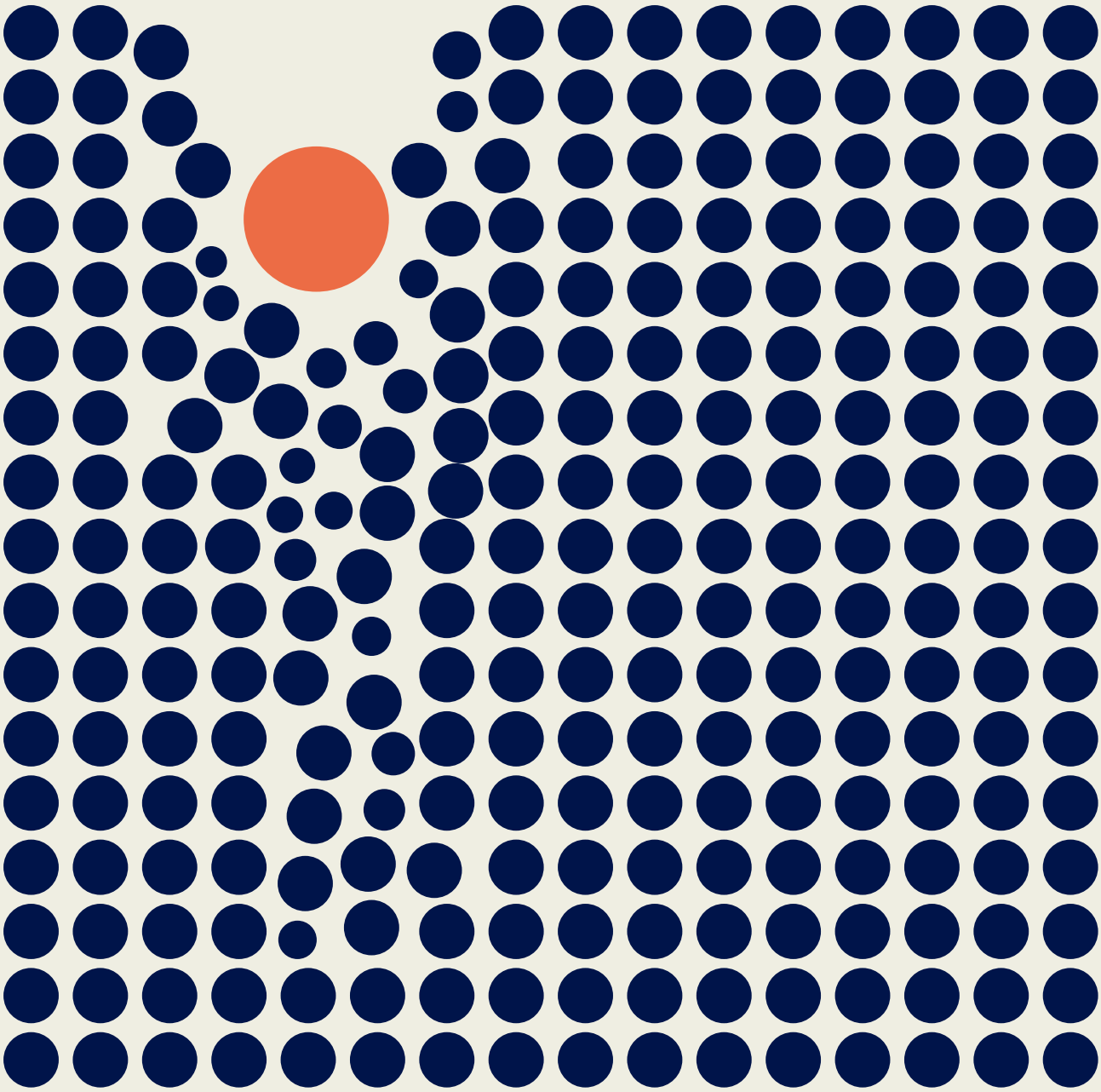
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Institute for Energy Economics and Financial Analysis

The price of owning everything
Protecting Norway's sovereign wealth from systemic risks



About this report

The purpose of this report is to make knowledge about *systemic risk* in financial markets accessible and relevant to a wider audience. We examine how such risk may affect the Norwegian Government Pension Fund Global (GPFG, "the Fund"), the largest sovereign wealth fund in the world.

The report addresses what systemic risk means, and how these risks could affect the GPFG and Norwegian public finances. We examine whether and how a universal owner can reduce such risks, and how Norwegian policymakers can respond to a changing risk landscape.

The report focuses on how systemic risks may affect the Fund financially. There are also other key questions about the Fund's future, such as what constitutes ethical management of the Fund. Ethics per se is not the subject of this report. The Norwegian version of the report includes a set of essay contributions from experts to broaden the discussion on how the GPFG should evolve in a new risk landscape.

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1. Executive summary

The risk landscape facing the Government Pension Fund Global (GPFG) has changed. Norway's broadly diversified, benchmark-driven approach to the management of the GPFG has been highly successful. It should remain the core approach. But no investor can diversify away from a deterioration in the global economy itself. Unlike market risk, which can cause widespread losses while markets continue to function, systemic risks can erode the natural, social, economic and technological systems on which all returns depend. Disruption in one system can cascade into others, amplifying the damage. Such risks include climate change, geopolitical fragmentation and financial crises. The GPFG also faces risks tied to its exceptional size and identity as a state-owned investor. These include political pressure, restrictions on market access and potential legal challenges.

The latest stress tests from Norges Bank Investment Management (NBIM), which manages the GPFG, estimate the scale of potential losses, but what then? Recent scenarios cover geopolitical fragmentation, a regional debt crisis, an AI market correction and extreme weather events, suggesting potential losses of 20–37% of the Fund's value. These are hypothetical outcomes over short time horizons, and not all would necessarily amount to systemic disruption. Norway's recently commissioned review processes have largely focused on managing the GPFG's exposure to such risks. Less attention has been given to whether Norway could reduce threats at source or limit their spread through the economy. There is no clear process for turning risk analysis into debate and decisions about which interventions could make a difference, whether the benefits outweigh the costs, or who should act.

A growing GPFG makes Norwegian public finances more exposed, but a gradual deterioration of the global economy may matter more than a crash. As the Fund grows relative to the economy, the public budget becomes more sensitive to volatility in financial markets. We model a severe crash followed by a very slow recovery. This would require some adjustment to government spending, but would remain manageable even under the fiscal rule, which guides government spending based on the Fund's expected long-term returns. The report also models a permanent weakening of global economic growth, which could arise from systemic risks connected to government debt, AI or reduced technology sharing. Over time, such risks may reduce the GPFG's ability to finance government spending. Preventing a slow but persistent degradation is even more important for the long-term health of Norwegian public finances.

As a universal owner, the GPFG has a financial interest in the health of the wider economy. Owning a small slice of the world economy means the GPFG's long-term returns depend on the systems that allow the global economy to prosper. Long-term investors are

developing ways to address systemic risks, through capital allocation, company stewardship, policy engagement, collaboration and expectations of fund managers. Academics and practitioners debate how far any single investor, even one the size of the GPFG, can credibly help reduce systemic risks at reasonable cost. Not acting may be a reasonable choice, but doing so is in itself a decision that should follow considered assessment rather than an assumption that inaction is necessarily prudent.

Key recommendations for Norwegian policymakers:

Norway and NBIM have already taken steps to adapt to a changing risk landscape. The Ministry of Finance has established an Expert Council to review the GPFG's investment strategy and commissioned work on concentration in the Fund's equity index, bond-market risks and a new ethical framework. NBIM, meanwhile, has developed active ownership capabilities few investors can match at similar scale, from extensive engagement with corporates and regulators to advanced risk analysis.

These efforts provide a strong foundation for a more deliberate response to systemic risks. We invite the Ministry of Finance, NBIM and the Norwegian parliament to consider whether, alongside managing the Fund's exposure, Norway's sovereign wealth and influence could also be used to help reduce some of these risks at source. The aim would be to protect the Fund's long-term returns and the public finances that increasingly depend on them. We propose four recommendations as a starting point for discussion:

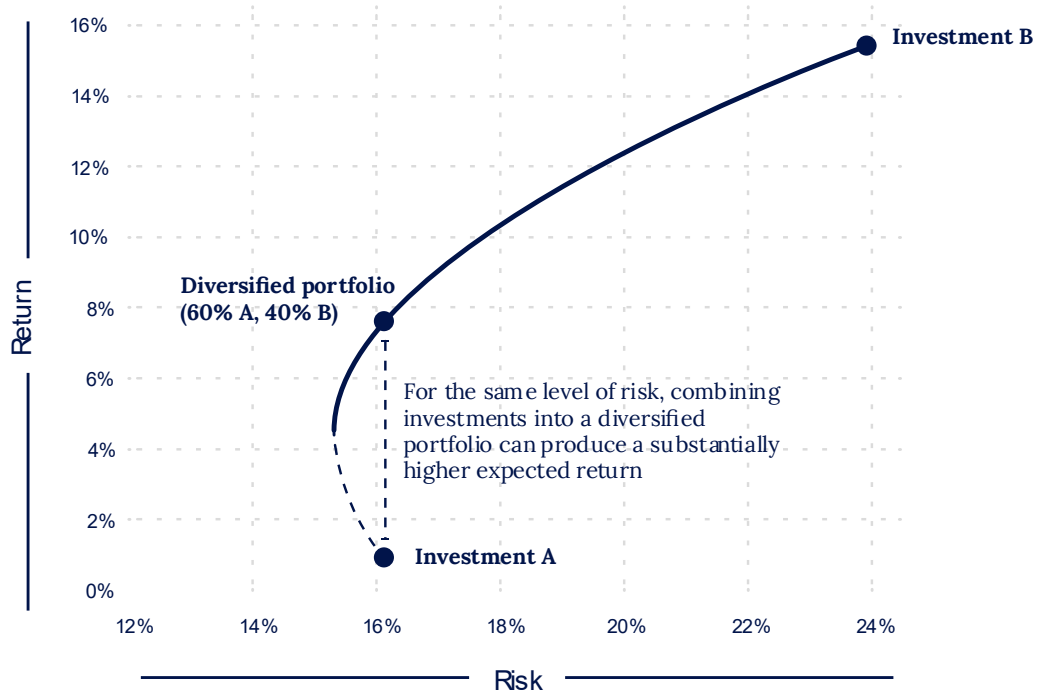
1. **Make systemic-risk analysis useful for decision making**
   Build on NBIM's existing research and stress testing to identify where intervention could credibly make a meaningful difference. Establish a regular, mandatory review process for assessing possible responses and their costs.
2. **Strengthen NBIM's stewardship of corporate political activity**
   NBIM should continue to challenge lobbying, including through trade associations, that contributes to financially material systemic risks. Where concerns remain unresolved, restrict participation in new bond issuance, including the refinancing of existing debt, as an additional means of exerting pressure.
3. **Reevaluate current restrictions on investment in renewable-energy infrastructure**
   Assess whether the GPFG's current limits on geography, project stage and investment structures unnecessarily exclude financially attractive opportunities in an asset class that can also reduce systemic risks and strengthen long-term economic resilience.
4. **Look to establish an investment programme targeting systemic-risk reduction**
   Examine how a dedicated investment programme outside the GPFG could use patient capital and specialist expertise to develop and finance projects with substantial systemic benefits, while seeking acceptable long-term financial returns.

2. Systemic risks and financial markets

All investments involve risk. A company can lose an important customer, an industry can be disrupted by new technology, or a country can enter recession. Investors typically seek to protect themselves against these risks by holding a diverse portfolio of investments that respond differently to market and economic developments. The process of diversification is central to modern portfolio theory. When returns are not all highly correlated, combining investments can lower risk[1] without necessarily sacrificing expected returns.

Figure 1 illustrates the benefits using just two potential investment opportunities. Different combinations produce different levels of risk and return. Plotting the various combinations reveals not a linear relationship but a pronounced curve, showing how mixing investments can improve the balance between risk and return. The solid blue section shows the best possible combinations, known as the "efficient frontier".

Figure 1: Diversification can improve the balance between risk and return



Source: *IEEFA analysis using MSCI data.*
Note: *Illustrative example based on three years of monthly returns for the MSCI World ESG Select Impact and MSCI World Energy indices. Returns and volatility (standard deviation) are annualised.*

[1] Measured as volatility of returns.

Diversification is a core strength

Norway has built its sovereign wealth fund, the Government Pension Fund Global (GPFG), around a benchmark-driven investment model that spreads investments across global markets, prioritising broad diversification over trying to pick stocks that could outperform. The Fund adopted this approach at massive scale, well before similar approaches became as widespread as they are today. This decision has proven a prudent one, providing Norway with a transparent and highly scalable means of managing national wealth at low cost.

