can deviate from the benchmark index, which is largely determined by market weights. This reasonably standard system of delegated management ensures that the owner of the Fund makes the key decisions regarding the overall risk in the Fund, but that operational decisions are left to the manager. It is also premised on a belief that an ability to beat the market is both costly and rare, and that systematic opportunities to do so are rarer still. A clear and reasonably simple governance structure is crucial for good long-term management of the GPF. As discussed above, excluding a whole sector based on an assumption of mispriced risk – when markets generally are assumed to be able to price all other types of risk relatively efficiently – is not appropriate as a foundation for the strategic benchmark construction done by the Ministry. Such mispricing – to the extent that it exists – could, however, lead to opportunities for active ownership or active management for Norges Bank. These latter opportunities must compete with other opportunities within the bank’s risk budget.

94. **The discussion above shows that the stranded assets debate is an important consideration for corporations and state-owned resource companies.** It is therefore an important issue for investors to consider. As a guide to portfolio strategy, however, the concept of stranded assets has severe limitations, both theoretically and empirically. The issue of stranded assets cannot in itself justify the exclusion of a whole sector from the Fund. To the extent that this is a topic that should be incorporated into decisions on allocations of assets, it is best done by the operational manager on a company-by-company basis as a part of an active management strategy. Moreover, the potential for stranded assets and the financial risks connected with them may be usefully addressed through active ownership. In the next chapter, we return to this question and examine such strategies in GPF’s context. A key observation is that corporations and state-owned entities should take into account the risk of their capital expenditures giving rise to unproductive (stranded) assets. This is a governance issue, and the Fund should be ensuring that investees’ Chief Executives and their senior staff take full account of the risk of over-investing in assets such as coal.

VI. ENGAGEMENT, OWNERSHIP AND EXCLUSION TO “ADDRESS CLIMATE CHANGE”

Introduction

95. **As we noted in the introduction to this report, the meaning of the phrase “addressing climate change”, as stated in our mandate, can be subject to several interpretations.** The present exclusion mechanism is a purely ethically-motivated system. Its premise is to avoid investments in certain grossly unethical activities. The mandate given to the expert group appears to offer another motivation for potential exclusions in addition to the “clean hands” approach – namely to address climate issues and promote change. This difference is significant. In order to avoid contributing to unethical conduct through ownership, a straightforward method is to sell the company in question and thereby cut off any link to the unethical behavior.⁸⁷ That others buy it, and

⁸⁷ In this sense, the current exclusion criteria thus have a 100 percent success rate; when an unethical company is excluded, the Fund does not own the company anymore and can therefore not be contributing to its unethical behavior.

that the unethical conduct may continue, is not relevant. Any effect on company behavior is incidental. There is hence a real question of whether or not a new objective – treating the Fund as an instrument or agent of change – would be consistent with the primary purpose of the existing guidelines.

96. **We will start this section by looking at exclusion and active ownership *within* the present framework for responsible investments.** In this context, the issues will thus be:

- Are there grounds to exclude some or all fossil fuel-related investments through a products-based approach – in other words, can the production and/or use of fossil fuels *in itself* be considered to be in breach of the norms that have hitherto been the basis for the exclusion mechanism?
- Can there be cases in which the production or use of fossil fuels is carried out in a way that represents a breach of norms for conduct at a level that should lead to exclusion, and what should the criteria for such exclusions be?
- Can and should active ownership be enhanced within the present overarching purpose of protecting and enhancing the value of the Fund, and how should such a strategy be formulated?

We will then turn to the issue of “addressing climate change” in a broader sense – discussing the potential novel use of the Fund as an *instrument* of climate policies.

97. **It is important to note that exclusion and active ownership can have important spillover effects.** Even if the primary purpose of the *exclusion* mechanism is to avoid contributing, through investments, to unethical activities and the primary purpose of *active ownership* remains to safeguard the financial values in the Fund, there could still be transformative effects on carbon emissions from the companies in the Fund’s portfolio (or on company behavior in general) from the Fund’s actions. Accepting the role of the Fund as a financial investor – and not a climate policy instrument – does *not* imply that the actions and policies of the Fund cannot or will not have positive effects on climate issues. We explore some such links in Section C below.

A. Climate-Related Exclusions Within the Present Framework

98. **The current exclusion criteria rest on a “clean hands” approach.** In the established framework for responsible investments in the GPF, exclusion is used to avoid investments in a company involved in the production of either certain weapons or of tobacco, or when there is a risk that a company might be responsible for or contribute to unethical conduct, currently or in the future. The exclusion criteria are thus forward-looking. Exclusions are not intended to “punish” companies for things they have done in the past, but rather to avoid association with the Fund through ownership in possible future violations of norms. However, the risk of such future violations must partly be inferred from companies’ conduct in the past.

99. **As we have seen, the criteria can be divided into “product-based” criteria, in which a company is excluded solely on the basis of what it produces; and “conduct-based” criteria, in which a company is excluded based on how it conducts its operations.** Accordingly, some products (for example, nuclear weapons, cluster munitions, anti-personnel landmines, and tobacco) are automatically excluded from the

Fund. The product-based criteria are described in more detail in Chapter III. For exclusions of carbon-related investments, the issue is whether the products themselves may warrant exclusion, or whether there are aspects of companies' production processes or other company activities that – on an individual basis – could lead to exclusion.

100. **The criteria for exclusion have been based on a perceived consensus amongst Norwegians.** Emphasis has also been placed on consistency with other Norwegian policies and commitments, for example as expressed through treaties on disarmament or human rights. This is an important feature of the guidelines. Any new criteria regarding carbon-related investments should in our view meet this standard.

101. **The criteria set a certain “threshold” for the use of the exclusion mechanism.** Interpreted in light of the preparatory work and later White Papers from the Government, the current criteria set a relatively high bar for when the exclusion mechanism can be used. In the present system, the exclusion mechanism is calibrated to target the “worst forms” of e.g. child labor or environmental damage, as described in Chapter III. The question is whether it is reasonable to claim that *certain forms of production* of fossil fuels or *certain activities linked to the use of fossil fuels* may be defined as being seriously unethical because of the link to long-term climate change.

A Product-Based Approach

102. **Climate change is potentially a serious threat to life on Earth as we know it today.** It clearly has important environmental and intergenerational ethical aspects. To raise this issue in the Fund context is hence legitimate and timely.

103. **As a starting point, it should be noted that energy is an input in all economic activity to various degrees.** The process of climate change is not regionally specific, it is global. The villain is our present society – any further delineation quickly becomes complex. Attributing greenhouse gas emissions to a specific part of the chain of energy production and consumption is therefore not an easy exercise. As access to energy is a key determinant of economic development worldwide, taking part in the global economic system also means contributing to climate change. Currently, the necessary energy infrastructure is to a large extent based on energy derived from fossil fuels. Coal is the least climate-friendly of these sources. The transition to a low-carbon economy, however, will not happen overnight. In fact, the social costs of a quick transition may be unacceptably high. At the same time, the consequence of a too slow transition may be environmental, social, and economic collapse due to rapid climate change.

104. **From this point of view, carbon related investments are rarely exclusively “unethical” – even carbon intensive cheap coal used in electricity production may have positive social or economic benefits.** At the same time, the 2DS, or any scenario for reduced climate change, demands limitations on emissions. Setting a certain standard – or several standards, depending on the fossil fuel and type of activity in question – is one possibility. Such standards could, at least theoretically, be set out as possible exclusion criteria for carbon-related investments. Standard-based criteria would, however, probably be too generic to apply in practice, as they would require consistency across various product categories and production processes in order to avoid highly uneven ethical standards for different companies and in the GPF's case, parts of the portfolio. On the other hand, to work out specific and balanced criteria for every fossil related company activity that ultimately leads to CO₂ emissions would be a difficult task.

105. **We believe that fossil fuel companies' energy production, energy use or CO₂ emissions cannot *per se* be said to be contrary to generally accepted ethical norms, as these products and activities constitute an important basis for our society.** Fossil fuels will remain part of the energy mix for decades to come, even in a 2-degree scenario. This is true for both petroleum and coal. While coal clearly is the least climate-friendly energy input today, it is still the case that coal is a major world energy input with vital importance for millions of people, and that the production of coal will not end in the near future, even in the 2DS.

106. **It is also difficult to see how an all-encompassing fossil fuel product criterion could be consistent with other Norwegian policies and commitments.** One should bear in mind that the capital in GPFG is derived from oil and gas production and that the Norwegian Government holds direct ownership stakes in both petroleum and coal extraction operations. Also relevant is that the most direct way in which the Norwegian Government might curtail fossil-fuel extraction is to limit or terminate petroleum and coal extraction within Norwegian territory.

