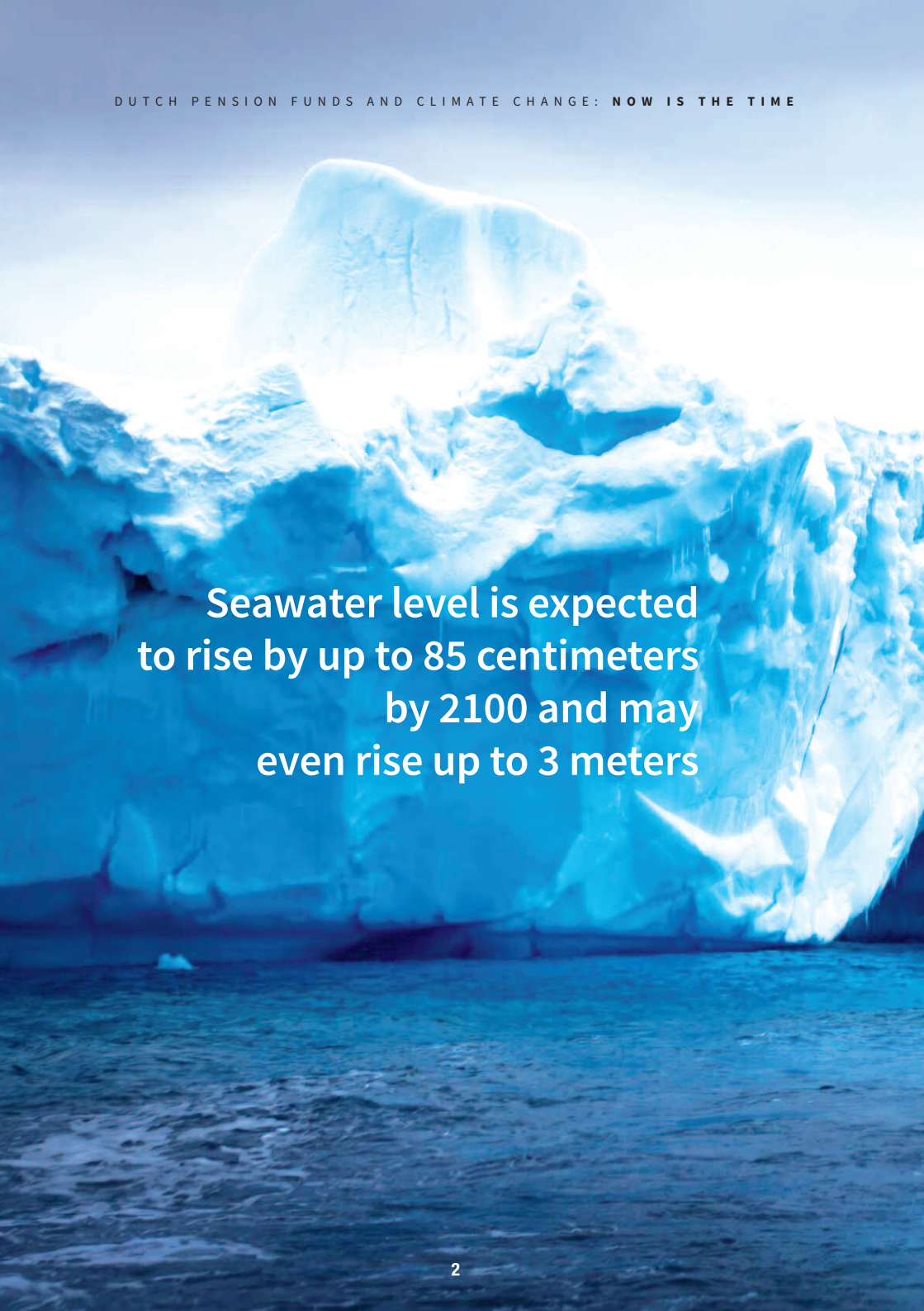
VBDO

# Dutch Pension Funds and Climate Change
## Now is the time



**Seawater level is expected to rise by up to 85 centimeters by 2100 and may even rise up to 3 meters**

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*We thank all companies that provided input for this study to VBDO*

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AXA Investment Managers

**In June 2016, hail and rainstorms in the southern Netherlands alone caused damage totalling over 700 million euros**

Contents

# Preface

*VBDO is very pleased to present this report on Dutch pension funds and climate change. We only have to watch the news every day to be aware of the enormous challenges our society faces due to climate change. When it comes to pensions, climate change is particularly relevant for institutional investors, who, for instance, need to decide whether fossil fuel related investments are compatible with a long-term investment horizon. It is our firm belief that the impact of climate change should be high on the agenda of the investment community. That is why VBDO is going to develop a new benchmark with an international scope, specifically focused at investors and climate change. For this benchmark we will align with the work of the Task Force on Climate-related Financial Disclosures and work together with well-known experts and existing initiatives in this field.*

*In this research VBDO investigated the extent to which Dutch pension funds take climate change into account in their responsible investment processes. Our study confirms that pension funds are gradually beginning to inform themselves on climate change.*

*However, they haven't yet found a way to fundamentally embed it in their investment policies. Although this is a challenging task, we believe it is part of the fiduciary duty of pension funds to do just that. We cannot expect the pension funds to find all the answers themselves, but they should be asking the right questions within their boards and to the companies that manage their assets, on behalf of the growing number of people who will be facing the consequences of climate change.*

*We hope this report helps pension funds begin to assess the risks posed to their investments by climate change, and provide inspiration for developing an appropriate approach.*

*I would like to thank the pension funds and interviewed experts who were willing to share their experiences with us. Also, I would like to thank AXA Investment Managers; without their support this study would not have been possible.*

*Finally, I wish all readers much pleasure in reading this report.*

**Angélique Laskewitz**
Executive Director VBDO

# Executive Summary

The urgency to address climate change is widely acknowledged. The unmistakable rise in temperature is a fact we cannot ignore. Only recently we have seen extreme weather events in various parts of the world and scientists agree that the global temperature is rising substantially that these will only increase if we fail to act now.

This study looks at the extent to which climate change is considered in the responsible investment strategies of Dutch pension funds. 76% of the 50 largest Dutch pension funds responded to our questionnaire and reported details about their policy and practice. The report analyses what funds are doing and the obstacles they face regarding climate change.

## Climate change

Looking at climate change from an investor perspective, a general distinction can be made between causes and consequences. Mitigation policies deal with addressing the causes of climate change and focuses on reducing emissions and investing in renewables. Adaptation addresses the efforts required to adapt to the consequences of climate change.

The *Paris Agreement*, *Montréal Carbon Pledge* and *Carbon Disclosure Project* are but three examples of the many initiatives that mark the growing momentum in the awareness of climate change. By participating in such initiatives, investors contribute to the development and standardisation of tools and frameworks to manage climate change.

## Results

There are many unknowns regarding climate change, and translating data into policy is challenging. But developing a vision and investment beliefs and goals on climate change is necessary if global warming is to stay below the crucial 2°C. According to our research, 63% of the funds surveyed do not discuss climate change with their asset manager at all. Only 24% of the respondents have a specific policy on climate change. Pension fund boards are exploring the issue of climate change and starting to gather the information they need to consider it within their strategies. The majority of the funds conduct carbon analysis, but the results are often not disclosed. It seems that the formulation of climate change policies tends to consist of internal discussions which are

not yet resulting in formal investment policies. To improve mitigation efforts, pension funds should disclose the results of carbon footprint analyses. Greater transparency will improve the availability and quality of data.

56% of the funds have conducted a carbon footprint analysis. Half of climate change related engagement with investees focuses on carbon disclosure and reduction. These are examples of measures that address the causes of climate change. Since mitigation is largely concerned with carbon emissions, conducting, publishing and improving carbon footprint analysis plays an important role. Although the 2°C alignment goals demand further mitigation, the increasing pace of change requires looking beyond emission disclosure and reduction.

Adaptation policies deal with the consequences of climate change and focus on the resilience of portfolios. Adaptation strategies should complement mitigation, for example by engaging in a qualitative dialogue with investees about their preparedness for the effects of climate change. Pension funds focus less on adapting to the consequences in their responsible investment. Only 6% of engagement on climate change concerns the physical impact of climate change, and 15% asks investees to focus on innovation and climate change solutions.

Most pension funds continue to lack policies on addressing climate change. Still, we find that pension funds are taking first steps, for instance, with carbon footprint analysis and engagement with investees on carbon disclosure or carbon reduction. Just over half of the pension funds have adopted carbon footprinting, yet only half of them also disclose the footprint of the portfolio.

The primary focus of pension funds is on mitigating the causes of climate change, rather than adapting to the consequences of climate change. Although adaptation is more complex, it will become more important if mitigation measures do not succeed in staying well below 2°C. We urge pension funds to take climate change into account as part of their fiduciary duty. The pension funds' vision and beliefs on climate change should be discussed with the asset manager and part of the investment mandate and risk management.

We do not have all the answers on exactly how to combat climate change. This lack of knowledge is, however, not an excuse to wait and do nothing. We simply cannot afford this. Our recommendation is to start learning by doing, and building experience and

expertise through cross-sector collaborations with experts in the field. To actually learn from this experience, it is important to set targets and monitor progress. Not only with regard to carbon footprinting, for example, but also in the assessment of the resilience of companies from the effects of climate change.