As well as diversifying within portfolios, investors can also decide how much overall market risk they are prepared to accept through strategic asset allocation. This means choosing the long-term balance between different asset classes. Equities, for example, generally offer higher expected returns but are considered riskier than bonds. For the GPFG, strategic asset allocation is a political decision. The Ministry of Finance sets a benchmark of 70% equities and 30% bonds, following decisions by parliament.

Over time the model has evolved. Norges Bank Investment Management (NBIM) is not a purely passive investor, but broad market exposure remains its organising principle. Diversification works well against risks affecting individual companies, sectors or countries, but offers much less protection when large parts of the global economy are affected at once. The argument that follows is *not* that diversification has failed. It is that some risks operate at a level where even a highly diversified portfolio remains vulnerable.

Not all risks can be diversified away

Table 1: Three broad categories of risk are relevant to this report

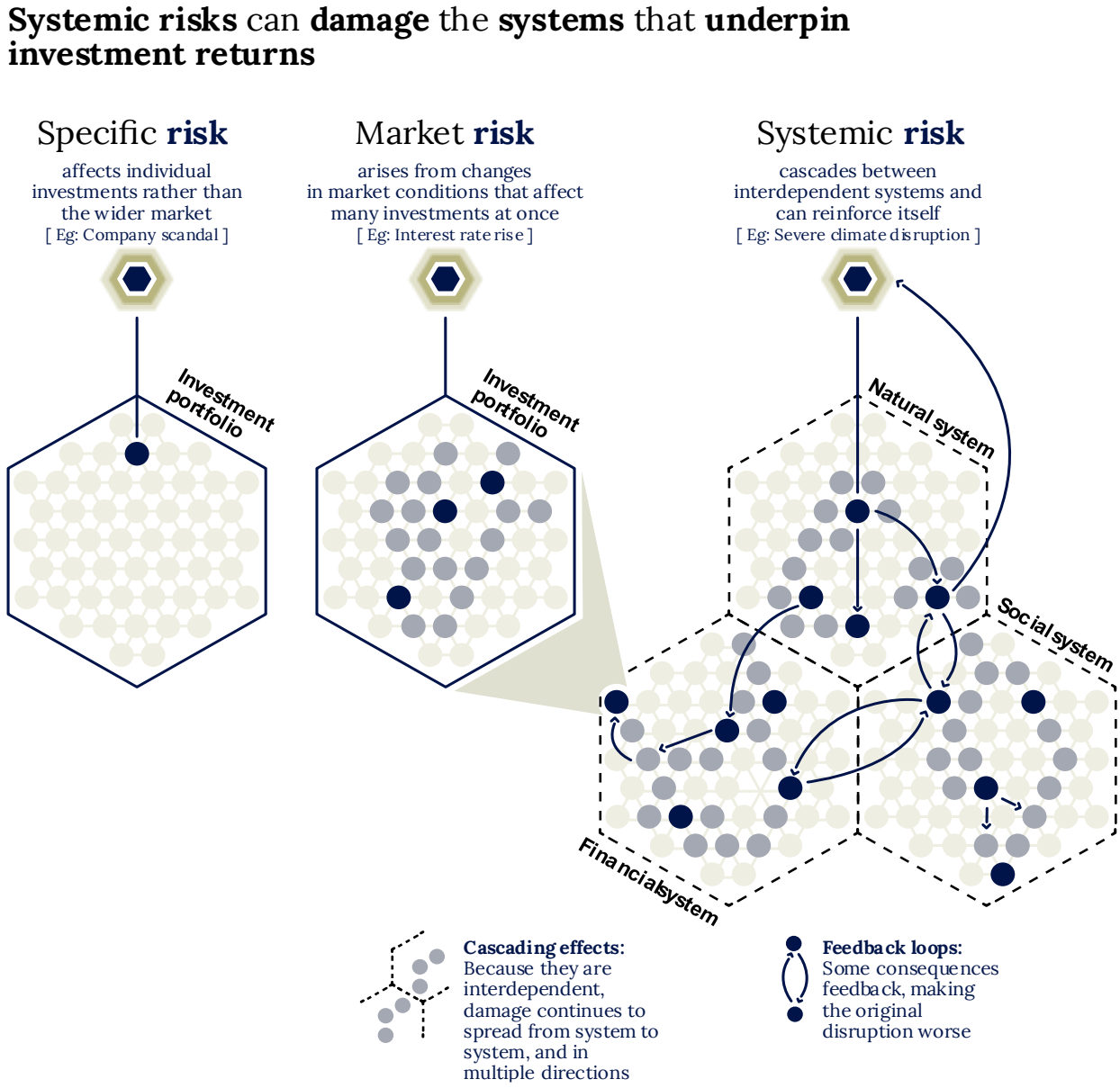
Type	Description	Examples
Specific risk	Problems that affect individual investments or groups of similar investments.	A product failure or accounting scandal harms one company without substantially affecting the wider market.
Market risk	Changes in market conditions that affect many investments at once.	Interest rates, exchange rates, inflation or investor confidence influence investments across sectors and geographies.
Systemic risk	Threats that can degrade the interdependent systems that underpin investment returns, with cascading effects and feedback loops potentially amplifying damage.	A financial crisis, pandemic, severe climate disruption or major geopolitical breakdown.

Note: *Systemic risk definition adapted from work by the Principles for Responsible Investment.*

The three risks shown in Table 1 are not mutually exclusive. Disruption to the underlying systems that support economic activity can generate familiar market risk factors, including inflation, rising interest rates or declining investor confidence. Conversely, a problem affecting a single company, such as a bank failure, can become systemic if contagion threatens the functioning of the wider financial system.

In asset management, specific and market risk are commonly referred to as idiosyncratic and systematic risk, respectively. We use the more intuitive terms to help avoid confusion between systematic and systemic risk, and to more clearly differentiate the financial consequences of systemic disruption from its underlying causes.

Figure 2: Three levels of risk: investments, markets and interconnected systems



A falling market is not the same as a failing system

Asset prices rise and fall as markets respond to changing economic conditions and expectations. Even widespread investment losses do not necessarily mean that something has gone wrong or needs correcting. For example, higher interest rates introduced to cool an overheating economy are an ordinary market risk factor. They can push equity and bond prices down across a portfolio, but banks typically continue lending, payments are processed and the financial system continues to function.

But a banking crisis illustrates a different problem. Falling asset prices may be accompanied by disruptions to essential financial functions. Banks may stop lending, payment systems can come under strain and confidence in financial institutions may break down. As functioning becomes impaired, the financial system itself begins to spread and amplify the shock into the wider economy.

Systemic risk goes beyond financial stability

Because the finance sector enables so much wider economic activity, systemic risk has traditionally been associated with financial crises. But disruption can also originate in the natural, social, technological and other systems on which economic activity depends. COVID-19 illustrated this vividly. What began as a public health crisis disrupted labour markets and international supply chains, with far-reaching consequences for global economies and financial markets.

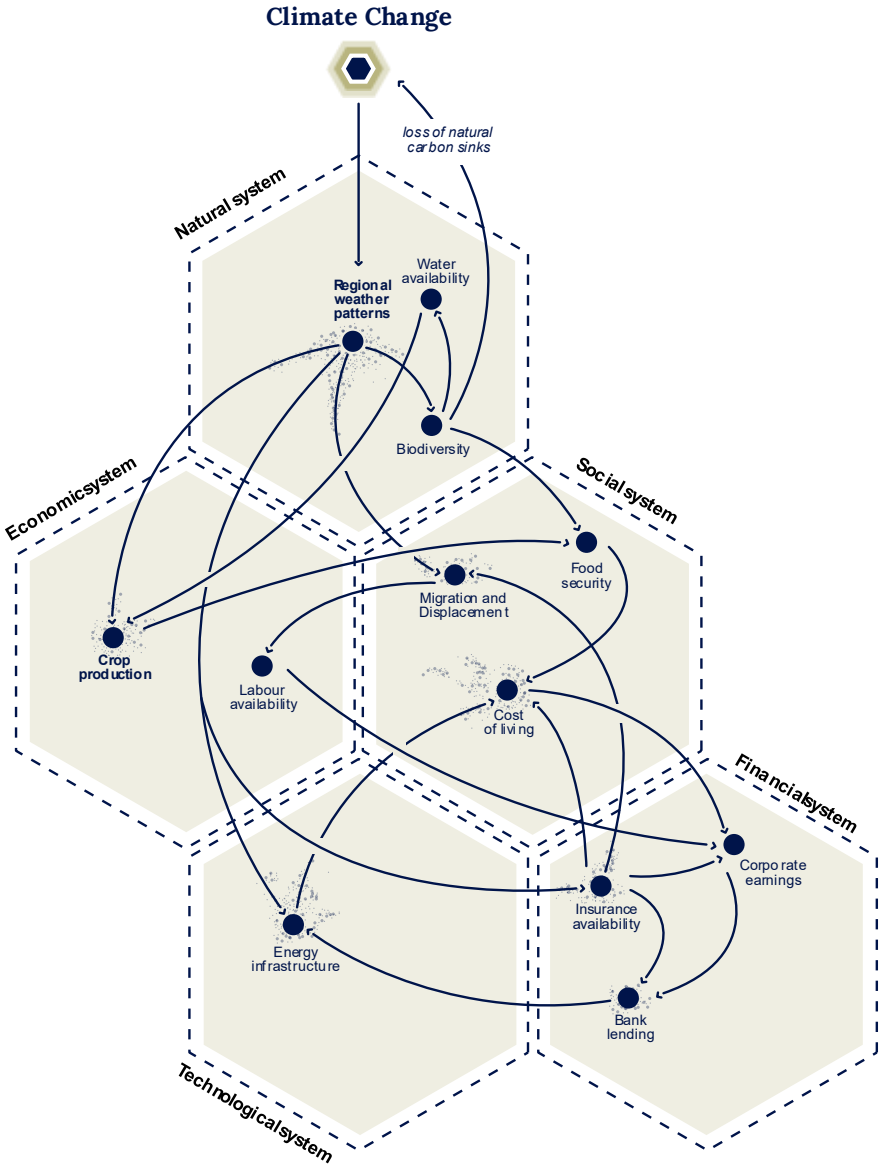
This broader understanding is increasingly reflected in the work of major financial institutions. NBIM itself recognises that climate risk cannot be fully managed through diversification, with effects that could cascade through agriculture, labour productivity, trade and other interconnected parts of the economy. Sarah Breeden at the Bank of England similarly argued in 2020 that reducing climate-related financial risk requires addressing the underlying threat in the real economy. The European Central Bank has also examined how degradation of natural systems threatens economic activity and financial stability. Geopolitical fragmentation offers another example. The Bank for International Settlements has warned of its cascading risks. Restrictions on trade and investment can disrupt supply chains and slow the spread of new technologies. Over time or through shocks, these effects can reinforce one another, weakening economic growth and long-term investment returns.

From an investor perspective, the Principles for Responsible Investment (PRI) now explicitly distinguishes systemic risk from conventional market risk, and has developed a system-level framework that considers how the relationships between interdependent financial, economic, environmental and other systems shape investment risks and returns.

This report largely focuses on the financial consequences for the GPFG, but systemic risks are not limited to falling asset values. They can also affect the conditions in which Norwegians live and work. Climate change offers an accessible example. Europe is warming at roughly twice the global average rate, increasing risks from flooding, drought and wildfires, with consequences for infrastructure, agriculture and economic activity. Figure 3 illustrates how climate disruption can cascade through connected systems.

Figure 3: How systemic risk can cascade across interconnected systems (illustrative example)

Physical climate impacts **cascade across** natural, social, economic, technological and financial systems, with feedback loops **amplifying the damage** and further undermining long-term investment returns



Universal ownership: What it means to own a small slice of the economy

Large, highly diversified asset owners such as the GPFG, which effectively own a "small slice of the global economy", are sometimes referred to as “universal owners”.

Diversification protects them against the failure of individual investments but there is a trade-off to consider. The more an investor’s portfolio mirrors the market, the more its own fate is tied to the health of the wider economy. Long-term returns depend less on picking winners and more on the conditions that allow markets as a whole to prosper. Norway’s Ministry of Finance estimates that around 97% of the GPFG’s value stems from contributed capital and returns on its benchmark index.

This leaves universal owners particularly exposed to systemic risks that threaten those underlying conditions.