107. **Relevant for the discussion here is that emissions are a result of a complex system of production and use of energy involving producers as well as consumers.** In some cases, the end users are the billions of people consuming, for example, fuel for transportation. As has been pointed out by the Interfaith Center on Corporate Responsibility⁸⁸ (ICCR) *“the energy industry should not be seen as sole creators of the problem as long as global markets remain inextricably linked to fossil fuels to propel growth.”* The ICCR therefore argues for a policy of holding fossil fuel companies to account through active ownership and “maintaining a seat at the table”. Other faith-based investors have reached different conclusions. The Swedish Church has decided to divest from all pure coal companies and has gradually reduced its fossil fuel exposure since 2009, whereas the Church of England thus far has decided on a policy of engagement, with divestment reserved as a potential response to the worst cases. Norwegian Church Aid has decided not to invest in fossil fuel companies, and the investment fund of the Church of Norway (OVF) has divested all its shares in Statoil because of its involvement with tar-sand extraction in Canada. Similarly, Stanford University Endowment has decided to sell its investments in pure coal companies, while Harvard and Brown have decided to retain their coal mining stocks. See Box 3 for more details.

Box 3: Responses to the Fossil Fuels Divestment Campaign

A number of institutions have over the last few years committed to divestment of fossil fuel companies. According to Gofossilfree.org, 13 academic institutions, 28 cities, 33 religious institutions and 27 foundations had reached this decision by July 2014. According to a recent article in the New York Times, 180 institutions, as well as hundreds of wealthy individual investors, have pledged to sell assets tied to fossil fuel companies and to invest in cleaner alternatives instead. The assets singled out for divestment have been estimated to be worth more than USD 50 billion.⁸⁹

University endowments have been under specific pressure from the fossil fuels divestment campaigns to sell all of their fossil fuel investments, especially those in coal. Their responses are interesting in the context of the GPFG, as University endowments, while much smaller than the GPFG, share some of the same characteristics.

⁸⁸ ICCR (2013), Insights for Investors Working for Bolder Intervention on Climate Change, p 5.

⁸⁹ <http://www.nytimes.com/2014/09/22/us/heirs-to-an-oil-fortune-join-the-divestment-drive.html? r=0>

Stanford University Endowment (2014) made a decision not to make direct investments of endowment funds in publicly traded companies whose principal business is the mining of coal for use in energy generation. Stanford President John Hennessy's explanation for the decision appeared to be primarily based on climate ethics, that coal is one of the most carbon-intensive methods of energy generation and that other sources can be readily substituted for it.

Brown University, on the other hand, while noting that coal producers create social harm that, given current technologies, is worse than other fossil fuels, has decided not to divest. Brown President Christina Paxson's 2013 explanation for this is broad, but includes considerations of the gravity of the social harm and the (potentially mitigating) benefit of delivering social value through providing power to millions of people and as an input in the cement and steel industry. She also highlights that the transition to a low-carbon future will not happen overnight, and that technological impediments remain. Paxson also makes an interesting comparison to tobacco. Tobacco, she writes, has no social value, whereas the cessation of production of coal would in itself create significant economic hardship. Ms. Paxson writes that *"It is unclear what message divestiture would convey about the timing of the transition from coal in different regions of the country and the world; the development of alternative fuels, such as natural gas, nuclear power, and renewables; the value of investments in new technologies that may reduce the harm from coal; the effectiveness of different strategies for regulating U.S. coal companies and electric utilities; and the development of U.S. policies toward countries that are increasingly reliant on coal. As a university, Brown has a responsibility to grapple with the world's problems in all their complexity"*. Finally, Ms. Paxson maintains that divestiture would not reduce profits and so cannot be expected to have a great direct impact.

A final example of a US endowment response to the stranded assets divestment campaign is Harvard University's decision, which was also not to divest. Harvard president Drew Faust (2013) highlights that barring investments in a major, integral sector of the world economy comes at a substantial cost. Divestment would, furthermore, have limited financial impact and would result in reduced influence or voice. Faust also raises the question of consistency: Is it consistent that investors boycott a whole class of companies at the same time as individuals and communities are relying on those companies' products and services for so many of the activities of everyday life? Furthermore, Faust writes that is hard to reconcile that reliance with a refusal to countenance any relationship with these companies through our investments. Finally, Faust highlights other means that are available to investors to address this issue. She writes that *"as a long-term investor, we need to strengthen and further develop our approach to sustainable investment. This is no small undertaking, and it will present challenges along the way. Especially given our long-term investment horizon, we are naturally concerned about environmental, social, and governance factors that may affect the performance of our investments now and in the future. Such risks are complex, often global in nature, and addressing them effectively often entails collaborative approaches. Generally, as shareholders, I believe we should favor engagement over withdrawal. In the case of fossil fuel companies, we should think about how we might use our voice not to ostracize such companies but to encourage them to be a positive force both in meeting society's long-term energy needs while addressing pressing environmental imperatives. And, like other investors, we should consider how to obtain further, better information on how companies not only in the energy industry but across all sectors take account of sustainability risks and opportunities as part of their business strategies and practices."*

108. **Operationally, it would probably be relatively simple to implement an exclusion criterion with regard to companies that, for example, mine coal or extract oil or gas.** However, as pointed out above, such a criterion would not satisfactorily address the issue of carbon emissions resulting from the activities of individual companies in the Fund's portfolio. The product-based criteria are solely aimed at creating the necessary distance between the Fund and production of certain products.

109. **A comparison between coal mining and tobacco production may help to exemplify this.** Both industries produce products that are harmful when used. It is accepted that the Fund should not be invested in companies that produce tobacco, although the problem associated with tobacco comes largely from its use, not its production. One could therefore argue that the exclusion of, for example, coal mining

companies would be similar to the existing rule for exclusion of tobacco companies: One would exclude the producer rather than the user of a product, for example, coal, without necessarily expecting that the exclusions or divestments will lead to less production of coal.

110. **However, such a comparison does not take into account the fact that while one for obvious reasons cannot exclude tobacco users, one could establish criteria to exclude certain, but far from all, coal or petroleum users, which would inevitably be regarded as an inconsistency.** Moreover, while consumption of the tobacco product by and large only has harmful consequences – it certainly has no social/economic value – consumption of coal-related products provides economic and social benefits. The comparison also does not take into account the social consequences of an immediate halt to coal mining or the prospects and necessary investments for improving the efficiency of coal use or the much-needed CCS. The same arguments apply to oil. For gas, the picture is more complex still, with the possible role of natural gas as an important “bridge” resource towards a renewable future. As we saw in Chapter V, all fossil fuels⁹⁰ will be in demand for decades to come, irrespective of the climate change scenario.

111. **A product-based criterion that includes the extraction of fossil fuels and energy production as well as other uses is difficult to conceptualize.** The chain of events from the point at which a fossil fuel is still underground until it ends up in the atmosphere as CO₂ emissions is long and complex, and it is very difficult to envisage an exclusion criterion that can lead to a consistent result. For example, it would seem unjust to exclude a utilities company that uses coal as input, but operates in a climate efficient manner and possibly does important research into CCS technologies.⁹¹ Moreover, if CCS were to operate on an industrial scale, coal could turn out to be an important part of the overall energy mix, even in a 2DS scenario. In fact, CCS in some form may be necessary to reach the 2DS.

112. **Based on the arguments above, we do not propose a pure product-based criterion that entails exclusion of all petroleum companies, or of all coal companies, from the Fund.** However, even if we do not propose to exclude fossil fuels as such through a product-based approach, we have considered whether there could be instances in which company conduct in the fossil fuel sector could warrant the exclusion of companies on an individual basis. Conduct-based exclusion of companies is a general mechanism within the present guidelines, and not linked to any particular product or sector. We explore this below.

A Conduct-Based Approach

113. **There has not hitherto been an option under the present guidelines to exclude companies for conduct related to climate change.** This follows not from the wording of the guidelines themselves, but from their preparatory work. The Graver Committee, which designed the present system, specified that climate change should *not* be considered under the existing environmental criterion. This guidance followed from

⁹⁰ Including coal.

⁹¹ In this context it should be noted that there are significant differences in the efficiency of various coal-fired power plants, defined as the relative amount of a power plant's fuel that is converted into electricity, and not lost as heat. For examples, see: <https://www.iea.org/media/workshops/2011/cea/Topper.pdf>.

the requirement to establish a direct causal link between the conduct of an individual company and, for example, an environmental damage. Since climate change is a global problem, caused by countless individual decisions such that the effect of any one individual company must be small and unquantifiable, this specific link was seen as difficult to establish. Moreover, the Graver Committee assumed that climate issues would be suitable for ownership strategies. The present conduct-related criteria – in addition to human rights, war and conflict, environment, and corruption – has a general clause referring to “other serious breaches of fundamental ethical norms”. It thus seems that the present guidelines in practice can cover almost *any* serious breach of ethical norms, *except* when they are related to climate change.

