

2022

Annual Report

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The Fourth Swedish National Pension Fund's (AP4's) report for 2022 includes, apart from the annual report, also a business review with sustainability reporting and a fund governance report. AP4's sustainability reporting is based on the AP Funds' joint guidelines for reporting how the goal of exemplary management has been achieved. AP4 strives to follow the guidelines for sustainability reporting set out in the Swedish Annual Accounts Act. Figures in parentheses pertain to the preceding year.



The year 2022

2022 was a challenging year with a return of -11.9%. Over the time horizons of five and ten years, AP4 shows favourable annualised returns of 6.9% and 9.2%, respectively. Owing to our long-term approach we can bear risk in challenging times and find investment opportunities that generate high returns over time.

THE YEAR 2022

- KEY RATIOS
- LETTER FROM THE CEO
- MARKET DEVELOPMENT
- THE YEAR IN REVIEW

Key ratios

460.5

SEK billion in fund capital at year-end 2022.

-62.5

SEK billion in net result for 2022.

4.7

SEK billion, net, transferred from AP4 to the pension system in 2022.

7.4

SEK billion in new thematic sustainability investments in 2022.

-11.9

% return after costs. Over a ten-year measurement horizon, the return has averaged 9.2% per year.

-3.8

% active return. Over a five-year measurement horizon, the active return has averaged 1.5% per year.

0.08

% in total costs in 2022. Operating expenses amounted to 0.05%, and commission expenses amounted to 0.03%.

3

% lower carbon footprint in 2022 than in 2021. Since 2010 the portfolio's carbon footprint has decreased by 61%.

A dramatic year that entailed major financial turbulence

We entered 2022 with hopes for a successive return to a more normal world after two years that were strongly characterised by the pandemic. Unfortunately these hopes were abruptly taken away from us on 24 February with Russia's full scale invasion of Ukraine.

What we must mainly bear with us is the enormous human suffering that Russia's war on Ukraine has inflicted on the Ukrainian people. Also owing to the war, the global economy was not able to begin a well-needed normalisation following the pandemic; on the contrary, we have seen a marked deepening of several of the problems that the economy was already facing. The consequence is that many countries are now having to deal with macroeconomic challenges of a kind that we have not experienced since the 1970s through the problematic combination of more or less rampant inflation at the same time that economic growth is flattening.

The financial market's performance is a reflection of what is happening in the world, and the year's dramatic events have consequently given rise to considerable financial turbulence,

with rapidly rising interest rates and sharply falling values for most asset classes. There have been very few places "to hide", which means that 2022 will thus go down in history as one of the most troublesome years ever for broadly diversified pension funds of our type.

AP4's return for 2022 was negative, at -11.9%. This means that in terms of the return, 2022 was the third toughest year for AP4 since the start of the new pension system in 2001. Only 2002, the year of the IT crash, and 2008, the year of the financial crisis, have shown lower returns.

In this context, two things should be kept in mind however. First, AP4 needs a relatively high share of equities in its asset allocation to best fulfil its mission over the long term as a buffer fund in the income pension system. This means that we also need to be prepared for the

possibility of having comparatively large swings in our result from one year to another, and also to have an acceptance for large, negative results in individual years.

Second, AP4 is a very long-term investor that has the ability to bear investment risk in the form of a high equities allocation. If we just stretch out the time horizon a bit to include 2021, AP4's portfolio has generated a positive result of more than SEK 23 billion. If we stretch the time horizon out even slightly longer, to five and ten years, which are more relevant for a long-term investor like AP4, then we can report favourable portfolio returns of 6.9% and 9.2% per year, respectively.

Active management with long-term perspective

With the type of extraordinary and very uncertain markets that we experienced in 2022, it is

of central importance that AP4 manages to maintain a long-term perspective. Having said this, it is equally important to uphold the asset management organisation's flexibility to be able to quickly adapt the portfolio's risk to changed conditions. AP4 has also made significant adaptations of the investment portfolio.

In fact, this adaptation work was already begun prior to 2022, since for several years we have been working according to a main economic scenario that has entailed a normalisation of interest rate levels and a structurally elevated risk for higher inflation. In short it can be said that the ambition has been to try to maintain the portfolio's return potential as much as possible at the same time that we have strengthened our protection against a normalisation of bond pricing as well as rising inflation. A prime



In very uncertain markets it is important to have the determination to maintain a long-term perspective

Niklas Ekvall, CEO

example of the adaptation of our portfolio is that we have actively sought and have significantly increased the feature in our portfolio of investments with long-term reasonable, stable real cash flows.

Another good example is that, prior to 2022, we introduced what we call defensive equities as a new asset class in AP4's long-term allocation. More precisely, this asset class is a category of equities that is specially designed to have comparatively favourable qualities in a somewhat tougher economic environment of the character that now exists in our main economic scenario.

The adaptations that we have made of our investment portfolio over the long term have strengthened its robustness against certain features of what happened in 2022. However, it is also the case, of course, that the past year's major turbulence, spread across a number of distinct phases, continuously required a number of significant adjustments of the portfolio. So, for example, we entered 2022 with an overweight of equities which we sharply reduced in a first step in January and in a second step in connection with the outbreak of war, to thereafter actively manage the allocation toward equities in order to parry and try to capitalise on the year's very large market movements.

During the year we also continued

to strengthen the portfolio's characteristics in relation to the economic development by further increasing the allocation to defensive equities and real assets, but additionally also to companies that offer quality and value. In addition, the large, relative price changes between various assets classes during the year presented interesting opportunities to work actively with our currency positioning as well as with the duration of our fixed income portfolio..

Backlash for the climate transition, but with positive undertone

The steps taken in connection with the Climate Change Conference in Glasgow in November 2021 (COP26) gave some hope that the transition work would accelerate in a tangible way and gain considerable momentum in the following years. Unfortunately, 2022 could not live up to this cautiously budding optimism.

The Russian invasion of Ukraine exposed in a concrete way the vulnerability of the European energy system and the fact that many European countries' transition plans were based on unrealistic assumptions. Rather than future-oriented work, the focus during the past year was instead on "fixing and patching" the existing energy system in an effort to avoid a total energy collapse. Unfortunately



The mere ability to quickly and to a great extent increase the supply and accessibility of fossil-free electricity constitutes the actual precondition for being able to achieve the ambitious and necessary climate goals.

this has entailed an increased use of, from a climate perspective, worse fossil energy sources than Russian gas, and to some extent also a reversal of previous decisions coupled to the energy transition. All the worse, the climate summit in Sharm el-Sheikh in November 2022 (COP27) must also be regarded as a failure, as most of the discussions during the meeting focused on roadblocks and areas of conflict rather than on finding constructive paths forward to accelerate the necessary climate transition.

Despite the setbacks that we saw in 2022, I nonetheless feel some optimism that the transition going forward will experience renewed vigour. One reason for this is that the realisation in business and the financial sector of the necessity to drive the climate adaptation further strengthened and became broader during the past year.

Nor are positive signals from the political system lacking. The

short-term consequences of the war on Ukraine have thus far been negative, but hopefully the new situation can lead to greater political agreement and realistic consensus which in the next step can accelerate the work on transitioning to a future, fossil-free energy system. In this context I want to point to the gradually increased political understanding of the enormous amount of fossil-free electricity that needs to be produced, stored and distributed in a relatively very near future. The mere ability to quickly and vastly increase the supply and accessibility of fossil-free electricity constitutes the actual precondition for being able to achieve the ambitious and necessary climate goals, and at the same time be able to maintain a satisfactory standard of living to make the transition socially acceptable and thereby also politically feasible.

European Pension Fund of the Year

In addition to handling the day-to-day management of our portfolio in difficult conditions, we also continued to strengthen our operations in very many areas. The fact that our painstaking work and ambition to continuously develop our operations is generating results has been confirmed in an equally tangible and gratifying way in that in 2022 we were given the most

prestigious award as European Pension Fund of the Year in the award ceremony that is held every year by Investment & Pensions Europe (IPE). This and all the other distinguished awards that we have received over the years give us inspiration and motivation to tirelessly continue developing in order to uphold our position as an internationally leading pension fund.

In closing I want to express great thanks to all of the employees at AP4 for the responsibility you have shown, for your commitment, and for the dedication of purpose with which you have handled your work challenges during the year.

Stockholm, 23 February 2023

Niklas Ekvall
CEO

Market development

High inflation, declining growth and a tightening of monetary policy characterised 2022. Significant bottlenecks in global production chains during the recovery from the pandemic led to rising inflation in the latter part of 2021, which in 2022 reached levels in large parts of the world that we have not seen since the 1970s and '80s.

The large and fast changes of the inflation rate and the central banks' key lending rates, combined with geopolitical worries driven by Russia's invasion war in Ukraine, led to challenging market performance for both equities and fixed income assets during the year.

Central banks' tightening of monetary policy

Following a 2021 that was characterised by a recovery from the pandemic, underlying economic development in 2022 was affected by high inflation, the war in Ukraine and pandemic restrictions in China, among other places. GDP growth fell back to 3.5% in 2022 in the euro area and 2.1% in the USA, compared with 5.3% and 5.9%, respectively, in 2021. In China, too, growth slowed. In Europe and the USA, households were affected by a decrease in real disposable income at the same time that the job markets were strong. Moreover, the European economy was hit hard by rising energy prices. The Chinese economy was affected by

shutdowns related to Covid-19 and continues to experience problems coupled to the real estate sector.

Significant bottlenecks coupled to adaptation problems following the changes in consumption patterns that the pandemic led to contributed to high inflationary pressure in 2022. During the pandemic, consumption could be buttressed at a comparatively high level via various forms of financial support and stimulus measures at the same time that consumption patterns changed from services to products. We still find ourselves in a recovery phase, where the economy has still not managed to fully normalise following the strains it has been subjected to. Extensive transitional problems in the labour market and a large shortage of capacity in many value chains coupled to production and distribution of products – which have been further intensified by various types of pandemic-related restrictions – caused production losses and other forms of bottlenecks. Altogether

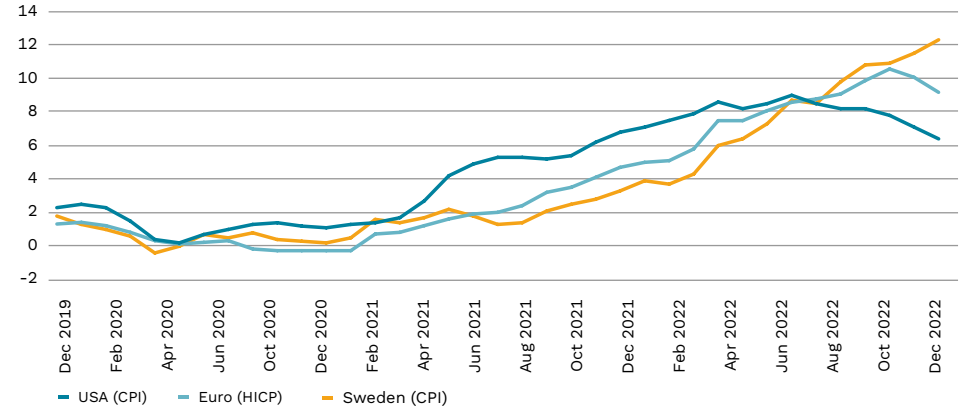
this contributed to an economic environment with strong inflationary tendencies.

The global tightening cycle that the central banks responded with has been powerful, and the speed of key interest rate hikes that this has entailed is high. The high inflation in 2022, combined with flattening economic growth, is presenting a huge challenge to the world's central banks, where the goal is to gain control over inflation and not least inflation expectations without at the same time exerting too much pressure on real growth and driving the economy into a deep and long recession.

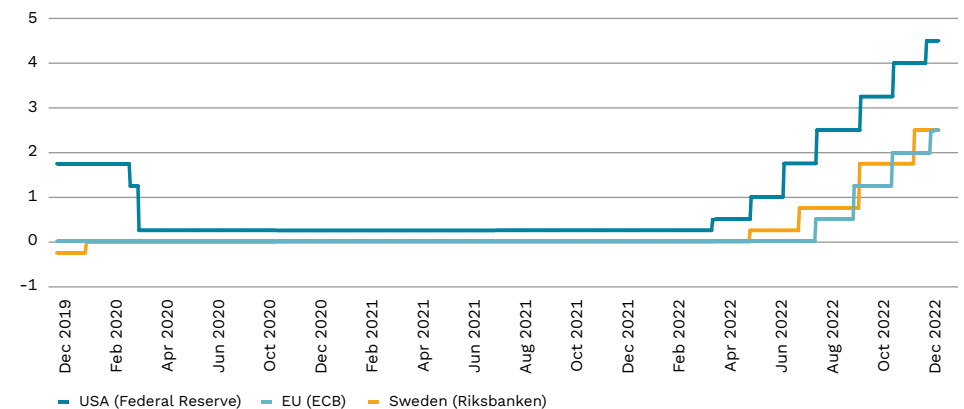
A new security policy order

Market performance in 2022 was also characterised by major geopolitical events, above all coupled to the full-scale invasion war that Russia started against Ukraine at the start of the year. The war has shaken the world view in many ways, and the implications for the world economy are many and tangible. The war has led to lower and uncertain

Inflation rate, %



Key lending rates, %



supplies of energy, grain, fertilisers, and numerous minerals and other input goods – supply disruptions that have further driven inflation and hampered the economy's recovery following the pandemic. Another consequence of the Russian invasion of Ukraine is that large parts of Europe have had to rethink their energy supply. To quickly reduce its dependence on Russian gas and oil, Europe will need to quickly adapt its current energy system and accelerate its work on transitioning to a future, fossil-free energy system. This will require very large investments. The changed security policy situation has also prompted many countries in Europe to revise their security policies and increase their defence spending.

Turbulent markets

Development in the fixed income and stock markets were very weak in 2022. Rising interest rates and falling stock markets presented challenges for traditional pension portfolios, where investments in government bonds in recent decades have normally contributed with positive returns on occasions when the stock market has been down, something that did not occur in 2022. AP4's global equity index fell 16% in local currencies at the same time that AP4's index for government bonds dropped by 8%. Market performance was volatile, however, with numerous, large upturns and



The market's performance will be determined to a high degree by how well the central banks succeed in their work on bringing down the rate of inflation without causing a deep economic downturn.

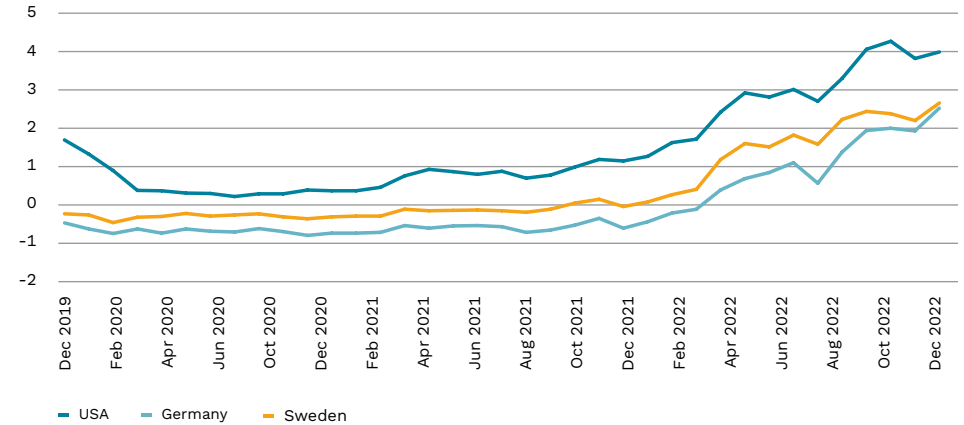
downturns in the world's stock exchanges along with major sector rotations during the year. Previous years' winners were hit hard by rising discount rates, and in the stock markets it was only the energy sector that stuck out with a positive return for the year. The fixed income and currency markets were also characterised by large movements, high volatility and even a shortage of liquidity during periods. On the currency side, the US dollar was the big winner with a strengthening by approximately 6% against the euro and by more than 13% against the Swedish krona in 2022. The Swedish krona's weakening was driven in large part by the market's expectation for lower key interest rate hikes in Sweden than in the surrounding world, falling stock markets and geopolitical concerns.

Better starting point for long-term investors

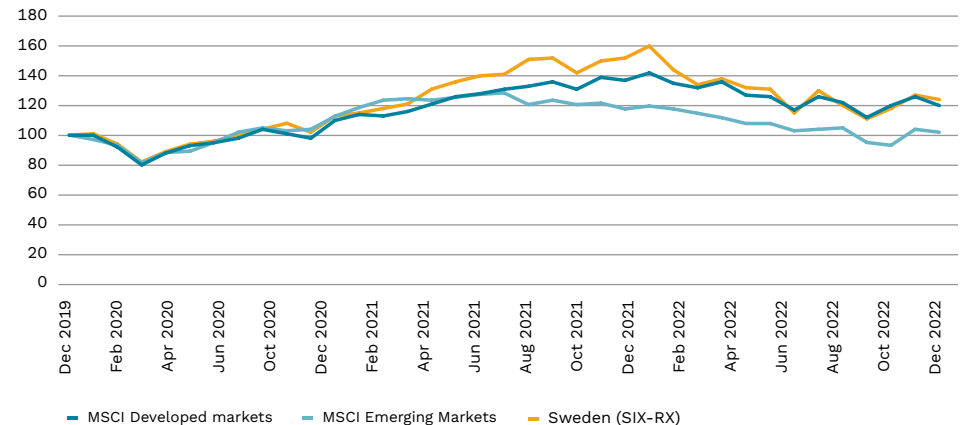
The world economy is expected to slow further during 2023, and the

likelihood of a recession is high. Inflation is expected to fall back, but remain higher than what we have grown accustomed to during the last ten years. The combination of falling growth and inflation above target levels presents a major challenge for the world's central banks, where the rapid interest rate hikes have not yet managed to bear full effect in the economy at the same time that the central banks are trying to curb inflation. The market's development will be determined to a high degree by how well the central banks succeed in their work on bringing down inflation without causing a deep economic downturn. The risk of the central banks acting too harshly is high, but there is also a risk that the tightening will be insufficient, which would give inflation a broader foothold. Continued volatile markets are expected, at least in the beginning of the year. The higher level of interest rates combined with lower valuations in the stock markets mean that our starting point at least for the longer term has improved as we head into 2023, since our long-term return expectations for both government bonds and equities have risen. Moreover, the higher level of interest rates means that there is potential for fixed income investments to once again serve as a diversification alternative in the event of larger declines in the stock market.

Bond loans 5 year, %



Stock markets, local currency



The year in review

Five-year-summary

	2022	2021	2020	2019	2018
Fund capital (SEK bn)	460.5	527.6	449.4	418.0	349.3
Net flows to the pension system (SEK bn)	-4.7	-7.5	-7.9	-6.5	-6.8
Net result for the year (SEK bn)	-62.5	85.7	39.3	75.2	-0.5
Return, total portfolio before costs (%)	-11.8	19.3	9.7	21.8	-0.1
Return, total portfolio after costs (%)	-11.9	19.2	9.6	21.7	-0.2
Active return, before costs (%) ¹	-3.8	3.5	2.4	4.4	2.3
Return, total portfolio after costs, (%) annualised 5 yrs	6.9	11.6	9.8	9.3	8.1
Return, total portfolio after costs, (%) annualised 10 yrs	9.2	11.8	9.7	9.9	9.9
Standard deviation total portfolio, ex-post (%) ²	9.4	6.1	13.6	5.3	6.4
Standard deviation total portfolio, ex-post, 10 yrs (%) ³	9.0	7.8	8.3	6.7	7.5
Sharpe ratio total portfolio, ex-post (%) ²	neg	3.2	0.7	4.2	0.1
Active risk ex-post, active management (%) ⁴	2.0	1.9	1.7	1.2	1.5
Currency exposure (%)	19.3	20.9	21.0	19.8	18.4
Asset management costs, excl. commission expenses (%)	0.05	0.05	0.06	0.06	0.06
Asset management costs, incl. commission expenses (%)	0.08	0.08	0.09	0.10	0.10

- AP4's operative portfolio is evaluated against a benchmark portfolio made up of a number of market indexes with set asset weights. The market indexes used are standardised and hedged to SEK in order to simplify and increase transparency. AP4 can use its tax status as a state pension fund, and during 2021 this gave a positive contribution of 0.15 percentage points (0.16). Active return is calculated as the difference in returns between the operative portfolio and the benchmark portfolio.
- Pertains to daily return data unless indicated otherwise.
- Pertains to quarterly data for total assets.
- Active risk, calculated as standard deviation, measured on a yearly basis, in the difference in the return between the operative portfolio and the benchmark portfolio.

AP4 has contributed to the pension system's long-term stability

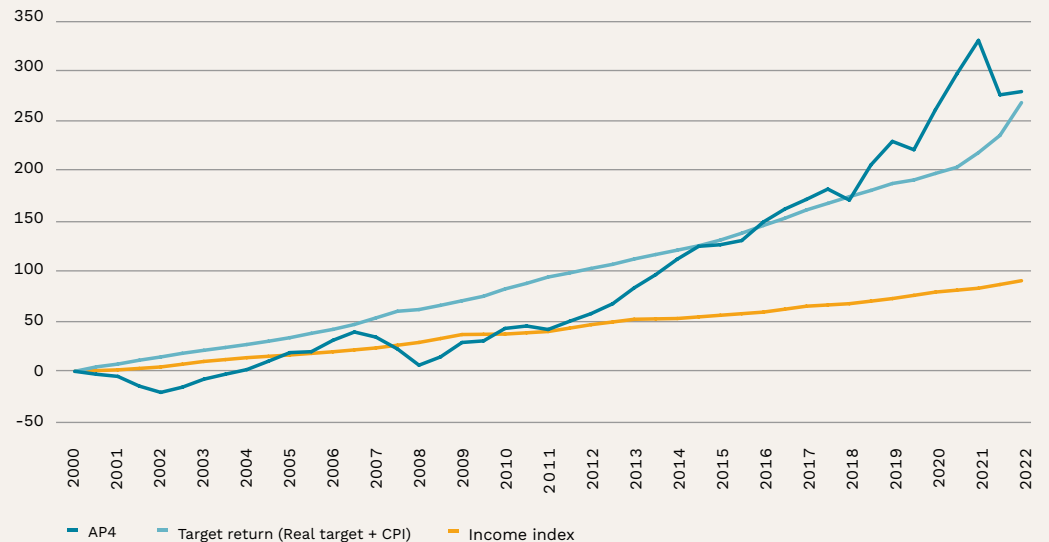
AP4's return after costs was -11.9% in 2022. The Board of Directors has set a real return target of 3% per year. Indexed for inflation the target was 15.7% for 2022, and the income index increased by 4.1% during the year. Weak stock markets and rising interest rates had a negative effect on AP4's return. At the same time, the high rate of inflation entails

that AP4's return target increased considerably expressed in nominal terms.

Since the start of the new pension system in 2001 AP4's return has exceeded the return target as well as performance of the income index. The annualised return after costs has averaged 6.3% since 2001, compared with the real return target which,

indexed for inflation, has averaged 6.1%. The income index has increased by 3.0% per year over the same period of time. AP4 has thereby achieved its mission to contribute to the long-term stability of the pension system. The pension system is also considerably stronger today than at its start in 2001.

Return after costs since start in 2001, %



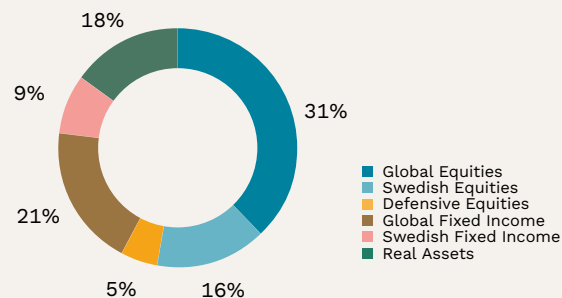
Asset allocation

Every three years AP4 conducts a long-term Asset Liability Management (ALM) analysis of the pension system's long-term need for a return over 40 years. Such an analysis was conducted most recently in 2020 and showed, among other things, that a suitable long-term equity allocation is considered to be in the range of 50%-70% of the portfolio, which is justified by a higher expected long-term return than for other asset classes.

In 2022 AP4 introduced a new asset class, Defensive equities, to the Dynamic Normal Portfolio (DNP), which is the benchmark

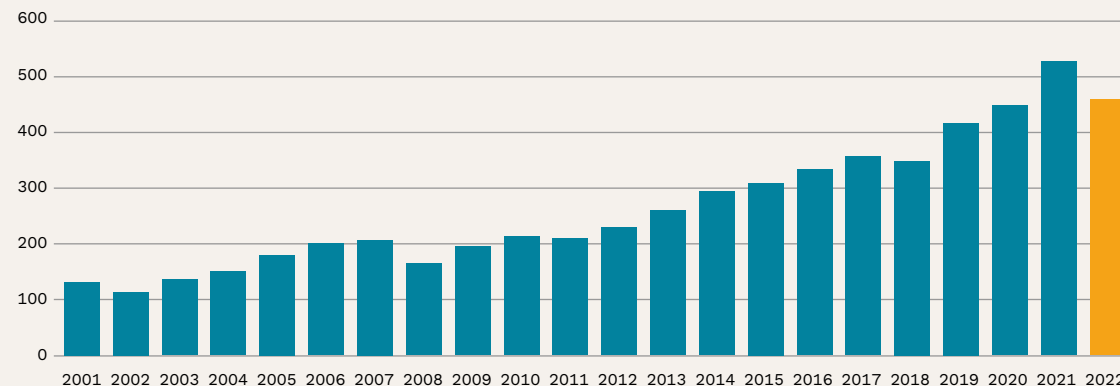
portfolio used for the operative asset management that the Board decides on. Defensive equities make up 5% of the DNP and were funded from the Global fixed income assets and Global equities asset classes. Defensive equities are weighted together in a different way than for a market-weighted index in order to achieve desired characteristics regarding the expected return and level of risk of this asset class. This new asset class is intended to add return potential, but also to have stabilising characteristics in a market environment in which the likelihood for negative market scenarios is higher.

Asset Allocation as per 31/12/2022



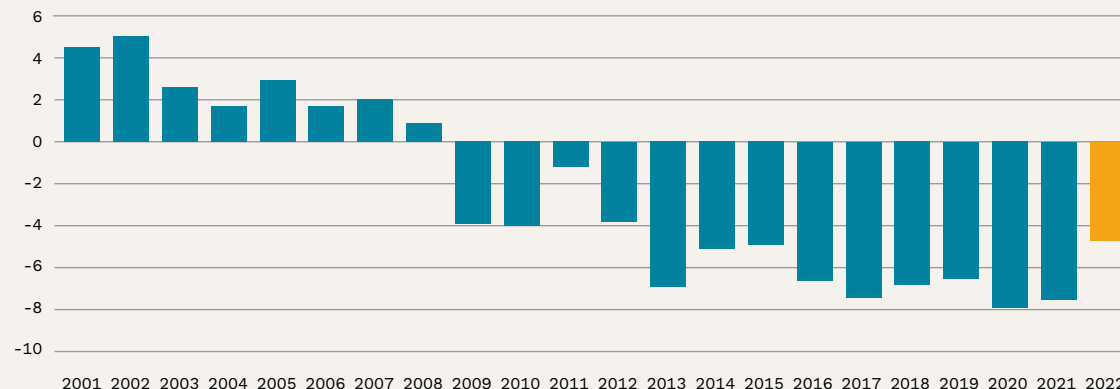
Fund capital and net flows to the pension system

Closing fund capital, SEK bn



AP4's closing fund capital decreased in 2022 from SEK 527.6 billion at the start of the year to SEK 460.5 billion as year-end. Fund capital has increased from SEK 134.0 billion since the start of the new pension system. This increase in fund capital has taken place at the same time that SEK 56.1 billion, net, has been paid out from AP4 to the pension system since 2001.

Yearly net flows to the pension system, SEK bn



In 2022 AP4 paid SEK 4.7 billion, net, to the pension system. Between 2001 and 2008 AP4 received yearly net inflows from the pension system. Thereafter, AP4 has made net payments to the pension system every year. These net payments amounted to a combined sum of SEK 77.3 billion for the years 2009 through 2022.

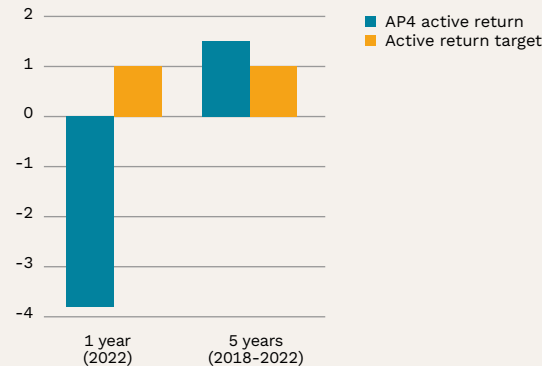
Active management gave negative contribution in 2022

AP4's active management reduced the portfolio's return for 2022 by 3.8 percentage points in relation to AP4's benchmark portfolio, the Dynamic Normal Portfolio (DNP), which is set by the Board of Directors. Measured over a five-year evaluation horizon for the asset management operations, the active return has contributed an average of 1.5 percentage points per year to the return, which is higher than the active return target of 1.0 percentage point per year.

During 2022, management of the real assets asset class made the

largest negative contribution to the active return. Real assets consist mainly of unlisted property companies and infrastructure investments, and these are measured against the CPI plus 3 percentage points. Against the backdrop of the high rate of inflation in 2022, the asset class's return target rose considerably to 15.7% for 2022, compared with an average of 7.1% per year during the last five years. Equities management made a negative active return contribution, while fixed income assets made a positive active return contribution for 2022.

Annual active return before costs, %



High cost-efficiency

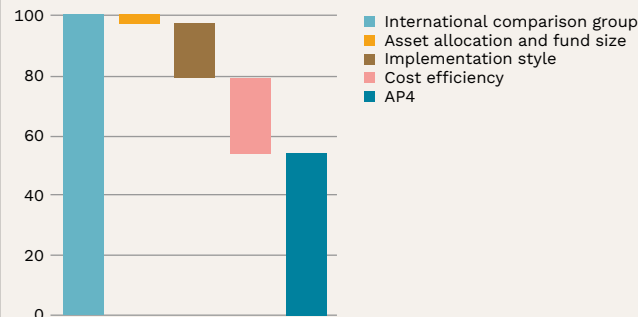
AP4 conducts cost-efficient asset management, with a cost level that is nearly half that of comparable pension funds. This is according to an international analysis conducted by CEM Benchmarking for 2021.

The lower cost level can be credited to a number of factors. AP4 has sufficiently large fund capital to conduct cost-efficient asset management and has chosen an asset allocation with focus on asset classes that are less cost-intensive to manage.

The lower cost level is also attributable to AP4's chosen implementation style, with a larger share of cost-efficient internal asset management than the pension funds in CEM's comparison group.

AP4 is also cost-efficient by paying a lower share of management fees for external asset management assignments than actors in the comparison group.

International cost comparison, %



Swedish equity portfolio well in line with the Global Goals of the UN's 2030 Agenda

Swedish equities make up 16% of AP4's total portfolio and are managed in an investment process that is mainly based on fundamental analysis of companies and stocks.

During the year, an analysis was performed of how well the Swedish equity portfolio's holdings adhere to the UN Global Compact, that is, the international principles on human rights, labour, the environment and anticorruption that are directed at companies, and the 17 Global Goals of the UN's 2030 Agenda.

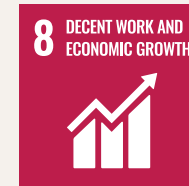
Sustainability is a cornerstone of AP4's investment philosophy and a key factor in achieving a high long-term return. The analysis showed that the portfolio's holdings measure up well. 66% of the portfolio value consisted of companies that have signed the UN Global Compact. These companies had also identified one or more Global Goals to work towards. On

top of these, an additional 18% of companies in the portfolio had identified relevant Global Goals, but had not signed the UN Global Compact.

The remaining 16% of the portfolio consisted largely of smaller companies that conduct pharmaceutical research, which can be considered to contribute to Global Goal 3 "Good health and well-being". This is a prioritised sector for fundamental equities, and the portfolio has significant exposure in companies that are active in healthcare.

The three most important Global Goals in terms of portfolio value:

- 8 Decent work and economic growth (74% of the portfolio value)
- 13 Climate action (69%)
- 12 Responsible consumption and production (69%)



Responsible owner

Active corporate governance is a focus area of asset management and contributes to increasing and preserving shareholder value. As a long-term and engaged owner, AP4 takes responsibility and works in the best interests of each individual company and its shareholders, and advocates for generally accepted practices in well-working stock markets. An integral part of the management entails working on nomination committees, voting and general meetings of shareholders and, with respect to investments in unlisted companies, also serving on boards, investment committees and other investor bodies. In this way AP4 helps ensure that its investments are managed and driven in the best way.

Key data, corporate governance

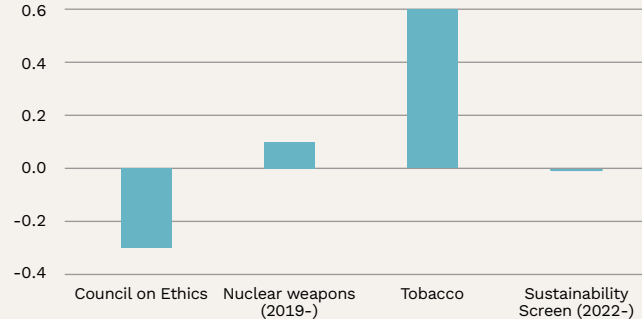
	2022
Number of Swedish company nomination committees	46
Number of Swedish company AGMs	125
Number of foreign company AGMs	1,267
Number of investment bodies in unlisted investments	70

Return contribution from sustainability decisions

AP4 integrates sustainability aspects into its investment processes by identifying risks and opportunities and by influencing as an investor. This affects investment decisions that contribute to AP4's active returns. AP4 separately monitors the return impact of convention-based sustainability decisions over the evaluation horizon of five years, or from the start of the sustainability decision in the case of a shorter period than five years. A positive return contribution shows the effect of having opted out of these companies compared to the global equity portfolio's stock market index. Convention-based decisions are based on AP4's interpretation

of the Swedish state's values and the conventions that Sweden has ratified. These decisions are therefore not business-based in the sense that they are expected to contribute to returns. However, some decisions may also be subject to a commercial assessment, such as the decision not to invest in tobacco companies or certain individual companies based on the assessed level of risk. In 2022, the Board decided to exclude convention-based decisions from the DNP reference portfolio. In 2022, AP4 also introduced a sustainability screen to identify companies linked to serious violations of international conventions.

Return contribution of sustainability decisions over 5 years (2018–2022), %



Awards to AP4

AP4 won the Pension Fund of the Year award at the Investments & Pensions (IPE) conference in 2022. The jury's citation was: "A leading long-term pension investor that shows that it is possible to find new and intelligent ways to punch above its weight in the illiquid markets and be creative when it comes to the listed markets". AP4 also received awards in the "Public Pension Fund" and "Portfolio Construction & Diversification" categories. Additionally, AP4 received nominations in the "Long-term Investment Strategy", "Sweden" and "Impact Investing" categories.

At the IPE Real Estate Global Awards 2022, AP4 won two awards, in the "Nordic Countries" and

"Indirect Strategy" categories, and received nominations in two categories, "Commitment to Diversity" and "Opportunistic Strategy".

Based on the climate strategy in our investment operations, we received the "Sovereign Wealth Fund of the Year" award at the Sustainable Investment Awards 2022.

Finally, the Global Pension Transparency Benchmark analyses how transparently pension funds report globally in the areas of Performance, Cost, Governance and Responsible Investment. AP4 scored a shared first place in the "Responsible Investment" category and fourth place overall among all pension funds.

Top Awards 2022

- Pension Fund of the Year**
Investments & Pensions Europe (IPE) 2022
- Sovereign Wealth Fund of the Year**
Sustainable Investment Awards 2022
- Global Pension Transparency Benchmark**
shared first place in Responsible Investment category

Collaboration between the AP Funds on exemplary management

In 2022 Swedish Parliament decided on new sustainability goals for AP6 and AP7 – the same goals for exemplary asset management that have applied for AP1-AP4 since 2019. At the same time, all of the AP Funds are now subject to the legal requirement to adopt joint guidelines for reporting the extent to

which the goal of exemplary asset management has been achieved. AP7 is also subject to the requirement to – together with AP1-AP4 – adopt a joint set of core values and joint guidelines for which assets the Funds should not invest in. All of the AP Funds are now subject to the goal to manage their fund

capital in an exemplary way through responsible investments and responsible ownership. In their asset management activities, particular emphasis is to be put on how sustainable development can be promoted without compromising on the overarching goals for return and risk.