A long-held understanding

The logic of universal ownership has deep roots in Norway’s management of the GPFG. In **2003,** the Graver Committee, whose proposals formed the basis of the Fund’s first ethical guidelines, argued that good long-term returns depend on sustainable economic, ecological and social development. The committee recognised that the GPFG could suffer financially if the polluting activity of one company were to impose costs on other companies it held, giving the Fund a financial self-interest in promoting more sustainable developmental goals. In **2007**, Ola Peter Gjessing, who is now NBIM’s lead investment stewardship manager, and Henrik Syse, then NBIM’s head of corporate governance, argued that universal ownership justified engaging with companies and standard setters, alongside collaboration with other investors. By **2010**, the Ministry of Finance had devoted an entire chapter of its annual report on the GPFG to universal ownership, concluding: “The Fund is a universal owner by definition and should therefore have a concrete approach to what this means in practice.”

Can systemic risks be reduced?

Some systemic risks can be reduced at source or prevented from spreading. Financial regulation provides familiar examples. Bank capital requirements, deposit insurance and emergency-liquidity facilities don’t eliminate banking risk, but they can prevent individual failures developing into wider financial crises. Conventional investment strategies can also contribute. The GPFG’s rebalancing rule means that NBIM buys equities following

sufficiently large market declines, often when other investors are selling. This may help stabilise markets, although the scale of any benefit remains uncertain.

Neither approach, however, does much to address the underlying causes of systemic disruption originating outside of the financial sector. Other interventions may be needed, either to tackle these threats at source or to strengthen resilience against their consequences.

Reducing risk versus strengthening resilience

Investors can respond to systemic risks by addressing their underlying causes or strengthening resilience against their consequences. In areas such as climate change, capital allocation, company stewardship and policy engagement can help reduce emissions. For other threats, such as geopolitical conflict or pandemics, investors may have much less influence over whether a shock occurs.

Energy infrastructure illustrates how these approaches can overlap. Disruptions in energy systems caused by conflict, extreme weather, infrastructure failure or a combination of these can quickly cascade into the global economy. Investment in stronger, more diversified energy systems with less dependence on imported fossil fuels can limit supply shocks regardless of the trigger. Where these investments also replace or avoid fossil fuel use, they can help reduce future climate risks.

Where investors cannot reasonably expect to prevent a shock, reducing vulnerability along known transmission channels may be the more credible response. But resilience cannot always substitute for prevention. In the case of climate change, much physical damage is irreversible and adaptation cannot reasonably be expected to prevent all losses. Reducing emissions therefore remains essential.

3. How systemic risks could threaten the GPFG

"The last 30 years have not been normal"

In August 2026, NBIM chief executive Nicolai Tangen used his platform at Norway's Arendalsuka political gathering to pose an unusually direct question: "Can the Fund disappear?" His answer was yes. To illustrate the risk, he asked the audience to consider a depression-style scenario, in which global equity values fell by 80%, potentially followed by a decade-long recovery. With around 70% of the GPFG invested in equities, his rough estimate put more than NOK 12 trillion at risk.

The "unthinkable" has happened before

Norway's State Reserve Fund, established in 1904, was invested mostly in British, French and German government bonds, then regarded as among the safest assets available. War, inflation, political upheaval and collapsing bond values quickly changed that. Norges Bank describes the State Reserve Fund as being "nearly empty" by the time it was dissolved in 1925. The modern GPFG is vastly larger and more diversified, but the lesson remains relevant. Assets that look safe under one set of conditions may cease to be so when the world around them changes.

But Tangen was not suggesting such a collapse was imminent. His broader warning was that the Fund has grown up during an unusually benign period of globalisation, low interest rates, strong productivity gains through technological advances and higher than expected equity returns. Norway should not assume that those stable, conducive conditions will persist. In Tangen's own words, "the last 30 years have not been normal".

NBIM is testing what happens when today's "normal" breaks down

NBIM is required to test how the GPFG might perform under severe scenarios in which several markets and risk factors move against it at the same time. Its latest analysis considers an AI correction, a fragmented world, a regional debt crisis and simultaneous extreme weather events affecting major food-producing regions. NBIM then translates these scenarios into familiar market risk factors, such as inflation and interest rates, to estimate their potential impact on the Fund's investments.

Table 2: How four major shocks could affect the GPFG.

Scenario	How the scenario affects markets and the economy	Estimated impact
AI correction	AI investment fails to deliver expected productivity gains. Technology valuations fall, weakening confidence, investment and growth more broadly.	-35% (NOK 7.4tn)
Fragmented world	Tariffs and investment restrictions weaken trade, growth and corporate profits, while uncertainty weighs on investment and financial markets.	-37% (NOK 7.8tn)
Regional debt crisis	Loss of confidence in government debt pushes borrowing costs higher, weakening investment, economic growth and asset prices in the affected region.	-32% (NOK 6.9tn)
Extreme weather events	Simultaneous crop failures disrupt food supply, pushing up prices and inflation while weakening economic growth.	-20% (NOK 4.3tn)

Source: NBIM. *Note: Hypothetical impacts on the GPFG portfolio, on 31 December 2025.*

Not every severe market event is necessarily systemic. NBIM's AI correction scenario, for example, describes a reassessment of corporate valuations following disappointment over expected productivity gains. That could remain an ordinary repricing of assets, unless disruption goes on to impair the wider systems upon which economic activity depends. Risks associated with the rapid adoption of AI could ultimately prove more systemic, including broad disruption to labour markets or its misuse affecting cyber security.

Even so, NBIM's tests show why diversification offers little protection when the whole opportunity set deteriorates. Bonds provide some protection in the AI correction scenario, but in each of the other three, asset classes fall together, leaving the Fund with "limited hedging" opportunities.

Figure 4: Hypothetical scenario impacts for the GPFG (in %)



Source: NBIM. *Hypothetical impacts on the GPFG portfolio in krone terms, as at 31 December 2025.*

What stress testing can and cannot do

Stress tests can help reveal vulnerabilities and show where diversification offers little protection, but they are deliberately simplified representations of possible futures, with important limitations when assessing systemic risks.

Scenarios are not forecasts

NBIM selects a small number of scenarios from a longer list of possible events, considering their potential severity and perceived likelihood. The selection changes yearly, as the economic and market outlook evolves. The resulting estimates show what could happen under the particular assumptions chosen, but they are not forecasts, and NBIM does not assign probabilities to the outcomes.

Estimating the likelihood of systemic disruption is especially challenging. Historical market data can help investors assess conventional financial risks, but offers little guidance when events are unprecedented, exceptionally rare, or arise as a result of fundamental changes to the systems supporting economic activity. Norway's 2018 Climate Risk Commission warned that "analyses based on historical experience may be of limited validity if fundamental physical circumstances are materially changed or if key social structures fail".

Risk and uncertainty

Imagine rolling two dice. We cannot predict the next result, but experience allows us to assign a probability to each outcome. We know for example that a total of seven is the most likely result. Much conventional financial risk analysis follows a similar principle, using historical observations to estimate a range of possible outcomes.

Economist John Maynard Keynes distinguished this kind of measurable risk from more fundamental uncertainty, where there is too little relevant experience to calculate the odds reliably. We may recognise that conditions are becoming more dangerous without knowing what will trigger disruption, when it might occur or how severe the consequences will be.

Many systemic threats sit closer to this second category. They are difficult to quantify yet no less relevant to investment decisions.

Separate scenarios may miss how risks interact

Systemic risks rarely occur in isolation. NBIM acknowledges that geopolitical fragmentation could slow the spread of new technology and weaken returns from AI investment, slower growth could worsen sovereign debt problems, and climate shocks could increase inflation and limit policymakers' room to respond. These risks can reinforce one another, while climate tipping points could trigger further cascading effects that are difficult to model. Testing scenarios separately is likely to underestimate the scale of potential damage.

Sudden shocks are not the whole picture

NBIM's stress tests focus on extreme market outcomes that play out over short- to medium-term periods. But some systemic risks build gradually, slowly eroding the conditions that support investment returns. Climate change and geopolitical fragmentation, for example, could weaken economic growth over decades rather than causing a single market crash. The former could cause irreversible physical damage, with lasting consequences for economic activity and investment returns.

Persistent economic damage could matter more to a long-term investor than a sudden market crash. A 30% market fall from which economies and markets quickly recover is a very different proposition to a lasting reduction in productivity, growth or investment opportunities. Even small reductions in annual returns become substantial when compounded across generations. The implications for Norwegian public finances are explored in Section 4.

The 2022 Sverdrup Commission considered similar long-term risks. Alongside historical modelling of scenarios such as de-globalisation, prolonged stagflation and a repeat of past crises, it set out three qualitative narrative scenarios in which lasting changes in the global economy would erode the foundation of the GPFG's returns.

In the first scenario, the climate crisis leads to economic downturn, financial instability and abrupt policy change, while the Fund's roots in oil and gas revenues undermine its legitimacy and expose Norway to legal claims. In the second scenario, geopolitical rivalry splits the world economy into competing blocs, shrinking the Fund's investment universe. In the third scenario, the green transition is successful but Norway's economy fails to adapt, leaving the Fund unable to support rising spending and gradually draining it. These scenarios acknowledge that lasting changes in the global economy can affect the systems the GPFG depends on.

Long-term losses are difficult to quantify

NBIM's separate climate analysis illustrates how difficult it can be to estimate the financial consequences of systemic risks. In its 2024 disclosures, an approach incorporating wider macroeconomic effects estimated a 19% loss in the present value of its US equity portfolio under a current policies scenario, compared with just 2% using MSCI's bottom-up Climate VaR model. NBIM considered the higher estimate more credible because it captured a wider range of economic effects, but acknowledged both models omitted important systemic impacts.

The research underpinning that higher estimate was subsequently retracted due to methodology problems. NBIM published revised modelling in February 2026 to address these shortcomings. Its new approach estimated an 8–10% impact on equity values under a current policies scenario, compared with 14–21% using the old methodology. These estimates are not directly comparable, but the dispersion illustrates just how much results depend on modelling assumptions. Norway's 2018 Climate Risk Commission went further, warning that "some climate impacts cannot meaningfully be quantified".

Stress testing and climate modelling remain valuable, but attaching precise loss estimates to fundamentally uncertain events can create more confidence than the evidence warrants. For a long-term investor like the GPFG, the challenge lies not in how to calculate highly uncertain outcomes ever more precisely, but how to make sensible decisions when the future cannot be reduced to reliable probabilities.

Risks beyond the Fund's investments

The risks discussed so far largely concern the value of the Fund's investments as social, technological, financial and natural systems come under pressure. But a changing world can also create risks at the level of the asset owner itself. For the GPFG, its exceptional size, visibility and public ownership make these especially relevant.

Table 3: Owner identity, legal and accountability risks facing the GPFG

Type	How it could affect the GPFG
Owner-identity risk	The Fund's size, international visibility and public ownership and origin can expose it to political pressure, discriminatory treatment, investment restrictions or, in extreme circumstances, confiscation.
Legal risk and accountability	Norway and institutions responsible for managing its financial wealth could face legal or reputational challenges over their handling of foreseeable risks to long term investment returns.

Owner identity risk

The 2022 Sverdrup Commission warned that growing geopolitical rivalry could expose the GPFG to restrictions targeting sovereign investors, while the Fund could increasingly be perceived as closely linked to Norwegian government policy. Following the Fund's 2025 exclusion of Caterpillar under its ethical guidelines, US Senator Lindsey Graham called for tariffs and visa restrictions against Norway, while Senator Dave McCormick urged the US administration to consider restricting the GPFG's access to US financial markets.

Geopolitical tensions could therefore affect the GPFG twice. Once by reducing the value of its investments, and again by increasing the likelihood of measures being directed specifically at the Fund because of its Norwegian state-ownership. These risks may grow as the Fund becomes larger and more prominent. Diversification cannot eliminate risks that arise from the identity of the asset owner.

Legal risk and accountability

Norway's 2018 Climate Risk Commission warned that climate litigation could carry substantial financial and reputational costs, even when claims are unsuccessful. It further noted that standards of what may be considered "negligence" could evolve as scientific knowledge and societal expectations change.

These concerns are no longer hypothetical. In 2025, four young pension contributors brought legal proceedings against Canada's CPP Investments, alleging that its failure to adequately assess and manage climate-related financial risks could jeopardise their future pensions. Similar challenges have previously been brought against pension funds in Australia and the UK.

While these cases have not established a general legal duty to reduce systemic risks, they demonstrate growing scrutiny of how institutions manage foreseeable threats to long-term financial security.