114. **In light of the Council on Ethics’ interpretation of the criteria over time, this limitation now seems unduly inflexible.** While the requirement of a direct link between a company’s acts or omissions and a specific result remains, the Council has on occasion not waited until after a specific incident has taken place, or can be proved to have taken place. The Council has several times indicated that a specific result predictably will occur (or probably has occurred) as a consequence of a certain form of conduct, and suggested that this should merit exclusion. The reason why the Council has not looked at climate change seems not to have been the requirement of a link between the activities of a company and a specific result, but the explicit delimitation against climate issues in the preparatory work to the Guidelines. While it is clearly difficult to establish a direct causal link between the conduct of individual companies and climate change, there should nevertheless be an expectation that companies in the Fund’s portfolio meet certain minimum standards with respect to how their business activities impact climate change.

115. **We therefore recommend amending the present Guidelines for conduct-based exclusions so that they no longer omit climate change-related conduct.** This is, in our view, best done by changing the wording of the present § 2 Section 3 of the Guidelines to explicitly include contribution to climate change or CO₂ emissions as a criterion. We propose an additional criterion, *c bis*, in Section 3 that could be formulated as follows:

“Section 3

The Ministry of Finance can, on the advice of the Council on Ethics, exclude companies from the investment universe of the Fund if there is an unacceptable risk that the company contributes to or is responsible for:

.....

c) severe environmental damage;

c bis) acts or omissions that, on an aggregate company level, are severely harmful to the climate;

.....”

116. **The proposed new criterion explicitly refers to “acts or omissions”.** All of the other conduct-based criteria have also been consistently interpreted as comprising

both acts and omissions, so there is no difference between this new proposed criterion and the others when it comes to encompassing both active and passive unethical conduct.

117. **The proposed new criterion refers to conduct that, “on an aggregate company level”, is severely harmful to the climate.** This qualification is necessary in order to specify that in this case, one must assess the totality of a company’s operations, because it is the totality of CO₂ emissions and impact on climate change that is at the core of the criterion. The wording makes it clear that conversely, this qualification does not apply to the other criteria. When assessing whether a violation of a norm has taken place, it is normally not appropriate, nor helpful, to consider the “accused” on an aggregate or holistic level.⁹²

118. **The qualifying term “severely harmful to the climate” is meant to indicate that the existing practice of only looking for the “worst” offenders, which applies to the other conduct-based criteria, is meant to apply to this criterion as well.** The interpretation and application is discussed in more detail below.

119. **We propose that the interpretation and application of the criterion be left to the Council on Ethics.** This would reflect the division of roles and responsibilities already established in the present system. We have thus not attempted to develop a comprehensive set of directions to guide the application of the new criterion, but recommend that the following elements be considered:

- a. An underlying basis for the existing exclusion mechanism is that it only targets the **worst forms** of conduct breaching fundamental ethical norms. It is clear that the threshold for excluding companies based on conduct with regard to climate emissions should also reflect this. The assessment should take into consideration such “worst forms” within specific comparable operations, sectors, and industries, based on, for example, what is considered generally acceptable international standards.
- b. In considering the severity of a breach of ethical norms in this area, it seems reasonable to focus on **emission intensity**, not necessarily absolute emissions. It could be problematic to have a system in which a large emitter of CO₂ in absolute terms were to be excluded, while the exact same emissions would be allowable if the company had been split into smaller pieces that individually had much lower emissions. Emission intensity can be gauged by a number of measures, for instance carbon emissions relative to turnover or produced units. There is no one “true” and uncontested method of measuring and attributing carbon emissions to individual companies. Considering companies that operate in several sectors further complicates the issue. However, the issue is not one of giving a complete and detailed mapping of carbon emissions from the Fund’s portfolio, but rather to use emission intensity as one of several indicators to identify the worst breaches of ethical norms. Even if methodological issues can make it difficult to establish true absolute measures of emission intensity, it can still be possible to get a reasonably reliable indication of how one company is doing in this area relative to its peers.

⁹² Although this may be relevant in assessing the future probability or risk of continued norm violation.

- c. Inns. 200 S (2013-2014) notes that one should consider how the system for exclusions could be altered in order for Norges Bank to put more emphasis on the breadth of a company's activities. In this new criterion, we propose that the Council on Ethics also apply a more **holistic approach** to company activities than is the case for the application of the other ethical criteria.
- d. One specific issue for carbon emissions relates to the **location** of emissions. The system of curbing CO₂ emissions and limiting global climate change is based on an underlying supposition that activities in one area can be offset by activities in other areas, for example by the trading of quotas. This is a fundamental difference from the suppositions underpinning existing ethical criteria. The whole idea behind emissions trading schemes is that a political decision is made to regulate the total level of emissions from activity covered by the scheme, and that the price signals from the quota market contribute to achieving this level in the most efficient way. It may thus be hard to argue that CO₂ emissions covered by an efficient trading scheme are unethical since the emitter must have contributed to offsetting reductions elsewhere by buying quotas. This is not to say that buying quotas (or adhering to any type of regulation or scheme) would necessarily be regarded as sufficient to avoid exclusion. We have seen instances in which exclusions of companies based on the environmental criterion have followed from activities in areas with weak institutions or insufficient regulations, for example in cases concerning illegal logging. Decisions to move production to inadequately policed areas or areas with insufficient climate legislation or other attempts to benefit from weak institutions, coupled with actual severe environmental damage through very high carbon intensity in production, could in this way lead to exclusion.
- e. As with the present criteria, it follows from the wording in § 2 Section 3 of the Ethical Guidelines (*"if there is an unacceptable risk"*) that the assessment of the Council should be **forward-looking**. Companies with concrete and credible plans for reducing carbon emissions from their operations to an acceptable level should not be excluded from the Fund, even if present emissions are high. Conversely, companies can be excluded if there is sufficient reason to believe that their carbon footprint is about to get significantly worse through new investments in carbon-intensive activities.
- f. One element that could be included in an assessment of a company with regard to this new criterion, may be information that the company actively lobbies against international agreements aiming at reducing greenhouse gas emissions or otherwise hinders the development towards a global strategy on climate change.

120. **In practice, operationalization of this criterion will require considerable resources and efforts by the Council of Ethics.** Increased communication with NBIM will also be useful. The analysis would most likely involve the Council assessing companies' activities along several dimensions, and to the extent that a company scores sufficiently badly on all, the Council may conclude that the company's activities may be in breach of the Guidelines for Observation and Exclusion. Judgments regarding improvement or deterioration in corporate behavior, made on a forward-looking basis, may involve closer, and continuing, interactions with the investee company than normally characterizes Council's work, and will probably require more communication with NBIM.

121. **The criterion we propose is, in principle, not directed at a particular sector.** The issue is greenhouse gas emissions; the sector from which these emissions emanate is irrelevant. In practice, however, we expect the Council on Ethics, for reasons of practicality, to focus on companies within industry sectors with significant absolute levels of emissions. It is clear that, in particular, the energy sector and the production of electricity from fossil fuels will be central in this respect. It seems appropriate that evaluations of companies against this new criterion be linked to the active ownership efforts directed at climate change risk, so as to achieve a concerted and integrated exclusion and ownership effort. We return to this point in Section C. Norges Bank and the Council on Ethics should work together to identify the appropriate way to implement this operationally.

B. Climate- Related Ownership Strategies within the Present Framework

122. **The Investment Mandate set by the Ministry of Finance stipulates that Norges Bank shall integrate considerations of good corporate governance and environmental and social issues into investment activities, in line with internationally recognized principles for responsible investment.** To be credible, the GPFG's ownership strategies are based on the Fund's role as a financial investor, as the Mandate also makes clear. We propose that, while there are limits to what a financial investor can achieve through its active ownership, climate change issues may be particularly well-suited to active ownership strategies.

123. **The focus in this section is on active ownership regarding climate change-related issues that may be relevant for an investor and fall within the present remit of the Fund.** We will focus on one active ownership tool in particular – engagement. This tool falls into two broad categories – company dialogue or engagement with individual companies in the Fund's portfolio, and engaging with regulators, standard-setters, industry organizations, and investor initiatives. While the first category of engagement is directed primarily at issues relating to individual companies, the second category aims at influencing broader industry trends and the regulatory and business environment in which the Fund operates. Both of these are relevant for the Fund's work on climate issues. In Section D below, we return to the issue of using the Fund as an instrument for climate policies – and the possible use of engagement strategies in this context – *beyond* a role that is natural for a financial investor.