Lower carbon footprint in 2022

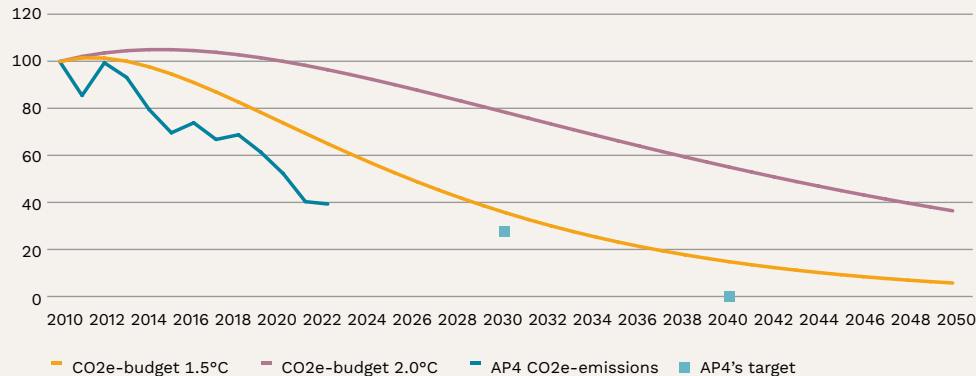
During 2022 the portfolio's CO2e emissions decreased by 3%. AP4 has decreased the listed equity portfolio's CO2e emissions by 61% since measurements began in 2010, which reduces climate risk in the portfolio. AP4 halved emissions between 2010 and 2020. AP4's target is to cut emissions in half again by 2030 (measured from the 2020 level), to achieve net zero by 2040.

AP4's CO2e footprint is now approximately 45% of that for a broad, global equity index (MSCI All Countries – ACWI). Measurement of CO2e emissions is associated with large uncertainties, and these can vary from year to year for a number of reasons.

Since 2010, AP4's reduction of CO2e emissions by 61% can be

credited to portfolio changes. The companies' reduced emissions have accounted for 18 percentage points of the decrease. Achieving the climate targets requires that the companies that AP4 invests in continue to reduce the CO2e footprint of their respective operations. AP4 is therefore working actively to influence the companies toward this transition.

Annual greenhouse gas emissions, CO2e¹



1. Source: Robbie Andrew (2019) based on Global Carbon Project and IPCC SR15 and AP4's calculations. Index 2010=100.

New thematic sustainability investments in 2022

AP4 continuously analyses sustainability trends and developments in various sectors. The various asset management units actively search for investments that are believed will contribute to and benefit from the transition to a sustainable society. The goal is to make good investments from both sustainability and financial perspectives.

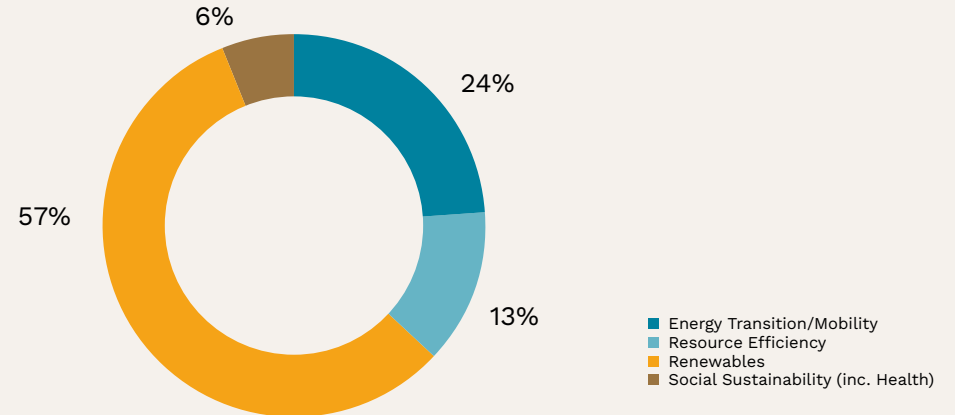
Based on the thematic sustainability analysis, during 2022 AP4 made new investments amounting to a total of approximately SEK 7.4

billion. These investments consisted mainly of new commitments in the unlisted portfolio, such as in sustainable infrastructure, including renewable energy. Renewables, in particular, was the largest sustainability theme for new investments in 2022. The fundamental global equity management invests in a thematic portfolio of niche companies in a number of environment-related themes such as energy transition with focus on fossil-free mobility, hydrogen gas, carbon sequestering

and recycling. AP4 also made new investments in smaller companies in the health sector in 2022.

Thematic investments are based on an analysis conducted by AP4 for the first time in 2018. Development of investment opportunities in the area of sustainability is progressing rapidly. This analysis is therefore currently being updated in order to identify future, attractive investment opportunities based on sustainability trends.

Breakdown of Thematic Sustainability Investments 12/31/2022



About AP4

When AP4 was established in 1974 its mission was to invest in Swedish equities. Today AP4 is a global investor in listed equities as well as in fixed income and unlisted assets. Our sustainability work has continuously developed and is now an integral part of asset management.

ABOUT AP4

- THE PENSION SYSTEM
- MANAGEMENT SINCE 1974
- MISSION
- STAKEHOLDERS
- SUSTAINABILITY OVER TIME

AP4 and the pension system

AP4's mission is to manage part of the Swedish national pension system's buffer capital and thereby make a long-term contribution to the financial security of current and future pensioners.

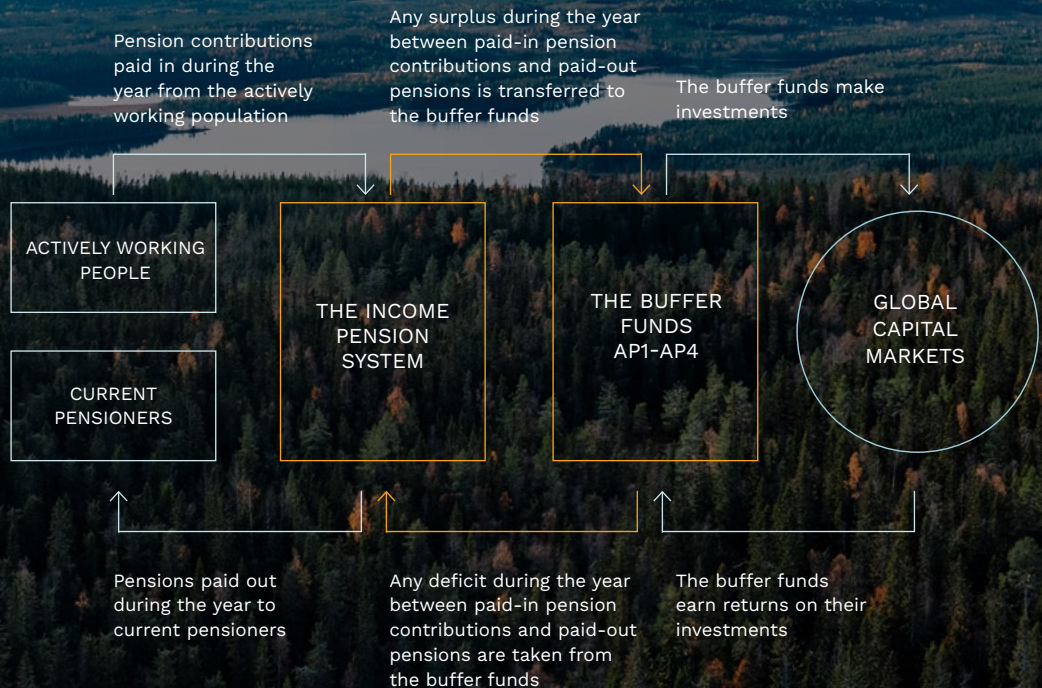
AP4 is a government agency whose operations are governed by the Swedish National Pension Funds Act (Lag (2000:192) om allmänna pensionsfonder). Upon its inception in 1974, AP4 invested only in Swedish equities, but since 2001 it invests in Swedish as well as foreign equities, fixed income securities and unlisted assets. Significant investments in unlisted assets include, for example, investments in property companies and private equity companies.

Income pension and premium pension

Everyone who has worked in Sweden receives a national public pension, which is based on the

income they earned during their working life. The pension system is built upon two parts, income pension and premium pension, and every year 18.5% pensionable income is allocated to the system for those who have worked or received other pensionable income. Payment is made in part through payroll taxes that are paid by employers and in part through the national public pension tax that all wage-earners pay. 16 percentage points go towards the person's income pension and 2.5 percentage points towards the premium pension. For every year worked, money is transferred to the system at the same time that each and every one earns their own

THE INCOME PENSION SYSTEM





pension right in the income pension system, based on their income and any other taxable remuneration. These pension rights are indexed upward every year in accordance with the income index, which measures average income growth in Sweden.

With respect to premium pensions, pension savers themselves have a say in which securities funds their money is invested in. If a pension saver does not make an active choice, their capital is instead managed by AP7, which today manages a considerable share of total premium pension capital. In addition, outside of the state pension system, it is common for people to have occupational pensions, which are paid for by their employers, and private pension savings.

AP4 is a buffer fund

Income pension is system where the pension contributions paid by people who have worked during the year are used to pay pensions to current pensioners. If payments to the system during a given year are less than what is needed to pay out pensions, a deficit arises. In such case, the AP Funds' managed capital is used as a buffer to cover the deficit, and conversely, if payments in to the system are greater than what is needed to pay out, the

money goes to the AP Funds for management.

If the pension system for some reason comes into an imbalance, i.e., its obligations become greater than the assets on hand, a balancing mechanism is activated (the so-called brake). Through this balancing, income pensions are upwardly indexed at a slower pace until the pension system's assets are once again as large as its obligations, something that happened for example following the financial crisis in 2008. The system is designed to handle this so that no generation receives a higher pension at the expense of another.

The AP Funds and the future

Since 2009, when the four AP Funds began paying out money to the pension system, the funds together have paid a net total of SEK 309 billion to the pension system. The AP Funds have been net payers mainly because the large number of people born each year during the 1940s are now pensioners. This means that the AP Funds will be net payers for an estimated another some 20 years. At that time, the inflow to the buffer funds is expected to increase, since the large numbers of people born in the 1990s, 2000s and 2010s will be actively working and paying in money to the system.

Asset management since 1974 that has strengthened the pension system

Over time, AP4's asset management has made a large contribution to the national pension system.

AP4 was established in 1974 with the mission to invest in Swedish equities. This was done at a time when equity ownership was not as commonplace as it is today, neither among institutional investors such as pension funds nor among private persons.

The decision to establish an AP Fund to invest in Swedish equities was questioned at the time, but over time it has proved to be successful. Over time AP4 has been a contributing force in the work with rules for ethics and conduct in the Swedish stock market. At the same time, AP4 has been a source of venture capital not least for listed Swedish companies.

AP4 has generated an accumulated surplus of SEK 513 billion in support of the pension system. AP4 has transferred a net total of SEK 53 billion to the pension system since 1974.

Through the growth in value that has taken place, AP4's fund capital has at the same time grown and amounted to SEK 460.5 billion at year-end 2022.

513

SEK billion in
accumulated surplus
since 1974

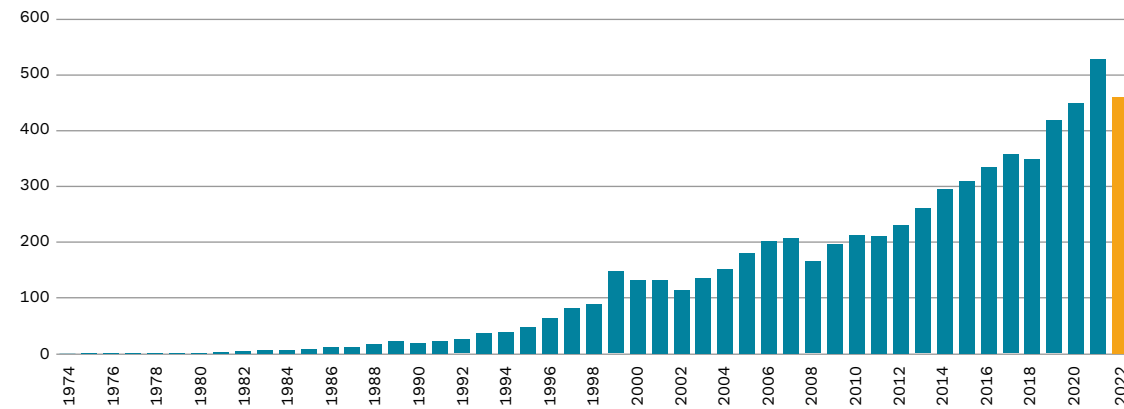
13

% average annual
return after costs
since 1974

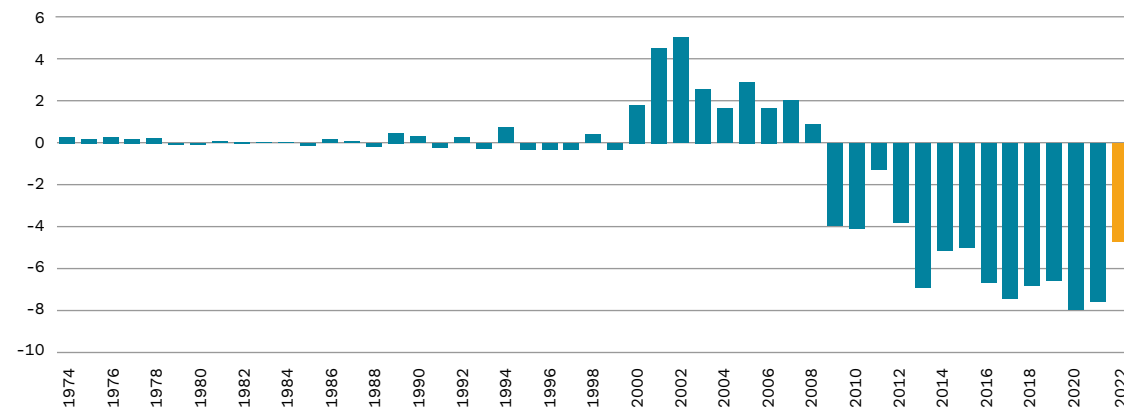
53

SEK billion in net
payments from AP4
to the pension system
since 1974

Closing fund capital, SEK billion



Yearly net flows to the pension system, SEK billion



AP4's mission in a complex world

AP4's mission is to manage the fund capital so that it will be to the greatest possible benefit for the income pension system. AP4 shall also manage the capital in an exemplary way through responsible investments and responsible ownership.

The government appoints AP4's board members, and the Ministry of Finance continuously monitors and evaluates AP4's operations. AP4 is to independently formulate goals and strategies, and by law AP4's board and operations may not be governed directly by government directives or by business policy or economic policy interests.

AP4's investment operations are based on the pension system's needs and are conducted with the goal to generate the highest possible long-term return with balanced risk. This therefore requires that

AP4 assesses demographic, macroeconomic and financial factors as well as sustainability risks and opportunities in the portfolio, such as climate change. In this way AP4 contributes to financial security for today's and tomorrow's pensioners in Sweden.

INPUTS

CAPITAL

AP4 invests in global capital markets

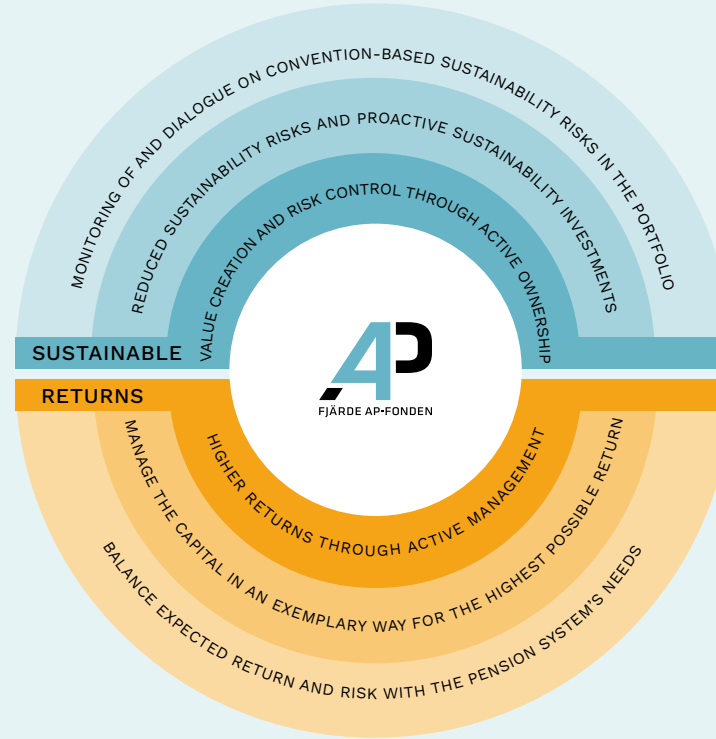
EMPLOYEES

AP4's employees contribute knowledge and experience

RELATIONS

AP4's partners provide expertise and resources

ACTIVITIES



CONTRIBUTIONS EFFECTS

SUSTAINABLE INVESTMENTS

- • Contribute to well-managed companies
- Contribute to and benefit from the sustainability transition

FINANCIAL SECURITY FOR TODAY'S AND TOMORROW'S PENSIONERS

- • Contribute to the pension system's strength
- Payments to the pension system as needed
- Reduce risk for reduced pensions

INFLUENCE AND EXPECTATIONS FROM OUR OPERATING ENVIRONMENT

- Laws govern the mission and operations
- Stakeholders

Stakeholder dialogue and materiality analysis

Engaging in a continuous dialogue with the AP Funds' stakeholders provides important guidance for the Funds in their sustainability work. To learn about how stakeholders view the AP Funds' mission and operations in relation to sustainability and returns, every three years AP1, AP2, AP3 and AP4 conduct a stakeholder dialogue and joint materiality analysis.

In autumn 2020, under the circumstances that then prevailed during the global pandemic, this dialogue was conducted in the form of a targeted web-based survey that was sent to representatives of AP4's various stakeholder groups. These consist mainly of: principals (the so-called Pensions Group, the finance and social insurance committees, and the Ministry of Finance), portfolio companies, vendors, industry peers, beneficiaries, society in general (labour market parties, universities and the Swedish Pensions Agency), interest groups and employees. Overall the survey showed that the stakeholders have relatively good awareness about the AP Funds' operations and are highly confident that the AP Funds are living up to their mission to generate long-term returns and conduct responsible asset management. The results also showed high confidence

in the AP Funds' work with and integration of sustainability matters in the asset management.

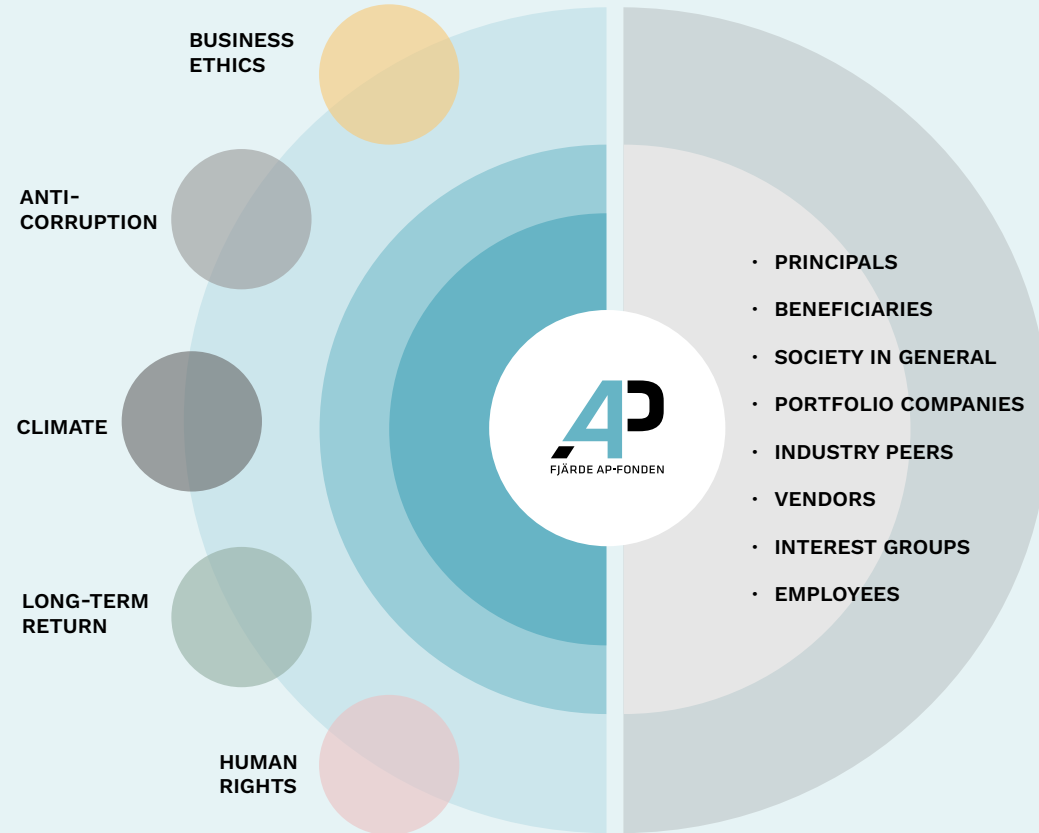
Additionally, the results showed that the AP Funds can further develop their management and communication of sustainability-related risks and opportunities in their investments. On this point the survey highlighted the importance that the AP Funds advocate for the climate transition in Sweden and internationally through cooperation with other actors.

Prioritised sustainability areas

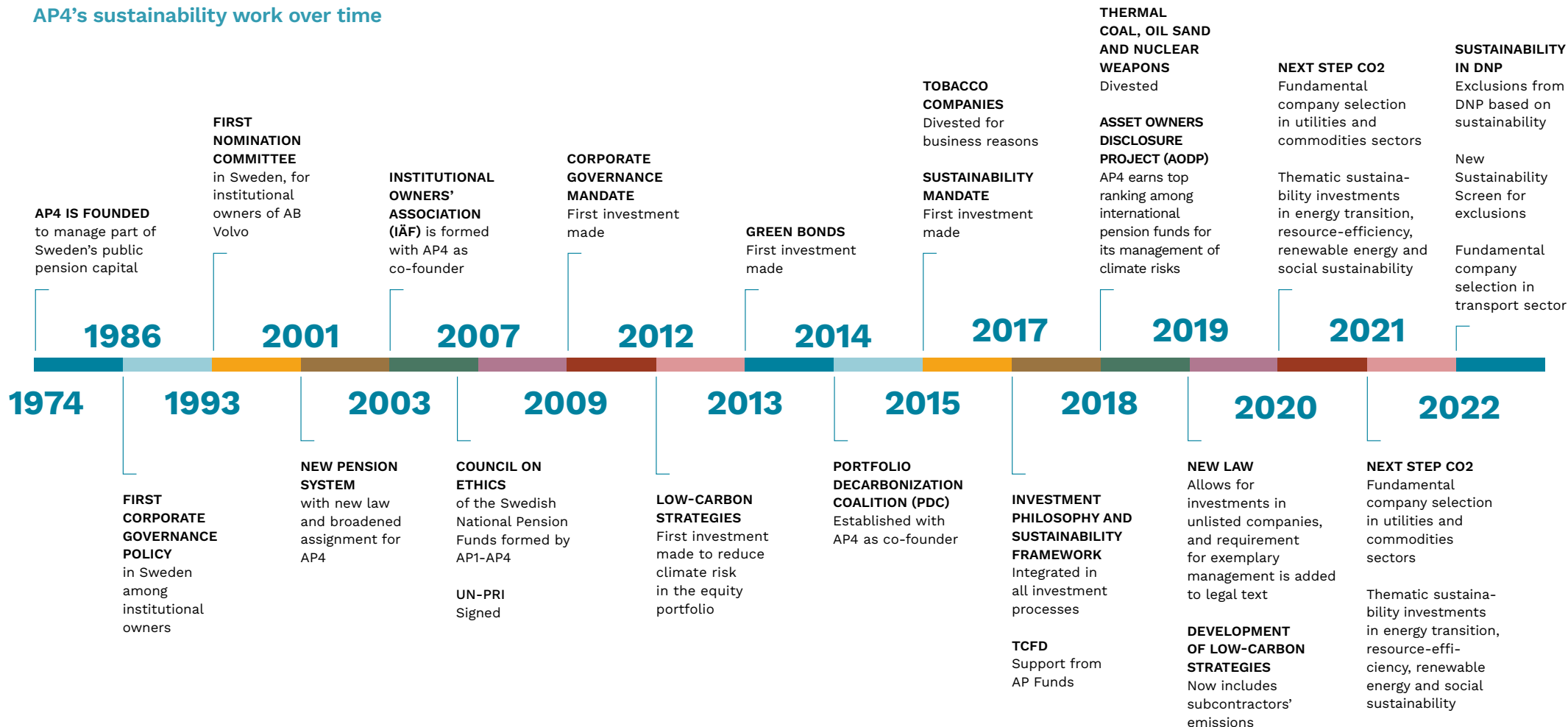
The stakeholders ranked 12 selected sustainability areas based on how important they believe the respective areas are for the AP Funds to take into account in their asset management and in their corporate governance work with respect to portfolio companies. Five areas were considered to be essentially of equal importance for the stakeholders: business ethics, anticorruption, climate, long-term return and human rights. These five areas were followed, in declining order, by: the environment, transparency in companies, working conditions, sustainable supply chain, biodiversity, diversity and equality, and information security. In 2023 the AP Funds will conduct a materiality analysis and stakeholder dialogue in accordance with GRI 2021.

SUSTAINABILITY AREAS

STAKEHOLDERS



AP4's sustainability work over time



Strategy and operations

AP4 has an important societal mission, and the capital we manage is to benefit pensioners of today and tomorrow. One precondition for successful asset management in which we achieve our return targets is that we have a firmly grounded asset management structure that integrates financial and sustainability aspects.

STRATEGY AND OPERATIONS

- MANAGEMENT STRUCTURE
- COUNCIL ON ETHICS
- CORPORATE GOVERNANCE
- CLIMATE & ENVIRONMENT
- HR

Asset management structure

The goal of AP4's asset management is to achieve a long-term high return that contributes to the pension system's strength and lowers the risk for reduced pensions. One precondition for AP4 to conduct long-term successful asset management is that sustainability factors are integrated in the asset management.

AP4's asset management is grounded in the AP Funds Act

Asset management is conducted on the basis of the statutory assignment and the investment opportunities that this presents. AP4 is to manage the fund capital in such a way that it generates a long-term high return for the pension system. This assignment also stipulates that asset management is to be conducted in an exemplary way through responsible investments and responsible ownership. In addition, particular emphasis is put on ensuring that AP4 contributes to sustainable development without compromising on the overarching return objective.

Investment philosophy dictates overarching focus

AP4's board has adopted an investment philosophy that is based on AP4's mission and the

preconditions it includes. The investment philosophy stipulates three essential distinguishing features for AP4, i.e., preconditions that to some extent distinguish AP4 and create opportunities for successful asset management.

These are:

- the ability to act long-term
- a large degree of freedom to formulate the asset management in the best way within the framework of the AP Funds Act
- a portfolio size that enables cost-efficient asset management without limiting investment opportunities

These characteristics are complemented with so-called investment beliefs, which clarify how we are to act to create value added in the asset management. The investment beliefs pertain to:

- well-balanced risk-taking
- inefficient markets

- diversification
- sustainability
- competent organisation
- structured processes

Asset management structure with three time horizons

The asset management structure takes advantage of the opportunity to invest over several time horizons. For each time horizon, the Board stipulates goals and investment guidelines. The various time horizons are:

- the pension system's needs for the long term over 40 years
- a medium-term perspective that takes into account macroeconomic and market conditions over a 5-15 year horizon
- a shorter operational perspective for individual investment assessments of up to 10 year



AP4's investment philosophy

THE THREE DISTINGUISHING FEATURES OF AP4'S ASSET MANAGEMENT PHILOSOPHY

The mandate to have an investment horizon that is longer than for many other investors entails an opportunity to act long-term and think differently than other investors when it is deemed to be beneficial over the long term.

Large degree of freedom within the framework of AP4's statutory investment rules to formulate the strategy and the portfolio structure, and choose investments that create opportunities to benefit from AP4's comparative strengths and diversification opportunities, and proactively adapt the portfolio when the market conditions change.

Ideal size of AP4's capital – neither too small nor too large – provides economies of scale that enable cost efficiency without limiting investment opportunities.

OPPORTUNITY TO ACT LONG-TERM

LARGE DEGREE OF FREEDOM TO FORMULATE THE ASSET MANAGEMENT

IDEAL PORTFOLIO SIZE

WELL-BALANCED RISK-TAKING

Well-balanced risk-taking that is responsible and can be monitored is necessary for generating returns.

INEFFICIENT MARKETS

The financial markets are not always efficient, which creates opportunities to create value added in the asset management through a long-term approach and active management.

DIVERSIFICATION

A portfolio that is well-diversified offers a better risk-adjusted return over time.

SUSTAINABILITY

Over time, integrating sustainability aspects in the asset management contributes to better management of risks and opportunities and thus also to returns.

COMPETENT ORGANISATION

Portfolio management is a knowledge-intensive operation in which competent employees are an essential success factor.

STRUCTURED PROCESSES

A structured and transparent investment process is a prerequisite for successful asset management.

INVESTMENT BELIEFS

Long-term real return target

AP4 makes assessments about the pension system's long-term need for return levels and its need for payments from the AP Funds to cover any deficits. These assessments are made with a time perspective of up to 40 years. The analysis of the pension system is combined with a very long-term assessment of expected returns for various asset classes. This culminates in a long-term return target, which is currently a 3.5% annual real rate of return, and decisions on ranges for the portion of equities in the portfolio, the fixed income portfolio's average duration, and currency exposure.

Medium-term real return target

In a medium-term perspective, with a 5-15 year interval, it is possible in greater detail to make assessments of macroeconomic parameters such as growth and inflation. It is also possible to make a market assessment that takes into account valuation levels, for example. These assessments form the foundation of a more detailed analysis of expected returns for various asset classes. This leads to the Board's decisions about the Dynamic Normal Portfolio (DNP), which is the benchmark portfolio for asset management that comprises a weighted market index that the Board decides on as well as decisions on a medium-term

return target over 10 years, which is currently a 3% annual real rate of return. Since 2022 companies are excluded from the DNP based on serious violations of international conventions.

Day-to-day asset management with active return target

The operative asset management thereafter comes into play, which entails allocation decisions among various asset classes and a broadening to assets that are not represented in the DNP. Finally, investment decisions are made regarding individual stocks, bonds and other financial instruments within the asset classes and asset management mandate. These decisions are made with time horizons of up to 10 years. The goal of asset management is to outperform the return of the DNP by 1 percentage point with a 5-year evaluation horizon. The asset management is governed by a risk mandate of a maximum 5% active risk in relation to the DNP.

The Board governs and follows up

AP4's board of directors has adopted governance documents that regulate AP4's asset management structure, including sustainability work. The governance documents are reviewed every year and are revised when necessary. It is the Board's duty to review and adopt AP4's long-term

strategy every year, as well as the plans that are set for each financial year. AP4's CEO is responsible, together with the heads of the respective asset management units, for the asset management work and for ensuring that sustainability work is integrated in AP4's investment processes.

Asset management is organised in four units:

- Fundamental Equities
- Fixed Income & FX
- Alternative Investments
- Strategic Allocation & Quantitative Analysis

Asset management per asset class is described on pages 26-27. Detailed return data per asset class is provided on page 90.

The Board of Directors has assigned AP4's CEO with the task of assessing the sustainability issues that arise in the investment operations. The CEO reports on a regular basis to the Board about how such issues are being dealt with, about strategic development and goals, and about the activity plans that will make it possible to achieve the goals. The Board prioritises sustainability-related issues that have bearing on the asset management strategies, and such issues are addressed at essentially every board meeting.

Asset management structure based on the pension system's needs

To design a portfolio that in the best way balances the expected return and risk with the pension system's needs, AP4 works systematically and in several steps. This means that financial and sustainability-related analyses are conducted with several different time horizons, which are then woven together into decision-making documentation in the portfolio's design.

Asset management structure that integrates sustainability

AP4 works according to the definition of sustainability as societal development that meets the needs of people today without jeopardising future generations' opportunities to meet their needs. This is a precondition for maintaining favourable and balanced economic development over time.

Climate scenario analyses and thematic sustainability analyses of various investment opportunities affect both the overall asset allocation and individual asset management mandates. AP4 integrates sustainability in the individual investment processes by reducing sustainability risks, investing in strong sustainability trends and influencing as an owner.

