Responsible Investment Report

2017

apg
tomorrow is today

Contents

We want to work with the participants in our pension funds to build on their future. That future must be sustainable. For them and for the world they live in.

Foreword

Civil servants, teachers, builders and housing association staff must be able to rely on a good income after they stop work. And they must be able to enjoy that income in a world offering a good quality of life.

As an investor, we want and are able to make a contribution to this. We invest the premiums that participants in the pension funds we work for and their employers put aside each month in such a way that they deliver a good return at low cost. At the same time, we use our influence as an investor to make the world more sustainable.

Sustainability is one of the key points of our long-term vision. We aim to be a leading, responsible, long-term investor. We want to work with the participants in our funds to build on their future. That future must be sustainable. For them, for the people around them and for the world they live in.

We have been investing responsibly for many years but we are now doing it ever more intensively. In 2017, we made considerable advances with our approach to inclusion. This is a huge project in which we are dividing all the companies whose equities or bonds we could hold, the 9,500 or so companies in our investment universe, into leaders and laggards in responsible business practices. This will allow us to offer our clients the ability from 2020 to consciously choose companies that are not only financially attractive (return, risk and cost) but also leaders in responsible business practices or that at least have the ambition to improve in this area ('improvement potentials' - in Dutch: beloften). By the end of 2017, we had assessed the first 600 companies. By mid-2018, we had exceeded 2,000.

We also made good progress with sustainable investment in 2017. We have identified how investments in our entire portfolio contribute to the United Nations Sustainable Development Goals. About 12% of our clients' assets are now invested in the manufacture of goods or services that bring meeting those goals closer. In this report, we are able for the first time to show how we are investing in individual goals.

We also see it as our task to contribute to the further sustainability of financial markets. Consequently, in 2017 we worked with others on recommendations underlying the action plan that the European Commission published on this in the first half of 2018.

Our clients, the pension funds we work for, also made considerable progress in 2017 and have reported on this themselves. Their thinking is also not standing still. A number of them announced in 2018 that they will impose tighter restrictions on the products they invest in. They no longer regard it as responsible to invest in tobacco manufacturers and companies involved in the production of nuclear weapons. We are aiming to have sold their investments in such companies by the end of 2018.

We are proud of what we do and are always looking for ways to improve. That is one reason we publish this report on how we invest responsibly. By being transparent about what we do, we want to invite others to respond and hope to enter into dialogue with both the general public and others in our industry. We hope you will find this report interesting.

July 2018

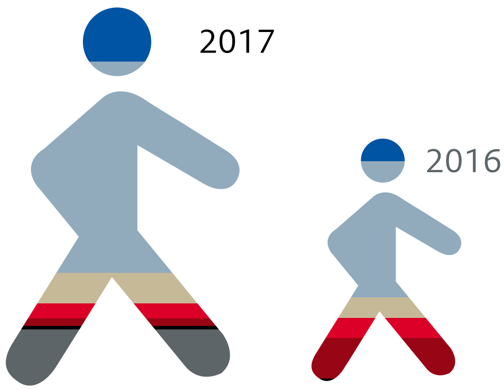
Gerard van Olphen *(Chairman of the Executive Board of APG) and Ronald Wuijster (member of the Executive Board of APG and Chairman of the Board at APG Asset Management)*

2017 in figures

APG's activities as a responsible investor in 2017 can be summarised in the following figures.

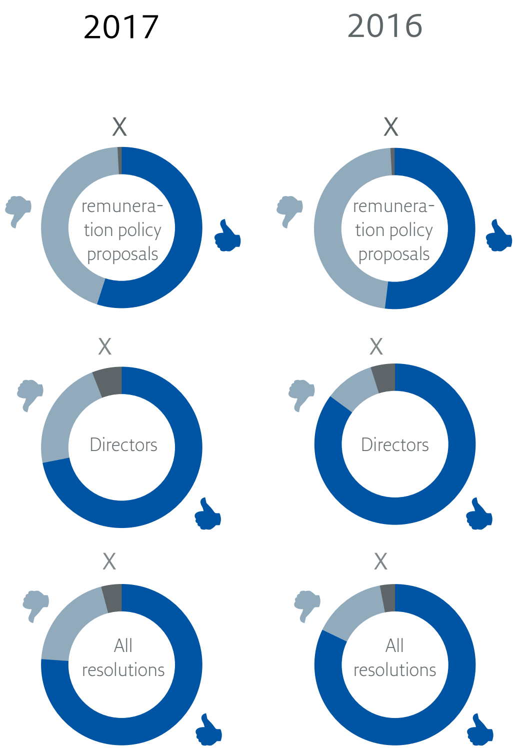
Engagement with companies on sustainability and corporate governance

	2017	2016
Number of companies we engaged with	322	245
Engagements by topic		
• Environment	59	16
• Corporate governance	223	194
• Human rights	33	11
• Safe working conditions	20	11
• Eradicating child labour	9	25
• Bribery and corruption	4	2
• Other	58	-



Voting behaviour at shareholders' meetings

	2017	2016
Shareholders' meetings at which we voted	4,300	4,250
1,600 remuneration policy proposals		
For	55 %	52 %
Against	44 %	47 %
X Abstained/vote not cast	1 %	1 %
Election of 18,000 directors		
For	72 %	85 %
Against	22 %	10 %
X Abstained/vote not cast	6 %	5 %
All 47,000 resolutions		
For	76 %	82 %
Against	20 %	15 %
X Abstained/vote not cast	4 %	3 %



Sustainable investments

	2017	2016	2015
Investments in sustainable development[1]	55.3 billion	44.5 billion	38.5 billion
Renewable energy investments	4.80 billion	3.20 billion	2.60 billion
Investments in green bonds	4.46 billion	1.90 billion	1.03 billion
Reduction in CO_2-footprint compared with 2014	-27.5%	-16.0%	

Inclusion and exclusion

	2017	2016	2015
Companies assessed as leader or laggard	600	0	
Countries (government bonds) on exclusion list	10	10	
Number of companies on exclusion list	22	19	
Total assets invested (in billion euro)	470	443	406

1. For 2017, we are reporting using our new SDI definition. HSI figures are used for 2016 and 2015. See page 18.

1 Contributing to the risk-adjusted financial returns

2 Demonstrating social responsibility

3 Contributing to the integrity of financial markets

1 Our approach

1.1 Objectives

We invest the pension contributions the participants of our clients and their employers pay in each month in such a way that they earn the best possible returns at an acceptable risk. Investing responsibly helps ensure participants receive a good pension now and in the future.

We have three concrete objectives:

- contributing to the risk-adjusted financial returns;
- demonstrating social responsibility;
- contributing to the integrity of financial markets.

Sound investment requires a clear understanding of the opportunities and risks. Our investment decisions are therefore based not just on financial performance and operating processes. It is also relevant whether companies have good environmental and social policies and are well governed. These are known as the environmental, social and governance (ESG) factors.

In 2016 and 2017, our clients further tightened their policy on responsible investing. An important feature is specific, measurable goals that have to be achieved by 2020. These include a significant expansion of investments in sustainable development, including in renewable energy. In addition, the CO_2 emissions by companies in the equities portfolio must be cut by 25%.

1.2 Clear expectations

Our approach to responsible investing is closely aligned with national and international regulations. These are, in the first instance, Dutch law and international treaties and conventions the Netherlands has signed up to. We also expect companies and funds we invest in to act in line with the United Nations principles for responsible business practice (UN Global Compact). These concern human rights, labour rights, corruption and the environment.

We employ a variety of means to assess whether companies operate in line with these principles. Doubts can be a reason to enter into a dialogue with a company (engagement), focusing on specific improvements. This process of engagement generally takes some time and involves several contacts (emails, letters, telephone conversations, meetings). We often work with other investors in order to exercise more influence over the company.