124. **As a *universal* long-term owner, essentially owning a fraction of the productive world economy, the GPFG has an interest in reducing costly externalities and promoting sustainable long-term outcomes.** Greenhouse gas emissions are compelling examples of such externalities and have therefore already been prioritized in the management of the GPFG, particularly in the exercise of ownership, as described in Chapter III. Furthermore, the economic aspects of climate change risk, discussed in Chapter V, create a credible background for relevant climate-related ownership activities for the Fund and for working together with other investors for a more impactful ownership effort. From this point of view, we believe active ownership and, in particular, engagement should continue to be the primary tools for the GPFG to address climate change-related issues.

Engagement with Portfolio Companies on Climate Issues

125. **We argued in Chapter V that, as a baseline, one should assume that asset prices by and large provide a reasonable compensation for investment risk on an *ex ante* basis.** This is however *not* the same as stating that the issue of stranded assets is not material to investors or that one should be indifferent to the issue.

126. **One purpose of ownership strategies is to address principal-agent problems.** Principal-agent problems refer to situations in which there is not a complete alignment of interests between the owner of an asset (the principal) and the person charged with managing the asset (the agent). In situations of asymmetric information, i.e. where the efforts of the agent cannot be fully observed by the principal, the agent may make decisions and conduct herself in ways that are not in the best interest of the principal. Principal-agent problems are much discussed in the political and economic literature. In the capital markets, principal-agent problems may arise both between the asset owner and the asset manager and between the asset manager and the senior executives of the companies in which investments are made. Successful engagements on specific issues are targeted and detailed. Further, they demand much more from companies than having questions addressed to their boards. Prioritization is a key success criterion. However, just as important as overcoming the principal-agent problems between an owner and manager is avoiding micromanagement of companies while expecting full accountability from the board.

127. **The lack of a credible long-term price for CO₂ emissions can create incentives for non-optimal investment behavior on the part of company management.** As we saw in Chapter IV, many successful engagement initiatives already exist. While it may not be appropriate for the Fund to support all of these initiatives, the fact that they exist and are broadly supported underlines the relevance of the issue. We have noted that different shareholder initiatives have come up with suggestions for how investors can address the potential principal-agent problems in petroleum companies. Examples include developing research to identify companies most at risk, conducting engagement projects targeted at marginal projects, ensuring compensation policies are consistent with maximizing shareholder wealth (and not, for example, rewarding reserves replacement *per se*), requiring improved disclosure from companies on their demand and price assumptions, and supporting transparency from companies on exposures across the cost curve.⁹³ These are all issues that fall well within relevant areas of concern for a financial investor.

128. **Investor demand for information and various engagement efforts already appear to have achieved some results, with larger oil companies now publishing the long-term assumptions underlying their investment decisions.** The responses from the major oil companies, such as Exxon, Shell and Statoil, have been that while they do take carbon pricing into account in their investment decisions and work to limit their emissions, they must base their decisions on likely future scenarios. Furthermore, over time, most companies indicate that they expect to see a change in their own product mix. Many have also highlighted that the world's energy demand is forecast to continue to increase, and that the energy mix will only change gradually. One reason for this is the

⁹³ See, for example,

http://carbontracker.org/wp-content/uploads/2014/05/CAR_Brochure_WEB_SHORT.pdf

long-lived nature of infrastructure (Royal Dutch Shell, 2014).⁹⁴ Shell, for example, expects that the world's oil and gas needs will persist for many decades to come, supporting both prices and demand. Finally, they have highlighted that CCS is a promising technology for any path to reach the 2DS.

129. **This is a relevant area for engagement with companies in the Fund's portfolio going forward.** The fossil fuel sector is planning substantial investments in the years ahead. This will be needed to meet overall demand for fossil fuels – including under policies consistent with a 2DS. However, there are legitimate concerns about the robustness of the financial analysis behind investments in marginal sources of supply under reasonable assumptions about future climate policies and the degree to which this is adequately reflected in the internal incentive structure of producers. At the same time, these companies represent significant holdings for the Fund. It is *not* the role of an investor to micromanage the companies in which they invest or to second-guess the assumptions underpinning company investment decisions. It is, however, the responsibility of a long-term shareholder to question the robustness of financial analyses behind significant new investments when investors could receive higher dividends instead.

130. **In a broader sense, the active ownership strategies of the Fund have reflected, and should continue to reflect, its long-term orientation.** Fossil fuel companies face the prospect of decline and must adapt to new circumstances to survive. If managed well, this adaptation can enable them to leverage their present strengths in a low-carbon energy system. Since this transition inevitably will take time, these companies will need the engagement and support of large long-term investors. By engaging on climate resilience and transition strategies for fossil fuel companies, the Fund will be actively managing the climate change related risk exposure to its portfolio and protecting the long-term value of its investments.

Other Forms of Engagement

131. **In addition to engaging with individual companies in the portfolio, the Fund engages with regulators, standard setters, and industry organizations and participates in investor initiatives.** This is entirely appropriate and in line with practices in other leading funds. In many cases, these types of engagement can be more effective if the underlying issue implicates broader industry standards rather than individual company conduct. Clearly, climate change is such an issue.

132. **The Fund has been engaged in several broader initiatives related to climate change.** For example, Norges Bank is a member of the CDP Climate Change Program, a founding and funding member of the CDP Water Program and a signatory to the Global Investor Statements on Climate Change. The Bank also supports the International Integrated Reporting Council (IIRC) as part of its work promoting corporate reporting on

⁹⁴ See Shell's response to the "stranded assets" issue. Available at: <http://s02.static-shell.com/content/dam/shell-new/local/corporate/corporate/downloads/pdf/investor/presentations/2014/sri-web-response-climate-change-may14.pdf>

environmental and social issues.⁹⁵ The IIRC released its International Integrated Reporting Framework in 2013. The Guiding Principles are to inform the work of various relevant standard-setting bodies, including the International Accounting Standards Board, the Global Reporting Initiative, the Climate Disclosure Standards Board and the Carbon Disclosure Project (CDP). Further, as we described in Chapter III, through the NBIM Expectations Documents the Bank has also monitored the climate change risk at company and sector level in the portfolio.

133. **This engagement is fully consistent with the Fund's role as a financial investor and should continue.** Climate change is not a problem linked primarily to the conduct of individual companies. These more broadly-based initiatives are thus an important supplement to ownership strategies at a company level.

134. **Finally, we note that the GPFG's Strategy Council report last year stated that more research on the issue of investors' responses to climate change is probably needed.** A fund like the GPFG stands to benefit disproportionately from such research. We therefore suggest that NBIM undertake more in-house analysis on how climate change may affect the Fund and its long-term investments, and preferably disclose its findings. Given the Fund's role and characteristics and the clear expectation from Norwegian politicians,⁹⁶ the Fund should aim to be a forerunner when it comes to demonstrating how climate change issues can be integrated into investment analysis.

Recommended Extensions to the Current Ownership Strategy

135. **We believe it would be appropriate to reflect on how the GPFG's existing focus on climate change can be developed further in the years to come.** Based on our discussions above, we propose that Norges Bank introduce the following extensions to its climate risk focus area:

- The Fund should undertake more **in-house analysis** on how climate change may affect the Fund and its long-term investments and how climate change issues can be integrated into investment analysis. NBIM could also utilize the Norwegian Finance Initiative⁹⁷ for research on climate change risk. Where appropriate, this in-house analysis should be published so that the Fund not only provides information but also serves as an example for other investors.
- The Fund should engage with companies on the **robustness** of the economic analysis behind new investments in fossil fuels and **transition strategies** to a low-carbon economy.

⁹⁵ The International Integrated Reporting Council is a global coalition of regulators, investors, companies, standard-setters, the accounting profession and NGOs. Together, this coalition shares the view that communication about value creation should be the next step in the evolution of corporate reporting.

⁹⁶ As attested to by the establishment of this Expert Group.

⁹⁷ The Norwegian Finance Initiative (NFI) shall support NBIM's mission to safeguard and build financial wealth for future generations by strengthening financial economic research and education in areas relevant to the long-term management of the Government Pension Fund Global. For more details, see <http://www.nbim.no/en/investments/research/the-norwegian-finance-initiative-nfi/>.

