Climate report 2019

AP3 Third Swedish National Pension Fund

ASSET MANAGEMENT ACROSS GENERATIONS

AP3's report on climate change risk 2019

The Paris Agreement set a long-term goal to keep the rise in global temperature below 2°C while mandating efforts to limit the increase to 1.5°C. AP3 supports the TCFD and its global recommendations on increased transparency in the reporting of climate-related risks and opportunities. The recommendations aim to make businesses more aware of climate-related risks as a route to mitigating them, and to help investors to make more informed investment decisions.

In June 2019, the Task Force on Climate-related Consulting Disclosures (TCFD) published its recommendations on the disclosure of information about the financial impact of climate risk.[1] The recommendations apply to all types of organisations and include sector-specific guidance for capital owners and asset managers. The primary recommendations cover:

- Governance of climate-related risks and opportunities.
- Strategy on how current and future potential climate-related risks and opportunities can be incorporated into business operations, strategy and financial planning.
- Risk management relating to the processes used to identify, assess and manage climate-related risks and opportunities.
- Metrics and targets used to assess and manage relevant climate-related risks and opportunities.

The Third Swedish National Pension Fund (AP3) has over the years developed a process to incorporate climate-related risks and opportunities in its asset management operations. The Fund has also begun implementing the TCFD's recommendations in its investing activities. In 2019 AP3 mapped relevant climate-related risks and conducted a study to quantify them. Full compliance with the TCFD recommendations and complete alignment of the portfolio with the Paris Agreement are long-term commitments that will take time to achieve.

AP3 supports the TCFD recommendations and believes all types of organisation can use them. The recommendations increase corporate transparency and give investors the information they need to assess climate-related risks and opportunities in the businesses they invest in. The recommendations are thus an excellent tool for describing and communicating AP3's engagement with climate-related issues. We encourage investee companies and external managers that the Fund work with to use them.

1 **https://www.fsb-tcfd.org/publications/**

This section describes how AP3's management evaluates and manages climate-related risks and opportunities at portfolio level and also explains the board of directors' overview of climate-related issues.

Governance of climate-related risks and opportunities

AP3 is a state pension fund that differs from other government bodies in that it is regulated by an act of Parliament, the National Pension Insurance Funds Act, and operates independently from central government. The National Pension Funds Insurance Act was amended on 1 January to mandate AP3 and the other AP funds to prioritise sustainability in their asset management. The amended act also introduced new rules giving the funds greater scope to invest in illiquid assets.

AP3's operations are regulated by law

AP3, along with its fellow AP funds AP1, AP2 and AP4, is tasked with managing its assets so as to generate maximum benefit for Sweden's income-based retirement pension system. The overall level of risk in the funds' investments should be low. At any given level of risk, the funds should invest their assets to obtain high long-term returns. The funds should manage their assets responsibly through responsible investment and actions. The funds should also work to promote sustainable development without compromising their goal of high investment returns. Moreover, the funds should work closely together to achieve excellence in responsible investment. In this regard, they operate joint guidelines and implement shared values for their asset management operations. The funds have also adopted joint practices on the disclosure of exemplary investment performance and guidelines governing assets that they should avoid.

The government appoints the AP3 board of directors and the board approves an annual plan based on the Fund's key internal policies.

The key policies are: the Policy on Internal Governance and Control; the Risk Policy; the Asset Management Investment Guidelines; Targets and Asset Management Principles; the Internal Audit Policy; the Corporate Governance Policy; the Guidelines for Ownership of Unlisted Real Estate Companies; and the IT Policy. In addition, the AP funds share various guidelines: core values for asset management operations, practices for reporting target fulfilment, and guidelines on assets to avoid.

The board of directors annually determine a long-term static portfolio, the LSP is used in the analysis of the AP3's evaluation model. The LSP is used in the analysis of the investment strategy and examines whether diversification and dynamically managed risk succeed in generating long-term value. The LSP is a simple portfolio of liquid assets. The board also approves the LSP's benchmark indices.