If we establish that a company is potentially in breach of UNGC agreements and failing to make improvements and there is no prospect of improvement in the near future, we can decide to exclude it. This involves selling our holding in the company after which we can no longer invest in it. This is a last resort and only used in highly exceptional circumstances, not least because we cannot exercise any further influence over a company once we have sold our stake in it.

The guidelines for multinational enterprises and principles for corporate governance of the Organisation for Economic Co-operation and Development (OECD) are important for our responsible investing as are the Governance Principles of the International Corporate Governance Network (IGCN), an association of investors that promotes corporate governance.

We also exert influence through voting at shareholders' meetings. With the practical and substantive support of an external bureau, in 2017 we voted in line with the voting policies of our clients on more than 47,000 resolutions at some 4,300 meetings of listed companies in which we invest. How we voted on each agenda item is set out in apg.nl.[2]

1.3 Exerting influence

Companies are held to account in various ways if there are concerns about the sustainability of their business or governance. These range from voicing an opinion to a more intensive process aimed at changing behaviour. The latter is referred to as 'engagement'. An engagement can take different forms depending on the company, the nature and size of the investment, and the issue at stake. Some examples can be found elsewhere in this report. We often engage on several issues at the same time.

Engagements are not just with companies. It is important for pension investors that the authorities and market participants agree on rules that enable the provision of good pensions in the long term. Well-functioning financial markets and a stable climate that does not pose a threat to the investments are essential in this regard. To encourage this, APG engages with various parties.

1.4 Responsible investment and governance team

We have a team of fifteen sustainability and corporate governance specialists.

This Global Responsible Investment and Governance team (GRIG) is responsible for areas such as developing policy (with clients), supporting portfolio managers with responsible investment, having discussions with companies about doing business responsibly (engagements), reviewing proposals for unlisted investments for sustainability and good governance, implementing voting policy and maintaining contacts with regulators, supervisory authorities and stakeholders. Two of the specialists are based in our office in Hong Kong, and one in our New York office.

2. www.apg.nl/en/asset-management/responsible-investing

1.5 Responsible investment and return

We are convinced that investors make better investment decisions if they look structurally at sustainability factors and responsible business practices as this gives them a fuller picture of opportunities and risks in an investment.

Responsible investing need not be at the expense of financial returns. This view is supported by a 2015 meta-study of over 2,000 empirical studies published since 1970[3], 90% of which have concluded that there is no negative relationship between returns and attention to ESG factors.

1.6 Contributing to the integrity of the financial markets

It is important that financial markets function properly and enjoy sufficient public confidence if pension assets are to be invested responsibly for the long term.

We must therefore contribute to the discussion on credible and efficient regulation with policymakers and industry organisations. These discussions focus on the development of standards in different areas.

We often work with other investors to strengthen the integrity of financial markets, including collaborative initiatives such as the International Corporate Governance Network (ICGN), the Principles for Responsible Investment (PRI) and the Institutional Investors Group on Climate Change (IIGCC).

Dutch version prevails
In the event of discrepancies between different versions of the Responsible Investment Report 2017, the Dutch version shall prevail.

Some 90% of these studies have concluded that there is no negative relationship between returns and attention to ESG factors.

3. Gunnar Friede, Timo Busch & Alexander Bassen (2015) ESG and financial performance: aggregated evidence from more than 2,000 empirical studies, Journal of Sustainable Finance and Investment.

2 Active investment in leaders and ‘improvement potentials’

2.1 Active in-house management of investments

As an active manager for the majority of our assets, and given that we do this in-house, we can give sustainability and corporate governance a prominent role in investment practice.

Active investing means that our portfolio managers make investment decisions using their own knowledge of companies and market insights rather than merely following market developments (passive).

As it is important that our portfolio managers have the most relevant, up-to-date information on sustainability and corporate governance available, we have developed various tools in recent years to assist them in this regard.

Additionally, responsible investment and governance specialists assess all proposals for new investments (above a given amount) in unlisted companies and new mandates for external managers. The specialists not only provide a sign-off but are also involved in drawing up terms in the agreements that form the basis for these new investments.

2.2 Investing in leaders and ‘improvement potentials’

An important element of the new approach to responsible investment to which our clients signed up in recent years is the inclusion policy. This means that by 2020 we aim to hold only equities and bonds of companies that pay sufficient attention to sustainability and responsible business practices. We call these companies leaders. We will generally only continue to invest in companies which are lagging behind if we believe that they can be influenced to improve.[4]

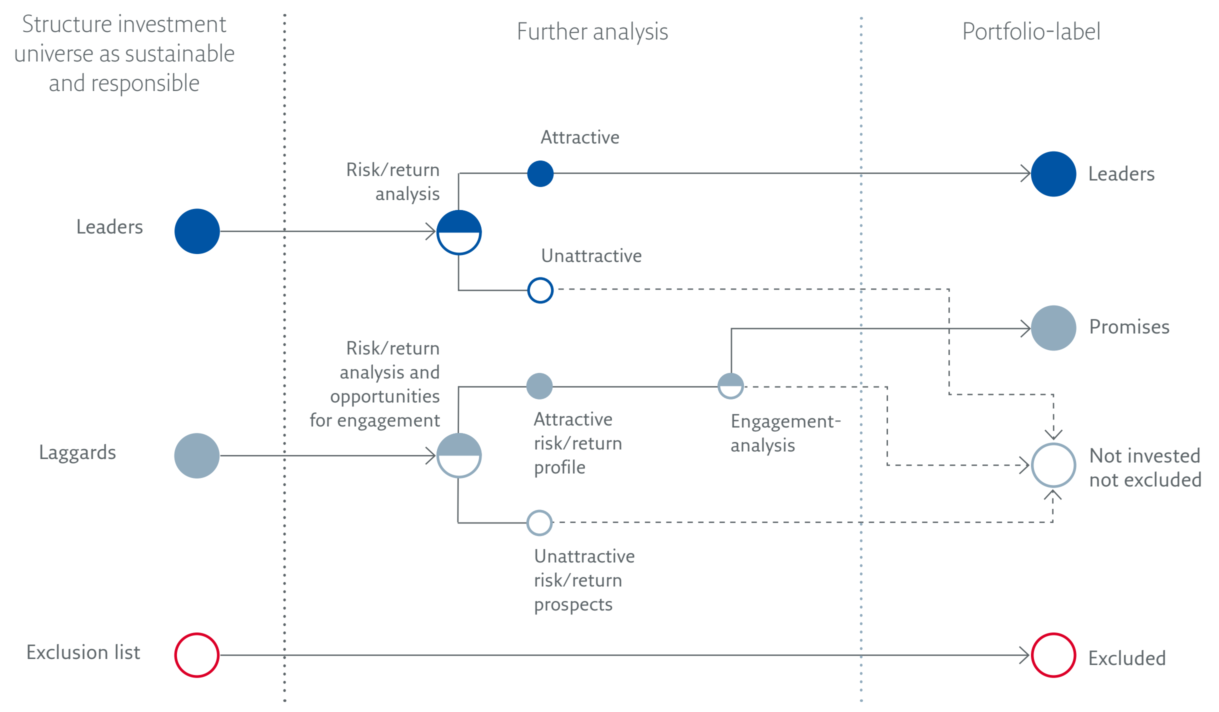
In order to divide companies between leaders and laggards, during 2016 we developed an assessment process based on the themes included in the United Nations Global Compact on responsible business practices: human rights, labour rights, corruption and management of the environment. We want companies to be aware of the main risks they run in these areas. It is also important that they have a policy on how they deal with them and procedures to put that policy into practice. We also look at whether they have been involved in major controversies or incidents such as corruption, work-place accidents or environmental disasters.

We carry out these assessments by industry, focusing on the most relevant risks in about sixty different industry groups. For example, environmental pollution and safety are major themes in the oil and gas sector while they are less of a risk in the financial world, where we will look more closely at matters involving corporate ethics, such as involvement in bribery and corruption, money laundering and whether there is a proper whistle-blower scheme to raise malpractice issues.