- Furthermore, we note that the Fund, on its own accord, has divested from the palm oil industry based on concern about the sustainability of that industry’s business model as well as from several gold and coal mining companies. While we recognize that transparency is not always appropriate for operational decisions, we believe NBIM could usefully be **more transparent about the criteria it uses to assess the sustainability of business models**, as this may be particularly relevant for fossil fuel related investments.
- A global consensus on policies for addressing climate change – including **mechanisms for the pricing of emissions** – will reduce risk for long-term investors such as the Fund. Thus, within its role as a financial investor, the Fund should support and promote efforts to establish such a consensus. In line with the NBIM Investor Expectations on Climate Change, companies in the Fund’s portfolio should be expected to provide information on their position on climate change legislation and regulation and the nature of their interactions with policymakers and regulators. In this context, companies should also be urged to promote the conditions for well-functioning markets and not actively hinder the development towards a global strategy on climate change.
- This enhanced and expanded role for ownership strategies should be reflected in a **revised expectation document on climate change** and followed up in company dialogues and other ownership activities. Progress on these issues could be reported on in the Fund’s annual report, website and other relevant forms of communication.
- The current debate has shown that the owner has an interest in the Fund’s climate change risk and carbon exposure, which we believe is appropriate. We also recommend **more reporting** on these exposures at the portfolio level, for instance in the form of reporting on the Fund’s carbon footprint or robustness in climate risk scenarios. The Fund could also enhance its reporting on other relevant activities at portfolio, sector and company level, including a focus on the methodology used in evaluations of the sustainability of business models. We expect Norges Bank to be able to develop relevant analyses and metrics used in such reporting over time.

C. Synergies and Spillover Effects

Synergies between Exclusions and Ownership Strategies

136. **We believe credible ownership strategies directed at climate change mitigation should be accompanied by an exclusion mechanism targeting the worst cases of corporate conduct involving negative impacts with regard to climate change.** In other areas, the Guidelines for Observation and Exclusion already establish a system in which companies may be found responsible for unethical behavior. Such a mechanism in this area is in some ways more appropriate, because it serves to support existing NBIM ownership activities. It is also made more relevant by the ongoing changes to how decisions on exclusions are carried out for the Fund, as pointed out in the section above. The possibility to – in certain severe cases – exclude companies⁹⁸ based on their contributions to climate change may enhance ownership efforts with other companies.

⁹⁸ In addition to portfolio adjustments based on financial consideration.

137. **Conversely, a successful ownership strategy may make exclusions less relevant as an alternative for the Fund.**⁹⁹ As noted in Section V above, there will be significant demand for fossil fuels in the future – including in a 2DS. Most of this will probably be petroleum, but coal can also play a role, particularly if viable CCS solutions are developed. It follows from the above that some investors must own the companies in this sector. The question is not *whether* investors collectively can exclude this sector, but *which* investors are “good” owners of these assets from a financial and ethical perspective. As a large, long-term owner with a clearly articulated active ownership and engagement policy and the clout and perseverance to implement it, the Fund has every opportunity to be a “good” owner in this sense. It is relevant to ask whether the climate would be served by selling these assets to investors who, on average, can be expected to have lower ambitions in this area.

138. **While we believe that although Sections A and B together establish a place for both exclusion and active ownership in addressing climate risk, we believe that ownership should be the primary tool in this endeavor.** Active ownership and engagement naturally span much wider than exclusion of the worst climate offenders, as indicated by the proposed enhancements of the ownership strategy in the last section. It is probably the case, however, that the result of exclusion and active ownership in combination can be larger than the sum of their parts.

139. **With Norges Bank’s new role in deciding on recommendations on exclusions of companies from the Fund, it is natural to expect exclusion and active ownership to work together in a more integrated manner.** We believe this is particularly appropriate in addressing a global problem like climate change, with both financial and ethical aspects to it. We believe it is appropriate to apply a more holistic and integrated approach to companies’ activities related to this issue.

140. **This approach requires proper coordination and information exchange between the Fund and the Council on Ethics to ensure that the Fund speaks with “one clear voice”.** In the present system, there has been limited coordination between Norges Bank and the Council on Ethics in their respective company-related activities.¹⁰⁰ With the new and more integrated system for exclusions and ownership, it seems appropriate that the coordination and information exchange between Norges Bank and the Council be enhanced. For active ownership and exclusion to really work together, a coordinated approach to individual companies would, as a point of departure, seem appropriate. As engagement naturally spans wider than exclusion in terms of both topics and number of companies, and since company dialogue is already well-established in the investment activities of Norges Bank, it is appropriate that Norges Bank take the lead in such company interactions. The Council on Ethics could be a relevant participant in dialogues with specific companies that have been assessed to be at a high risk of violating a new climate criterion. In addition, the Council on Ethics would continue to carry out its necessary dialogues with companies considered for observation or exclusion. The formal

⁹⁹ There is a precedent for this in the case of child labor; the Council of Ethics recommended exclusion of companies in the hybrid cottonseed industry in India, but the Ministry of Finance decided to let the Fund apply ownership strategies. Clearly, there was more willingness to try engagement as an alternative to exclusion in this case since the Fund had identified child labor as a focus area.

¹⁰⁰ While there have been routines in place for information-sharing at the aggregate level, there has been little coordination of efforts targeting individual companies.

arrangements for such coordination should be established between Norges Bank and the Council on Ethics.

141. **In Chapter III of this report, we discussed the fact that Norges Bank adjusted its portfolio and divested from certain palm oil producers and mining companies as part of its active management.** We also described how the Ministry of Finance has asked Norges Bank to explicitly follow up on two oil companies and mining companies in its exercise of ownership. These examples show that there is more flexibility within the present management framework for a nuanced approach to questions of exclusion and engagement than is perhaps immediately apparent from the formal framework.

142. **NBIM's ability to integrate climate change risk into Fund management, to the extent such integration necessitates divestment, is limited to the degrees of freedom of so-called active management – the deviations made by Norges Bank from the benchmark established by the Ministry of Finance.** The vast majority of companies in the benchmark index, especially the larger ones, must be invested in, in order to stay within the limits for active management, currently expressed as a tracking error of 100 bp (basis points).¹⁰¹ Divestments from a whole industry by Norges Bank would, in practice, be impossible under the present restrictions in the investment mandate. An expectation that the Bank divest a significantly larger number of companies must be accompanied by wider limits for active management to be credible. An in-depth discussion of this issue is, however, outside the scope of this report.

Spillover Effects

143. **We now turn to the issue of whether exclusion and ownership strategies can have spillover effects on corporate behavior – and, in particular, in a way that serves to address broader climate policy objectives as stated in our mandate.** In the discussions regarding avoidance of complicity above, this aspect is not a consideration. The ability to influence companies *is not* the rationale for ethically-based exclusions. Nevertheless, exclusions may have an influence on corporate behavior. In this context, the possible effects on carbon emissions from companies in the Fund's portfolio are of particular interest. Having an impact on corporate behavior *is* a central objective for active ownership. Therefore, it is relevant to ask whether ownership strategies that are meaningful for a financial investor like the Fund can have direct or indirect effects on carbon emissions from companies in the Fund's portfolio. We will start by looking at some such possible effects from exclusions before turning to active ownership and engagement in particular.

144. **For exclusions to have an effect on aggregate global emissions, they would need to affect company conduct.** This could happen through various channels. However, at least in the short term, one can expect little direct effect on companies' operations from excluding them from the GPF. Shares would change hands, but the companies' activities would remain the same.

¹⁰¹ This is a measure of the volatility of the difference in return between the benchmark and the actual portfolio. If Norges Bank – hypothetically – exactly replicated the benchmark, the difference in return would always be zero, and hence the volatility of this difference would also be zero. Higher tracking error indicates larger deviations from the established benchmark.

145. **The general norms which an exclusion mechanism establishes, however, could constitute a channel of influence that may exceed the effects of just ceasing to be an owner.** Stigma can, for example, lead to restrictions on government purchases from companies, consumer backlash, or more restrictive regulation. There is some anecdotal evidence that exclusion campaigns to a certain degree influenced producers of cluster munitions to stop producing them,¹⁰² due to the increasing political stigma connected to the weapons during the 2000s.¹⁰³ There is also some evidence that stigma played a role in influencing previous campaigns against tobacco and investments in apartheid South Africa.¹⁰⁴ For stigma to work, stigma dilution also needs to be contained. There is some evidence to suggest that Phillip Morris successfully increased its approval ratings after the tobacco firm diversified into the food industry, despite remaining a major tobacco producer.¹⁰⁵ In this context, it is easy to see how an oil major may portray itself as a diversified energy producer, or how a utilities company might reinvent itself so as to be viewed in a more climate-friendly way. For coal producers this may be harder.

146. **While there may be positive spillover effects of this kind from exclusion criteria used by the Fund, it is reasonable to believe that such effects will only arise when there is consistency with other parts of Government policy.** In particular, for the GPF, it is hard to see how the Government of Norway, through exclusion criteria for the Fund, could set a credible norm stating that all carbon-related investments *per se* are unethical, given its vast investments and engagement in this sector outside of the GPF. However, for an exclusion criterion targeted at the worst performers within a sector, it is easier to assume that there will be an effect through setting a norm for acceptable standards.