Management's governance of climate-related issues

Sustainability-related issues – including environmental and social protection, corporate governance and business ethics – are integrated in AP3's operations, both organisationally and in day-to-day asset management. The Fund upholds various goals and principles, including the Global Compact, the UN Sustainable Development Goals and the Swedish Parliament's Generation Goals (which guide environmental policy and management at all levels of society).

Sustainability work is formalised, based on fundamental principles, fully integrated and forward-looking. It is a process which over time drives greater insight and knowledge about how sustainability-related issues can impact AP3's investments and returns both positively and negatively. This process increases the scope to integrate sustainability operationally, to improve risk management, to make corporate governance more effective and to identify new investment opportunities.

The asset management department has a sustainability team consisting of two people who work closely with all portfolio managers to advance the sustainability agenda and develop the Fund's processes in corporate governance, integration and risk management. The asset management has an Advisory Group for Sustainability (AG Sustainability), which directly involves fund managers in sustainability-related issues. The main focus is on sustainability-related issues in investee companies and sustainability risks and opportunities of which the asset management department and fund managers should be aware in the investment process. The group also discusses approaches to a range of sustainability topics, with climate-related issues in focus. The group brings together managers from across the asset management department, along with the Heads of Asset Management, Portfolio Risk and Strategic Allocation, to discuss relevant matters and to recommend decisions on portfolio exposure.

Management informs the board about the Fund's sustainability- and climate-related work on an ongoing basis. The asset management department identifies and analyses sustainability-related investment opportunities. Identified investments are handled in accordance with the standard investment process.

This section discloses the current and future impact of climate-related risks and opportunities on AP3's business operations, strategy and financial planning. AP3 identifies risks and opportunities and describes them based on the Fund's investment strategy.

Strategy

Climate change is a challenge that demands a transformation in global resource use. AP3's climate strategy addresses key areas and applies concrete goals that reflect the reality that investing in certain asset categories can make a meaningful contribution to reducing climate-related risk and promoting sustainable development. The strategy manages the risks and opportunities that climate change creates.

- In its listed portfolio, AP3 encourages investee companies to measure their carbon footprint and to adapt and develop their operating activities to reduce it. AP3 engages primarily with investees in industries with relatively high carbon emissions, notably the energy, materials, industrial goods and power generation sectors.
- AP3 also invests in companies and products that help to mitigate climate impacts. Green bonds and timberland are examples of these investments. Forests store carbon, making them a valuable asset in the fight against climate change. A study of the Fund's 140,000 hectares of forest has shown it to act as a vast carbon sink. Indeed, the annual growth of AP3s forests stores as much carbon dioxide as all the Fund's equity portfolio investees emit together.
- AP3 has consciously decided to refrain from investing in companies and sectors with major negative climate impacts, notably the coal and oil sand industries. This is a business decision, though generally AP3 do not approach climate change by divesting companies that pose climate-related challenges as AP3 do not believe this is the most effective solution to the issue.

Sustainability goals – climate change in focus

In 2015 AP3 adopted concrete climate goals for the first time, thus raising the ambitions in the field of sustainability. The goals highlighted areas where AP3 is well placed to exercise a positive influence and by the end of 2018 they were met. The carbon footprint of the listed equities and credit portfolios was halved. The strategic sustainable investments doubled and holdings in green bonds tripled. Moreover, the real estate portfolio is leading the transition to sustainability in the Swedish property sector.

The goals have helped to spur the internal sustainability work and to build stakholder trust in efforts the Fund do. Building on our existing ambitions in the climate arena, AP3 have adopted three new goals for the 2019-2025 period.