In due course, our portfolio managers will only be able to invest in laggards if they can be persuaded to make, or on their own initiative have embarked upon, improvements in their sustainability performance, with pre-agreed specific targets.

4. In principle, it will still be possible to invest in a laggard which can only demonstrate sustainability improvements in the longer term if this is attractive in terms of risk and return.

The inclusion mechanism



2.3 How does the inclusion approach work?

The diagram below shows how the inclusion approach works and how it is related to our exclusion policy (see also page 13).

We not only assess the companies we actually invest in but also those we could in principle invest in. This 'investable universe' is made up of some 9,500 companies.

2.4 Almost 600 companies assessed

In 2017 we started with companies in the first industries to be assessed. By the end of the year, we had completed the assessments of large companies in six industries in developed markets and three in emerging markets.

Of a total of 593 companies that were assessed, 478 came out as leaders and 115 as laggards. We have identified 22 of the laggards as improvement potentials and have already contacted them about the necessary improvements, or will do so shortly, discussing specific targets. Fifteen laggards were being examined further at the end of 2017, for example to see whether it is possible or sensible to agree improvements.

2.5 Knowledge system provides insight

The knowledge management system that we built partly for the inclusion process came into use in mid-2017. It gives portfolio managers and members of the sustainability team insight into the assessments of companies, improvements we require and contacts on progress. By 2020, we will be able to use this system to state quickly why we invest in any of our holdings of equities, bonds and listed real estate, given the expectations on returns and risk, costs and responsible business practices.

Whether a company is a leader or laggard depends in part on how it performs compared with similar companies. We determine which are leaders and which are laggards once a year. Each quarter, some of our clients publish a list of all the companies whose equities or bonds they own. By 2020 all these companies will be meeting our expectations or will be able to do so within a short period.

We do not state publicly whether an investment is a leader or an improvement potential. We believe that more can be achieved from our discussions on improvements if this is done quietly.

2.6 The exclusion policy

For some time now it has been our clients' policy not to invest in manufacturers of weapons prohibited under international treaties ratified by the Netherlands. They may also place companies that breach international agreements on responsible business practices on their exclusion lists. This is the heart of the exclusion policy[5] we implement for them.

Specifically, this means that we do not invest in companies involved in the manufacture of cluster bombs, anti-personnel mines and chemical and biological weapons. Companies that produce nuclear weapons are excluded if they contravene the Nuclear Non-proliferation Treaty, the international treaty to prevent the spread of nuclear weapons, which has been ratified by the Netherlands. Nuclear weapons may only be produced for and by countries permitted to hold them under the treaty (China, France, Russia, the United Kingdom and the United States).[6]

The ten principles of the UN Global Compact on human rights, labour rights, corruption and the environment are another important part of our clients' exclusion policy. A company can be excluded if it acts in breach of these principles and cannot be persuaded in an engagement to make sufficient improvements. This is the final stage of an intensive process that can take several years and involves clear requirements and deadlines.

5. The exclusion policy applies to the whole portfolio apart from some investment instruments (index investments or ETFs) as this would prevent efficient portfolio management. There is an exception for certain externally-managed investments which were part of the portfolio before the exclusion policy (or parts of it) came into force.
6. In early 2018, one of our clients announced that it would be changing its assessment framework for product exclusions such that there would be no further investment in companies making nuclear weapons for countries that may possess them under the Nuclear Non-proliferation Treaty. Tobacco manufacturers were also excluded.

Four of the companies we engaged with in 2017 were suspected of breaching the UN Global Compact, including breaches of human rights, poor environmental management, bribery or corruption. We had several engagements with these companies in 2017 (and in earlier years) urging them to make improvements. Two of them were no longer regarded as possibly breaching the Global Compact by the end of 2017. Dialogue continues with two others as there is still insufficient improvement. Overall this process can last up to three years, with regular progress assessments. We do not name companies where engagements under the UN Global Compact are ongoing as this could be price-sensitive information.

2.7 New exclusions in 2017

In mid-2017, we decided to add Esterline Technologies, L&T Technology Services and Larsen & Toubro Infotech to our exclusion list.

The first for involvement in the manufacture of cluster weapons, the other two as they are subsidiaries of Larsen & Toubro, which we had already excluded for possible involvement in the production of nuclear weapons for a country that may not hold them under the Non-proliferation Treaty (India). There were no changes in 2017 to the list of countries whose sovereign bonds we do not wish to hold as they are subject to an arms embargo imposed by the UN Security Council.

On 1 January 2018, there were 22 listed companies on our exclusion list.

Excluded because of UN Global Compact violations	
PetroChina	China
TEPCO	Japan
Walmart	United States

Excluded because of involvement in the production of cluster munitions	
Aryt Industries Ltd.	Israel
Ashot Ashkelon	Israel
China Aerospace International Holdings	China
China Spacesat	China
Esterline Technologies	United States
Hanwha Corporation	South Korea
Motovilikha Plants JSC	Russia
Norinco International Cooperation Ltd.	China
Orbital ATK Inc.	United States
Poongsan Corporation	South Korea
Poongsan Holdings Corporation	South Korea
Textron	United States

Excluded because of involvement in the production of anti-personnel mines	
S&T Dynamics Co Ltd	South Korea
S&T Holdings	South Korea

Excluded because of involvement in the production of nuclear weapons in contravention of the Nuclear Non-Proliferation Treaty

Larsen & Toubro	India
Larsen & Toubro Infotech Limited	India
L&T Finance Holdings	India
L&T Technology Services Limited	India
Walchandnagar Industries Ltd	India

Unlisted companies

The exclusion list only includes listed companies. Contracts with external managers state that they must also apply our exclusion policy to unlisted companies. The non-exhaustive list used for this includes a further 50 companies, most of which are involved in the manufacture of cluster munitions. External managers do not have to apply the exclusion policy to unlisted investments already in the portfolio before the exclusion policy (or parts of it) came into force. Some investment instruments (index investments or ETFs) are not covered by the exclusion policy as this would prevent efficient portfolio management. In specific terms, we can guarantee that over 99% of our portfolios did not include equities or bonds of the companies on our exclusion list in 2017.

Excluded sovereign bonds

There were no changes in 2017 to the list of countries whose sovereign bonds we do not wish to hold as they are subject to an arms embargo imposed by the UN Security Council.

On 1 January 2018, the following countries were on the list: Central African Republic, Democratic Republic of Congo, Eritrea, Iran, Iraq, Libya, North Korea, Somalia, Sudan, Yemen.

We can guarantee that over 99% of our portfolios did not include equities or bonds of the companies on our exclusion list.

3 Investing in UN Sustainable Development Goals

We had sustainable investments of €55.3 billion at the end of 2017; this is almost 12% of our total assets under management. These investments contribute to the United Nations Sustainable Development Goals.

3.1 Clear arrangements on sustainability

For some years, we have been actively searching on our clients' behalf for investments that not only generate a good return but also contribute to solving social and environmental issues. In 2016 we decided to use the United Nations Sustainable Development Goals as a guideline for these investments.

Along with other asset managers, we have worked on a definition and the details of making it operational. We examined how far each of the seventeen goals is investable. We also looked at the 169 sub-goals making them up and economic activities that can be linked to them. In this way we developed 'taxonomies'[7] that we used to 'translate' the Sustainable Development Goals (SDGs) into Sustainable Development Investments (SDIs). As a result, we can work with the SDIs as an investor.

3.2 What are sustainable development investments?

We define SDIs as investments in companies with a positive influence on people and on the environment through their products and services or because they are recognised as leaders in the transition to a more sustainable economy. We are contributing to the United Nations Sustainable Development Goals by making these investments, which must also always meet our financial risk and return requirements.

