Responsible Investment Report

APG Group 2020

Preface

In 2020 the Covid crisis dominated every aspect of everyone's lives and APG was certainly no exception. As many countries - including the Netherlands - went into lockdown, social and economic life largely came to a halt. Worldwide, medical facilities had to be expanded at an emergency pace, working from home became the "new normal," and scientists joined forces to develop a vaccine as quickly as possible.

As a committed long-term investor, APG contributed to combating the effects of the crisis. We invested in "corona bonds", for example, to finance the expansion of medical care, help small and medium-sized enterprises and support job retention for employees. By the end of 2020, we had invested over €1 billion in this type of bond. We receive an equal or sometimes even higher rate of interest on these than on comparable "ordinary" bonds, demonstrating that financial returns and social benefit can go hand in hand.

The corona crisis accelerated the already growing focus on responsible investment. Not only among civil society organizations, but also in the media and among the participants in the pension funds that APG works for. Some of them would like to see us sell our investments in fossil energy companies as quickly as possible and we understand this. Our pension funds, and we as administrators, take these concerns very seriously and are fully aware that we exist because of the participants in our pension funds and that it is our job to ensure a good pension for them.

We remain committed to making a difference. In 2020, for example, we joined with three international investors to create the SDI Asset Owner Platform to encourage investing in the Sustainable Development Goals. Our ambition is to make this a global standard. In this way, along with other responsible investors, we can contribute to goals like sustainable cities and communities, affordable and sustainable energy and climate action.

Following ABP (2020), bpfBOUW and SPW recently announced new responsible investment policies. Our pension funds are further sharpening their sustainable ambitions. This brings new challenges with it for us as asset managers with respect to accountability, communication and data quality, for example. But we will not shy away from these challenges.

Like our pension funds, APG continues to develop in terms of responsible investment and we are gaining international recognition for this. Of course we are proud of this, but recognition is not an end in itself. We want to "work together on your sustainable future". A future with a good and affordable pension, in a sustainable, livable and inclusive society. That is what we are committed to, now and in the future.

June 2021

Annette Mosman, CEO of APG
Ronald Wuijster, member of the APG executive board, responsible for Asset Management

APG: 2020 in figures

Dialogue with companies about sustainability and good governance

Number of companies we spoke with

Number of companies
437

Number of conversations about

Good corporate governance
196

Environment
151

Business ethics*
143

Working conditions
85

Human rights
53

Sustainable financing
49

Other topics
59

* Including bribery and corruption, money laundering, inappropriate promotion of medicines and the lack of arrangements for whistleblowers.

Voting at shareholders' meetings

Shareholders' meetings at which we voted

5,082

Remuneration proposals

1,983

For: 55%
Against: 44%
Abstained/not voted: 1%

Directors' appointments

20,284

For: 73%
Against: 17%
Abstained/not voted: 10%

Sustainable investment

Investments in the Sustainable Development Goals

2020:
€ 90.9 billion

2019: € 81.2 billion
2018: € 69.2 billion
2017: € 55.3 billion
2016: € 44.5 billion
2015: € 38.5 billion

APG invests in Tomra, a global leader in the development of sorting machines for waste separation and recycling. Thanks to Tomra's devices, 40 billion drink containers are collected annually for reuse.

Investments in labeled bonds

2020:
€ 12.2 billion

2019: € 9.0 billion
2018: € 6.9 billion
2017: € 4.5 billion
2016: € 1.9 billion
2015: € 1.0 billion

In 2020, APG invested over €1 billion in corona bonds. The revenues will be used for among other things, expanding health care, job retention programs and support for SMEs.

Reduction in carbon footprint of equity portfolio compared to 2015

2020:
-39%

2019: -37%
2018: -28%
2017: -28%
2016: -16%

The Philippine company Ayala Corp. announced in 2020 that it was divesting all interests in coal-fired power plants by 2030. Leading up to the announcement, we discussed this with the company several times.

Invested in SDG 7: Affordable and clean energy

2020:
€ 15.9 billion

Include/exclude

Companies on our exclusion list
155

Countries (government bonds) on our exclusion list
15

Principles for Responsible Investment (PRI) rating
A+

Total assets invested

2020:
€ 573 billion

2019: € 538 billion
2018: € 459 billion
2017: € 470 billion
2016: € 443 billion
2015: € 406 billion

Who we are

For APG, pension is about people. About living and about living together. We want to make a difference so that we, our parents and our children will have a good income, both now and in the future. APG has a commitment to the 4.7 million people who are accruing or receiving their pension through one of the eight pension funds we work for. For four of them, APG manages the assets that have been accrued with the pension contributions of employers and members. These are people who work or have worked for the government or in education (ABP), in the construction industry (bpfBOUW), at a housing corporation (SPW) and at APG itself (PPF APG).

In total, we invest over €570 billion for these people. This is a huge responsibility. After all, how we handle these assets determines the pensions of millions of people, now and in the future. We are not only interested in the financial returns. We also want our investments to contribute to a sustainable society, to the Netherlands of the future. We want to work towards a society in which we share prosperity and well-being in a sustainable way. Because what use is a good pension if the world around you has become unlivable?

Making the difference for the Netherlands of now and the future is something we are doing with about 3,100 APG employees. They work at our offices in Heerlen, Amsterdam, Hong Kong and New York and our satellite offices in Brussels, Shanghai and Beijing.

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The original 2020 APG Groep N.V. annual report and the financial statements were drafted in Dutch. This document is an English translation of the original Dutch document. In case of any discrepancies between the English and the Dutch text, the latter will prevail.

Chapter 1

Our approach

Our Approach

APG invests in the "future income" of millions of people in the Netherlands. We want to make a difference and contribute to a sustainable future for current and future generations. That is why, for every investment decision, we not only take into account risk, return and cost, but also human rights, the environment and good corporate governance. We follow the policies of the pension funds we invest for in this.

Responsible investment and our mission

Our mission is "Building your sustainable future together". Based on collectivity and solidarity, we build a sustainable future together for pension funds, participants, employers, our own employees and society as a whole.

The aim of the investments is to achieve the highest possible return for our pension funds within the risk parameters they have set. We take sustainability into account in all investment decisions. We look at issues such as human rights, diversity and the impact on the living environment and the climate. On behalf of the pension funds, we also contribute to the Sustainable Development Goals (SDGs) with our investments.

Concrete goals

APG has three goals with respect to sustainable and responsible investment:

- Take our corporate responsibility.
- Contribute to generating solid returns for our pension funds' participants at an acceptable risk.
- Promote transparency and proper functioning of the financial markets.

Our pension fund clients have concrete, measurable objectives with respect to sustainable and responsible investing. These goals contribute to a livable world for current and future generations.[1]

	ABP 2025	bpfBOUW 2020	SPW 2020	PPF APG 2020
Carbon footprint of equities	-40%	-25%	-25%	-25%
Investments in sustainable developments	20% of AUM	€ 12 billion		
Investments in SDG 7 (Affordable and clean energy)	€ 15 billion			

1 For ABP, the policy cycle ended on December 31, 2019. At the beginning of 2020, ABP announced new objectives for the period 2020-2025. For the other pension fund clients, the policy cycle ends at the end of 2020. New objectives will be announced in 2021.

For bpfBOUW, SPW and PPF APG, the policy period for responsible investment expired at the end of 2020. The above goals were all achieved. At the end of 2020, bpfBOUW had €16.1 billion in investments contributing to the Sustainable Development Goals. The carbon footprint of equity investments had been reduced by 38% for bpfBOUW, and 39% for SPW and PPF APG compared to 2015.

Investing in the Netherlands

In line with the policy of our funds, we have a special focus on investing in the Netherlands. For example, in 2020 we expanded investments in infrastructure (such as maintenance of the Afsluitdijk, wind turbines, roads), real estate (e.g., hotels, student housing, outlet centers) and Dutch companies.

It is not possible to invest all the assets we manage in the Netherlands. To limit the risk, we spread our investments all over the world. About 4% of the assets are now invested in the Netherlands. This could be more, but currently there are too few opportunities to invest in large public works as an institutional investor.

In November 2020, Gerard van Olphen (then CEO of APG), together with ABP board chairman Corien Wortmann, called on the Dutch government to draw up a plan to deploy public and private investments together. For example, for the development and maintenance of infrastructure and schools. These public-private partnerships are needed to increase investment in our country.

Responsible investment choices

For each investment, we look not only at expected return, risk and costs, but also at how sustainable and responsible the investment is. We call this the inclusion policy. Our funds want us to invest only in companies that pay sufficient attention to human rights, the environment and good corporate governance (ESG: environment, social, governance) or in companies that we expect to be able to encourage to improve (Chapter 2). Engagement (a dialogue with a company to encourage it to improve) is then a precondition for being able to invest.

Proposals for new investments (above a certain size) in unlisted companies and projects (such as real estate, infrastructure and private equity) are assessed not only by the portfolio managers, but also by specialists from APG's responsible investment team. They have advisory rights and are involved in drawing up the conditions the new investment must fulfil.

We are convinced that companies that pay enough attention to human rights, the environment and good governance perform better in the long run, not only with respect to sustainability, but also with respect to financial returns. Because a long horizon is compatible with our role as a pension investor, we are in an excellent position to invest in a sustainable and responsible way.

Compliance with national and international regulations

The way we invest responsibly complies with national and international legislation and regulation. The OECD guidelines for multinational companies form the basis for our inclusion policy (Chapter 2). We also expect the companies we invest in to follow the principles of the UN Global Compact in terms of human and labor rights, the environment and anti-corruption (Chapter 3). In addition, APG substantiates this through the pension funds' participation in the Dutch covenant for International Socially Responsible Investment (Chapter 5).

Progress in implementation

These are some of the areas in which we have made progress:

- establishing the impact of sustainable and responsible investing on risk and return (Chapter 1);
- increasing our investments in companies and projects that contribute to the Sustainable

Development Goals (SDGs) and launching the SDI Asset Owner Platform, which we aim to develop into a global standard for investments in the SDGs (Chapter 4);
- pursuing our thematic engagements in areas such as child labor and safe working conditions (Chapter 5);
- reducing the carbon footprint of our equity investments and measuring the carbon footprint of our investments in corporate bonds, real estate and private equity, as well as expanding our investments in SDG 7: Affordable and clean energy (Chapter 6);
- promoting - also in cooperation with other investors - good corporate governance in the companies we invest in (Chapter 7).

Embedding responsible investment in the organization

APG has a team of eighteen specialists in sustainability and corporate governance at its offices in Amsterdam, New York and Hong Kong. The tasks of the Global Responsible Investment & Governance (GRIG) team include the following:
- collaboration with portfolio managers in responsible investing;
- engagement with companies to encourage them to improve their corporate social responsibility;
- implementation of voting policy;
- evaluation of proposals on sustainability and good governance for unlisted investments;
- engagement with regulators, supervisors and other parties involved.

Partly as a result of intensive collaboration between the various parts of the organization, the focus on and knowledge of sustainable and responsible investing within APG has greatly increased in the last few years. This increased expertise is in line with our aim of becoming a leader in sustainability and responsible investing. Other parts of APG, such as Fiduciary Management and Risk Management, also have sustainability and responsible investment specialists.

The availability of reliable sustainability information is crucial for the proper execution of the policy. We therefore ask companies to publish more and better sustainability information. We also do all we can to gather information ourselves. For example, we are working on creating a standard that will give investors insight into the degree to which companies contribute to the Sustainable Development Goals (Chapter 4).

Making our operations more sustainable

APG naturally has the greatest impact with the investments we manage for our pension funds. However, we do not neglect the impact of our own operations. As we lagged behind the organizations in which we invest in this area, we have included the following principle in our strategy: 'We practice what we preach'. Only by doing so can we set the bar high for others. It also motivates employees to include sustainability in their work and in the choices they make.

In 2020 we took a number of concrete steps. For example the Executive Board approved a plan to reduce our CO_2 emissions: the goal is for APG's business to be demonstrably climate-neutral by 2030. We also involve our suppliers and service providers in our objectives and are working on a plan for more sustainable procurement. Additionally, a Sustainability Board is being set up, to be headed by the CEO. The Sustainability Board will draw up resolutions that more concretely formalize our sustainability ambitions. Further information on this can be found in APG's annual report.

International involvement

Only through global collaboration can APG and other institutional investors be truly successful in addressing the challenges of sustainable and responsible investing. APG is involved with a wide range of international organizations, including the Global Investors for Sustainable Development Alliance, the Institutional Investors Group on Climate Change, the Asian Corporate Governance Association and the Investor Leadership Network. The head of the Global Responsible Investment & Governance team is co-chair of the SDG Advisory Committee of the Principles for Responsible Investment (PRI), a board member of the International Corporate Governance Network and a member of the German Corporate Governance Code Committee.

APG is committed to developing standards that can advance sustainable and responsible investing. For example, we were one of the founders of the Corporate Human Rights Benchmark (CHRB), the Global Real Estate Sustainability Benchmark (GRESB) for real estate and infrastructure, and the Carbon Risk Real Estate Monitor (CRREM), a global method for determining whether real estate meets the goals of the Paris Agreement. And, as mentioned above, in 2020 we co-founded the SDI Asset Owner Platform with three other investors.

Recognition

VBDO

Our pension funds once again scored excellently in the annual ranking of sustainable pension funds by the Association of Investors for Sustainable Development (VBDO). As in 2019 and 2018, ABP took first place. BpfBouw followed close behind in second place, as in 2019. SPW was sixth, heading the category of pension funds with invested assets of between €10 billion and €30 billion. Every year VBDO assesses how responsibly the 50 largest pension funds in the Netherlands invest their assets.