Scenario-based analysis shows AP3's climate risk to be manageable

AP3 has analysed and quantified the climate-related risks in its investment portfolio, focusing on the risks relating to the transition to sustainability in the next decade or so rather than on the physical risk of any failure to achieve climate goals. The complex interplay between businesses, policymakers and consumers gives rise to an infinite range of potential scenarios regarding if, how and when climate goals will be reached. It is therefore necessary to simplify the scenario, and AP3 does this by focusing on the most easily quantifiable parameter: greenhouse gas emissions. Analysis is based on the main scenario of the Intergovernmental Panel on Climate Change (IPCC) – reducing net carbon dioxide emissions from the current level of around 50 billion tonnes to zero by 2050. Achieving this is imperative to limit the global temperature warming to 1.5 degrees.

The analysis makes a core assumption that all costs for greenhouse gas emissions fall on the emitter. So far, the most effective solutions that have been proposed are government-backed emissions trading schemes or a global carbon tax. In an investment context, climate transition or carbon risk arises primarily for AP3 in equities, where the costs of emissions trading and stranded assets affect the financial outlook for many companies in multiple sectors. The risk is much lower in other asset categories. Indeed, some – such as timberland – may instead be positioned for higher potential returns.

At present, the average cost of 1 tonne of carbon dioxide in the global market is about 20 euros. In AP's baseline scenario, the marginal cost of reducing carbon emissions will decide the price. The substitution options available to businesses, combined with energy agency forecasts for the oil and gas industry, suggest an equilibrium market price of around 50 euros per tonne in 2030. However, the price may turn out to be higher if technology, resource utilisation and policy measures are insufficient or take too long to implement. In a more challenging scenario, the cost could rise four-fold to 200 euros per tonne.

AP3 has included all asset categories in its scenario analysis. For equities, we estimate that the negative cash flow impact of a gradual increase in the cost of carbon will reach its full impact in the income statement within 10 years. At the aggregate level, the present value of the impact on cash flow is minus 3-4% in the baseline scenario and minus 7-10% in the challenging scenario. As a whole, the projected climate-related risk for the equity portfolio in the baseline scenario is a negative return of 2-3% or 25 basis points per year until 2030. In the challenging scenario, the negative return almost doubles.

In bonds, sustainability risk is seen as very low. AP3's government bond holdings are largely in countries that are comparatively well placed in the transition to a low-carbon environment. Resilient fiscal frameworks, political will, robust macroeconomic conditions and low fossil fuel dependency are key factors in this context. Europe – and notably Sweden – is a leader when it comes to these factors, while emerging markets continue to lag some distance behind. The Fund's fixed income portfolio will make an increasingly significant contribution to the sustainability shift in the coming decade. This is reflected in AP3's ambition to expand significantly its already-large portfolio green bond portfolio significantly by 2025.

AP3 foresees a probable increase in **credit** premiums as a result of climate-related risk. Some sub-sectors and issuers are likely to see their credit worthiness drop from investment grade to a riskier high-yield rating. The sector structure of AP3's internally managed credit portfolio differs considerably from the credit market index due to its lower exposure to the heavy industrial, energy and commodities sectors, which have an understated climate risk premium.

In **real estate,** the transition to sustainability presents more of an opportunity than a threat for AP3. Vasakronan, the Fund's largest real estate portfolio company, incorporates climate neutrality in its business strategy, achieving income and cost benefits as a result. Long-term physical threats to property do exist in specific geographic areas but are unlikely to be felt in the current decade and are thus beyond the primary scope of this report.

Urban growth, building new capacity in renewable energy, and transport system modernisation will require enormous investments in the coming years, creating substantial investment opportunities. The role of central government in financing these programmes will be limited by rising welfare costs stemming from demographic factors. As a result, the private sector will need to provide finance. In **alternative investments**, infrastructure will play a key role in finding solutions to social investment needs. This will create opportunities for AP3 to allocate capital to real assets with excellent diversification potential.