From global target to sustainable investment

2015
UN adopts Sustainable Development Goals for 2030.

2016
APG, PGGM and Swedish pension funds announce the intention to use their investments to contribute to UN goals.

2017
Member of the ABP Board of Trustees José Meijer presented taxonomies at the annual meeting of the international organisation for responsible investment (PRI) in Berlin, also on behalf of APG.

2018
Taxonomies form part of recommendations by an expert group to the European Commission on improved sustainability of the financial markets.

7. A taxonomy is a grouping that can be used in biology and ICT. Our SDI taxonomies are available on: https://www.apg.nl/en/publication/SDI%20Taxonomies/918.
8. For most investments, this is based on revenue. If revenue is less relevant, we look at other indicators such as the balance sheet (for financial institutions).

To decide whether a company qualifies as an SDI, we first consider whether it makes a positive contribution to any of the UN goals. SDIs may not have an adverse impact on our own policy objectives. We also consider possible involvement in major controversies such as bribery scandals or environmental disasters.

We count 50% of the assets invested in a company where at least 10% of the activities[8] contribute to an SDG as an SDI. We count the full investment in a company which has over half of its activities contributing. If the SDG contribution of a company is below 10%, it does not count unless the company concerned is a recognised leader in the transition to a more sustainable economy. With recognised leaders, it is difficult to establish which portion of revenue contributes to an SDG. The way they structure their position as leader will emerge from the overall operations and this has an effect far beyond the company. We count 50% of our investments in these as SDIs.

3.3 A framework for SDIs

In 2017 we examined our portfolio for SDIs. We looked at the products and services that companies in each industry produce and the extent to which they fit our SDI taxonomies.

Identifying our SDIs was a labour-intensive process, during which we faced several challenges. We invest in a wide range of companies, many of which offer a range of products and services. Some companies combine a positive contribution to one SDG with a negative contribution to another. Some products have both sustainable and non-sustainable uses and there are sustainable products that will barely contribute to achieving an SDG in practice as they are not accessible to large groups, for example because of their high price.

Companies often make only limited disclosures on this type of issue, certainly at the level that we want to see. For example, the issue when considering whether we count a dairy company as contributing to the solution of the world's food problems (SDG 2) is if it makes its revenue mainly from milk or from yoghurt with a lot of added sugar. In the first case we count it as an SDI, in the second we do not as it could have an adverse effect on health (SDG 3). We do not count educational institutions if they only offer private education available to an elite. Elite education contributes to increasing the gulf between rich and poor, while the Sustainable Development Goals have been agreed to reduce differences.

In addition, assessing what is sustainable always involves a degree of subjectivity. It is also strongly dependent on social and technical developments. For example, a few years ago we would have regarded investments in low-energy lighting manufacturers as sustainable since those lamps use less energy than incandescent bulbs. LED lamps have now become rather more environmentally-friendly.

As we believe it is important that our portfolio managers and analysts can work with SDIs, our sustainability specialists have discussed these considerations with them for each industry.

As the availability of sustainability data often lags behind financial information, both in quantity and quality, our SDI calculations involve a degree of uncertainty. The methodology for identifying SDIs will be developed further in the next few years.

3.4 Difference between SDIs and HSIs

In the 2016 Responsible Investing Report, we described our sustainable investments as high sustainability investments (HSIs) rather than Sustainable Development Investments (SDIs). At the end of 2017, we had €55.3 billion of SDIs.[9]

When calculating our HSIs, we counted our entire investment in a company as an HSI if at least 25% of its revenue was generated from sustainable products or services.

With SDIs, an investment only counts in full if at least 50% of its revenue is generated sustainably. On the other hand, the revenue threshold has been reduced. Companies which generate at least 10% of their revenue from sustainable products or services are counted (at 50% of the assets we have invested in them).

HSIs were inspired by the Millennium Goals (the predecessors of the UN Sustainable Development Goals); eight goals for 2015, focused mainly on developing countries, were adopted in 2000. Although they were certainly ambitious, they had a narrower scope than the seventeen SDGs, which focus on all countries.

By converting from HSIs to SDIs, we have raised the bar for some industries, for example for sustainable real estate (see below). Energy networks, which in the past were counted by definition as HSI, now only count if they transmit sustainable energy, for example bringing wind energy generated offshore to land.

Social developments and changes in dominant value patterns have ensured that companies we did not previously classify as HSIs are now counted as SDIs, for example those offering services to combat obesity (such as affordable fitness companies) or making products that contribute to reducing the number of fatal traffic accidents (going beyond the legal requirements, for example by installing radar systems in their vehicles). We also count loans to development banks such as FMO and the African Development Bank as SDIs as they usually finance projects in disadvantaged countries and regions which other financial institutions have less interest in.

9. Expressed in HSIs, our sustainable investments were €50.2 billion at the end of 2017.

3.5 What makes up our sustainable investments?

There is a statement below of the assets we have invested in each goal plus an example of the investment. In total, we invest € 55,324 million in the SDGs.

UN goal 11: Sustainable cities and communities
Invested assets: € 24,462 million
Example: Osram Licht, Germany, manufacturer of LED lamps

24,462 million euro

UN goal 3: Good health and well-being
Invested assets: € 11,237 million
Example: Air Methods, United States, medical transport by air

11,237 million euro

UN goal 7: Affordable and clean energy[10]
Invested assets: € 8,152 million
Example: Vestas, Denmark, manufacturer of wind turbines

8,152 million euro

UN goal 9: Industry, innovation and infrastructure
Invested assets: € 4,532 million
Example: Canadian National Railway, Canada, rail operator and goods shipper in Canada and United States

4,532 million euro

UN goal 2: Zero hunger
Invested assets: € 1,843 million
Example: Chr. Hansen, Denmark, food bio-sciences

1,843 million euro

UN goal 12: Responsible consumption and production
Invested assets: € 1,168 million
Example: Avantium, Netherlands, manufacturer of bio-plastics

1,168 million euro

10. There is more information on our investments in renewable energy in the next section.

UN goal 6: Clean water and sanitation
Invested assets: € 1,119 million
Example: Beijing Enterprises Water Group, China, water purification

1,119
million euro

UN goal 4: Quality education
Invested assets: € 890 million
Example: Kroton, Brazil, secondary education tuition mainly for low income groups

890
million euro

UN goal 1: No poverty
Invested assets: € 744 million
Example: Bank Rakyat Indonesia Persero, Indonesia, micro-financing

744
million euro

UN goal 15: Life on land
Invested assets: € 617 million
Example: New Forest, forestry in Australia and New Zealand

617
million euro

UN goal 8: Decent work and economic growth
Invested assets: € 285 million
Example: African Development Bank, social bond for basic infrastructure

285
million euro

UN goal 13: Climate action
Invested assets: € 206 million
Example: 'catastrophe bonds', tradable loans to insurers to cover storm and flood risks

206
million euro

UN goal 14: Life below water
Invested assets €69 million
Example: Nederlandse Waterschapsbank, green bond for biodiversity projects

69
million euro

No investments in goals: 5. Gender equality, 10. Reduced inequalities, 16. Peace, justice and strong institutions and 17. Partnerships for the goals.

3.6 Higher standards for sustainable real estate

Most assets invested in SDIs are in the real estate class. For some years, we have been one of the three largest real estate investors in the world. We have invested €20.5 billion[11] in sustainable real estate, making a major contribution to SDG 11 (Sustainable cities and communities).

For years we have required real estate funds to have a green star rating in the annual Global Real Estate Sustainability Benchmark (GRESB) sustainability survey to be eligible as sustainable real estate (HSI). We have tightened this requirement as more funds have managed to qualify as green star in recent years.

From 2017, GRESB has supplemented the green star rating with a ranking from one to five stars. Whereas a green star was awarded to funds with a good policy and the ability to actually implement it, the new stars show how well funds rate against each other. An absolute assessment has, therefore, been supplemented by a relative one. A fund that is doing considerably better than others gets five stars, worse performers one or two. We now regard funds with four or five stars as sustainable real estate. These are among the 40% best performing funds in the GRESB survey.