## Conclusions and recommendations

Our recommendations to pension funds would be to:

- Develop a vision to address climate change and translate this to the investment beliefs
- Develop goals and targets on mitigation and adaptation in line with these investment beliefs
- Explore different investment strategies for addressing climate change
- Look beyond carbon footprinting and engage in a qualitative dialogue to assess companies on their resilience to climate change
- Do not wait for all the data to be compiled and tools to be provided before developing a strategy
- Embed climate change in the risk management
- Disclose results
- Attract expertise and cooperation


Learning Cycle (Source: VBDO)

# 1 Introduction

**Climate change is one of the greatest challenges of our time. In one climate scenario, the Netherlands Environmental Assessment Agency (PBL) has forecast a 28% increase of rainfall in winter and a 36% decrease in summer.[1] In June 2016, hail and rainstorms in the southern Netherlands alone caused damage totalling over 700 million euros. PBL also expects the seawater level to rise by up to 85cm by 2100. Recent research suggests that this estimate may even have to be adjusted to three meters.[2] A great many unknowns remain in reacting to climate change, but with so many clear signs of accelerated change, we know one thing for sure: waiting to act is not an option.**

This report maps the current policies and practices of Dutch pension funds in relation to climate change, and discusses the obstacles they face. The goal is to provide an insight into what the sector is doing to address climate change. This paper will discuss best practices and expert perspectives on how institutional investors can take the climate into account in their investment policies and implementation thereof.

The interaction between climate change and investors is a two-way street. On the one hand, investors can respond to climate change by mitigating its causes and adapting to the consequences. On the other hand, climate change and society's response to it poses financial risks and opportunities for investors. The Paris Agreement has created undeniable momentum for addressing climate change. By committing to keeping the rise in global temperature below 2°C, the international community has set a standard directed at addressing the causes of climate change.

The growing public awareness and political will to address climate change leads to increased pressure on investors to act. A wide range of sectors and asset classes will be physically impacted, such as agriculture, energy and vital functions such as IT and telecommunications. New technologies and industries are also developing as a direct response to the threats posed by climate change. Investors need to adapt their investment policies and risk management in order to ensure future sustainable returns.

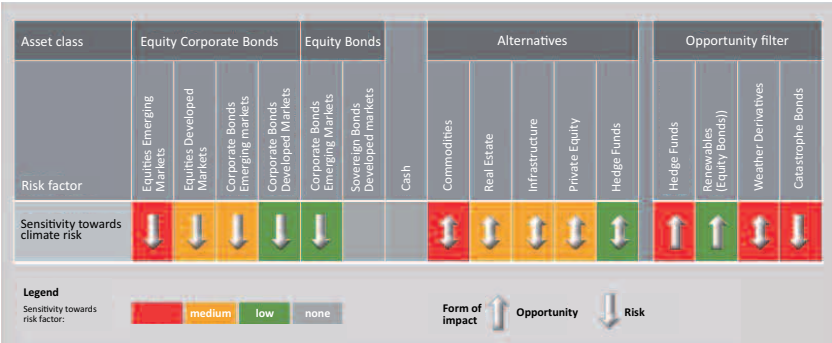



Figure 1.1 Exposure to climate risk per asset class. Source: Allianz

Figure 1.1 provides an overview of the vulnerabilities of different asset classes in relation to climate change.

Supervisory authorities show a demonstrable interest in the risks of climate change. On October 5th 2017 the Dutch Central Bank (DNB) announced its intention to identify the risks of climate change to the financial sector. DNB is planning to stress-test financial institutions on their sensitivity to the transition from fossil fuels to renewable energy. This new stress-test will also take into account pension funds' investments. According to the DNB's research [3] into Dutch pension funds, 12.6 % of the total balance sheets of funds are reliant on $CO_2$ intensive sectors. This is substantially more than the 4.5% of the Dutch insurance companies. The results of the stress-test will not lead to increased capital requirements straight away, but could well do so in the future. The report states that if, "the stress-test shows that the risks are too high, they will need to be diminished.[4]"

## 1.1 Short description of methodology

This study is based on desk and field research. Input includes responses to the questionnaire 'VBDO Benchmark Responsible Investment by Pension Funds 2017', and an additional questionnaire for this study on climate change. Both questionnaires were sent out to the 50 largest pension funds in the Netherlands.[5]

38 pension funds replied to the questionnaire on climate change, giving us a response rate of 76%. The results of this study are based on self-reported data. The questions related to the pension funds' individual policies relating to climate change, and the implementation of these policies. Since funds that have formulated policies on climate change are more likely to respond, a possible response bias should be taken into account when interpreting the results.

The questionnaire for the study on climate change and a list of respondents can be found in appendices 1 and 2 of this report. Furthermore, two in-depth interviews were conducted with experts in the field of investments and climate change. In-depth interviews were also conducted with the asset managers of two pension funds. These interviews are included in the research report as good practice.

## 1.2 Overview of the report

The subsequent chapter briefly describes what climate change entails and why it is relevant for investors. It details some of the measures that investors can take to address climate change and summarises the most relevant initiatives and international agreements.
The third chapter focuses on actions currently taken by pension funds to address climate change. Finally, the fourth chapter provides an analysis of the results and recommendations.

# 2. Climate change

## 2.1 Setting the scene

While climate is always changing, it is the rate at which it is happening that is reason for concern. Aside from the natural heating cycles, the growth in Greenhouse Gas emissions since the industrial revolution is the only logical explanation for the current rapid increase in temperature. Scientists have identified a tipping point beyond which climate change will be irreversible and increasingly unpredictable. This tipping point is 2°C above the pre-industrial average. In order to stay within 2°C, we need to reduce greenhouse gases.[7] In 2016, average temperatures were already 1°C above the pre-industrial average, according to NASA.[8] Even if the global community manages to stay below 2°C, we will most likely be facing the physical impact of destabilised weather systems, rising temperatures and changing sea levels.

The VBDO benchmarks indicate that over the past few years several Dutch pension funds have gradually improved their policies in terms of responsible investment and the integration of Environmental, Social and Governance standards. However, much remains to be done in regards to addressing the implications of climate change.

## 2.2 Pension funds and climate change

It is important to distinguish the difference between approaches that address the causes of climate change, and those that address the consequences. Mitigation addresses the *causes* of climate change, by curbing emissions in line with the 2°C threshold. A mitigation investment strategy may include divestment from carbon intensive industries, as well as engagement on carbon disclosure, for instance. Another example of mitigation is investing in renewable energy and energy efficiency.

The process of adjustment to the *consequences* of climate change is referred to as adaptation. Adaptation entails integrating climate risks in conventional risk management and assessing companies on their readiness to respond to adverse impacts.

Opportunities created by the consequences of climate change are, for example, increased agricultural yields and growing tourism due to more attractive weather.

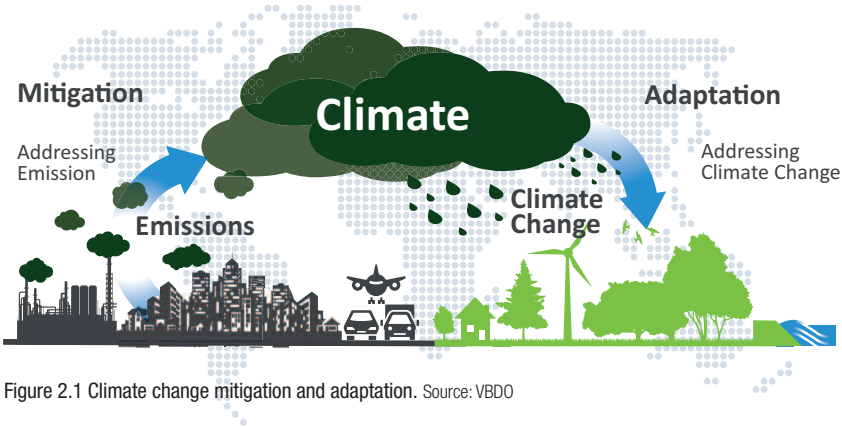


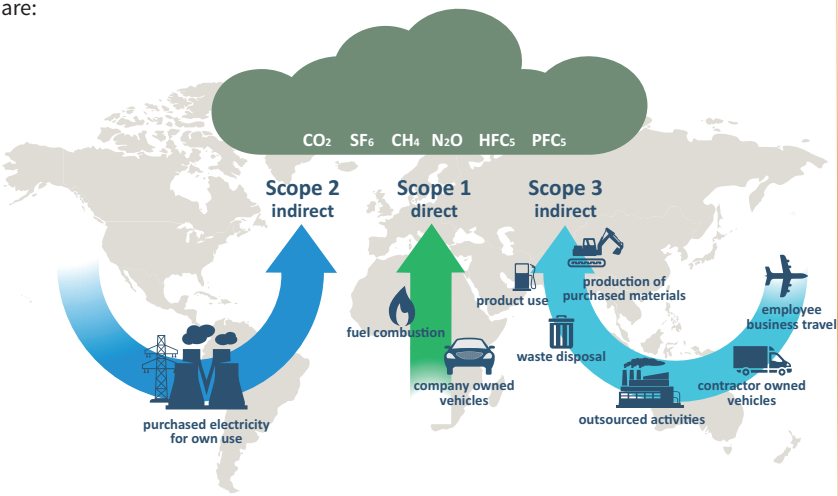

Figure 2.1 Climate change mitigation and adaptation. Source: VBDO

### 2.2.1 Mitigation

Decarbonising the portfolios is a primary approach to mitigating the causes of climate change. This can be done by investing in renewable energy, for example. A robust mitigation policy would also include engaging with companies to disclose and decrease their carbon footprint. The effectiveness of a mitigation policy therefore depends considerably on the willingness of companies to increase transparency and disclose results. Regulation can be helpful to stimulate disclosure. In January 2017 a French law came into effect that introduces mandatory carbon reporting by large and middle-sized investors – the first of its kind.