A+ rating from PRI

As the manager of our pension funds' assets, APG is proud to be known worldwide as a leading sustainable investor. In 2020, Principles for Responsible Investment (PRI) again recognized APG as one of the leaders in responsible investing. As in 2019, APG Asset Management scored above average in PRI's annual benchmarking assessment, with an A+ for strategy and governance. This was better than the median result achieved by asset managers for 13 of the 17 components measured.

PRI 2020 Leaders' Group

PRI also announced in October 2020 that it is including APG in its 2020 Leaders Group. Each year, PRI selects a group of leaders on a particular theme. The 2020 theme was climate reporting.

ShareAction/AODP

In ShareAction/AODP's evaluation, we achieved fourth place in a ranking of the world's 75 largest asset managers. This civil society organization assesses how institutional investors handle responsible investing. The focus is on climate change, human rights and biodiversity. APG was given an A, the highest rating awarded in 2020.

Greater insight into the effect on risk and return

APG strives for good pensions for the participants in our pension funds. That is why it is important for us to have insight into the effect of sustainable and responsible investment on the return and risk of our investments.

Scientific research reinforces our conviction that we make better investment decisions if we structurally include sustainability and corporate social responsibility in our process. By paying close attention to these issues, we obtain a better picture of the opportunities and risks associated with our investments. Research also shows that successful engagement has a positive long-term effect on the financial performance of companies. Engagement with companies that have yet to take steps in the ESG area is an indispensable part of our approach to sustainable and responsible investing.

In 2020, we developed a method that provides insight into how the inclusion (Chapter 2) and exclusion (Chapter 3) of companies affects equity portfolio returns. We compare the return on the equity portfolios with a market average (benchmark) that also includes stocks in which we do not invest. Over the past two years, the effect on returns has been slightly positive, but we will need to carry out this analysis for longer before we can draw any conclusions about the long-term effect.

In 2021 we will also develop methods to assess the effects on risk and return of other sustainable and responsible investment instruments, such as those with a focus on reducing carbon footprints or targeting the Sustainable Development Goals.

Financial performance is and will always be a condition for our choice of investments. In other words, even if an investment is good from an ESG point of view, we only invest if the expected return, risk and costs are favorable.

Chapter 2

Active investing in leaders and potential improvers

Active investing in leaders and potential improvers

As a responsible investor with a long-term view, we are convinced we can have the greatest impact by "including" rather than "excluding" investments. What do we mean by this?

What is inclusion?

Inclusion means that we evaluate any companies that we can invest in through shares or bonds (the investment universe) according to return, risk, cost and the degree to which they operate sustainably and responsibly. If a company meets our criteria and it scores above average in the industry in question[2], we call that company a “leader”. We like to invest in such companies for our pension fund clients.

In addition, there are companies that score well on return, risk and cost, but lag behind in terms of sustainability and good corporate governance. We may invest in such “laggards”, but only if we think we can encourage them to improve. We refer to these types of companies as "potential improver".

Our inclusion policy ensures we comply with the guidelines of the OECD (Organization for Economic Cooperation and Development) for:

- systematically identifying any negative impact the activities of the companies in which we invest may have on society and the environment;
- exerting influence on companies to reduce this negative impact.

Our pension funds want us to invest only in leaders and potential improvers. In order to be able to do this, in 2019 we completed an assessment of more than 10,000 companies that we can invest in via stocks or bonds. These are now classified as leaders or laggards. Our portfolio managers have also identified which laggards they want to engage with.

We are investing in digital technologies, artificial intelligence and other ways to collect data on the sustainability performance of investments. At the same time, a human touch is still required, because the quality of ESG data is still far inferior to that of financial data.

Leader or laggard? Our criteria

The criteria we have developed to evaluate companies are based on the principles of the UN Global Compact in terms of human rights, labor rights, the environment and business ethics. We check to see whether companies have a sound policy in these areas. We also check to see whether they generally honor agreements and whether any incidents have been flagged.

We use separate criteria for every industry. They take into account the specific risks that exist

2 More precisely: if the normalized score is above the median.

within that sector. We also look at the countries and regions where the companies are active. We expect companies that are active in areas with an increased risk of human rights violations to be able to detect those risks and limit them. This means they should always have an appropriate human rights policy in place.

Inclusion: what do we look at? An example

Expectations for banks: culture change
Banks have a legal responsibility to limit the risk of money laundering, bribery and corruption. They must also take measures to avoid fraud. We expect banks to have among other things a policy to combat money laundering and a whistleblower scheme.

- Examples of leaders: Japan Post Bank, Svenska Handelsbanken and KeyCorp
- Example of potential improver: Australia and New Zealand Banking Group (ANZ)

ANZ: prevent money laundering, corruption and fraud
In 2019, several incidents came to light at Australia and New Zealand Banking Group (ANZ) as a result of an independent investigation into malpractice in the financial sector. The investigation led to legal action against the bank; it was alleged to have wrongfully charged certain fees between 2003 and 2016. ANZ was also required by the Australian regulator to instigate an investigation into its corporate culture, governance and management of non-financial risks.

Our conversations with ANZ focus on the measures taken by the bank to avoid these kinds of incidents in the future. We also ask for transparency on the bank's actions to change its corporate culture.

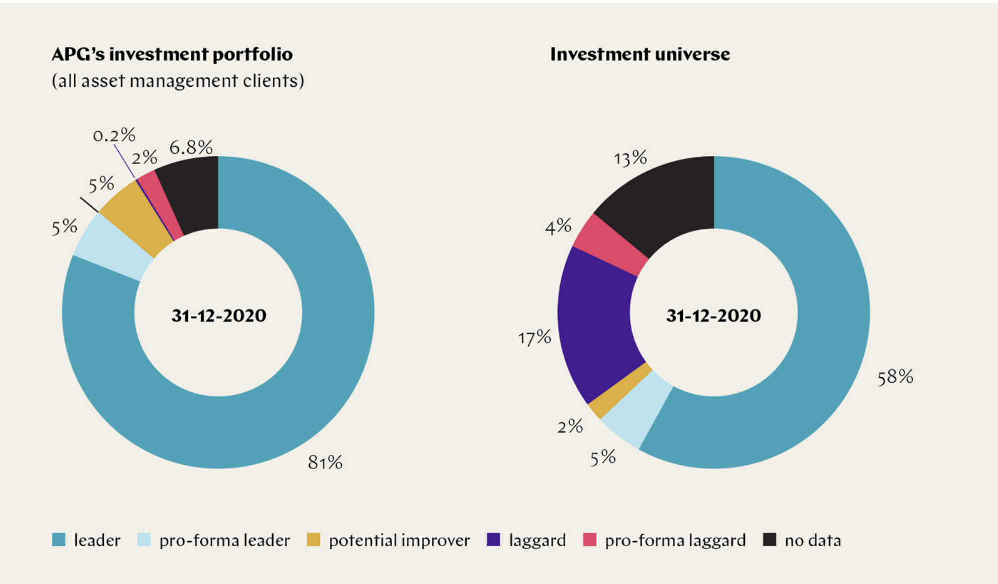
The state of play

Every year, we conduct a new assessment of the companies in our investment universe. Companies change and new ones emerge. We give them a provisional (pro-forma) classification during the year as a leader or laggard. Subsequently, these classifications are officially determined (“frozen”) once a year.

At the end of 2020, there were still ten laggards in the equity and corporate bond portfolios (0.2% of the total number of companies). These are either companies that have only recently been added to the portfolio and for which, in line with policy, we still need to draw up an improvement plan, or companies that we have not yet been able to sell, for example due to trading restrictions.

The figure below shows the breakdown of the investment portfolio and that of the investment universe at the end of 2020.[3]

Leader, laggards and potential improvers: portfolio vs investment universe (% of number of companies)



3 This applies to listed equities and credits, including real estate.

ESG focus in private investments

The inclusion policy applies to equities and corporate bonds. But we also take environmental, social and governance issues into account extensively in the investment process for our private investments. Proposals for new investments, for example in real estate or infrastructure, are assessed not only by portfolio managers but also by our specialists in the responsible investment team. They advise the portfolio managers on the ESG aspects and are involved in drawing up the conditions imposed on the new investment.

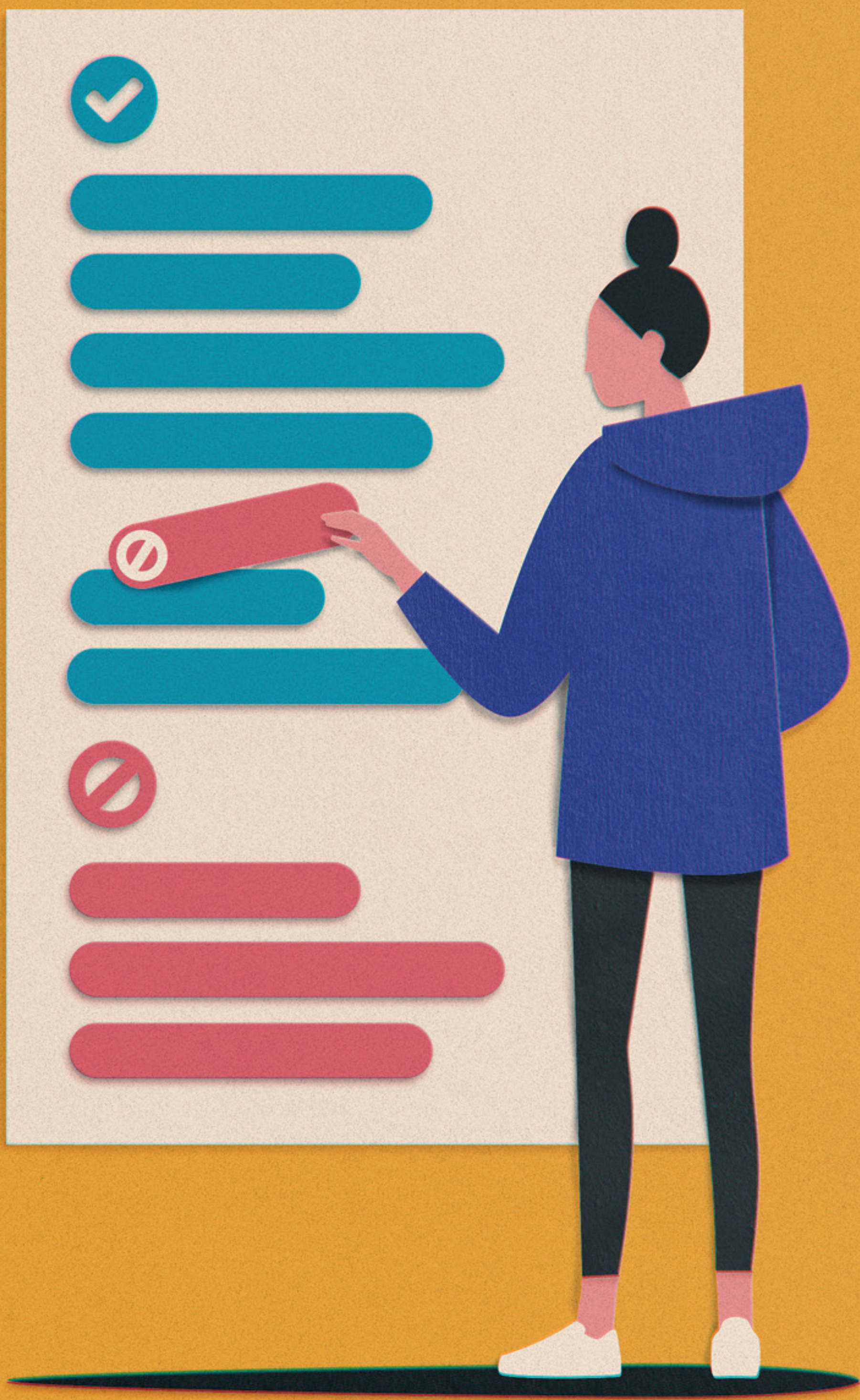
For our investments in private equity (investment funds in unlisted companies) we speak to the manager of the investment fund instead of the companies that are being invested in. Because private equity funds often have large stakes in companies, they can exert considerable influence. Private equity managers are required to subscribe to our inclusion policy and to provide us with an ESG report every year. Unlisted companies generally make much less information public than listed companies. Such reports enable us to assess both the private equity manager and the companies that are being invested in.

Hedge funds in which we invest comply with our exclusion policy. We expect hedge funds to include ESG risks and opportunities in their operational analysis. If they hold stocks or bonds for a longer period, we expect them to have a voting policy for ESG matters.

APG also invests in liquid commodities, primarily through futures contracts. In 2020, APG asked seven commodities exchanges whether they had any insight into potential irregularities in commodity futures trading on their exchanges. Because the exchanges determine the contract features, they can exert influence on them. The exchanges have already implemented several improvements. For example the London Metal Exchange, prompted by APG and other investors, has established criteria to enable it to assess the sustainability of the supply chain of the metals traded on its exchange.

Chapter 3

Exclusion



Exclusion

The pension funds we work for do not wish to invest in certain companies, countries and products. These are on our exclusion list.

Product exclusion

We do not invest in manufacturers of weapons that are prohibited according to international treaties that the Netherlands has signed. This applies to companies that are involved in manufacturing cluster bombs, anti-personnel (land)mines and chemical and biological weapons. Nor do we invest in tobacco companies or companies involved in the production of (essential parts of) nuclear weapons. At the end of 2019, there were 156 listed companies on our exclusions list based on their products.