Asset management structure based on the pension system's needs

	The pension system's long-term needs	AP4's benchmark portfolio	Allocation	Management of delegated mandate
Description	Assessment of the pension system's long-term need for returns and net payments from the AP Funds, structural preconditions for macroeconomic growth and expected long-term return.	Medium-term analysis that in greater details takes into account the prevailing and expected macroeconomic situation and dynamic as well as market assessment based on this shorter time perspective.	Strategic and tactical allocation decisions among various asset classes, and managing continuing operations among asset classes and currency exposure in response to market movements.	Based on the delegated asset management mandate, continuously make investments that are judged to meet AP4's requirement for a long-term sustainable return.
Analysis horizon	Up to 40 years	5-15 years	Up to 10 years	Up to 10 years
Frequency	Conducted every three years	Every other year	Quarterly, monthly or as needed	Continuously
Responsibility	Board decides	Board decides	CEO and CEO-delegated mandate	CEO and CEO-delegated mandate
Result	<ul style="list-style-type: none"> • The combination of expected return and risk that best contributes to a strengthening of the pension system without one generation benefiting at the expense of another • The long-term real return target is 3.5% per year over 40 years • Risk scope in the form of ranges for equities trading, currency exposure and the fixed income portfolio's average duration 	<ul style="list-style-type: none"> • Decisions on the Dynamic Normal Portfolio (DNP), a benchmark portfolio comprising market indexes • Medium-term real return target of 3% per year measured over 10 years • Active return target in relation to the DNP of 1% per year measured over 5 years • Active risk scope (tracking error) for the operative portfolio to deviate from the DNP by a maximum of 5% 	<ul style="list-style-type: none"> • Broadening of the DNP to other asset sub-classes, such as credits and unlisted assets • Changed asset allocation in relation to the DNP 	<ul style="list-style-type: none"> • Operative management of delegated asset management mandate • Individual investment decisions in e.g., equities, bonds and unlisted investments

Asset management structure that integrates sustainability

	Climate scenario analysis	Thematic sustainability analysis	Reduce risks	Invest in trends	Influence as investor
Description	Analysis of the climate transition and its potential impact on supply and demand, and by extension also on expected growth and inflation. The starting premise for AP4's climate scenario analysis is achievement of the Paris Agreement's goals, which entails a relatively rapid climate transition.	Identify sustainability trends, their strength and time perspectives with the goal to understand which value chains are affected, identify winners and losers, and by extension to find attractive investment themes for AP4's operative asset management.	Investment strategies and exclusions that reduce exposure to sectors or individual investments with significant sustainability-related risks.	Based on the thematic sustainability analysis and other trend analyses, invest assets to benefit from and contribute to the transition to a sustainable economy.	As an owner to exercise influence over companies to achieve development that leads to companies with lower sustainability risks.
Analysis horizon	5-15 years	5-15 years	Up to 10 years	Up to 10 years	Up to 10 years
Frequency	Yearly	Yearly	Continuously	Continuously	Continuously
Responsibility	CEO and Board of Directors where the DNP is involved	CEO and Board of Directors where the DNP is involved	CEO and CEO-delegated mandate	CEO and CEO-delegated mandate	CEO and CEO-delegated mandate
Result	<ul style="list-style-type: none"> Used in macroeconomic analysis with up to a 10-year perspective to assess political and technological changes, growth and inflation as well as thematic sustainability investments 	<ul style="list-style-type: none"> Leads to AP4's view on influence and opportunities in various areas, parts of value chains and sectors. Serves as support in individual investments to reduce risks and invest in sustainability trends 	<ul style="list-style-type: none"> Reduced exposure to e.g., climate risk in the equity and credit portfolios Exclusion decisions to not have ownership in companies that violate international conventions that Sweden has signed 	<ul style="list-style-type: none"> Proactive investments in e.g., sustainable infrastructure, selection of companies in Sweden and globally with focus on companies whose operations are supported by long-term sustainability trends 	<ul style="list-style-type: none"> Voting at general meetings of shareholders in Sweden and internationally. In Sweden, where AP4 is a significant and well-known investor, close dialogues are conducted directly with companies Internationally, AP4 collaborates with AP1-AP3 through the Council on Ethics as well as with other investors in various sustainability collaborations

Asset management per asset class

Asset management unit	Strategic Allocation & Quantitative Analysis
Area of responsibility	Active asset allocation among all asset classes in the portfolio, handling of the asset classes' movements resulting from market movements, broadening of the portfolio to more asset classes, management of the global equities and defensive equities asset classes. Analysis support for the Board and other asset management units.
Share of portfolio	<p>Defensive equities 5%</p> <p>Global equities 31%</p>
Asset management focus and strategy	Global equities management consists in part of cost-efficient and quantitative-based equities management aimed at efficiently creating index-linked exposure complemented by fundamental company selection in resource-intensive sectors and investments based on the sustainability theme. In addition, active management is conducted through selection of external asset managers that are chosen to provide a large diversification of active return sources and thus risk diversification.
Return	The return for global equities was -19.0% (21.4%). The global equities management's excess return was -1.1 percentage points (1.2) in 2022 and an average of 0.5 percentage points (1.1) per year over a five-year evaluation horizon.
Integration of sustainability in asset management	<ul style="list-style-type: none"> Responsible for climate scenario analysis and its impact on macroeconomic scenarios and on the DNP Responsible for thematic sustainability analysis Does not invest in companies on AP4's exclusion list Implements low-carbon strategies within the framework of the global equities management Uses sustainability-oriented external asset managers Votes at general meetings of shareholders Fundamental company selection in resource-intensive sectors
Development of sustainability in asset management in 2022	<ul style="list-style-type: none"> Drive projects focusing on review of the thematic sustainability analysis in order to identify attractive investments based on sustainability trends Work with fundamental company selection in the transport sector Has analysed and implemented AP4's Sustainability Screen, a filter based on sustainability data from external vendors to rule out investments in companies with confirmed sustainability risks Has introduced the AP4 Alignment Score in the quantitative asset management, a tool for company selection in all sectors with respect to operations that are aligned with the Paris Agreement Together with other investors, has taken Volkswagen to court in Germany to gain a ruling on minority owners' rights to submit proposals to general meetings, an important shareholder right. Read more on page 46

Asset management unit	Fundamental Equities
Area of responsibility	Active management of the Swedish equities asset class.
Share of portfolio	<p>Swedish equities 16%</p>
Asset management focus and strategy	Swedish equities management is conducted with a starting point in fundamental company analysis where long-term perspective, corporate governance and sustainability are key parts of the strategy. The goal is to outperform the market index by identifying companies with long-term favourable growth in value and equities with revaluation potential.
Return	The return for Swedish equities in 2022 was -31.2% (35.7%). The active return for Swedish equities management in 2022 was -8.4 percentage points (-3.7). Over a five-year evaluation horizon, the average excess return has been 1.6 percentage points (4.2) per year.
Integration of sustainability in asset management	<ul style="list-style-type: none"> Sector-based risk analysis of sustainability challenges as part of the investment process Does not invest in companies on AP4's exclusion list Takes responsibility as owner and serves on nomination committees and makes AP4's voice heard at shareholder meetings Serves on nomination committees to ensure that the companies have the best possible boards. Diversity is an important dimension in this work As a consequence of the investment philosophy and taking sustainability risks into account, the portfolio's CO2 intensity is very low
Development of sustainability in asset management in 2022	<ul style="list-style-type: none"> Continuous application of analysis tools to assess how companies handle sustainability aspects in connection with company dialogues Made new investments in smaller companies in the health sector Has analysed how well the portfolio companies adhere to international sustainability frameworks for companies (UN Global Compact) and how well the companies adhere to the UN's Global Goals. Read more on page 11

Asset management per asset class

Asset management unit	Fixed Income & FX
Area of responsibility	Active management of the global and Swedish fixed income assets classes, active currency management and management of AP4's total currency hedging.
Share of portfolio	<p>Global fixed income assets 21%</p> <p>Swedish fixed income assets 9%</p>
Asset management focus and strategy	The fixed income portfolio is liquid and creditworthy. Bonds with the highest credit rating, AAA, ¹ accounted for slightly more than 51% (59%) of AP4's holdings of fixed income securities. Corporate bonds accounted for 47% (43%) of AP4's bond holdings at year-end.
Return	The return for the year was -7.5% (-0.5%) for AP4's global fixed income investments and -2.8% (-0.1%) for Swedish fixed income investments. The active return for fixed income investments in 2022 was 2.1 percentage points (1.1) and an average of 1.1 percentage points (0.7) per year over a five-year evaluation horizon. The return contribution from AP4's open currency exposure was 2.8 percentage points (2.0) in 2022. Over a five-year period AP4's open currency exposure contributed an average of 1.3 percentage points (0.5) to the return per year.
Integration of sustainability in asset management	<ul style="list-style-type: none"> Assesses sustainability trends such as the energy transition, resource efficiency and renewable energy ahead of investment decisions Does not invest in companies on AP4's exclusion list No investments in companies with significant exposure to extraction of fossil energy sources Invests in green bonds and social bonds
Development of sustainability in asset management in 2022	<ul style="list-style-type: none"> Developed an investment mandate for green bonds in favour of green government bonds and supranational issuers in 2021. This resulted in an increase in investments in green government bonds. AP4 has not volume target for investments in green bonds. AP4 makes an assessment of financial as well as sustainability parameters in investment decisions. As a result, investments in green bonds may vary from year to year

Asset management unit	Alternative Investments
Area of responsibility	Investments in illiquid real estate and infrastructure assets (within real assets), unlisted credits (within global credits) and unlisted equities (within global equities).
Share of portfolio	<p>Real assets 18%</p> <p>Unlisted equities 3%</p> <p>Unlisted credits 2%</p>
Asset management focus and strategy	The real assets asset class today consists mainly of direct investments in unlisted and listed property companies and to a lesser extent of investments in joint-venture companies and funds focused on real estate and infrastructure investments. In unlisted equities and unlisted credits, AP4 invests mainly with external asset managers and through joint-venture companies.
Return	Real assets generated a return of -0.6% (24.1%) in 2022, which is -14.5 percentage points (18.3) relative to the return target in 2022. Since the return target for real assets consists of an absolute target of the CPI plus three percentage points, this entails that the return in individual years may deviate considerably from the target return. Over a five-year period the portfolio generated an average annual return of 14.0% (17.8%). Unlisted credits generated a return of 6.0% (6.2%) in 2022, and over a five-year period the average annual return was 5.8% (4.6%). Unlisted equities generated a return of -0.6% (45.0%) in 2022, and over a five-year period the average annual return was 20.6% (20.7%).
Integration of sustainability in asset management	<ul style="list-style-type: none"> Evaluates and sets demands on external asset managers' and joint-venture companies' sustainability work ahead of potential investments as an integrated part of investment evaluations and follow-up. Sets demands for external asset managers and investment companies to not invest in sectors or companies on AP4's exclusion list. Directs a significant share of new investments to areas identified through the thematic sustainability analysis
Development of sustainability in asset management in 2022	<ul style="list-style-type: none"> Carried out thematic investments coupled to the Climate & Environment focus area. Engaged in a dialogue with AP4's property companies and external asset managers in real assets regarding climate impact and climate strategy. Collected carbon emissions data for unlisted infrastructure investments, which was begun in 2021. Measurement of unlisted property companies' carbon emissions was begun in 2019. Developed sustainability criteria in agreements with external fund managers

1. The credit risk classification presented here (rating) refers to an internal standard. The assessment in this standard for 2022 is based on the rating issued by the selected rating agency (Moody's Analytics UK Ltd).

The Council on Ethics of the AP Funds

The Council on Ethics of the AP Funds (the Council on Ethics) is a collaboration between AP1-AP4 with the guiding principle to use their joint strength to influence companies around the world to strive for sustainable value creation and transparent reporting.

The Council on Ethics cooperates on matters concerning companies that the AP Funds all have holdings in, mainly outside Sweden. The Council on Ethics also cooperates with other international investors with a similar sustainability agenda, which provides additional, increased opportunities to influence for positive change and greater transparency in reporting. Through dialogue and talks, the Council on Ethics influences for positive change and thereby contributes to the AP Funds' long-term returns.

Proactive work

Proactive work conducted by the Council on Ethics contributes to positive change and addresses complex sustainability challenges. This work helps companies improve their handling of sustainability throughout the value chain, prevent violations and incidents from taking place, and address relevant systemic risks. It contributes to better companies and to reduced sustainability risk in the AP Funds' assets. The proactive work has

resulted in a large number of companies implementing policies, processes and routines to better deal with environmental, social and corporate governance matters. As a result, over time sustainability has become a more integral part of the companies' work.

Reactive work

The Council on Ethics also works reactively to influence companies to handle and remedy accidents and incidents that have already taken place. This is done through reactive dialogues in which companies are influenced to – in addition to correcting things that have already taken place – also conduct more systematic sustainability work, such as for example implementing policies and routines, and increasing transparency in companies' public reporting. Through both proactive and reactive work, the Council on Ethics helps prevent, remedy and inhibit incidents from occurring and contributes to positive sustainability development for companies and sectors.



The Council on Ethics' development work in 2022

Since its start in 2007 the Council on Ethics has built up a strong position both nationally and internationally. Over time, sustainability issues have been increasingly integrated in the respective AP Funds' asset management strategies, and sustainability has thereby obtained a steadily greater focus in the AP Funds' asset management. It is against this background that the AP Funds

in 2022 conducted a joint review of the Council on Ethics' mission and strategy with the purpose of ensuring that the Council on Ethics will play a continued significant role in the AP Funds' joint sustainability work. One result of this review is that the AP Funds have decided to expand the examination that is conducted yearly of portfolio holdings following violations of international conventions to include

listed foreign equities and also holdings of Swedish corporate bonds.

During 2022 the Council on Ethics worked with eight proactive projects. At the end of the year, reactive dialogues were conducted with 86 companies around the world, where 66 achieved dialogue stages were demonstrated. Read more on page 32.

Focus on:

The Council on Ethics' continued important role

Understanding just how important sustainability is has grown rapidly in recent years, and this has resulted in high demands as well as opportunities for the AP Funds' work for more sustainable development. The AP Funds believe that owner and investor responsibility is important and are therefore further developing the Council on Ethics so that its fruitful work can be continue to generate good results. For that reason, an overhaul of the strategy and goals was conducted in 2022.

"The Council on Ethics is an important and successful body for collaboration between the AP Funds that gives us a means to address various sustainability risks in a resource-efficient way, which contributes to a better long-term result both for the income pension system and for sustainable development," says Pia Axelsson, Chair of the Council on Ethics in 2022.

The Council on Ethics will continue to monitor and identify companies in the AP Funds' holdings that can be coupled to violations of international conventions and will work to ensure that such companies address and remedy the problems. Proactive work that contributes to positive change in companies and sectors, and that addresses complex sustainability challenges and relevant systemic risks, will also have continued strong focus.

During the year the Council on Ethics further developed processes for greater integration between the Council on Ethics and the AP Funds' asset management organisations to achieve even better collaboration and exchange for positive progress of companies and sustainability areas with large sustainability challenges.

"The Council on Ethics' operative work will continue as usual for the most part," Axelsson explains. "Previously the AP Funds' holdings in listed foreign companies were examined twice a year. We are now expanding this to also cover listed Swedish companies and credits in line with the AP Funds' interest in increasing their resource efficiency and opportunities for collaboration in more asset classes."

Strong focus in 2023 will be on recruiting and jointly building up an office that will make up the

framework of the Council on Ethics' work with expanded resources. With this increase in resources the Council on Ethics' work to make a positive difference can help reduce risks in the AP Funds' assets portfolios and address systemic risks such as climate change and loss of biodiversity, and drive work to influence for sustainable development.

"We are recruiting three people – a head of the Council on Ethics of the AP Funds who will be responsible for leading and developing operations, and two sustainability analysts. Through this expansion of resources that is entirely dedicated to the Council on Ethics we will ensure that this important work receives the right focus, priority and continuity. The new organisation will facilitate both the governance and follow-up of the Council on Ethics' work," concludes Pia Axelsson.



We are working proactively with both relevant systemic risks and complex sustainability challenges.

Pia Axelsson, Senior Sustainability Manager, AP4, Chair of the Council on Ethics 2022.

About proactive work

The Council on Ethics' proactive work contributes to positive change and addresses complex sustainability challenges. This means that the Council on Ethics drives improvements of how companies handle sustainability across the entire value chain, prevents violations and incidents from taking place, and addresses relevant systemic risks. Dialogues are conducted with companies in sectors with complex sustainability challenges, in which the AP Funds have direct or indirect exposure. By direct exposure is meant portfolio companies and by indirect exposure is meant companies' value chains, and this work often pertains to various commodities and supply chains. The Council on Ethics' prioritisations and choices of proactive focus areas are based on, among other things, the risks and opportunities for negative impacts on people and the environment that have been identified in the Council on Ethics' business intelligence analysis, the direct and indirect financial exposure for the AP Funds, and the assessed opportunities for the Council on Ethics to make a positive difference.

Proactive projects

Tech companies and human rights



Information technology today is integrated in people's daily lives around the world, which makes the internet and social media intrinsic parts of economic and social society. This presents both opportunities and challenges in the area of sustainability.

In 2022 the Council on Ethics started a new collaboration project with international investors aimed at engaging a number of major tech companies in advocacy dialogues. The project builds further upon the work started by the Council on Ethics from 2019 to 2022.

The goal of the project is that the companies will strengthen and adapt their sustainability work surrounding human rights, so that their operations will be conducted in line with the UN's Guiding Principles on Business & Human Rights (UNGPs).

Transition in emissions-intensive sectors



The climate transition requires substantial and effective action. As investors the AP Funds have a responsibility to make sure that the companies they have holdings in manage climate risks in a responsible way.

The Council on Ethics is working with sector dialogues within the Climate Action 100+ investor initiative to spur companies, investors, decision-makers and other actors in emissions-intensive industries to accelerate their adoption of transition plans for a low-fossil society and to thereafter follow up that these are implemented. So-called expectations documents have already been published for the aerospace, food, steel and utilities sectors, among others.

During 2022 a number of meetings were held with actors in the mining sector, and an expectations document is currently being drafted. Unfortunately, for various reasons – including Covid-19 and the war in Ukraine – some meetings were not held as planned. This has also affected the drafting of expectations documents.

Greater transparency in climate reporting



In 2019 the Council on Ethics contacted 110 companies that were considered to have a large climate impact and urged them to begin reporting in accordance with the Task Force on Climate-related Financial Disclosures (TCFD), which is an international reporting framework with focus on useable and forward-looking information.

The Council on Ethics' goal is to encourage the companies to increase their information and make it more relevant and comparable. Increased transparency by companies, in line with the TCFD's recommendations, gives investors better documentation to be able to better assess climate-related risk exposures in investment decisions.

During 2022 the Council on Ethics evaluated how the 110 companies developed their climate-related reporting. In general the companies increased both their focus and transparency surrounding climate-related aspects. Most of the companies appreciated the feedback and the opportunity to discuss how they can further develop their reporting.

Forced labour in the construction and textile industries



Forced labour and various forms of modern slavery exist in all countries, both in developed markets and in countries with weaker laws. Demand for low-paid, flexible labour is often filled by marginalised groups in society.

Poverty and limited economic opportunities among low-skilled workers, especially among immigrants with poor language skills, often lead them to accept employment in abusive conditions. The construction and textile sectors are considered to be particularly vulnerable.

In 2021 the Council on Ethics launched a three-year project with companies in the construction and textile sectors. The goal is to use advocacy dialogues to support companies to engage in continuous work to develop their due diligence routines and processes for identifying and dealing with various forms of force labour in their supply chains.

Proactive projects

Child labour in the cocoa industry



Ivory Coast and Ghana are the world's leading cocoa producing countries and account for nearly 70% of global cocoa production. An estimated

1.5 million children work in this supply chain.

Cocoa is mainly grown on family farms, and child labour is still common and often essential for family finances. The Council on Ethics has conducted a dialogue with seven of the world's largest cocoa and chocolate producers. The results have been positive, and the project was concluded in 2022. Throughout the entire value chain, the cocoa industry, governments and others have made considerable efforts to ensure more sustainable cocoa production. This has contributed both to a higher share of children attending school and a lower incidence of hazardous child labour.

The Council on Ethics can ascertain that the companies have made a large, positive shift during the course of the project. This is confirmed by the key ratios that the project has used for the respective development areas.

Biodiversity and food production



Recognition of the importance of biodiversity is growing in pace with the ever-clearer understanding of the risks and effects of the loss of biodiversity. Biodiversity and land health are intertwined and necessary for well-functioning ecosystem services. This is also necessary for slowing and mitigating the effects of climate change.

This is an important understanding that is coming more and more into focus. Companies that produce food face numerous challenges, where their production can contribute negatively to climate change, water shortages and soil degradation. At the same time, the companies concerned are dependent on good and stable access to nature's resources to be able to ensure safe food production over time.

In 2022 dialogues were conducted with companies in the agriculture, agrichemicals, food and retail food industries, which contributed to a better understanding of their various strategies and actions, and clarified which new initiatives the companies are expected to work with.

Deforestation, biodiversity and climate change



Palm oil and soybean production, together with livestock production, provide essential ingredients for both industry and consumption. At the same time, these are industries with myriad challenges and in which changes must be made to be able to stop deforestation, loss of biodiversity and climate change. Deforestation and responsible production have been an area of focus for the Council on Ethics since 2014.

The Council on Ethics has been working since 2021 in a collaboration project on sustainable raw material production with other investors through the industry body Principles for Responsible Investment (PRI). The goal is that participating investors will gain a greater understanding of the challenges surrounding deforestation along with associated financial and systemic risks in their holdings.

During the year a number of roundtable talks and meetings were held on, among other topics, transition risks, how companies are affected by growing regulatory requirements, and changed consumption patterns.

Anticorruption



Corruption leads to unsound competition, undermines democracies and impedes economic growth. To ensure responsible management of natural resources such as oil, gas, metals and minerals, the need for transparency and governance is especially great in countries with a wealth of natural resources but weak political governance. As part of its anticorruption work, the Council on Ethics supports the Extractive Industries Transparency Initiative (EITI). During 2022 the EITI conducted a number of activities and authored various reports. It has supported eleven nations in preparing registers of beneficial owners in extraction industries, which is highly beneficial in the work on tracing and combating corruption and money laundering. The EITI has also authored a guidance document that specifies what and how companies are to disclose to the EITI. Among other things, policies for anticorruption, taxes and payments to public authorities must be reported in detail.

Reactive work

The Council on Ethics conducts reactive dialogues with companies to influence them and make demands for improvement. The focus of the dialogues is on urging companies to improve their policies, guidelines, implementation and follow-up as well as to transparently report on their work. An advocacy dialogue is often conducted over several years, and if a dialogue does not lead to a desirable result within four years, the Council on Ethics may recommend that the AP Funds exclude the company. However, this is viewed as a last resort, since there is a risk that the unsatisfactory conditions in question would likely continue. Each year the Council on Ethics follows up companies that have been excluded, and if the conditions have been remedied, the Council may recommend that the AP Funds once again include the company in their investment considerations.

At year-end 2022 the Council on Ethics' screening of 3,202 companies showed a total of 111 companies with a confirmed violation of an international convention or with a suspected risk for a violation. 3,091 companies passed the screening without remarks. At

year-end 2022 active dialogues were being conducted with 86 of the 111 companies that had been identified with a confirmed violation or risk for violation through the screening.

A violation of an international convention is considered to be confirmed when it has been verified and assessed according to a number of criteria, including the severity of the violation, the scope and opportunities to prevent the violation, how closely the company is involved in or associated with the violation, and the company's handling of the situation. An at-risk violation pertains to cases which, following an analysis, do not meet all of the criteria for a confirmed violation, but where the severity of the violation is considered by the Council on Ethics to be high. This also includes companies where, for example, a suspected violation is being investigated and where a dialogue has not yet been initiated as well as companies with which the Council on Ethics has engaged in a dialogue, the objectives have been achieved and the dialogue has been concluded, but where the risk is still assessed to be high.

Screening of the AP Funds' holdings	2022	2021	2020
Number of companies in the AP Funds' portfolios	3,202	3,168	2,430
- Of which, confirmed violation	28	23	22
- Of which, at risk for violation	83	89	72
- Of which, with no remarks from screening	3,091	3,056	2,336

Dialogues and achieved dialogue objectives

The Council on Ethics was engaged in 86 company dialogues at the end of 2022, and during the year a total of 66 stages were achieved in the dialogues that were conducted (77 stages in 2021), of which 62 stages were achieved in dialogues that were active at year-end and four in dialogues that had been concluded in 2022.

It also happens that the Council on Ethics is engaged in more than one dialogue with the same company. In such cases the statistics include the stages that have been achieved in all dialogues with the same company.

The difference between the number of companies in active dialogue and companies identified in a screening is due to the fact that the screening also includes companies in which the Council on Ethics has concluded a dialogue but is still monitoring the company, and that the screening includes companies that are being investigated.

Outcome of number of companies in active dialogue	2022
Number of companies in active dialogue at start of 2022	81 ¹
Number of companies where a new dialogue was begun during the year	16
Number of companies with concluded dialogue and objectives achieved	-5
Number of companies with concluded dialogue and objectives not achieved (recommendation for exclusion)	0
Number of companies with concluded dialogue due to changes in the AP Funds' holdings	-6
Number of companies in active dialogue in December 2022	86

1. The number of companies in active dialogue at the start of the year was 81. 85 companies were in active dialogue in October 2021, which was reported in the 2021 report. Four of these were concluded with the objectives achieved as per December 2021.

Definition of the five different stages of a dialogue

The outcome of a dialogue is followed up according to five stages:

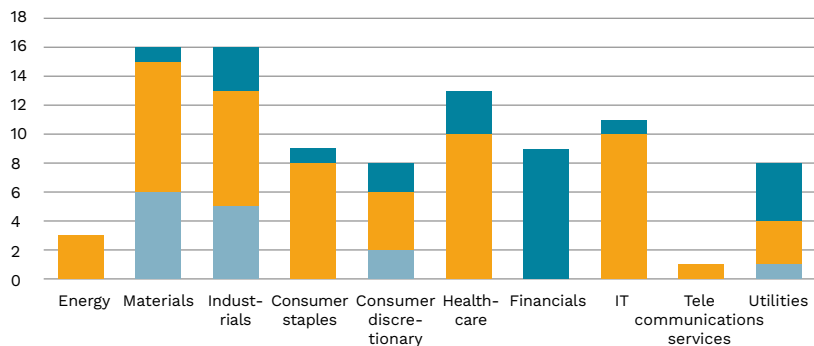
1. Address the issue
2. Establish a strategy
3. Begin implementation of the strategy
4. Show meaningful progress of the strategy and transparency
5. Strategy implemented and achievement of the dialogue's objectives

The work with a new dialogue is begun with an analysis of the company and the violation under review. Based on this analysis, the objectives and strategy of the dialogue are formulated. Thereafter, initial contact is made with the company, which corresponds to stage one. The number of companies that completed stage one during the year includes both new dialogues and dialogues where the work was begun earlier, but where stage one had not yet been completed by year-end.

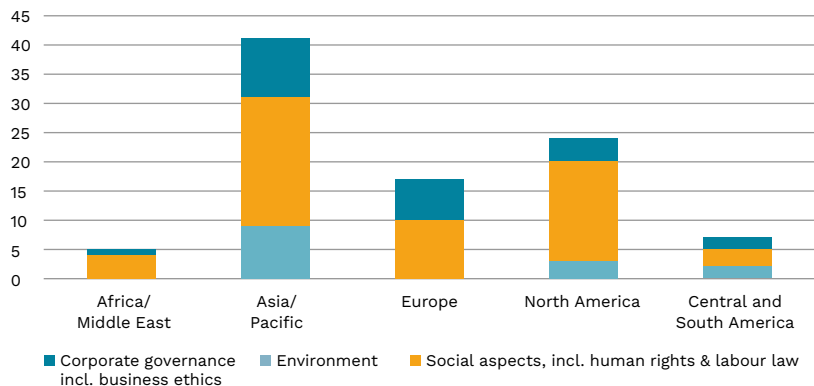
Breakdown of reactive company dialogues

Breakdown of the Council on Ethics' reactive company dialogues in 2022 by region, sector and sustainability area, where it is suspected or confirmed that a violation of an international convention occurred.

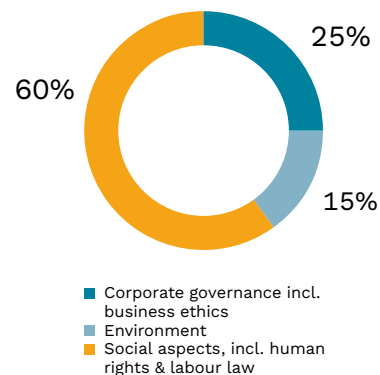
Dialogues per sector



Dialogues per region



Breakdown of engagements by sustainability area



Decisions to not invest in certain types of assets

AP4 makes convention-based decisions about which assets we do not want to invest in. This is a part of how we integrate sustainability in our asset management.

When AP4 makes a determination regarding an investment, it is based on the requirement set forth in the AP Funds Act that management of the capital that is held for the benefit of today's and tomorrow's pensioners shall be done in an exemplary way. This means that AP4 is to invest in and own companies in a responsible manner and contribute to sustainable development.

AP4's investment decisions are based on the AP Funds Act and on the international conventions and agreements that Sweden as a nation has chosen to support. These include, for example, the UN's Universal Declaration of Human Rights and, with respect to the climate issue, the Paris Agreement. International conventions are often written to govern how countries are to act, not regulate individual companies' operations. This means

that sometimes there are different interpretations of whether – and in such case how – a given company is in violation of a convention.

In cases where there is confirmed information that a company is in any way in violation of a given convention, the Council on Ethics of the AP Funds may recommend that the AP Funds not invest in the company. After making an own determination, or based on such a recommendation from the Council on Ethics, it is AP4's CEO who decides on which assets AP4 shall not invest in. During 2022 AP4 also introduced a Sustainability Screen to identify companies associated with serious violations of international conventions. These sustainability-based divestments are now also reflected in the design of the DNP. In such way, a sustainability aspect has been included in the

Board's decisions on the benchmark portfolio for AP4's operative asset management.

If a decision pertains to a directly owned holding, AP4 has the opportunity to directly influence the portfolio. This pertains to equities as well as fixed income instruments.

In cases where AP4 has invested in an actively managed securities fund, AP4 evaluates the fund manager's sustainability process and determines the likelihood that the manager may invest in a company excluded by AP4. AP4 would then request an assurance from the manager that it only holds the asset in question as an exceptional case, and AP4 would inform the manager that holding an excluded company may constitute grounds for ending the fund management assignment. The underlying holdings are then followed up on a regular basis by AP4.



AP4 does not invest in:



Nuclear weapons

Nuclear weapons are classified as weapons of mass destruction, i.e., weapons which, if used, would bear a heavy toll on civilians.

The Nuclear Non-Proliferation Treaty, signed in 1968, permits five nations to have nuclear weapons, while biological and chemical weapons are banned by UN conventions.

At the same time, the five nations have committed themselves to reducing their nuclear arsenals and, over the long term, to entirely eliminating them. In the meantime, the five countries continue to update and modernise their nuclear weapons programmes.

AP4 is of the opinion that this goes against the intention of the Non-Proliferation Treaty and decided in 2018 to not invest in companies with these types of operations.



Tobacco and cannabis

AP4 believes that stronger regulation of the tobacco industry is having a negative impact on tobacco companies' future stock market valuations. The decision was therefore made in 2016 to not invest in tobacco companies.

Based on its mission to act in an exemplary way, AP4 believes that an exemplary interpretation of the WHO Framework Convention on Tobacco Control, which seeks to sharply reduce tobacco consumption, supports AP4's decision to not have ownership in tobacco companies.

In addition to this and based on the UN's conventions on narcotic preparations, the Council on Ethics of the AP Funds has recommended that the AP Funds not have ownership in companies active in cannabis.

However, this decision, which was made in 2018, does not pertain to companies that develop or sell cannabis products for medical or scientific purposes.



Fossil-based companies not aligned with the Paris Agreement

Both thermal coal and oil sand are energy sources with high CO2 intensity per energy unit.

AP4 is of the opinion that these sources, in line with what is stipulated in the UN's Climate Convention and the Paris Agreement, must be phased out as soon as possible as part of the global climate transition. AP4 does not invest in companies in which thermal coal or oil sand have been determined to account for a significant shares of their sales.

In 2020 AP4 divested its holdings in energy companies in the global equity portfolio whose plans and goals are considered to be not aligned with the Paris Agreement. A corresponding decision was made in 2021 with respect to utilities and commodities companies, and in 2022 for companies in the transport sector.

These company selection criteria include historical data as well as the companies' expected transitions.



Cluster munitions and mines

According to the UN's Mine Ban Treaty and the Convention on Cluster Munitions, nations that have signed and ratified these treaties shall cease to produce, conduct trade in or use these types of weapons.

The Council on Ethics has recommended that the AP Funds not have ownership in companies with operations in this area, and in 2008 AP4 divested any such companies from its portfolio.



Company-specific exclusions

AP1-AP4 cooperate through the Council on Ethics of the AP Funds. In the event it is confirmed that an individual company is in violation of an international convention, the Council on Ethics may choose to engage with the company in a dialogue to bring about an improvement. If such a dialogue proves to be unfruitful, the Council on Ethics recommends excluding the company.

Based on recommendations from the Council on Ethics, AP4 has excluded companies that have violated conventions on human rights, narcotic preparations (cannabis), occupied territories, cluster munitions, environmental impact and biodiversity.

In 2022 AP4 implemented a Sustainability Screen that excludes companies associated with serious violations of international conventions.

Corporate governance – with focus on long-term company development

AP4's work as an owner is to generate the highest possible return over time with the goal that the companies' operations will develop and be conducted responsibly and that they will transparently report on their operations.

Active corporate governance is an effective tool for creating and preserving shareholder value over time. Within the corporate governance framework, AP4 works with matters such as board composition, capital structure, structuring of long-term remuneration programmes, diversity of human capital, the portfolio companies' work with sustainability matters and transparency in reporting. This work takes into account the views of the respective companies' stakeholders in order to best promote the company's long-term development, and in this work AP4 takes into consideration other owners' interests as well as what is best for the company in question.

Owners and market actors

Well-functioning stock markets are fundamental for long-term investors to be able to generate high and long-term sustainable returns. AP4 works often together with other owners and market actors through various cooperation initiatives and industry organisations, such as the Institutional Owners Association (IÄF), whose members consist of the 16 major institutional actors in the Swedish stock market and which works to promote positive development of self-regulation in the Swedish stock market. Examples of international corporate governance organisations that AP4 is a member of include the International Corporate Governance Network (ICGN) and the Institutional Investors Group on

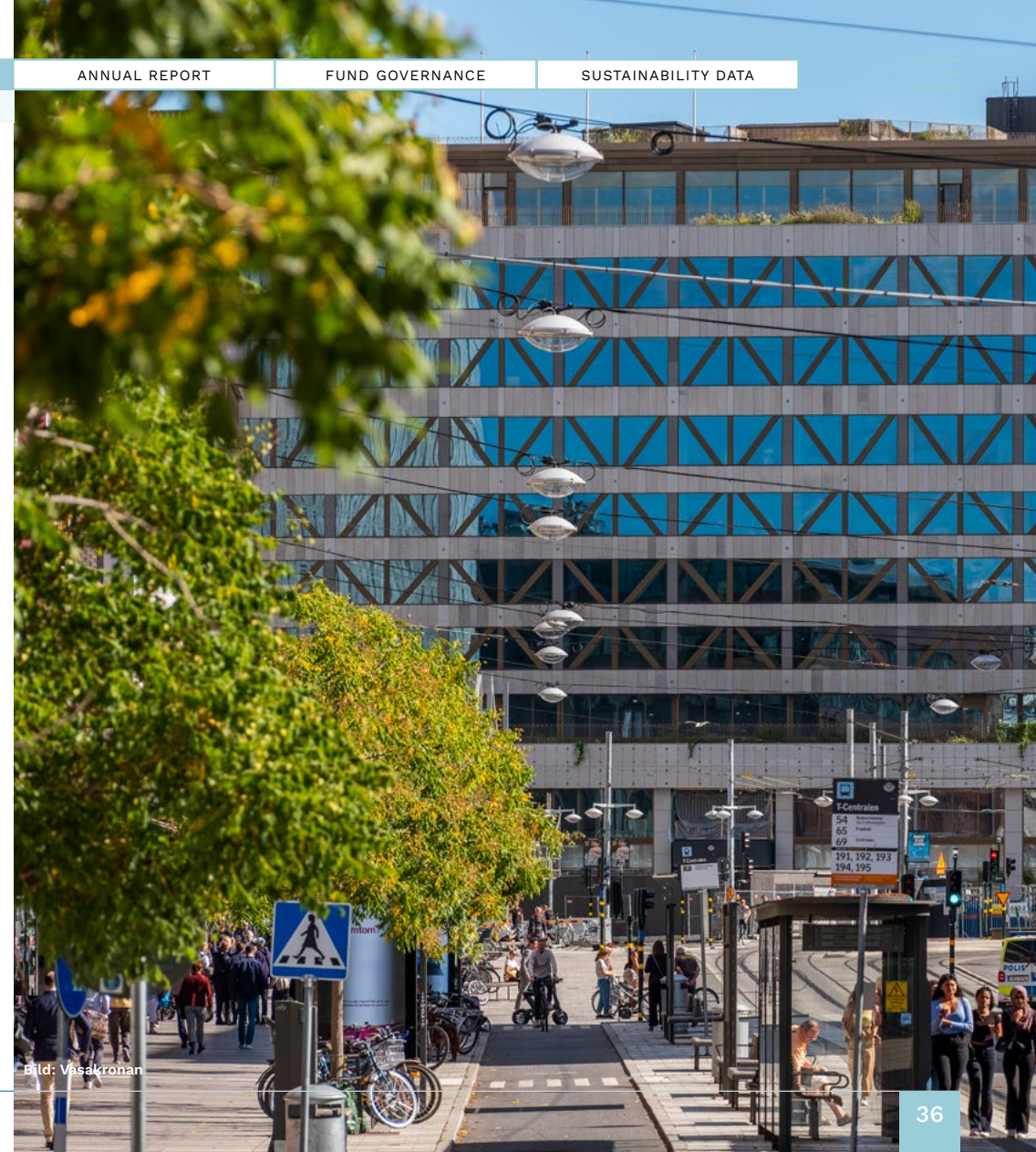


Bild: Vasakronan

Climate Change (IIGCC). The ICGN is a leading actor in establishing global standards for corporate governance and how owners should act. The IIGCC works to support responsible shareholders in their efforts to jointly influence companies and countries to embrace a faster transition of their operations and thereby slow climate change.

Ownership policy – a guardrail

AP4's corporate governance work aims to create the most value for each individual company and is based on its ownership policy, which can be read in its entirety on AP4's website. Many of the matters that were addressed ahead of and at Swedish companies' annual meetings in 2022 involved remuneration, capital structure and board work – matters that AP4 has worked with for many years. AP4 and the majority of Swedish owners want to see remuneration programmes with relevant and clear performance requirements. As the complexity of board work is tending to increase, emphasis is put on the importance that boards are well-composed and that they have representation of members who have essential expertise and experience for the companies.

Globally AP4 has voted in favour of matters that safeguard shareholder influence, such as the



For the nomination committees in which AP4 was represented in 2022, the share of women on the company boards was 38%, which is a higher level than in previous years and is due in part to a different composition of companies in which AP4 is represented.

opportunity to submit proposals at general meetings and make it easier for shareholders to summon an extraordinary general meeting. AP4 also supports proposals for greater transparency in companies' work with sustainability issues, such as how carbon emissions can be reduced and how companies can better communicate their advocacy work and how it is conducted and financed.

Corporate governance in Swedish companies

Over time, AP4 has seen that the work load for boards of listed companies has grown in scope, complexity and time, which requires a greater work effort by directors and higher demands on experience and expertise. For many years AP4 has advocated for at least one woman being included

as a final candidate in nominations for new board members. This has yielded good results over time and has helped bring about a higher share of women on the company boards for which AP4 participates on the nomination committee. For the companies in which AP4 was represented on the nomination committee in 2022, the share of women directors was 38%. This is a higher level than in previous years and is due in part to a different composition of companies in which AP4 is represented on the nomination committee. At the same time, the level is higher than the average for listed Swedish companies overall, which was 36%. The share of women among newly elected directors was also higher in 2022 than in previous years. The difference is partly explained by fewer changes in board members during the pandemic, as certain, planned changes were postponed until they could be made at in-person board meetings. The share of new directors nominated by principal owners therefore increased in 2021. These new directors are men to a greater extent. For 2022 the share of women among newly elected directors was of the same proportion as in the years 2018-2020. However, the levels show that achieving the Swedish Corporate Governance Board's target of at least a roughly 40% share for either

gender is a long-term undertaking and that continued active input from institutional owners is needed.

Corporate governance in foreign companies

In foreign companies, AP4's share of ownership is typically less than 0.05%. This affects opportunities to exercise corporate governance as well as access to companies' boards and managements. Regardless of the size of AP4's ownership, as a responsible owner it is important to vote at general meetings.

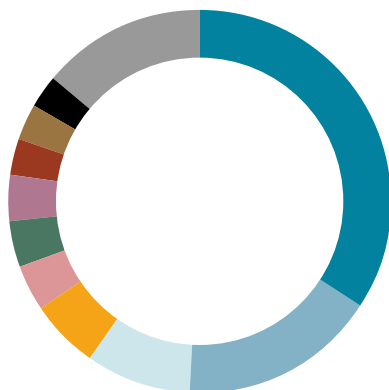
AP4 votes in accordance with AP4's ownership policy and local practice. Shareholders' rights vary from country to country; often, voting rights can be more limited in certain countries than in Sweden.

During 2022 AP4 expanded its voting in foreign companies and now votes essentially at all general meetings of companies in which AP4 has ownership.

Corporate governance in unlisted companies

AP4 invests in unlisted property companies through funds or private equity companies. AP4 strives to be a significant investor and is represented on a total of 70 investor bodies such as boards or Limited Partner Advisory Committees (LPACs), corresponding to 81% of unlisted investments in the portfolio.