The risks of action and inaction

These owner-level risks introduce trade-offs and potentially difficult choices for Norway. Measures intended to reduce systemic risk could feasibly expose the GPFG to greater political pressure, particularly where investment decisions are perceived as expressions of Norwegian government policy. But choosing not to act could also carry consequences, including greater financial exposure to systemic disruption and potential future challenges over whether foreseeable threats were adequately assessed. Both need consideration when deciding how Norway should respond.

4. What could this mean for Norwegian public finances?

The GPFG has become an increasingly important source of funding for Norwegian public spending. Withdrawals from the Fund financed 19.7% of public spending in 2025, up from 11.1% a decade ago.[2] First and foremost, this is good news. It means Norway has been able to increase spending on health, defence, schools and other public services without raising taxes. Over the past 25 years, Norway has reduced its overall taxation levels[3] without having to borrow money. This has been possible because of increased withdrawals from the GPFG.

But this success story also creates vulnerabilities. A sharp fall in the Fund's value could constrain government spending for a time. A prolonged period of weak returns in financial markets may reduce Norway's room for fiscal manoeuvre over generations. Both vulnerabilities can be viewed in light of systemic risks that could undermine the global economy.

The rationale for the fiscal rule

Norway has a unique set-up for the central government budget. Every year, the budget starts out in deficit because the state spends more money than it raises through taxes and duties. This deficit has to be covered. Most countries cover a budget deficit by borrowing. Norway does not need to because the government has large financial wealth to draw on. The deficit is therefore covered by a transfer from the GPFG. In formal terms, this is called the non-oil deficit. Put differently, it is how large the deficit would be if there were no money from the GPFG to draw on.

Strictly speaking, although these transfers may commonly be referred to as "oil money", that is a simplification. The wealth originally came from oil and gas, of course, but over the years financial market returns have added a great deal to it. This is in the form of interest and dividends (cash gains), but most importantly as higher valuations of equities and bonds (valuation gains).[4]

The fiscal rule, decided by the Norwegian Parliament, is designed to ensure that the wealth derived from petroleum revenues benefits both current and future generations. This

[2] Calculated as the structural non-oil budget deficit (NOK 528.4 billion in 2025), from the state accounts, divided by total public spending (NOK 2,684.5 billion in 2025), from Statistics Norway.
[3] Non-petroleum taxes and duties as a share of mainland GDP. **Source**: Statistics Norway.
[4] In gross numbers, returns were about NOK15 trillion from 1996 to 2025, including currency effects, and the Fund today is about NOK22 trillion. But it does not follow from this that returns account for 68% of fund value. This is because there have been ongoing outtakes since inception. These amount to about NOK4,500 billion. Petroleum revenues have been about NOK10,000 billion.

purpose is sometimes lost in public debate, where the rule is often interpreted as a tool to prevent inflation. The government must consider the inflationary effects of public spending whether or not a fiscal rule exists, as it did before the rule was introduced in 2001. The rule's main purpose is to distribute the GPFG's wealth between generations in a way that can be sustained indefinitely.

Norway's interests are tied to a healthy world economy

Before 2001, Norwegian government spending was sensitive to fluctuations in petroleum prices. That risk has been largely decoupled. Public budgets have instead become exposed to a different risk: fluctuations and large falls in global financial markets.

Over the long term, the GPFG's financial market returns depend on the state of the world economy. A global investor cannot sustain a financial return over long periods unless there is sustainable global economic growth. It is true that over the short- to medium-term, the interests of investors and the wider global economy may not align. High returns in financial markets have not always coincided with corresponding improvements in wider economic conditions. Over recent decades, for example, a declining share of income has gone to workers, while lower corporate taxes, and falling interest rates, have helped support capital returns.[5] But such trends cannot continue indefinitely. There is a limit to how far labour's share of income can fall, how much lower taxes can go and how much declining interest rates can push up valuations. A sustainable long-term return on capital must be linked to developments in the real economy.[6]

This insight underpins the main thesis of this section: As Norway's public finances increasingly depend on the state of financial markets, the country acquires an ever-greater self-interest in the long-term health of the global economy. Systemic risks could affect economies and livelihoods around the world, including in Norway. But Norway faces a second threat: A sharp fall in asset prices, or a gradual erosion of global economic activity could reduce the Fund's capacity to support public spending.

Few countries have the fiscal muscle to address systemic risk in a meaningful way. Norway may be an exception. It therefore has both strong incentives and an unusual capacity to consider measures to reduce such risks.

[5] See Greenwald et al. (2025) for an overview.
[6] Of course, the medium term might be quite a while. Hanno Lustig of Stanford University argues why high valuations of AI stocks might reflect a bet on a structural transformation of US capitalism, favouring capital at the expense of labour.

Stress tests and sharp falls

As discussed in Section 3, NBIM's stress tests and scenario analyses examine four possible major events. For each, NBIM estimates how much the value of the GPFG could fall. The analysis does not address how long such a fall could last.

That is admittedly difficult to predict with any certainty, but history offers some lessons. The 2022 Sverdrup Committee examined how the performance of a broadly diversified global portfolio of 70% stocks and 30% bonds performed between 1899 and 2021. Despite wars, economic crises and major political turmoil, the longest period needed to recover previous real portfolio values was around 15 years. These occurred during three periods: the turmoil of the early 20th century, a period that included both the Russian Revolution and the First World War; the stagflationary period of the 1970s and 80s; and the dot-com crisis of the early 2000s. We assume that recurrence of such scenarios is not entirely unrealistic, and model how similar crashes today could affect Norway's public finances.

Figures 5 and 6 illustrate how a severe market crash followed by a slow recovery could affect the value of the GPFG and Norway's public finances. The assumed 37% fall reflects the most severe outcome in NBIM's latest stress tests, while the 15-year recovery is consistent with the longest historical recovery period for a diversified 70/30 portfolio over 1899–2021.

Figure 6 shows that GPFG-financed spending initially rises as a share of mainland GDP in the crash scenario, reflecting both the temporary increase in government support and the decline in economic activity. Spending from the Fund does not initially fall in krone terms, although it is substantially lower than in the non-crash scenario.[7] As crisis support is phased out, withdrawals from the Fund fall relatively quickly as a share of mainland GDP. This has a contractionary effect on the Norwegian economy. Over subsequent years, fund-financed spending gradually increases again relative to GDP, providing an expansionary effect as it converges with the no-crash path in the 2040s. Overall, the crash would leave Norway with roughly a decade of lower public spending than it could otherwise have afforded.

[7] The gap peaks in 2033 at just under NOK140 billion in current prices, or NOK120 billion in 2027 prices, assuming annual inflation of 2%. The graph for oil fund spending in current NOK is shown in Appendix A.

GPFG value in two scenarios

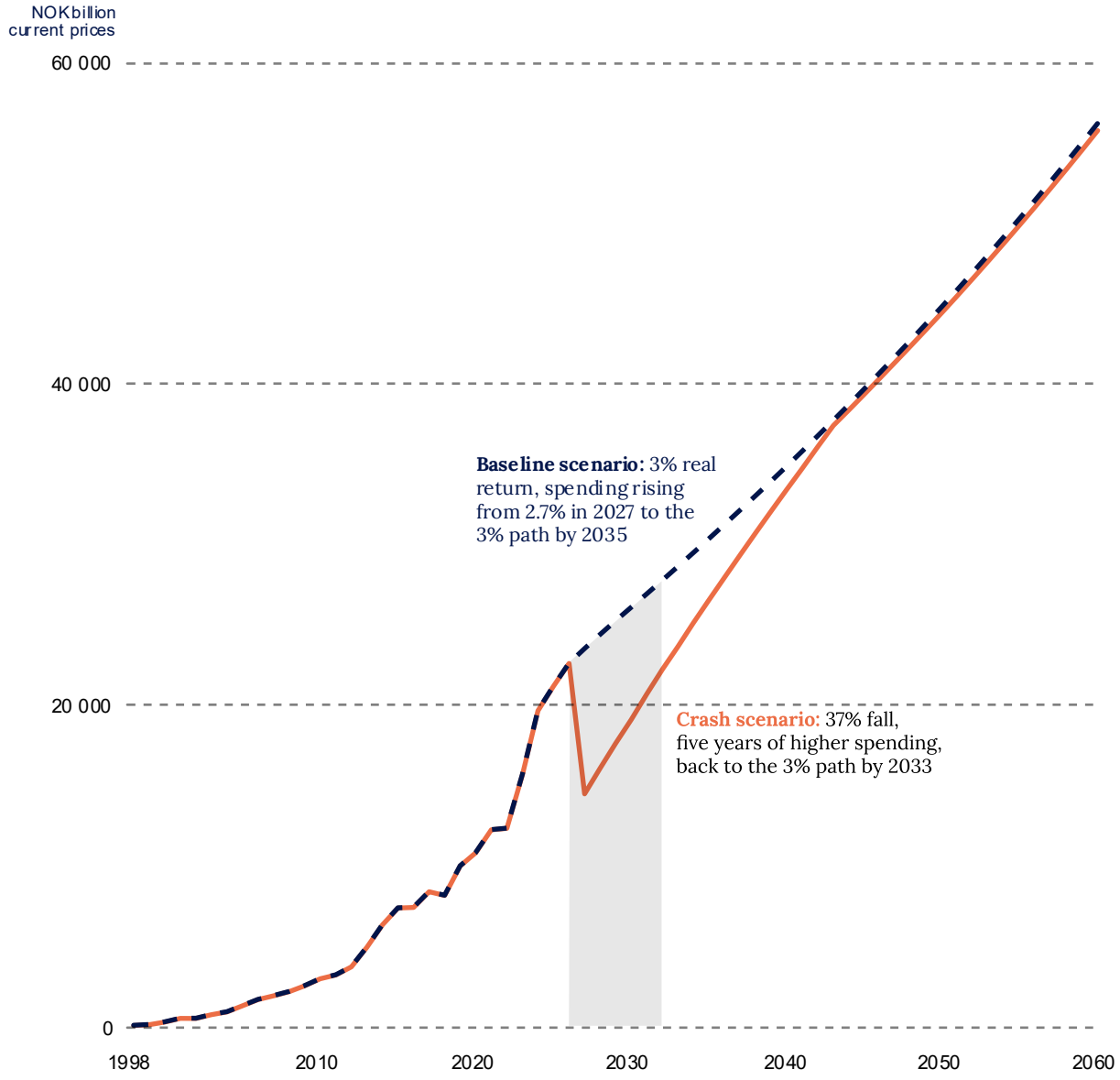


Figure 5: Value of the GPFG in kroner following a historically severe market crash.
The blue dotted line shows a baseline scenario with no crash, assuming a 3% annual real return and withdrawals rising gradually from 2.7% of the Fund in 2027 to 3% by 2035. The orange line shows the impact of a 37% market crash in 2027, followed by a recovery taking about 15 years. Withdrawals of 4% are slowly phased back down. Both scenarios assume inflation at 2% and identical petroleum revenues.