3.7 More sustainable real estate on our books

The assets we have invested in funds with four or five sustainability stars is increasing, partly as a result of better scores for the Dutch Vesteda residential fund and Alexandria Real Estate, owner of scientific campuses in the United States. Assets invested in funds with one star also increased because slightly more funds started reporting.

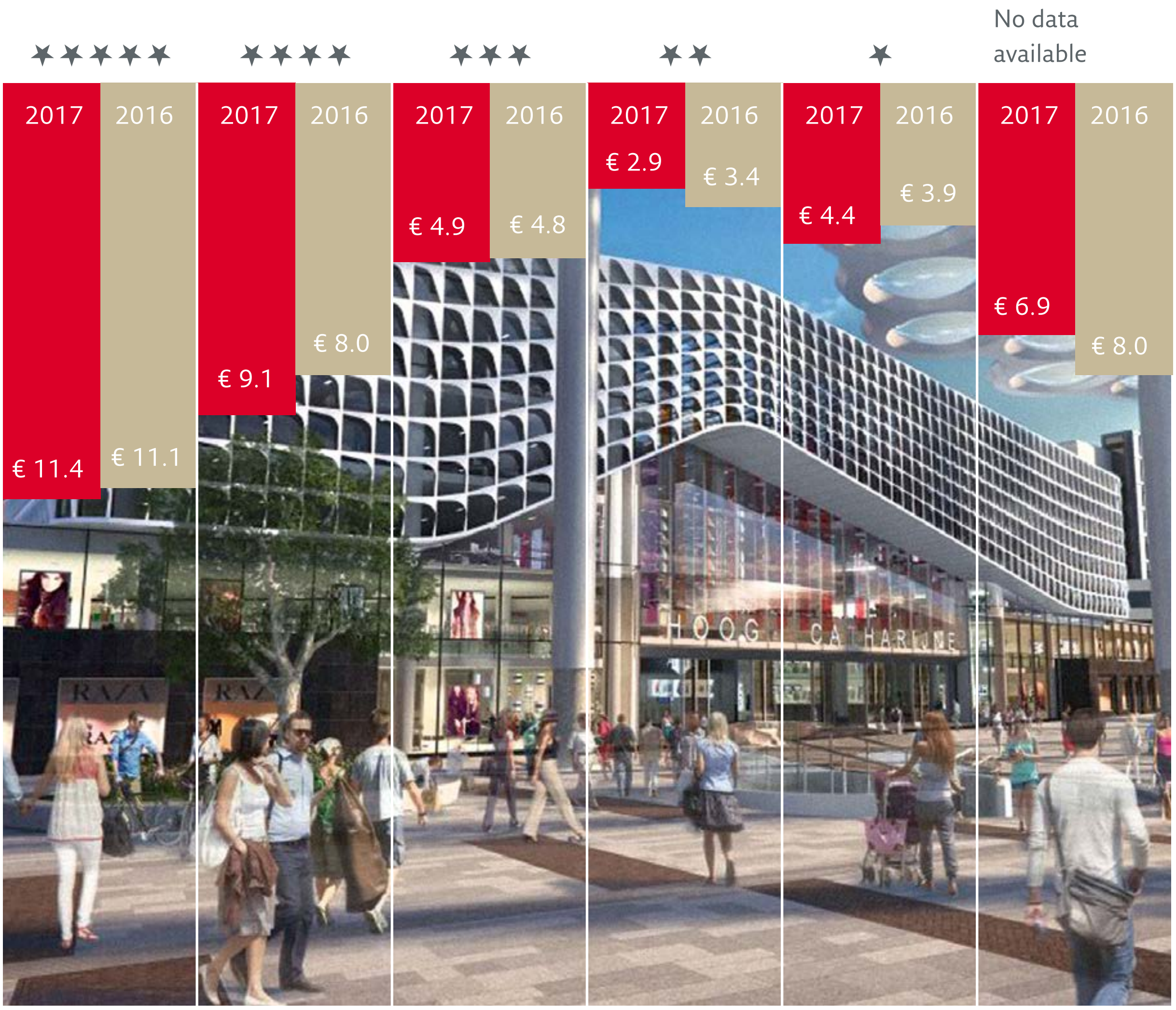
The scores of funds we invested in during 2017 are shown in the chart below. Despite our aim that all our funds report to GRESB, 18% still do not. These are mainly listed real estate funds (the 'tactical real estate portfolio'), largely funds in Asia. We have required our direct investments in real estate funds (the 'strategic portfolio') to participate in GRESB for some years. In 2017, we added a requirement: new funds must have at least a four-star rating within three years.

The assets eligible for classification as sustainable real estate under our new definition rose from €19.1[12] to €20.5 billion.

11. This figure only relates to real estate investments in the real estate building block. It does not include investments in listed real estate through the equities portfolio.
12. This is less than stated in the 2016 report mainly because the requirements for classification as sustainable real estate have been tightened. If we were still reporting on green stars, sustainable real estate would have increased from €23.6 to € 26.8 billion.

Our real estate rankings in the GRESB survey

Invested assets in billions of euros



3.8 Number of green bonds continues to increase

We are investing more in green bonds (sustainable bonds). At the end of 2017, we held 102 with a value of €4.46 billion. A year earlier there had been 59, totalling about €1.9 billion.

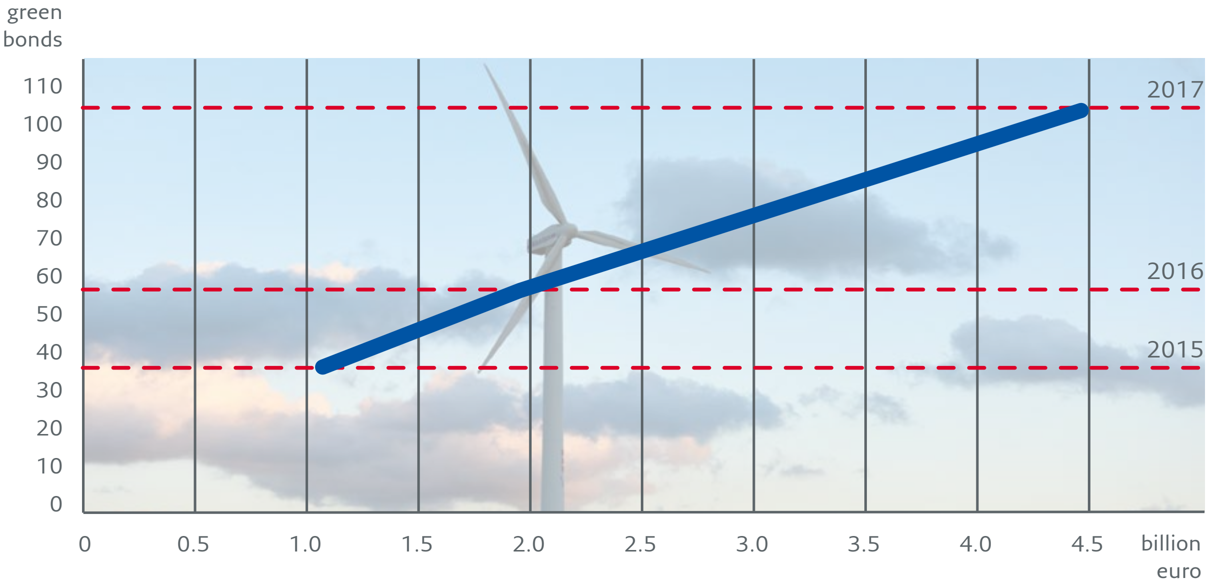
Green bonds are issued by companies and governments to finance sustainable projects, usually relating to the environment but increasingly also for social projects (these are also known as social bonds). Our green bond portfolio includes ten social bonds (totalling some €400 million) and fourteen 'sustainable bonds' (almost €500 million) used to finance social and environmental projects.