## Carbon footprint

Carbon footprinting measures the greenhouse emissions, expressed as a carbon dioxide equivalent. This data is essential for a mitigation policy. Carbon exposure is concentrated in specific parts of the portfolio. According to the 2 Investing Initiative it is possible that 25% of a portfolio determines 95% of the total carbon footprint.[9] Depending on the purpose of the analysis, different scopes can to be taken into consideration. These scopes are:




**Scope 1: Direct Greenhouse gas (GHG) emissions**
**Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or gas.**
**Scope 3: Other indirect emissions**

Figure 2.2 Carbon accounting scope. Source: Amundi

Jakob Thomä (director of The 2° Investing Initiative) notes that there is a frustration with carbon footprinting. "*A lot of investors push against the carbon footprint requirement. They are keeping it in but I don't really see many people defending it.*" Measuring the footprint of different assets, particularly scope 3 emissions, has proven to be challenging. Not all scopes and asset classes have the same level of disclosure.

Also, carbon footprinting is not forward looking but, gives a momentary impression of the portfolio. Investment plans and potential are not taken into account. The main focus is now on listed equities. Yet the sovereign bond market is one of the largest asset classes, representing a remarkable $21 trillion in outstanding debt by national governments.[10]

The carbon intensity approach is one of the most common ways of measuring carbon in an equity portfolio. It deals with the question: How carbon intense or efficient are the entities we are investing in? A working group convened by the Global Footprint Network and South Pole Group concludes that this is the most useful approach to address carbon disclosure in the sovereign bonds asset class.[11]

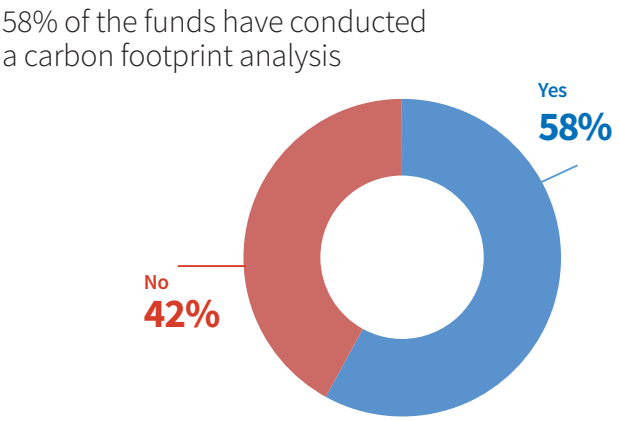



Figure 2.3 Funds that conducted a carbon footprint.

Climate mitigation can also exploit opportunities. There are still many technological solutions that are needed in order to realise the transition to a low-carbon economy. Pension funds can allocate capital to such emerging markets by earmarking funds. For climate mitigation themes could be renewable energy, energy efficiency and clean-tech.

Carbon reduction is crucial in addressing climate change, but unfortunately it is not a sufficient approach on its own. The expected consequences of climate change also require adaptation strategies. Some climate change is already unavoidable due to the greenhouse gasses that have already been emitted. The likely effects of this locked in change will need addressing, regardless of mitigation efforts.

## **Interview** | **Jakob Thomä** | 2° Investing Initiative

**The 2° Investing Initiative has developed an open source, IP rights free tool that assesses to what extent a portfolio's companies' current assets and planned investments are in line with the 2°C climate goal.**

**Generally, the result depends on the type of investment, which is either in line with renewable energy or in line with fossil energy. The analysis can be done for all companies in the following sectors: fossil fuels, power and transport (light-passenger duty vehicles).**

**According to Jakob Thomä, 25% of a typical investment portfolio is currently covered by the tool. The tool has been applied on portfolios worth over $5 trillion in assets under management and used by more than 200 investors.**

**An interesting feature of the tool is that it is forward looking, because it looks at the revealed investment and production plans of the companies for the upcoming five years. The 2° Investing Initiative is planning to expand the tool to cover the aviation, shipping and steel sectors.**

***What does* The 2° Investing Initiative *offer to investors?***

Our open-source and freely available 2°C portfolio benchmark and software allow financial institutions to measure the alignment of financial portfolios with 2°C decarbonisation pathways. When measuring, we do not comment on high level targets of companies, but on the actual production plans. This allows near universal coverage for a portfolio in key transition sectors. As an investor you can, of course, still decide to dismiss that because you think the long term strategy beyond five years is more relevant.

***What kind of data is still lacking?***

The number one missing piece of the puzzle is Research & Development (R&D). People often don't realise how important R&D is and there is little discussion on this in the public space. Without dedicating R&D to carbon alternatives, we will not keep within the 2° threshold. Other challenges are supply chains and sectors where scenarios are not well articulated, such as agriculture and forestry.

***What developments do you expect to see in the nearby future?***

I think the next big step is to move from exposure towards a better understanding of impact. The future will involve looking, not just at capital expenditure plans, but also at how they've changed over time. This creates the ability to see not just how companies are changing, but also the change in how they're changing.

***How can asset owners develop their investment strategies to align with the 2° threshold?***

Sometimes NGOs and think-tanks want all asset owners to pursue the 'best' strategy. I think it is better to try different approaches, if possible. The key issue with whatever approach you choose is that you should be transparent about it. Some asset owners are interested just in the forward-looking element of the analysis, whereas others want to look at the total asset base. Both approaches have merit.

### 2.2.2 Adaptation

The term adaptation is used to describe activities that deal with the ***consequences*** of climate change. This includes reducing susceptibility to the negative effects of climate change and taking advantage of any positive effects. The preparation and readiness to respond to adverse impacts and future challenges is described in terms of *resilience*. The resilience of a company not only depends on its own preparation, but is also determined by the interdependency of other companies, for instance in the supply chain. A company may itself be well-adapted to withstand climatic impacts, but its supply chain may not.[11]

## **Interview | Pieter Bloemen** | Staf Deltacommisaris

**Water management has traditionally been one of the central roles of the Dutch government. However, the kind of challenges that we are facing now will require companies to increase their awareness of risks that are outside of the government's power.**

In Thailand, a flood in 2011 disrupted the supply chain for hard disk producers as the flood not only disrupted the Thai suppliers, but also companies located in other countries in the supply chain that were dependent on them. This serves as an example of how flood risks can have an economic impact wider than the region in which they occur.[13] Certain regions of the Netherlands will be facing similar problems as intensified precipitation will increase the risk of flooding. Another example is rising temperatures and increased drought. Up until now, farmers have been able to cope with periods of drought, but it is uncertain what the future effects of warmer and dryer summers will be.

Our climate is changing faster than expected. This increases the urgency for companies to identify their own risks and adapt accordingly. If companies are to become more resilient, we need a shift from focusing on efficiency to considering redundancy. Redundancy provides 'insurance' within a system, by allowing some components to compensate for the loss or failure of others.[14] Unfortunately, this thinking is largely absent and there are few companies whose strategy extends beyond five years.

*Risks*

One of the first steps in adapting to climate change is to assess the risks of the impact. The physical impact of climate change has to be integrated into risk assessment. The assessment of climate risks is hindered, because financial analysts' models are typically based on cash-flow forecasts for the next three to five years. When risks are valued in this frame, long-term risks resulting from unprecedented, non-linear events, such as climate change, are likely to be missed and therefore mispriced.[15]

*Opportunities*

In addition to risk assessment, funding of the adaptation is needed. These investments have to be effective and able to generate a revenue or return. Many adaptation projects will need to be financed by grants and public money, because they will not fulfil this

market-based return on investment requirement.[16] However, some specific adaptation projects could be undertaken through micro-credit and community-based insurance systems.[17] Further examples of finance mechanisms that could possibly be transformed to fit private sector demands are bonds, such as green bonds, climate bonds and social impact bonds. Another example is social impact investing, which targets preventive programmes that address social challenges and can create future cost savings.

***Engagement***

Adaptation can also be integrated in a fund's engagement, by asking companies the right questions to identify their exposure to climate change and test their resilience. The following questions for investors across all industries were identified by investors and stakeholders in an Institutional Investors Group on Climate Change (IIGCC) workshop:[18]

- Have you assessed whether climate change will affect the asset being considered, and, if so, what risks and opportunities do you see?
- What is the strategy or plan for responding to identified risks and increasing resilience?
- Does the plan include consideration of interdependencies and the risks of maladapted outcomes (unintended consequences)?
- Has there been an assessment of the capital expenditure and the operational expenditure requirements to adapt to climate effects, and do they increase or decrease over time?