We may invest in manufacturers of weapons that are not prohibited. The same criteria obviously apply with respect to risk, return, cost and sustainability. Our pension fund participants include employees of the police force and the Ministry of Defense. Without weapons, the police would not be able to maintain public order and our army would not be able to ensure peace and safety.

Companies that do not honor international agreements

Our exclusion list also includes three companies due to violation of the principles of the UN Global Compact in the areas of human rights, labor conditions, environment and anti-corruption. These are Chinese energy company PetroChina, Japanese energy company Tokyo Electric Power Company and US supermarket chain Walmart.

Unlisted companies
Our exclusion list contains only listed companies. However, our contracts with external asset managers specifiy that they must also apply our exclusion policy to unlisted companies. The list used for this purpose includes another 130 companies. In some cases, external managers do not have to apply the exclusion policy to unlisted investments that were already in their portfolio before the implementation of the exclusion policy (or parts thereof). Index investments and exchange-traded funds (ETFs) are not on the list either, because they are needed to manage the investments efficiently. We can guarantee that 99% of our investment portfolio does not contain shares or bonds of companies on our exclusion list.

Exclusion of government bonds

We do not invest in the government bonds of countries on which the UN Security Council or the European Union has imposed a binding arms embargo. In 2020 six countries were added to our exclusion list for government bonds on the basis of binding EU arms embargos. At the end of 2020, there were a total of fifteen countries on this list.

Chapter 4

Investing in the Sustainable Development Goals

Investing in the Sustainable Development Goals

At the end of 2019 we had invested €90.9 billion in companies that contribute to the Sustainable Development Goals.

Contributing to the Sustainable Development Goals

We actively search for investments for our clients that contribute to the Sustainable Development Goals (SDGs). These were established in 2015 by the United Nations to create a better and more sustainable world. Examples are: good education for everyone, climate action and affordable healthcare.

In 2017, in collaboration with PGGM, APG developed a framework (taxonomy) to determine which companies contribute to the Sustainable Development Goals with their products and services. We call these investments Sustainable Development Investments (SDIs). Just like all other investments in our portfolio, SDIs must meet our criteria for return, risk and cost. If a company makes a tangible contribution to achieving the SDGs, we see this as an important advantage and an extra argument for investing in that company.

Collaboration

There is often insufficient correct and reliable information to be able to assess whether companies contribute to the Sustainable Development Goals. In 2020, APG therefore founded the SDI Asset Owner Platform in collaboration with PGGM, AustralianSuper and British Columbia Investment Management Corporation. Together, we have US$1 trillion in assets under management. Using artificial intelligence, the platform determines whether and if so to what extent companies contribute to the Sustainable Development Goals with their products and services.

Users of the platform have agreed on a common definition of SDIs. This allows them to speak with companies with one voice and to report on how they invest in the SDGs in a comparable way. Data company Entis provides the users with SDI assessments for 8,000 companies (so far). The SDI definition and taxonomy are publicly available and also apply to unlisted investments, such as real estate and infrastructure. Users receive the SDI classifications through Qontigo.

The SDI AOP is encouraging other international investors to join. The ambition is to make the platform a worldwide standard for investments in the Sustainable Development Goals.

Investments per SDG

SDG 11	Sustainable cities and communities	€	36.4	billion
SDG 3	Good health and wellbeing	€	24.6	billion
SDG 7	Affordable and clean energy	€	15.9	billion
SDG 9	Industry, innovation and infrastructure	€	4.3	billion
SDG 2	Zero hunger	€	2.1	billion
SDG 12	Responsible consumption and production	€	1.4	billion
SDG 6	Clean water and sanitation	€	1.3	billion
SDG 4	Quality education	€	1.3	billion
SDG 15	Life on land	€	905	million
SDG 8	Decent work and economic growth	€	820	million
SDG 1	No poverty	€	758	million
SDG 14	Life below water	€	482	million
SDG 13	Climate action	€	459	million
SDG 10	Reduced inequalities	€	49	million

SUSTAINABLE DEVELOPMENT GOALS

Using water from rivers, lakes and ponds for heating and cooling

Aquathermal plants extract heat or cold from rivers, lakes and ponds and convert the temperature differences into usable energy.

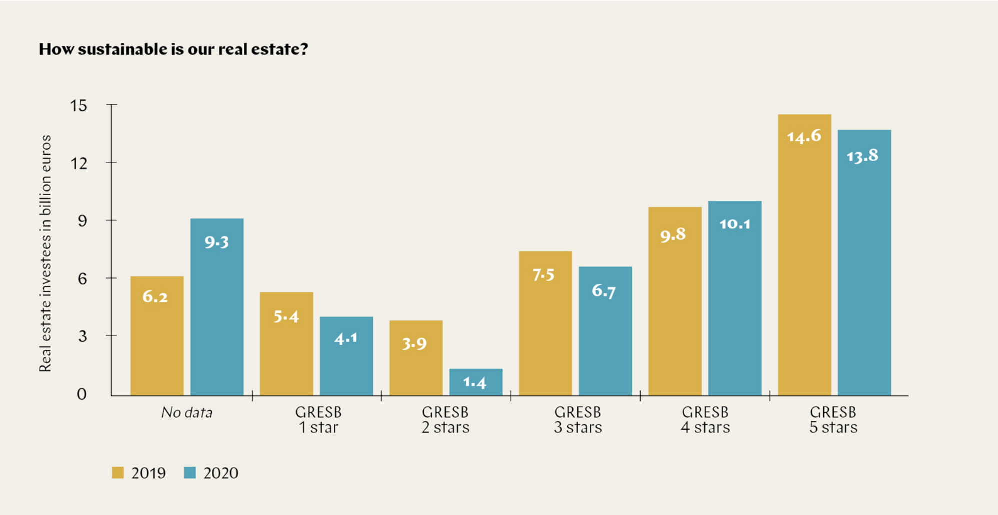
Water technology company Xylem developed a 'plug & play' solution that makes it easy to apply this technology. It consists of an open-ended container that holds the pumps, filters and heat exchangers that the process requires. The technology has existed for some time. The innovative aspect of Xylem's solution is that it is a ready-made aquathermal system, rather than one that has to be developed on a project-by-project basis. In Wageningen, Xylem developed an energy system that extracts heat from the city canals in the summer and stores it for use in the winter to heat a care center. The result: 25% more efficiency than a traditional heat and cold storage system. The care center thus saves substantially on its energy bill and reduces its carbon footprint by more than 200 metric tons per year.

Xylem is a leading global water technology company for irrigation, water purification and hydro energy. APG invests in a Xylem “green bond”. The investment contributes to SDG 6: Clean water and sanitation.

Sustainable cities and communities

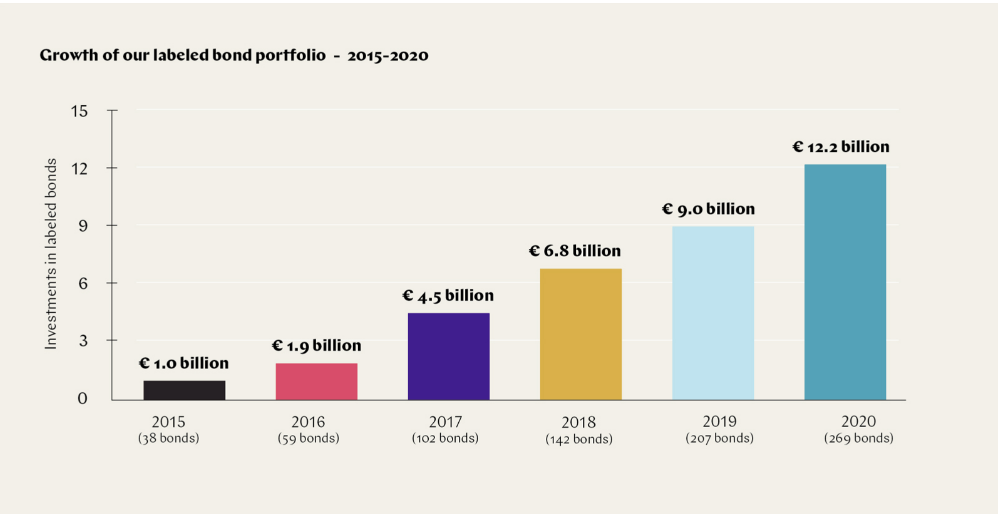
We have invested €23.9 billion in sustainable real estate. This particularly contributes to SDG 11: Sustainable cities and communities. We qualify real estate investments as SDIs if they score four or the maximum five stars in the annual sustainability study of the Global Real Estate Sustainability Benchmark (GRESB). This means that they belong to the 40% best-performing funds that are rated by GRESB. [4]

We want all our real estate investees to report to GRESB. Currently, this is the case for 89% of the funds by value. For our direct investments in real estate funds, we are making participation in GRESB mandatory. New investments must also have a rating of at least four stars within three years. The scores of the funds in which we were invested in 2020 are shown below.



Investing in labeled bonds

2020 was a record year for the issuance of labeled bonds. These are bonds issued by companies, governments and agencies for the financing of green, social or sustainable (a combination of green and social) projects. Examples are funding for renewable energy or to build affordable housing for vulnerable groups. For labeled bonds the same requirements for return, risk and cost apply as for all of our investments.



[4] *The GRESB rating indicates how sustainable a real estate enterprise is compared with other real estate enterprises rated by GRESB. The top 20% is assigned five stars while the 20% of real estate enterprises that score lowest are assigned one star. More information:* https://gresb.com/wp-content/uploads/2017/07/GRESB-RE-Scoring-Methodology.pdf

APG is one of the biggest investors in the market for labeled bonds. In the past few years we have built up good relationships with parties wishing to issue such bonds, as well as with bank syndicates, regulators and certification bodies. We use our network, our experience and knowledge to further develop the market (see box). In October, we organized a webinar for asset managers, banks, governments and interested companies to promote the issuance of labeled bonds in the Netherlands and the rest of Europe.

In 2020, we invested in a sustainability bond to address the socioeconomic disadvantage of ethnic minorities in the US, on behalf of our pension funds (see section 5.9). We also invested in the first Swedish green government bond. Sweden is aiming for climate neutrality by 2045. The proceeds of the bond will be used for greening domestic transport, among other things.

“Labeled bonds provide financial and social return”

Interview with Joshua Linder, specialist in fixed-interest securities at APG

2020 was a record year for green, social and sustainability (“labeled”) bonds, with more deals and more variety in size, labels and issuers. Due to the exploding issuance of social bonds in reaction to the Covid-19 pandemic, the market has now reached the point where growth will continue to accelerate, Joshua Linder asserts.

In what respect was 2020 a record year for labeled bonds?
“The market has been growing since the very beginning in 2009. But in 2020, issuance shifted to a higher gear. €405 billion worth of labeled bonds were issued, up from €276 billion in 2019. The size of issuances is also increasing. Google owner Alphabet, for example, issued €4.85 billion in sustainability bonds in 2020, the largest issuance of a labeled corporate bond so far. We are also seeing that issuances are spread across all types of issuers - governments, institutions and corporations - and all types of labels - green, social and sustainability. It's a sign that the market is maturing.

What is also striking is the growth in issuance of “sustainability-linked” bonds. This is a sign that this still young market is gaining momentum. The proceeds are not intended for specific “green” or social projects, but for general corporate purposes. However, the issuer does commit to certain sustainable goals. If these are not achieved, additional interest must be paid on the bond.”

Why is it important for the market for labeled bonds to grow?
“Labeled bonds provide both a good and stable return for the participants of our pension funds and a social return. With the market developing at a rapid pace, we can invest more in labeled bonds and diversify across sectors and issuers that were not previously active in the market."

What is APG doing to further develop the market?
“APG is one of the biggest investors in labeled bonds worldwide. From the beginning, we have made a strong case for growth in this market. We let potential issuers know what we care about and share our lessons from past deals. I am not exaggerating when I say that our engagement with companies and other stakeholders has been a key driver for the development of the labeled bond market. APG is known as an advocate for labeled bonds and as a party that works to develop the market."

Do you not see a danger of greenwashing: green bonds that turn out not to be so “green” after all?
“It is important to us to stimulate growth, but at the same time, we want to keep the integrity of the market intact. That also means that we must remain vigilant regarding greenwashing. We are helping with the development of standards for labeled bonds and safeguarding their quality. APG has been and will continue to be an advocate for the market for labeled bonds, but we don't participate in just any issuance. We invest only if a labeled bond meets our requirements for risk, return, cost and sustainability."

Contributing to combating the Covid-19 pandemic

By the end of 2020, we had over €1 billion invested in so-called corona bonds. These are bonds whose proceeds are used to combat the pandemic and the consequences of the lockdown for people and businesses. Examples include financing emergency health care measures, job retention programs, and support for small and medium-sized enterprises.

For example, we invested €170 million in social bonds that help European Union (EU) member states avoid layoffs in affected sectors. These so-called SURE bonds are loans provided by the EU to member states on favorable terms. Member states may use the loans for national short-time work schemes. The issuance of these bonds is part of a major EU support package (€750 billion) for the recovery of the European economy. At the same time, the EU is seizing the opportunity to make the economy structurally more sustainable.

In 2020, we published guidelines in English, which provide companies and governments with insight into which Covid-related issues might qualify for social or sustainable bonds. The guidance is consistent with our previously published guidance on green, social and sustainable bonds.

We are also helping to curb the effects of the pandemic in other ways. In March, together with other major investors, we urged companies to limit the social impact of the crisis and to put the health of employees first. We also asked companies to do their utmost to prevent employees, suppliers and customers from running into financial difficulties. We also called individual companies, such as Amazon (see section 5.2) to account.