147. **An even more indirect link to conduct is through possible effects on companies' cost of capital.** The idea here is that if a sufficient number of investors exclude a certain company or sector from their portfolios – irrespective of the justification for this – the company/sector becomes constrained in the market for equity and must offer higher expected returns to potential investors to finance themselves. This would – at least in theory – increase the hurdle rate of return that the company/sector must use to assess profitability of new investments and limit its future growth. However, this requires a large proportion of investors to act, depending on how liquid the affected shares are, and probably relates more to companies whose access to capital or sources of financing is constrained.

148. **There is some evidence of this effect in the case of tobacco companies.**¹⁰⁶ A firm's cost of capital is the discount factor or internal cost of capital that investors apply

¹⁰² No company had this as their only or even most important product.

¹⁰³ The Council on Ethics has also reported cases of companies, citing reputational concerns, asking what it takes to be either excluded or included in the GPF.

¹⁰⁴ Ansar, et. al. (2013) "Stranded assets and the fossil fuel divestment campaign: what does divestment mean for the valuation of fossil fuel assets", Stranded Assets Programme, University of Oxford's Smith School of Enterprise and Environment.

¹⁰⁵ For the link to this article, see footnote 99 above.

¹⁰⁶ More generally, too, a recent review of relevant literature finds that 90 percent of studies show that "sound sustainability standards" lower the cost of capital. See Clark *et al* (2014) "From the Stockholder to the Stakeholder" available at:

http://www.smithschool.ox.ac.uk/research/library/SSEE_Arabesque_Paper_16Sept14.pdf

to a firm's given future cash flow. If a company's future cash flow is perceived to be risky, then it will have a higher cost of capital than if it is perceived to be safe. Hong and Kacperczyk analyze a long time series of so-called sin stocks (tobacco, gaming and alcohol) and find that these stocks have both higher historical returns and lower valuations than other stocks. The lower valuations would give rise to higher expected future return and reflect a higher cost of capital.¹⁰⁷ It follows that, other things being equal, these companies would have more extensive activities had they faced a cost of capital similar to other firms.

149. **However, exclusion is a very indirect and inefficient way of influencing corporate behavior.** It is a blunt instrument that is not targeted at specific areas of concern in the relevant companies. For instance, in the case of tobacco companies, it is not at all clear whether the increased cost of capital has had any particular effects on the more ethically questionable parts of their business, such as aggressive marketing practices targeted at youth in developing countries. Furthermore, those investors who invest in these companies despite the ethical issues involved are, at least in theory, rewarded with higher expected returns. This fact links back to the question of “who would we like to own these companies?” It is equally clear that other measures, such as taxation and outright bans, have had much more serious impacts on these companies' operations than the direct effects of a higher cost of capital.

150. **As a final point regarding possible side effects of exclusions, we note that limiting a company's access to capital can have unintended consequences.** One example of potentially detrimental effects was provided recently by the International Energy Agency (IEA), which points out that replacing older coal-fired power stations with modern and more efficient plants could result in a sizable reduction in global greenhouse gas emissions in the future.¹⁰⁸ Clearly, arresting the financing of this conversion, potentially important as a stop-gap climate measure, needs thorough consideration.

151. **For active ownership, the potential existence of a link between the investor's actions and climate outcomes is generally easier to conceptualize.** The proposed enhanced ownership strategy on climate change risk set out above would increase focus on the robustness of companies' investment decisions in the face of possible new climate policies and hence contribute to avoiding excessive investments in carbon risk-exposed activities. Within its role as a financial investor, the Fund would emphasize its support of the establishment of market prices on carbon emissions and the conditions of well-functioning markets, while at the same time reducing climate change risk. Engagement along these lines would generally support a gradual transition to a low-carbon economy.

152. **The GPF's Strategy Council's report for 2013 shows that, generally, there is some empirical evidence that active ownership can change behavior.** In

¹⁰⁷ Interestingly, Hong and Kacperczyk (2009) also find some evidence of a change in norms from the late 1940s to the early 1960s, with tobacco underperforming over this period. This coincides with the first reports of the harmfulness of tobacco. Article available at:

<http://www.sciencedirect.com/science/article/pii/S0304405X09000634>

¹⁰⁸ See <https://www.iea.org/ciab/papers/ciab.pdf>

particular, the analyses of engagements by TIAA-CREF,¹⁰⁹ the Hermes Fund,¹¹⁰ and another institutional investor¹¹¹ find evidence of success by these investors in achieving beneficial changes to the corporate governance and other aspects of their portfolio firms. Similarly, recent studies provide evidence that activism by hedge funds to change firm governance and capital structure has typically, but not always, added value.¹¹² There are a limited number of studies regarding shareholder engagement on environmental and social issues. One study examines over 2000 engagements on environmental, social, and governance issues by one institutional investor.¹¹³ The authors show that the engagements take time – 500 days, on average – until their conclusion and success rates are low: about 18 percent of the engagements were considered successful.¹¹⁴ In 2008 the Norwegian Ministry of Finance decided, in accordance with advice from the Council on Ethics,¹¹⁵ not to exclude Monsanto Co. from the portfolio of the Government Pension Fund – Global as it was deemed that Norges Bank’s active ownership activities towards Monsanto had contributed to “a significant reduction in the use of child labor in the company’s hybrid cotton seed production in India.”¹¹⁶

153. **An important premise for credible strategies is that the rationale is sound and shared with other investors.** It is, however, not clear to what extent agreement exists among investors that it is realistic to demand of companies that they fully adjust their strategies and resources to, for example, a 2DS. Moreover, should the 2DS not be reached, this should probably be ascribed to a failure in reaching a consensus on global climate policies, incentives and regulatory measures. For an investor like the GPF, owned by the state of Norway, such a demand of companies in the Fund’s portfolio would also be hard to reconcile with Norway’s majority holding in Statoil and other Norwegian coal, oil and gas activities.

154. **We believe that the Fund could usefully employ active ownership to support the implementation of international climate policies through its interaction with companies and standard-setters within its role as a financial investor.** For a long-term investor such as the Fund, many climate-related ownership strategies are relevant and consistent with maximizing long-term value – as we have described above. This, however, does not mean that *any* climate related policy is relevant for the Fund, or

¹⁰⁹ Carleton, Nelson and Weisbach (1998) “The Influence of Institutions on Corporate Governance through Private Negotiations: Evidence from TIAA-CREF”. Article available at <http://fisher.osu.edu/fin/faculty/weisbach/carletonnelson.pdf>

¹¹⁰ Becht, *et. al.* (2009) “Returns to Shareholder Activism: Evidence from a Clinical Study of the Hermes UK Focus Fund”. Article available at: <https://ideas.repec.org/a/oup/rfinst/v22y2009i8p3093-3129.html>

¹¹¹ Dimson, Karakas and Li (2014) “Active Ownership”, available at: www.ssrn.com/id=2154724

¹¹² See the review by Brav, Jiang and Kim, (2010:) “Hedge Fund Activism – a Review”, available at: https://faculty.fuqua.duke.edu/~brav/RESEARCH/papers_files/BravJiangKim2010.pdf

¹¹³ Dimson, Karakas and Li (2014) “Active Ownership”.

¹¹⁴ See http://www.regjeringen.no/pages/38525979/sc_mainrreport.pdf for more details.

¹¹⁵ See http://www.regjeringen.no/pages/2105482/Brev_til_FIN_vedr_Monsanto%20ENG.pdf

¹¹⁶ See <http://www.regjeringen.no/en/archive/Stoltenbergs-2nd-Government/Ministry-of-Finance/Nyheter-og-pressemeldinger/pressemeldinger/2008/active-ownership-pays-off.html?id=526029>

that it is useful or meaningful to frame support of climate-related policies as a *primary objective* for the Fund. This issue is explored in the section below.

D. Exclusions and Active Ownership as Climate Policy Instruments

155. **Above, we argued that the Fund could address climate change through ownership and exclusion *within* its present strategic framework. We now turn to the issue of the potential use of exclusion and active ownership to “address climate change” in the sense of using the Fund *directly* as a climate policy instrument.** We have noted that this is an entirely new way of looking at the role of the Fund. It would require a different management objective and would have potentially far-reaching implications.

156. **This raises at least two questions.** The first question is whether it is *desirable* to give the Fund a new role as a climate policy tool. The second question is whether it is *possible* to address climate change in this wider sense through the use of exclusion and active ownership.

Is it *Desirable* to Use the Fund as a Climate Policy Instrument?