IIGCC is one of the emerging initiatives to promote climate related research. IIGCC also provides a platform for investors. Other leading initiatives are detailed in the next section.

## 2.3 International agreements and initiatives

There is not a single recipe or best way to deal with climate change. Different strategies are needed in order to effectively address climate change. Over the past few years different organisations have developed tools and metrics on $CO_2$ measurement. Many initiatives and agreements are also driving joint knowledge development on managing climate risk. International agreements and collaborations can serve as guiding instruments for sustainable investment policies.

The Paris Agreement, which went into effect on the 4th of November 2016, is a milestone along the way of a transition towards sustainable investment for the global marketplace. In the wake of the Paris Climate Conference (COP21), more than 1,300 non-party stakeholders, including 2 of our respondents to the questionnaire, have joined L'Appel de Paris (the Paris Pledge for Action). By joining the pledge, businesses, cities, civil society groups, investors, regions, trade unions and other signatories show their commitment to the ambitions set out by the Paris Agreements. This pledge is an important example of goal-setting initiatives.

The various initiatives discussed within this report differ according to the target participants and functions they fulfil. While Principles of Responsible Investment and Montréal are good resources for aspirational goals and inspiration for vision, more technical groups such as the Task Force on Financial Disclosures (TCFD) and the Platform Carbon Accounting Financials (PCAF) seek to develop the methodologies and metrics to implement such goals.

## Initiatives

The **Montréal Pledge** aims to promote the disclosure of companies' carbon footprints. By signing the pledge, signatories express their commitment to measure and disclose their carbon footprints. At the time of writing, 118 signatory investors have committed themselves the goal to measure and disclose on an annual basis.[19]

The **Task Force on Climate-Related Financial Disclosures (TCFD)** was established by the Financial Stability Board (FSB). The Task Force is developing guidelines for a new common language to discuss climate change in terms of financial risks. One of these frameworks is the Carbon Disclosure Project (CDP), which collects self-reported carbon emissions data from companies. CDP has been engaging and informing actors across the field regarding the measurement and disclosure of environmental risks for more than 17 years.

The **High-Level Expert Group on Sustainable Finance (H-LEG )** was established by the European Commission to develop recommendations for an EU strategy on sustainable finance. The group published an interim report in July 2017 and its final recommendations are expected in early 2018.

The **Platform for Carbon Accounting Financials (PCAF)** comprises 12 Dutch financial institutions. PCAF promotes carbon disclosure and develops measurement methodologies. The platform also aligns carbon accounting and footprinting.[20]

**Principles of Responsible Investment (PRI)**
The evolution towards sustainable investment includes the formulation and incorporation of aspirational goals. **PRI's** goal is to understand the implications of Environmental, Social and Governance issues (ESG) for investors and support signatories to incorporate these issues into their investment decision making and ownership practices.[21]

Both PRI and UNEP FI were also involved with the **Global Investor Statement on Climate** Change (GISCS). The GISCC statement sets out the contributions that investors can make to increasing low carbon and climate resilient investments. The statement also offers practical proposals on how the contribution of the 409 signatories, representing more than US $24 trillion in assets, maybe scaled up through appropriate government action.

The **Natural Capital Coalition (NCC)** is a global multi-stakeholder collaboration that aims to encourage the inclusion of natural capital in financial accounting, disclosure and reporting, examining how financial institutions are exposed to material natural capital risks.

**The Institutional Investors Group on Climate Change provides** a platform to encourage collaboration in order to manage the risks and opportunities related to climate change. IIGCC requires regular reporting from members, as well as a pro-active stance towards promoting public policies, investment practices and corporate behaviour that address the long-term risks and opportunities associated with climate change.

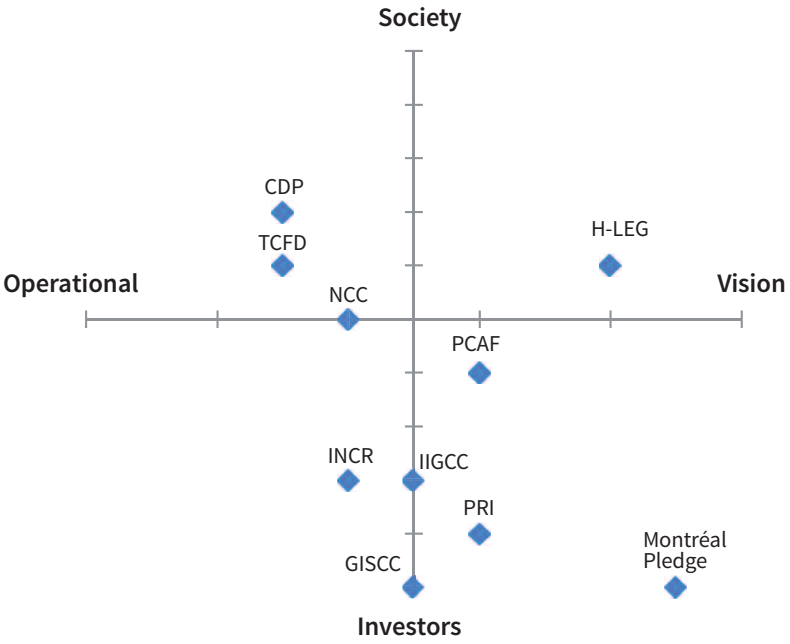



Figure 2.4 Overview of various initiatives dealing with climate change.

## **Interview | Joris Laseur** | Sustainalytics

***What type of information are investors looking for in regards to climate risk?***

Pension funds have predominantly been asking for carbon footprint analysis of their public equity investment portfolios. The Paris Agreement, where it was agreed to keep global warming 'well below' 2°C compared to pre-industrial times, caused momentum for investors to decarbonise their portfolios, or at least to investigate their carbon risk exposure more specifically.

'Climate risk' is a broader concept than just 'carbon risk'. While most pension funds have focused on carbon emissions, non-life insurance companies tend to be more concerned about physical climate change risks. Examples are sea-level rise, desertification and extreme- weather events. As there is a significant risk that mitigation will fall short of staying well below 2°C, adaptation will become even more important. Mitigation of global warming is a truly global challenge. Adaptation to the effects of global warming depends much more on local conditions.

***What are pension funds currently doing with regards to climate change?***

Many pension funds have already started to learn more about climate change, how it will affect them and what options are available to them. Some of the larger funds are ahead of the curve and have set targets, while many smaller funds have also started exerting pressure on their asset managers. As a result, asset managers are paying extra close attention to carbon-intensive sectors to understand which companies will innovate to survive (and thrive!) in a low-carbon economy. However, climate change does not have implications for risk management alone. It also presents opportunities to finance solutions, such as renewable energy technology and energy efficiency measures.

***Could pension funds be doing more do you think?***

Global carbon emissions are not coming down yet. I see a moral obligation for all of us to navigate towards a low carbon economy. And I would also regard it is part of the fiduciary duty of pension funds to decarbonise investment portfolios and finance carbon solutions progressively, while avoiding any abrupt disruption of the economy. It is quite a challenge.

Divesting from thermal coal may already prove to be attractive financially. The bigger challenge will be to manage carbon risk exposure, and to spot opportunities, in areas such as aviation, cement, chemicals, oil & gas and steel. I am also expecting supervisory authorities to require more dedicated climate risk management measures from pension funds.

# 3 Results

**Chapter two described the current developments and challenges in reacting to climate change. In this chapter we will discuss the extent to which pension funds are currently taking climate change into account in the investment process. The findings are based on questionnaires sent to the 50 largest Dutch pension funds, and on the five interviews with experts.**

## 3.1 Governance

Successful formulation and implementation of a responsible investment policy requires active involvement of the board, experts and stakeholders. When asked about the main driver of addressing climate change, 63% of the respondents stated it was the pension board. 8% consider the fiduciary manager to be the main driver. It is clear that often the driver is a combination of societal, governmental and the aforementioned actors.

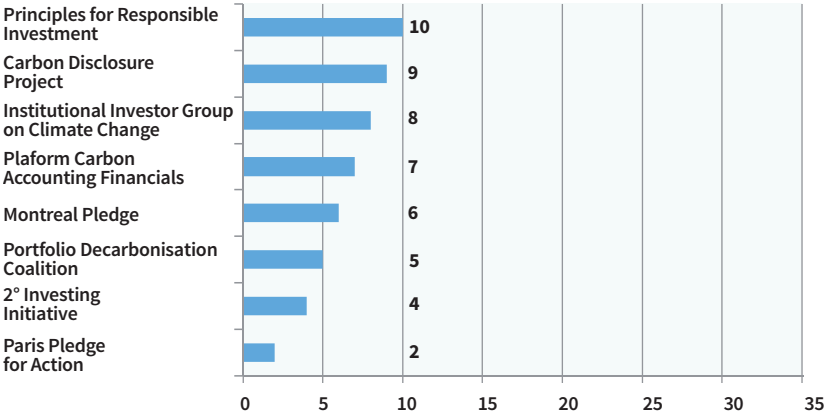



Figure 3.1 Collaboration per initiative amongst pension funds.

From the 38 respondents, 10 funds named initiatives with which they are involved. As shown in figure 3.1, these funds often participate in multiple initiatives. Some of the funds mentioned that they do not participate themselves; they do so via their fiduciary managers. The fiduciary manager plays an important role in the development and implementation of policies.