Spending of oil revenues as a share of mainland GDP

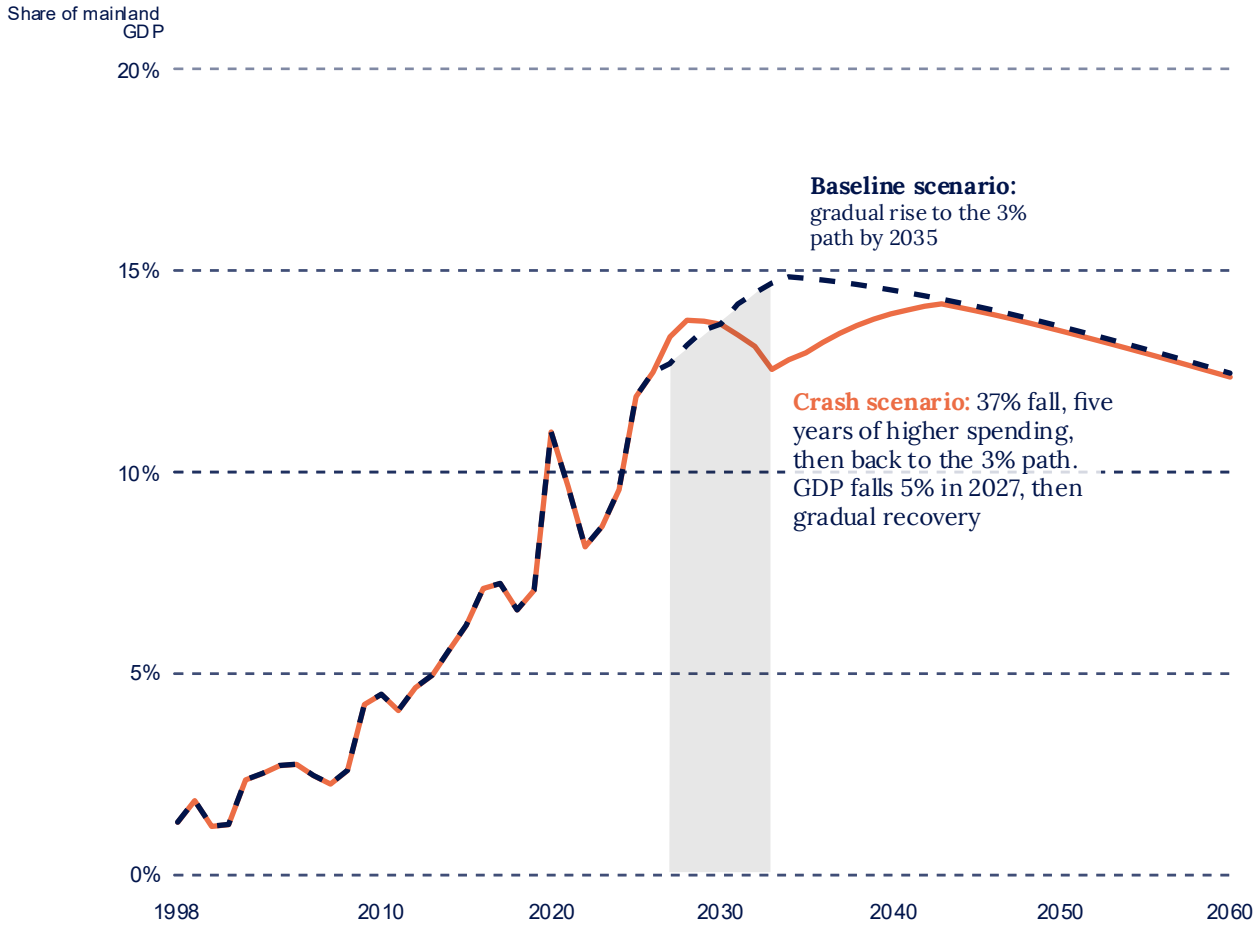


Figure 6: Spending of oil revenues as a share of mainland GDP.
Structural non-oil budget deficit in the same two scenarios. The blue dotted line shows the baseline without a market crash. The orange line shows the consequences of a severe crash, including temporary countercyclical spending and a 5% decline in mainland GDP taking 5 years to recover.

This stylised scenario is a severe case by historical standards, combining an extremely large market fall with an unusually long recovery. The scenario would put pressure on Norway's public finances, but the model suggests a manageable adjustment. In fact, the decline in public spending as a share of mainland GDP would not be substantially sharper than Norway has experienced before (see Figure 6).

Does this suggest that the danger posed by major crashes is overstated? To some extent, yes. A larger crash or slower recovery could have greater consequences. But in such circumstances, the main concern is arguably whether lasting damage has been done to the world economy, rather than the initial fall in asset prices.

Nevertheless, the scenario shows that the vulnerability to crashes is far from negligible. There are at least three approaches Norway could take to manage this vulnerability.

Three approaches to managing fiscal vulnerability

1. "Save for a rainy day"

The first approach is to maintain a safety net by spending less than the Fund's expected long-term return. This would limit the share of the central government budget financed by transfers from the Fund. This has so far been the approach most discussed in the Norwegian media, and the one used in practice.

The underlying logic of the fiscal rule is that Norway should only spend the expected real return. In practice, spending has been far below both the realised return of the Fund, which has been 4.4% in real terms over the past 20 years, and the expected return of 3%.

Since the 2024 budget, a new normal has been adopted.[8] This means spending 2.7% in normal years, rather than 3%, even though the expected return has not changed. This shift is intended to provide additional headroom for countercyclical spending during future crises.

It is important to note that this approach has not been formally adopted by parliament. Beyond a Ministry of Finance working paper, neither has it been subject to much public debate.[9] In documents explaining the logic behind the 2.7% rule, it is presented simply as a way to ensure the 3% is met over time. The logic of the fiscal rule, whereby Norway should spend the expected return, is supposedly still intact.

But the justification of this new normal raises some serious questions. The Ministry's calculations assume a crisis approximately every 10 years, each requiring countercyclical spending totalling 4% of mainland Norway's trend GDP. This includes both discretionary spending and automatic stabilisers.[10] Yet saving an additional 0.3% of the Fund each year over the preceding nine years would, under the assumptions used, accumulate

[8] The Ministry of Finance refers to this as the "asymmetry buffer".
[9] One reason for this could be that spending in krone terms has increased, because the Fund has grown unusually quickly since the 2.7% rule was introduced in the 2024 budget.
[10] Tölö, Torstensen and Krogh (2025), page 18.

substantially more than that estimated requirement. Given today's size of the Fund, the difference amounts to over NOK500 billion.

Either the Ministry of Finance plans to spend considerably more during and after future crises than any time in history —multiple times what was spent during/after the pandemic, for example— or the fiscal rule of spending the expected return is dead. The latter seems more likely.[11] Most public debate still seems to assume that the fiscal rule is alive and well, but that is increasingly hard to reconcile with these findings.

This is not merely a technical question. From a democratic point of view, it is problematic that the cornerstone of Norway's fiscal policy for the past 25 years has been phased out with little scrutiny, and possibly due to a calculation inconsistency by the Ministry of Finance.

"Saving for a rainy day" reduces the risk to public spending associated with a fall in the Fund, but is not without its side effects. Spending less allows the Fund to grow by more than it otherwise would, meaning the withdrawal in krone terms will also continue to grow by more than if the fiscal rule had been adhered to from the start. To solve this "problem", Norway would have to continually reduce the percentage withdrawn from the Fund. Assuming a real return of 3%, annual withdrawals of 2% would eventually exceed those under a constant withdrawal of 3% after 40 years.

2. Keep spending constant as a share of Mainland Norway's trend GDP

The second option is intuitively attractive. Because spending would be tied to the size of the economy rather than the Fund, it would ease the "problem" of withdrawals stimulating it while petroleum revenues continue to buoy the Fund. This could also avoid a fiscal contraction later, as petroleum revenues dwindle and the Fund's growth slows.

However, there are three problems with this approach.

The first is technical. It is hard to estimate trend GDP, and the future size of the Fund is inherently uncertain, making it difficult to set a reliable spending path. This could probably be resolved through gradual adjustment.

The second concerns fairness between generations. Assuming the economy continues to grow, future generations are likely to be richer than today's. Maintaining spending as a

[11] One could make the case that Norway is now in a form of crisis, given the context of war in Europe, the necessity of rapid military strengthening, hybrid attacks from Russia, falling employment rates and high inflation. Still, withdrawals from the Fund have been below the expected return for years. This strengthens the case that the implicit very high crisis spending in the Ministry's calculations seems unlikely, and that the fiscal rule of spending 3% over time will not be met.

constant share of GDP would mean a large redistribution from today's generation to later ones.

Third, it would mean a marked reduction in spending today. Since the introduction of the fiscal rule in 2001, some decline in spending as a share of mainland GDP has been anticipated and accepted on intergenerational distribution grounds.

3. Adapt spending to actual fund returns, with a safety net

A third approach would base withdrawals on the Fund's realised long-term returns, while retaining a prudential margin against future losses. This is related to the first approach, but is more empirically oriented.

As discussed, Norway expects the GPFG to earn a real annual return of 3%. This is low given historical experience. The 2022 Sverdrup Committee shows that the average annual real return on a globally diversified portfolio was 5.3% over 1899–2021, not a period lacking in crises or systemic risk events.

The decision to lower Norway's fiscal rule, from 4% to 3%, was justified by declining long-term global interest rates. That trend has since reversed, while the Fund itself has added roughly 4.4% annually in real terms over the last 20 years. Historical returns may not establish exactly what investors should expect in the future, but they can raise legitimate questions about how conservative Norway's assumptions should be.

There is also a question of public confidence. It may be hard to maintain public support for a fiscal rule if the government continues to draw far less than the Fund visibly returns. Such a rule may feed disquiet in the population.[12] This tension is currently muted, because petroleum revenues continue to support substantial growth in the fund *and* government withdrawals. But the tension may become more acute as oil revenues decline.

One alternative would therefore be to calculate withdrawals using the Fund's realised return over a long period, such as the past 20 years, then apply a haircut as a buffer in the event of a possible crash. This safety net could be one percentage point, for example. But it could also be higher, if the public supported a more conservative approach. That decision, however, should rest with parliament.

Following this approach, the implicit deduction today is 1.7 percentage points (4.4% realised return versus 2.7% withdrawal in a normal year). This amounts to an annual buffer ("extra saving") of NOK380 billion.

[12] Sjølie (2019) makes the case that such concerns were the main reason behind the introduction of the fiscal rule in 2001. Not to limit fund spending (as had been suggested by the first Holden group), but to increase it.

We consider this margin to be higher than necessary. A share of the implicit buffer could instead support careful efforts to reduce systemic risk, potentially improving the long-term resilience of both the Fund and the public finances that rely on it. Recommendation 4 in Section 6 of this report explores one possible approach.

Risk-reducing efforts as an integral part of sovereign wealth management

This brings us to the next question. Why are efforts to reduce systemic risk so important from a Norwegian public finances perspective? The answer lies in the GPFG's capacity to generate long-term returns.

The three approaches discussed above focus on managing the consequences of financial market volatility on government spending. None directly address the possibility that systemic risks could permanently weaken global economic productivity, international economic development and the Fund's long-term returns. Arguably this is where Norway should now focus its efforts.

A much-cited study finds that at least 90% of productivity growth in most countries can be traced back to technological advances made abroad, which are subsequently adopted domestically. International trade plays a significant role in the diffusion of that technology. Any disruption to this process presents a risk to Norwegian economic development. The same is true of many countries, but Norway is exposed on two fronts: Through its domestic economy and through the GPFG, whose financial returns increasingly support public spending.

Geopolitical fragmentation as a systemic risk could weaken these connections. Restrictions on trade and Foreign Direct Investment, reduced international cooperation, and slower technology transfer could all hold back productivity growth. Consider a scenario in which these developments reduce annual productivity growth by 0.5 percentage points. All else being equal, international GDP growth should fall by the same amount. Not only does this act as a drag on Norway's economy, it also impedes the productive activity underpinning the Fund's investment returns.

The relationship between productivity growth and returns is not necessarily one-to-one, but persistently weaker growth would be expected to weigh on the GPFG's long-term performance. At its current size, a 0.5 percentage point reduction in the Fund's annual return would imply NOK 110 billion in absolute terms.

Figure 7 illustrates a scenario in which systemic political risks cause a persistent erosion of trade and productivity. This leads to lower long-term investment returns, reducing Norway's capacity to finance public spending through the GPFG.