Through the bonds we added to our portfolio in 2017, we contributed to the financing of social housing in the Netherlands (€183 million through the Nederlandse Waterschapsbank), construction and maintenance of high-speed railways in Spain (€40 million through the Spanish rail infrastructure manager Adif) and the Paris metro (€18 million through the public transport authority RATP).

In 2017, we also invested about €700 million in a green bond issued by the French government which is being used to finance the expansion of the area covered by sustainable energy and in response to climate change, for example by deepening the Seine, which as a result is less likely to flood in the event of extreme rainfall. This green bond is the first issued by a eurozone government.

Through our green bonds we are contributing to several UN goals, mostly by far to 'Affordable and clean energy' (64%). We impose the same risk and return requirements on green bonds as on other bonds.

The increase in our green bond portfolio



2017: 102 green bonds worth €4.46 billion **2016** : 59 green bonds worth €1.9 billion **2015**: 38 green bonds worth €1.03 billion

3.9 Broader support for SDIs

Since the beginning, we have worked with other asset managers and pension funds when making SDGs manageable for investors. We think that it is important that where possible investors use the same definitions and give them the same significance. This makes it easier for stakeholders to compare and judge our performance. Companies can respond better to what we and other investors expect of them. In this way, we can guide their conduct in a direction that contributes to solving big social issues and environmental problems.

We have explained our approach to meetings of the European Pension Fund Investment Forum in Zeist and Oxford and at the annual meeting of the French knowledge centre on sustainable investing, Novetic, in Paris.

We also emphasise to companies the importance of and opportunities offered by the UN Sustainable Development Goals. Our taxonomies have been adopted by National Australia Bank, which uses them in its framework for green and social bonds. We have asked the Finnish real estate company Citycon Oyj (owner of some 50 shopping centres in Scandinavia and the Baltic states) to make a clear link with the SDIs in its sustainability strategy. After we spoke to the Danish bioscience company Chr. Hansen, it published a report[13] on how it is contributing to the Sustainable Development Goals and the proportion of its revenue that is sustainable. So far as we know, Chr. Hansen is the first company in the world to publish audited information on the revenue contribution to SDGs. This shows that companies can measure and publish their contribution to the SDGs.

Our taxonomies have been adopted by National Australia Bank, which uses them in its framework for green and social bonds.

13. www.chr-hansen.com/en/sustainability/our-contribution-to-the-un-global-goals

4 Human and labour rights

Human rights have a significant role in the UN Global Compact, which underlies our approach to responsible investment. Companies must respect them, may not be complicit in breaching them and prevent their activities contributing to breaches of them. Labour rights are also a significant theme in the UN Global Compact.

We have agreed specific targets for what we want to have achieved on this by 2020. We want the companies we invest in to:

- publish a human rights policy (ICT and energy)
- work actively to eradicate child labour from their production chains (cocoa and cobalt)
- ensure safe working conditions throughout the production chain (clothing and textiles)
- publish a policy for safe working conditions throughout the chain (shipbuilders)
- report annually to GRESB Infra on safety, health and the environment (at least half of our infrastructure investments)

We also respond to incidents affecting individual portfolio investments, but our wish is to anticipate issues and themes that can play a major role in entire sectors in good time. In 2017, we focused our targets further, as explained below for each theme. With all themes, we believe it is important that companies sign up to initiatives in their sector that are set up to prevent and tackle abuses.

4.1 Human rights benchmark

Along with other large investors, we have written to companies in the new human rights benchmark launched in early 2017 in London. This Corporate Human Rights Benchmark (CHRB), which we jointly founded, compares the human rights performance of almost 100 large companies in three different industries (energy, agriculture and clothing). We have asked these companies if they have discussed their ranking in the benchmark internally and what they are doing to improve it in the next benchmark survey that will be published in the second half of 2018. We also use information from the benchmark in our own engagements with companies in the clothing and textiles and commodities sectors (see below). We organised meetings for investors and companies at our offices in New York and Hong Kong to draw additional attention on the benchmark and wrote an article for the professional magazine De Actuaris to enhance knowledge of the benchmark within the Dutch pension industry.

4.2 Child labour in the cocoa industry

We have made clear to the large companies in the cocoa and chocolate industry how we expect them to combat child labour on plantations. They have to call publicly for the eradication of child labour, structure their organisation to detect child labour, report on what they are doing to protect children and produce more of their cocoa in a sustainable way. We also want them to pay attention to the role that education can play in combatting child labour. We believe it is important that they choose solutions that are best suited to specific situations.

Child labour has been a major problem for years in the cocoa industry in West Africa, which is the source of 70% of all cocoa. Farmers work in small businesses: many smaller than one hectare. Low revenues mean they cannot hire paid labourers and often have to call on children, often their own.

Cocoa companies have been busy combatting child labour for some time. In 2015 a number of them joined CocoaAction, which tries to tackle the problem at source, looking at how farmers' productivity can be improved and how local communities can be strengthened.

Various companies have now taken steps in line with our wishes. In Ivory Coast (which, along with Ghana, is the largest cocoa producer in the world), food company Nestlé has arrangements to identify and tackle child labour which cover over 48,000 farmers. Mondelez has set up similar arrangements in 96 communities. Cocoa supplier Barry Callebaut has announced that it wants to eradicate child labour from the entire chain by 2025. Hershey's aim is to buy only certified cocoa by 2020. Nevertheless there is a long way to go. The current efforts must be scaled up to have greater scope. In our contacts with companies, we will encourage them to take further steps.

4.3 Child labour in cobalt mining

While combatting child labour in the cocoa industry has had attention for some time, it is a relatively new theme in cobalt mining. This is partly because cobalt is a raw material for which demand has grown strongly in recent years. It is an essential component of rechargeable lithium batteries for mobile phones, electric cars etc.

In 2016, we raised this theme with thirteen large electronics, motor and battery manufacturers, partly as a result of a report by Amnesty International on children working in cobalt mines in Congo (which is the source of 60% of cobalt). We did this with some twenty other large investors and through the association of large electronics companies (Electronic Industry Citizenship Coalition/Responsible Business Alliance), the Chinese Chamber of Commerce and the industry's Responsible Cobalt Initiative (RCI) for sustainable cobalt mining. Through the international organisation for responsible investment (PRI) we assisted in drawing up a questionnaire in 2017 that investors can use if they want to work with the companies they invest in to combat child labour in cobalt mining. This puts increasing pressure on them.

In 2017, electronics company Apple and battery manufacturer Samsung SDI issued a report on how they want to get a better picture of the mining of the cobalt that they use and their policy if they discover child labour. Technology company HP, computer company Microsoft and the Korean chemical company LG Chemicals publish the way they monitor the mining of their cobalt. We regard these as good first steps in examining the cobalt supply chain. We also want companies to agree the measures they will take if they discover child labour. In 2018, we and other investors will urge greater action. A report published by Amnesty International at the end of 2017 showed that this is necessary: the companies' efforts have as yet delivered few obvious improvements.

4.4 Safe clothing and textiles production

Clothing purchaser Li & Fung published a statement of progress it has made in improving working conditions at the 15,000 or so companies where its clothing is made. The company has considerably tightened its sustainability ambitions in its plans for the next three years. We are urging Li & Fung to publish a list of its suppliers.

It is important that clothing companies are open about where they make their products. This would show they have a picture of the conditions in which production takes place. It also makes it easier for civil-society organisations to raise poor working conditions that they discover so that they can be tackled better.

We expect all clothing companies we invest in to have a safe working policy, not only for themselves but also for their suppliers. We define this specifically as including tackling incidents and investigating the consequences of their policy and publishing lists of suppliers. Seven companies we contacted have now published a list of suppliers. One of these is Hanesbrands, which supplies underwear to large American supermarkets and obtains its products from companies it controls which are audited each year.