Voting per market, breakdown of AGMs 2022



USA	35%
Japan	17%
Sweden	9%
UK	6%
Germany	4%
France	4%
Canada	4%
Netherlands	3%
Australia	3%
Switzerland	3%
Other	14%

Work on nomination committees

Work on nomination committees	2022	2021	2020	2019	2018
Swedish nomination committees on which AP4 has worked, number	46	40	39	37	33
- corresponding to % share of the number of companies in which AP4 was offered a seat on the nomination committee due to its ownership	92%	85%	98%	-	-
Share of women on Swedish company boards where AP4 worked on the nomination committee, %	38%	36%	38%	37%	37%
Share of companies with final candidates of both genders where AP4 worked on the nomination committee, %	50%	47%	52%	76%	-
Share of newly elected women directors on Swedish company boards where AP4 worked on the nomination committee, %	39%	20%	44%	44%	39%

Voting at general meetings

Voting at general meetings	2022	2021	2020	2019	2018
Voting at general meetings (annual and extraordinary) in Sweden, number	125	147	109	87	90
- corresponds to % participation at AGMs of AP4's total number of holdings in listed Swedish equities	88%	69%	51%	47%	51%
Voting at general meetings of foreign companies (annual and extraordinary), number	1,267	1,064	1,043	1,025	971
- corresponds to % participation at general meetings of AP4's total number of holdings in listed equities globally	100%	77%	73%	67%	63%

Work on Swedish nomination committees

One of the most important duties for an active owner is to evaluate and make recommendations for elections of company boards. AP4 does this by serving on nomination committees, where a significant aspect entails evaluating the board's work and performance, and analysing and identifying the competencies and experience that are needed for each individual company's board. Analysing and identifying essential competencies is one of an active owner's most important duties, and at AP4 our assessments are always grounded in the analysis and assessments that are continuously made for each investment. In addition to the decisions that are customarily handled by nomination committees, AP4 works mainly with governance issues that are subject to a resolution by a general meeting of shareholders, such as capital structure, remuneration and incentive programmes, and strategic matters. The share of women among newly elected directors was higher in 2021 than in previous years, which can be partly explained by fewer changes in board members during the pandemic, as certain, planned changes were postponed until there were greater opportunities for in-person meetings. For 2022 the share of women among newly elected directors was of the same proportion as in the years 2018-2020.

Voting at general meetings

AP4 prioritises general meetings of Swedish companies in which it has a significant shareholding or where AP4 is one of the company's larger owners as well as general meetings at which a matter of a principle nature is addressed.

When AP4 votes at general meetings of foreign companies, its focus is on issues related to transparent reporting and satisfactory handling of issues that pertain to climate matters, the environment, social aspects and corporate governance.

Voting at general meetings of Swedish companies

Through work on nomination committees ahead of the 2022 AGM season, AP4 contributed to 299 nominations of board members. With respect to employee incentive programmes, in some 30 cases AP4 engaged the company in a dialogue before its board adopted the proposal. In a dozen or so cases in which AP4 voted in favour of such proposals, the companies amended the proposals after receiving AP4's views. In four cases AP4 voted against the proposals, typically owing to insufficient – or the absence of – performance criteria.

Proposals were submitted for incentive programmes for board members, which do not align the directors' interests with the shareholders' interest for a long-term favourable return. The proposals had a short-term focus, plus they had complex terms that could affect the directors' integrity.

AP4 usually votes in favour of authorisations for issues of up to 10%. AP4 supports larger authorisations only in exceptional cases, where special reasons exist. Most shareholder proposals submitted to general meetings of Swedish

companies have been of such an operational character that AP4 has determined that a general meeting is not the right decision-making forum and has therefore voted against them. In certain cases it was determined that the proposal was not in the company's or shareholders' interests.

Voting at general meetings of foreign companies

AP4 voted against 22% of board recommendations pertaining to the election or re-election of directors and discharge from liability. These mainly pertained to re-election of directors or a chair of a board committee that drafted proposals to the general meeting that were not in compliance with generally accepted corporate governance practice and where the directors involved did not heed previous general meetings' urges for improvements of content and transparency concerning, for example, remuneration programmes for senior executives, where the directors' fees, composition and independence were not in compliance with best practice.

With respect to board recommendations pertaining to variable remuneration programmes

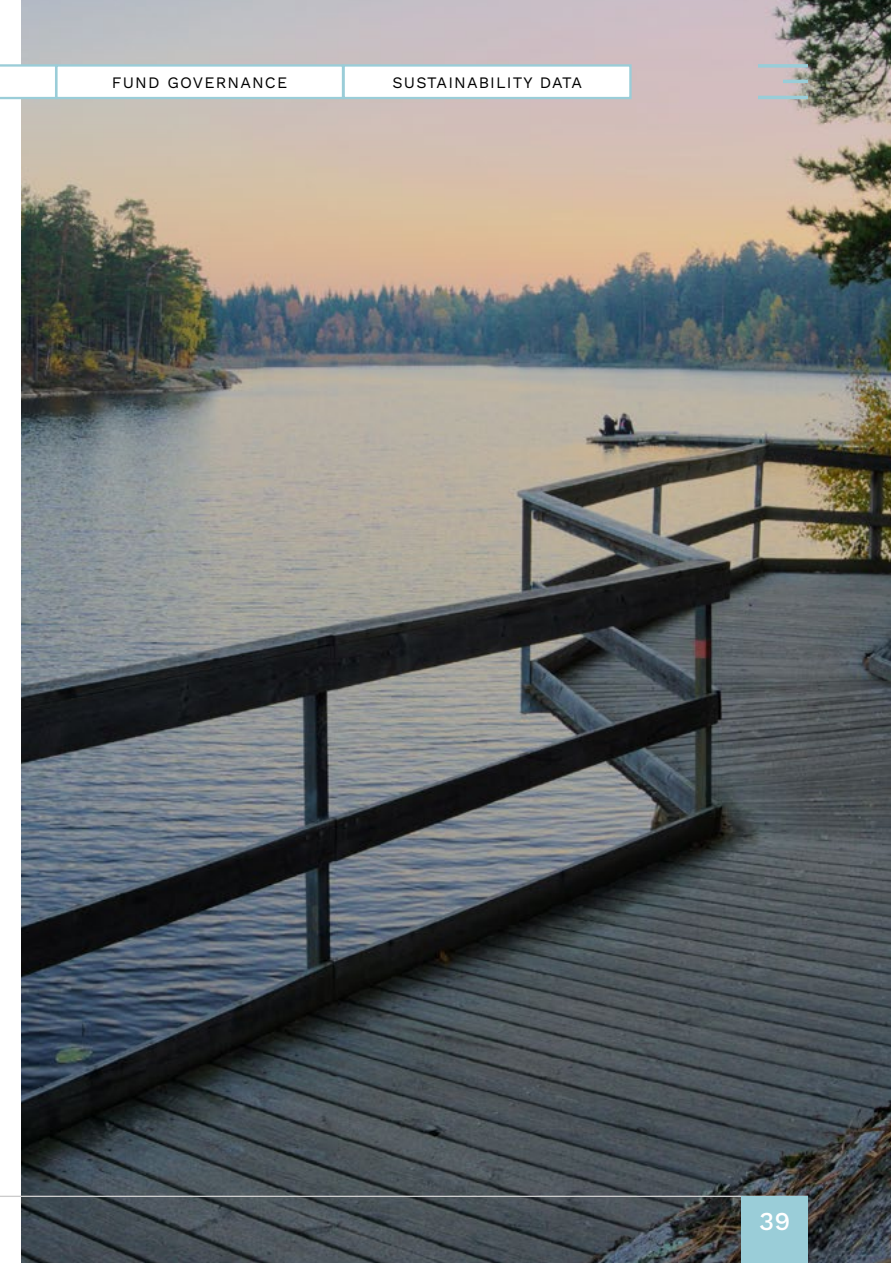
and takeover protections, AP4 voted against 36% and 44% the recommendations, respectively.

With respect to shareholder proposals pertaining to climate matters, health, corporate governance, social aspects and human rights, AP4 typically voted in favour of the shareholder proposals.



The long-term goal of AP4's corporate governance work is that the companies' activities develop and improve, run responsibly and report their activities in a transparent manner.

Together with other investors, AP4 took Volkswagen to court in Germany to gain a ruling on shareholders' rights to submit proposals to a general meeting, which is an important shareholder right. Read more on page 46.



Metrics and goals for Corporate Governance focus area

Goals	Key metrics	Outcome 2022	Description
Participate on nomination committees by virtue of ownership stake	<ul style="list-style-type: none"> Number of nomination committees Share of nomination committees on which AP4 has been offered a seat 	46 92%	<ul style="list-style-type: none"> One of the most important duties for an active owner is to evaluate and appoint a company's board. AP4 does this by serving on nomination committees
Interview all or certain board members in connection with board evaluations	<ul style="list-style-type: none"> Share of companies in which AP4 has interviewed all or certain board members 	100%	<ul style="list-style-type: none"> Typically all board members are interviewed. The chair of the board is interviewed to a special extent
Advocate for greater diversity among board members, especially in terms of gender balance	<ul style="list-style-type: none"> Share of women among newly elected directors 	39%	<ul style="list-style-type: none"> The share of women among newly elected directors was higher in 2022 than in previous years, which is partly explained by fewer changes of board members during the pandemic, as certain, planned changes were postponed until there were greater opportunities for in-person board meetings. For 2022 the share of women among newly elected directors was of the same proportion as in the years 2018-2020
Exercise voting rights at Swedish companies' AGMs	<ul style="list-style-type: none"> Number of Swedish company AGMs at which AP4 voted Number of Swedish company AGMs at which AP4 voted in relation to total holdings 	125 88%	<ul style="list-style-type: none"> AP4 prioritises general meetings of Swedish companies in which it has a significant shareholding or where AP4 is one of the company's larger owners as well as general meetings at which a matter of a principle nature is addressed
Exercise voting rights at foreign companies' AGMs	<ul style="list-style-type: none"> Number of foreign company AGMs at which AP4 voted Number of foreign company AGMs at which AP4 voted in relation to total holdings 	1,267 100%	<ul style="list-style-type: none"> When AP4 votes at general meetings of foreign companies, its focus is on issues related to transparent reporting and satisfactory handling of issues that pertain to climate matters, the environment, social aspects and corporate governance
Support initiatives that advocate for shareholders' rights and companies' work with sustainability	<ul style="list-style-type: none"> Qualitative assessment 	Achieved	<ul style="list-style-type: none"> AP4 supports, among others, the Institutional Investors Group on Climate Change (IIGCC), the Transition Pathway Initiative (TPI) and Climate Action 100+ (CA100+), which strive to influence companies with the largest carbon emissions to take measures to reduce their carbon footprints During 2022, together with other investors, AP4 took Volkswagen to court in Germany against the background of that company, on repeated occasions, rejecting shareholder proposals for transparency surrounding climate lobbying. The opportunity to submit proposals to a general meeting is an important shareholder right that AP4 is a proponent of Additional investor initiatives that AP4 is participating in are described on page 41

AP4's investor partnerships

By cooperating with other investors in the area of sustainability and working in industry organisations, AP4 gains greater strength to influence companies toward change. Presented here are a few investor partnerships and industry organisations that AP4 participates in.



Institutional Owners Association

The Institutional Owners Association (IÄF) works to promote positive development of self-regulation in the Swedish stock market. IÄF is one of the principals of the Association for Generally Accepted Principles in the Securities Market, which operates through a number of self-regulation bodies in the Swedish market, including the Swedish Securities Council, the Swedish Securities Council's self-regulation committee, the Swedish Corporate Governance Board, the Council for Swedish Financial Reporting Supervision and Swedish Financial Reporting Board.

AP4 was a co-founder of IÄF in 2003 and is one of the association's 16 members.



International Corporate Governance Network

Promote effective standards of corporate governance and investor stewardship worldwide to contribute to effective markets and sustainable economies. The ICGN was established in 1995.



Climate Action 100+

An investor-led initiative to engage in a dialogue and influence the listed companies that emit the largest amounts of greenhouse gases to take necessary action on climate change.

AP4 has participated in company dialogues with Daimler, Engie and Volkswagen through CA100+.



Transition Pathway Initiative

An initiative led by investors with the mission to assess large companies' preparedness for the transition to a low carbon economy. Its company assessments provide support for other initiatives such as CA100+.

AP4 serves on the TPI's investor Steering Group.



The Institutional Investors Group on Climate Change

A European investors membership body for cooperation on climate change issues and engagement with companies, politicians and other investors in dialogue.



Task Force on Climate-related Financial Disclosures

An initiative for promoting disclosure of climate-related risks and opportunities in companies' public reporting.

AP4 has supported the TCFD since its establishment in 2017 and reports in accordance with the initiative.



Principles for Responsible Investments

The PRI is a responsible investment initiative committed to increasing companies' and actors' responsible action in ethics and the environment.

AP4 has been a signatory of the principles since 2007.

Focus on:

AP4's real estate strategy – a long-term commitment

The Fund's real estate assets have gradually grown over time, from 2% of the fund capital in 2001 to 14% in 2022. This has taken place through active allocation to new investments, but also owing to many years of favourable returns – more than 15% on average per year since 2001.

AP4's single-largest real estate investment is its ownership stake in Vasakronan, which is 25%-owned each by AP1-AP4. Vasakronan has been very successful at managing and developing office and retail properties in Sweden's four largest cities.

"Since 2010 the comparatively economically sensitive real estate exposure via Vasakronan has been complemented with sizeable investments in less economically sensitive residential rental properties and public sector properties via Rikshem, which is owned in equal parts by AMF and AP4. Both of these holdings today make up approximately 70% of AP4's total real estate exposure," explains Olof Nyström, Senior Portfolio Manager at AP4.

In recent years AP4 has striven to diversify the portfolio with additional types of real estate assets which are considered to be relatively less sensitive to economic swings. This has been done through, among

other things, investments in Svenska Handelsfastigheter, which invests in properties for the grocery retail and discount retail trades, but also via investments in listed property companies, mainly with focus on warehouses, logistics and light industry.

"Our analysis shows that, over time, the return on real estate that the listed companies achieve is reflected also in the price growth of their shares, and thus we see that listed real estate equities are a complement and alternative to ownership via unlisted companies," Nyström says. "By also having the opportunity to invest in listed property companies, AP4 can relatively quickly achieve an exposure to the real estate segment that we believe benefits from particularly favourable conditions to generate good returns.

"Many listed companies also have strong asset management positions

in their segments and geographic markets, and can show an historic excess return compared with the market average."

A good example of this is the position that AP4 has gradually built up since 2014 in Sagax, which now represents AP4's largest listed property company holding with a value of approximately SEK 4 billion. At present the real estate exposure consists of:

- 42% offices
- 12% retail, of which half is grocery retail and discount retail
- 10% warehouses and logistics
- 31% residential and public sector properties
- 5% other

"83% of the properties are in Sweden, of which just under half are in the greater Stockholm area, and 17% are outside of Sweden, mostly in Europe," Olof Nyström concludes.



Olof Nyström, Senior Portfolio Manager, and Frida Olsson, Portfolio Manager, at AP4

Real estate: Market development and forecast

The real estate asset class has strongly benefited from the general decline in real and nominal interest rates that took place up until the start of 2022. Moreover, access to inexpensive loan financing was particularly high during the pandemic as a direct result of support purchases of both government and corporate bonds made by the ECB and Central Bank of Sweden. This prompted many actors to pursue a course of rapid, acquisition-based expansion. During the past year, however, rapidly rising inflation has led to sharp increases in key lending rates by the central banks.

During the last 12 months, rising interest rates combined with growing concerns over a recession led to sharply higher credit margins, especially for property companies, whose interest expenses in the bond market have risen from around 1% to 4%-6%. Rising loan rates are prompting investors to demand a higher yield on real estate.

Many of the companies that have been aggressive buyers of real estate in recent years are now being forced to sell in order to strengthen their financial

key ratios and thereby defend their credit ratings. At present this has led to a greater supply of properties, but since the level of uncertainty is great about inflation and interest rate development going forward, there are many properties that are not getting sold due to overly high price expectations. Shares in listed property companies fell by an average of approximately 39% in Europe in 2022. The stock market has discounted that property values will fall by 10%-15%. At the same time, inflation is roughly 10%, which means that for properties with leases coupled to the rate of inflation, the yield rises by 0.3 to 0.6 percentage points via increased rents. Overall this is helping to dampen the risk of price declines, but there is nevertheless an apparent risk that we are now entering a period with weak – and for certain segments and geographies – negative price development. However, a weak value development is expected to fully or partly be compensated by a continued positive management result in our real estate portfolio.

AP4's sustainability work in the real estate sector

Sustainability issues are an important part of AP4's ownership policy and thus also in the unlisted real estate investments. The construction and real estate sectors have a significant climate impact. As a responsible owner AP4 provides support but also has clear expectations for sustainability work in its holdings.

"Since 2019 we report CO2 emissions for unlisted properties in AP4's annual report," says Frida Olsson, Portfolio Manager at AP4. "Collection of data is complemented with dialogues and meetings with the respective companies. Our experience is that through dialogue and a strong sustainability focus we are driving development forward in the companies we have holdings in."

How AP4 acts as an owner

Unlisted investments generally entail a long-term commitment in which AP4 owns a large share of the investment. Corporate governance is therefore an important matter, where AP4's model is adapted according to the investment model. For directly owned unlisted companies, including property companies, an established process is in place with formal or informal owner forums and representation on the nomination committee and

board. For holdings in which AP4 invests via a fund structure together with other investors, governance is regulated through agreements, and AP4 typically has representation in investor bodies such as Advisory Boards and LPACs (Limited Partner Advisory Committees).

"In the listed real estate investments where AP4 is among the three largest owners, normally we participate in the nomination committee work," Frida Olsson explains. "At the end of 2022 AP4 was represented on the nomination committees of the companies Bonava, Cibus, NP3 and Sagax. The nomination committees are tasked with nominating board members, among other things. Through board interviews, board evaluations and interviews with the company's CEO, we get a good idea about how the company's sustainability work is progressing. In these contexts we also have the opportunity to communicate AP4's views of sustainability and the expectations we have on the company's sustainability work."

Climate & Environment – with focus on one of the greatest challenges of our time

Climate change is one of the greatest challenges of our time. It affects society as a whole as well as individuals, and is bearing a growing impact on asset values and opportunities to generate long-term returns. Slowing climate change is a prerequisite for stable economic growth and thereby for AP4's opportunities to successfully perform its mission over time.

AP4 prioritises Climate & Environment as a sustainability area in its asset management operations. The area is considered to be financially material and entails a systemic risk that affects the ecological, social and financial stability of all the world's economies and countries. Sectors and companies with couplings to climate change are exposed to significant risks – physical, regulatory, technological and social. These could bear a substantial impact on asset values and opportunities to generate returns over the long term.

The climate transition

AP4 supports the Paris Agreement and the more ambitious Swedish environmental objective to achieve net zero GHG emissions (CO₂e) by 2045. AP4's portfolio and investments support these goals. In 2022 AP4 reduced CO₂e emissions in its portfolio by 3%. AP4 has more than halved CO₂e emissions for its listed portfolio since 2010, with a decrease of 61%. AP4's target is to further cut emissions in half from the 2020 level with the ambition to achieve net zero emissions by 2040 at the latest. AP4 measures



and reports CO₂e emissions in accordance with joint guidelines used by the AP Funds. These pertain to listed equities, which accounted for 56% of AP4's portfolio at year-end 2022. In addition, AP4 also reports emissions for the unlisted real estate portfolio, which accounted for an additional 11% of total fund capital. AP4 is working continuously to broaden its measurement and reporting to cover an even larger share of the portfolio as data with sufficient coverage and quality becomes available.

Climate risks in the portfolio

AP4 applies low-carbon strategies in the global equity portfolio. These are optimisation strategies that reduce exposure in each sector to companies with high CO₂e emissions or fossil fuel reserves. The strategies are based on historical emission data as well as on forward-looking data on the extent to which companies' operations are aligned with the Paris Agreement and how various levels of carbon pricing may impact companies' margins. These parameters affect divestments in AP4's entire internally managed global equity portfolio. The group for fundamental thematic equity management that was established in 2020 continued its work with company selection in resource-intensive sectors. The energy, utilities and commodities



Companies whose plans and goals are considered to be not aligned with the Paris Agreement's goals have been divested from the portfolio.

sectors were analysed in 2020 and 2021. Companies whose plans and goals are considered to be not aligned with the Paris Agreement's goals have been divested from the portfolio. In the energy sector, AP4 has focused its investments on companies that are on track to becoming integrated energy companies with a growing share of investments in renewable energy. With respect to utilities, focus is on producers of renewable energy and electricity distribution companies, which are benefiting from electrification, and hydro power companies, which have low carbon emissions. Key themes for the companies that AP4 continues to invest in in the commodities sector are recycling, production of materials that are replacing carbon-intensive materials, and forest-owning companies. In the transport sector, AP4 has increased its ownership in rail operators and reduced its investments in airlines. In marine transport, exposure to operators is being reduced at the same time that exposure to logistics and shipping companies is being

increased. Since 2018 AP4 does not own shares in companies with significant undertakings in thermal coal or oil sand.

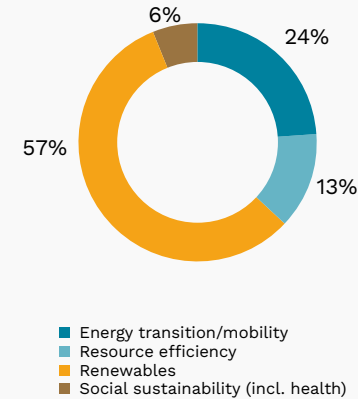
Thematic investments address opportunities

AP4 continuously analyses sustainability trends and seeks out proactive investments in sustainability trends that contribute to the transition to a sustainable society and that also benefit from this transition. The goal is to invest from both sustainability and financial perspectives. To be able to meet both of these requirements in a market where the offering is not known in advance, AP4 does not set any absolute goals for how much capital is to be invested thematically, however, the long-term ambition is that these will increase considerably over time. In 2022 AP4 began a project involving a review of the thematic sustainability analysis, which was conducted for the first time in 2018. Developments with respect to sustainability-related investments are now moving quickly. The hope is therefore to be able to identify additional sustainability themes that are sufficiently meaningful and attractive to be of interest as investment areas for AP4 going forward.

Influence as owner

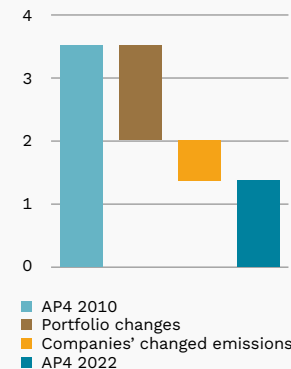
Over time AP4 has reduced the carbon footprint of its portfolio

Breakdown of thematic sustainability investments 2022



Based on the thematic sustainability analysis, during 2022 AP4 continued to make proactive sustainability investments amounting to SEK 7.4 billion that address the opportunities in the climate transition. Climate-related thematic investments consist mainly of new commitments in the unlisted portfolio and the build-up of a thematic portfolio of niche companies in the fundamental equity management. AP4 continuously analyses the share of thematic investments in the investment flow and in the portfolio.

Changed CO₂e emissions 2010-2022 (MtCO₂e)



The portfolio's emissions decreased by 3% in 2022. Since 2010 AP4's carbon emissions have decreased by 61%. Overall this means that AP4's carbon footprint is approximately 55% lower than for a broad equity index. Of the emissions reduction since 2010, 43 percentage points are attributable to the fact that AP4 has reduced the portfolio's carbon emissions through portfolio changes. Companies' emission reductions during the same period of time accounted for a reduction of 18 percentage points. Achieving the climate goals going forward requires that the companies that AP4 has ownership in continue to reduce carbon emissions in their own respective operations.



AP4 analyses sustainability trends and seeks out proactive investments that contribute to opportunities and benefits from the transition to a sustainable society.

through portfolio changes. To achieve the climate goals, the companies that AP4 invests in must also reduce carbon emissions in their own respective operations. In its ownership role AP4 influences companies and cooperates with other investors to broaden knowledge about how the climate issue can be addressed in the asset management operations. AP4 also engages in dialogues with political decision-makers to create conditions for the climate transition.

Two examples of investor partnerships that AP4 participates in are Climate Action 100+, which aims through investor dialogues with companies to influence them to reduce their greenhouse gas emissions and thereby slow climate change, and the Transition Pathway Initiative (TPI), an investor-led initiative that urges companies to reduce their greenhouse gas

emissions and transparently report on this work in accordance with the Task Force on Climate-related Financial Disclosures (TCFD). The TPI is building a public database using companies' public information and assesses how far the companies have come in their transitions compared with international goals under the Paris Agreement. This work is conducted with support from an independent partner, the London School of Economics. AP4 supports the TPI's work and is a member of the TPI's investor Steering Group.

In 2022 AP4 joined the ESG Data Convergence Initiative, an industry coalition of private equity investments for coordination and cooperation regarding standardised reporting of sustainability data.

AP4 frequently engages companies in a dialogue within the framework of its international investor partnerships or directly together with other investors. One example is Volkswagen, where AP7 and the Church of England Pensions Board have driven a dialogue together with AP4, the Danish pension fund Akademiker-Pension, and AP2 and AP3. On repeated occasions Volkswagen has rejected shareholder proposals on transparency surrounding climate

lobbying, and as a result in 2022 the shareholder group took the company to court in Germany to investigate minority shareholders' rights in Germany. The case will determine if Volkswagen has the right to refuse to include proposals from minority shareholders on the agenda of its 2023 Annual General Meeting. A court ruling is expected to clarify if shareholders have the right to submit matters to be taken up by a general meeting in Germany. A favourable ruling would improve shareholders' opportunities to make demands for transparency by German companies also in other areas such as diversity and inclusion, discrimination and other conflicts of interest.

AP4 is also carrying on an active dialogue with political decision-makers for the main purpose to create a global system for pricing carbon emissions. Such pricing would impactfully and immediately provide impetus to the climate transition by giving all economic actors a concordant incentive to reduce their carbon emissions. AP4's CEO along with a number of other employees are active participants and speakers at various investor and sustainability conferences.



Metrics and goals for the Climate & Environment focus area

Goals	Key metrics	Outcome 2022	Description
Contribute to a decrease in global climate emissions in accordance with the Paris Agreement	<ul style="list-style-type: none"> Change in portfolio's CO2e emissions in 2022 Change in portfolio's CO2e emissions since 2010 	-3% -61%	<ul style="list-style-type: none"> AP4's portfolio is to reach net zero by 2040 at the latest Intermediate goal to cut CO2e emissions in half by 2030 at the latest compared with 2020 For performance over a longer period of time, see table in the Sustainability Data section, page 95
Make investments that reduce climate risk in the portfolio	<ul style="list-style-type: none"> Portfolio's CO2e emissions as share of global equity index (MSCI ACWI) Portfolio's CO2e intensity as share of global equity index (MSCI ACWI) 	45% 40%	<ul style="list-style-type: none"> Measures the listed equity portfolio's CO2e emissions based on each company's CO2e emissions weighted according to AP4's share of ownership in the respective companies Measures the respective companies' CO2e emissions in relation to their revenue, weighted according to AP4's portfolio share in the respective companies
Make proactive investments that contribute to and benefit from the climate transition	<ul style="list-style-type: none"> Proactive investments based on sustainability trends that contribute to and benefit from the transition to a sustainable society 	SEK 7.4 billion	<ul style="list-style-type: none"> New commitments to proactive sustainability investments in the unlisted portfolio amounted to SEK 6.5 billion Within unlisted equities, such new investments amounted to SEK 0.9 billion in 2022
Evaluate potential asset management strategies based on identified indicators	<ul style="list-style-type: none"> Description of analysis and implementation 	Achieved	<ul style="list-style-type: none"> Conducted fundamental company selection in the transport sector In quantitative global equity management AP4 has introduced the Alignment Score, a tool for company selection in all sectors for operations in line with the Paris Agreement
Advocate for climate transition	<ul style="list-style-type: none"> Changed CO2e emissions owing to AP4's portfolio changes in 2022 Changed CO2e emissions owing to portfolio companies' reduced emissions in 2022 	-5% 2%	<ul style="list-style-type: none"> AP4 has reduced the portfolio's CO2e emissions through portfolio changes To achieve the climate targets, the companies that AP4 has invested in must also reduce CO2 emissions in their respective operations AP4 supports organisations such as the Institutional Investors Group on Climate Change (IIGCC) and Climate Action 100+ (CA100+). The latter aims to influence the approximately 160 companies with the largest carbon emissions to take measures to reduce their carbon footprints In 2022 AP4 joined the ESG Data Convergence Initiative, an industry coalition of private equity investments for coordination and cooperation regarding standardised reporting of sustainability data In 2022, together with other investors, AP4 took Volkswagen to court in Germany against the background of that company, on repeated occasions, rejecting shareholder proposals for transparency surrounding climate lobbying. The opportunity to submit proposals to a general meeting is an important shareholder right that AP4 is a proponent of

Focus on:

2022 – the year when the energy issue came to a head

2022 was a challenging year in the financial markets. In addition to large and rapid changes in real interest rates, pricing in the energy markets was extremely volatile following the outbreak of war in Ukraine – a war in which, on top of all the human suffering, has also radically changed the game rules for the world's energy supply.

Large parts of Europe, with countries like Germany at the top, have since way back made themselves dependent on Russian oil and gas for their energy consumption. Despite major investments in renewable energy in recent years, the year's energy crisis with galloping oil and gas prices shows that the world cannot manage without fossil energy. The energy issue today is therefore both concrete and acute.

"There are two key areas associated with energy supply. The one is that we need sufficiently low energy prices for the world to be able to develop economically and thereby build its way out of poverty. At the same time, we find ourselves in a climate crisis with extreme weather and rising average temperatures. How we are to deal with these concerns, which at least in the near term perspective seem to be in opposition with each other,

requires answers that no one fully has yet," explains Jan Petersson, Senior Portfolio Manager at AP4.

Upon a closer look at pricing in the energy sector, a premium has been attached to companies that have had the most exposure to fossil fuels, since for natural reasons the leverage effect of these companies has been larger. AP4's overall position is that, for the unforeseeable future, the world cannot manage its energy supply entirely without fossil energy and that it therefore continues to be selectively invested in the energy sector.

"We have our eye out for companies that are actively participating in the climate transition through investments in renewable energy and new technologies that limit carbon emissions," Petersson continues. "As a consequence of the high energy prices, in the near term we will have to accept that coal will be used



Jan Petersson, Senior Portfolio Manager, AP4

somewhat longer than what was previously expected. But all clouds in the sky are not dark. We look very favourably on developments in the USA, which together with China is the largest emitter of carbon dioxide in the world. Naturally this because they are the world's two largest economies."

The US has generally lagged behind Europe in the energy transition, but with the introduction of the "Inflation Reduction Act" in the US including, among other things, credits for environmentally friendly investments, there has been a marked improvement, which hopefully motivates the rest of the world to follow suit.

Notes Jan Petersson: "As an asset manager this gives us opportunities to continue investing in companies that are working with the energy transition in a responsible way."

Focus on:

Major value in combining quantitative approach with fundamental analysis

Since 2020 AP4 has built up team for fundamental company selection in resource-intensive sectors. The team's work focuses on identifying companies in sectors that are exposed to long-term trends but that are also leaders from a sustainability perspective in their respective sectors.

Initially the team had its eyes only on the energy sector, but it has subsequently broadened its perspective to also include utilities and the commodities sector. There is major value to be found in combining a quantitative approach with fundamental analysis.

"We work from a global index and use quantitative analysis to identify companies that are associated with sustainability risks in climate and the environment. With a foundation in AP4's overarching sustainability analysis, we are using forward-looking data pertaining to companies' ability to handle carbon pricing. With the help of quantitative methods we are screening out the worst companies in the portfolio," explains Pontus Lidbrink, head of Thematic Strategies and Implementation.

The three most emissions-intensive sectors (energy, commodities and utilities) have a weighting of just over 10% in the portfolio but account

for roughly 75% of all emissions. AP4 has made great progress with its quantitative approach, but it is not all that easy to identify companies that are changing, and the data that is used cannot capture all of the forward-looking aspects of a company. By combining its quantitative approach with fundamental analysis, AP4 can better identify companies that can contribute to the transition to a sustainable society and also act as an active owner and help companies in their transition work.

During 2022 the fundamental team was expanded to two portfolio managers and one analyst. The transport sector is the most recent part of the market that the fundamental team has looked at.

"We have 55 companies in the transport industry in our investment universe," notes Fredrik Skoglund, Portfolio Manager and responsible for fundamental selection in the transport sector. "We have combed through the industry and made a selection of companies that we believe are exposed to structural trends and that have credible sustainability profiles. This means that we have excluded airlines, traditional companies that rely on lorry freight and capital intensive companies in marine shipping, and are focusing instead on American rail companies and niche players in lorry freight."



From left: Pontus Lidbrink, head of Thematic Strategies & Implementation, William Gan, Junior Analyst, Julia Ripa, Quantitative Analyst, and Fredrik Skoglund, Portfolio Manager.

Solid foundation for development

Our ambition is to be an employer with sound values. We aspire to create favourable conditions for all employees to be able to do a good job, develop and grow in their roles.

AP4 is a cost-efficient organisation that conducts knowledge-intensive operations with relatively few employees. This means that every employee has large responsibility and plays an important role in the operation's results and success, which entails a certain dependence on individual persons. To manage and minimise personnel risk, we need to recruit and retain competent and committed employees while at the same time offer a stimulating, sustainable and rewarding career in exchange for the high operational demands we make. AP4's strategic HR work is characterised by identifying the right competencies and right activities to develop and drive operations forward.

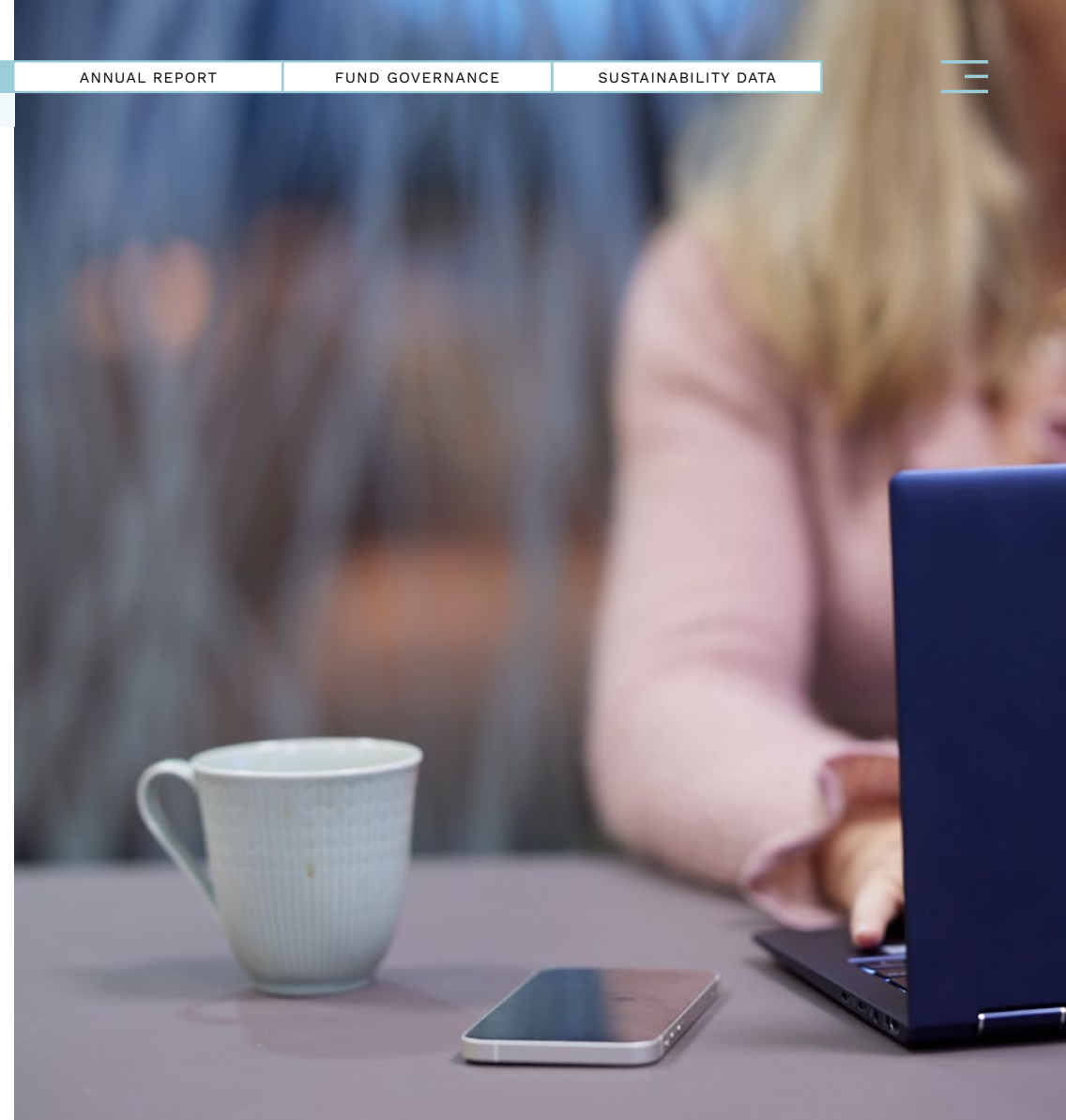
Our HR strategy is based on several different parts. For example, all employees at AP4 are responsible for upholding the dynamism of a

good culture with sound values. Another important part is our ethical compass with a clear code of conduct for the daily activities.