According to the US organization Responsible Asset Allocation Initiative, APG is one of the most active managers worldwide when it comes to addressing the effects of the pandemic.

Chapter 5

Human rights and labor conditions

Human rights and labor conditions

APG wants the companies we invest in to respect human rights. The point of departure is the UN Global Compact with principles for companies' business practices in terms of human rights, employment terms and conditions, the environment and combating corruption.

Human rights benchmark

In November 2020, the fourth report of the Corporate Human Rights Benchmark (CHRB) was published. The CHRB compares the human rights performance of 230 companies in sectors in which there is a high risk of involvement in violations: clothing, commodities, agriculture, ICT and - for the first time in 2020 – the auto industry. The index was co-founded by APG.

The CHRB shows whether companies are on the right track in identifying, preventing and addressing human rights risks. The benchmark also provides information that we can use to discuss human rights with companies.

Call for Amazon to create safe work environment

Amazon must provide more details on how it protects employees during the Covid pandemic. That was the gist of a shareholders' proposal that we submitted to the online retail company on behalf of our funds. The proposal came after an independent report which revealed that Amazon underestimates the consequences for the safety of its employees. Some of the company's warehouses also turned out to be virus spreading hotspots. We submitted the proposal together with several other major investors and said that we would put it to the vote at the annual general meeting of shareholders (AGM) if the company did not respond satisfactorily. Regrettably, the US regulator, the SEC, decided that Amazon did not have to put the proposal to a vote at the AGM.

Exerting influence

In 2020, we spoke with 53 companies about human rights on behalf of our pension funds. In addition, we spoke with 85 companies about labor standards, such as safety at work and the right of employees to unionize. We assessed human rights risks in new, unlisted investments and talked about this topic with the managers who manage these investments for us.

In 2020, we engaged with several major auto manufacturers about the impact of the energy transition on their employees. The CHRB shows that the focus at car manufacturers is on a climate-neutral future, while insufficient attention is given to the social impact even though electric vehicles, digitization and far-reaching automation have a major impact on millions of people working in the sector. We urge car manufacturers to invest in the employability of their staff. We also want them to make agreements with their suppliers on preventing and addressing human rights violations in the supply chain.

During the period 2015-2020, we had a special focus on a number of sectors in which human rights problems occur relatively often, such as the garment industry and mining. These "thematic engagements" ended in 2020.

Dialogue about human rights

What could indicate risks?	Examples	Possible risks	What do we expect?
Sector	Telecom and software	Violation of clients' privacy; government asks for client details	Company shows that it is aware of the risks and shows it is prepared to take action; has human rights and privacy policy
	Energy and mining	Negative impact on local communities; excessive violence to guarantee safety	Company shows that it is aware of the risks and shows it is prepared to take action; has human rights policy
Country/ region	Companies active in disputed countries where human rights are being violated	Company can be directly or indirectly associated with violation of human rights	Company shows that it is aware of the risks and shows it is prepared to take action; has human rights policy
News/ incidents	Companies in the news due to, e.g., labor unrest, accidents, discrimination, land conflicts or child labor	Incidents may show that company does not have its processes in order and human rights may be violated	Company takes action to solve problems, limit impact and minimize risk of repetition

Theme: fair commodities

Particularly in countries with unstable or authoritarian regimes, the presence of raw materials and – often foreign – extraction companies may contribute to the violation of human rights. These can be related, for example, to land rights, bribery and corruption, environmental degradation and unsafe working conditions.

APG has had discussions with thirty companies in the raw materials sector in the past few years. Among other things, we asked companies to develop a human rights policy, to carry out audits in their supply chain and to establish a proper complaints procedure.

Since 2015, the percentage of companies in the commodities sector that have a human rights policy has increased from 60 percent to over 80 percent. Companies in the sector are also scoring better in the CHRB human rights benchmark. Still, major challenges remain. One is that raising human rights issues in "at risk" countries is often very sensitive.

Theme: digital rights in the ICT sector

Companies hold large volumes of personal data about their customers. If they do not handle these data with care, it can lead to data breaches, privacy violations, or encroachment on freedom of speech. This is also referred to as "digital rights".

In recent years, we have been focusing on eight companies in the ICT sector. We asked them to make privacy and respect for human rights an executive board responsibility, to be open about their policies and implementation in practice, and to cooperate with other companies to prevent digital rights violations. The big tech companies Facebook and Alphabet (Google) have embedded responsibility for digital rights more firmly in their management.

The focus on digital rights has increased dramatically in recent years. This is partly due to a number of incidents, such as the manipulation of Facebook users' data by Cambridge Analytica. Under pressure as a result of strict legislation (such as the European General Data Protection Regulation or GDPR) and criticism from consumers, companies have given their customers more options to determine what happens to their data.

Theme: malpractice in the clothing industry

Malpractices such as underpayment and unsafe working conditions are still common in garment factories in low-wage countries. APG has held discussions with ten large garment companies. We asked them to be transparent about their suppliers. In this way we can hold them accountable and they will be better able to detect and address malpractices at the supplier level. Special attention was given to reports of forced labor of Uyghurs in Chinese cotton production.

The industry has made significant strides when it comes to transparency and occupational safety. More and more brands and retail chains are considering safety in the selection and assessment of suppliers. Also, nine of the ten companies with which we held discussions now reveal the names of their suppliers. In addition, in recent years we have made a strong case for continuing independent safety inspections of garment factories in Bangladesh; since 2013, over 1,600 factories have been inspected and 90 percent of the problems identified have been resolved.

Nevertheless, there is still a great deal of pressure on suppliers to make clothes quickly and cheaply. Companies will need to continue their efforts to improve conditions.

Theme: safety in the shipbuilding industry

There is a relatively high number of accidents, some of which prove to be fatal, in the shipbuilding industry. We have therefore been pushing for safety improvements at four major Asian shipbuilders, including the Korean companies Hyundai Heavy Industries and Samsung Heavy Industries, for several years. In our approach, shipbuilders' major customers, such as the oil and gas companies, have an important role to play; we urge them to push their suppliers to improve safety.

The number of fatal accidents in the industry has decreased in recent years. Awareness of safety risks and the impact on business operations has grown among the shipbuilders involved. Also, more Asian shipbuilders have adopted internationally recognized safety standards and limited progress has been made in areas such as improving safety procedures.

Increased focus on safety seems to be mainly the result of pressure from large investors and customers. It remains to be seen whether the industry will take further steps of its own accord if, in the future, the attention of investors and customers were to diminish.

Theme: working conditions in cobalt extraction

Cobalt is an indispensable raw material for batteries in, for example, electric cars and smartphones. In 2016, APG initiated a collaboration among major investors to tackle child labor in cobalt mining in the Democratic Republic of Congo (DRC), where half of the worldwide production comes from.

In recent years we have focused on fifteen major electronics, automotive and battery producers. We asked them to be more cognizant of where their cobalt comes from and to take measures to detect and prevent malpractices.

By now, most of the companies we have spoken with have partially mapped out their supply chain. One challenge is that the supply chain is constantly changing, making it difficult to get an accurate impression. Companies are working more collaboratively to address supply chain malpractices and have developed programs to support local communities in the regions where cobalt is mined.

Theme: child labor in the cocoa sector

In Ghana and Côte d'Ivoire – where 70% of the world's cocoa comes from – two million children work in cocoa farming. APG focused on five major buyers of cocoa[5] which together supply more than half of all the chocolate consumed worldwide. One of the things we asked these companies to do was to publicly commit to eliminating child labor in the supply chain.

These companies have made great strides, including establishing controls to eliminate child labor in hundreds of local communities. The industry has also developed a joint approach to child labor within CocoaAction. It has also increased the percentage of sustainably sourced cocoa from 11% in 2015 to 47% by 2020.

5 Barry Callebaut, Lindt & Sprüngli, Mondelēz, The Hershey Company en Nestlé.

This has not yet solved the problems in the sector. Child labor in cocoa farming has deep-rooted and structural causes. The yields are very low and entire villages are dependent on the volatile world market for cocoa. A successful approach therefore requires the commitment of all stakeholders.

IMVB covenant

In the International Socially Responsible Investment covenant (IMVB in Dutch) (2018), the Dutch pension sector made agreements with the government, trade unions, and environmental and civil society organizations to prevent malpractices at companies in which it invests. By mid-2022, pension funds must have implemented all agreements. The covenant is based on the OECD Guidelines for Multinational Enterprises and the United Nations Guiding Principles on Business and Human Rights (UN Guiding Principles).

In 2020, we and our pension funds continued to implement the requirements of the IMVB Covenant and the EU Sustainable Finance Disclosure Regulation (SFDR). As agreed in the covenant, our funds incorporated the OECD guidelines into their policies by December 31, 2020.
As an asset manager:

- we identify and assess the negative impact of investments on people and the environment, such as involvement in human rights violations;
- we use our influence as investors to prevent or reduce these negative impacts;
- we continuously monitor for any negative effects;
- and we report on negative impacts and the measures we take to prevent and reduce them.

On our website, we explain how we have structured the due diligence of the OECD guidelines and UNGPs.

Within the covenant, a number of pension funds - including ABP, bpfBOUW and SPW - participate in the 'deep track'. They combine their influence to bring about improvements at companies or in sectors where there is a risk of involvement in human rights violations. One result in 2020 was an improvement process at a company that supplies products via an online platform. Previously, in the context of the IMVB covenant, APG had started an improvement process at a mining company.

Strengthening the position of black and Latino minorities

In 2020, we invested €42.5 million on behalf of our pension funds in a sustainability bond that addresses social and income inequality among black and Latino minorities in the United States. Among other things, proceeds from the bond will be used to finance affordable housing, encourage home ownership, and support medical professionals to start a practice in areas with a large black or Latino community.

The bond - issued by Bank of America - is unique because of its explicit focus on the social and economic disadvantages of minorities in the US. In addition, its proceeds are intended for green projects in the areas of renewable energy and clean transportation in the communities concerned.

Chapter 6

Climate change and the environment

Climate change and the environment

The consequences of climate change are already visible and will further intensify in the future. APG is part of a select group of asset managers that are world leaders in identifying climate risks and the potential impact on investments.

Managing climate risks

Climate change has major consequences: for society, the economy and for us as investors. For a sustainable future, global warming must remain well below 2 degrees Celsius, but ideally below 1.5 degrees above pre-industrial levels. In 2015, 195 countries made a commitment to this by signing the Paris Agreement. These objectives have been further expanded on in the Dutch Climate Agreement. APG and our pension funds have voluntarily committed to this (see section 6.3).

As a leading long-term investor, we recognized the importance of climate risks (and opportunities) early on. Since 2019, we have had a formal climate risk policy. It establishes how we measure, monitor and manage climate risks and opportunities and describes the tools we use to do so. We have established a multi-disciplinary Climate Steering Committee, which oversees the initiatives for managing climate risks and opportunities.

We identify and report on climate risks and opportunities according to the framework of the Task Force on Climate-related Financial Disclosures (TCFD). APG invests around the world and has a very diversified portfolio. We therefore only expect the effects of climate change and the energy transition to gradually impact our investment portfolio. However, we are already taking steps to bring our investment portfolio into line with the Paris Agreement[6]. More on our assessment of climate risks and what we are doing to mitigate them can be found in Appendix 1 to this report.

APG co-chairs an initiative of the Institutional Investor Group on Climate Change (IIGCC) that has developed the Net Zero Investment Framework (NZIF). This framework helps investors to align their investment portfolios with the Paris Agreement. It contains the minimum requirements for investing in climate solutions (such as renewable energy) and for using influence with investee companies. We have also joined the Net Zero Asset Managers initiative (NZAM), a group of international asset managers committed to a climate-neutral investment portfolio by 2050. The participants represent 36 percent of the world's total assets under management.

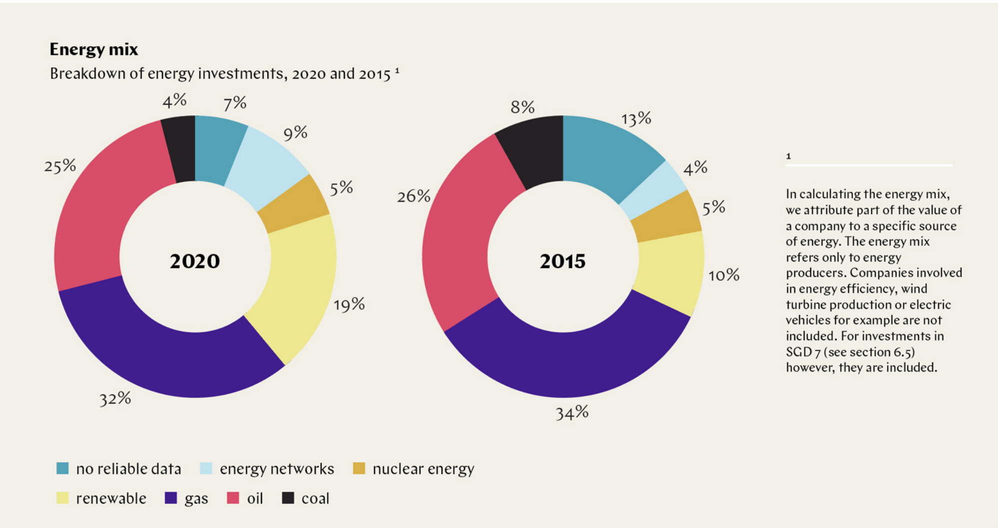
6 ABP has expressed its ambition to reduce the carbon footprint of its investment portfolio to zero (net zero emissions) by 2050.