Climate-related risk is incorporated into the price of **ILS** (insurance-linked securities) and partly determines the return to investors. New climate patterns have the potential to change the parameters for ILS, yet AP3 believes that these assets will continue to generate value despite the emergence of new weather-related risks.

The Fund estimates the equity portfolio's carbon footprint at around 1.1 million tonnes per year. AP3s substantial **timberland holdings**, totalling 140,000 hectares, store 20 million tonnes of carbon dioxide. The net annual growth of these forests reduces atmospheric carbon emissions by around 1.5 million tonnes per year. The annual growth of AP3's forests stores more carbon than the carbon emissions of all portfolio investees combined. The fund are not, however, satisfied with this and aim to halve the carbon footprint by 2025.

Assuming that the transition to sustainability proceeds sufficiently fast, thus averting the need for more aggressive remedial measures, the belief is that the climate-related risk in AP3's portfolio is manageable.

This section describes how AP3 identifies, evaluates and manages climate-related risks and opportunities and integrates them in the risk management process. As an asset manager, AP3 has a responsibility to disclose its engagements with investee companies and how the portfolio is positioned for the transition to a low-carbon economy.

Risk management

AP3s sustainability strategy is fully integrated into asset management and is aligned with the funds mission to generate strong returns for the pension system. This means considering environmental, social and governance aspects in our investment decisions.

AP3 continuously screens the portfolio to identify companies that fall short of the standards we expect, especially in climate-related issues. In 2016 we set up an internal sustainability Advisory Group was set up in which AP3 fund managers meet to discuss sustainability risks identified in the portfolio holdings. The fund managers discuss the risks that arise in specific companies and sectors and exchange knowledge to facilitate the optimum management of identified risks.

AP3 has for several years mapped and analysed portfolio climate risk, especially for the listed equity portfolio. The Fund´s view is that the price of renewable energy will gradually approach the price of fossil-based electricity has conditioned the approach to investing in energy companies with strong exposure to fossil fuel sources. A couple of years ago AP3 decided to terminate our investments in companies and sectors with large climate footprints, notably in the oil production and oil sand sectors.

Climate risk analysis evolves over time

AP3's internal process for managing sustainability risks is a work in progress and evolves over time. The approach is based on the TCFD's categorisation of potential climate-related risks into transition risks (Table 1A) and physical risks (Table 1B). Transition risks can include potential opportunities, and examples of these are shown in Table 2. The current approach focuses exclusively on listed equities, but the TCFD framework could in future be expanded to other asset categories.

Tables 1 and 2 report climate-related risks and opportunities using the TCFD structure and disclose their potential financial impact on AP3.

Proactive engagement with investees

The Fund's decision to withdraw from investing in companies with major exposure to fossil fuels was taken on financial grounds. AP3 do not generally approach climate change by divesting from companies that face climate-related challenges as AP3 do not believe this is the most effective solution. Instead, the Fund try through active stewardship and engagement to influence investees to embrace positive change. This is primarily about convincing companies to measure their carbon footprint and adapt their operating activities to reduce it. In 2016 AP3 engaged with more than 100 investee companies with the highest carbon exposure in the portfolio. These contacts are ongoing and aim to persuade the companies concerned to transition to a low-carbon economy.

This section describes and discloses the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Metrics and targets

AP3 has focused on identifying key metrics for climate-related risks and opportunities in the listed equity portfolio. This is because listed equities account for around 45% of the Fund capital and are also the asset category that offers the best access to relevant data. In evaluating and managing climate-related risks and opportunities, the Fund uses the indicators available in MSCI ESG Manager.

AP3's climate impact steadily falling

Measuring carbon footprint gives crucial insight into portfolio climate risk and serves as the basis for our engagement with investee companies. AP3 has have measured and disclosed the carbon footprint for the listed equity portfolio annually since 2014. In 2015 all the AP funds agreed to use the same method and selected three core metrics based on the size of the funds' equity holdings. Since 2017 these disclosures have followed the TCFD by including carbon intensity as a weighted average. AP3 discloses carbon footprint based on TCFD Scope 1 and Scope 2, for which there is good data coverage. As of 2018 the Fund also measures carbon footprint based on TCFD Scope 3, but does not report these figures because they are subject to considerable uncertainty.