Culture and values

A good and positive company culture is one of the most important preconditions for building and maintaining an organisation that is sustainable and successful over time. Maintaining a balanced work life and good leadership is therefore an important area that AP4 works with on a continuous basis. In this way the sustainability perspective is always an integral part of AP4's HR work.

AP4 works in an environment in which specialist knowledge and depth of expertise are decisive factors for long-term favourable performance. This means that the culture must be characterised by a shared view of professionalism,





work methods and implementation strength. The company culture at AP4 is a supportive one that facilitates employees to be engaged, unassuming and secure, to cooperate in order to solve daily challenges – but also to take initiative to raise questions, reconsider and think new.

During 2022 we continued to develop and strengthen our culture to make sure it will continue to be aligned both with our operational objectives and values. Equal treatment and equality are promoted at all levels in this work. During the year AP4 had continued strong focus on competence and leadership development. While the pandemic's effects have presented challenges for operations, they also led to new, efficient ways of working for leaders and employees.

Competence succession

Regular competence inventorying is an important tool in the HR work that results in development plans at both the unit and individual levels. On top of this, yearly succession planning is conducted, where we can clearly identify what competencies are needed and plan development work based on the succession needs we have identified in various areas. AP4 conducts market salary surveys to make sure its salary levels and remuneration packages are in line with the market and reasonable.

In addition to this, AP4 conducts a yearly salary mapping to ensure that there are no unreasonable pay differences between women and men in the organisation.

Equality and diversity

AP4 has a need of various key competencies, and equality and diversity are a natural part of the recruitment process. When recruiting firms are used, AP4 requires that both women and men are included in the candidate selection. Candidates of the underrepresented gender are always called to an interview, assuming they meet the competency criteria. Among final candidates, at least one person shall always be included from the underrepresented gender provided that they meet the competency criteria in the area in question.

Work environment

Work environment is a concept that pertains to the physical as well as the psychosocial environment. A good work environment is built upon committed and engaged employees who are able and eager to develop the workplace, but also upon identifying any risks and problems at an early stage. To promote long-term good health, AP4 offers regular health exams and a wellness subsidy. AP4 also offers its employees voluntary healthcare insurance.

Employee surveys

To both ensure a long-term positive work environment and identify the areas that AP4's employees feel are of greatest importance for their health, motivation, engagement and goal fulfilment, every year AP4 conducts an employee survey. Based on the results of this survey, AP4 draws up an action plan addressing areas for improvement as well as areas whose good results are to be maintained. The action plan is followed up continuously during the year. The results are reported and handled in accordance with AP4's process for development work. Even though 2022 was a challenging year, the year's employee survey showed results at a continued high level and that are still above or in line with the target levels for all areas measured by the survey. The results of the survey have been reported internally and handled in accordance with AP4's internal development process.

Ethics and morals grounded in routines and processes

Trust in and expectations on AP4 put high ethical demands both on employees and operations. Every year AP4's board of directors adopts an HR and ethics policy that is based on statutory regulations and ethics rules. On top of this, every year the CEO also adopts a

number of internal guidelines. These cover rules on public procurement processes, remuneration and benefits, business travel, entertainment, employees' personal trading in securities, inside information and side jobs as well as on bribery and conflicts of interest. All employees are expected to take personal responsibility for adhering to the policy and guidelines, and if for any reason a dilemma arises, the matter is to be addressed in consultation with the employee's immediate manager.

AP4's organisation includes an independent Compliance function that is responsible for ensuring that AP4 acts in accordance with applicable laws and regulations, and that reports to AP4's CEO or the Board of Directors in the event of any irregularity. Compliance work can be conducted in a range of different ways, such as through advice, training, implementation of new routines and processes, or through inspections and spot-checks.

AP4's values

We have implementation power

Owing to our strong sense of drive, engagement and perseverance, we get things done. We take initiative.

Together we are successful

We have a strong team spirit and draw from each other's expertise. We stand united in both good times and bad, and together we form a stronger organisation. We have trust and respect for each other, and take responsibility both as individuals and as a team.

We are professional in everything we do

By acting professionally we always work in the best interests of pensioners. Our ethics, reliability and responsibility shall leave no room for doubt.

We challenge and think new

We continuously develop our activities with creativity, curiosity and flexibility. We are distinguished by a willingness to embrace change.

Key ratios – employees	2022	2021	2020	2019	2018
Number of employees, average	61	62	61	56	54
Of whom, women, %	39	37	37	35	33
Number of persons in Executive Management, average	7	7	7	9	7
Of whom, women, %	43	32	33	44	25
Average age, yrs	47	46	44	45	43
Employee turnover, %	22	14	3	9	19
Sickness-related absence, %	1.1	1.3	2.3	2.5	1.6

The Fourth Swedish National Pension Fund's sustainability report for 2022

The Fourth Swedish National Pension Fund (AP4) has prepared a sustainability report for the 2022 financial year.

The sustainability report is based on the AP Funds' joint guidelines for reporting on how the goal of exemplary asset management has

been achieved. AP4 strives to adhere to the guidelines for sustainability reporting set out in the Annual Accounts Act as well as in the GRI Standards.

Sustainability reporting is presented on pages 9–51 and on pages 89–101.

Auditor's opinion regarding the Fourth Swedish National Pension Fund's sustainability report

For the Fourth Swedish National Pension Fund, corporate identity number 802005-1952

Engagement and responsibility

It is the Board of Directors who is responsible for the sustainability report for the year 2022 and that it has been prepared in accordance with the Fourth Swedish National Pension Fund's principles for sustainability reporting.

The scope of the audit

Our examination has been conducted in accordance with FAR's auditing standard RevR 12, The auditor's opinion regarding

the statutory sustainability report. This means that our examination of the sustainability report is substantially different and less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinion.

Opinion

A sustainability report has been prepared.

Stockholm, 23 February 2023

Britta Burreau
Chair of the Board

Lars Åberg
Vice Chair of the Board

Helén Eliasson

Monika Elling

Anders Johansson

Henrik Rättzén

Per Strömberg

Ingrid Werner

Aleksandar Zuza

Niklas Ekvall
CEO

Stockholm, 23 February 2023

Helena Kaiser de Carolis
Authorised Public Accountant

Peter Nilsson
Authorised Public Accountant

Annual Report



AP4's Annual report consists of the directors' report, the income statement, the balance sheet and notes. Reporting is conducted in accordance with the AP Funds' jointly prepared accounting and valuation policies.

ANNUAL REPORT

- DIRECTORS' REPORT
- INCOME STATEMENT
- BALANCE SHEET
- NOTES
- SIGNATURES
- AUDITOR'S REPORT

Directors' Report 2022

AP4's return after costs was -11.9% (19.2%). The net result was SEK -62.5 billion (85.7). Fund capital at year-end 2022 amounted to SEK 460.5 billion (527.6). During the last five-year period, 2018-2022, the return after costs has averaged 6.9% per year, and the accumulated result for the five-year period was SEK 137 billion.

Result and fund capital

Fund capital decreased in 2022 owing to the result for the year of SEK -62.5 billion (85.7) and net payments of SEK 4.7 billion (7.5) to the public pension system.

SEK billion	2022	2021
Fund capital, opening balance	527.6	449.4
Net payments to the pension system	-4.7	-7.5
Net result for the period	-62.5	85.7
FUND CAPITAL, CLOSING BALANCE	460.5	527.6

Analysis of obligations and decisions on long-term return targets

Every three years AP4 conducts an ALM (Asset Liability Management) analysis of its obligations in the pension system. The purpose is to set AP4's long-term return targets and gain an understanding of the suitable long-term allocation to equities, currency exposure and average duration of fixed income investments. In this analysis AP4 strives to strike a balance between the expected return and risk that best contributes to a long-term strengthening of the pension system while at the same time limiting the risk for reductions of outgoing pension payments through activation of the automated balancing mechanism. In this work AP4 also takes generational neutrality into account, i.e., ensuring that one generation of pensioners does not benefit at the expense of another.

An analysis of the pension system's assets and liabilities was conducted

most recently in 2020, which led to a reduction of AP4's long-term real return target over 40 years from 4.0% to 3.5%, effective starting in 2021. The suitable long-term ranges for AP4's equity allocation and open currency exposure have remained unchanged at 50%-70% and 20%-40%, respectively, of fund capital. The suitable range for the fixed income portfolio's duration was set at 3-9 years. This was deemed to ensure a well-considered balance between the system's long-term financial position and the risks for balancing. An updated ALM analysis is planned to be conducted in 2023.

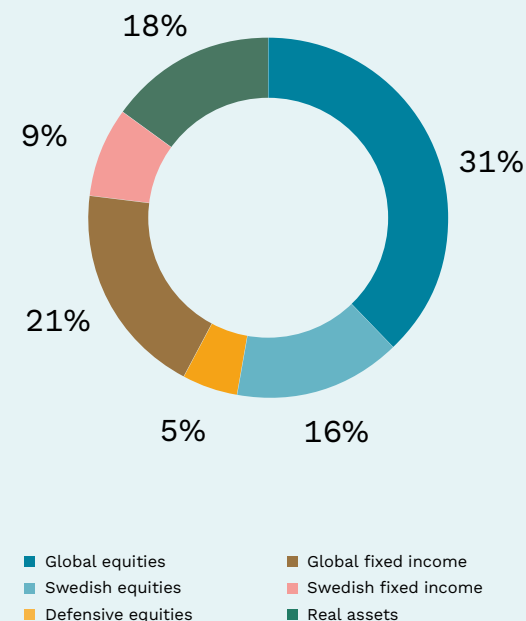
Dynamic Normal Portfolio and medium-term return target

The Dynamic Normal Portfolio (DNP) embodies the Board's decisions on AP4's medium-term asset allocation. The DNP is a benchmark portfolio of a number of asset classes represented by various market indexes – where such relevant indexes exist – such as for listed equities and fixed income assets.

AP4's long-term mission and the higher expected return for equities compared with fixed income assets justifies a higher allocation to equities in the portfolio. AP4 has considerable exposure to Sweden in equities and fixed income investments, which is justified partly by higher expected returns relative to many other markets and partly to favourable opportunities for AP4 to generate excess returns in this market as well as to lower currency hedging costs.

In connection with decisions on the DNP, the Board also decides on a medium-term return target over a 10-year period on the basis of macroeconomic and market-related assessments. This target is currently a 3% real return per year.

Asset allocation as per 31/12/2022



Defensive equities new asset class in the DNP in 2022

In 2022 a new asset class, defensive equities, was added to the DNP. At year-end its weight in the portfolio was 5%. The change in the DNP was financed through reduced weightings of global fixed income investments and global equities.

Sustainability-based divestments from the DNP

In 2022 the Board decided that sustainability-based divestments will be integrated in decisions on the DNP. AP4 does not invest in companies that the Council on Ethics of the AP Funds has recommended for exclusion, in tobacco companies or in companies involved in the development and modernisation of nuclear weapons. In 2022 AP4 also introduced a Sustainability Screen to identify companies associated with serious violations of international conventions. These sustainability-based divestments are now also reflected in the design of the DNP.

Operative portfolio

The day-to-day management of AP4's fund capital is based on the asset allocation stipulated by the DNP and the active risk mandate of 5% that the Board has decided on. The portfolio's active return is evaluated in relation to the performance of the DNP.

The total return for AP4's portfolio was -11.8% (19.3%) before costs and -11.9% (19.2%) after costs. The weak performance of the stock markets in 2022 was the main reason for the negative return. Global equities had a return of -19%, and Swedish equities -31%. Fixed income investments also showed negative returns for 2022, owing to rising market interest rates during the year.

The active return was -3.8 percentage points (3.5). The main reason for the negative active return for 2022 is that the target return for real assets of the CPI + 3 percentage points per year increased in 2022 as a consequence of the high rate of inflation at the same time that the return for this asset class was marginally negative. Another negative, contributing factor is that the Swedish equities asset class performed worse than its benchmark index during the year. Over a five-year evaluation period, the excess return for AP4's portfolio averaged 1.5 percentage points (2.3) per year.

Asset class	Market value, SEK bn	Portfolio return ³ , %	Exposure ¹ , %	Return contribution ³ , %	Net result contribution ³ , SEK bn
Global equities	143.1	-19.0	31.1	-7.5	-38.6
Swedish equities	71.8	-31.2	15.6	-5.2	-28.0
Defensive equities	23.2	-3.6	5.0	-0.2	-1.3
Global fixed income	95.3	-7.5	20.7	-1.3	-6.6
Swedish fixed income	43.3	-2.8	9.4	-0.3	-1.5
Real assets	83.7	-0.6	18.2	-0.1	-0.4
Other assets ²	0.0	0.0	0.0	0.0	-0.0
Currencies	0.0	2.9	0.0	2.8	14.2
Total investments³	460.4	-11.8	100.0	-11.8	-62.2

1. Underlying values of derivative instruments in the passive allocation are distributed among the respective asset classes.

2. Consists mainly of various overlay mandates.

3. Portfolio return, return contribution and net result contribution before costs. The portfolio return after costs was -11.9% (19.2%). The result after costs was SEK -62.5 billion (85.7).

Other assets

Other assets consist mainly of asset allocations in the form of so-called overlay mandates over several time horizons. The return contribution in 2022 was 0.0 percentage points (-0.1).

Share of internal and external asset management

At year-end 2022, 80% (84%) of assets were managed internally, and 20% (16%) of assets were managed externally. AP4 manages assets internally when an aggregate assessment shows that internal management can achieve an equally good or better return at a lower cost.

Risks

Portfolio risk for the operative portfolio at year-end 2022, measured with a 12-month historical standard deviation, increased to 9.4% over the preceding year's level of 6.1%. During 2022 both the stock and fixed income markets were volatile, which explains the higher, measured portfolio risk. Using daily market movements during a one-year period as a measure of risk is

standard practice, but has limited relevance as AP4's investment horizon is considerably longer.

Active risk for the operative portfolio is measured in relation to the DNP. Active risk for AP4's operative asset management, measured with a 12-month historical standard deviation, increased marginally during the year and was 2.0% (1.9%) at year-end.

Further information is provided in Note 20.

Currency exposure

Currency exposure, i.e., the share of assets in foreign currencies that is not neutralised through currency hedges, was 19.3% (20.9%) of total assets at year-end. The return contribution from AP4's open currency exposure was 2.8 percentage points (2.0). Over a five-year period, AP4's open currency exposure has contributed an average of 1.3 percentage points (0.5) to the return per year.

AP4's open currency exposure in the operative portfolio in 2022 was between 16.8% (19.0%) and 23.3% (21.8%).

Interest rate risk

Interest rate risk, measured in terms of modified duration, fluctuated between 3.2% (3.3%) and 4.1% (4.5%) during the past year. At year-end, modified duration of the fixed income portfolio was 3.4% (4.1%).

The share of listed AAA¹ credit risk classified bonds decreased during the year and was 52% (59%) of the fixed income portfolio at year-end. The share of BBB1-rated bonds at year-end was 29% (21%).

Exposure to issuers

AP4's ten largest exposures to issuers together amounted to slightly more than SEK 135 billion (118) at year-end 2022. Of these, 43% (33%) consisted of sovereign exposures and 19% (16%) consisted of exposures to the banking and financial sector. The ten largest holdings in the banking and financial sector represented a combined exposure of SEK 43 billion (47).

Costs

AP4's total management cost was 0.08% (0.08%), measured as a percentage of average fund capital. The management cost consists of operating expenses and commission expenses. Operating expenses consist mainly of personnel costs, information costs and IT costs. Commission expenses consist mainly of fees paid to external asset managers and custodian fees. AP4's operating expense ratio, which expresses operating expenses as a percentage of average fund capital, was 0.05% (0.05%). AP4's commission expense ratio was 0.03% (0.03%).

Collaboration between the AP Funds

The AP Funds' Collaboration Council was established in 2016 to develop cooperation and collaboration between AP1-AP4 and AP7. The aim is to collaborate in areas outside of the investment operations with the goal to achieve cost efficiency, efficient use of resources and experience- and knowledge-sharing. Cooperation is conducted in various forums in the form of coordination groups with varying compositions of representatives from the various AP Funds. What these cooperation initiatives share in common is that they are driven based on the value added that is created for each of the individual Funds as well as for the Funds jointly. Every year each

Several-year overview

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Fund capital (SEK bn)	460.5	527.6	449.4	418.0	349.3	356.6	333.9	310.0	294.9	259.7
Net flows to the pension system (SEK bn)	-4.7	-7.5	-7.9	-6.5	-6.8	-7.4	-6.6	-4.9	-5.1	-6.9
Net result for the year (SEK bn)	-62.5	85.7	39.3	75.2	-0.5	30.1	30.5	20.1	40.2	37.0
Return, total portfolio before costs (%)	-11.8	19.3	9.7	21.8	-0.1	9.2	10.1	6.9	15.8	16.5
Return, total portfolio after costs (%)	-11.9	19.2	9.6	21.7	-0.2	9.1	10.0	6.8	15.7	16.4
Return, total portfolio after costs, annualised 5 yrs (%)	6.9	11.6	9.8	9.3	8.1	11.5	12.0	9.7	10.5	11.6
Return, total portfolio after costs, annualised 10 yrs (%)	9.2	11.8	9.7	9.9	9.9	7.3	6.7	6.7	7.6	7.2
Standard deviation total portfolio, ex-post (%) ²	9.4	6.1	13.6	5.3	6.4	4.1	7.3	8.8	6.0	5.6
Sharpe ratio total portfolio, ex-post (%) ²	neg	3.2	0.7	4.2	0.1	2.5	1.5	0.8	2.5	2.8
Asset management costs, excl. commission expenses (%)	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.08
Asset management costs incl. commission expenses (%)	0.08	0.08	0.09	0.10	0.10	0.10	0.10	0.11	0.11	0.11

2. Refers to daily return data.

collaboration group formulates its own assignment description and action plan, which is followed up and reported semi-annually to the Collaboration Council. At the end of the year this work is summarised in a report to the Funds' CEOs, which is also used as documentation for the government's yearly evaluation of the AP Funds.

In 2022 active collaboration was conducted within the various areas of operation. Examples of areas in which the AP Funds collaborated during the year include procurement (e.g., recruitment firms and healthcare insurance), financial reporting, internal training activities and development of system platforms. During the year, AP4 began a procurement process for a new portfolio management system together with AP3. Joint communication

activities were also conducted. In addition to regular, joint meetings in each collaboration group, a great deal of collaboration also takes place in the day-to-day contacts between employees of the various AP Funds, in which they have had the opportunity to discuss matters with other in the same area.

Changes in personnel and remuneration

Employee turnover at AP4 was 22% (14%) in 2022. After adjustment for hourly employees (mainly students working part-time), the employee turnover was 10% (7%). At year-end the number of employees was 67 (67).

1. The credit risk classification (rating) presented pertains to an internal standard. The assessment in this standard for 2022 is based on the rating issued by the selected rating agency (Moody's Analytics UK Ltd).

During the spring Anders Johansson and Per Strömberg assumed their positions as board members. They replaced Maj-Charlotte Wallin and Göran Zettergren.

For a manager of public pension funds it is essential that employee remuneration levels for AP4's employees are reasonable, justifiable and explainable. AP4 strives to ensure that its remuneration is in line with the market and enables AP4 to recruit and retain competent people. AP4 shall not be a salary leader. The Board bears ultimate responsibility for remuneration issues. Every year the Board adopts principles for remuneration and other terms of employment. The Board is responsible for monitoring compliance with the government's guidelines for terms of employment for senior executives in the AP Funds. The Board solicits the help of external consultants to monitor compliance with the remuneration principles. The Board has appointed a remuneration committee that is tasked with serving in an advisory role for the Board and for drafting remuneration matters for the CEO and senior executives. The Remuneration Committee also conducts drafting work for matters related to AP4's principles for remuneration and other terms of employment for all employees. Total remuneration for an AP4 employee consists of fixed salary, variable salary, pension provisions and other benefits. The CEO, senior executives, the CFO and the heads of Risk Control and Compliance do not receive any variable remuneration. For other employees, variable remuneration can amount to a maximum of two months' salary.

Variable salary may be awarded when clear and measurable goals have been achieved. Variable salary is based on group-oriented and individual quantitative performance goals measured over a rolling three-year period. Variable remuneration is payable only if AP4 posts a positive net result for the financial year. Other benefits are of limited value and are offered to all employees. Examples include healthcare insurance, group insurance and a wellness subsidy. At year-end AP4 had ten parking spaces that employees could use in exchange for taxation as benefit. During the first half of 2022, employees were granted temporary tax exemption for access to free parking at the workplace in connection with Covid-19. Further information is provided in Note 6 and in AP4's Fund Governance Report.

Significant events after the end of the financial year

There are no significant events that have taken place since year-end 2022 to report.

Income Statement

SEK million	Note	2022	2021
OPERATING INCOME			
Net interest income	2	1,701	1,190
Dividends received		6,322	5,534
Net income, listed shares and participations	3	-72,422	62,111
Net income, unlisted shares and participations	4	4,895	11,509
Net income, fixed income assets		-8,454	-1,955
Net income, derivative instruments		-2,980	-876
Net income, changes in exchange rates		8,856	8,600
Commission expenses	5	-140	-158
TOTAL OPERATING INCOME		-62,222	85,955
OPERATING EXPENSES			
Personnel costs	6	-147	-154
Other administrative expenses	7	-112	-93
TOTAL OPERATING EXPENSES		-259	-247
NET RESULT FOR THE YEAR		-62,481	85,708

Balance Sheet

SEK million	Note	31/12/2022	31/12/2021
ASSETS			
Shares and participations, listed	8, 19	261,446	340,224
Shares and participations, unlisted	9, 18, 19	82,853	68,538
Bonds and other fixed income assets	10, 19	106,928	118,642
Derivative instruments	11, 19, 21	5,765	1,806
Cash and cash equivalents		7,729	4,671
Other assets	12, 21	20,778	778
Prepaid expenses and accrued income	13	1,194	837
TOTAL ASSETS		486,693	535,496
LIABILITIES AND FUND CAPITAL			
Liabilities			
Derivative instruments	11, 21	5,413	6,889
Other liabilities	14, 21	20,028	731
Prepaid income and accrued expenses	15	793	247
Total liabilities		26,234	7,867
Fund capital			
Fund capital, opening balance	16	527,629	449,449
Net payments to the pension system		-4,689	-7,528
Net result for the year		-62,481	85,708
Total fund capital		460,459	527,629
TOTAL LIABILITIES AND FUND CAPITAL		486,693	535,496
Pledged assets, contingent liabilities and commitments	17, 18		

NOTES

The Fourth Swedish National Pension Fund (AP4), corporate identity number 802005-1952, is one of the buffer funds in the Swedish national pension system and has its registered office in Stockholm. The annual report for the 2022 financial year was approved by the Board of Directors on 23 February 2023. The income statement and balance sheet are subject to government approval.

Note 1. Accounting and valuation policies

According to the Swedish National Pension Funds Act (Lagen (2000:192) om allmänna pensionfonder), the annual report shall be prepared in accordance with generally accepted accounting principles, entailing that the assets that the AP Funds invest in shall be recognised at market value. Based on this principle, the First, Second, Third and Fourth Swedish National Pension Funds (AP1-AP4) have drawn up and applied uniform accounting and valuation policies, as summarised below.

The AP Funds' accounting and valuation policies are gradually being adapted to International Financial Reporting Standards (IFRS). A complete adaptation to IFRS would not materially affect the reported results and capital. AP4 meets the requirement to be classified as an investment company in accordance with IFRS 10. Compared with the current IFRSs, the only major difference is that a statement of cash flows has not been prepared and that IFRS 16 Leases has not been applied.

Trade date accounting

Transactions in securities and derivative instruments in the money market, bond market, stock market and currency market are recognised on the balance sheet as per the trade date, i.e., at the point in time when the material rights and risks are transferred between parties. The receivable from or liability to the counterparty between the trade date and settlement date is recognised under Other assets and Other liabilities, respectively. Other transactions, mainly transactions in unlisted shares, are recognised on the balance sheet as per the settlement date, which is consistent with market practice.

Net accounting

Financial assets and liabilities are reported net on the balance sheet when there is a legal right to offset transactions and there is an intention to settle net or realise the asset and settle the liability simultaneously.

Translation of foreign currencies

Transactions in foreign currency are translated to Swedish kronor (SEK) at the exchange rate in effect on the transaction date. On the balance sheet date, assets and liabilities in foreign currency are translated to SEK at the exchange rate in effect on the balance sheet date. Changes in the value of assets and liabilities in foreign currency are broken down into a part attributable to the change in value of the asset or liability in local currency and to a part attributable to the changed exchange rate. The exchange gain or loss that arises from changes in exchange rates is reported in the income statement on the line "Net income, changes in exchange rates".

Shares in subsidiaries and associated companies

According to the Swedish National Pension Funds Act, both shares in and loans to subsidiaries and associated companies are measured at fair value. Fair value is determined using the same methods used for unlisted shares and participations. There is no requirement to prepare consolidated accounts. Loans to subsidiaries and associated companies that are intended to be held to maturity are measured at fair value in accordance with the fair value option provided in IFRS 9. However, the entire change in value is reported as part of the shareholding on the line Net income, unlisted shares and participations.

Valuation of financial instruments

All of AP4's investments are measured at fair value, whereby realised and unrealised changes in value are recognised through profit or loss. The lines Net income/loss for the various asset classes thus include realised and unrealised gains or losses. Equity instruments and debt instruments are held for trading and are therefore measured at fair value through profit or loss. Loans to subsidiaries and associated companies are intended to be held to maturity; however, the fair value option is used here in order to be in

compliance with the requirements in the Swedish National Pension Funds Act for fair value measurement. The AP Funds measure all of their assets at fair value. Following is a description of how fair value is determined for AP4's various investments.

Listed shares and participations

For shares and participations traded in a regulated market or trading platform, fair value is determined based on official year-end market quotations according to AP4's designated index provider, usually an average price. Holdings not included in an index are measured at quoted prices observable in an active market. Brokerage fees paid are recognised as expenses under Net income, listed shares and participations.

Unlisted shares and participations

For shares and participations not traded on a regulated market or trading platform, fair value is determined based on a valuation obtained from the counterparty or other external party. The reported value is updated when a new valuation has been obtained and is adjusted for any cash flows up to the end of the accounting period. In cases where AP4 has good reason to believe that the valuation is incorrect, an adjustment is made of the received valuation.

Valuations of unlisted participations are made in accordance with the International Private Equity and Venture Capital Valuation (IPEV) Guidelines, or equivalent principles, and are to be made primarily while taking into account deferred tax liabilities at the value used for property transactions, which differs from the valuation that is used in the accounting of the property companies.

Bonds and other fixed income assets

For bonds and other fixed income assets, fair value is calculated based on the official market quotation on the balance sheet date (usually the bid rate) according to AP4's designated index provider. Holdings not included in an index are valued at quoted prices observable in an active market. In cases where an instrument is not traded in an active market, and reliable market prices are not available, the instrument is measured using generally

accepted valuation models, which entails that cash flows are discounted to the relevant yield curve.

Interest income includes interest calculated using the effective interest method based on amortised cost. Amortised cost is the discounted present value of future payments, where the discount rate consists of the effective interest rate at the date of acquisition. This means that acquired surplus and deficit values are allocated over the remaining term or until the next interest rate adjustment and are included in reported interest income. Changes in value attributable to changes in interest rates are reported in "Net income, fixed income assets", while changes in value attributable to exchange rate changes are reported in "Net income, changes in exchange rates".

Derivative instruments

For derivative instruments, fair value is based on year-end quotations. In cases where an instrument is not traded in an active market and reliable market prices are not available, the instrument is measured using generally accepted valuation models, in which observable market data is used as the input data.

Derivative contracts with positive fair value on the balance sheet date are reported as assets, while contracts with a negative fair value are reported as liabilities. Changes in value attributable to changes in exchange rates are reported in the income statement under "Net income, changes in exchange rates", while other changes in value are reported as "Net income, derivative instruments".

Repurchase transactions

In genuine repurchase transactions, so-called repos, the sold asset remains on the balance sheet and the payment received is recognised as a liability. The sold security is recognised as a pledged asset on the balance sheet among memorandum items. The difference between the settlement in the spot and futures markets is allocated over the term and recognised as interest.

Securities lending

Loaned securities are reported on the balance sheet at fair value, while the consideration received for the loan is reported as interest income in the income statement. Collateral received for loaned securities can consist of securities and/or cash. In cases where AP4 has the right of disposal over cash received as collateral, the collateral is reported on the balance sheet as an asset and corresponding liability. In cases where AP4 does not have disposal over the collateral, it is not reported on the balance sheet, but is

specified separately in a note under the heading "Pledged assets, contingent liabilities and commitments". This item also includes the value of loaned securities and their related collateral.

Items recognised directly against fund capital

Incoming and outgoing payments that have been made against the pension system are reported directly in fund capital.

Commission expenses

Commission expenses are recognised in the income statement as a deduction from operating income. They consist of external costs for asset management services, such as custodian fees and fixed fees to external asset managers as well as fixed fees for listed funds. Performance-based fees, which are paid when asset managers achieve returns above the agreed level where profit-sharing is applied, are recognised as a deduction under net income for the relevant asset class.

Asset management fees for unlisted shares and participations are recognised as an acquisition cost and are therefore included in the unrealised result.

Operating expenses

All asset management costs, excluding brokerage fees, fees paid to external asset managers and custodian fees, are recognised as operating expenses. Investments in equipment including internally developed and purchased software that are not of significant importance are normally expensed on an ongoing basis.

Taxes

AP4 is exempt from all income tax on investments in Sweden. Taxes on dividends and withholding taxes assessed in certain countries are reported net in the income statement under the respective income classes.

AP4 has been registered for value added tax (VAT) since 2012 and is thereby subject to VAT on purchases made abroad. AP4 is not entitled to recover paid VAT. Expensed VAT is included in the expense item to which it belongs.

Amounts in SEK millions

Amounts are specified in millions of Swedish kronor (SEK m), unless otherwise indicated.

Note 2. Net interest income

	2022	2021
Interest income		
Bonds and other fixed income assets	1,501	1,156
Other interest income	201	34
Total interest income	1,702	1,190
Interest expense		
Other interest expenses	-1	0
Total interest expense	-1	0
NET INTEREST INCOME	1,701	1,190

Note 3. Net income, listed shares and participations

	2022	2021
Income, listed shares and participations	-72,351	62,156
Less brokerage fees	-71	-45
NET INCOME, LISTED SHARES AND PARTICIPATIONS	-72,422	62,111

Note 4. Net income, unlisted shares and participations

	2022	2021
Realised gains	872	583
Unrealised changes in value	4,023	10,926
NET INCOME, UNLISTED SHARES AND PARTICIPATIONS	4,895	11,509

External asset management fees for unlisted assets are reported as part of the asset's cost and are thereby charged against unrealised net income for unlisted assets. Consequently, refunded management fees have a positive effect on unrealised income. During the year a total of SEK 259 (168) million was paid in asset management fees for unlisted assets, of which SEK 259 (168) million qualifies for refunds. Also during the year, SEK 36 (24) million was refunded, and the unrealised result for unlisted shares and participations was thereby negatively affected by SEK 223 million (-144).

Note 5. Commission expenses

	2022	2021
External asset management fees, listed assets	-123	-143
Other commission expenses, including custodian fees	-17	-15
COMMISSION EXPENSES	-140	-158

Commission expenses do not include performance-based fees. Performance-based fees for the year totalled SEK 29 million (-166) and reduced net income for the respective asset classes.

Note 6. Personnel

Number of employees

	2022		2021	
	Total	Women	Total	Women
Average number of employees	61	23	62	23
Number of employees, 31 December	67	25	67	26
Number of persons in Executive Management, 31 December	7	3	7	3

Salaries and fees

Directors' fees are set by the government and were increased most recently in 2020 pursuant to government decision FI2020/000074/FPM of 9 January 2020. The Board sets the terms of employment for the CEO based on a recommendation from the Remuneration Committee. Remuneration for the CEO, senior executives, the CFO and the respective heads Risk Control and Compliance, consists of a fixed salary. Every year, under commission by the Board of Directors and Remuneration Committee, an external consultant performs an examination of remuneration levels for senior executives of AP4. The Board can thereby ascertain that AP4 complies with the government's guidelines for remuneration of senior executives of the AP Funds. Read more about remuneration in the Fund Governance Report.

Variable remuneration

The variable remuneration plan is part of AP4's remuneration policy and is adopted yearly by the Board. The plan covers all employees except for the CEO, senior executives, the CFO and the respective heads of Risk Control and Compliance. The basic principle is that variable remuneration is payable for the achievement of excess returns relative to the benchmark and reference indexes, provided that AP4 shows a positive total result for the financial year. The maximum outcome for a full-time equivalent employee is two months' salary.

Pensions and similar benefits

The CEO's employment contract includes special stipulations for pension benefits and severance pay. The ordinary retirement age is 65, however, the employee has the right to remain in service until the end of the month in which he turns 68.

Starting in 2023, pursuant to the Employment Protection Act (Lag om anställningsskydd – LAS), employees have the right to remain in service until the end of the month in which they turn 69. A mutual notice period of six months applies for the CEO. In the event AP4 serves notice, the CEO is also entitled to severance pay equal to 18 months' salary. Severance pay is paid out monthly and is reduced by any other income from salary, assignments or own business.

Other members of the Executive Management as well as other employees have individual employment contracts in which the notice period is based on the applicable collective agreement between the Employers Organisation of Swedish Banking Institutions (BAO) and the Swedish Confederation of Professional Associations (SACO). Pension entitlements are either defined-benefit solutions in accordance with the applicable collective agreement between BAO and SACO, or defined-contribution solutions in accordance with AP4's pension policy, entailing a pension contribution of 30% of salary amounts higher than 7.5 times the Income Base Amount.

All employees are entitled to exchange a portion of their gross salary for pension contributions. In such cases, the pension contribution is increased by 5.8%, which corresponds to the difference between AP4's cost for payroll tax and its cost for the special employer's payroll tax on pension contributions. The procedure is cost-neutral for AP4. All employees are offered supplemental healthcare insurance, a benefit for which they are taxed in accordance with the tax rules that apply at any given time. Employees hired before 1 January 2007 have, in addition to benefits under the pertinent collective agreement, disability insurance for periods of illness lasting longer than three months, for which a benefit is payable to cover 90% of salary amounts lower than 20 times the Base Amount and 80% of salary amounts higher than 20 times the Base Amount. The maximum benefit corresponds to 40 times the Base Amount. Benefits paid out are decreased by benefits payable from Försäkringskassan, SPP and any other insurances.

Other benefits

All employees have the opportunity to purchase healthcare insurance and group life insurance, which are taxed as employment benefits. AP4 has ten parking spaces that employees were allowed to use during the first half of 2022 without being taxed for the benefit due to Covid-19 and the Swedish Tax Agency's decision to grant temporary tax exemption for the benefit. The total value of this employment benefit in 2022 was SEK 281 thousand (349).

Note 6. Cont. Personnel

Personnel costs, SEK thousand, 2022	Salaries and remuneration	Variable remuneration	Pension costs	Of which, salary exchange	Social security costs ²	Total
Board of Directors and CEO						
Chair of the Board Britta Burreau	205	-	-	-	64	269
Other board members ¹	945	-	-	-	251	1,196
CEO Niklas Ekvall	4,294	-	2,502	987	1,956	8,752
Other members of the Executive Management						
Head of Fundamental Equities Jannis Kitsakis	3,003	-	1,158	-	1,224	5,385
Head of Risk & Business Support Nicklas Wikström	1,770	-	1,033	355	807	3,610
General Counsel Theresa Einarsson	1,403	-	1,036	381	692	3,131
Head of Sustainability, Finance & Communication Tobias Fransson	2,249	-	994	-	948	4,191
Head of Strategic Allocation & Quantitative Analysis Magdalena Högborg	2,654	-	803	-	1,029	4,486
Head of Alternative Investments Jenny Askfelt Ruud	2,365	-	807	-	939	4,111
Other employees	61,444	240 ³	20,639	2,409	24,143	106,466
Total	80,332	240	28,972	4,132	32,053	141,597
Other personnel costs						5,432
TOTAL PERSONNEL COSTS						147,029

- Individual directors' fees are reported in the Fund Governance Report.
- Social security costs also include payroll tax.
- Adjusted variable remuneration pertaining to the 2021 financial year.