Reduction paths to Paris agreement levels for real estate

In 2020, the Carbon Risk Real Estate Monitor (CRREM) launched global carbon reduction paths for commercial real estate. APG is one of the initiators, together with PGGM, Norges Bank Investment Management (NBIM) and GRESB, among others. Investors can use these reduction paths to check whether the sustainability of their real estate investments is in line with the Paris climate targets. The built environment contributes approximately 40% of global greenhouse gas emissions. Climate change exposes the real estate sector to transition risks (due to stricter climate regulations) and physical risks (due to flooding and drought, for example).

Energy mix

APG's investments in the energy sector amount to approximately €29.9 billion (or 5% of the assets we manage for our pension funds). At the end of 2020, 19% of our energy investments consisted of renewable energy; this means that since 2015, the share of renewable energy in total energy investments has almost doubled. During that period, the share of coal decreased from 8% to 4%.



Climate commitment of the financial sector

In the national Climate Accord, agreements have been made on how the Netherlands should achieve the Paris climate targets. In 2019, the Dutch financial sector, including APG, voluntarily committed to this by signing the financial sector's Climate Commitment. The participating institutions pledged to invest in the energy transition, to be transparent about their CO2 emissions and to take measures to limit their impact on the climate.

From 2020 on, asset managers and pension funds must show the carbon footprint of significant investments and loans each year. APG has contributed to a framework for reporting carbon impacts and an overview of carbon footprint measurement methods in the Dutch financial sector. We believe it is important that financial institutions learn from each other and work to create a measurement method that is transparent and verifiable.

APG and its pension funds report on their carbon footprint in accordance with the Global GHG

Accounting and Reporting Standard for the Financial Industry, developed by the Partnership for Carbon Accounting Financials (PCAF). This method, of which we are one of the initiators, is now being used by 57 financial institutions worldwide.

The Dutch financial institutions have also agreed to contribute to the financing of the energy transition. APG is doing this by investing on behalf of our pension funds in the Sustainable Development Goal "Affordable and clean energy" (see section 6.5), sustainable infrastructure and in making the built environment more sustainable (see section 6.7).

ANET: Contributing to the Dutch energy transition

For ABP, we invest in companies and projects that offer innovative solutions for the Dutch energy transition through the ABP Energy Transition Fund (ANET). By investing in promising projects and companies at an early stage, we can use this investment to make a real difference and stimulate the energy transition.

Heating with smart heat networks

Smart heat networks play an important role in making the Dutch heat supply more sustainable. In 2020, ANET invested €45 million in the development of such networks in four Dutch municipalities. Smart heat networks combine different sustainable heat sources to heat homes, factories and offices. In this way, they contribute to reducing CO_2 emissions. The investment was made through the specialist investor Asper Investment Management.

Investing in promising start-ups

In 2020, ANET invested €7.5 million in fifty start-ups with innovative solutions for the energy transition in the Netherlands. For this we partnered with start-up accelerator Rockstart, which supports promising young companies with financing, knowledge and access to relevant networks. By investing in a broadly diversified portfolio of companies, we expect to achieve a good return for ABP at an acceptable level of risk.

Leveraging our influence

As a major long-term investor, we exert influence on the companies we invest in. We cast our vote at shareholders' meetings and also engage with companies on what we expect from them. We do this both alone and in collaboration with other major investors.

The Climate Action 100+ partnership brings pressure to bear on the 167 companies that emit the most CO2 worldwide. These companies are active in sectors such as transport, energy and agriculture. By joining forces with other major investors, we can exert effective influence on the companies that we invest in, on behalf of our pension funds. APG is part of the “core group” that focuses on the major oil and gas companies.

We expect the companies that emit the most CO2 worldwide:

- to show what climate risks they are faced with and how they manage them;
- to take measures to reduce their greenhouse gas emissions;
- to set climate ambitions in line with the Paris Agreement and to translate these into measurable short- and medium-term goals;
- to link their climate targets to executive remuneration;
- and to report in accordance with the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD).

We take climate considerations into account in our voting on executive appointments and remuneration at the AGMs of the companies that emit the most CO2 globally. We vote against director nominations, remuneration and the annual report at the AGMs of companies that do not have a CO2 target or do not link their climate goals to directors' remuneration. In 2020, we took this approach at the AGMs of Vistra Cooperation, Philips 66 and Devon Energy, among others.

In 2020, we sold our stake in South Korean utility KEPCO. The company - despite our strong objections - pressed ahead with plans for new coal-fired power plants in Indonesia and Vietnam. We consistently opposed this plan and pulled out all the stops to change the company's mind. In total, we have sold our stake in eight companies since 2019 because of plans for new or larger coal-fired power plants.

“There is no magic formula. Every company requires a different approach”

Interview with Ivan Lee, senior analyst and portfolio manager at APG

In 2020, Philippine company Ayala Corp. announced that its energy division would divest all its holdings in coal-fired power plants by 2030. Prior to this, the company still had plans for new coal-fired power plants. Portfolio manager Ivan Lee conducted an intensive dialogue with AC Energy, the company's energy division.

Why is this announcement important?
"Asia's growing economies are making extensive use of coal to meet rising electricity needs. But to meet the Paris climate goals, it is important that the region switches to renewable or cleaner energy sources. Ayala Corp. is a respected company and one of the largest conglomerates in the Philippines. This is a signal to other companies in the region: think and act with the energy transition in mind when investing for the long term."

Is engagement in Asia different from Europe or the US?
"The diversity in Asia is enormous. There are emerging economies like the Philippines and Indonesia, but also rich and highly developed countries like Japan and South Korea. And everything in between. In Asian countries it is not the norm for companies to engage with their shareholders, as we have been used to in Europe and the US for decades. We have seen this change recently, particularly with regard to climate. But as a rule, as shareholders, we still have to make more of an effort to be heard."

How do you hold companies accountable?
"In Asia, families or governments often have large stakes in companies. With family-owned companies, the focus is on the long term; passing the company on to future generations. APG also invests for the long term, so we share that interest. Governments can exert influence on companies they own or in which they have a controlling interest. So sometimes it is an advantage if a family or government is a major shareholder. But at the same time, that can limit our influence as a foreign investor. Therefore, we need to build trust, understand what is and is not feasible, and exert influence through the right channels."

What works well and what doesn't?
"There is no magic formula; every business requires a different approach. A coercive approach usually doesn't work. As a minority shareholder we don't have the power for this, or we only achieve superficial success: companies make empty promises, and nothing changes. I prefer to talk to companies and their owners so that I also understand their point of view. At the same time, I try to convince them that they would be better off abandoning plans for new coal-fired power stations and investing in the energy supply of the future. Without giving the impression that you think you know everything better. It's a subtle game."

And what if a company won't listen?
"Then we step up the pressure, for example by using our voting rights, addressing the governments in question, or working with other shareholders and environmental organizations. For example, we pulled out all the stops to stop the Korean energy company KEPCO from building new coal-fired power stations. When the company did go ahead with the expansion, we sold our shares. We only take this step as a last resort as we prefer to stay on board as shareholders, in order to exert as much influence as possible."

What dilemmas do you encounter on the path to greater sustainability?
"Choices for a more sustainable course have a particularly big impact on countries and people who have not yet had a fair chance to benefit from industrialization and economic prosperity. We must find a balance in this. Clean technology, a growing willingness to finance it and companies' transition from fossil to renewable energy will hopefully pave the way for a more sustainable future. A future where wealth and well-being are more evenly distributed. Not just in Asia, but throughout the world."

Dilemma: sell fossil energy companies or exert influence?

APG and its pension funds are committed to a low-carbon economy, as agreed in Paris and in the Dutch Climate Agreement. In order to achieve this, we use our influence with the companies we invest in and we make investment choices that are in line with the goal of a climate-neutral world in 2050. For example, we are increasingly investing in renewables and less and less in fossil energy.

For some participants in our pension funds, this does not go far enough. They would prefer us to sell our investments in fossil energy companies as quickly as possible. Our funds are also often approached on this topic by social organizations and the media. Our pension funds and we as administrators take these concerns very seriously and are fully aware that we exist because of the participants in our pension funds and that our main aim is to achieve a good pension for them.

According to the UN International Panel on Climate Change (IPCC), it is not realistic for the world to switch completely from fossil to renewable energy "overnight". This panel of renowned scientists has drawn up scenarios for limiting global warming to between 1.5 and 2 degrees Celsius, as agreed in Paris. Although there is a transition from fossil to renewable energy in these scenarios, fossil energy still has a role to play in 2050. Like governments and many companies, we base our decisions on the insights of the IPCC.

Currently, 80% of the world's energy consumption relies on fossil sources. As there is not yet enough renewable energy to meet this demand, a world without fossil fuels would also mean cutting production in areas that depend on this energy source. This could be food production, for example, but also the production of wind turbines and solar panels.

There is not enough scientific evidence to support the theory that selling all fossil energy investments now will speed up the energy transition. If we divest, we and our pension funds give a one-off signal, but then our ability to influence is lost. It is also highly likely that another investor will buy our position without any change taking place at the companies in question. We think it is better to use our influence as investors to encourage companies to accelerate their transition to renewable energy. This will really reduce global CO_2 emissions. Examples of how we do this are given elsewhere in this report.

SDG 7: Affordable and clean energy

At the end of 2020, we had €15.9 billion invested in the Sustainable Development Goal "Affordable and Clean Energy" (SDG 7) on behalf of our funds[7]. By investing in this SDG, we reduce climate risks in our investment portfolio and contribute to the energy transition. ABP aims to invest €15 billion in SDG 7 by 2025.

APG made an additional investment of €250 million in Småkraft, a Norwegian hydroelectric power producer, in 2020. With this investment, the company is building dozens of new small hydropower plants. Eventually, Småkraft will generate enough renewable energy for 570,000 households. The investment follows two previous investments in the company, so APG has invested a total of €540 million in Småkraft.

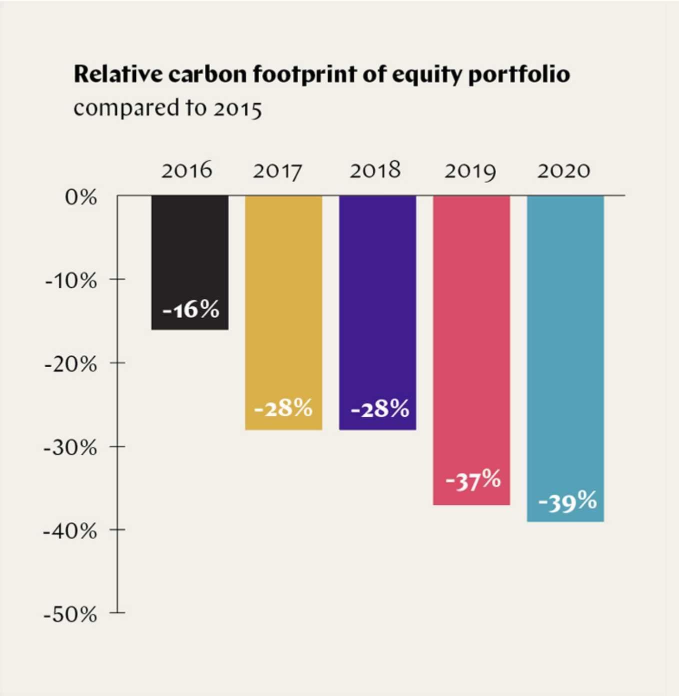
In 2020, along with a group of international financial institutions, we participated in a funding round in Northvolt. With the €1.35 billion in loans it raised, Northvolt is building two "giga-factories" for more sustainable lithium-ion batteries in Sweden and Germany. Northvolt is Europe's largest producer of these batteries, which are used in electric cars, among other things. The factory in Sweden will run entirely on renewable energy, and provide enough energy to power 15,000 electric cars for a year.

Carbon footprint

APG identifies how much CO_2 is emitted by the companies whose shares we hold in our portfolios and how much of that is attributable to us (carbon footprint). Our pension funds all have a CO_2 reduction target for equity investments. We constantly monitor the carbon footprint and are therefore able to take it into account in investment decisions.

The carbon footprint of our equity investments decreased by 39% compared with the 2015 baseline year.[8] This lower footprint is partly the result of the companies in which APG invests reducing their emissions. We also focus on companies that emit relatively little CO_2 compared with other companies in their sector. Our footprint was also temporarily lower at the end of 2020 due to the Covid-19 crisis and some changes to our portfolio.

7 In previous years, we reported about investments in renewable energy. From 2020 on, we are reporting about investments that make measurable contributions to Sustainable Development Goal 7: Affordable and clean energy.
8 The carbon footprint is determined based on the portfolio composition on March 31 in the year following the reporting period.



This year, for the first time, APG is publishing the carbon footprint of its investments in corporate bonds, real estate and private equity (see Appendix 2). This means that we are reporting on the carbon footprint of 57% of the portfolio. By reporting on this, we are in line with agreements in the financial sector Commitment to the Dutch Climate Agreement (see section 6.3). In 2022 at the latest, our funds will link climate objectives for 2030 to this. More about how we determine the carbon footprint of our investments can be found in Appendix 2 of this report.

Making the built environment sustainable

In the Dutch Climate Agreement, it was agreed that the "built environment" will make a substantial contribution to reducing CO_2 emissions. Housing associations play an important role in this. They are faced with the task of making 2.4 million homes - a quarter of the Dutch housing stock - more sustainable. At the same time, tens of thousands of rental homes must be built to address the increasing shortage of housing. Of course, this requires financing.