Our measurements show that AP3's carbon footprint has been falling steadily for a number of years, a trend that continued in 2019. Since 2014, the Fund's carbon footprint has fallen by circa 35% in absolute terms and at 31 December 2019 it was 49% lower than the benchmark global index. As a weighted average, carbon footprint was more than 50% below that of the global index.

Carbon footprint of AP3 listed equity portfolio[1]	**2019**	**2018**	**2017**	**2016**	**2015**
Equity portfolio's absolute greenhouse gas emissions (million tonnes of CO_2e)	1.1	1.1	1.2	1.2	1.4
AP3 vs MSCI ACWI (%)	-49%	-48%	-45%	-47%	-44%
Change in portfolio's total carbon emissions from prior year (%)	1%				
– change due to changes in portfolio holdings (% points)	2%				
– change due to shifts in investee emissions (% points)	-1%				
Relative carbon emissions (tonnes CO_2e/SEK million)	7.4	9.7	9.4	10.2	12.2
Carbon intensity (tonnes CO_2e/SEK million)	13.6	15.1	15.7	15.9	18.5
Portfolio weighted carbon intensity (TCFD) (tonnes CO_2e/SEK million)	9.3	13.2	14.8	-	-
Change in portfolio's carbon intensity (TCFD) from prior year (%)	-30%				
– change due to changes in portfolio holdings (% points)	-19%				
– change due to shifts in investee emissions (% points)	-11%				
Market value of AP3 portfolio covered by CO_2e data (SEK billion)	144.6	108.9	126.1	120.5	141.4
Percentage of share capital for which data exists (%)	82%	78%	83%	78%	81%

1) Total carbon emissions. Total of equity share of each investee plus relative share of carbon emissions.
2) Relative carbon emissions. Total of equity share of each investee plus relative share of carbon emissions.
3) Carbon intensity. Total of equity share of each investee as a ratio of investee's total revenue.
4) Portfolio weighted carbon intensity (TCFD). Total of investees' carbon intensity (emissions relative to revenue) weighted by each investee's share of portfolio.

Sources: Trucost and AP3

Forest holdings vital for lower climate footprint

The first measurement of the listed equity portfolio's carbon footprint found it to be largely carbon-neutral. This was due to the Fund's large timberland holdings. AP3 owns forests in Sweden, North America, Latin America, Africa and Asia. Holdings are concentrated in a group of around 10 timberland funds, though AP3 also have direct investments.

As a long-term investment, forests are an excellent fit for the AP3 portfolio. They take decades to grow and as they do so they store carbon dioxide independently of the business cycle, which helps to stabilise portfolio returns from year to year. Indeed, the portfolio is equipped to deliver returns even if climate scenarios turn negative. Increased atmospheric carbon and higher temperatures due to global warming can be expected to promote faster tree growth, including in Swedish forests. Forests are the long-standing source of raw material for the pulp and timber industries and remain so today. New segments such as wood chips, biofuel and new alternative materials are also emerging. By working closely with strategic partners, AP3 can help to provide sustainable wood-based products to the industrial sector.