157. **We believe that maintaining the role of the Fund as a financial investor with financial objectives is important in its own right.** This is not just key to achieving a clear governance structure that fits the Fund’s purpose and avoids split responsibilities between Norges Bank, as operational manager, and the Ministry of Finance, as owner. It also avoids the development of the Fund into a “second government budget”, where policy ambitions that do not make it through Parliament’s ordinary budgetary prioritizations are addressed.¹¹⁷

158. **Multiple – and, at least in the short term, possibly conflicting – objectives for the Fund (in terms of the financial objective and any additional climate objectives) would challenge its governance structure.** This is not a problem for the current climate change risk focus of the GPF, which follows from the Fund’s investment strategy and special characteristics as discussed above. However, it cannot be the case that *all* potential “climate activities” will be financially relevant to the GPF. Accordingly, using the Fund as a climate policy instrument may give rise to unclear or multiple objectives. In any type of delegated activity there are important *principal-agent* relationships to consider. If a manager is mandated to follow two conflicting objectives, the asset manager will have to weigh one objective against the other in its decision-making process. To put it starkly, Norges Bank would have to decide on the right mix between following an optimal climate policy and an optimal investment policy. For the owner, in our case the Ministry of Finance and ultimately Parliament, to follow up on such management would be very complex, not to say impossible. It probably would not lead to optimal investments from a financial objective, and it would be very hard to judge whether the manager delivered good results on either objective. This is aggravated by the very nearly impossible task of *assessing the results* of a GPF climate policy. To be

¹¹⁷ Other instruments are available to more directly address investments to generate social and environmental good (impact investing) outside the organizational structure of the fund. As discussed in paragraph 9, it falls outside the mandate of the expert group to give advice on such initiatives.

appropriate, delegation in the Fund context must be clear and yield observable and measurable results.

159. **Over the longer term, the possible use of exclusions in an attempt to *achieve change* (rather than *avoid ownership* of unethical companies) could reduce diversification of the Fund’s portfolio and have significant effects on its risk and return profile.** Compared to the tools and resources that are available to the Norwegian government to pursue its policy objectives it would also be exceedingly ineffective.

160. **For a sovereign wealth fund such as the GPF, owned and operated by the government, it seems wise to maintain a clear distinction between the role of the Fund and the role of political bodies.** It is also the case that Norway’s climate policy is defined and developed in government entities separate from those that develop the strategy for the Fund. For the same reasons that the GPF does not presently target climate change policy objectives, the Norwegian climate policy objectives necessarily target climate change, not Fund strategy. This is also appropriate from the Fund’s perspective. The international principles for good sovereign wealth fund practices, the “Santiago Principles” which Norway has supported, make it clear that sovereign wealth funds should have financial, and not political or strategic, motivations.

161. **The financial objective also allows the Fund to cooperate more easily with other investors.** As we have seen, an important basis for credible ownership is that the motivation for the exercise is shared with other investors. This may induce a company to adapt to the desired behavior more easily, and it may also facilitate the creation of investor coalitions.

Is it Possible to Use the Fund as a Climate Policy Instrument?

162. **The key solution to climate change is an appropriate price on carbon emissions, and, as discussed above, neither exclusion nor engagement with companies are meaningful tools to achieve this goal.**¹¹⁸ As argued above, we do *not* believe there is a case for the automatic exclusion of all fossil fuel investments from the Fund and we *do* believe that exclusion of companies from the GPF to a large extent is an ineffective and thus inappropriate tool for addressing climate change. We do not believe product-based exclusions could meaningfully address climate change, including in terms of the signal such exclusions are intended to send,¹¹⁹ and finally we believe that it would be a gross simplification of the climate change issue to attribute blame categorically to the suppliers of major world energy inputs but not to consumers of energy.

163. **Using exclusions to alter corporate behavior would be a new rationale for exclusion and would require clear and consistent criteria for re-inclusion in the investment universe.** Exclusion in itself is at best a very indirect and inefficient way of influencing corporate behavior. All other things being equal, one cannot expect the exclusion of companies from the Fund to affect their cost of capital. However, reputational concerns or fear of stigma could potentially affect behavior at the company

¹¹⁸ As we have argued, this does not mean that using such tools is irrelevant for the Fund.

¹¹⁹ For example, we do not think world coal production should stop tomorrow.

level. It seems likely that any such dynamic could be better exploited if exclusion followed as a last resort in an active ownership strategy.

164. **The ability to engage, invest or divest, and in certain cases exclude, is probably more powerful as a concerted effort than purely ethically-based exclusions would be.**¹²⁰ This further underlines our conclusion to support a more integrated chain of responsible investment tools including NBIM's current active ownership tools and the exclusion tool reserved for the most severe cases of companies' contributions to climate change.

165. **The sections above explain why we believe active ownership to be the appropriate approach for addressing climate change for an investor such as the GPFG, provided this is carried out within its role as a financial investor.** To fully address the question that has been put to us, we must also ask which, if any, effects such exercise of ownership can have on global climate change. Our conclusion is that, while the exercise of ownership by a financial investor like the GPFG is a very limited and blunt "climate policy tool" – it can nevertheless contribute positively when carried out appropriately and in context. However, while one might experience results on the individual company level, aggregate global climate effects due to the Fund's strategies are hardly possible to identify or measure.

166. **To be effective, Fund activities would have to change company or industry behavior.** The exercise of ownership of one investor alone cannot be expected to affect global climate change. The direct transmission mechanism is limited for a minority owner and at the levels of ownership the Fund typically has. This is another important limitation to the amount of effort the Fund should put into addressing this issue. Prioritizations should be based on which efforts are most likely to affect Fund return and company or industry behavior. However, since the topic affects other investors as well, and since climate change is high on the agenda of investors, companies, other stakeholders and central policy makers alike, it is possible to at least hypothesize that active ownership could affect outcomes over time.

167. **It seems likely that the potential to succeed depends on, for example, the merit of the issue, the strength of the coalition, the overall ownership structure of the company, and other issues related to the company's operations.** This should hence be evaluated on a case-by-case basis, but the issue of climate change does seem to meet many of these criteria. In cases where it follows from the Fund's role as a financial investor, it could also engage in dialogue with governments and cooperate with standard setters.

168. **Climate change and climate policies are important aspects of today's investment landscape and can obviously have significant implications for the Fund's risk and return going forward.** As noted above, the enhanced exclusion mechanism and ownership strategies we have recommended above can have important spillover effects on carbon emissions, even if the primary purpose of the exclusion mechanism remains to avoid being complicit in unethical activities and the primary purpose of ownership strategies remains to safeguard the long-term financial performance of the Fund. So,

¹²⁰ For a more detailed treatment of these and related questions see the GPFG Strategy Council's report for 2013, available at: http://www.regjeringen.no/pages/38525979/sc_mainreport.pdf

while it is not possible to use the Fund to address climate change in a global sense, within this framework, the Fund can meaningfully address the climate change issue through its ownership strategies.

VII. CONCLUDING REMARKS

169. **Before we conclude this report we would like to return to the Fund's strategic origin – that of a large, well-diversified, principally passive, financial investor.** We believe this is a crucial starting point for explaining why we do not think the Fund should sell all of its coal and petroleum shares. The Fund's strategy has been developed on a standalone basis; it does not seek to take a national wealth perspective on portfolio decisions. The Fund should therefore – as a starting point – own a representative share of the market portfolio. It is clear that this portfolio will contain fossil fuel companies for decades to come, even if climate policies are successful in bringing us to emissions consistent with a 2DS. We do not think that it would be better for the climate – or the Fund – if these shares were to be sold to other investors who, in all probability, will have a less ambitious climate-related ownership strategy than the Fund.

170. **We conclude that, by and large, the Fund is an inappropriate and ineffective climate change tool.** Neither exclusion nor the exercise of ownership can be expected to address or affect climate change in a significant way. This simple answer goes far in answering questions related to the possible use of the Fund directly as a climate policy instrument. It would not be appropriate to utilize the Fund in this manner. Opening the door for such alternative objectives for the Fund would represent a break with the underlying premise that the Fund is not to become a “second government budget” and integrated into Norwegian fiscal policy. Uncertainty about the Fund's objective of safeguarding the financial assets for future generations would lead to a less clear investment strategy. It could also impair the Fund's international reputation as a leading responsible and financial investor. Over time it could also reduce the diversification of risk in Fund investments and impair future returns.

171. **At the same time, there are both financial and ethical considerations that imply that climate change is relevant to the management of the Fund, within its role as a financial investor.** This has ramifications for which strategies the Fund chooses to employ as it approaches this complex issue. The exercise of ownership may affect corporate conduct over time and reduce the exposure of the Fund to climate change risk, and we believe this should be the Fund's primary tool in addressing climate issues.