APG provides over €550 million in direct loans to Dutch housing associations. In 2019, the online platform LIST Amsterdam was established for this purpose. We made an important contribution to its establishment. At the end of 2020, 71 housing associations had joined. For our pension funds, the investment provides a long-term guaranteed return.[9]

In addition to these direct loans, we also invest in bonds issued by the Bank Nederlandse Gemeenten (BNG) and the Nederlandse Waterschapsbank (NWB). These in turn grant loans to housing associations and other entities.

We also help people to make their owner-occupied homes sustainable in a financially attractive way. Since 2019, we have invested €728 million in the green home loans of Rabobank subsidiary Vista Hypotheken (Mortgages) on behalf of ABP, bpfBOUW and SPW. Customers receive a discount on their mortgage interest rate if they buy a home with energy label A. The discount also applies if clients upgrade their home to energy label A during the term of the mortgage.

Responsible land use

Deforestation plays a major role in global warming; about 12% of all CO_2 emissions in the world are caused by it. Biodiversity also declines when there are fewer forests or when the soil is depleted.

The expansion of agricultural land is a major cause. We are therefore putting pressure on food companies, which are major consumers of agricultural produce. We ask them to combat deforestation in their supply chain. Within Climate Action 100+ we are involved in dialogue with Unilever and Nestlé. Both companies are aiming for a “deforestation-free” supply chain by 2023.

On behalf of our funds, we also invest in production forests and farmland. For us as long-term investors, it is important that the agricultural land in which we invest is managed with an eye to the future. This ensures the land retains its value. APG is developing guidelines for responsible land use for investments in farmland. In this way we keep track of the sustainability performance of our investments and give land managers insight into how we evaluate them.

In 2020, we announced that we are supporting the Partnership for Biodiversity Accounting Financials (PBAF) on behalf of our funds. Within this partnership, financial institutions are developing a common methodology for measuring and reporting the impact of their investments on biodiversity. This will enable them to use their investments to work more effectively towards the restoration and protection of nature.

APG's responsible investment team has been represented in the informal technical expert group in preparation for the launch of the Taskforce on Nature-Related Financial Disclosures (TNFD) since 2020. The goal is to develop a framework for reporting on, managing and responding to nature-related risks and opportunities.[10]

9 Loans to housing associations for the performance of their public duties, such as building social housing, are guaranteed by the state through the Social Housing Guarantee Fund (WSW)
10 In 2021, the technical expert group published its report.

Chapter 7

Good corporate governance

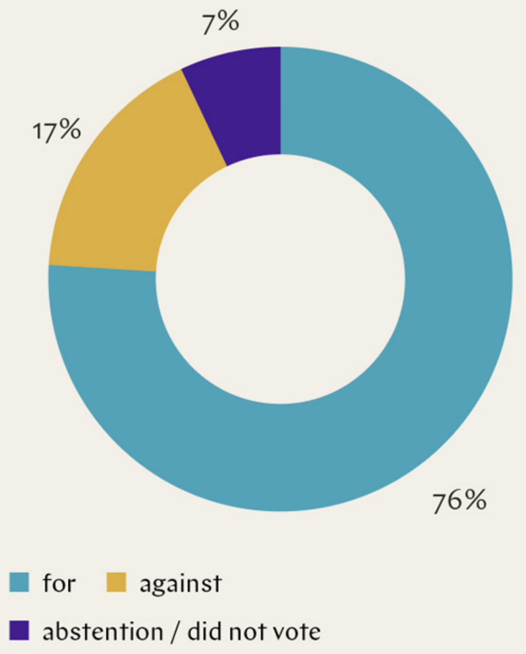
Good corporate governance

Good corporate governance is a prerequisite for a company to operate responsibly.

An active voting policy

In 2020, APG promoted good corporate governance by voting at 5,000 shareholder meetings and having discussions with 437 companies. Our website provides an overview of these companies and the topics we discussed with them. In 2020, we voted on nearly 55,000 proposals and resolutions on behalf of our funds.

How did we vote on all 54,906 proposals?

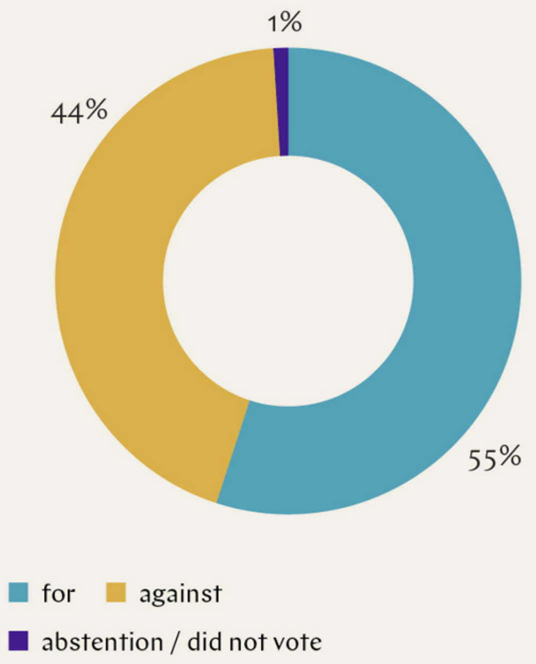


Voting on remuneration

The remuneration policy for directors should be in line with the general remuneration policy for the company's employees. We expect companies we invest in to clearly show in the annual report how directors' remuneration is managed, what the targets are and what performance must be achieved before any remuneration or bonus is paid.

In 2020, we voted on 1,983 remuneration proposals. We voted against 44% of the proposals and in favor of 55%. Overly generous severance packages, particularly in the United States, were a major reason for us to vote against a proposal.

How did we vote on 1,983 remuneration proposals?



A vote against the remuneration policy

With effect from 2020, the remuneration policy of a Dutch listed company must by law receive at least 75% of shareholder votes. In addition, companies must indicate in the remuneration report - in which they account for the salary and variable remuneration for their top executives - how they take into account "social acceptance". Shareholders have an advisory vote on the remuneration report, the so-called "say on pay". APG, along with other investors, successfully voted against the remuneration policy of a Dutch company on four occasions.[11]

APG also opposed the remuneration policy at Van Lanschot Kempen, Basic-Fit and Signify (the former lighting division of Philips) and some other companies - unsuccessfully. Our vote against the remuneration policy of Ahold Delhaize - the parent company of Albert Heijn - was particularly noteworthy. APG believes it is wrong for the company to have reduced the importance of sustainability in determining remuneration. Also, Ahold Delhaize has only one sustainability criterion for pay and that criterion - the portion of healthy food in sales of food products of their own brand - is hardly verifiable.

11 Besi, Wolters Kluwer, Euronext and SBM Offshore.

Remuneration at APG

We ask companies to indicate in their remuneration report - in which they account for salary and variable remuneration for their top executives - how they take account of "social acceptance". We also want to comply ourselves with the requirements that we set for the companies in which we invest. This also applies to the remuneration of our employees and the Board of Directors. There must be a balance between the remuneration of the Board of Directors on the one hand and employees on the other, and a balance between the remuneration for different parts of the organization. In instances where we cannot explain the differences, we intervene.

We take standard market practice as a yardstick for the remuneration of our employees. As a large investor of pension money, we work in an international, commercial and competitive market. We seek a good balance between an attractive remuneration policy and our aim to create as much pension value as possible for the participants in our pension funds. Detailed information on our remuneration policy can be found in our annual report.

Bonuses at APG

APG's executive board does not receive any variable remuneration (bonus). Variable remuneration is also not customary for employees at APG in the Netherlands. In the Netherlands, only APG employees with a direct impact on the investment result are eligible for variable remuneration. For employees of APG Asset Management abroad, we seek a balance between what is acceptable and what is customary in the country concerned.

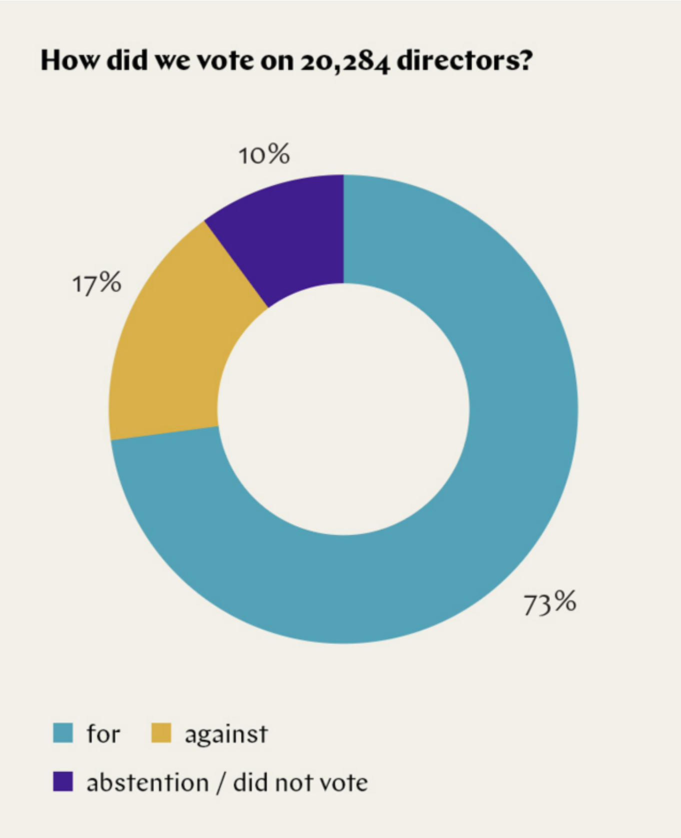
In 2020, APG paid out €46.7 million in variable remuneration. €7.5 million of this was paid out in the Netherlands. More information about this can be found in our annual report.

Voting on directors

When voting on the appointment or reappointment of directors, we look at whether the board is balanced and diverse, and whether the majority of non-executive directors are independent. All directors must have the right knowledge, experience, and skills. The composition and the performance of the board and of individual board members must be evaluated on a regular basis.

We expect directors to be appointed individually and nominated for reappointment on a regular basis. The term of office for individual directors must be limited to a maximum of twelve years. For larger companies, and particularly in sectors with a substantial impact on people and the environment, we expect the board to have a director who is responsible for sustainability issues.

Altogether, we voted on 20,284 nomination proposals in 2020. We voted in favor of 73% of the cases.



Board diversity

We require companies to consider board diversity when appointing directors. Diversity can be related to a balanced mix of gender, ethnicity, education, personality and age. We are convinced that diversity leads to better decisions. Scientific research supports this view. [12]

Diversity and inclusion at APG: five key points

APG strives for a diverse and inclusive culture. This is directly in line with our mission of "together we are building your sustainable future". The premise for this consists of five key points:

1. We want to be a reflection of society: that helps us to better understand our clients' wishes.
2. We need diversity of talents and skills: that makes us more agile and improves our results.
3. We are working towards a sustainable future: we can only achieve this with a sustainable profile, with 3,000 unique employees.
4. We want everyone to feel free to be themselves. This is a condition for strong commitment.
5. We create a safe environment in which people feel free to express themselves: that helps us to position ourselves as a self-aware player in the pension world.

Find out more about this in APG's annual report.

12 *For example: Marcus Noland, Tyler Moran, Barbara Kotschwar, "Is Gender Diversity Profitable? Evidence from a Global Survey", Peterson Institute for International Economics, 2016.*

Chapter 8

Looking ahead

Looking ahead

We are living in extraordinary times. The world we live in is going through major changes. Participants, media, and other stakeholders are increasingly aware of the value of sustainable and responsible investing. Consequently, the investments we make for our pension funds are increasingly being placed under close scrutiny. This is good, because it keeps us on our toes. At the same time, it requires us to intensify services such as communication, representation and reputation management.

Our funds are strengthening their policies

The pension funds we work for have refined their ambitions and objectives in terms of responsible investment. ABP already announced its new policy up to 2025 in 2020; bpfBOUW and SPW will announce theirs in 2021.

Our funds plan to develop new climate targets for 2030, including carbon reduction targets for investments in equities and other asset categories. They will announce these targets in 2022, as agreed in the financial sector's Climate Commitment. This is an important intermediate step towards a climate-neutral investment portfolio by 2050.

To enable these and other sustainability ambitions of our pension funds, we are refining the criteria for assessing companies in terms of environment, society and good governance in 2021. We are developing new criteria too, also for climate change, which will be implemented in early 2022.

As interest in sustainable and responsible investment continues to grow, our funds want to inform participants and other stakeholders more actively about the results of our dialogues with companies (engagement). This will require additional efforts from us as the administrator, for example, in terms of communication and reputation management.

A global standard for Sustainable Development Investments

We are working towards our ambition of using the SDI Asset Owner Platform to create a global standard for investing in the Sustainable Development Goals. We are expanding the number of companies assessed from 8,000 to approximately 10,000 and will also assess corporate bonds in addition to equities. We are also refining the standard by, for example, including forward-looking data, such as patents, and by conducting research into specific sustainable themes. In this way, we will make the standard even more attractive to users.

Insight into impact on risk and return

Our pension funds were created to offer their participants a good pension. Responsible investment must therefore not be at the expense of the return on our investments. To monitor this closely, we measure the effect of responsible investment on risk and return. We are developing our analyses further in order to gain more insight into the influence of the various policy instruments, such as inclusion, exclusion and SDIs, on the risk and return of the investments.