The interaction between the asset owner and manager can be described in four steps:

1. Manager selection and appointment
2. Manager engagement
3. Manager monitoring and evaluation
4. Manager reward

Ideally climate change is integrated in all four steps.

## The majority of the pension funds do not discuss climate change with their asset manager

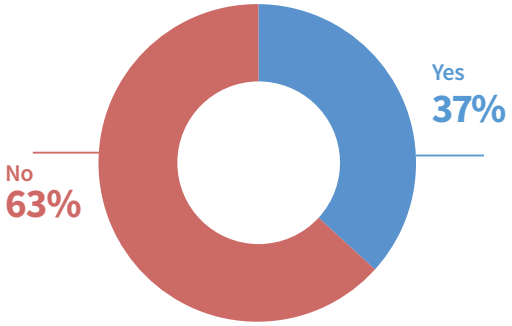



Figure 3.2 Is climate change integrated in the interaction with the asset managers?

Although pension funds appear to pay attention to climate change, the majority (63%) do not discuss climate change with their asset managers. 34% of the interaction only takes climate change into account during the selection and appointment of the asset manager. Only 5% integrates climate change in all four steps of the interaction with asset managers.

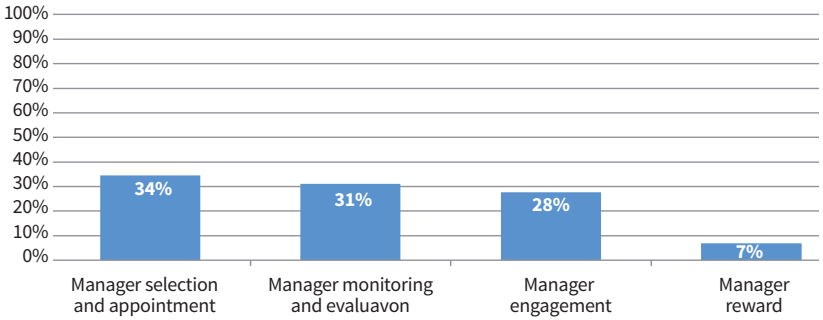



Figure 3.2b How is the interaction with the asset manager distributed?

## 3.2 Policy

A policy is based upon beliefs and guided by a vision. Ideally, policy documents should be publicly available and include clear targets to track progress for the fund and the asset managers. A policy on climate change can aim to mitigate the causes of climate change by, for example, aligning the investments with the 2°C target. At the same time there is a need to adapt to the consequences by improving the resilience of the portfolio, for example, by investigating the risks posed to the investments by climate change.

More than half (58%) of the pension funds have no formal policy on climate change. 18% have a policy that addresses climate change in general. 24% have a specified climate change policy in place, which either sets out to invest in climate change mitigation, aligning investments with the 2°C target, or takes into account the long-term risks posed to investments by climate change.

Most pension funds do not have a policy on climate change

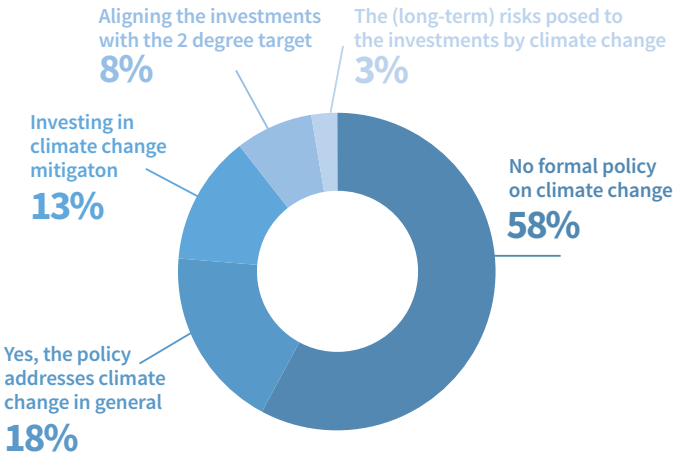



Figure 3.3 Does the pension fund address climate change in your responsible investment policy.

Some of the investors indicated that the fund prefers to collect data before developing a policy. Based on these responses and the interviews, it seems that these funds are currently in the stage of exploring how to analyse and manage climate change exposure.

The complexity of climate change makes it difficult for pension funds to develop a policy. For example, in order to develop a mitigation policy, data on carbon emissions is needed to provide an important indicator. It is difficult to cover the entire portfolio satisfactorily. Scope three emissions are difficult to analyse, as are specific asset classes such as sovereign bonds and real estate. Funds indicate it is important to know what is actually happening in the portfolio before formulating a policy and setting targets.

### 3.2.1 Carbon footprinting

Carbon footprint data play an important role in implementation strategies. In total, 58% of the funds measure the carbon footprint for at least one of their portfolios. For 11% of the funds, the analysis covers less than 25% of the assets under management (AuM). 37% of the funds measure the footprint of 25%-50% of AuM. One fund indicated that their analysis covered 50%, and one 70%. Some funds are processing the data and could not yet say what part of the AuM had been covered.

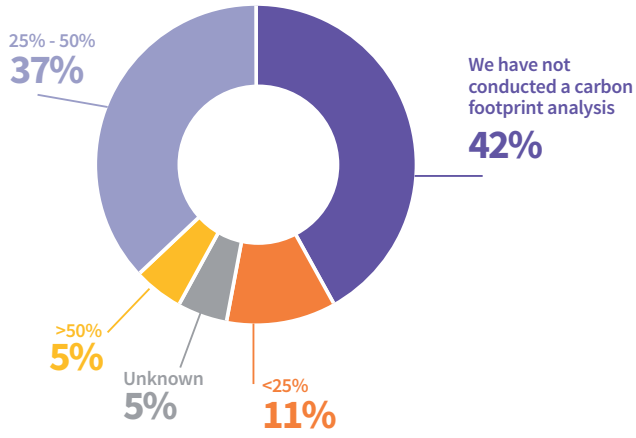



Figure 3.4 Percentage of pension funds using carbon footprint analysis.

Where carbon footprinting takes place, in 45% of the cases it is done for the listed equity portfolio, which generally covers 30% to 40% of the total AuM. In addition to that, the footprint of real estate investments is sometimes measured. The data suggests that, thus far, the footprint of corporate and government bonds is not often measured.

Although 58% of the funds measure the carbon footprint of at least some investments, only 24% of total respondents publicly disclose the results.

### 3.2.2 Carbon reduction targets

Almost all pension funds do not have targets on carbon reduction

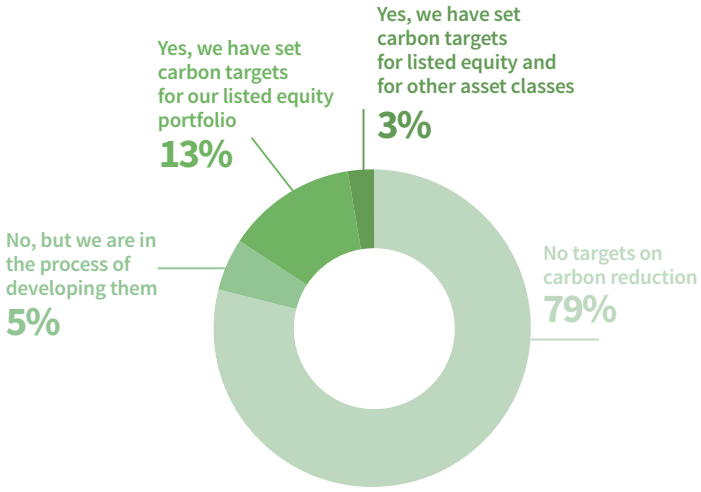



Figure 3.5 Inclusion of carbon reduction targets.

Once the footprint has been measured, time-bound and measurable targets can be set to track the progress of carbon reduction. However, the vast majority of the respondents (79%) have not set carbon emission reduction targets. 13% have targets solely for their listed equity portfolio. One fund (3%) has set carbon targets for listed equity and other asset classes.



## Interview | SPF Beheer

**Roelf Pater** | director of SPF Beheer pension office

**Sietse Brouwer** | member of SPF Beheer board

**Nadja Fransen** | SPF Beheer asset manager

***What is the importance of climate change for SPF Beheer?***

**SB:** The importance of climate change is growing. It has been on our agenda three or four times in the past year. The board would like to give more substance to the theme in our policy, but it is not that easy to implement this.

**NF:** We have done a carbon analysis on parts of the portfolio. The footprint is a starting point, but now we need time to look at the data and learn how we can apply it. In the future, we want to start doing the footprint on a structural basis and across the whole portfolio. On the basis of that, we could then start developing and implementing policies.

***Can you describe the interaction between the board and the manager?***

**SB:** Sometimes SPF Beheer comes to the SPF board with ideas and sometimes we approach the manager with a question. The board has communicated its commitment to address climate change. Now we are looking for a framework to act upon our commitment.

**NF:** Climate change is part of the Environmental Social Governance (ESG)- framework and the first carbon analysis showed that we are cleaner than the benchmark because it is part of the ESG screening. Even though we are not focusing on this particular topic, it is already part of the analysis.