Personnel costs, SEK thousand, 2021	Salaries and remuneration	Variable remuneration	Pension costs	Of which, salary exchange	Social security costs ²	Total
Board of Directors and CEO						
Chair of the Board Sarah McPhee, through 26/5/2021	83	-	-	-	9	92
Chair of the Board Britta Burreau, from 27/5/2021	117	-	-	-	37	154
Other board members ¹	950	-	-	-	195	1,145
CEO Niklas Ekvall	3,996	-	2,407	933	1,839	8,242
Other members of the Executive Management						
Head of Fundamental Equities Per Colleen ³	3,048	-	1,322	240	1,278	5,648
Head of Risk & Business Support Nicklas Wikström	1,730	-	1,020	360	791	3,541
General Counsel Theresa Einarsson	1,320	-	1,012	333	660	2,992
Head of Sustainability, Finance & Communication Tobias Fransson	2,203	-	889	-	908	4,000
Head of Strategic Allocation & Quantitative Analysis Marcus Blomberg, through 12/9/2021	2,344	-	730	-	914	3,988
Head of Strategic Allocation & Quantitative Analysis Magdalena Högborg, from 25/9/2021	575	-	130	-	212	917
Head of Alternative Investments Jenny Askfelt Ruud	2,167	-	766	-	867	3,800
Other employees	63,693	7,677	18,134	2,204	26,702	116,206
Total	82,226	7,677	26,410	4,070	34,412	150,725
Other personnel costs						2,864
TOTAL PERSONNEL COSTS						153,589

- Individual directors' fees are reported in the Fund Governance Report.
- Social security costs also include payroll tax.
- Jannis Kitsakis succeeded Per Colleen in the role as Head of Fundamental Equities at the start of 2022.

Note 7. Other administrative expenses

	2022	2021
Cost of premises	16	11
Information and IT costs	74	63
Purchased services	13	12
Other administrative expenses	9	7
TOTAL OTHER ADMINISTRATIVE EXPENSES	112	93
The item purchased services includes fees paid to the accounting firm as follows:		
Audit assignment, PwC	0.8	1.0
Other audit services, PwC	0.4	0.0
Total fees paid to accounting firm	1.2	1.0

Note 8. Shares and participations, listed

	31/12/2022 Fair value	31/12/2021 Fair value
Swedish shares	87,961	124,344
Foreign shares	119,487	153,710
Participations in Swedish funds	919	1,132
Participations in foreign funds	53,078	61,038
TOTAL SHARES AND PARTICIPATIONS, LISTED	261,446	340,224

The scope of loaned securities as well as collateral received is shown in Note 17. A complete list of shareholdings can be found on AP4's website: www.ap4.se.

Note 8. Cont. Shares and participations, listed

Five largest holdings of Swedish shares

31/12/2022	No. shares	Fair value	Capital, %	Votes, %
Lifco AB	28,385,248	4,943	6.25	3.90
Atlas Copco AB	41,606,365	4,730	0.85	0.35
Getinge AB	20,920,184	4,525	7.68	4.79
Swedish Orpham Biovitrum AB	20,107,765	4,337	6.49	6.49
Sagax AB	26,376,538	4,240	5.91	4.90

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Getinge AB	20,285,925	8,015	7.45	4.65
Lifco AB	28,526,006	7,722	6.28	3.92
Atlas Copco AB	10,674,408	5,941	0.87	0.41
Sagax AB	26,294,817	5,298	5.90	3.83
Medicover AB	13,792,326	5,103	9.08	9.08

Five largest holdings of foreign shares

31/12/2022	No. shares	Fair value
Apple Inc	3,014,952	4,082
Microsoft Corp	1,327,102	3,316
Johnson & Johnson	799,371	1,471
Amazon.Com Inc	1,537,520	1,346
Unitedhealth Group Inc	215,251	1,189

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Apple Inc	4,311,957	6,932
Microsoft Corp	1,826,137	5,561
Alphabet Inc	150,083	3,934
Amazon.Com Inc	118,120	3,566
Meta Platforms Inc	603,891	1,839

Note 9. Shares and participations, unlisted

	31/12/2022 Fair value	31/12/2021 Fair value
Shares in Swedish associated companies	48,778	45,217
Shares in foreign associated companies	1,382	977
Shares and participations in other Swedish unlisted companies	8,786	7,943
Shares and participations in other foreign unlisted companies	23,907	14,401
TOTAL SHARES AND PARTICIPATIONS, UNLISTED	82,853	68,538

Note 9. Cont. Shares and participations, unlisted

Shares in associated companies, 31/12/2022	Corporate identity number	Domicile	No. shares	Capital, %	Votes, %	Fair value	Equity	Profit
Shares in Swedish associated companies								
Vasakronan Holding AB	556650-4196	Stockholm	1,000,000	25	25	28,081	89,767	8,493
Rikshem Intressenter AB	556806-2466	Stockholm	250	50	50	16,345	29,218	227
Polhem Infra KB	969789-2413	Stockholm	-	33	33	2,778	8,335	154
4 to 1 Investments KB	969795-3033	Stockholm	-	25	25	1,446	5,782	77
Cinder Invest AB	559256-2630	Stockholm	10,000	20	20	128	1	0
4 to 1 Investments AB	559313-2490	Stockholm	6,250	25	25	0	1	-1
AP4 Investment AB ¹	559130-3929	Stockholm	50,000	100	100	0	0	0
AP4 Alternative Investments AB ²	559386-5347	Stockholm	25,000	100	100	0	0	0
Polhem Infra AB	559183-3917	Stockholm	20,000	33	33	0	1	0
Total shares in Swedish associated companies						48,778		
Shares in foreign associated companies								
ASE Holdings II S.à.r.l.		Luxembourg	5,799,351	45	45	1,008	Not public	Not public
ASE Holdings III S.à.r.l.		Luxembourg	23,445,783	35	35	353	Not public	Not public
ASE Holdings S.à.r.l.		Luxembourg	1,607,738	38	38	21	Not public	Not public
Total shares in foreign associated companies						1,382		

Other holdings, 31/12/2022

Five largest holdings in other shares and participations, Swedish unlisted companies³

	Corporate identity number	Domicile	Capital, %	Votes, %	Cost
LSTH Svenska Handelsfastigheter AB	559009-2325	Stockholm	39	4	1,502
Infranode I (No. 1) AB	556982-5283	Stockholm	20	20	851
Alfvén & Didrikson AB	556954-4066	Stockholm	32	17	733
Areim Investment 3-5 AB	559111-1165	Stockholm	49	9	548
Areim Fastigheter 4 (Eq) AB	559168-0979	Stockholm	13	5	479

Five largest holdings in other shares and participations, foreign unlisted companies³

Infrastructure Alliance Europe 1 SCSp		Luxembourg	25	-	2,882
ACP Series 3 Partnership L.P.		USA	22	-	1,238
Generation IM Sustainable Solutions Fund III (B), L.P.		Guernsey	15	-	1,221
Infrastructure Alliance Europe 2 SCSp		Luxembourg	37	-	1,071
White Peak Real Estate IV L.P.		Jersey	24	-	924

1. AP4 and AP4 Investment AB co-own AP4 Investment KB (969784-9959), in which AP4 has a significant influence.
2. AP4 and AP4 Alternative Investments AB co-own AP4 Alternative Investments KB (969797-3965), in which AP4 has a significant influence. Operations were in a start-up phase as per 31 December 2022.
3. Refers to AP4's holdings in limited partnerships and other similar structures in which AP4 does not have significant influence.

A complete specification of shareholdings is available at www.ap4.se.

Note 9. Cont. Shares and participations, unlisted

Shares in associated companies, 31/12/2021	Corporate identity number	Domicile	No. shares	Capital, %	Votes, %	Fair value	Equity	Profit
Shares in Swedish associated companies								
Vasakronan Holding AB	556650-4196	Stockholm	1,000,000	25	25	25,253	85,290	16,421
Rikshem Intressenter AB	556806-2466	Stockholm	250	50	50	16,198	28,991	5,919
Polhem Infra KB	969789-2413	Stockholm	-	33	33	2,847	8,541	405
4 to 1 Investments KB	969795-3033	Stockholm	-	25	25	828	3,314	0
Cinder Invest AB	559256-2630	Stockholm	10,000	20	20	90	0	0
4 to 1 Investments AB	559313-2490	Stockholm	6,250	25	25	1	2	1
Polhem Infra AB	559183-3917	Stockholm	20,000	33	33	0	1	1
AP4 Investment AB¹	559130-3929	Stockholm	50,000	100	100	0	0	0
Total shares in Swedish associated companies						45,217		
Shares in foreign associated companies								
ASE Holdings II S.à.r.l.		Luxembourg	229,275,476	45	45	484	Not public	Not public
ASE Holdings III S.à.r.l.		Luxembourg	20,399,153	35	35	355	Not public	Not public
ASE Holdings S.à.r.l.		Luxembourg	1,609,214	38	38	138	Not public	Not public
Total shares in foreign associated companies						977		

Other holdings, 31/12/2021

Five largest holdings in other shares & participations, Swedish unlisted companies²

	Corporate identity number	Domicile	Capital, %	Votes, %	Cost
LSTH Svenska Handelsfastigheter AB	559009-2325	Stockholm	19	3	1,396
Infranode I (No. 1) AB	556982-5283	Stockholm	20	20	809
Alfvén & Didrikson AB	556954-4066	Stockholm	32	17	555
Areim Investment 3-5 AB	559111-1165	Stockholm	19	3	526
Areim Fastigheter 4 (Eq) AB	559168-0979	Stockholm	16	5	489

Five largest holdings in other shares and participations, foreign unlisted companies²

Infrastructure Alliance Europe 1 SCSp		Luxembourg	25	-	1 246
Generation IM Sustainable Solutions Fund III (B), L.P.		Guernsey	15	-	1 046
Generation IM Long-term Equity Fund (EUR), SCSp		Luxembourg	27	-	896
White Peak Real Estate IV L.P.		Jersey	24	-	887
EQT Infrastructure IV (No. 1) EUR SCSp		Luxembourg	2	-	790

1. AP4 and AP4 Investment AB co-own AP4 Investment KB (969784-9959), in which AP4 has a significant influence.
2. Refers to AP4's holdings in limited partnerships and other similar structures in which AP4 does not have significant influence.

A complete specification of shareholdings is available at www.ap4.se.

Note 10. Bonds and other fixed income assets

	31/12/2022 Fair value	31/12/2021 Fair value
Breakdown by issuer category		
Swedish mortgage institutions	25,087	26,375
Other Swedish financial companies	4,376	4,730
Swedish non-financial companies	965	922
Foreign governments	52,884	62,138
Other foreign issuers	23,616	24,477
TOTAL BONDS AND OTHER FIXED INCOME ASSETS	106,928	118,642
Breakdown by type of instrument		
Other bonds	95,895	110,294
Subordinated loans	4,644	3,543
Unlisted shareholder loans	552	925
Participations in foreign fixed income funds	5,837	3,360
Other instruments	-	520
TOTAL BONDS AND OTHER FIXED INCOME ASSETS	106,928	118,642

The scope of loaned securities as well as collateral received is shown in Note 17.

Note 11. Derivative instruments

	31/12/2022 Fair value		31/12/2021 Fair value	
	Positive	Negative	Positive	Negative
Equity-related				
Swaps	-	0	-	-
Total equity-related instruments	-	0	-	-
Interest-related instruments				
Swaps	0	-	1	-
Total interest-related instruments	0	-	1	-
Currency-related instruments				
Options	1,123	838	674	537
Forward contracts	4,642	3,531	271	5,863
Swaps	-	1,044	860	489
Total currency-related instruments	5,765	5,413	1,805	6,889
TOTAL DERIVATIVE INSTRUMENTS	5,765	5,413	1,806	6,889

For details about areas of use and risk management for derivative instruments, see Note 20 Risks.

Note 11. Cont. Derivative instruments

Maturity analysis

Most the AP4's derivatives have maturities of less than one year. Only a few currency options and cross currency basis swaps have longer terms, and of these 20 (20) contracts have a negative fair value. These are presented in the tables below.

Maturity analysis of derivative positions with negative fair value, with terms longer than 12 months, 2022

Maturity structure Term	>1 yr <3 yrs	>3 yrs <5 yrs	>5 yrs <10 yrs	>10 yrs
Issued currency options	-171	-	-	-
Cross Currency Basis Swap	-306	-	-696	-
Total Return Swap	-	0	-	-
Currency forward contracts	-28	-	-	-
Total	-505	0	-696	-

Maturity analysis of derivative positions with negative fair value, with terms longer than 12 months, 2021

Maturity structure Term	>1 yr <3 yrs	>3 yrs <5 yrs	>5 yrs <10 yrs	>10 yrs
Issued currency options	-43	-	-	-
Cross Currency Basis Swap	-	-80	-327	-
Total	-43	-80	-327	-

Note 12. Other assets

	31/12/2022	31/12/2021
Outstanding receivables	20,774	770
Other assets	4	8
TOTAL OTHER ASSETS	20,778	778

Note 13. Prepaid expenses and accrued income

	31/12/2022	31/12/2021
Accrued interest income	771	505
Accrued dividends and repayments	407	323
Other prepaid expenses and accrued income	16	9
TOTAL PREPAID EXPENSES AND ACCRUED INCOME	1,194	837

Note 14. Other liabilities

	31/12/2022	31/12/2021
Accounts payable	14	12
Outstanding liabilities	20,005	712
Other liabilities	9	7
TOTAL OTHER LIABILITIES	20,028	731

Note 15. Prepaid income and accrued expenses

	31/12/2022	31/12/2021
Accrued interest expenses	743	122
Accrued personnel costs	10	22
Accrued external asset management fees	31	96
Other accrued expenses	9	7
TOTAL PREPAID INCOME AND ACCRUED EXPENSES	793	247

Note 16. Fund capital

	31/12/2022	31/12/2021
FUND CAPITAL, OPENING BALANCE	527,629	449,449
Net payments to the pension system		
Paid-in pension contributions	81,822	75,597
Pension funds disbursed to the Swedish Pensions Agency	-86,259	-82,885
Transfer of pension rights to EG	0	-1
Settlement of pension rights	0	-3
Administration fees to the Swedish Pensions Agency	-252	-236
Total net payments to the pension system	-4,689	-7,528
Net result for the year	-62,481	85,708
FUND CAPITAL, CLOSING BALANCE	460,459	527,629

Note 17. Pledged assets, contingent liabilities and commitments

	31/12/2022	31/12/2021
Pledged assets and contingent liabilities		
Securities on loan against collateral received in the form of securities ¹	17,214	24,095
Collateral pledged for exchange-cleared derivative contracts	2,097	4,304
Pledged assets pertaining to OTC derivative contracts ²	1,651	5,725
Commitments		
Investment commitments for future payments for alternative and strategic investments	25,133	24,412
Subscription commitments, see Note 18	9,500	9,500

1. Collateral received for loaned securities amounts to SEK 17,840 million (24,969).

2. Collateral received for OTC derivative contracts amounted to SEK 1,250 million (260).

Note 18. Related parties

The purpose of this note is to disclose how AP4's result and financial position have been affected by transactions and outstanding balances, including commitments, with related parties in accordance with the definitions in IAS 24. With respect to salaries and remuneration paid to the Board of Directors and senior executives, see Note 6. All associated companies are considered to be related parties to AP4, see also Note 9.

	31/12/2022	31/12/2021
Vasakronan Holding AB		
Interest income	9	9
Commitments ¹	4,500	4,500
Rikshem Intressenter AB		
Interest income	15	15
Commitments ¹	5,000	5,000
ASE Holdings S.à.r.l.		
Interest income	-	-
Shareholder loans	251	245

Note 18. Cont. Related parties

	31/12/2022	31/12/2021
ASE Holdings II S.à.r.l.		
Interest income	27	33
Shareholder contributions during the year	33	17
Shareholder loans	-	422
ASE Holdings III S.à.r.l.		
Interest income	22	19
Shareholder contributions during the year	76	34
Shareholder loans	294	250
Polhem Infra AB		
Shareholder contributions during the year	-	0
Polhem Infra KB		
Contributions during the year	-	2 320
Cinder Invest AB		
Shareholder contributions during the year	21	88
4 to 1 Investments AB		
Shareholder contributions during the year	-	1
4 to 1 Investments KB		
Contributions during the year	598	828

1. At the request of Vasakronan and Rikshem, respectively, AP4 has committed to buying commercial paper in the respective companies up to a value reported above.

Note 19. Financial instruments, price and valuation hierarchy

Fair value	31/12/2022 Level 1	31/12/2022 Level 2	31/12/2022 Level 3	31/12/2022 Total
Financial assets				
Shares and participations, listed	216,113	41,062	4,271	261,446
Shares and participations, unlisted	-	-	82,853	82,853
Bonds and other fixed income securities	100,243	296	6,389	106,928
Derivative instruments	-	5,765	-	5,765
Total financial assets	316,356	47,123	93,513	456,992
Financial liabilities				
Derivative instruments	-	-5,413	-	-5,413
Total financial liabilities	-	-5,413	-	-5,413
NET FINANCIAL ASSETS AND LIABILITIES	316,356	41,710	93,513	451,579

Changes in Level 3	Shares and participations, unlisted	Shares and participations, listed	Bonds and other fixed income investments
Opening balance, 1/1/2022	68,538	3,913	4,284
Invested	10,860	-	3,108
Sold/repaid	-2,031	-602	-1,174
Realised change in value	1,034	1,318	123
Unrealised change in value	4,452	-358	48
Transfers from Level 1 or 2	-	-	-
Transfers to Level 1 or 2	-	-	-
Closing balance, 31/12/2022	82,853	4,271	6,389

Fair value	31/12/2021 Level 1	31/12/2021 Level 2	31/12/2021 Level 3	31/12/2021 Total
Financial assets				
Shares and participations, listed	290,139	46,172	3,913	340,224
Shares and participations, unlisted	-	-	68,538	68,538
Bonds and other fixed income securities	113,821	537	4,284	118,642
Derivative instruments	-	1,806	-	1,806
Total financial assets	403,960	48,515	76,735	529,210
Financial liabilities				
Derivative instruments	-	-6,889	-	-6,889
Total financial liabilities	-	-6,889	-	-6,889
NET FINANCIAL ASSETS AND LIABILITIES	403,960	41,626	76,735	522,321

Changes in Level 3	Shares and participations, unlisted	Shares and participations, listed	Bonds and other fixed income investments
Opening balance, 1/1/2021	48,017	4,029	2,032
Invested	10,300	35	1,809
Sold/repaid	-937	-562	-149
Realised change in value	643	11	0
Unrealised change in value	10,481	400	593
Transfers from Level 1 or 2	34	-	-
Transfers to Level 1 or 2	-	-	-
Closing balance, 31/12/2021	68,538	3,913	4,284

Note 19. Cont. Financial instruments, price and valuation hierarchy

Level 1. Instruments with publicly quoted prices

Financial instruments traded in an active market. A market is considered to be active if it has quoted prices that are regularly updated more frequently than once a week and if the prices used are unadjusted for settled trades in the market. Approximately 70% of AP4's investments are classified in this level.

Level 2. Valuation methods based on observable market data

Financial instruments traded in a market that is not considered to be active, but where there are quoted prices that are unadjusted for trades, or observable input data that is updated regularly for indirect valuation using generally accepted models. At AP4 this category mainly includes market-quoted equity funds that are not considered to be active but where there is observable input data that is regularly updated for indirect valuation as well as OTC derivatives such as forward exchange contracts and interest rate swaps, but also fixed income instruments and funds containing interest-related instruments with low liquidity. OTC derivatives are valued using discount curves that are indirectly based on regularly updated observable input data that is interpolated or extrapolated to calculate non-observable interest rates. Input data for these interest rates that is used to discount the future cash flows of the instrument for valuation is updated regularly and is observable, though this does not apply for the interest rates. These instruments are therefore classified as Level 2.

Level 3. Valuation techniques based on non-observable market data

Financial instruments that are valued using a significant amount of non-observable data or that cannot otherwise be classified as Level 1 or Level 2. These mainly include unlisted shares and owner loans in directly held property companies and unlisted shares in private equity firms. For private equity firms, the IPEV's principles are used as the main framework and include several valuation methods such as valuation based on actual transactions, multiples valuations, calculations of net asset value and discounted cash flows. For holdings in directly owned property companies, the principles of IPD Svenskt Fastighetsindex are used as the main

framework, with two basic methods: the local market price method and the indirect return method (NPV approach). With the local market price method, the property holdings are compared with similar properties sold on the open market, while the indirect return method involves the use of prognosticated future cash flows discounted to net present value.

Sensitivity analysis

According to IFRS a sensitivity analysis shall be presented using an alternative valuation for Level 3 assets. In terms of valuation methodology, an alternative valuation of these assets is associated with major difficulties. Generally speaking, for unlisted properties the yield requirement is of central importance, but assumptions about factors such as vacancies, operating costs, market and profit growth are also of great importance. For private equity firms, profit growth and the stock exchange's P/E multiple valuations are important.

Level 3 valuations normally include a delay, which in a positive-trending market entails a conservative valuation and vice versa. A sensitivity analysis of Vasakronan, AP4's largest property holding, with a fair value of shares and participations of SEK 28.1 billion, i.e., nearly 35% of unlisted shares in Level 3, has been performed by the property company. According to this analysis a change in required yield by +/- 0.25 percentage points would change the value of the shareholding in Vasakronan by approximately SEK -2.8/+3.2 billion.

For valuation of AP4's investments in private equity firms reported in unlisted shares, corresponding to SEK 30.9 billion, significant assumptions are made about valuation multiples and future cash flows. A changed assumption for the EV/EBITDA multiple by +/- 5% would result in a change in the valuation of these investments by SEK +/- 3,860 million. Valuation of AP4's high-yield fixed income assets reported in listed shares, corresponding to SEK 10.5 billion, is based substantially on discount rates for interest income and repayment of loans. A change in the discount rate of +/- 1 percentage point for all maturities would result in a change in value by SEK +/- 210 million.

Note 20. Risks

Following is a description of AP4's main operational and financial risks.

Operational risk

By operational risk is meant the "risk of loss resulting from inadequate or failed processes, human error, defective systems or external events". The definition includes legal risks. Examples of operational risks include conscious or unconscious mismanagement, which can be caused by substandard routines or instructions, inadequate systems, insufficient control and audit, and by criminal actions or external events.

The overall goal in managing operational risk is to achieve and maintain a good control culture and to reduce significant operational risks within AP4.

Established, Fund-wide process and methodology

Operational risks at AP4 are to be managed through an established Fund-wide process and methodology. This process includes process mapping, identification and valuation of risks, and shall be conducted for all identified processes. Key controls shall be in place for all significant risks, which as far as possible reduces the likelihood of risks materialising or mitigates the consequences when undesirable events occur despite all. In assessing risks, existing key controls shall be quality-assured to ensure they have the desired functionality and are effective.

As part of the operational risk management process it is especially important to evaluate change processes and their effects on operations. Operational risks are evaluated specifically in connection with the implementation of new products, system changes and organisational changes.

To minimise operational risks, a clear division of responsibilities and authorities shall be documented in written rules. With respect to processes and procedures, these shall ensure good internal control and be documented in relevant instructions.

Responsibility and organisation

In the day-to-day activities all managers and employees shall maintain an awareness of risks in the business and their key controls, and act in such a way to ensure that the operations, assets or trust in AP4 among parties in

the external operating environment are not jeopardised. Further, all units are responsible for ensuring that the daily operations meet the requirements for good internal control and allocate sufficient resources for this.

The operations, with the process owner as the responsible party, shall identify, assess and manage the risks in their respective areas of operation. Risk & Business Support is responsible for supporting and coordinating the management of operational risks throughout AP4. This responsibility includes developing and providing expert and methodology support and following up, evaluating and developing the risk management process. In addition, Risk & Business Support is responsible for conducting follow-ups at least yearly to ensure compliance with the joint risk management methodology for operational risks for all identified processes in AP4. The same applies for significant, identified change processes such as implementation of new products, system changes and organisational changes.

AP4's Legal unit is responsible for legal risk aspects of contracts and similar.

Financial risks

Financial risks, consisting mainly of market, credit and liquidity risks, are monitored and controlled by the independent Risk & Business Support unit, which reports directly to the CEO and the Board of Directors. The goal of asset management is to only take positions that are expected to generate favourable returns within established risk mandates. Therefore, the main risks that AP4 exposes itself to should consist of transparent financial risks, and in such case predominantly market risks where there are good opportunities to prognosticate risk premiums.

Market risk

Market risk is the risk that the value of an instrument will be negatively affected by variations in share prices, exchange rates or market interest rates. Since AP4's holdings consists mainly of listed instruments with daily pricing in liquid markets, there are good opportunities to regularly measure and report on market risks through both prognosticated and realised risk levels. AP4's goal is to hold a high proportion of listed equities and fixed income instruments.

Equity price risk

Equity price risk refers to the expected variation in the market value of shares. Equity price risk is managed through diversification across regions, countries and sectors.

Interest rate risk

Only AP4's fixed income assets are included in the measurement of interest rate risk, which refers to expected variations in the market value of AP4's fixed income assets caused by nominal interest rate movements in fixed income markets. AP4 manages interest rate risk through diversification across regions and yield curves.

Following the financial crisis in 2008-2009, regulators around the world have increased their requirements for how benchmark interest rates are set. This has entailed, among other things, that LIBOR, the interbank rate traded in London, has been replaced with alternative rates. LIBOR has been replaced by SONIA for GBP, by TONA for JPY, and by SARON for CHF. The USD LIBOR will be replaced by SOFR starting on 30 June 2023.

As per 31 December 2022 AP4 had no investments in fixed income securities with couplings to the benchmark rates that have been replaced. Via derivative instruments, as per 31 December 2022 AP4 had SEK 6.8 billion (0.3) in exposure with reference to USD LIBOR, where the maturity is after 30 June 2023. These instruments have not yet been updated to the new SOFR benchmark rate.

Currency risk

Currency risk refers to expected variations in exchange rates for assets denominated in foreign currencies. Currency risk arises in connection with investments that are quoted in foreign currencies. The Swedish National Pension Funds Act limits the total currency exposure in AP4 to a maximum of 40 percentage points. AP4's investment policy determines the ultimate currency exposure in the Dynamic Normal Portfolio (DNP).

Real estate price risk

By real estate price risk is meant the expected variation in the market value of real estate. Real estate price risk is managed through diversification of property types, such as office, residential, industrial, etc., and of regions, mainly within Sweden but also via other countries.

Note 20. Cont. Risks

Risk in investments

Value at Risk (VaR) is used as a metric to calculate financial risk. Value at Risk is defined as the maximum loss that can arise with a given probability over a given period of time. In the table below, a time period of 12 months and 95% confidence level are used, unless stated otherwise.

Asset classes, 31/12/2022	VaR, ex-ante, holding period 12 mos. ²	Contribution volatility % 12-month portfolio	VaR, ex-ante, holding period 1 day ³
Global equities ¹	38,626	5.1	1,921
Swedish equities	28,194	3.7	1,351
Defensive equities ⁴	5,300	0.7	281
Global fixed income instruments ¹	1,133	0.2	124
Swedish fixed income instruments	136	0.0	24
Real assets ¹	26,337	3.5	354
Currency and other	-3,494	-0.5	-351
Total investments	96,232	12.7	3,704

Asset classes, 31/12/2021	VaR, ex-ante, holding period 12 mos. ²	Contribution volatility % 12-month portfolio	VaR, ex-ante, holding period 1 day ³
Global equities ¹	53,390	6.2	1,562
Swedish equities	29,867	3.4	941
Global fixed income instruments ¹	167	0.0	9
Swedish fixed income instruments	23	0.0	2
Real assets ¹	20,019	2.3	276
Currency and other	-1,842	-0.2	-46
Total investments	101,624	11.7	2,744

- For certain AP4 assets, market quotations of asset prices with good periodicity are not available, or underlying holdings of an index are also missing, which makes it difficult to prognosticate the risks for these assets in a satisfactory manner in AP4's risk system, Barra. AP4 has therefore chosen to use alternative listed securities or other approximations for these holdings. Approximations have been used for a total of 20.3% of assets. Approximations have been made as follows. For unlisted real assets, corresponding to 15.3%, an aggregate weighting of three factors has been used: an equity factor, a real estate factor, and cash. For unlisted equities and high-yield fixed income instruments, corresponding to 5.0%, a European equity index and European high-yield index have been used, respectively.
- To better harmonise the metric Value at Risk (VaR) with the metric volatility as well as the long-term nature of AP4's operations, VaR is presented for a holding period of 12 months instead of 10 days as previously.
- To enable comparisons with AP1, AP2 and AP3, AP4 has also estimated VaR based on a one-day holding period, a 95% confidence level, and a data length of one year in which the observations are given equal weight. In this context a simulation method with historical return distribution has been used for the calculation.
- Defensive equities is a new asset class that was introduced in 2022.

Note 20. Cont. Risks

Currency exposure

AP4 hedges investments using currency derivatives to control its open currency exposure. AP4's open currency exposure at year-end was 19.3% (20.9%). AP4's currency exposure is shown in the table below.

Currency exposure 31/12/2022	USD	JPY	HKD	INR	GBP	CHF	Other	Total
Shares and participations	106,450	9,657	7,829	4,096	8,773	4,818	62,373	203,996
Bonds and other fixed income assets	34,067	9,443	-	-	4,729	-	24,986	73,225
Derivative instruments, excl. currency derivatives	0	0	-	-	-	-	0	0
Other receivables and liabilities, net	7,980	88	236	-	869	447	2,110	11,730
Currency derivatives	-106,825	-8,522	-3,746	-	-10,472	-1,658	-68,650	-199,873
Currency exposure, net	41,672	10,666	4,319	4,096	3,899	3,607	20,819	89,078

Currency exposure 31/12/2021	USD	JPY	KRW	INR	TWD	GBP	Other	Total
Shares and participations	130,463	10,727	4,187	4,215	5,258	9,430	67,524	231,804
Bonds and other fixed income assets	41,539	10,143	-	-	-	5,741	27,169	84,592
Derivative instruments, excl. currency derivatives	0	0	-	-	-	-	1	1
Other receivables and liabilities, net	7,086	780	1	-	-	768	-2,969	5,666
Currency derivatives	-112,344	-14,829	497	192	-1,761	-12,492	-71,180	-211,917
Currency exposure, net	66,744	6,821	4,685	4,407	3,497	3,447	20,545	110,146

Credit risk

Credit risk refers to the risk that an issuer or counterparty cannot meet its payment obligations. Credit exposure refers to the value that is exposed to credit risk through contracts with counterparties or issuers. Credit exposure thus includes both issuer and counterparty exposures. Total credit risk is limited by the selection of the interest rate index in the DNP and limits per rating category. Credit risk per pool of issuers or issuer is restricted by limits which include both issuer and counterparty risk.

The CEO approves all counterparties with which AP4 may conduct transactions for both standardised and non-standardised instruments. Further, when trading in OTC derivatives, ISDA and CSA agreements must exist for all large counterparties.

Rating classes, ¹ 31/12/2022	Bonds, ² exposure	Non-standardised derivatives		
		Fair value ²	Collateral/ security	Residual risk
AAA	52,162	-	-	-
AA	6,331	-51	406	355
A	12,244	-118	99	-19
BBB	29,426	0	110	110
BB	390	-	-	-
No rating ³	745	-	-	-
Total credit risk exposure	101,298	-169	615	446

Rating classes, ¹ 31/12/2021	Bonds, ² exposure	Non-standardised derivatives		
		Fair value ²	Collateral/ security	Residual risk
AAA	67,006	-	-	-
AA	8,719	-3,405	3,145	-260
A	13,791	-1,802	1,620	-182
BBB	24,313	0	175	175
BB	105	-	-	-
No rating ³	987	-	-	-
Total credit risk exposure	114,921	-5,207	4,940	-267

1. The credit risk classifications (ratings) presented here refer to an internal standard. The assessment in this standard for 2022 is based on the ratings issued by the selected rating agency (Moody's Analytics UK Ltd).

2. Fair value, including accrued interest.

3. Pertains to subordinated loans, bonds and shareholder loans in alternative investments and real estate.

Note 20. Cont. Risks

Management of derivatives

AP4 uses derivatives in most asset management mandates. Derivatives have several areas of use and purposes, where the most important are:

- Hedging of AP4's foreign investments, where derivatives are the only alternative
- Improving the efficiency of index management, where derivatives are used to minimise transaction costs and simplify administration
- Improving the efficiency of active management, where derivatives are used to minimise transaction costs and simplify administration as well as to enable positions to be taken that cannot be created using other instruments (short positions, volatility positions, etc.)
- Regulating the operative portfolio's risk with the help of strategic derivative positions

The use of derivatives is limited both in terms of the nominal underlying values and market risk. All derivative positions and associated risks are subject to daily position and risk monitoring.

The CEO approves all counterparties with which AP4 may conduct transactions regarding both standardised and non-standardised instruments.

Furthermore, it has been determined that when trading in OTC derivatives, ISDA (International Swaps and Derivatives Association) Master Agreements and CSAs (Credit Support Annex) are applied with all large counterparties. ISDA Master Agreements refer to standard agreements for regulating derivatives trading between two counterparties. CSAs refer to an annex to an ISDA Master Agreement. CSAs regulate how collateral is to be pledged as outstanding liabilities in the form of liquid funds or securities.

Liquidity risk

Liquidity risk includes liquidity risk related to cash flows and liquidity risk in financial instruments.

Liquidity risk in a financial instrument consists of the risk that the instrument cannot be sold or can only be sold at a significantly lower price than the market-quoted price. A large share of AP4's securities are immediately available for trading or lending. Illiquid financial instruments

consist primarily of assets in unlisted companies and real estate. OTC derivatives and credit instruments may also become illiquid and/or show significant differences between the bid and ask prices from time to time.

Liquidity risk may also be high if large net payments are needed from the liabilities side, since AP4 has a payment obligation to the Swedish Pensions Agency. This makes it necessary to hold a large share of liquid instruments. At present AP4 makes monthly payments to the Swedish Pensions Agency that are relatively small in relation to existing capital, however, possible losses on currency forward contracts and equity index futures may be significant, and daily forecasts of liquidity in SEK and other currencies are to be prepared.

AP4's liquidity risk in financial instruments is limited by the investment universe as well as by limits for active risk combined with the choice of

benchmark index for fixed income securities and listed equities. Further, the Swedish National Pension Funds Act limits liquidity risk, as it stipulates that a minimum of 20% of AP4's total market value must be invested in debt instruments with low credit and liquidity risk.

The Board's rules limit liquidity risk through special rules for investments in fixed income assets and through careful monitoring of cash balances. AP4 invests a large share of the portfolio in listed equities and government bonds with good liquidity. Overall, liquidity risk in AP4 is considered to be low.

The table below provides a summary of AP4's liquidity risk according to the maturity structure. Bonds and fixed income instruments are stated at fair value, including accrued interest.

Maturity structure, 31/12/2022, Term	<1 yr	1<3 yrs	3<5 yrs	5<10 yrs	>10 yrs	Total
Nominal government	2,720	23,629	12,611	8,452	5,921	53,333
Nominal corporate	11,598	19,407	12,442	4,518	-	47,965
Total	14,318	43,036	25,053	12,970	5,921	101,298

Maturity structure, 31/12/2021, Term	<1 yr	1<3 yrs	3<5 yrs	5<10 yrs	>10 yrs	Total
Nominal government	357	27,719	15,504	17,338	3,561	64,479
Nominal corporate	1,586	25,309	15,721	7,745	81	50,442
Total	1,943	53,028	31,225	25,083	3,642	114,921

All liabilities have terms of less than one year except for a few currency forward contracts, currency options, cross currency basis swaps and total return swaps, see Note 11. However, the combined market value of these contracts is limited, and they have therefore been omitted from the table above.

Note 21. Financial assets and liabilities that are netted on the balance sheet or subject to netting agreements

31/12/2022	Amounts not netted on the balance sheet							Total on balance sheet
	Gross amount	Netted amount on balance sheet	Net amount on balance sheet	Offsetting of financial instruments under agreements	Collateral received/pledged	Net amount after offsetting	Other ¹	
Assets								
Derivative instruments	5,765	-	5,765	3,869	1,168	728	-	5,765
Total	5,765	-	5,765	3,869	1,168	728	-	5,765
Liabilities								
Derivative instruments	5,413	-	5,413	3,869	1,296	248	-	5,413
Total	5,413	-	5,413	3,869	1,296	248	-	5,413

31/12/2021	Amounts not netted on the balance sheet							Total on balance sheet
	Gross amount	Netted amount on balance sheet	Net amount on balance sheet	Offsetting of financial instruments under agreements	Collateral received/pledged	Net amount after offsetting	Other ¹	
Assets								
Derivative instruments	1,806	-	1,806	1,806	178	-178	-	1,806
Total	1,806	-	1,806	1,806	178	-178	-	1,806
Liabilities								
Derivative instruments	6,889	-	6,889	1,806	4,714	369	-	6,889
Total	6,889	-	6,889	1,806	4,714	369	-	6,889

1. Other instruments on the balance sheet not subject to agreements that allow offsetting.

The table shows financial assets and liabilities that are presented net on the balance sheet or that have rights associated with legally binding master agreements for offsetting or similar agreements. Financial assets and liabilities are recognised net on the balance sheet when AP4 has a legal right to net under normal business conditions and in the event of insolvency, and if there is an intention to settle net or sell the asset and settle the liability simultaneously. Financial assets and liabilities that are subject to legally binding master agreements on offsetting or similar agreements that are not presented net on the balance sheet are arrangements that usually come into force in the event of insolvency, but not under normal business conditions or for arrangements in which AP4 does not have the intention to liquidate positions simultaneously.