4.5 Safe working conditions in shipbuilding

The Korean shipbuilder Samsung Heavy Industry has tightened its health and safety policy. The ‘roadmap to safety’ it published in August 2017 sets out long- and short-term improvements it will introduce. A few months earlier, there had been a serious accident with a crane at a Samsung yard in the South Korean town of Geoje that killed six people and injured about twenty others. We then urged improvements in talks with the company.

Shipbuilding is an industry with relatively many fatal accidents. We want to reduce that figure markedly and so we are asking the shipbuilders we invest in to state clearly that they regard this as important, that they have a sound policy, that they are open about their performance and take part in industry-wide initiatives to improve safety.

We did not give priority to this theme in 2017. Shipbuilding is an industry that has been in difficulties for some time. Our experience is that companies doing everything to avoid bankruptcy are not open to dialogue with us.

4.6 Human rights in extractive industries

We wrote to 29 commodities extraction companies at the end of 2017 (and early 2018) about the way they deal with human rights. These are mainly oil, gas and mining companies operating largely in emerging markets where governments often do not properly supervise companies' compliance with human rights. Where possible, our questions to these companies are in line with the elements of the new human rights benchmark where they are lagging behind and we encourage them to improve their performance. This project is also a way for us to reduce the risks we face from these investments. When companies have their policy and procedures in order, there is less chance of fines, penalties and reputational damage as a result of breaches of human rights by their own employees or companies they do business with.

4.7 Human rights in the ICT industry

In 2017, we made further arrangements on engaging with companies in information and communication technology on human rights and on which companies we would approach. ICT companies hold a lot of personal information on their customers. If they use it inappropriately, this can lead to breaches of human rights such as the right to privacy, freedom of expression and protection against discrimination. We want the directors of these companies to be aware of and attend to this, have a policy on protecting digital rights, be open about what they do and along with other companies search for the best ways to protect these rights. In early 2018, we approached the first companies on this.

4.8 Greater attention to land rights

Serious breaches of human rights are regularly associated with disputes about land rights. To give investors a better view of the risks in investments in land and land-related activities, on our initiative a guide has been drawn up on the regulations in twelve different countries and organisations dealing with land rights in them. The Reference Guide for Risk Assessment in relation to Land, which was published at the end of 2017, was prepared by the Dutch Ministry of Foreign Affairs. Asset manager Actiam, development bank FMO, Rabobank, the University of Utrecht and civil-society organisations Both Ends and Oxfam Novib were also involved in its preparation.

4.9 Safe working conditions in infrastructure

In order to assess whether our infrastructure investments pay sufficient attention to health and safety and the environment, our goal is that by 2020 at least 50% will take part in the annual GRESB Infra survey. GRESB Infra, which we and others founded two years ago, compares the performance of infrastructure investments at the level of the funds and of individual investments in them such as toll roads, school buildings, airports and wind and solar farms. 68% of our funds and 40% of the individual investments (calculated by assets invested) took part in this survey in 2017. These percentages are roughly the same as in 2016.

Celeo Redes, which owns almost 5,000 kilometres of high-voltage networks in Latin America, tightened its safety procedures following a fatal accident in Brazil when an employee died while clearing undergrowth beneath cables. The company, about half of whose shares we own, also organised additional safety training.

4.10 No pharmaceuticals for use in executions

Pharmaceutical company Mylan has taken steps to prevent its muscle relaxants being used in executions in the United States. We have urged these measures since it became known in 2014 that Mylan's rocuronium bromide was being used in executions. As the company did not initially respond satisfactorily, at the time we sold our shares and bonds. Mylan now has a sound distribution policy for this type of product, and so we can again invest in the company. Another pharmaceutical company, Pfizer, spoke publicly in 2017 against the use of its products in executions after we had urged this. It also implemented better processes to prevent its distributors supplying prisons that carry out executions. One distributor started legal proceedings to recover a product already delivered. This had only temporary success.

4.11 Labour market disadvantage

We decided to invest about €40 million in a new fund of Avedon, a Dutch private equity firm. In 2017 this financed the merger of three companies working with underground waste containers. The group (BWaste, Bronij and Ferro-Fix) manufactures and maintains waste containers and provides technology to reduce collections. The containers are made, alongside bike racks, waste bins and other street furniture, at Ferro-Fix, which emerged from the former sheltered employment organisation of the municipality of Rotterdam. Over 80% of the staff, almost 100 employees placed there by the municipality of Rotterdam under the Sheltered Employment Act, have difficulty entering the job market. They are trained internally as fully qualified metal workers. Ferro-Fix is working with various sheltered employment organisations in the Netherlands to roll out this concept (social steel) further.

We put the Indian company Virtuous Retail South Asia (retail centres) in contact with Lemon Tree, a chain of hotels to the fore in employing people with special needs and disabilities. VRSA has identified jobs that can be performed by employees with special needs at its retail centre in Bangalore and is starting a pilot scheme in 2018. We have invested some €200 million in VRSA, which runs three centres and wants to double this in the next few years.

5 Climate and environment

We expect our portfolio companies to have a good understanding of the environmental risks they face and an established policy on how to deal with them. Climate change is the most important topic.

5.1 Reporting on climate risks

Attention for the risks that climate change can involve moved higher up the social agenda in 2017. We fully support the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD) in mid-2017. The TCFD, led by the former mayor of New York Michael Bloomberg, recommended that companies should report clearly on how they take account of the risks and opportunities arising from climate change in their operations. It also presented a framework that companies can use so that investors have a better picture of what they are doing. We are asking companies we invest in to use this framework and are using it ourselves in this report (annex 2).

5.2 Working with scenarios

The message in *Waterproof? An exploration of climate-related risks for the Dutch financial sector*, a report by De Nederlandsche Bank, was also that financial institutions should take more account of climate change and the measures that governments are taking on combatting climate change. In the report, DNB concluded that Dutch pension funds were on the right path and often already had a good view of their holdings in companies with high CO_2 emissions. They could, however, get a better view of the risks and opportunities by working more with scenarios. In 2014, we were already working with such scenarios. We will take further steps in this area in 2018.

5.3 Good ranking at AODP

For some years, the Asset Owners Disclosure Project (AODP) has been identifying the way some 500 pension funds, foundations and other large asset owners monitor the opportunities and risks from climate change. We came top of the list of the 50 largest asset managers in the world that was included in the AODP overview for the first time in 2017.

In October, the pension news site Investment Pension Europe (IPE) presented us with an award for the way we manage the risks associated with climate change.

5.4 Our CO_2 footprint is getting smaller

The CO_2 footprint of our equities portfolio fell by 27.5%. This footprint is our share of the emissions of companies for which we are responsible given the percentage of our shareholding (see box How we calculate our CO_2 footprint). We have agreed that the footprint must be 25% lower in 2020 than in 2014. To achieve this, in 2016 our equities investment teams were given targets for the first time for the maximum amount of CO_2 that the companies in their part of the portfolio could emit. By reducing this CO_2 ceiling each year, we are working gradually towards the target for 2020.

The fall in 2017 means our footprint is already below our target for 2020. This fall was mainly in certain CO_2-intensive industries like utilities and commodities (such as cement) where conditions and market prospects were less favourable in 2017. Instead of these industries, we were investing more in the financial and ICT sectors, which emit significantly less CO_2. This also means that the footprint in the coming period may increase again slightly if that is necessary to achieve good returns. Our target for 2020, therefore, remains in place.

5.5 Sharing the approach with other investors

The way we measure the CO_2 footprint of our investments is also set out in a report we wrote with eleven other Dutch financial institutions. The report has been published[14] and was presented to the Dutch climate envoy Marcel Beukeboom at the climate summit in Paris.