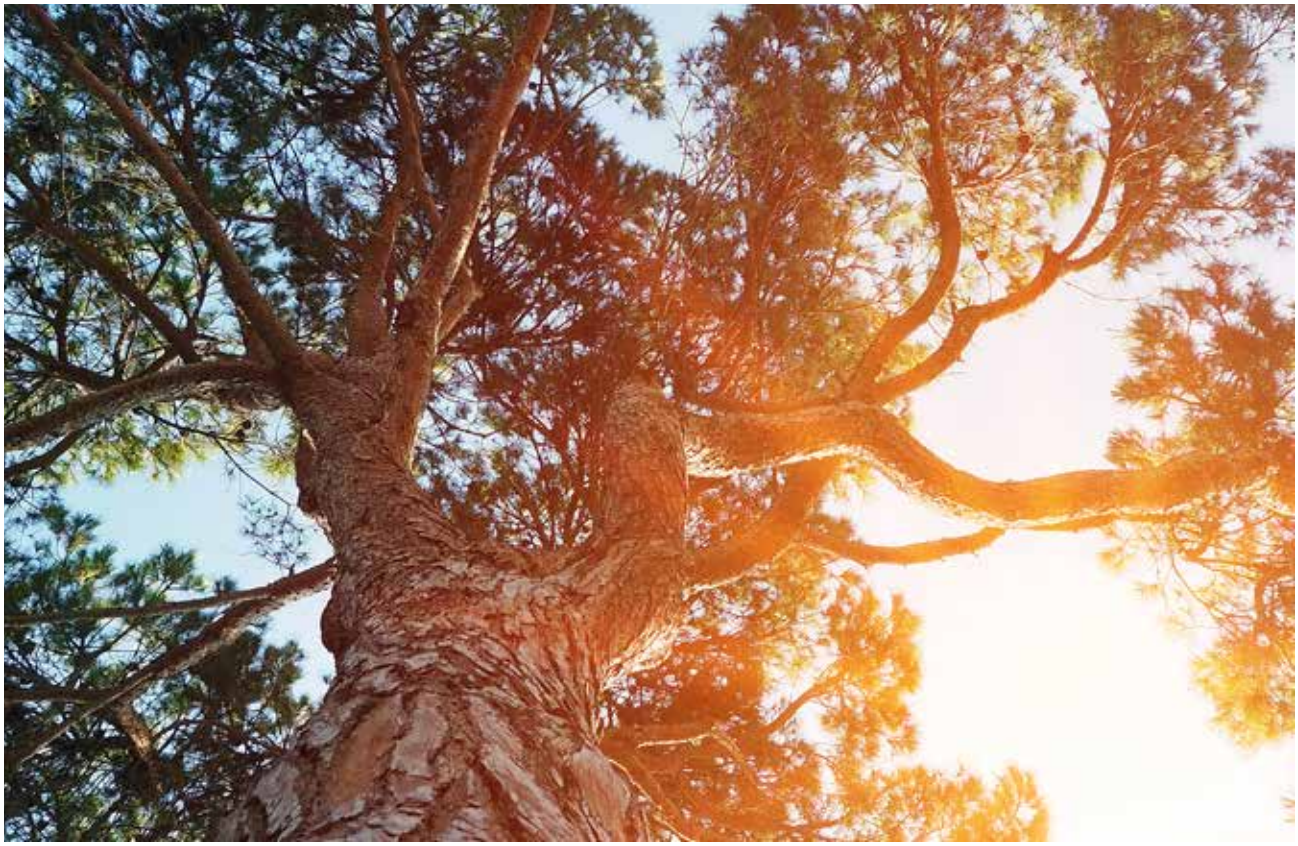
All AP3 Timberland holdings are certified by the Forest Stewardship Council (FSC), an organisation which verifies that the forests are managed sustainably. The AP3 timberland portfolio plays a significant role in reducing the Fund's carbon footprint and climate impact because forests store carbon dioxide. Analysis of our 140,000 hectares of forest holdings shows that they store around 20 million tonnes of carbon. The annual growth alone of these trees stores as much carbon as all the investee companies in our equity portfolio emit together.