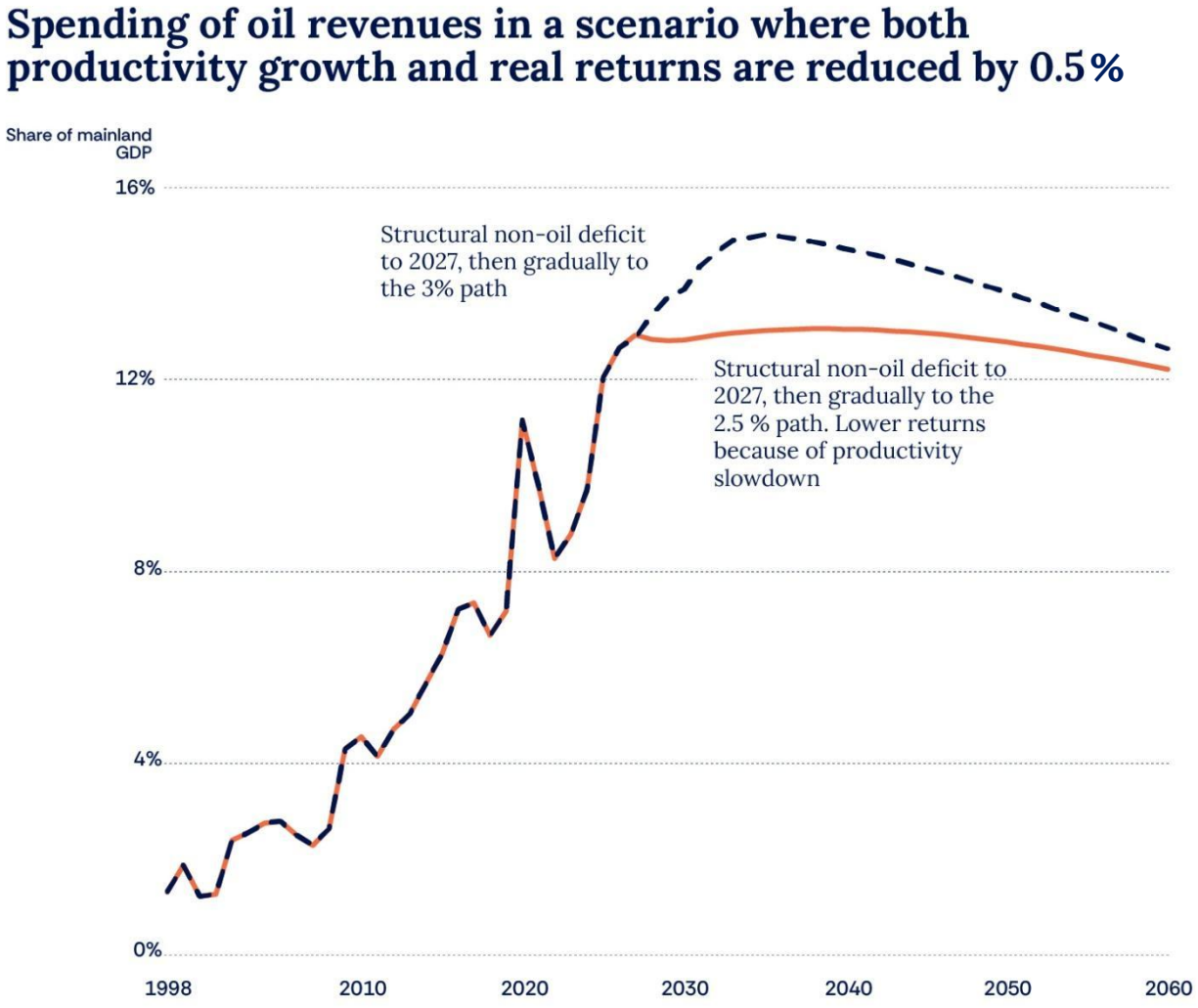


Figure 7: The effect of permanently weaker global growth on fund financed spending.

Unlike the market crashes of Figures 5 and 6, this scenario does not assume a recovery to the previous economic growth path. Weaker growth and returns persist, with the consequences for Norwegian public finances equally permanent.

For an intergenerational investor such as the GPFG, a lasting reduction in global productivity and investment returns could impose far greater costs than even the most severe historical market crashes.

Upside risk: What if the Fund grows faster than expected?

Projections of the future size of the Fund have consistently been too low. The Long-term Perspectives on the Norwegian Economy 2017 implicit estimate of the value in 2026 was only slightly more than half of what the Fund is actually worth today.

Thus, it is not inconceivable that the Fund will continue to grow faster than expected. It should not be the main scenario, but Norwegian policymakers should think through how they will handle such a development. Figure 8 shows what it could look like. It demonstrates the power of exponential growth. A 5.3% annual return would mean spending in 2060 could be double what it would be with 3% annual returns, even if with a 3% withdrawal in both scenarios. The differential of NOK2,000 billion is almost the size of a central government budget today. Even after adjusting for inflation, this is a substantial amount of money.

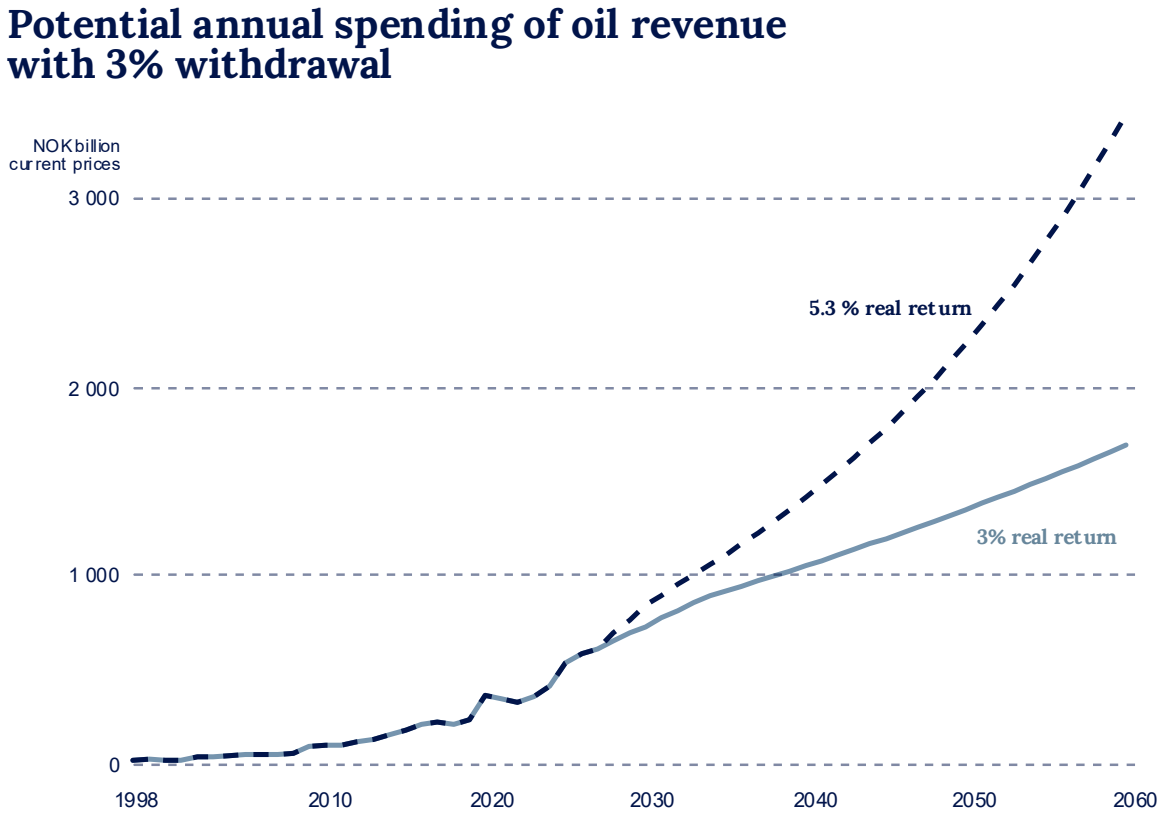


Figure 8: *Annual spending in a scenario where real returns are 5.3 per cent a year (which is the annual average for the period 1899-2021), compared to a scenario where real returns are 3 per cent a year.*

5. What are universal owners doing about systemic risks?

The emerging field of system-level investing considers how long-term, highly diversified investors might use their capital and influence more deliberately to protect the interconnected systems on which investment returns depend. Their options fall into four broad categories.

Table 4: Four channels for highly diversified investors to reduce systemic risks

Channel	What investors can do	Examples
Capital allocation	Finance activities that reduce risks or improve resilience, and restrict new financing that increases risks	Energy grids, resilient infrastructure, restrictions on new corporate debt.
Corporate stewardship	Use voting rights and discussions with companies to influence their behaviour.	Voting against directors, challenging harmful corporate lobbying, encouraging better risk management.
Policy and standards engagement	Work with institutions able to change rules and incentives across entire markets.	Influence financial regulation, energy-market rules, index methodologies, stock-exchange standards.
Work with managers and other investors	Set expectations for external fund managers and collaborate with other investors	Set expectations in manager mandates, co-ordinated engagement with companies and policymakers.

Source: *IEEFA. Adapted from frameworks and current practice identified by PRI and The Investment Integration Project (TIIP). Channels can be used separately or in combination.*

Climate offers some of the clearest opportunities for action

Climate change is the most developed area of investor action on systemic risk. Investors can finance cleaner energy sources, encourage companies to reduce emissions and engage with governments on policies that might influence investment. Emissions can also be measured, making it easier to track progress. Evidence that individual interventions have materially reduced system-wide risk remains limited for now. But the pathway from investor action to outcomes in the real economy is more clearly identifiable than for many other systemic risks.

Climate and energy therefore feature heavily in this report. This does not mean that climate change is necessarily the greatest systemic threat, or that the tools discussed are confined to it. Investors are beginning to address other threats (see Table 5). Sweden's AP7 pension fund has used company engagement and policy work to address antimicrobial resistance, while investors including KLP and Storebrand are participating in Nature Action 100 to tackle biodiversity loss.

What are other asset owners doing?

Several major asset owners are developing approaches to mitigate systemic risks affecting the wider economy. Their initiatives offer examples of how investors are putting universal ownership into practice.

Table 5: Asset owner efforts to mitigate systemic risks

Asset owner	Distinctive initiatives or contributions
GPIF, Japan	Adopted a Sustainability Investment Policy explicitly aimed at reducing sustainability-related risks and improving the sustainability of markets to support long-term portfolio returns. It is also researching how to measure the effects of its activities.
Railpen, UK	Developed a 2026-30 systems stewardship strategy with defined priorities and engagement plans covering climate and nature, responsible technology, financial markets and workforce issues. Its work includes AI governance and cybersecurity.
AP7, Sweden	Established a universal ownership programme addressing systemic threats including antimicrobial resistance. Its work combines company voting and engagement, collaboration with other investors and efforts to influence investment industry practices.
People's Pension, UK	Co-led the Asset Owner Statement on Climate Stewardship, bringing together investors representing over USD2 trillion to establish shared expectations for fund managers. Transferred a £20 billion equity mandate to a manager more aligned with its stewardship priorities.
CalSTRS, US	Makes responsible AI a formal stewardship priority, alongside climate, nature and workforce risks, with an explicit financial rationale. Also has a substantial programme investing in climate solutions, including renewable energy.
NBIM, Norway	Combines sophisticated portfolio-wide risk analysis with company engagement, advance publication of voting intentions, extensive engagement on market-standards and direct investment in renewable-energy infrastructure.

There is no established blueprint for investor action on systemic risk. The approaches shown in Table 5 reflect different mandates, capabilities and priorities, but each demonstrates a growing willingness to address risks beyond individual investments. Evidence of the effectiveness of these approaches in reducing system-wide risk remains limited.

The growing role of policy engagement

Governments and regulators determine many of the conditions shaping investment. Financial regulation, energy market rules, industrial subsidies, infrastructure planning and permitting all influence where capital flows, and how businesses and households make decisions. Some problems therefore require changes that individual companies and investors cannot realistically achieve on their own.

This thinking is gaining traction. Work led by the London School of Economics points towards a more "policy-led" approach to climate investment, while research from Volans argues that investors have so far paid too little attention to the real-economy conditions shaping investment.

Investors can contribute by explaining how policies are likely to affect investment decisions and where barriers to financing remain. Where specialist knowledge lies largely outside investment management, investors can work through expert-led coalitions. Where issues fall more directly within their expertise, such as sovereign debt and financial market functioning, investors may take a more active technical role. NBIM already engages extensively with regulators and standard setters. It responded to 34 public consultations in 2025 on issues including corporate governance, reporting and shareholder rights, but draws the line at engaging through initiatives aimed at policymakers.

Scrutinising corporate lobbying

Companies also shape public policy, both directly and through trade associations. Lobbying that benefits an individual company may increase risks faced by the wider economy. For universal owners, this creates a potential conflict between the interests of one company and those of the broader portfolio.

Put differently, as investors become more active in policy engagement, they must also consider whether the political activities of their investee companies are undermining those efforts. NBIM already recognises this tension. In its 2024 position on corporate policy engagement, it states:

"We believe that policy engagement that is rent seeking in nature, rather than supportive of long-term value creation, runs counter to our long-term interests as a universal owner.

Accordingly, in the context of climate change, we expect companies to align their lobbying activities with the objectives of the Paris Agreement. In some contexts, corporate policy engagement may also contribute to higher levels of company-specific and systemic risk".

Despite this, investor scrutiny of corporate political activity remains uneven. InfluenceMap's 2024 assessment of 30 major asset owners found that nearly three-quarters scored poorly on their oversight of corporate climate lobbying. NBIM was identified among a smaller group demonstrating more developed practices.

Restricting new finance as a stewardship tool

Some investors are beginning to use decisions over new financing to influence corporate behaviour. Lothian Pension Fund was an early adopter, combining continued company stewardship with restrictions on buying newly issued shares and bonds from companies whose plans it considers incompatible with the Paris Agreement. BNP Paribas Asset Management, Nordea Asset Management and Caisse des Dépôts have established restrictions on new bond financing for certain oil and gas activities, while Zurich Insurance uses similar restrictions where engagement fails.