Board of Directors' signatures

Stockholm, 23 February 2023

Our auditors' report was submitted on 23 February 2023

Britta Burreau
Chairman

Lars Åberg
Deputy Chairman

Helén Eliasson

Helena Kaiser de Carolis
Authorised Public Accountant
Appointed by the Swedish government

Peter Nilsson
Authorised Public Accountant
Appointed by the Swedish government

Monika Elling

Anders Johansson

Henrik Rättzén

Per Strömberg

Ingrid Werner

Aleksandar Zuza

Niklas Ekvall
CEO

Auditor's Report

Report on the audit of the annual accounts

Below text is a translation of the official auditor's report, which is presented in Swedish.

Opinion

We have audited the annual accounts of AP4 for 2022. The Fund's annual accounts are included in the printed version of this document on pages 53-76.

In our opinion, the annual accounts have been prepared in accordance with the Swedish National Pension Funds Act (2000:192) and present fairly, in all material respects, the financial position of the Fourth AP Fund as of 31 December 2022 and of its financial performance for the year then ending according to the Swedish National Pension Funds Act. The statutory administration report is consistent with the other parts of the annual accounts. We, therefore, recommend that the income statement and balance sheet be adopted.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities according to these standards are described in more detail in the section Auditor's responsibilities below. We are independent in relation to AP4 according to generally accepted auditing standards in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Information than the annual accounts

This document includes other information than the financial statements. The other information comprises the pages 1-52 and 79-101. The Board of Directors and the Managing Director are responsible for the other information.

Our opinion on the annual accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors and the Managing Director

It is the Board of Directors and Managing Director who are responsible for the preparation and fair presentation of the annual accounts in accordance with the Swedish National Pension Funds Act. The board of Directors and Managing Director are also responsible for the internal control they deem necessary to enable the preparation of annual accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts, the Board of Directors and Managing Director are required to assess the Fund's capacity to continue its operations. They are also to provide disclosures, as appropriate, of the circumstances regarding such assessments and as regards the application of the going concern basis of accounting, provided the Board of Directors and Managing Director do not intend to liquidate the Fund or cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities

Our responsibility is to obtain reasonable assurance as to whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an Auditor's Report that includes our opinion. Reasonable assurance is a high level of assurance, but does not comprise a guarantee that an audit conducted in accordance with ISA and generally accepted auditing standards in Sweden will always identify material misstatements should they exist. Misstatements can arise from fraud or error and are considered to be

material if, individually or taken together, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts.

As a part of the audit in accordance with ISA, we undertake professional judgment and maintain professional skepticism throughout the entire audit. In addition, we execute the following activities:

- We identify and assess the risks of material misstatement in the annual accounts, whether due to fraud or error, design and execute audit procedures based on, amongst other things, these risks, and obtain audit evidence which is sufficient and appropriate to provide a basis for our opinion. The risk of not identifying a material misstatement resulting from fraud is higher than one resulting from error, as fraud can include collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls
- We obtain understanding of the internal control of the fund relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal controls
- We evaluate the appropriateness of the accounting principles applied and the reasonability of the accounting estimates and related disclosures made by the Board of Directors and Managing Director
- We reach a conclusion on the appropriateness of the Board of Directors' and Managing Director's application of the going concern basis of accounting in the preparation of the annual accounts. We are also to reach a conclusion, based on the audit evidence obtained, whether any material uncertainty exists related to such events or circumstances which can result in significant doubt as regards the Fund's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our Auditor's Report to the related disclosures in the annual accounts, or if such disclosures are inadequate, we are required to modify our opinion on the annual accounts. Our conclusions are based on the audit evidence obtained up to the date of our Auditor's Report. However, future events or circumstances may cause the Fund to cease to continue as a going concern

- We evaluate the overall presentation, structure, and content of the annual accounts, including the disclosures, and whether the financial reports represent the underlying transactions and events in a manner providing a true and fair presentation

We are required to inform the Board of Director's regarding, amongst other matters, the planned scope of the audit and its focus and time schedule, as well as regards any significant observations made during the audit, including potential significant deficiencies in the internal control which we identify during our audit.

Report on other legal and regulatory requirements

Opinion

In addition to our audit of the annual accounts, we have also audited the inventory of the assets managed by AP4. We have also audited to determine if there are any criticisms, in general, as regards the Board of Director's and Managing Director's management of AP4 for 2022.

The audit has shown no reason to criticize the inventory of the assets or, in general, the administration.

Basis for opinion

We conducted our audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities according to those standards are described in more detail in the Auditor's responsibilities section below. We are independent in relation to AP4 according to generally accepted auditing standards in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these standards.

We believe that the audit evidence we have obtained is sufficient and appropriate as a basis for our opinion.

Responsibilities of the Board of Directors and Managing Director

It is the Board of Directors who has the responsibility for the accounts and for the administration of the Fund's assets according to the Swedish National Pension Funds Act.

The Board of Directors is responsible for the organisation of AP4 and for the administration of the Fund's activities. This includes, amongst other things, the on-going assessment of the AP4 Fund's financial situation and ensuring that the organization of AP4 is designed in such a manner that the accounts, funds

management and the Fund's activities are, in general, subject to satisfactory controls. The Managing Director is responsible for the day-to-day administration according to the Board of Director's guidelines and instructions and for, amongst other things, the implementation of measures necessary to ensure that the Fund's accounting is executed in compliance with the applicable legislation and that the funds of AP4 are managed in a satisfactory manner.

Auditor's responsibilities

Our responsibility regarding the audit of the administration and, thereby, our opinion on discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance if there is any criticism of the Board of Directors' and Managing Directors' administration of the AP4 for financial year 2022.

Reasonable assurance is a high level of assurance but does not comprise a guarantee that an audit executed in accordance with generally accepted auditing standards in Sweden will always identify actions or negligence which can result in criticism.

As a part of an audit according to generally accepted auditing practice in Sweden, we exercise professional judgment and maintain a professional skepticism through the entire audit. The audit of the administration is based primarily on the audit of the accounts. Any additional audit procedures selected to be executed are based on our professional judgment with the starting point being the risks in the operations and the determined level of materiality. This implies that we focus the audit on such measures, areas and circumstances that are significant to the operations, and where non-compliance in such contexts would be of particular importance to AP4's situation. We review and test decisions taken, decision-making documentation, measures taken and other circumstances relevant to our opinion on the administration.

Stockholm, 23 February 2023

Helena Kaiser de Carolis

Authorised Public Accountant
Appointed by the Swedish Government

Peter Nilsson

Authorised Public Accountant
Appointed by the Swedish Government

Fund Governance Report

The Fund Governance Report follows the parts of the Swedish Corporate Governance Code that are relevant for AP4. The report describes AP4's statutory mission, audit and evaluation as well as the work and organisation of the Board of Directors. It also describes risk management and remuneration.

FUND GOVERNANCE REPORT

- FUND GOVERNANCE REPORT
- BOARD OF DIRECTORS
- MANAGEMENT

Fund Governance Report

The Fund Governance Report describes parts of the work conducted by the Board of Directors and AP4 during the year. The report follows applicable parts of the Swedish Corporate Governance Code (“the Code”), which provides guidance for generally accepted practice for listed Swedish companies. AP4 is a government agency, and the differences between public law and company law are substantial. The Fund Governance Report is therefore limited to the parts of the Code that can be regarded as relevant for AP4. The Fund Governance Report has not been reviewed by AP4’s external auditors.

Governance of AP4 – an agency governed by law

AP4 is a government agency whose operations are regulated by the Swedish National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder)). The purport of this law is that AP4’s capital may only be used by the state to fund income-related retirement pensions, unless Swedish Parliament decides otherwise. In accordance with Swedish National Pension Funds Act, the AP Funds each have their own, independent boards of directors, which are responsible for the organisation and administration of the respective Funds’ capital. According to this Act, AP4’s board and operations may not be steered by government directives nor by business policies or economic policy interests.

AP4’s mission

AP4 shall manage pensions funds in an exemplary way through responsible investments and responsible ownership to provide the greatest possible benefit for the pension system. The goal of exemplary asset management shall be achieved without compromising on the overarching goal of generating a long-term high return.

Investment rules

The investment rules for AP1-AP4 are stipulated in the Swedish National Pension Funds Act. Investments may be made in all market-listed and tradable instruments on the capital market, except for those related to commodities.

- A minimum of 20% of assets must be invested in fixed income securities with low credit and liquidity risk
- A maximum of 40% of assets may be exposed to currency risk
- A maximum of 10% of assets may be exposed to an individual issuer or group of issuers with internal ties
- The market value of AP4’s shares in listed Swedish companies may amount to a maximum of 2% of the total market capitalisation
- A maximum of 10% of votes may be owned in an individual listed company (except for property companies in which the share of ownership prior to its listing exceeded 10%)
- A maximum of 40% of assets may consist of illiquid assets
- Illiquid assets may only be owned indirectly via funds, property companies or private equity companies (or via co-investments with such funds and private equity companies)

Review and evaluation

The AP Funds are reviewed by external auditors. The government adopts the AP Funds’ income statements and balance sheets yearly. Under assignment by the government the AP Funds’ operations are also evaluated every year. This evaluation is presented in a report that is submitted to Swedish Parliament.

Audit of operations

AP4’s auditors are appointed by the Swedish government. The current assignment is held by Helena Kaiser de Carolis and Peter Nilsson, from PwC. This assignment applies until AP4’s income statement and balance sheet for 2022 have been adopted and also includes a specific assignment for PwC to coordinate the audits of the AP Funds.

The auditors issue an audit report on their review and an opinion certifying that a sustainability report has been prepared. The auditors report directly to the Board of Directors, in part via a written audit report and in part via an oral

presentation. The auditors attend at least one board meeting per year. The auditors report yearly to the Ministry of Finance.

Internal audit is conducted by an externally procured accounting firm that performs a yearly risk analysis. Based on this, the Board makes decisions on reviews. During 2022 the accounting firm performed two such internal audit assignments.

External and internal rules and regulations

AP1-AP4 have jointly prepared accounting and valuation policies which aim to ensure that they apply uniform accounting policies and that their annual reports are thereby comparable. The document is updated on a regular basis and is discussed yearly with the external auditors. Since 2012 the AP Funds have a joint policy for remuneration, employee benefits, entertainment and business travel that has been adopted by the respective AP Funds’ boards. This joint, overarching policy is complemented by AP4’s more detailed internal employee and ethics-related policies and guidelines.

External and internal rules, regulations and documents that affect governance and operations:

- The Swedish National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder))
- Laws such as the Administrative Procedures Act, the Public Procurement Act, and the principle on public access to information
- Views from external auditors
- The government’s evaluation and report to Riksdagen (Swedish Parliament)
- Swedish Parliament’s written statement
- The AP Funds’ joint policies, and joint accounting and valuation policies
- AP4’s internal policies and rules
- AP4’s business plan, including the Sustainability Policy and Ownership Policy
- The Swedish Corporate Governance Code (the Code)

The Board’s responsibilities and duties

The Board of Directors is ultimately responsible for AP4’s organisation and the administration of AP4’s capital. The Board has delegated responsibility for the day-to-day administration to the CEO. The Board is also responsible for hiring and evaluating the CEO, taking positions on overarching strategic issues,

ensuring that its decisions are executed, and checking and following up that the operations and its various risks are managed in a suitable manner.

Important duties of the Board include adopting the following, among other things:

- Rules of Procedure for its work
- The CEO's instructions
- Policies, rules and guidelines for the operations, personnel (including remuneration principles and terms of employment), financial and operational risks, and ethical guidelines for employees
- The focus of asset management through set return targets, the Dynamic Normal Portfolio (DNP), and risk mandate for the day-to-day asset management
- A yearly business plan for AP4

Evaluation of the Board's work

An evaluation of the Board's work is conducted for each year. All of the board members participate in the evaluation. The result of the evaluation is used as a basis for a discussion within the Board about how its work can be further developed.

The Board's composition

AP4's board shall be made up of nine regular directors not counting deputies. The board members are appointed by the government. Of these, two are appointed based on a recommendation from the employer organisations and two are appointed based on a recommendation from the employee unions. The government appoints the Chair of the Board and Vice Chair of the Board from among the board members who were not nominated by the labour market parties.

The board members on 31 December 2022 were Britta Burreau (Chair of the Board), Lars Åberg (Vice Chair of the Board), Helén Eliasson, Monika Elling, Anders Johansson, Henrik Rättzén, Per Strömberg, Ingrid Werner and Aleksandar Zuza. Biographical information on AP4's directors is provided on pages 85-86. The Board's commission applies until AP4's income statement and balance sheet for 2022 have been adopted by the government.

The Board's four committees

The Board had previously established three committees — the Remuneration, Audit and Risk Committees — which conduct drafting work on various

matters for the Board. In 2022 a fourth committee was established, the Portfolio System Committee.

Remuneration Committee

The Remuneration Committee shall serve as a drafting and advisory body for the Board on remuneration matters concerning the CEO and senior executives. The committee also conducts drafting work on other matters concerning AP4's principles for remuneration and other terms of employment for all employees. The members of the Remuneration Committee as per 31 December 2022 were Helén Eliasson (committee chair), Monika Elling and Anders Johansson.

Portfolio System Committee

The Portfolio System Committee was established in 2022 to focus on the ongoing procurement of a portfolio management system. The members of the Portfolio System Committee as per 31 December 2022 were Henrik Rättzén (committee chair), Britta Burreau and Lars Åberg.

Audit Committee

The Audit Committee shall serve as a drafting, oversight and advisory body

for the Board with respect to AP4's external financial reporting, accounting, the effectiveness of AP4's internal control, external audit, monitoring of AP4's management of operational risks, and compliance. AP4's external auditors attend all meetings of the Audit Committee. The members of the Audit Committee as per 31 December 2022 were Henrik Rättzén (committee chair), Per Strömberg and Lars Åberg.

Risk Committee

The Risk Committee shall serve as a drafting, oversight and advisory body for the Board with respect to AP4's governance, monitoring, and reporting of financial risks in the operations. The members of the Risk Committee as per 31 December 2022 were Lars Åberg (committee chair), Henrik Rättzén and Ingrid Werner.

Directors' fees

Directors' fees are set by the government. The full-year fee for 2022 is SEK 200,000 for the Chair of the Board, SEK 150,000 for the Vice Chair of the Board, and SEK 100,000 for each of the other directors. The government has also set a yearly budget of SEK 100,000 for all committee assignments.

Board meetings in 2022	Remuneration Committee ¹	Portfolio System Committee ¹	Audit Committee ¹	Risk Committee ¹	Attendance/ total no. meetings	Fee (SEK 000s)
Britta Burreau, Chair of the Board		x			8/8	205
Lars Åberg, Vice Chair of the Board		x	x	x	8/8	170
Helén Eliasson	x				8/8	109
Monika Elling	x				8/8	109
Anders Johansson (joined Board in May) ²	x				4/5	63
Henrik Rättzén		x	x	x	8/8	124
Per Strömberg (joined Board in May) ²			x		4/5	63
Maj-Charlotte Wallin (left Board in May)					3/3	47
Ingrid Werner				x	7/8	109
Göran Zettergren (left Board in May)					3/3	51
Aleksandar Zuza					7/8	100

1. Pertains to committee members as per 31 December 2022.
2. Director's fee paid starting in June 2022.

Meetings in 2022 documented by minutes

During the 2022 financial year the Board held eight meetings at which minutes were recorded. As shown in the table below, directors' attendance was high, averaging 94%. Attendance at board meetings included, in addition to the board members, the CEO, AP4 executives in a presenting role, and AP4's General Counsel as company secretary.

In focus during 2022

In addition to its continuing work duties, the focus of the Board's work in 2022 was related to the following, among other matters:

- During the year, the Board was informed about and actively involved in the turbulent macroeconomic and market developments. The Board held an extra meeting during the spring to address this issue
- Project started in 2017 focusing on review of the asset management structure. The review has covered the portfolio structure, overarching governance and documentation. In general it has been determined that the structure continues to work well. A number of complementary measures were taken in 2022 or will be taken going forward. One result of the review was the inclusion of the new asset class defensive equities in the Dynamic Normal Portfolio (DNP) in 2022. Another development is that the DNP has been sustainability-adapted, whereby companies that AP4 has chosen to not invest in due to violations of conventions or due to production conventions pertaining to tobacco and nuclear weapons have been removed from the DNP
- During 2022 AP4 conducted a major update of the Fund's operational strategy for the coming three years, 2023-2025. During the year, the Board set forth its views on the design of the strategy and overarching factors in the world that are considered will significantly affect AP4's operations in the years ahead.
- Continued development of the portfolio's carbon strategies and fundamental company selection in resource-intensive sectors based on an assessment of the respective companies' climate transitions. During 2022 companies in the transport sector were analysed, and the portfolio holdings were restructured based on the extent to which the companies' transition targets and ambitions were considered to be in line with the Paris Agreement
- The project concerning procurement of a portfolio management system was taken up by the Board during the year as part of its work. A Portfolio System Committee was established in 2022

Risk management at AP4

Well balanced active risk-taking based on set level of risk is a central component in AP4's asset management.

Risk management in three steps

To achieve its set return targets, AP4 must take well considered risks in its asset management. Adept risk management is necessary for successful asset management. It must be possible to foresee risks prior to an investment and to subsequently control them. Risk management can be broken down into three steps:

1. Risk governance – risk tolerance framework
2. Continuous risk management
3. Monitoring and control

Step 1. Risk governance – risk tolerance framework

The Board of Directors has overarching responsibility for AP4's operations and adopts an investment policy and risk management plan for AP4's operations every year. Together with the Swedish National Pension Funds (the AP Funds) Act (Lagen (2000:192) om allmänna pensionfonder (AP-fonder)), these governing documents provide a framework for AP4's risk tolerance. To manage the various aspects of risk governance, the Board has established a Risk Committee and an Audit Committee with three members each. The Risk Committee serves in an advisory, oversight and drafting role for the Board with respect to AP4's governance, monitoring and reporting of financial risks in the operations. The Audit Committee is tasked with overseeing the external financial reporting and the effectiveness of AP4's internal controls. Its duties also include overseeing the work on monitoring management of operational risks and monitoring compliance. AP4's risk and investment strategy has been formulated in accordance with the overall objective to generate the highest possible return over time, with low risk for reduced pensions, and thereby contribute to the pension system's financial strength. The investment policy describes, among other things, the focus of asset management based on return targets and the Dynamic Normal Portfolio (DNP), which takes its starting point from AP4's ALM (Asset Liability Management) process. In addition, the investment policy describes AP4's risk mandate for the continuing asset management. The risk management plan describes the division of responsibility and authority for the investment operations, the principal risks in the operations and how these risks are to be

controlled and followed up. The main risks are financial and operational risks. A more detailed description of risks is provided in Note 20.

Step 2. Continuous risk management

AP4's daily risk management and control activities are decentralised to all operating aspects of the organisation and are conducted in accordance with the three lines of defence principle. This principle distinguishes between the functions that own the risks (the first line of defence), functions for monitoring, control and compliance (the second line of defence), and functions for independent review (the third line of defence). AP4's application of the three lines of defence is adapted to what is deemed to be suitable for AP4 and does not fully adhere to regulatory requirements.

Three lines of defence

The first line of defence for risk management and control lies in the direct business operations, which includes every administrative unit in the investment operations as well as business support functions, such as Finance, Back Office and Legal.

The second line of defence consists of the Risk Control function in Risk & Business Support, and Compliance. Compliance and Risk Control are units that are independent from the investment operations and report directly to the CEO and Board of Directors.

The third line of defence rests with internal audit. Each year the Board decides on the scope and the areas for which internal audit is to be conducted. Such assignment is carried out by an external accounting firm that has been jointly procured by the AP Funds, which performs a yearly risk analysis, and based on this the Board makes decisions on reviews. In 2022 the accounting firm performed two such internal audit assignments.

Financial and operational risks

In the continuing risk management, risks are broken down into financial and operational risks. Financial risks consist mainly of market, credit and liquidity risks. The CEO delegates the risk mandate received from the Board for financial risks to the various asset management units. The respective asset managers are responsible for risk management within their respective mandates. Risk management within a mandate is conducted through calculated risk-taking, which can have both positive and negative outcomes. AP4's financial risks have their starting point in the Board's decision on the overall asset allocation in the Dynamic Normal Portfolio (DNP) as well

as in AP4's risk mandate for the continuing asset management. Through set risk mandates for the asset management, the scope for risk-taking in the continuing asset management is limited. As documentation for AP4's continuing work on optimising risk-taking, risk forecasts are used for the respective asset management areas, instruments, risk factors, and so on.

AP4 plans risk-taking with the help of stress tests and various scenario analyses. Operational risks at AP4 are to be managed through an established joint-Fund process and methodology. In the day-to-day activities all managers and employees are to maintain an awareness of risks in the business and their key controls, and act in such a way to ensure that the operations, assets or trust in AP4 among parties in the external operating environment are upheld.

Step 3. Monitoring and control

The Risk & Business Support unit is responsible for monitoring AP4's financial and operational risks. This involves checks to ensure compliance in the operations with statutory investment rules, targets and guidelines, the requirements of the risk management plan and the CEO's decisions.

The Risk & Business Support unit's work includes closely measuring and analysing risk and returns as well as reporting on these daily, both in absolute figures and relative to benchmark indexes, and reporting any breaches of applicable rules or regulations.

Risk & Business Support is organised into four different functions: Back Office, IT, Risk & Systems, and Risk Control. Of these, the Risk & Systems and Risk Control functions are part of AP4's risk management. The Risk & Systems function is responsible for the valuation principles for all instruments as well as daily analysis, control and reporting of returns, risks (forecast and outcome), and risk-adjusted returns.

The Risk Control function is responsible for monitoring limits based on prevailing rules and control of financial risks. The Risk Control function is also responsible for monitoring operational risks in the investment operations and for ensuring compliance with rules governing operational risks. Operational risks in AP4 are to be managed through an established joint-Fund process and methodology. This process includes process mapping, identification and valuation of risks, and shall be conducted for all identified processes on a regular basis. Key controls shall be in place for all material risks, which as far as possible reduces the likelihood of risks materialising or mitigates the consequences when undesirable events occur.

In the gradation of risks, existing key controls shall be quality-assured to ensure they have the desired functionality and are effective. As part of the operational risk management process it is especially important to evaluate change processes and their effects on the operations. Operational risks are evaluated specifically in connection with the implementation of new vendors, product changes, system changes and organisational changes. To minimise operational risks, a clear division of responsibilities and authorities shall be documented in written instructions. Applicable processes and routines shall ensure good internal control and be documented in relevant instructions. The so-called four-eyes principle is applied consistently. The Compliance function reviews the operations with respect to compliance with laws, regulations and other guidelines, policies, instructions and internal rules, including ethical guidelines. Its responsibility includes providing support to the operations on compliance issues and analysing compliance risks in the operations.

Remuneration at AP4

AP4's role as a manager of Swedish public pension funds requires that remuneration levels for the employees, including the CEO, are reasonable, justifiable and explainable.

In general AP4 strives to ensure that remuneration levels on the whole are in line with the market and enable AP4 to attract and retain talented employees. AP4 shall not be a salary leader, however.

AP4's Board of Directors

AP4's board is responsible for addressing remuneration issues in a purposeful, responsible and transparent way. Each year the Board adopts the principles for remuneration and other terms of employment for AP4's employees. In addition, the Board conducts an annual follow-up of how these principles have been applied at AP4 during the preceding year, and verifies and certifies that the government's guidelines on terms of employment for senior executives of the AP Funds have been adhered to. As part of this work, with the support of external consultants the Board regularly conducts comparisons of AP4's remuneration levels for both members of the Executive Management and other employees using salary statistics from relevant, comparable employers in the market.

Remuneration Committee

The Remuneration Committee is a committee appointed by the Board and serves in an advisory, oversight and drafting role for the Board for remuneration matters concerning the CEO and senior executives of AP4. The Remuneration Committee conducts drafting work for important remuneration decisions in addition to handling other related duties delegated to it by the Board. The committee also conducts drafting work for other matters concerning AP4's remuneration principles and other terms of employment for all employees, and is responsible for monitoring application of these principles. Finally, the committee conducts drafting work behind the assessment of AP4's compliance with the government's guidelines for terms of employment for senior executives of the AP Funds.

The AP Funds' joint policy

A joint policy for remuneration principles, employee benefits, entertainment and business travel for the First, Second, Third, Fourth, Sixth and Seventh AP Funds was formulated in 2012 and was adopted by AP4's board. This joint, overarching policy is complemented by AP4's more detailed internal employee-related policies and guidelines, including AP4's remuneration policy. The policies and guidelines referred to above are subject to annual review.

AP4's Remuneration Policy

According to AP4's Remuneration Policy, an employee's total remuneration consists of a fixed salary, variable salary, pension and other benefits.

Fixed salary

Fixed salary shall be in line with the market and competitive, but not market-leading. Salaries are set on an individual basis and are commensurate with the level of responsibility and degree of difficulty of the work involved, as well as with the competence and capacity required for each employee's work.

Variable salary

Each year the Board of Directors approves a plan for variable remuneration for all of AP4's employees. No variable salary is payable to the CEO, senior executives, the CFO or the respective heads of Risk Control and Compliance. The plan provides an opportunity to receive a maximum of two months'

salary based on the achievement of predetermined targets based on objective criteria. The targets included in the plan are designed to balance collective achievements with the individual employees' contributions to and responsibility for AP4's overall performance during a rolling three-year period. Variable remuneration is paid out only if AP4 achieves a positive net result in absolute terms for the year that the variable remuneration pertains to.

Pension

AP4 applies the so-called BTP plan under applicable collective agreements with BAO (the Employers Organisation of Swedish Banking Institutions) and SACO (the Swedish Confederation of Professional Associations) for all employees except for the CEO. Employees hired after 1 April 2008 with salaries higher than 10 times the Income Base Amount receive Alternative BTP, a defined contribution pension solution whereby pension premiums are paid in an amount corresponding to 30% of the employee's salary that is higher than 7.5 times the Income Base Amount. For other employees, unless otherwise agreed a mainly defined benefit retirement pension applies, according to the BTP plan. The CEO is entitled to retirement at 65 years of age and receives pension provisions corresponding to 30% of his salary.

Salary exchange/enhanced occupational pension

All employees are entitled to exchange a portion of their gross salary for pension contributions in way that is cost-neutral for AP4.

Other benefits

The combined value of other benefits is of limited value in relation to employees' total remuneration. Examples of other benefits include supplementary healthcare insurance, group insurance and a wellness subsidy. AP4 encourages its employees to take advantage of their parental leave benefits and therefore compensates part of the difference between salary and the parental leave benefit. AP4 has ten parking spaces that employees were able to use during the first half of 2022 without any benefits taxation owing to temporary tax exemption for access to free parking at the workplace as part of the Covid-19 response.

Notice periods and severance pay

A notice period for end of employment applies in accordance with the rules of the collective agreement between BAO and SACO for all employees except for the CEO. For the CEO, a mutual notice period of six months

applies. In the event AP4 serves notice, the CEO may also be entitled severance pay of a maximum 18 months' salary. Upon new employment or for income earned from an own business, the remuneration during the notice period or severance pay is to be reduced by an amount equivalent to the new income.

The Board's follow-up of salaries in 2022 for all permanent-status employees

During the year, the Board – with the help of external consultants – commissioned a salary survey based on the guidelines of the Discrimination Act as well as an external market comparison. The salary survey that was conducted from a gender equality perspective showed that there are no significant differences in salary with respect to equal work, work of equal value, or in female-dominant work categories.

The external market comparison, where AP4's salaries were compared with salaries for equivalent positions in the financial sector in Sweden showed that AP4's salary levels are in line with both AP4's Remuneration Policy and the government's guidelines for terms of employment for senior executives of the AP Funds. After consideration of the results of the comparative analysis, the Board could conclude that AP4 applies remuneration levels that are within set guidelines and that AP4's salaries are in line with the going rate in the market, reasonable, and justifiable without being market-leading. In addition, it was determined that, with respect to senior executives, remuneration is in accordance with the guidelines for terms of employment for senior executives of the AP Funds.

Board of Directors

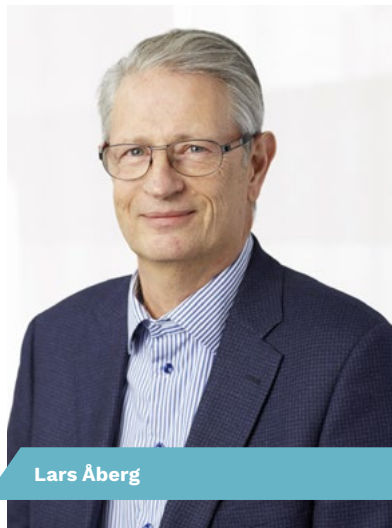


Britta Bureau

Chair of the Board since 2021
Born 1964
M.Sc. Eng. Chalmers University of Technology, MBA Stockholm School of Economics

Other assignments

CEO of Almi AB
Director: Nationalekonomiska Föreningen



Lars Åberg

Vice Chair of the Board since 2017
Born 1953
B.Sc. Econ.



Helén Eliasson

Director since 2020
Born 1971
B.A. Social Care

Other assignments

Member of Regional Executive Board,
Vice Chair, Region Västra Götaland County Council
Director: SKR board of directors, member of Västra Götaland Regional Assembly

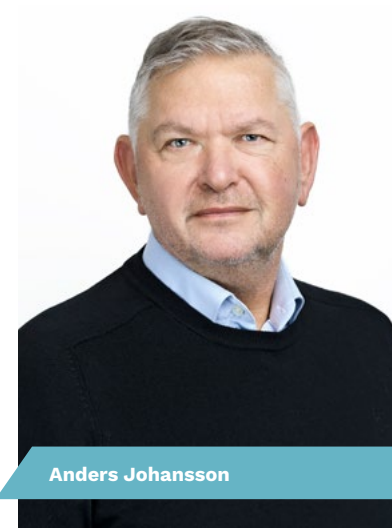


Monika Elling

Director since 2020
Born 1962
B.Sc. Econ.

Other assignments

Chair: Talent Eye AB
Director: Zound Industries International AB, Ljung & Sjöberg AB, Didner & Gerge



Anders Johansson

Director since 2022
Born 1960

Other assignments

Chair: Forena försäkringsbranschens fackförbund
Director: TCO, Folksam Liv, Kooperationens Pensionsstiftelse, FPK Tjänstepensionsföretag

Board of Directors



Henrik Rättzén

Director since 2019
Born 1965
B.Sc. Econ.

Other assignments

Chair: Hedvig Försäkring AB, BOSAM, Freedom Holding
Director: Nordnet, Advinans



Per Strömberg

Director since 2022
Born 1968
Ph.D. Carnegie Mellon University, B.Sc. Econ.
Stockholm School of Economics

Other assignments

Professor of Finance and Private Equity, Stockholm School of Economics
Director: COIN Securities Services AB, Royal Swedish Academy of Sciences



Ingrid Werner

Director since 2017
Born 1961
Ph.D. Econ., Honorary Doctorate in Economics, Stockholm School of Economics

Other assignments

Martin and Andrew Murrer Professor of Finance
Chair: FINRA Economic Advisory Committee, Academic Advisory Board for Swedish House of Finance (SHoF)
Director: Dimensional Mutual Funds and ETFs, Scientific Board for the Danish Finance Institute, Research Advisory Council for Leibniz Institute for Financial Research
SAFE, Scientific Council for Swiss Finance Institute



Aleksandar Zuza

Director since 2020
Born 1975
M.Sc. Business, M.Sc. Econ.

Other assignments

Research Officer: IF Metall

Executive Management



Niklas Ekvall

CEO
Born 1963
Employed since 2016
Ph.D. Financial Economics, M.Sc. Industrial Engineering

Previous positions with Nordea, Carnegie, AP3, Handelsbanken and the Stockholm School of Economics

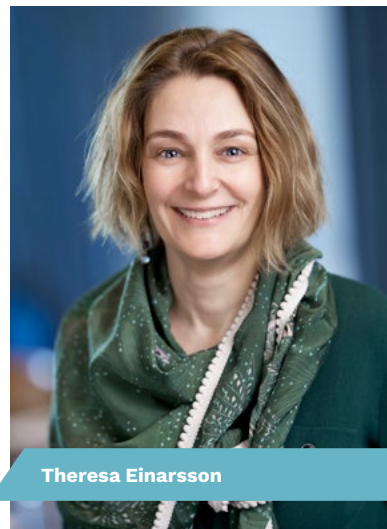
Director of: Vasakronan AB, Polhem Infra AB, Hans Dahlborgs Stiftelse för Bank- och Finansforskning, The Royal Swedish Academy of Sciences Investment Committee; Chair of the Swedish House of Finance (SHoF) at the Stockholm School of Economics



Jenny Askfelt Ruud

Head of Alternative Investments
Born 1973
Employed since 2018
M.Sc. Econ.

Previous positions with Enwise, Ratons, McKinsey & Company, Arts Alliance and Morgan Stanley



Theresa Einarsson

General Counsel
Born 1977
Employed since 2019
LL.B.

Previous positions with Apoteksgruppen, Advokatfirman Vinge, Davis Polk & Wardwell LLP and Hammarstiöld & Co



Tobias Fransson

Head of Sustainability, Finance & Communication
Born 1968
Employed since 2003
M.Sc. Econ.

Previous positions with ABB, SEB and Capto Financial Consulting

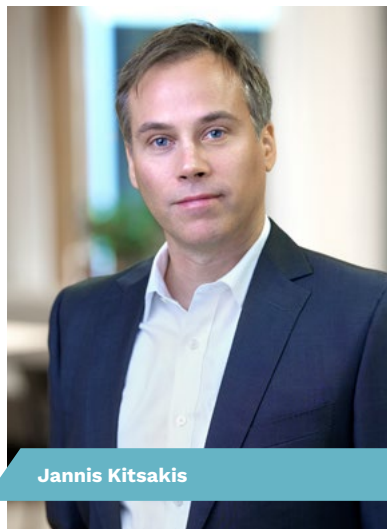
Executive Management



Magdalena Högberg

Head of Strategic Allocation & Quantitative Analysis
Born 1983
Employed since 2013
M.Sc. Eng., M.Sc. Econ., CFA

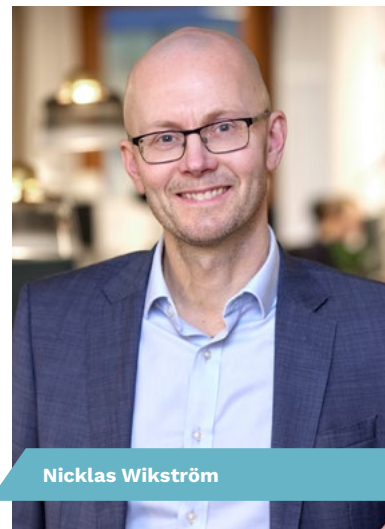
Previous positions with VPD and Astando



Jannis Kitsakis

Head of Fundamental Equities
Born 1976
Employed since 2008
M.Sc. Econ.

Previous positions with Handelsbanken



Nicklas Wikström

Head of Risk & Business Support
Born 1968
Employed since 2008
M.Sc. in Accounting and Financing, CEFA, AFA

Previous position with AFA Insurance

Sustainability data

AP4's sustainability reporting is based on the AP Funds' joint guidelines for reporting on how the goal of how exemplary asset management has been achieved. This section complements the Strategy & Operations section with more detailed sustainability data over time.

SUSTAINABILITY DATA

- LONG-TERM RETURN
- RISKS IN THE PORTFOLIO
- VOTING DATA
- CARBON FOOTPRINT
- TCFD TABLES
- UN GLOBAL GOALS
- DIRECT ENVIRONMENTAL IMPACT

Long-term return

Long-term return per asset class

AP4's operative asset management is evaluated against the Dynamic Normal Portfolio (DNP), which is a benchmark portfolio established by the Board of Directors. The DNP is made up of a number of market indexes that are weighted together with set asset weights. The indexes used are standardised and hedged to Swedish kronor. Since 2022 the indexes are adjusted for any sustainability-based exclusions. The real assets asset class is not measured against a market index, but instead against a real return target of the CPI + 3 percentage points. Active return is calculated as the difference in returns between the operative portfolio and the DNP benchmark portfolio. In connection with decisions on the DNP, a medium-term return target over 10 years is also set, which is currently a 3% annual real return. The asset management is also compared with the development of the income index. A return that exceeds the income index contributes to a strengthening of the pension system's stability.

Asset class ¹	1 year (2022)	3 years (2020– 2022) ⁶	5 years (2018– 2022) ⁶	10 years (2013– 2022) ⁶	Benchmark index ⁷	Weight in DNP ⁸ , %
Global equities, %	-19.0	3.7	4.8	8.8	MSCI All Countries	38
- of which, active return, ² %	-1.1	0.3	0.5	0.6		
Swedish equities, %	-31.2	6.7	11.3	13.3	SIX-RX	15
- of which, active return, %	-8.4	-0.6	1.6	1.3		
Defensive equities, ³ %	-3.6	-	-	-	MSCI World factor index	5
- of which, active return, %	4.8	-	-	-		
Fixed income assets, ⁴ %	-5.8	-1.1	0.0	1.8	Global fixed income: ICE GDP-weighted, 4-year duration	19
- of which, active return, %	2.1	1.3	1.1	1.3	Swedish fixed income: ICE, 4-year duration	8
Real assets, ⁵ %	-0.6	9.0	14	18.6	CPI + 3%	15
- of which, active return, %	-14.5	1.4	7.5	13.6		
AP4 total portfolio, %	-11.8	4.9	7.0	9.2	Dynamic Normal Portfolio (DNP)	100
- of which, active return relative to the DNP, %	-3.8	0.3	1.5	1.5		
Income index, %	4.1	3.3	2.9	2.7		
Medium-term return target, %	15.7	8.6	7.1	6.2		

1. Return before costs.

2. AP4 can use its tax status as a state pension fund, and in 2022 this made a positive contribution of 0.15 percentage points.