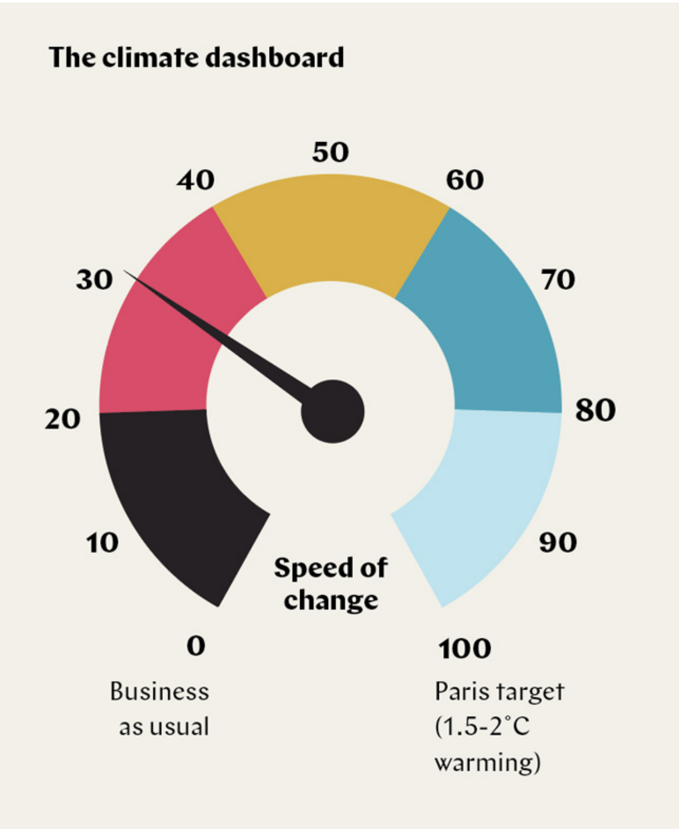
In 2021, we will refine our method for measuring the impact of responsible investing on portfolio risk and return. For example, we will also start measuring the impact of the carbon footprint reduction target and investments in the Sustainable Development Goals. For equities, we will introduce this early in 2021. This will be followed by corporate bonds, listed real estate and loans to governments and companies in emerging countries later in the year.

Appendices

Appendix 1: Addressing climate risks and opportunities

This appendix shows what activities APG undertakes to identify and manage climate risks and opportunities. We follow the framework established by the Task Force on Climate-related Financial Disclosures (TCFD).

APG has developed a climate dashboard. On the basis of twenty indicators (such as the demand for fossil fuels and investments in renewable energy), this gives an indication of how far the world is on track to achieve the Paris climate targets. The speed of the transition affects the physical risks and transition risks associated with climate change. As such, this information is important for our investment decisions and response to climate risks and opportunities in our investment portfolio.



The dashboard reading for the end of 2020 shows that the transition is not happening fast enough to achieve the Paris targets.

1. How has APG structured governance relating to climate-related risks and opportunities?

We monitor climate-related risks and opportunities in our investment portfolio. Since 2019, we have had a formal climate risk policy, which sets out how we measure, monitor and manage climate risks and opportunities and describes the tools we use to do this. We have established a Climate Steering Committee to oversee initiatives to manage climate risks and opportunities. The Climate Steering Committee consists of representatives of the highest level of management from Portfolio Management, including the Global Responsible Investment and Governance Team, Risk Management and Fiduciary Management. The Steering Committee provides regular updates to the Investment Committee.

The Investment Committee has ultimate responsibility for the overall investment portfolio, and oversees climate risks in the portfolio and the implementation of the climate risk policy. The Portfolio Management department is responsible for managing investments according to the mandate they have been given, including managing ESG-related risks and opportunities. The Risk Management department is responsible for the second-line measurement and monitoring of climate risks. The Fiduciary Management department is responsible for advising clients on how to implement the strategic investment plan in mandates for different asset classes. This department also overseas how the mandates are implemented and how climate risk management is incorporated in this process.

2. What are the implications of climate-related risks and opportunities for our investments?

The table below shows how we classify climate factors that may impact our investments. A distinction is made between transition risks and physical risks. Transition risks are related to the (accelerated) transition to a low-CO_2 economy. Physical risks relate to the consequences of climate change for buildings and infrastructure, for example.

Climate factor	Description
Policy & legislation	• The impact of more stringent climate policies on companies and investors, e.g. pricing of carbon emissions, incentives for cleaner alternatives, or restrictions on carbon-intensive industries and products.
Technology, market & reputation	• Effects of the improved availability and cheaper pricing of cleaner alternatives to carbon-intensive production methods or products (e.g. electric cars, declining costs of renewable energy sources, energy efficiency). • Changes in consumer, business and investor preferences for the products they buy or companies they want to invest in.
Physical impact	• The effects of changing weather patterns, including more frequent and more intense extreme weather (such as floods) and structural changes (e.g. prolonged drought, prolonged higher temperatures).

Within these three categories we distinguish more detailed climate risks and opportunities. These factors can adversely affect our investments. One example of this are the consequences of a declining demand for fossil fuel for investments in fossil energy companies. But they can also create new investment opportunities in industries such as renewable energy, electric transport and water management.

The goal of the Paris Agreement is clear: to limit global warming to no more than 2°C and preferably 1.5°C. But the path towards it is less straightforward. The transition path depends heavily on the available technology and on the climate policies pursued by countries. A complicating factor is also that historical information provides little guidance as the world is set to change dramatically in the future.

Because of these uncertainties, we use scenarios when identifying climate risks and opportunities. These constructed images describe what the world could look like in the future. The scenarios make different assumptions about climate policy and technological development. Scenario analysis helps us better understand what the road to “Paris” might look like and what impact this might have on our investments. We conduct these analyses at various levels. We include the results in our investment decisions.

In addition, we conducted a top-down climate analysis for economic sectors. Two scenarios were used for this analysis:

- one scenario that leads to a warming of 3.7 °C ("business-as-usual" scenario); governments take too little action and green technology does not develop fast.
- a scenario in which the Paris target is reached ("2 °C" scenario); governments are serious about meeting the Paris climate targets and the markets respond to this.[13]

With these scenarios we have summarized climate risks and opportunities for 26 economic sectors. Together, these sectors represent more than half of the value of the investment portfolio. We looked ahead to 2022, 2030 and 2040.

The resulting picture is that the effects of climate change will be huge and all-encompassing by 2040. Leading up to 2040, the transition is gradual for a global and diversified portfolio such as that of APG. However, the transition may be accompanied by disruptive changes and unexpected tipping points, which we must keep a close eye on. There will already be major transitions in the 2-degree scenario before 2030, with associated risks and opportunities, particularly in the following sectors: power plants, real estate, the cement industry, oil and gas, the aircraft industry, chemicals, and construction.

Sectors that are particularly vulnerable to the physical impacts of climate change, but for which the physical consequences of climate change also offer opportunities include: oil and gas, road and railway transportation, the construction industry and agriculture.

In 2020, we also conducted a climate analysis for countries in which we can invest through government bonds. We looked at both the risk profile for transition risks and physical risks. This showed that only a small proportion of our government bond investments fall into the "high" transition or physical risk category.

3. What processes do we use to manage risks associated with climate change?
We capture the results of the climate scenario analysis for countries and sectors in a traffic light model, which provides insight into the main climate opportunities and risks in 2022, 2030 and 2040. We do this analysis every two years to incorporate the latest developments and insights into the scenarios. In 2021, we will perform this analysis again, based on more ambitious scenarios.

The portfolio managers and sector specialists of the various asset classes are primarily responsible for managing climate-related risks and exploiting opportunities. They have the requisite knowledge to assess how climate change may affect investments and how this translates into the valuation of individual investments. As part of their investment analysis and risk management, they consider climate risks in the short, medium and long term. In doing so, they can use the tools described above, such as the climate analysis for sectors and countries.

13 In 2021, we will perform this analysis again. Then we will use a more ambitious scenario that assumes a goal of keeping global warming to well below 2 degrees C.

The insights from the climate scenarios provide points of interest and priorities for further research. This puts the portfolio managers in the so-called first-line position within the risk management framework. For investments in high-risk sectors (as identified in the climate analysis), investors must explicitly state how they assess risks and their possible financial impact.

Some examples of how we analyze and manage risks and opportunities:

- Portfolio managers actively monitor relevant regulatory, technological and market developments.
- We ask companies that generate electricity with coal-fired power plants to stop expanding and develop a strategy for transitioning to renewable energy.
- In calculation models we price financial risks, such as CO_2 prices and declining coal revenues. For example, we monitor changes in the price of battery technology and the relative costs of energy sources ('Levelized Cost of Electricity').
- Large investments with a long investment horizon, such as direct investments in infrastructure, require the approval of the 'investment proposal committee'. In the case of such investments, the investment proposal carefully examines the transition and physical risks of climate change based on scenario analysis, among other things. This analysis requires the approval of APG's responsible investment team. This team can also set specific requirements for the investment with regard to climate risk.
- We actively engage in a dialogue with companies we invest in to reduce their carbon emissions and on initiating transition in line with the Paris Agreement. One way in which we do this is through the Climate Action 100+ partnership.

Our climate scenario analysis helps us to further integrate climate change into the various stages of the investment process. The traffic light model and the dashboard with indicators are available to management teams, the Fiduciary Management and Risk Management departments.

4. Which indicators and targets do we use to assess and manage climate-related risks and opportunities?

- We track 20 indicators to understand the speed of the transition. For example: demand for oil and gas, investments in renewable energy and trends in electric car sales.
- We measure the carbon footprint of different portfolios: equities, corporate bonds, private equity and real estate. For the listed equity portfolio, all our clients have a reduction target.
- We measure the sources (coal, oil, gas, nuclear and renewable) our energy-related investments use to generate energy.
- We measure how much we invest in companies that contribute to the Sustainable Development Goals, a number of which are related to climate change and the energy transition. ABP and bpfBOUW have objectives for investing in the Sustainable Development Goals.

Climate risks in practice: real estate

In real estate investment, it is critical to understand the transition and physical risks of climate change.

We have developed a measurement system for physical risks down to the level of individual buildings. This is based on the geographic coordinates of our global real estate investments. We have researched the measurement methods of different data providers and established that they can assess the climate risks of a specific property very differently. Therefore, we combine the insights of two data providers. Based on their information, we can calculate a score per risk (e.g. flooding, forest fires) at different levels of the property portfolio.

In this way, for new investments, we can include the physical risks of the specific location in the investment analysis. Information from our data providers can also be used to determine what investments are needed for a specific property to counteract the physical impacts of climate change. This insight can have implications for the price we are willing to pay for an investment property. The results are made transparent in a dashboard and can easily be integrated into risk management.

Pricing transition risks is becoming increasingly important for real estate investments. APG is a co-founder of the Carbon Risk Real Estate Monitor (CRREM), a global measurement method for determining whether a building meets the Paris climate targets. The CRREM tool shows for each type of real estate how much CO_2 per square meter may be emitted per year in the future. By integrating the CRREM tool with the Global Real Estate Sustainability Benchmark (GRESB), it will eventually also be possible to determine which part of our real estate portfolio is in line with Paris. Other asset managers involved are PGGM, Norges Bank Investment Management (NBIM) and Ivanhoé Cambridge.

Appendix 2: How do we measure the carbon footprint of our investments?

APG has been measuring the carbon footprint of its investments in listed equities since 2013. All our clients also have a target for reducing the carbon footprint of their listed equity portfolio.

In the Dutch Climate Agreement, pension funds and asset managers have agreed to disclose the carbon footprint of their relevant investments on an annual basis. This year, APG is publishing the carbon footprint of its investments in corporate bonds, real estate and private equity for the first time. This means we are reporting the carbon footprint of 57% of the portfolio.

In 2022, our funds will announce new climate targets, including targets for reducing the carbon footprint of relevant asset classes. In this appendix, we explain how APG measures the carbon footprint and how it aims towards reduction for listed equities.

Measuring the carbon footprint

APG calculates and publishes the carbon footprint of relevant asset classes according to the Global GHG Accounting and Reporting Standard for the Financial Industry, developed by PCAF. The carbon footprint is - with one exception - calculated based on positions as of December 31, 2020. If this data was not available, data of the most recent position was used. The method for measuring the carbon footprint of equities differs from the method we have used since 2015 to monitor the carbon footprint of the equity portfolio. These differences are explained below. For the time being, both methods will continue to exist side by side. Since 2015, the carbon footprint of the equity portfolio has decreased by 39%.

Scope in terms of asset classes

APG aims to measure the carbon emissions of all relevant investments. Since 2020, we have been doing this not only for equities but also for corporate bonds, real estate and private equity. Due to methodological challenges and the lack of data, it is not yet possible to determine the carbon footprint of all investments and all asset classes. APG is closely involved in initiatives to overcome these challenges.

What is the carbon footprint of our investments?

	Invested assets (€ millions)	Assets whose emissions are reported on (€ millions)	Absolute carbon footprint (tCO_2e)	Relative carbon footprint (tCO_2e)/ € millions
Equities	**198,324**	**198,324**	**14,519,620**	**73**
- developed markets	152,427	152,427	8,801,090	58
- emerging markets	45,897	45,897	5,718,530	125
Corporate bonds	**74,571**	**48,710**	**7,295,187**	**150**
- including green bonds			801,125	
Real estate	**45,704**	**45,418**	**1,376,168**	**30**
Private equity	**34,241**	**33,748**	**1,661,651**	**49**
Total	**352,840**	**326,200**	**24,852,626**	**76**

The overview below shows the method we use to measure the carbon footprint of the various asset classes. Individual investments for which we do not have systematic access to fundamental data (such as sales and enterprise value) are not included in the carbon footprint calculation.