The approaches might differ in scope, but they share a common logic. Selling existing shares or bonds transfers ownership without withdrawing capital that has already been provided to the company. By contrast, refusing to participate in new debt issuance or refinancing can more directly influence access to capital and potentially its cost. This gives investors another way to influence corporate behaviour, particularly where companies depend on regular borrowing or have limited cash reserves to fall back on.

Research by Ellen Quigley of the University of Cambridge identifies restrictions on bonds as one of the potentially more effective ways for universal owners to influence company behaviour. Recent research by Andreas Hoepner and Fabiola Schneider of University College Dublin develops the debt financing approach further, proposing that investors make refinancing conditional on enforceable commitments to reduce emissions. This would use companies' recurring need to borrow as leverage. The approach is promising, but its effectiveness in changing corporate behaviour remains unproven and depends largely on whether companies can find comparable alternative financing arrangements without accepting those conditions.

Why aren't system-level tools being used more widely?

The case for system-level investing remains contested. Tom Gosling of the London School of Economics questions whether pursuing ambitious climate objectives necessarily improves portfolio returns and whether investors have sufficient influence to achieve

them. He identifies more "modest" approaches that may be easier to justify financially. Ellen Quigley challenges this assessment, arguing that it underestimates both the long-term financial risks of climate change and the potential effectiveness of relatively low-cost investor tools, including voting against directors and restrictions on new debt financing.

Both might agree there are genuine obstacles. Even where investor pressure changes a company's behaviour, competitors may simply fill the gap. Similarly, a company refused financing may find another lender. Investors could therefore bear the costs of intervention without meaningfully reducing the underlying risk, while the systemic benefits of success are shared across the wider market.

Collaboration among asset owners can help to overcome some of these obstacles by pooling expertise, spreading costs and increasing influence. Such coalitions are likely to face fewer competition concerns than those involving competing asset managers, but legal risks still depend on how they are structured and conducted. Mandates and questions around political legitimacy impose further constraints.

These challenges do not rule out meaningful action by individual asset owners, but they make disciplined assessment essential. Any proposed intervention should pass four tests:[13]

- **Materiality:** Is the risk financially relevant to the investor?
- **Additionality**: Can the proposed action make a meaningful difference?
- **Proportionality:** Do the expected benefits justify the cost?
- **Legitimacy:** Is the investor the right actor?

These tests require credible expectations rather than certainty. Investors should be able to explain how an intervention could make a difference and why its expected benefits justify the costs, with the strength of evidence proportionate to the scale and risks of the action.

Some risks may be too uncertain, beyond an investor's influence or outside its mandate. In such cases, preparing as best as possible for the consequences may be the most reasonable response. But uncertainty alone is not sufficient grounds for inaction, nor should passivity automatically be regarded as the prudent approach. Some legal analyses suggest that failing to consider effective interventions could itself conflict with an investor's duties. Choosing not to act is in itself a decision, and one that may later need to be justified.

[13] These tests are intended for most institutional investors operating under financial mandates. Some pension funds may take a broader view of their responsibilities, considering not only the financial value of their beneficiaries' retirement savings, but also the economic, environmental and social conditions into which they will retire. Whether this permits additional action depends on their mandates and legal duties.

6. How should Norway respond?

Norway's Ministry of Finance is already responding to a changing risk environment for the GPFG. In 2025 it established an Expert Council to review the Fund's investment strategy and commissioned assessments of geopolitical and concentration risks in the Fund's equity index. The ministry is now examining the Fund's bond investment strategy and has commissioned a review of the ethics committee. These reviews are important, yet largely focus on managing the GPFG's exposure to a changing risk environment. But systemic risks can also cause lasting damage to the global economy, weakening productivity, growth and investment returns over decades. Managing the Fund's exposure remains essential, but cannot alone prevent such damage.

NBIM already has capabilities few investors can match, including sophisticated risk analysis, independent research, extensive company engagement and voting, direct investment in renewable energy infrastructure and regular work with regulators and standard setters. These provide a strong foundation for a more deliberate response.

We therefore invite the Ministry of Finance, NBIM and the Norwegian Parliament to consider how the GPFG's capital and influence, alongside Norway's wider resources, could help reduce systemic risks at source and strengthen resilience. The aim would be to protect the Fund's long-term returns and the public finances that increasingly depend on them. We propose four practical recommendations as a starting point for a discussion:

1. **Make systemic-risk analysis useful for decision making**
   Build on NBIM's existing research and stress testing to identify where intervention could credibly make a meaningful difference. Establish a regular, mandatory review process for assessing possible responses and their costs.
2. **Strengthen NBIM's stewardship of corporate political activity**
   NBIM should continue to challenge lobbying, including through trade associations, that contributes to financially material systemic risks. Where concerns remain unresolved, restrict participation in new bond issuance, including the refinancing of existing debt, as an additional means of exerting pressure.
3. **Reevaluate current restrictions on investment in renewable-energy infrastructure**
   Assess whether the GPFG's current limits on geography, project stage and investment structures unnecessarily exclude financially attractive opportunities in an asset class that can also reduce systemic risks and strengthen long-term economic resilience.
4. **Look to establish an investment programme targeting systemic-risk reduction**
   Examine how a dedicated investment programme outside the GPFG could use patient capital and specialist expertise to develop and finance projects with substantial systemic benefits, while seeking acceptable long-term financial returns.

1. Make systemic-risk analysis useful for decision making

The Ministry of Finance should commission an annual systemic-risk review by Norges Bank, examining material threats to the GPFG and identifying where interventions could reduce them or strengthen resilience. The ministry should report the findings to parliament, together with an assessment of potential responses, through a dedicated section of its annual white paper on the Fund (Melding om Statens Pensjonsfond).

NBIM's stress tests and climate analysis provide valuable insight but cannot reliably capture the full scale of damage from highly uncertain systemic events. This uncertainty should not become a reason to postpone action. Rather than seeking ever more precise estimates, the review should build on existing analysis to identify where Norway could credibly prevent or contain serious damage, whether interventions could make a meaningful difference and whether the benefits outweigh the costs.

Consider the example of a severe regional drought, a risk highlighted in NBIM's recent stress testing. Falling crop yields could coincide with reduced hydroelectric generation. If accompanied by extreme heat, electricity demand for cooling could rise while labour productivity falls. Together, these pressures could push up food and energy prices, squeeze households and businesses, and feed inflation, with consequences for interest rates, lending conditions and asset values.

Mapping and assessing these connections could help identify interventions that reduce risks and build long-term resilience. In the example above, it could involve investments in water management, resilient power systems, engagement with exposed companies or changes to infrastructure planning regulation. Such interventions could help limit the damage before it makes its way into financial markets.

The review could also draw on practices used by other investors, assessing, for example, whether restrictions on bond financing for companies expanding fossil-fuel infrastructure could help avoid long-term lock-in at an acceptable or minimal cost to the Fund (see Chapter 5).

A mandatory yearly assessment would provide the analytical foundation for more informed decisions about whether or how Norway should intervene. It would also help guide the following recommendations, without delaying progress where there is already a credible case for action.

2. Strengthen NBIM's stewardship of corporate political activity

NBIM should strengthen its response where corporate lobbying or other political activity contributes to financially material systemic risks. We propose a clearer escalation process, including restrictions on participation in new debt issuance where engagement fails to secure meaningful change.

This recommendation brings together two related strands of thinking.

First, NBIM already recognises that corporate political activity can contribute to systemic risks. Lobbying that benefits one company may impose costs on other businesses, investors and the wider economy. For a universal owner, challenging such activity can therefore serve a financial purpose beyond protecting the value of an individual holding.

Second, restricting new financing could strengthen NBIM's hand when engaging with companies, giving them a greater incentive to address the manager's concerns. Notably, this approach on its own could apply to other persistent concerns over corporate behaviour, strengthening stewardship even where it does not tackle systemic risks.

Strengthening escalation

NBIM already sets out expectations for responsible corporate political activity, including board oversight, transparency around direct and indirect lobbying, and consistency with companies' stated commitments. Its formal expectations on climate change require lobbying to align with the Paris Agreement, while its newer nature expectations extend similar principles to biodiversity and ecosystems.

We propose building on these expectations with a clearer, time-bound escalation process. NBIM could begin with engagement, voting against directors and publicly communicating its concerns, before setting measurable objectives and deadlines for improvement. Where these measures fail, it should consider restricting participation in new bond issuance or refinancing until specified conditions are met. Divestment is not necessarily the goal, but the credible possibility of exclusion can make engagement more effective.

For example, a utility persistently lobbying against policies that support the energy transition could face escalating stewardship measures, culminating in NBIM declining to participate in new debt issuance. This can create additional incentives for companies that depend on regular borrowing, particularly where other investors adopt similar approaches. There is also precedent in Norway for stronger escalation over lobbying. In 2025, Storebrand Asset Management excluded Toyota after four years of unsuccessful engagement over its climate lobbying. Our proposal offers a more targeted alternative to

full exclusion, retaining existing investments while withholding participation in new financing.

Wide potential application

This primary market, debt-focused approach leans on recent academic research by Hoepner and Schneider, who propose making refinancing conditional on enforceable climate commitments. There is no reason, however, that this approach needs to be limited to climate as a systemic risk:

- **Financial stability**: Banks lobbying to weaken capital requirements or other safeguards could increase risks across the financial system. NBIM itself has highlighted research linking bank lobbying with greater risk-taking and systemic risk.
- **Artificial intelligence**: Technology companies resisting appropriate AI safety testing, cybersecurity safeguards or serious-incident reporting might contribute to risks extending beyond the technology sector.
- **Public health**: Agricultural companies lobbying against measures to restrict routine antibiotic use in livestock could contribute to antimicrobial resistance, with consequences for healthcare, food production and the wider economy.

These are non-exhaustive, potential applications, rather than evidence that particular companies warrant attention. Each case would simply require a credible connection between corporate conduct and financially material systemic risks.

Working within NBIM's existing mandate

Targeted restrictions on new financing could provide leverage over companies at a relatively modest cost to the GPFG. The impact on the Fund's predicted tracking error would be smaller than it would for outright exclusions, assuming NBIM retains its existing holdings and associated stewardship rights. Reallocating capital towards comparable issuers with more responsible lobbying practices could help further limit costs. The GPFG's mandate permits expected tracking error of up to 1.25%, while NBIM was using just 0.33% as at June 2026. This suggests there is room to examine targeted restrictions within existing risk limits, although their precise impact would require modelling.

Further research may yet be needed to establish how restrictions on new financing influence issuer behaviour, and whether they can credibly reduce systemic risks. Addressing corporate political activity through established stewardship channels may nevertheless be less politically sensitive than NBIM advocating directly for changes to government policy. This is a key consideration in light of the owner-identity risks discussed in Section 3.

3. Reevaluate current restrictions on investment in renewable energy infrastructure

Renewable energy infrastructure can help reduce systemic risks by cutting emissions and reducing exposure to fossil-fuel price shocks. The GPFG already invests in this asset class but existing restrictions may exclude financially attractive investment opportunities that can deliver these wider long-term benefits. We recommend reviewing restrictions on geography, project development stage and investment structures, while maintaining the Fund's financial objective. A wider investment universe may subsequently justify increasing the current 2% allocation limit.

Since unlisted renewable energy infrastructure was permitted in 2019, NBIM has taken a cautious approach as it develops investment expertise. The portfolio has grown recently, reaching 0.5% of the GPFG in June 2026, but remains well below the permitted 2% maximum. However, as Table 6 shows, the investment framework includes several restrictions on how much can be invested in different activities and regions.

Table 6: GPFG restrictions on investment in renewable energy infrastructure

Limit on	Current restriction
Geography	Direct investments limited to developed markets in Europe and North America.
Development stage projects	Maximum 2%
Construction stage projects	Maximum 40%
Indirect investment	Funds limited to 15%, with at least 70% of underlying investments in OECD countries
Business activities	At least 80% of directly owned companies' activities must relate to renewable energy infrastructure
Partners, ownership and leverage	Additional limits apply to individual investments, ownership stakes, leverage and permissible investment partners

Source: NBIM, section 4.3.
Note: *Limits are calculated against the maximum permitted renewable energy infrastructure allocation (2% of the GPFG), rather than the current renewable energy infrastructure portfolio size.*

These restrictions were introduced at inception to manage the risks of investing in a new asset class. They favour established renewable-energy assets in developed markets and limit investment opportunities in emerging and developing economies. As of June 2026, NBIM had no exposure to development-stage investments. Construction-stage investments represented 8.2% of its renewable energy infrastructure portfolio, while indirect fund investments accounted for just 1.7%.