***What is your ambition and what do you need to take the next step?***

**RP:** Climate change is not a new topic and it is also in the political and regulatory sphere. Regulation towards pension funds and financial industry in general is an option, but there is also a risk that regulations lead to undesirable behaviour.

**SB:** What we need are handles and concrete steps to take. One of the obstacles is [a lack of] information. At the moment we are looking per sector and we ask, 'What are the key issues? What is policy and what is practice?' Answering these questions is particularly difficult when it comes to looking at the supply chain. So we need more transparency and data.

**NF:** The biggest challenge is how to change something subjective into something concrete. With climate change, many things are not measurable. Some small companies are doing really well but we don't see it. At this level, the policy does not always reflect the reality. At the same time we need to understand and learn to use the data that we have. We can't wait for the data to become perfect.

## 3.3 Implementation

Investors have different responsible investment strategies at their disposal in order to implement policies. In this study we focused on exclusion, engagement, risk assessment and impact investment.

In the case of climate change, these strategies are suitable for either mitigation or adaptation policies, or both. Exclusion is mainly taking place by excluding fossil fuel production. Risk assessment can be integrated into the ESG framework and serve both mitigation and adaptation policies. In order to mitigate, it is important to record carbon emissions. In addition, the carbon exposure of a portfolio affects its resilience when it comes to adapting to a low-carbon economy. Finally, finding impact investment opportunities in new technologies and markets can serve both mitigation and adaptation policies.

The following paragraph analyses the extent to which pension funds are acting on the various responsible investment strategies. When relevant, a distinction is made between mitigation and adaptation.

### The case for exclusion

**Excluding companies can be done based on legal or normative grounds or because of a material financial risk. Carbon intensive companies face the risk of turning into stranded assets. Some investors exclude the companies that are the worst performing with regards to climate change.**

### 3.3.1 Exclusion

Exclusion is a responsible investment strategy that systematically excludes certain companies, sectors or countries from the investable universe. In some cases, exclusion will only be used as a last resort when other options, such as engagement, have been exhausted.

26% of the funds state that they exclude companies based on climate change criteria.

16% of the pension funds exclude even though they don't have a formal policy on climate change. In some cases the exclusion takes place based on climate criteria as part of the environmental policy of the asset manager. Some asset managers exclude companies

with large exposure to certain fossil fuel resources, such as those involved in thermal mining. Some of the pension funds in the survey exclude coal plants.

26% of the Pension funds exclude companies based on climate change criteria

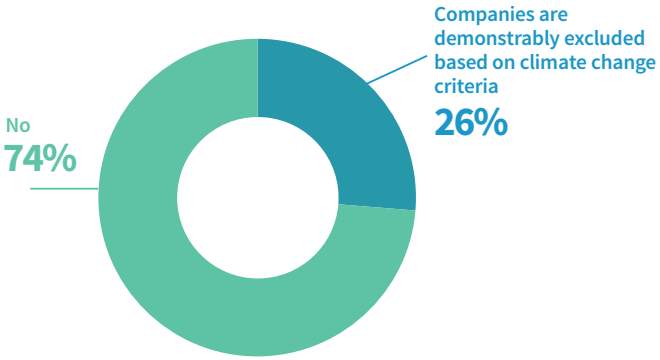



Figure 3.6 Does your pension fund exclude companies because of climate change?

### 3.3.2 Engagement

## Distribution of engagement themes

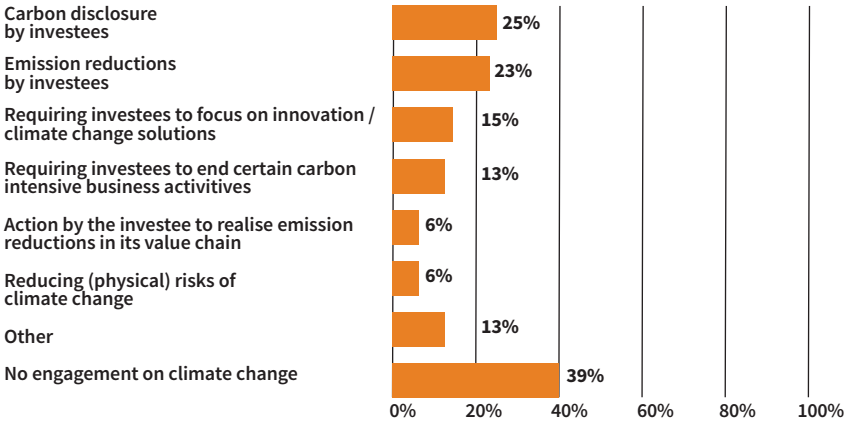



Figure 3.7 On what topics does your pension fund engage with investees regarding climate change?

Pension funds can actively influence the policies and activities of their investees. Often the engagement takes place via the fiduciary manager, on behalf of the pension fund. Engagement can take place on both mitigation and adaptation issues. Carbon disclosure, emission reduction and ending certain carbon intensive business activities can be examples of mitigation policy. Requiring investees to focus on innovation and reducing the physical risks of climate change are examples of moving companies to adapt to the consequences of climate change.

61% of the funds responded that engagement takes place on one or more of the themes indicated in figure 3.7. The graph shows the relative distribution of the themes. The most common form of engagement focuses on requiring investees to disclose their carbon emissions. In most cases, those companies are also required to reduce their emissions. Other themes mentioned were: transition, board expertise, transparency, long term capital expenditure (capex) plans, targets and remuneration.

### 3.3.3 Risk assessment

In order to adapt to the consequences of climate change, investors can embed the analysis of negative effects of climate change in their risk assessment.

Almost half of the pension funds measure the risks of climate change

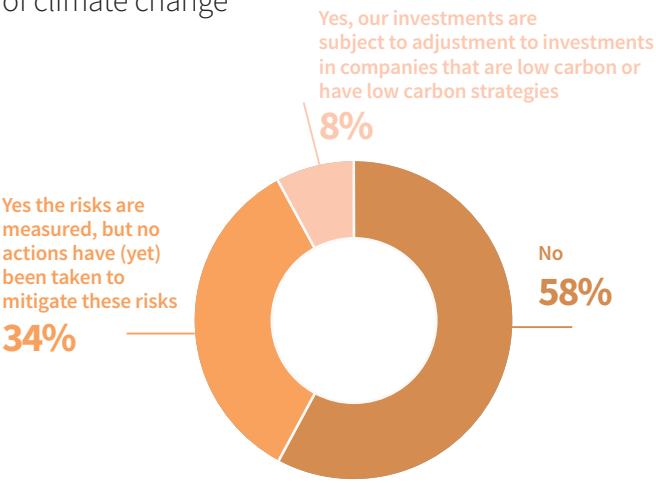



Figure 3.8 Has your pension fund measured the risks resulting from climate change to its portfolio? If so, has your organisation taken action to mitigate these risks?

58% indicate that they have not measured the risks of climate change to their portfolio. 34% did measure the risks, but have not yet taken actions to mitigate these risks. Of this group, however, two funds indicated that in the next few years investments will be subject to adjustment in companies that are low carbon or have low carbon strategies. None of the funds said that potentially stranded assets and physical risks are hedged.

### 3.3.4 Impact investment: mitigation

76% of the respondent pension funds have not earmarked investments for climate change mitigation. The remaining 24% have earmarked investments dedicated to typical mitigation related investments, such as renewable energy, energy efficiency or a combination of both. We find that 18% of the pension funds invest in renewable energy and 13% invest in energy effciency. This implies that 7% invest in both type of impact investments.

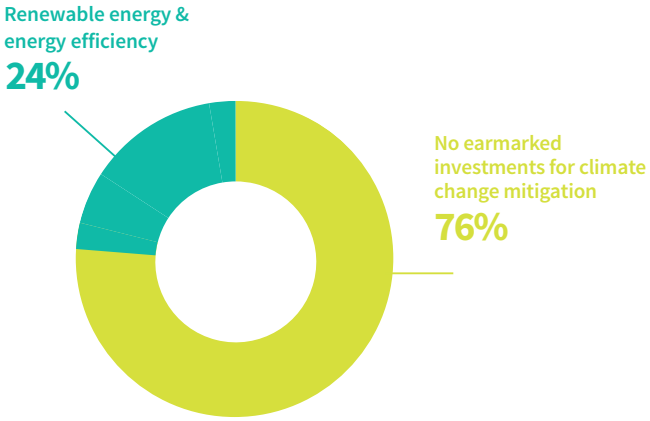



Figure 3.9 Has your fund earmarked funds for climate change mitigation?

### 3.3.5 Impact investment: adaptation

In a similar vein, pension funds may decide to ring-fence funds for adaptation investments. Investors may decide to allocate funds for energy transition, energy efficiency or green bonds, for instance.

Our data indicates that funds have a preference for mitigation as only 5% have earmarked funds for adaptation while 24% have done so for mitigation. This is partly due to the fact that the adaptation market is still developing. Currently, adaptation projects are often funded by public grants and often can not fulfil the market return criteria.