Sustainability goals – climate change in focus

The AP3 climate strategy involves setting clear sustainability goals for the portfolio. AP3 see this as the best way to ensure our investments have maximum impact. In 2015the Fund adopted concrete climate goals for the first time, thus raising the ambitions. The goals were: to halve the carbon footprint of the listed equity and credit portfolios by 2018 versus the 2014 level; to double strategic sustainable investments from SEK 10 billion to SEK 20 billion; to more than triple investments in green bonds from SEK 4.5 billion to SEK 15 billion; and to lead the transition to sustainability in the Swedish property sector through owned real estate companies.

All these goals had been achieved by the end of 2018 and the Fund has since adopted new goals. Performance against them is being monitored and measured in line with our long-term strategy.

The three goals are for the period 2019 to 2025 and build on the existing ambitions in the climate arena. Read more about them on page 18 of the 2019 Annual Report.



TCFD compliance and future efforts

AP3 supports the TCFD recommendations and believes they can be used by all types of organisation. The recommendations increase corporate transparency and give investors the information they need to assess businesses' climate-related risks and opportunities. They also provide an excellent way to describe and communicate AP3's engagement with climate-related issues. AP3 encourage investee companies and external managers that we work with to use them.

AP3 considers that the Fund's executive management is well positioned to evaluate and manage climate-related risks. The Fund also believes it has an effective process for informing the board of directors about sustainability- and climate-related strategies and that it meets the TCFD's recommendation on board oversight.

AP3 has evaluated its investment strategy using a scenario-based analysis of the climate transition. Assuming that the transition to sustainability proceeds sufficiently fast, thus averting the need for more aggressive remedial measures, we believe that the climate-related risk in AP3's portfolio is manageable. AP3s efforts in this area will continue to evolve.

Building on our existing climate-based ambitions, the Fund has adopted three new goals for the 2019-2025 period. AP3 see these goals as driving our internal sustainability efforts. They also raise public confidence in all the Fund's activities in this field.

AP3 has elected to cease investing in certain companies with especially large exposure to fossil fuels. Generally, however, the Fund does not seek to divest from companies that face climate-related challenges as the belief is that this is not the most effective solution. AP3 prefers to influence investees through active stewardship and engagement to embrace positive change. The dialogue process with investees is ongoing and will in some cases intensify as part of the Climate Action 100+ initiative, in which AP3 is an active participant.

Table 1A. Examples of transition risks (adapted from TCFD, Table A1)

Transition risks	Potential financial impact on investee companies	Potential financial impact on AP3
Policy and legal		
• Increased pricing of greenhouse gas emissions and/or energy • Enhanced climate-impact obligations • Mandates on and regulation of products and services • Exposure to litigation	• Increased pricing of greenhouse gas emissions • Enhanced emissions-reporting obligations • Increased standards or regulations for existing products and services • Exposure to litigation (lawsuits)	Increased carbon prices, greater climate-related regulation and enhanced climate reporting obligations are financially positive for AP3 as a universal owner. The challenge for AP3 is to identify which asset categories, sectors and companies will be the winners and losers as regulatory requirements intensify.
Technological		
• Substitution of existing products and services with low-carbon options • Unsuccessful investment in new technologies • Costs to transition to low-carbon technology	• Capital losses from write-offs and early retirement of existing assets • Reduced demand for existing products • Research and development expenditures in new and alternative technologies • High transition costs • Costs to adopt and deploy new practices and processes	The speed of transition is crucial to the financial valuation of fossil energy reserves and of companies with assets that depend on fossil energy to produce their products and services. The challenge for AP3 is to evaluate which technologies will succeed and at what rate and to project how new technologies will impact on asset categories, business sectors, companies and equities.
Market		
• Changing customer behaviour • Uncertainty in market signals • Increased cost of raw materials	• Reduced demand for goods and services from shifts in consumer preferences • Increased input prices and higher costs of waste management • Abrupt and unexpected shifts in energy costs • Changes in how companies can charge their customers • Repricing of assets (e.g. fossil fuel reserves, land valuations, security valuations)	Technological and market risks and opportunities are interconnected. The transition will cause shifts in consumer behaviour which may reflect changing preferences as well as technological changes. The challenge is the same as for technological risks.
Reputation		
• Shifts in consumer preferences • Stigmatisation of sectors • Increased stakeholder concern or negative stakeholder feedback	Reduced revenue from: • decreased demand for products and services • decreased production capacity (e.g.delays) • negative impacts on workforce management (e.g. employee attraction and retention)	Companies can create shareholder value by strengthening their brands. It is important that companies and funds in the AP3 portfolio do not act in contravention of conventions and commitments signed by Sweden. For AP3, it is of primary importance to manage pension assets in a way that maintains or strengthens public trust in the pension system.