3. The defensive assets asset class was introduced in 2022, which is why data is not available for earlier years. The return for 2022 pertains to part of the year.

4. Fixed income assets consist of the two asset classes global fixed income and Swedish fixed income investments and are managed as one portfolio.

5. Prior to 2018, real assets consisted only of real estate, and this was measured against the MSCI ACWI.

6. Pertains to average annual return over the respective time horizon.

7. Since 2022 the benchmark indexes are adjusted for sustainability-related exclusions.

8. Pertains to 31 December 2022.

Risks in the portfolio

AP4's investment process includes identifying and managing economic, financial and sustainability-related risks that could affect the portfolio's long-term performance.

On top of these risks are also risks associated with AP4's internal operations, such as operational risks (e.g., personnel risks, systemic risks and process risks) and other business risks (such as reputational risks). Management of these is described on pages 49-51 and 71-74, and in the Fund Governance Report on pages 79-84.

	Risk areas	
	The pension system's long-term needs and structural socioeconomic factors	Medium-term economic performance and financial markets
Identification	Identifies long-term risks for the pension system over 40 years' time: <ul style="list-style-type: none"> • Demographic development • Labour market development • Long-term return expectations in financial markets 	Identifies risks from a ten-year perspective with focus on the 5-15 year time span, which enables analysis of more detailed cyclical events: <ul style="list-style-type: none"> • Macroeconomic scenarios • The financial markets' valuation levels • Climate transition
Governance	Every three years AP4 conducts an ALM (Asset Liability Management) analysis, where the work is continuously reported to the Board, and where the following are determined: <ul style="list-style-type: none"> • Long-term return targets • Decisions on the risk scope are expressed in terms of a range for the portion of equities, currency exposure and the fixed income portfolio's average duration 	The Board receives continuous reports on the analysis of medium-term economic performance and the financial markets. Based on risks and opportunities, the Board decides yearly on: <ul style="list-style-type: none"> • The Dynamic Normal Portfolio (DNP), a benchmark portfolio comprising several market indexes
Management	AP4 conducts a business environment analysis with various scenarios that affect the preconditions for the pension system. AP4 works according to the Swedish Pensions Agency's forecasts combined with own stress tests of the labour market, demographics and return expectations.	Scenarios for the macroeconomic development – including the climate transition's possible impacts on these scenarios, interest rate movements and equity valuations – are presented yearly to the Board of Directors.
Targets	Striving for the combination of return targets and risk level that is best-suited for the pension system in the short- and long-term.	<ul style="list-style-type: none"> • Medium-term return target 3% • Active return target 1 percentage point • Active risk scope 5 percentage points
Results	As a reflection of the pension system's current strength combined with the prevailing market situation with low expected returns and with maintained generation neutrality, the long-term real return target has been lowered, first in 2018 from 4.5% to 4.0% and starting in 2021 to 3.5%.	AP4's asset management is evaluated over different time horizons: <ul style="list-style-type: none"> • Total return has been evaluated since the start in 2001. AP4's total return for the period 2001-2022 has averaged 6.3% per year, compared with the long-term return target, which averaged 6.1% • Ahead of 2022 the Board decided to introduce a new asset class, defensive equities, with an allocation of 5% of the DNP • Active return on top of the DNP is measured over a rolling 5-year period and averaged 1.5 percentage points per year during the period 2018-2022, compared with the target of 1.0 percentage point per year

Risk areas			
	Climate risks, climate transition and other environmental risks	Human rights and social conditions	Corruption
Identification	<ul style="list-style-type: none"> Climate change and the climate transition are systemic risks with global impacts on society, economies and expected returns. Climate risks consist of physical risks (including temporary risks such as extreme weather and flooding as well as permanent risks such as rising sea levels) and transitional risks. Risks such as changes in tax rules, sector requirements and demand may lead to poorer competitiveness for certain companies and sectors, and lead to higher costs in the form of taxes, insurance premiums and continuous investments 	<ul style="list-style-type: none"> AP4 has a broad global portfolio with holdings in several thousand companies aimed at generating the highest possible risk-adjusted return while at the same time being cost-effective. Some of these companies are domiciled or conduct operations in countries where the handling of human rights and other social conditions is not always on par with the international conventions that Sweden has ratified. This poses a risk for human rights violations and other negative social conditions in companies in which AP4 has invested 	<ul style="list-style-type: none"> Corruption is a global problem that exists in many countries and industries. It is harmful and costly for society, it skews sound competition and undermines asset values as well as people's trust in political and economic systems. Various forms of corruption constitute commonly prevalent sustainability risks for many companies. With broad equities exposure, corruption is a threat to the portfolio's long-term return
Governance	<ul style="list-style-type: none"> The Board of Directors has addressed the significance by establishing Climate & Environment as one of two focus areas in the asset management. Corporate Governance is the other focus area, which stipulates that AP4 shall work as an active and engaged owner to contribute to the portfolio companies' work on managing climate and environmental risks. It is also one of the focus areas for the Council on Ethics 	<ul style="list-style-type: none"> AP4, together with AP1-AP3, has formed the Council on Ethics of the AP Funds, which is responsible for systematic business intelligence monitoring of approximately 3,200 companies and regularly analyses the portfolio to identify any violations of human rights or other conventions. The Council on Ethics also works proactively in projects to promote compliance with human rights and improvements in social conditions 	<ul style="list-style-type: none"> AP4, together with AP1-AP3, has formed the Council on Ethics of the AP Funds, which is responsible for systematic business environment monitoring of approximately 3,200 companies and regularly analyses the portfolio to identify any cases of corruption
Management	<ul style="list-style-type: none"> AP4 mitigates risk through optimisation strategies where company weightings in the respective sectors are adjusted based on the companies' carbon intensity. AP4 makes thematic investments that contribute to and benefit from the climate transition and influence companies as an owner. AP4 is an active owner and engages companies in dialogue, internationally through the Council on Ethics or other collaboration bodies for investors 	<ul style="list-style-type: none"> In the event of a confirmed violation of an international convention by an individual company, the Council on Ethics can decide to engage the company in a dialogue to bring about a positive change. If the dialogue does not lead to the desired result, the Council on Ethics may recommend that the AP Funds exclude the company from their portfolios. AP4 is conducting a project within its asset management aimed at proactively mapping the risk scenario for various industries and countries regarding human rights risks 	<ul style="list-style-type: none"> The Council on Ethics conducts reactive dialogues with companies in cases of confirmed corruption as well as proactive projects aimed at countering corruption in industries and countries where it is a pervasive problem. AP4 makes demands for transparency and discusses with companies how e.g., policies, guidelines and routines for preventing corruption are designed and how follow-up is conducted. Tools that can reduce and prevent corruption include greater transparency, whistleblower functions and improved monitoring of companies' internal rules. AP4 eagerly cooperates with other investors in this work and votes in line with this work at company shareholder meetings
Targets	<ul style="list-style-type: none"> AP4 supports the Paris Agreement and is striving to reduce the portfolio's carbon footprint in line with the Paris Agreement's goal to limit temperature change. AP4 aims to halve the carbon footprint of its portfolio by 2030 and have net zero emissions by 2040 at the latest 	<ul style="list-style-type: none"> AP4 is working to increase knowledge in its asset management about the risk for human rights violations and to identify these risks. Through the Council on Ethics' work, AP4 aims to identify serious incidents and human rights violations in companies in the portfolio and to work to ensure that the companies remedy these and work preventively to prevent new incidents from occurring. Through its proactive work, the Council on Ethics strives to support companies in their work with social challenges and thereby prevent serious incidents 	<ul style="list-style-type: none"> AP4 is working to increase knowledge in its asset management about the risk for corruption and to proactively identify these risks. Through the Council on Ethics' work, AP4 aims to identify serious incidents of corruption in companies in the portfolio and to work to ensure that the companies remedy these and work preventively to prevent corruption. Through its proactive work, the Council on Ethics strives to support companies in their work with combating corruption
Results	<ul style="list-style-type: none"> Since 2010 the portfolio's carbon footprint has decreased by 61%. AP4's equity portfolio has a carbon intensity today that is 55% lower than a broad global equities index (MSCI ACWI). Based on its screening of the portfolio, the Council on Ethics registered 111 confirmed cases or cases with a risk for violations during 2022. During the year the Council on Ethics conducted 101 reactive company dialogues, of which environmental issues were the focus for 15% of these 	<ul style="list-style-type: none"> Based on its screening of the portfolio, the Council on Ethics registered 111 confirmed cases or cases with a risk for violations during 2022. During the year the Council on Ethics conducted 101 reactive company dialogues, of which social aspects including human rights and labour were the focus for 60% of these 	<ul style="list-style-type: none"> Based on its screening of the portfolio, the Council on Ethics registered 111 confirmed cases or cases with a risk for violations during 2022. During the year the Council on Ethics conducted 101 reactive company dialogues, of which corporate governance including business ethics and corruption was the focus for 25% of these

Description of sustainability risks

AP4's assignment enables a long-term approach, and an investment perspective of up to 40 years also makes it possible to achieve a high return over time. At the same time, this requires that AP4 identifies risks and carefully considers the risks and opportunities that are coupled to sustainability issues. AP4's analysis of sustainability trends shows how these may affect the portfolio – and how investments can be made that address these risks and benefit from the opportunities. The process is based on a structured evaluation, where an investment thesis is documented and then tested to see if it is possible to invest in accordance with the adopted thesis.

Climate risks

Today AP4's largest sustainability risks lie in climate changes and the transition that is needed to address these. A reduced climate impact is a precondition for stable and foreseeable economic development and thereby also for AP4's opportunities to succeed with its mission. In the transition to a society that uses fossil fuels to a lesser extent, emitting greenhouse gases will be increasingly more costly. This means that companies that cause large emissions will be valued and priced differently compared with today. This is why climate risks must be taken into account in AP4's long-term assessments of entire sectors and individual companies. Part of the work surrounding the assessment of climate risks involves conducting climate scenario analyses. These are analyses in which AP4 makes an assessment of possible effects on the macro economy's performance over the medium term. The analyses are then used as a foundation for AP4's overall investments. The assessments also provide knowledge and at the same time support AP4's work on measuring climate risks in the portfolio. The knowledge that has been built up is used in the dialogues with the companies in which AP4 is an owner as well as with other owners, and also to reduce risks in the portfolio. Moreover, the knowledge can be used for investments in accordance with proactive sustainability themes. Based on climate scenario analyses, AP4 has identified a number of themes that are essential for the climate transition. The decision that AP4 shall not have ownership in certain fossil-based companies as well as the decision to invest in accordance with low-carbon strategies are together contributing to a reduction in the portfolio's total carbon footprint. These

decisions are also reducing AP4's exposure to short-term market risks as well as more long-term risks related to the transition. AP4 identifies and invests in such companies that can contribute to – and benefit from – the ongoing climate transition, something that over time will create significant opportunities for the portfolio's performance.

Human rights

Shortcomings in and violations of human rights occur in many different industries, especially those with long supply chains that are hard to oversee. Shortcomings and violations also occur in countries with weak legal systems. It is thus a sustainability risk when AP4 has ownership in a company domiciled in a country with weak laws. The same applies when companies from countries with strong laws, such as Sweden, operate in such countries.

The United Nations Guiding Principles on Business and Human Rights (UNGPR) is the UN's framework for how both states and companies are to act to avoid and prevent negative impacts or violations of human rights. Under the UNGPR, companies are to adopt processes to identify and remedy negative impacts or human rights violations. In this area AP4 works both through the Council on Ethics of the AP Funds and together with other investors and stakeholders to influence foreign companies so that they address violations and prevent future negative impacts.

Corruption

Corruption is a global problem that exists in many industries and countries. Corruption costs society large amounts of money, destroys the conditions for sound competition and undermines citizens' trust in political and economic systems. Corruption is a pervasive sustainability risk for many companies and thus also for AP4, which invests in listed companies all over the world. Preventing and combating corruption is an important sustainability issue, which is why the matter of how work with anticorruption is included almost always in the proactive dialogues that AP4 – through the Council on Ethics – conducts with the companies it has ownership in. The shared goal of the Council on Ethics' dialogues and of AP4's work against corruption, where AP4 votes at shareholder general meetings and supports global initiatives, is that the portfolio companies will strengthen their anticorruption work.

In these dialogues AP4 discusses with its portfolio companies how the policies, guidelines and routines that are aimed to prevent corruption are designed and how they are followed up. These include tools that can reduce or prevent corruption, such as increased transparency, implementation of whistleblower functions and improved follow-up of internal rules.

Summary of AP4's voting on individual issues at general meetings of Swedish companies in 2022

Issue ¹	Board recommendations			Shareholder proposals		
	Number	AP4 for	AP4 against	Number	AP4 for	AP4 against
Directors and discharge from liability ²	-	-	-	1,480	100%	0%
- of which, election of directors	-	-	-	740	100%	0%
- of which, AP4 on nomination committee	-	-	-	299	100%	0%
Incentive programmes						
- of which, for employees	64	94%	6%	-	-	-
- of which, for directors	-	-	-	2	0%	100%
Adoption of financial statements, election of auditor, etc. ³	731	100%	0%	106	100%	0%
Takeover protection ⁴	-	-	-	-	-	-
Capital structure, organisation, acquisitions						
- of which, new issues without preferential rights	84	93%	7%	-	-	-
Environment and health	-	-	-	5	0%	100%
Corporate governance ⁵	-	-	-	105	100%	0%
Social and human rights	-	-	-	2	0%	100%

- AP4 voted at general meetings of 125 Swedish companies in 2022. The table above shows how AP4 voted at the meetings, broken down by type of issue and proposals submitted to the meeting by the board of directors or individual shareholders. In cases where the number of votes does not sum up to 100%, this is because AP4 chose to abstain from voting.
- Proposals to discharge directors from liability are addressed in accordance with statutory requirements at general meetings. However, formally it is neither the board nor shareholders who submit such proposals.
- The large number of individual resolution points in this category consist of formal issues such as election of a chair to preside over the general meeting, appointment of persons to sign and check the minutes, drawing up and approval of voting registers, approval of the minutes and determination of whether the general meeting has been duly convened. Proposals for auditors are submitted by the nomination committee.
- The issue of takeover protection is common at general meetings of foreign companies, but not in the Swedish stock market.
- Most of these proposals pertain to decisions regarding the nomination committee or principles for companies' nomination committees.

Summary of AP4's voting on individual issues at general meetings of foreign companies in 2022

Issue ¹	Board recommendations			Shareholder proposals		
	Number	AP4 for	AP4 against	Number	AP4 for	AP4 against
Directors and discharge from liability	10,379	81%	15%	113	76%	22%
Incentive programmes	2,013	63%	36%	26	73%	27%
Adoption of financial statements, election of auditor, etc.	2,727	79%	20%	87	32%	67%
Takeover protection	155	56%	44%	-	-	-
Capital structure, organisation, acquisitions	1,146	64%	36%	-	-	-
Environment and health	26	62%	38%	69	84%	14%
Corporate governance	-	-	-	75	88%	12%
Social and human rights	66	100%	0%	202	82%	18%

- AP4 voted at general meetings of 1,267 foreign companies in 2022. The table above shows how AP4 voted at the meetings, broken down by type of issue and proposals submitted to the meeting by the board of directors or individual shareholders. In cases where the number of votes does not sum up to 100%, this is because AP4 chose to abstain from voting.

Carbon footprint

Carbon footprint of the listed equity portfolio

In 2022 AP4 reduced the listed equity portfolio's greenhouse gas (GHG) emissions by 3%. Since 2010 these emissions have decreased by a total of 61%, which is helping to reduce climate risk in the portfolio. AP4 measures and reports GHG emissions in accordance with uniform guidelines established for the AP Funds. These pertain to listed shares, which made up 56% of AP4's portfolio at year-end 2022. In addition, AP4 also reports GHG emissions for the unlisted real estate portfolio, which made up another 11% of the total fund capital. AP4 works continually to evaluate access to qualitative data to be able to broaden its measurement to an even larger share of the portfolio.

Metrics	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total carbon emissions (millions tCO ₂ e) ¹	1.38	1.42	1.84	2.16	2.42	2.35	2.60	2.45	2.80	3.28	3.50	3.01	3.52
Change in portfolio's total carbon emissions compared with preceding year, %	-3%	-23%	-15%	-11%	3%	-10%	6%	-13%	-15%	-6%	16%	-14%	-
- of which, due to changes in portfolio holdings, %-pts	-5%	-18%	-12%	-16%	-	-	-	-	-	-	-	-	-
- of which, due to changes in companies' emissions, %-pts	3%	-5%	-3%	5%	-	-	-	-	-	-	-	-	-
Relative carbon emissions (tCO ₂ e/SEKm) ²	5.3	4.2	6.8	8.8	13.3	11.5	14.5	14.0	16.2	23.1	-	-	-
Carbon intensity (tCO ₂ e/SEKm) ³	8.0	9.4	12.8	13.5	15.9	13.5	17.6	22.2	-	-	-	-	-
Portfolio-weighted carbon intensity (TCFD) (tCO ₂ e/SEKm) ⁴	6.3	6.8	8.7	10.3	14.3	15.3	-	-	-	-	-	-	-
Change in portfolio's carbon intensity (TCFD) compared with preceding year, %	-7%	-23%	-15%	-28%	-7%	-	-	-	-	-	-	-	-
- of which, due to changes in portfolio holdings, %-pts	5%	-22%	-9%	-21%	-	-	-	-	-	-	-	-	-
- of which, due to changes in companies' emissions, %-pts	-13%	-1%	-6%	-6%	-	-	-	-	-	-	-	-	-
Identified market value as share of total fund capital, %	56%	64%	60%	59%	50%	56%	56%	56%	-	-	-	-	-
Identified market value as share of total equities, %	100%	100%	100%	100%	95%	97%	96%	100%	-	-	-	-	-
Share of market value for which reported emissions data is available, % ⁵	78%	72%	66%	60%	-	-	-	-	-	-	-	-	-

1. Sum of owned portion of portfolio companies' respective carbon emissions.

2. Sum of owned portion of portfolio companies' respective carbon missions in relation to the portfolio's market value.

3. Sum of owned portion of portfolio companies' respective carbon emissions in relation to the sum of owned portion of the portfolio companies' sales (harmonic mean).

4. This measure sums the portfolio companies' respective carbon intensity, i.e., a company's carbon emissions in relation to its sales, weighted based on the respective companies' share of the portfolio (arithmetic mean).

5. For the remainder of the portfolio, emissions data is estimated.

Carbon footprint of the portfolio of unlisted real assets

Since 2019 AP4 measures and reports the CO₂e emissions for unlisted real estate investments. In these companies, AP4 is typically a significant investor with a sizeable share of ownership and opportunities to influence. In 2020 a dialogue was begun with the companies on their respective climate strategies and climate risks as well as on their work to further reduce their CO₂e emissions going forward, which is followed up with a one- to two-year frequency. Both Vasakronan and Rikshem, AP4's two largest shareholdings in this asset class, have set targets to be climate-neutral by 2030.

Since 2021 AP4 has been measuring and reporting CO₂e emissions in the unlisted infrastructure portfolio. This work is a natural part of the expansion of AP4's holdings of real assets and is conducted in collaboration with the external managers of these assets. In 2023 AP4 will continue working together with companies and external asset managers to quality assure and harmonise various metrics so that they can form the basis for future consolidated reporting for AP4.

In 2022 AP4 also joined the ESG Data Convergence Initiative, an industry coalition of private equity investments for coordination and cooperation regarding standardised reporting of sustainability data in the climate as well as other sustainability areas.

Carbon footprint of the unlisted real estate portfolio

Metrics (for explanatory notes, see preceding page)	2022	2021	2020	2019
Total carbon emissions (millions tCO ₂ e) ¹	0.018	0.019	0.019	0.032
Relative carbon emissions (tCO ₂ e/SEKm) ²	0.37	0.47	0.49	0.83
Carbon intensity (tCO ₂ e/SEKm) ³	3.2	3.7	4.9	4.6
Portfolio-weighted carbon intensity (TCFD) (tCO ₂ e/SEKm) ⁴	3.2	3.7	4.3	5.6
Identified market value as share of total fund capital, %	11	9	9	9
Identified market value as share of unlisted properties, %	100	100	100	100
Share of market value for which reported emissions data is available, % ⁵	96	97	97	91

TCFD tables

A central part of the TCFD's recommendations (see also page 46) entails evaluating and reporting climate-related risks. These are reported in accordance with the proposed structure in table A1 below. The table includes examples of risks that companies must take into account and manage in their operations and in investment analyses, and how it is believed that the risks may affect investments in companies/sectors/geographic markets. The risks are assessed with an investment horizon of up to ten years.

Adapted TCFD table A1 with examples of climate-related risks

Climate-related risks	Potential financial impact	AP4
Regulatory risks		
<ul style="list-style-type: none"> Higher pricing of GHG emissions Higher demands on climate reporting Increased regulations governing products and services Higher exposure to lawsuits 	<ul style="list-style-type: none"> Higher operating expenses (e.g., costs for compliance, insurance premiums) Depreciation, impairment losses and early phase-out of existing assets due to regulatory changes Higher costs and/or lower demand for products and services as a result of fines and rulings Reputational risk that affects demand and pricing 	<p>Since 2012 AP4 has been investing in a way that reduces climate risk in the portfolio. This is done by applying quantitatively managed low-carbon strategies in the equity portfolio, which reduces exposure to companies with high carbon intensity and whose goals and plans are not considered to be aligned with the Paris Agreement and have a limited ability to manage higher carbon pricing. This pertains above all to companies with considerable operations in thermal coal and oil sand, which AP4 divested in 2018. Moreover, in the resource-intensive energy, utilities and commodities sectors, AP4 exercises fundamental company selection, which enables it to identify companies that are expected to be affected by higher regulatory risks. Together these portfolio changes have reduced AP4's carbon footprint to a level that is 45% of what it is for a broad global equities index. In the credit portfolio, too, exposure is being reduced to companies that are not considered to be aligned with the ongoing climate transition for achieving the goals of the Paris Agreement.</p>
Technical risks		
<ul style="list-style-type: none"> Substitution of current products and services with alternatives with lower carbon emissions Unsuccessful investments in new technology Costs for transition to low-carbon technologies 	<ul style="list-style-type: none"> Depreciation and early phase-out of existing assets Lower demand for products and services Costs for research and development of new and alternative technologies Investments in technical development Costs for adapting/using new methods and processes 	<p>AP4 has a long-term investment horizon, which favours opportunities to include technical risks associated with the climate transition in its investment assessments. This is done in AP4's thematic sustainability analysis, which seeks to identify sustainability trends along with their strengths and time perspectives with the goal to gain an understanding of which value chains will be affected, to identify winners and losers, and by extension to find investable themes for AP4's operative management. Technical risks are also mitigated through the low-carbon strategies described under regulatory risks above.</p>

Climate-related risks

Potential financial impact

AP4

Market risks

- Changes in customers' preferences
- Uncertainty in market signals
- Rising costs for commodities
- Decreasing demand for products and services due to changed customer preferences
- Rising production costs due to changed commodity prices and requirements for waste management
- Sudden and unexpected changes in energy costs
- Changed revenue mix, leading to lower revenue
- Changed pricing of assets (e.g., fossil fuel reserves, land and securities)

Market risks are managed through the thematic analysis that is described for technical risks above and through the low-carbon strategies described under regulatory risks above. In addition, in selected resource-intensive sectors, fundamental selection is exercised, such as in the commodities sector.

Reputational risks

- Changed consumption preferences
- Stigmatisation of sectors
- Greater worries among stakeholders or negative feedback from stakeholders
- Higher exposure to lawsuits
- Lower revenues due to lower demand for products/services
- Lower revenues due to reduced production capacity (e.g., permitting delays, supply chain disruptions)
- Lower revenues due to negative impact on e.g., ability to attract and retain employees
- Lower access to capital

AP4 believes that over time companies cannot be successful and generate a stable return for their owners unless sustainability aspects are given adequate and prioritised attention by their respective boards and managements. Brand risk is therefore a significant sustainability risk that is naturally integrated in AP4's investment analyses and processes.

Acute risks

- Serious, extreme weather events such as hurricanes and floods
- Lower revenues due to reduced production capacity (e.g., transport and supply chain disruptions)
- Lower revenues and higher costs due to negative impact on employees (e.g., health, safety, absenteeism)

Based on studies of current research, AP4 has determined that there is a negative connection between climate change and growth, especially for individual areas, but also at an aggregated level. It is estimated that half of the impact on growth from climate change could be alleviated through adaptation measures. The connection between changed precipitation volumes and growth is more apparent in more arid countries. The impacts on growth of extreme weather and natural disasters may be positive as well as negative. The economic impacts of rising sea levels are negative. However, the causal connections are so numerous and uncertain that it is hard to say anything more specific concerning the growth and return potential, or for that matter using insights at present for concrete reallocations in the portfolio. Physical climate risks are also included in the climate scenario analysis, and the assessment is that the most apparent risk is stagflation due to negative supply shock.

Long-term risks

- Changes in precipitation patterns and extreme variations in weather patterns
- Rising average temperature
- Rising sea levels
- Rising operating expenses (e.g., water shortages at hydro power plants and cooling water for fossil-based and nuclear power plants)
- Higher capital costs (e.g., damage to production plants)
- Lower revenues due to lower sales/production
- Rising insurance premiums and risk for lower access to insurance of assets in high-risk areas

TRANSITION RISKS

PHYSICAL RISKS

TRANSITION RISKS

THE YEAR 2022	ABOUT AP4	STRATEGY & OPERATIONS	ANNUAL REPORT	FUND GOVERNANCE	SUSTAINABILITY DATA
					→ TCFD TABLES

A central part of the TCFD's recommendations entails evaluating and reporting climate-related opportunities. These are reported in accordance with the proposed structure in table A2 below. The table includes examples of opportunities that companies are to take into account in their operations. In its investment analyses, AP4 takes into account how such opportunities are handled and how it is believed they may affect investments in companies/sectors/geographic markets. The assessment is made with an investment horizon of up to ten years.

Adapted TCFD table A2 with examples of climate-related opportunities

Climate-related opportunities	Potential financial impact	AP4	Climate-related opportunities	Potential financial impact	AP4
Resource efficiency			Products and services		
<ul style="list-style-type: none"> • Use of more efficient modes of transport • Use of more efficient production and distribution processes • Re-use • Relocation to more energy-efficient buildings • Reduced water use and water consumption 	<ul style="list-style-type: none"> • Lower operating expenses (e.g., through efficiency gains and cost reductions) • Increased production capacity, which leads to higher revenues • Growth in value of fixed assets (e.g., energy-efficient buildings) • Benefits for employees (e.g., improved work environment with respect to health and safety, more satisfied employees), which leads to lower costs 	<p>AP4's analysis of sustainability themes has identified three broad areas: energy transition/mobility, resource efficiency and renewable energy. Based on the thematic analysis, AP4 has made investments in unlisted assets in the area of resource efficiency. In listed companies globally, within the energy sector AP4 has focused its investments on companies that are on track to becoming integrated energy companies with a growing share of investments in renewable energy. With respect to utilities, focus is on producers of renewable energy, electricity distribution companies, which are benefiting from electrification, and hydro power companies, which have low carbon emissions. Key themes for the companies that AP4 continues to invest in in the commodities sector are recycling, production of materials that are replacing carbon-intensive materials, and forest-owning companies. In the transport sector, focus is on rail operators, logistics companies and shipping companies.</p>	<ul style="list-style-type: none"> • Development of and/or expansion in products and services with low emissions • Development of solutions for climate adaptation and insurance solutions • Development of new products through research and development • Ability to diversify business activities • Changes in consumption preferences 	<ul style="list-style-type: none"> • Higher revenues through greater demand for products and services with lower carbon emissions • Higher revenues by meeting new needs that arise in the transition (e.g., insurance solutions) • Improved competitive position that reflects changed consumption patterns and leads to higher revenues 	<p>AP4 searches for, evaluates and makes thematic, proactive investments in specific sustainability areas. Examples of such investments are green bonds, alternative investment funds with a pronounced sustainability focus, and directly owned companies with a distinct sustainability focus as part of their business strategies, such as in real estate and infrastructure.</p>
Energy sources			Markets		
<ul style="list-style-type: none"> • Use of lower-emitting energy sources • Policies that support the transition • Use of new technologies • Participation in carbon pricing markets • Decentralised electric power generation 	<ul style="list-style-type: none"> • Lower manufacturing costs • Reduced exposure to rising prices for fossil-based energy • Reduced exposure to greenhouse gas emissions and therefore less sensitivity to higher costs for carbon emissions • Return on investment in low-emitting technologies • Greater access to capital (due to more investors preferring low-emitting producers) • Improved reputation, leading to higher demand for products/services 	<p>AP4's thematic analysis has identified three broad areas: energy transition/mobility, resource efficiency and renewable energy. Based on the thematic analysis, AP4 has made investments in unlisted assets in the areas of energy transition and renewable energy.</p>	<ul style="list-style-type: none"> • Access to new markets • Use of public sector incentives • Access to new assets and sites that need insurance protection 	<ul style="list-style-type: none"> • Higher revenues through access to new and growing markets (e.g., through partnerships with governments and development banks) • Greater diversity of financial assets (e.g., green bonds and infrastructure) 	<p>AP4 searches for and invests in dedicated sustainability investments in various markets and asset classes that can contribute to and benefit from the ongoing climate transition.</p>
			Resilience and ability to recover		
			<ul style="list-style-type: none"> • Participation in renewable energy programmes and application of more energy-efficient methods • Replacement/diversification of various resources 	<ul style="list-style-type: none"> • Higher market value through planning for management of climate-related risks (e.g., infrastructure, land, buildings) • Greater reliability in supply chain's ability to work under varying conditions • Higher revenues through new products and services for addressing climate change and its risks 	<p>AP4 searches for and invests in dedicated sustainability investments in various markets and asset classes that can contribute to and benefit from the ongoing climate transition.</p>

AP4 and the UN's Global Goals

The UN's 2030 Agenda along with the 17 Global Goals provides a plan of action to end extreme poverty, combat inequalities and deprivations, promote peace and justice, and solve the climate crisis in the world by 2030. There is a clear expectation that everyone – states, civil society and business – will actively work to achieve the Global Goals.

AP4's work coupled to the Global Goals

AP4 is working to identify sustainability areas and global trends in which investments can generate expected favourable returns and contribute to sustainable development.

The Global Goals along with their underlying sub-goals and key ratios are mainly intended to serve as support for the work conducted by nations rather than by individual companies, which make it more difficult for companies to couple investments to individual goals and measure their contributions. As a state pension fund AP4 focuses on the Global Goals that have been deemed to have investment potential. Most of AP4's

sustainability-oriented investments are considered to contribute to several of the Global Goals in a direct or indirect way.

The business sector's positive contributions to the Global Goals

A private business sector with well-managed companies that are run responsibly together with well-functioning stock markets are key components of a socioeconomic system that can provide greater prosperity for all citizens. The companies that AP4 invests in around the world therefore contribute at an overarching level to economic development and thereby also to promotion of the Global Goals.



Following is an account of the Global Goals with the clearest couplings to AP4's investments:

1. No poverty

AP4 invests in funds that invest in companies and assets that develop and provide renewable energy, water, wastewater management and transportation infrastructure in Africa, which in turn is contributing to improved living conditions in African countries.

2. Zero hunger

AP4 invests in a fund that is building and owns advanced greenhouses mainly in North America, focusing on sustainable food supply. Growing in controlled environments has significant sustainability advantages compared with traditional growing, including considerably lower water use, less land use, and lower use of chemicals and pesticides.

In addition, AP4 is invested in a fund focusing on growth companies in sustainable food supply, such as alternative proteins and fats, regenerative agriculture and healthy diets.

3. Good health and well-being

AP4's Swedish equity management includes a large number of companies in the health sector, from small R&D firms to established, market-leading companies. AP4 has been an early investor in the health sector and provides funding

to promote the development and establishment of new medicines, equipment and health services. In the unlisted portfolio AP4 invests in funds focused on medical technology, among other areas.

5. Gender equality

AP4 influences as an investor, owner and representative on nomination committees for greater diversity and gender equality on company boards and organisations. This is an expressly stated objective for AP4's Corporate Governance focus area. AP4 supports international investor initiatives for greater gender equality and human rights.

6. Clean water and sanitation

AP4 invests in funds that develop and provide water infrastructure in Europe and Africa.

7. Affordable and clean energy

Greater access to renewable energy is a precondition for the climate transition. Investments are made in Sweden through Polhem Infra, which is jointly owned with AP1 and AP3. Polhem Infra has investments in bioenergy, wind power and digital infrastructure. Internationally, investments are made through a number of funds and investment companies that invest in unlisted companies and assets with

focus on sustainable infrastructure, including renewable forms of energy such as wind power, solar power, geothermal energy and bioenergy.

8. Decent work and economic growth

AP4 participates in international owner initiatives and – through the Council on Ethics of the AP Funds – engages companies in dialogues to promote decent working conditions, protect workers' rights, promote a safe and secure work environment, and combat forced labour, child labour and modern slavery. These are also issues of significant importance in the screenings that are made prior to decisions on investments in unlisted companies.

9. Industry, innovation and infrastructure

In the unlisted portfolio, AP4 makes thematically oriented investments in funds that invest in companies whose operations are focused on supporting and accelerating the transition to a sustainable economy, such as through innovative business models, manufacturing methods, products or services. Through its work as an active owner, AP4 urges companies in the unlisted portfolio

to accelerate their sustainability transitions through development and innovation. The Council on Ethics works within the framework of Climate Action 100+ in sector dialogues to help individual companies in their transitions.

11. Sustainable cities and communities

AP4's unlisted property companies work with sustainability in an integrated way, including reducing their carbon footprints. Both Vasakronan and Rikshem, AP4's two largest property company shareholdings, are working actively with the climate transition. Vasakronan has set a goal to be climate-neutral in the entire value chain by 2030, and Rikshem's goal is to have climate-neutral facility management by 2030. The unlisted investments in electrification and digital infrastructure are also making a positive contribution.

12. Responsible consumption and production

Sustainable food production is a precondition for the ability to feed growing populations. In the unlisted portfolio, AP4 has invested in a fund that is building and owns advanced

greenhouses as well as in a fund that invests in companies at an early stage whose focus is on sustainable food production chains, such as through alternative proteins, healthy diets, circular value chains and regenerative agriculture.

13. Climate action

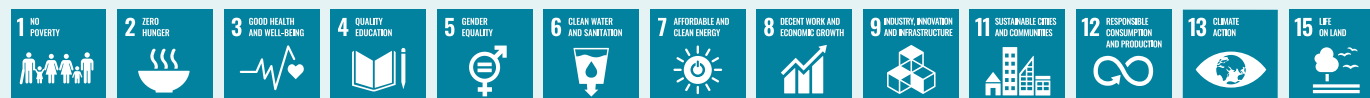
Achieving development that is in line with the Paris Agreement and combating climate change require substantial investments in fossil-free energy at the same time that resource-intensive companies in the areas of energy, utilities and commodities need to undergo a significant transition. AP4 invests in listed companies in these sectors that are currently undertaking a journey of change and that themselves are investing heavily in the climate transition. Focus is also on companies that are at the forefront with respect to renewable and recyclable resources. On a sector-independent basis, AP4 invests in listed global companies that are continuously developing their sustainability work in order to be in line with the Paris Agreement. In the unlisted portfolio, AP4 makes investments in Sweden and internationally in renewable energy and electrification via funds

and investment companies such as Polhem Infra.

AP4 urges companies to refrain from negative climate lobbying, urges stock markets around the world to apply sustainability reporting guidelines, and supports initiatives calling for resource-intensive companies to work to reduce their negative environmental impacts. AP4 does not have ownership in companies that derive a significant share of their revenue from thermal coal or oil sand.

15. Life on land

Climate change is the issue at the global level that is considered to have the greatest impact on biodiversity. At the regional level AP4 works together with other investors, often through the Council on Ethics, on projects in support of biodiversity. Examples of such projects include deforestation in the Amazon and Asia, and sustainable meat production. At the local level AP4 works through the Council on Ethics to ensure that individual facilities such as hydroelectric dams, mines and fossil fuel production will have as limited environmental impact as possible.



AP4's direct environmental impact impact

AP4's direct environmental impact

	2022	2021	2020	2019	2018
Electricity use in own offices, MWh	103	89	87	103	107
District cooling use in own offices, MWh	52	44	43	46	51
Use of heat in own offices, MWh	48	50	37	40	42
Use of water, m ³	443	375	262	433	433
Use of paper, tonnes	0,5	0,1	0,1	1,0	0,7
Ecolabelled paper as share of total paper use, %	100	100	100	100	100
Business travel by air, km 10,000s	34	2	11	54	51
Business travel by air, tonnes CO2 emissions	36	3	12	60	57