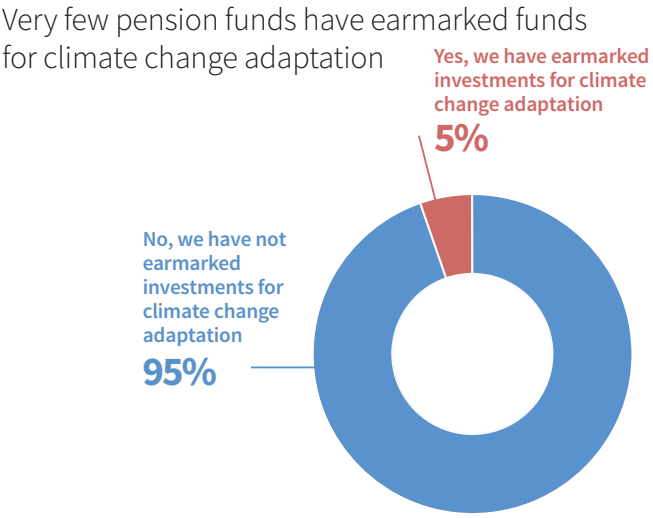



Figure 3.10 Has your fund earmarked funds for climate change adaptation?

## Interview Climate |

## Pensioenfonds Landbouw (BPL) and Achmea Investment Management (AIM)

**Gerard Roest** | **Board member of BPL**
**Dennis Teijsse** | **Responsible Investment Adviser of Achmea Investment Management**

***What is the importance of climate change for BPL Pensioen?***

**GR:** One of BPL Pensioen's primary goals is to achieve optimal returns and to minimise investment risks with the aim to protect the interests of our participants. In addition, as a fund we also have a social responsibility. Next to this, BPL Pensioen has the conviction that climate change related risks will become material in the short term and it is therefore advisable to pay attention to this risk appropriately. From these starting points the board has set out a broader vision on responsible investment, with a specific focus on climate change. Achmea Investment Management has supported BPL in implementing this vision and together an ambitious but realistic responsible investment policy has been developed.

***What is BPL doing to react to climate change?***

**DT:** Estimating the financial risks of climate change for a specific investment is complex. Hereby BPL Pensioen is convinced that the carbon footprint on its own is not a reliable predictor of potential climate risks. Nevertheless the fund wishes to exert pressure on companies with a relatively high carbon footprint to reform and strives to reduce the footprint of the portfolio from a social point of view.

A more comprehensive analysis of climate risks is carried out by means of a best-in-class analysis. BPL Pensioen determines in a balanced manner the climate risks they are exposed to and how measures have been implemented to mitigate these risks or to adapt to them. Supplementary BPL Pension is a concerned investor that puts climate change related risks forward in its engagement policy. The dialogue with companies is aimed at raising awareness of climate risks, achieving behavioral change and raising transparency.

As said, BPL Pension optimises the carbon footprint of its portfolios. The focus is initially on the developed markets equity portfolio. Our research results showed that it was possible to achieve a strong carbon reduction of the portfolio, while retaining exposure to proven factor premia and an appropriate level of diversification. When the strategy was implemented we arrived at a 40% reduction in practice, compared to the portfolio of 1st of January 2016.

***So the reduction is not an ambition for let's say 2020, but something that is achieved immediately.***

**GR:** All together, we aim to have a progressive but realistic climate policy that is not limited to certain asset classes or regions. Adjustments to new insights and developments take place continuously, thereby making the most of the available instruments and information. For the equity portfolio we look at it as an inclusive RI strategy since it functions as a best-in-class policy. The portfolio is actively constructed by the board in consultation with AIM but passively managed.

***How has the policy been developed regarding climate change?***

**GR:** The climate change spearhead policy has been established through a responsible investing working group in which board members, our Executive Office (Actor) and Achmea Investment Management were represented. It has been an iterative process in which BPL Pensioen has outlined the contours and has defined the terms and conditions, and Achmea Investment Management has worked it out in more detail. In order to ensure that there was a broad support for the specific climate change related choices, regular consultation with the Investment Investment Committe and the Board was held and the accountability body was informed during the process.

***What are the ambitions of the fund and asset manager and what is needed to achieve this?***

**DT:** There are several ambitions, among others increasing the scope of the latest developed policy instruments within the investment portfolio as well as identifying opportunities to assess the social impact of the portfolios. To achieve both ambitions, access to high quality data is key. Standardised and accurate reporting by companies should improve, the lack of standardisation on what and how to report however still remains a limitation.

**GR:** I think we, as a society, need to prioritise our social responsibilities better. For example, the Paris climate accord has goals but they consists mostly of "promises" or aims and not firm commitments and I am afraid that it will not be enough. On a personal note, the most important thing for me is the normative side of responsible investment. Yes, our financial responsibility is very important, but this should not be at the expense of universal normative values.

# 4 Conclusions and recommendations

## 4.1 Conclusions

### Pension funds lack policies, but are taking first steps

The majority of the funds engage on climate change topics (61%) and have conducted a carbon footprint analysis (58%). Only 42% have developed a policy on climate change. The lack of policy does not seem to prevent pension funds from implementing different strategies, however. This is due in part to some funds taking a 'trial and error' approach before they formulate a formal policy. In addition, some asset managers have specific policies on climate change even if the funds themselves do not.

### Pension funds focus on mitigation over adaptation

When it comes to climate change, there are two main approaches that responsible investment strategies can take: mitigating the causes of climate change and adapting to the consequences. Both strategies are complex and translating the data to investment decisions is difficult. 58% of the respondents have conducted a carbon footprint analysis of their investments. Most (54%) of the engagement around climate change focuses on carbon disclosure and reduction. Adaptation, such as addressing the physical impact of climate change and investing in innovation, receives less attention (21%).

### Majority of the pension funds have adopted carbon footprinting, but results are usually not disclosed.

Although 56% of the funds measure the carbon footprint of investments, only 24% of the respondents disclose the footprint of the portfolio. A possible explanation is that pension funds are reluctant to raise expectations by publishing results; only 18% have set carbon reduction targets.

### Both the availability and the quality of the data are obstacles

Many companies do not currently disclose their portfolios' carbon emissions at all, let alone in a standardised format.

Footprint analysis focuses on scope 1 and 2 emissions and the equity asset classes. Mitigation policies face obstacles in the measurement and application of scope 3 emissions. The complexity of the supply chain and lack of transparency in developing economies

makes this even more challenging. The data for adaptation policies is still limited. The challenge is to meaningfully include climate change – an unprecedented, non-linear event – in risk assessments.

## 4.2. Recommendations

### Pension funds should take the lead, by developing a vision on addressing climate change and setting goals

Each pension fund board should develop a vision on climate change and on what the fund's role should be in dealing with the issue. Based on this, a number of normative and financial beliefs can be formulated in dialogue with a suitable asset manager. In consultation with the asset manager, targets can then be developed, such as ensuring that the fund aligns to the 2°C threshold.

### Start learning by doing

The lack of knowledge on dealing with climate change prevents pension funds from seriously taking the issue into account. In order to draft an investment policy that includes climate change, funds need to inform themselves. One way to do this is through cross-sector collaborations with NGOs, academics, regulators and data providers. Developing methodologies and collecting data can be done in cooperation with experts and other pension funds. It is not necessary (or viable) to wait for data and tools to be perfected. Important steps can be taken now, by using existing tools and trying to improve them where possible. Incomplete quantitative analysis can be supplemented with qualitative dialogue, for example in the formation and execution of engagement strategies. Reacting to climate change requires 'learning by doing'.[22]

### Set emission targets and disclose results

Emission targets based on footprint analysis are important indicators for an emissions reduction policy. When designing a footprint analysis it is important to decide primary goals. These could relate to, for example, financial risk mitigation, and reducing carbon emissions through engagement and impact investments.

In order to monitor progress, pension funds should set targets and publish the results. International standards can provide guidance to develop these targets. Disclosure of results can stimulate others to follow suit and accelerate data development. Transparency in communications to the beneficiaries of the pension fund is also vital.

## Look beyond carbon footprinting

Society and also pension funds are increasingly paying attention to mitigating the causes of climate change. However, with a 1.5°C rise already inevitable, pension funds also need to address how to adapt to the effects of climate change. It will become increasingly important for companies to prepare for climate change and to be clear how they are doing so. Investors will need to learn to assess the resilience of their investees.

Engagement with investees should go beyond carbon disclosure and emission reduction. For example, companies could be required to complete qualitative assessments in order to evaluate how prepared they are for the effects of climate change. Factors that can be taken into account include:

- board expertise
- long term capital expenditure plans
- risk assessments and adaptation scenarios
- consideration of interdependencies
- innovation and type of R&D investments

## Learning Cycle

1. Develop a vision on climate change (serving the interests of the participants)
2. Define investment beliefs in dialogue with asset manager (normative and materiality)
3. Assess exposure to climate change (risk and opportunities)
4. Set targets (carbon reductions and adaptation)
5. Determine at least one responsible investment-strategy (covering both mitigation and adaption)
6. Disclose progress and results (communicate to all stakeholders)
7. Monitor approach (review beliefs and impact of strategy)


This cycle provides a usefull tool for pension funds to take a step by step appraoch on dealing with climate change.