Summary of measuring methodology

	Equities	Corporate bonds	Real estate	Private equity
Method	PCAF Global	PCAF Global	PCAF Global	APG method, based on listed equity
Allocation factor	Enterprise value including cash	Enterprise value including cash	Gross asset value	Enterprise value
Position on	12/31/2020	12/31/2020	12/31/2020	12/31/2020
Data on carbon emissions	Combination of 2018 and 2019	Combination of 2018 and 2019	2019	Combination of 2018 and 2019
Scope	Scope 1 & 2	Scope 1 & 2	Scope 1, 2 & 3	Scope 1 & 2
Data provider	Trucost	Trucost, supplemented by ISS ESG	GRESB	Sector averages based on listed equities (Trucost)
Investments included in the carbon footprint	• ordinary shares • preferred shares	• corporate bonds • green bonds	• All real estate investments (listed and in private markets)	• All private equity investments
Percentage of portfolio emissions estimated by APG	9%	3%	30%	100%

Calculation formula

Total carbon footprint in tons of CO_2e (tCO_2e)

$$\text{APG carbon footprint } (tCO_2e) = \sum \text{Investment-specific emissions } (tCO_2e) \times \frac{\text{Total investments (€ millions)}}{\text{Total capital investments (€ millions)}}$$

Relative carbon footprint in tons of CO_2e per million euros invested (tCO_2e /€ millions)

$$\text{APG relative carbon footprint } (tCO_2e \text{ /€ millions}) = \frac{\text{APG carbon footprint } (tCO_2e)}{\text{Market value of relevant APG investments (€ millions)}}$$

Allocation factor

To allocate the carbon emissions of a company or asset (e.g., a real estate property) to APG, we use an allocation factor. This factor is based on APG's total investment in relation to the total capital of a company or asset. This is because we can invest in the equity and/or debt of a company or asset. As prescribed by PCAF, we use enterprise value including cash (EVIC) for the total capital of a company or asset. If this is not available, we use enterprise value or total balance sheet value. For real estate, we use the gross asset value of the asset.

Data sources

APG purchases data from external data providers to calculate the carbon footprint. In order to calculate the carbon footprint for as large a part of the portfolio as possible, we use (from high quality to lower quality) the following hierarchy:

1. Emissions reported by the company or asset via CDP, GRESB, the company's annual report or sustainability report, as provided by our data providers;
2. Emissions estimated by our data providers;
3. Emissions estimated by APG based on the average CO_2 intensity (tCO_2e /€ millions turnover) of the sector.

Our primary source for issuance data is the Trucost database. For corporate bonds, we supplement this information with data from ISS ESG. For real estate, we use GRESB.

We invest heavily in maintaining and improving data quality. Data providers check the emissions data reported by companies. If this data is inconsistent (e.g. significantly higher or lower than industry peers or than in previous years) or incomplete (e.g. not applicable to all activities of the company), then our data providers use estimates. APG checks data from the largest emitters in the portfolio and, in the event of significant changes, before it is used for measuring the carbon footprint.

Due to data providers' processes and validation of data by APG, it takes some time before the emissions reported by companies are available. The calculation of the carbon footprint in 2020 is based on company emissions in fiscal years 2018 and/or 2019.

APG aims to measure the carbon footprint of all relevant investments. In a perfect world, we would use the reported emissions of our investments in all cases, but these are not always available. Therefore, we rely on assumptions, estimates and sector averages to a large extent, when calculating the carbon footprint. This means that, depending on the asset class, the carbon footprint determined may not accurately reflect the carbon footprint of the relevant investments. Therefore, for some investment categories, such as private equity, the carbon footprint is only useful for informational purposes. The indicator "% portfolio emissions estimated by APG" in the table "Summary of measurement methodology" shows the extent to which the measurement of the carbon footprint depends on estimates. APG is working with regulators, companies, sector initiatives and external asset managers to improve data quality.

Scope of the emissions

The carbon footprint of individual investments is calculated based on the direct and indirect greenhouse gas emissions from their own operations (scope 1 and 2), converted into equivalent tons of CO_2 (CO_2e), as defined by PCAF. Currently, we do not take into account emissions from the entire value chain (scope 3) for the calculation of the carbon footprint. An exception is real estate, where we do include emissions from energy consumption by tenants in the calculation. For other sectors, scope 3 emissions are not yet reliable enough. It would also lead to double counting. However, we are investigating opportunities for using scope 3 in the future.

Considerations per asset class

Listed equities

Data availability on publicly traded stocks is generally good, especially for companies in carbon-intensive sectors in developed markets. Nevertheless, estimates from data providers play an important role, especially for smaller companies and companies in emerging markets.

The determination of the carbon footprint of listed equities has changed because since 2020 the carbon footprint of corporate bonds has also been measured. Previously, emissions were attributed only to shareholders (based on market capitalization). Since 2020, a company's carbon emissions have been attributed to all capital providers, i.e. to both equity and debt (allocation based on total capital structure).

Corporate bonds

In 2020, we measured the carbon footprint of the corporate bond portfolio for the first time. For this purpose, the methodology was adapted to allocate emissions based on the total capital structure (see 'Listed equities'). In general, fewer data are available for corporate bonds than for listed equities. There is considerable overlap between these asset classes, but the corporate bond universe includes smaller companies and companies that are not listed. It should be noted that a significant portion of the investments in corporate bonds are green bonds. The proceeds of these bonds are set aside for a specific sustainable purpose. By investing in green bonds, we can contribute directly to greening projects, including those of companies that are relatively carbon-intensive. For example, an electricity company that is partially dependent on fossil fuels to produce electricity, but that issues a green bond to be able to invest in renewable energy (such as wind turbines).

PCAF does not yet offer guidance on how to deal with green bonds that contribute to carbon reduction. Moreover, it is challenging to obtain data on the emission reductions associated with a green bond. To be complete, we include our green bond investments in the carbon footprint calculation. We do this based on the carbon emissions of the entire company. These emissions can be significantly higher than the carbon footprint of the segregated projects for which the green bond is intended. This probably leads to a significant overestimation of the carbon footprint of our corporate bond portfolio. Therefore, we also report the carbon footprint of green corporate bonds separately.

In addition to corporate bonds, the bond portfolio consists of government bonds, government-related bonds, and securitized investments (e.g., mortgage-backed securities). Although government bonds are relevant for measuring the portfolio's carbon footprint, no method has been chosen to measure them at present. For securitized investments, we do not yet have insight into the carbon emissions of the underlying assets. It is also not possible to determine the allocation factor. Therefore, the calculation of the carbon footprint focuses exclusively on corporate bonds.

To calculate the carbon footprint of corporate bonds, we use carbon emission data and fundamental data (e.g. enterprise value and sales). If this data is not available for a specific bond, we use information on the parent company. The parent company may not be representative of the emission profile of the company in which we invest. If fundamental data is not systematically available, we cannot calculate a carbon footprint.

Real estate

Real estate consists of both listed equity investments and private real estate. The global PCAF standard focuses on real estate loans, while our investments are in real estate equities. Therefore, we measure the carbon footprint using the global PCAF methodology for listed equities and corporate bonds. Our primary data source for carbon emissions in this asset class is GRESB. For investments that do not report or only partially report to GRESB, we estimate emissions as follows:

- Where a real estate investment reports emissions for only some of the properties in its portfolio, we calculate the total emissions by extrapolating to 100% of the portfolio.

- Where a real estate investment does not report to GRESB, we estimate the emissions based on the average emissions of other real estate investments in our portfolio in the relevant sector that do report to GRESB.
- If we do not know to which sector a real estate investment belongs and it does not report to GRESB, we estimate the emissions based on a generic average based on all our real estate investments that do report to GRESB.

The calculation covers direct and indirect emissions from operations (scope 1 and 2) and tenant energy consumption (downstream scope 3). GRESB provides information on the total carbon emissions of a real estate investment (scope 1, 2 and 3). For this reason, it is not possible to specifically report on the scope 3 emissions of our real estate portfolio.

Private equity
APG invests in private equity through external managers in a large number of unlisted companies. In this asset class, fundamental data and information on carbon emissions is very limited. APG estimates the carbon footprint of the private equity portfolio using sector averages derived from the listed equities universe.

To measure the carbon footprint of the private equity portfolio, we use the position in sectors in this portfolio, combined with sector averages of the listed equity portfolio, and an estimate of the allocation factor. An adjustment is included in the calculation to account for the difference in leverage between the capital structure of listed companies and private equity companies. This is related to the fact that private equity is generally financed with more debt than listed companies. Therefore, we multiply the debt of the listed companies by the leverage factor of 1.2.

The calculation of the carbon footprint of the private equity portfolio is thus based on rough assumptions in terms of emissions and fundamental data (e.g. turnover and corporate value). The carbon footprint figure for the private equity portfolio is therefore of lower quality than that of other asset classes.

Reducing our carbon footprint
All our funds have a target for reducing the carbon footprint of their listed equity portfolio. There is no target yet for the other asset classes. In line with the agreements in the Climate Commitment of the financial sector, our funds will announce new climate targets, including CO_2 reduction targets for private equity, corporate bonds and real estate, by 2022.

Difference between measuring and reducing the carbon footprint
The objectives and requirements for lowering the carbon footprint of listed shares are different to those required for measuring the carbon footprint. Therefore, the methodologies also differ. Because we use different methods, there can be a difference between the carbon footprint figure and the figure our portfolio managers use internally to reduce the footprint of the portfolios.

	Metrics	Target approach
Main requirements	• Offer transparency to external stakeholders about the carbon footprint • Easy to understand and explain to external stakeholders • Comparability of carbon footprint with other financial institutions • Compliance with external standards and regulations	• The option to integrate data into the investment process; this requires the data to be available on a daily basis for the portfolio managers • Stability of data points to avoid unnecessary impact and turnover in the portfolio • External factors that we have no influence on as an investor must have no impact on the carbon footprint
Data points	• Total carbon footprint (tCO_2e) • Relative carbon footprint (tCO_2e /€ millions)	• Reduction percentage of the relative carbon (tCO_2e /€ millions normalized invested value) with respect to reference date (March 2015)
Allocation factor	• Total APG investments / Total capital (enterprise value including cash)	• Total APG investments / market capitalization (only shares)
Corrections applied	• None	• Constant division of portfolio between developed and emerging market with respect to reference date • Invested capital expressed in relative carbon footprint corrected for fluctuations in share prices, so that rising or falling prices have no influence
Data	• Based on portfolio of December 31	• Based on portfolio of March 31 (after reporting year)
Standard	• PCAF Global	• APG method

In January 2021, De Nederlandsche Bank (DNB) published a research paper on the effects of price inflation and fluctuating exchange rates on the carbon footprint. Price inflation or changing exchange rates can cause the footprint number used by portfolio managers in the management of their portfolios to decrease by more than the footprint in which these effects are corrected. The reverse is also possible. This shows how important it is that portfolio managers can use indicators that are not affected by external variables. APG has therefore been correcting the relative footprint for effects such as price inflation since 2015. Using this relative carbon footprint as a point of departure has also led to an absolute reduction of the carbon footprint of the listed equity portfolio in recent years.

Appendix 3: Abbreviations

ANET	ABP Netherlands Energy Transition fund; fund set up in 2018, specifically for investments in relatively small projects and companies that focus on finding innovative solutions for the climate problem
AODP	Asset Owner Disclosure Project; organization that determines how large asset owners identify the impact of climate change
CDP	Carbon Disclosure Project; international non-profit organization that aims to improve the way companies disclose their environmental impact
CHRB	Corporate Human Rights Benchmark; benchmark established in 2017, comparing approximately 100 companies on their human rights policy
CO_2	Carbon dioxide; a greenhouse gas
CO_2e	CO_2 equivalent; unit for measuring the greenhouse effect of nitrous oxide (N_2O), methane (CH_4) and fluorinated gases: - one kilogram of CO_2-equivalent has the same greenhouse effect as 1 kilogram CO_2
CRREM	Carbon Risk Real Estate Monitor; global measurement method for establishing whether a building meets the objectives of the Paris Agreement
ESG	Environmental, Social and Governance; issues taken into account in responsible investing
ETF	Exchange traded fund; basket of investments traded on an exchange, in the same way as stocks are traded
GRESB	Global Real Estate Sustainability Benchmark; organization set up by APG, in collaboration with other parties, which compares the sustainability performance of real estate funds
GRIG	Global Responsible Investment and Governance Team; APG experts on sustainability and good corporate governance
IIGCC	Institutional Investors Group on Climate Change
IMVB	Internationaal Maatschappelijk Verantwoord Beleggen - International Socially Responsible Investment
NZAM	Net Zero Asset Managers Initiative
NZIF	Net Zero Investment Framework
OECD	Organization for Economic Co-operation and Development
PBAF	Partnership for Biodiversity Accounting Professionals
PCAF	Partnership for Carbon Accounting Financials; global standard for reporting on the carbon footprint of loans and investments
PRI	Principles for Responsible Investing; worldwide association of over 3,000 pension funds, asset managers and companies that want to promote responsible investing
SDG	Sustainable Development Goal; development goal set by the United Nations to make the world a more sustainable place by 2030
SDI	Sustainable Development Investment; an investment that is attractive from a financial perspective and contributes to achieving the Sustainable Development Goals
SFDR	Sustainable Finance Disclosure Regulation; EU law laying down the requirements for pension funds' reporting on sustainability of their investments
TCFD	Task Force on Climate-related Financial Disclosures; working group led by Michael Bloomberg, who published a report in 2017 on how other companies and funds can best report on climate change
TNFD	Taskforce on Nature-Related Financial Disclosures
UNGC	United Nations Global Compact; a United Nations initiative to encourage businesses to adopt sustainable and responsible investing
VBDO	Vereniging van Beleggers voor Duurzame Ontwikkeling - Dutch Association of Investors for Sustainable Development