172. **We propose a new criterion in the Guidelines for Observation and Exclusion that allows for the exclusion of companies that operate in a way that is severely harmful to the climate.** The criterion would target the worst offenders, as is also the case for the established system for exclusions from the GPF. The Council on Ethics would need to further develop the framework for implementation of this criterion. However, we do not believe there is a convincing case for automatically excluding all coal or petroleum producers from the GPF. Our detailed suggestions on an exclusion criterion can be found in Chapter VI-A.

173. **We also propose enhanced ownership strategies with respect to climate change.** Climate change risk is potentially material to the Fund and other investors and is high on the agenda of other stakeholders, companies and policy makers. We therefore think it needs to be prioritized in ownership strategies. Although one cannot expect this

approach alone to change climate outcomes, it is a relevant and credible approach for a financial investor and this alone increases the chances of it having some success. As it is a topic that a financial investor needs to follow closely, not combining analyses from other ownership activities would be a lost opportunity. This is reflected in the existing focus on climate change in the management of the fund. Our detailed suggestions on ownership activities can be found in Chapter VI-B.

174. **In addition, we propose enhanced coordination and information exchange between the Fund and the Council on Ethics with regard to climate change.** We have argued for a more integrated system for exclusions and ownership as an approach to climate change risks. Such a system would require a coordinated approach to individual companies, with Norges Bank taking the lead in company interactions and the Council on Ethics being a relevant participant in dialogues with specific companies that have been assessed to be at a high risk of violating the new climate criterion.

175. **It is important that the owner understands climate change risk in the portfolio and how this risk is managed.** This leads to the recommendation of more reporting from Norges Bank on climate risk in the Fund and how climate change is integrated into the investment strategy and decision-making of the Fund. We expect Norges Bank to be able to develop relevant analyses and metrics used in such reporting over time.

176. **We believe the current discussion about which strategies the Fund can employ to address climate issues is timely.** Our conclusions have, as our mandate dictates, focused on the opportunities for an enhanced ownership strategy for the Fund, and on the merits of, and potential criteria for, the exclusion of companies with the goal of addressing climate issues. We are mindful of the importance of the broader climate issue, as well as of the importance of a well-managed Fund for the present and future citizens of Norway, and look forward to a broad and open discussion of our recommendations.

ANNEX I - THE MANDATE FOR THE EXPERT GROUP

Mandate for the Expert Group on investments in coal and petroleum companies and climate gas emissions.

Background

The objective of the Government Pension Fund Global (GPFG) is to support saving by the Norwegian State to fund the pension expenditure of the Norwegian national insurance scheme and to safeguard long-term interests relating to the use of the State's petroleum revenue. The investment objective is to achieve the highest possible international purchasing power for the capital in the Fund, given a moderate level of risk. In this way, we seek to ensure that the nation's savings benefit both current and future generations.

In 2004, ethical guidelines were introduced for the management of the GPFG. These were revised in 2009, when the current guidelines for the observation and exclusion of companies were adopted. The guidelines state, inter alia, that the Fund's assets may not be invested in companies engaged in certain forms of production, and that companies may also be excluded from the investment universe of the Fund when there is an unacceptable risk that a company may contribute to or be responsible for grossly unethical activities.

In January 2013, the Ministry asked the Strategy Council for the GPFG to evaluate how the combined resources and expertise of the Ministry of Finance, the Council on Ethics and Norges Bank can best be utilized to strengthen the strategy on responsible investments. The report was presented on 20 November 2013, and contains ten recommendations about how the strategy can be strengthened, including that the exercise of ownership and exclusion should become parts of a more integrated chain of policy instruments. The report and recommendations were later released for public consultation. The report, the consultation comments received, and the Ministry's assessments will be presented to the Storting (the Norwegian parliament), in the annual White Paper on the GPFG on April 4 2014. The Storting will then have an opportunity to discuss the strategy, including the full range of instruments and how responsible investment practice should be organized.

The assignment of the Expert Group

Reference is made to Innst. 141 S (2013–2014) and the Storting's deliberation of this. In the management strategy for the GPFG, the Ministry of Finance has adopted several policy instruments for the work on responsible investments, including exclusion, observation and the exercise of ownership. Until now, the prevailing view has been that there is no need for “negative filtering” to exclude companies producing coal and petroleum from the Fund. Moreover, the exercise of ownership rights and exertion of influence have been considered a more effective strategy for addressing climate-related issues and promoting change than exclusion¹⁾.

The Expert Group shall evaluate whether the exclusion of coal and petroleum companies is a more effective strategy for addressing climate issues and promoting

future change than the exercise of ownership and exertion of influence. The Group shall also advise on possible criteria for the potential exclusion of these types of companies.

The Expert Group shall build on the conclusions reached following the consideration of the recommendations made by the Strategy Council for the GPFG regarding the strengthening of the work on responsible investment.

The group shall not advise on the general strategy for responsible investment practice or other aspects of the GPFG's management strategy.

The Expert Group shall present its recommendation by the end of November 2014.

¹⁾ The report prepared prior to the introduction of the ethical guidelines in 2004, Official Norwegian Report (NOU) 2003:22, Management for the Future, stated the following, among other things: *“The committee is of the opinion that there is no basis for negative filtering of companies producing coal power or petroleum to exclude them from the fund. In the committee's view, the exercise of ownership and exertion of influence will be a more effective strategy for addressing climate-related issues and securing change than exclusion.”*

ANNEX II - THE MEMBERS OF THE EXPERT GROUP

Mr. Martin Skancke is an independent consultant specializing in advising SWFs on investment and governance issues. He was Director General and head of the Asset Management Department of the Norwegian Ministry of Finance from 2006 to 2011 and Director General and head of the Domestic Policy Department of the Office of the Prime Minister from 2002 to 2006. Prior to this he worked at McKinsey & Co. and the Norwegian Ministry of Finance. He holds a business degree from the Norwegian School of Economics and Business Administration, a Russian language degree from the University of Oslo and an MSc (Econ) from the LSE.

Professor Elroy Dimson is the chairman of the Strategy Council for the Norwegian Government Pension Fund Global. He is chairman of the Newton Centre for Endowment Asset Management at Cambridge University and emeritus professor of finance at London Business School. He also chairs the Academic Advisory Board of FTSE Group. Dimson is on the council of Financial Analysts Journal, and is an honorary fellow of the CFA Society of the UK (FSIP) and of the Institute of Actuaries. His publications include *Triumph of the Optimists*, *Endowment Asset Management*, the *Global Investment Returns Yearbook*, and many journal articles. His PhD is from London Business School.

Professor Michael Hoel is currently teaching resource and environmental economics at the University of Oslo. He also holds a position as scientific advisor at the Ragnar Frisch Centre for Economic Research, and is area director for the CESifo area of energy and climate economics. Hoel has published several articles on various climate and energy issues during the last couple of decades. He is a fellow of CESifo and of the Beijer Institute of Ecological Economics. He is an Honorary Doctor at the Carl von Ossietzky University of Oldenburg. His PhD is from the University of Oslo.

Dr. Magdalena Kettis is the Research Director at Global Child Forum, a multi-stakeholder platform for dialogue on children's rights founded by the Swedish Royal Family. Prior to this Magdalena worked at Norges Bank Investment Management as Head of Ownership Risk and before that as Head of Social and Environmental Issues responsible for active ownership in regards to social and environmental issues. Her previous positions include Corporate Responsibility and Sustainability Manager at Coca-Cola Enterprises in Sweden and Norway and corporate responsibility advisor. She was a board member of Amnesty Business Group Sweden. Magdalena has her PhD in International Political Economy from Stockholm University.

Dr. juris Gro Nystuen is a Senior Partner at ILPI (International Law and Policy Institute) and Director of ILPI Center for International Humanitarian Law. She has worked in the Norwegian Ministry of Foreign Affairs (1991-2005) and was an Associate Professor at the University of Oslo and the Defence Staff University College (2005-2011). From 2004-2011, Nystuen was Chair of the Council on Ethics for the Norwegian Government Pension Fund Global. Her publications include *Human Rights, Corporate Complicity and Disinvestment (CUP)* and *Investment Policies and Arms Production – Experiences from the Norwegian Pension Fund – Global (Disarmament as Humanitarian Action, December 2006, Volume III)*.

Professor Laura T. Starks is the Associate Dean for Research and Seay Regents Chair in Finance at the McCombs School of Business, University of Texas, where she teaches courses on environmental, social and governance investing. She has published many articles on finance issues. She is an independent director for CREF Retirement Accounts and TIAA-CREF Mutual Funds and serves on the Investment Advisory Committee for the Employees Retirement System of Texas, the Board of Governors of the Investment Company Institute, and the Governing Council of the Independent Directors Council. She also served on the 2013 Strategy Council for the Norwegian Government Pension Fund Global.