# References


1 PBL (2016) 'Koers Houden in de Delta.'
2 KNMI (website) 'Extreme Zeespiegelstijging in de 21e Eeuw'
3 **https://www.knmi.nl/over-het-knmi/nieuws/extreme-zeespiegelstijging-in-de-21e-eeuw** accessed 05.09.2017
4 https://www.dnb.nl/nieuws/nieuwsoverzicht-en-archief/dnbulletin-2017/dnb363837.jsp https://fd.nl/beurs/1221135/dnb-heeft-nieuwe-stresstest-voor-grote-beleggers-in-pet-toDNB
5 VBDO Benchmark Responsible Investment by Pension Funds 2017 - to be published
6 IPCC (2014) 'Climate Change 2014: Impacts, Adaptation, and Vulnerability.'
7 Rockstrom et al. (2009) 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity.'
8 **https://www.giss.nasa.gov/research/news/20170118/**
9 VBDO Whitepaper (2016) 'Institutional Investors and Climate Change'
10 Bank For International Settlements Debt Securities Statistics Database **http://www.bis.org/statistics/secstats.htm**
11 **http://www.footprintfinance.org/portfolio/carbon-disclosure-climate-risk-sovereign-bonds/**
12 IIGCC (2016) 'Investing Through an Adaptation Lens.'
13 **http://www.nytimes.com/2011/11/07/business/global/07iht-floods07.html?mcubz=1** accessed 30.08.2017
14 **http://applyingresilience.org/en/principle-1/** accessed 08.09.2017
15 2° Investing Initiative (2017) 'White Swans Can Be Black in the Dark.' Research focused on models by sell-side equity research analysts and credit rating agencies.
16 IIGCC (2017) 'Climate Change Investment Solutions: A Guide for Asset Owners.'
17 CWC (2013) 'Climate Change Risks and Opportunities.'
18 IIGCC (2016) 'Investing Through an Adaptation Lens.'
19 Montreal Pledge (website) **http://montrealpledge.org/** accessed 05.09.2017
20 Platform Carbon Accounting Financials (website) **http://carbonaccountingfinancials.com/** accessed 05.09.2017
21 UN Principles Responsible Investment (website) **https://www.unpri.org/** accessed 05.09.2017
22 NAS 2016

**In one climate scenario, the Netherlands Environmental Assessment Agency (PBL) has forecast a**

**28% increase of rainfall in winter and a 36% decrease in summer**

# Appendix 1: List of respondents *

- Ahold Pensioenfonds
- Algemeen Burgerlijk Pensioenfonds
- Bedrijfspensioenfonds voor het Bakkersbedrijf
- Bedrijfstakpensioenfonds Koopvaardij
- Bedrijfstakpensioenfonds Schilders
- Bedrijfstakpensioenfonds voor de Bouwnijverheid
- Bedrijfstakpensioenfonds voor de Media (PNO Media)
- Heineken Pensioenfonds
- Pensioenfonds Horeca en Catering
- Pensioenfonds Metaal en Techniek
- Pensioenfonds Openbaar Vervoer (SPOV)
- Pensioenfonds PGB
- Pensioenfonds Progress
- Pensioenfonds SNS Reaal
- Pensioenfonds TNO
- Pensioenfonds Vervoer
- Pensioenfonds Zorg en Welzijn
- Philips Pensioenfonds
- Rabobank Pensioenfonds
- Spoorweg Pensioenfonds
- Stichting Pensioenfonds voor de Woningcorporaties

* There was a total of 38 respondents. This list illustrates the repondents that agreed to be named.

# Appendix 2: Questionnaire

1. ***Has your pension fund collaborated with others specifically related to climate change?***
   a. Carbon Disclosure Project (CDP) - Climate Change
   b. Institutional Investor Group on Climate Change (IIGCC)
      AND/OR Investor Group on Climate Change (IIGC - Australia/New Zealand)
      AND/OR Asia Investor Group on Climate Change (AIGCC)
   c. Investor Network on Climate Risk (INCR)
   d. Montreal Pledge
   e. Portfolio Decarbonisation Coalition
   f. Paris Pledge for Action
   g. PCAF (Platform Carbon Accounting Financials)
   h. PRI
   i. 2° investing initiative
   j. Other - please specify
   k. None

2. ***Who is the main driver for addressing climate change within your pension fund?***
   a. Pension Fund Board
   b. Fiduciary Manager
   c. Asset Manager
   d. Pension Fund Beneficiaries
   e. Government
   f. NGOs
   g. Other

3. ***Does your pension fund integrate climate change in the interaction with asset management?***
   a. No
   b. Yes, please specify in which parts:
   ☐ manager selection and appointment
   ☐ manager engagement
   ☐ manager monitoring and evaluation
   ☐ manager reward

4. ***Does your pension fund address climate change in your RI policy?***
   a. No formal policy on climate change
   b. Yes, the policy addresses climate change in general
   c. Yes, the policy addresses climate change and specifically addresses:
   ☐ aligning the investments with the 2°C target
   ☐ aligning the investments with the 1.5°C target
   ☐ investing in climate change mitigation
   ☐ the (long-term) risks posed to the investments by climate change
   ☐ investing in adaptation to climate change

5. ***Have you set carbon emission reduction targets?***
   a. No targets on carbon reduction
   b. Yes, we have set carbon targets for our listed equity portfolio
   c. Yes, we have set carbon targets for listed equity and for other asset classes. Please specify...

6. ***Have you set targets (other than carbon reduction targets) to align the investments with the Paris Agreement climate goal?***
   a. No, we do not have any other targets on climate change besides carbon reduction targets
   b. No, but we are in the process of developing them
   c. Yes, we have one other target. Please specify…
   d. Yes, we have multiple other targets. Please specify...

7. ***Does your pension fund exclude companies because of climate change?***
   a. No
   b. Yes, please specify how:
   ☐ companies are demonstrably excluded based on climate change criteria
   ☐ a sector is excluded based on climate change criteria

8. ***Does your pension fund integrate climate change in the interaction with asset managers?***
   a. No
   b. Yes, please specify in which parts:
   ☐ manager selection and appointment
   ☐ manager engagement
   ☐ manager monitoring and evaluation
   c. Not applicable, because we do not have an external asset manager

9. ***Has your pension fund earmarked funds for climate change mitigation, and if so, have you made investments from this fund in the reporting year?***
   a. No
   b. Yes, we have earmarked investments in:
   ☐ renewable energy
   ☐ energy efficiency
   ☐ fuel switch
   ☐ cleantech R&D
   ☐ other, please specify…

10. ***Has your pension fund earmarked funds for climate change adaptation, and if so, have you made investments from this fund in the reporting year?***
   a. No
   b. Yes, we have earmarked investments for climate change adaptation
   Please indicate the approximate percentage, (+/- 1%) of total AuM of asset owner, of these investments (3,1 and 3,2) combined.

11. ***Has your pension fund measured the risks resulting from climate change to its portfolio? If so, has your organisation taken action to mitigate these risks?***
   a. No
   b. Yes the risks are measured, but no actions have (yet) been taken to mitigate these risks
   c. Yes, our investments are subject to:
   ☐ adjustment to investments in companies that are low carbon or have low carbon strategies
   ☐ exclusion of or divestment from fossil fuels or related businesses
   ☐ hedging of potentially stranded assets
   ☐ hedging physical climate change risks (e.g. damage resulting from flooding, droughts, storms, etc.)
   ☐ other, please specify...

**12.** ***Does your pension fund measure the carbon footprint of its investments?***

a. No
b. Yes,
☐ for our listed equity portfolio
☐ for our fixed income portfolio
☐ for our real estate portfolio
☐ for our private equity portfolio
☐ for our other asset classes. Please specify…

**13.** ***If your pension fund measures its carbon footprint, what percentage of AuM is covered by this analysis?***

a. We have not conducted a carbon footprint analysis
b. <25%
c. 25% - 50%
d. 50% <

**14.** ***On what topics does your pension fund engage with investees regarding climate change?***

a. No engagement on climate change
b. Yes, we engage on:
☐ carbon disclosure by investees
☐ emission reductions by investees
☐ action by the investee to realise emission reductions in its value chain (upstream and/or downstream)
☐ reducing (physical) risks of climate change.
☐ requiring investees to focus on innovation /climate change solutions
☐ requiring investees to end certain carbon intensive business activities
☐ other, please specify..

**15.** ***Have you filed or supported shareholder resolutions in favour of addressing climate change over the last reporting year (either alone or in collaboration with other organisations)?***

a. No
b. Yes, one. Please specify…
c. Yes, multiple. Please specify…
d. Not applicable, because we do not invest in listed equity

16. ***Indicate whether your climate change policy documents (if any) are publicly available.***
    a. No
    b. Yes

17. ***Indicate whether your pension fund proactively discloses information to the public on any of the following climate change topics:***
    a. Portfolio exposure to climate risks
    b. Carbon footprint of portfolio
    c. Investments in energy transition
    d. Investments in adaptation
    e. Exclusions/divestments from fossil fuels or high carbon investments
    f. Other, please specify…

18. ***Indicate if the public statements on climate change and carbon measurement are verified by an independent and external auditor?***
    a. No
    b. Yes

19. ***Indicate any best practice on climate change in your organisation.***

**The Paris Agreement, where it was agreed to keep global warming 'well below' 2°C**

compared to pre-industrial times, caused momentum for investors to decarbonise their portfolios, or at least to investigate their carbon risk exposure more specifically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