There is reason to question whether today's constraints reflect the intention of the mandate given by parliament. When renewable energy infrastructure investment was introduced, analysis commissioned by the Ministry of Finance estimated an investable unlisted renewable infrastructure market of around USD1.1 trillion by 2030, of which only around 45% was expected to be within OECD countries. Parliament permitted global investment, while expecting Norges Bank to establish appropriate limits for emerging markets and early-stage projects as it developed experience. The current restrictions on geography, project stage and investment structures were therefore set by Norges Bank's Executive Board, rather than parliament, which endorsed a broader investment framework.

Seven years later, NBIM has built considerable expertise investing alongside established partners. Meanwhile, NBIM's latest strategy envisages expanding across technologies, geographies and fund structures. The question now is whether the current restrictions, designed for a relatively inexperienced investor, remain appropriate for the GPFG's own ambitions and strategy. This question is made more urgent as opportunities for investment beyond the current mandate are expanding. Clean energy investment in emerging and developing economies excluding China approached USD320 billion in 2024, more than 50% above its 2020 level, with renewable power accounting for much of that growth.

Why this also matters for systemic risk

Much of the growth in global energy demand will take place in developing economies. Once carbon-intensive assets are established, the technologies, institutions and investment patterns built around them can make future energy transitions more difficult and costly. Investment in renewable energy generation, electricity grids and storage can help avoid dependence on fossil fuels, risks of price shocks and supply disruptions, and the physical effects of climate change. These risks can ultimately affect the GPFG's wider portfolio through higher inflation, reduced economic growth and climate-related damages.

The greatest systemic benefit is likely to come from investments that enable clean energy capacity that replaces existing or avoids future fossil fuel use, rather than simply acquiring stakes in existing assets. This provides rationale for examining early-stage investment opportunities, although financial returns must remain the basis for investment decisions within the GPFG.

Maintaining financial discipline

There is evidence that the financial risks of investing in emerging markets may be more manageable than commonly assumed. Norfund's Climate Investment Fund reported an annualised return of 9.7% in NOK terms from inception to December 2025. An ILX analysis of lending data from multilateral development banks and development finance institutions found that renewable energy loans had an average annual default rate of just 3.05% and a recovery rate of approximately 70%, over a 30-year period to 2024, broadly comparable with developed-market infrastructure debt.

Neither provides a direct comparison with the GPFG's equity investments. Both nevertheless support closer examination of the opportunities, including whether specialist managers, guarantees or other risk-sharing arrangements could help make suitable investments accessible to NBIM. Any adjustments to the current investment restrictions should be supported by evidence that new opportunities could meet the usual financial requirements. Increasing the 2% allocation ceiling will depend on whether a sufficiently attractive investment pipeline warrants it, rather than an ambition to fill the allowance.

4. Look to establish an investment programme targeting systemic-risk reduction

Norway should examine whether a modest investment vehicle outside the GPFG could finance projects that credibly reduce systemic risks or strengthen economic resilience. It would seek acceptable long-term financial returns, while allowing limited concessions where exceptionally strong systemic benefits justify them. The aim is to help reduce threats to the global economy on which the GPFG's long-term returns depend.

The vehicle could use patient capital and specialist expertise to turn promising but overlooked projects into opportunities that conventional investors can finance, helping expand the supply of commercially investable projects. It could also finance investments with exceptional systemic benefits that may never offer fully commercial returns on their own, because much of their value accrues to the wider economy (and by extension the wider GPFG), rather than the individual investor. If successful, this approach could provide a model for others to follow, attracting capital and extending its impact far beyond Norway's initial commitment.

Why a separate investment vehicle?

The GPFG should retain its objective of maximising financial returns at an acceptable level of risk. The proposed vehicle would reverse those priorities, seeking to reduce systemic risks while generating acceptable long-term financial returns. Keeping these objectives separate would preserve the GPFG's mandate, while allowing Norway to consider investments primarily for their wider economic benefits. Any financial trade-offs could then be explicitly authorised and independently assessed.

The proposal builds on Tom Gosling's argument for modest, bounded allocations to climate impact investments. In our context, the vehicle will have a much broader mandate than climate-related investments. Gosling suggests three guiding principles: the prospect of an acceptable financial return, substantial and scalable climate benefits, and the potential for investments to provide a hedge against losses elsewhere in the portfolio.

Our proposal draws on this thinking, but does not require individual investments to provide a financial hedge during a crisis. Some investments may perform well when other parts of the GPFG face losses, but we treat this as an additional benefit rather than a requirement.

Turning overlooked projects into investable opportunities

Some potentially attractive investments struggle to secure financing because their risks are unfamiliar or costly for an investor to assess. Developing projects, securing permits, negotiating contracts and understanding local markets can demand considerable time and specialist expertise.

Other investments may offer attractive returns over decades but sit uneasily with conventional investment mandates or the shorter performance review cycles of investment managers.

These barriers reflect a mix of genuine investment risks, but also the perceived risks arising from unfamiliarity, information gaps and coordination failures. Investors may be reluctant to undertake costly development work when the knowledge and opportunities created could also benefit competitors. Consequently, projects with a credible path to commercial viability may remain unfunded, even where returns could adequately compensate investors for the risks involved.

A dedicated vehicle could provide the time, expertise and capital needed to overcome some of these barriers. By investigating unfamiliar risks and supporting early development, it could bring projects to a stage where conventional investors are willing to finance them. Mature assets could then be sold and the proceeds reinvested.

Financial returns with systemic benefits

Overcoming these barriers need not necessarily mean accepting lower returns. Some investments may simply require unusually patient capital or specialist expertise, while others carry higher early-stage risks but offer potentially greater returns. Where systemic benefits are exceptional, however, some investments may nevertheless justify limited financial concessions. Based on this, we propose that the vehicle could accommodate three broad types of investment[14] (see Table 7).

Table 7: Investment options for a vehicle targeting systemic risk reduction

Investment type	Financial characteristics	Examples
Long-term productive infrastructure	Potentially commercial returns over long lifecycles, but difficulty attracting suitably patient financing	Transport infrastructure, renewable generation, electricity grids, energy storage
Early-stage or higher-risk opportunities	Greater uncertainty and assessment costs, but potentially higher returns	First commercial-scale technologies, new energy storage technologies, new industrial processes, investments in unfamiliar jurisdictions
Targeted concessional investments	Returns below what commercial investors would require, justified by exceptional systemic benefits	Strategic infrastructure where wider economic benefits far exceed returns available to investors

The vehicle should have a clear long-term financial return objective, assessed across the portfolio rather than imposed on every investment. This should account for development costs, the likelihood of unsuccessful projects and the cost of committing capital over long periods. The Ministry of Finance should propose this target and limits on financial concessions for parliamentary approval. Investment decisions would then be made independently within those limits, with concessions transparently justified.

[14] These categories can overlap. A long-lived infrastructure project may, for example, also involve substantial early-stage development risks, while either type of investment could require concessions if expected returns are insufficient.

The four tests outlined in Chapter 5 would still apply, informed by the systemic-risk analysis proposed in Recommendation 1. Given the uncertainty surrounding systemic risks, investments should require a credible expectation of making a difference, supported by evidence proportionate to their costs and risks, rather than certainty about outcomes.[15]

Deliberately targeting systemic risk reduction *may* carry a financial cost. Despite this, a small, carefully controlled allocation that remains financially disciplined could still be justified by the potential benefits it brings to Norway's much larger pool of national wealth.

Scope can be broad

Unlike Recommendation 3, the programme's scope should not be confined to commercially attractive renewable-energy investments. As Norway's understanding of other systemic risks develops, it should consider investments that address vulnerabilities in areas such as public health, food security, technology and critical infrastructure. Expansion should follow the evidence and the emergence of credible investment opportunities.

Beyond climate and energy: What could the vehicle finance?

Pandemic preparedness. Regional vaccine and medical manufacturing capacity could reduce disruption from future health crises.

Water and food security. Water infrastructure and climate-resilient agriculture could reduce vulnerability to supply disruptions and food-price shocks.

Ukrainian reconstruction. Investments in energy grids and transport infrastructure could support Ukraine's recovery and wider European security.[16]

European infrastructure more broadly. Investment in energy networks, transport links and other shared infrastructure could strengthen regional resilience and economic integration.[17]

[15] This is consistent with work on fiduciary duties by Freshfields' David Rouch, who argues that investors can act against systemic climate threats even where the wider benefits are difficult to quantify.

[16] Birger Steen, Martin Skancke, Johan H. Andresen and Espen Henriksen have argued for a more active Norwegian role in Ukraine through an investment vehicle (DN, 11 August 2026). Such investments should complement Norway's existing support through the Nansen programme and the Ukraine investment fund within Norfund.

[17] See Erlend Bjørtvedt's essay in Part 2 (in Norwegian only).

AI preparedness. Investment in AI systems that encourage safety research, testing and oversight capacity could help manage emerging technological and systemic risks.[18]

Funding, management and governance

The vehicle should commit capital progressively as suitable opportunities emerge. The vehicle would require a separate mandate, professional investment management and independent oversight. Norfund's existing expertise could offer a starting point without necessarily creating an entirely new institution (see box).

Investment decisions should remain at arm's length from political direction. Reporting should cover financial returns, estimated costs of any concessions, additional investment enabled and evidence of wider systemic benefits, with independent evaluation over appropriate periods.

The Ministry of Finance should commission a feasibility assessment of potential investments, expected returns, funding and governance. This should consider whether existing institutions could manage the vehicle and examine funding through separate capital allocations or the ordinary budget, including implications for the fiscal rule.

One possible model: A bigger role for Norfund

Norfund's Climate Investment Fund (CIF) already demonstrates how Norway can combine commercial financial objectives with wider benefits. It invests in renewable-energy projects in emerging markets, seeking substantial emissions reductions alongside financial returns.

The CIF operates within Norfund's development mandate, with geographic restrictions linked to official development assistance. A systemic-risk investment vehicle would have a different objective, potentially broader geographic and sectoral scope, and separate funding and governance.

Norfund could potentially manage such a vehicle using its existing investment expertise, without necessarily creating a new institution. This could also provide a practical foundation for developing projects that later attract commercial investors.

[18] See Aksel Braanen Sterri and Martin Sunde Eriksen's essay in Part 2 (in Norwegian only).

Creating investable opportunities, not just finding them

Recommendations 3 and 4 naturally reinforce one another. A broader renewable-energy infrastructure mandate could allow the GPFG to invest in more commercially attractive opportunities, while the separate vehicle could help bring additional projects to that stage.

As projects mature and become commercially viable, the vehicle could sell its holdings to institutional investors, potentially including the GPFG. Any investment by NBIM would need to meet its mandate, be independently assessed and take place at a fair commercial price, with no obligation to buy. Sale proceeds could then be recycled into new projects, allowing the initial capital to support successive investments. Precedents already exist, including PIDG's InfraCo, which develops infrastructure projects to attract subsequent commercial investment.

Investors often argue that the problem is not a shortage of capital, but a shortage of commercially investable projects. This approach offers a direct and practical response. Rather than accepting that shortage as a fixed constraint, Norway could help create a pipeline of new opportunities. If successful, this could provide a blueprint for other large asset owners to follow, using a tiny fraction of their capital to develop projects that attract much greater commercial investment in systemic-risk reduction.

Part 2: Essay contributions

Essays can be found in the Norwegian version of the report. Titles below.

"A strategic fund for Europe" – Erlend Bjørtvedt, economic historian and founder of Corisk

"The national budget is at the mercy of the US stock market: How can the risk be reduced?" – Knut Kjær, former CEO of NBIM and Professor Emeritus, Norwegian University of Life Sciences (NMBU)

"Is Norges Bank underestimating climate and nature risk?" – Taro Kunimitsu, Anne Sophie Daloz, Jana Sillmann, Kristin Thorsrud Teien, researchers at CICERO Center for International Climate Research

"Confiscated, taxed or written down? The GPFG in a new era" – Steinar Juel, economist, Civita

"Credible Commitment to Future Generations via Sovereign Wealth Funds?" – Detlef Sprinz, Senior Scientist at PIK and Professor at the Faculty of Economics and Social Sciences at the University of Potsdam.

"A bubble is not the biggest AI risk facing the Oil Fund" – Aksel Braanen Sterri, Head of Research, Langsikt – Centre for Long-Term Policy, and Martin Sunde Eriksen, Policy Advisor, Langsikt

"From government bonds to renewable energy: an investment in the energy supply of the future" – Tellef Thorleifsson, former CEO of Norfund

"The Oil Fund's concept of risk is shaped by political choices" – Camilla Bakken Øvald, Associate Professor, Høyskolen i Kristiania.