Table 1B. Examples of potential physical climate-related risks (adapted from TCFD, Table A1)

Physical climate-related risks	Potential financial impact on investee companies	Potential financial impact on AP3
Acute		
• Increased incidence of extreme weather events	• Reduced revenue from disruption to production (e.g. transport difficulties and supply chain interruptions) • Reduced revenue and higher costs from negative impacts on workforce (e.g. health and safety, absenteeism) • Write-offs and early retirement of existing assets (e.g. damage to property and assets in high-risk locations) • Increased operating costs (e.g. inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants) • Increased capital costs (e.g. damage to facilities) • Reduced revenue from lower sales or output • Increased insurance premiums and potential for reduced availability of insurance on assets in high-risk locations	Physical climate-related risks have the potential to affect all asset categories, but the risk is probably greatest for conventional real estate and for forests and agricultural land. Physical climate-related risks are significant for AP3's investments in insurance-linked securities.
Chronic		
• Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels		

Table 2. Examples of potential climate-related opportunities (adapted from TCFD, Table A2)

Climate-related opportunities	Potential financial impact on investee companies	Potential financial impact on AP3
Resource efficiency		
• Use of more efficient modes of transport • Use of more efficient production and distribution processes • Use of recycling • Move to more efficient buildings • Reduced water usage and consumption	• Reduced operating costs (e.g. through efficiency gains and cost reductions) • Increased production capacity, resulting in increased revenues • Increased value of fixed assets (e.g.highly rated energy-efficient buildings) • Benefits to workforce management and planning (e.g. improved health and safety, employee satisfaction) resulting in lower costs	It is positive for AP3 that investee companies address climate-related opportunities in a way that enhances shareholder value. The Fund can identify resource-efficient companies by integrating sustainability aspects into investment analysis and processes.
Energy source		
• Use of lower-emission sources of energy • Use of supportive policy incentives • Use of new technologies • Participation in carbon market • Shift towards decentralised energy generation	• Reduced operational costs • Reduced exposure to future fossil fuel price increases • Reduced exposure to greenhouse gas emissions and therefore less sensitivity to changes in cost of carbon • Returns on investment in low-emission technology • Increased capital availability (e.g. as more investors favour low-emission producers) • Reputational benefits resulting in increased demand for goods and services	
Products and services		
• Development and/or expansion of low-emission goods and services • Development of climate adaptation and insurance risk solutions • Development of new products or services through research and development and innovation • Ability to diversify business activities • Shift in consumer preferences	• Increase revenue through demand for lower emissions products and services • Increased revenues through new solutions to climate adaptation needs (e.g. insurance solutions) • Better competitive position to reflect shifting consumer preferences, resulting in increased revenues	
Markets		
• Access to new markets • Use of public-sector incentives • Access to new assets and markets needing insurance coverage	• Increased revenue through access to new and emerging markets (e.g. partnerships with governments and development banks) • Increased diversification of financial assets (e.g. green bonds and infrastructure)	
Resilience		
• Participation in renewable energy programmes and adoption of energy-efficiency measures • Resource substitution or diversification	• Increased market valuation through resilience planning (e.g. infrastructure, land, buildings) • Increased reliability of supply chain and ability to operate under different conditions • Increased revenue through new products and services related to ensuring resilience	