How we calculate our CO_2 footprint

To determine our footprint, we calculate how much of the CO_2 emissions of each listed company in our portfolio is attributable to us in relation to the percentage of shares we own. We look at the CO_2 the companies emit themselves and the CO_2 emitted in the production of the energy they purchase (scope 1 and 2 emissions). We use industry averages for the companies for which our data supplier has no information (about 3% of our portfolio by value) and so the CO_2 footprint should be seen as a best estimate. The methodology is being continually refined. Our footprint for 2014 was based on emissions figures available at 30 September 2014 and our equities portfolio at 31 March 2015. As this figure is the reference point for our target of a reduction of at least 25% by 2020, we use the same dates for the other years.

The CO_2 footprint per invested euro is based on the prices of investments in 2015. This avoids sharp fluctuations in share prices affecting the relative CO_2 footprint. We also adjust for the allocation to the portfolios in developed and emerging economies between 2015 and now. The result is that the reductions shown arise only from the decisions of our investors and the reductions in the CO_2 emissions of the companies we invest in.

14. http://carbonaccountingfinancials.com/

5.6 Increasing investment in renewable energy

Our investments in renewable energy increased considerably (up 48%). At the end of 2017 we had invested €4.8 billion compared with €3.2 billion at the end of 2016. The increase was partly as a result of our investment of over €300 million in two new wind farms in a thinly populated part of Sweden. When completed, they will generate enough energy to supply some 300,000 households.

We are also investing almost €320 million in three solar farms in the United States: the Moapa solar farm in Nevada that came on line at the end of 2016, and in California a new farm in San Luis Obispo (California Flats) and one being expanded (Mount Signal 3). These farms will shortly provide 370,000 households with energy.

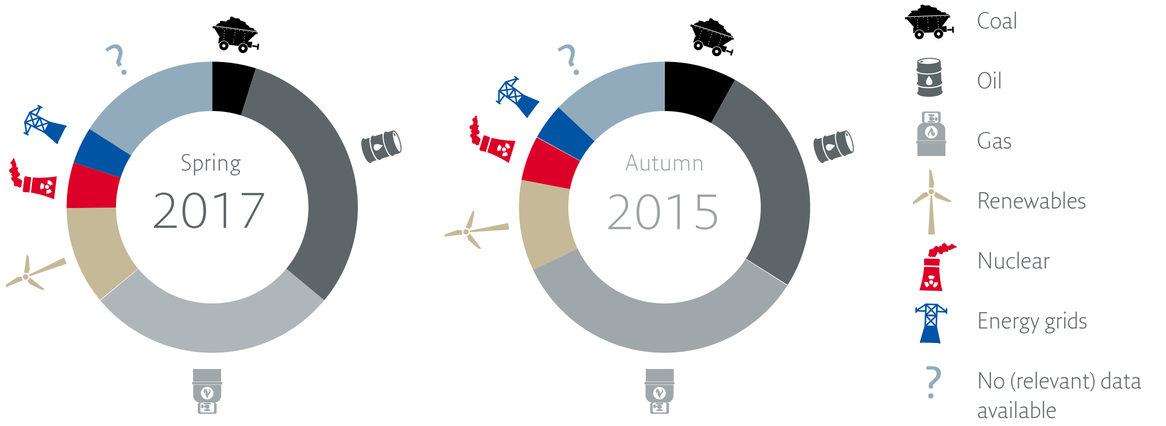
The increase in our investments in renewable energy is because we are investing more in green bonds (see page 23).

5.7 More renewable, less coal

An analysis of our entire energy portfolio in early 2017 showed the share of renewables had grown 1% compared with the previous analysis in the second half of 2015. Our total investment in the energy sector in 2017 was €30.2 billion (7.4% of our total invested assets). The share invested in coal fell from 8% to 5%. We cannot allocate just over one seventh of our energy portfolio to an energy carrier as no relevant data are available. Some companies still do not report on how they generate their energy or report in a way that is not comparable with the figures we receive from our main data supplier in this area.

	2017	2015
Coal	5%	8%
Oil	31%	26%
Gas	28%	34%
Renewables	11%	10%
Nuclear	5%	5%
Energy grids	4%	4%
No (relevant) data available	16%	13%

Our energy investments



5.8 Companies move under pressure from shareholders

The plans that oil and gas company Shell has presented to halve its CO_2 footprint by 2050, with a reduction of 20% by 2030, are a step in the right direction. It is good that Shell is not looking just at its own emissions but also at those of suppliers and clients. Shell aims to assess every five years whether its ambition still fits the aim of the Paris climate agreement to keep the rise in global temperatures to less than two degrees.

Three years ago we and other shareholders urged Shell to report the consequences of climate change on it operations each year. A resolution we had drawn up on this was adopted without a vote by Shell's Board.

In recent years, we (working with Aiming for A) have put similar resolutions to the vote at numerous mining and oil and gas companies. After companies such as BP and Total had moved to report on the climate in this way, the American company ExxonMobil was prompted to do so in 2017 when a proposal we jointly submitted received 62% of the votes. Thanks in part to our vote, a similar proposal at another American company Occidental Petroleum received a clear majority (67%). Mining company Rio Tinto, which last year saw a majority of shareholders support our proposal, issued its first climate report in 2017.

We are not focusing only on the commodities and energy industries, we also voted for reducing energy consumption and CO_2 emissions at the shareholders' meeting of the American company Michael Kors (fashion, accessories and perfumes). The motion was rejected but received 40% support, a relatively high percentage for a shareholders' proposal.

We supported a large majority (81%) of the resolution on climate change that were submitted by shareholders in 2017 (43 in total).

5.9 Joint approach to large emitters

Along with some 220 other large investors, in the coming years we will approach the 100 companies which are responsible for the most CO_2 emissions globally. We are not just looking at their own emissions but also at those of their suppliers and clients. The aim is to get the 100 to make a large reduction. We are doing this within Climate Action 100+, which was presented on the second anniversary of the global climate agreement entered into in 2015 in Paris. The investors in Climate Action 100+ between them manage $26 trillion (12 zeros). This is the largest alliance we have ever taken part in.

Five years ago we were among the first asset managers to measure the CO_2 footprint of their equities portfolios. The figures published in our 2013, 2014 and 2015 reports were calculated once a year. During 2016 we developed a data system giving portfolio managers day-to-day insight into their share of CO_2 emissions of the companies they invest in so that they can incorporate the impact on CO_2 reduction in their investment decisions.

6 Corporate governance

Well-managed companies deliver more in the long term both for the shareholders and for society as a whole. In view of this, we put a lot of energy into corporate governance.

We do this through direct engagement with the companies we invest in and by using our rights as a shareholder. In 2017, we voted on over 4,300 shareholders' meetings around the world.

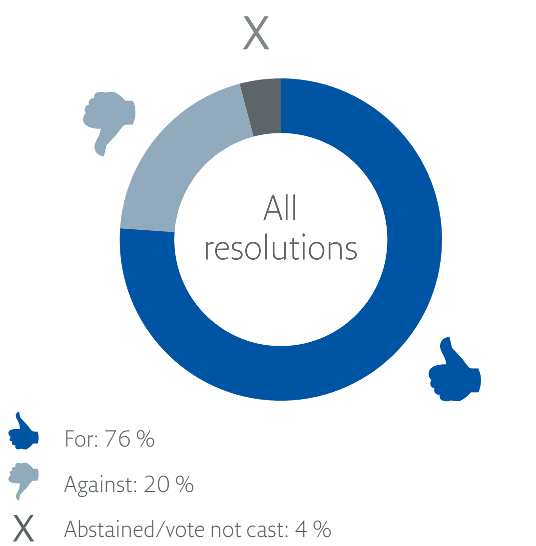
6.1 Voting on directors

Overall we voted on the election or re-election of over 18,000 directors at about 2,500 shareholders' meetings in 2017, supporting 72% of the nominations. We voted against 22% of the candidates.

In 2016 we voted for about 85% of the nominations (and against 11%). The percentage was much lower in 2017 mainly because we are setting higher standards on directors' independence in Japan. We believe it is important that companies have enough directors who can act independently of the CEO and a possible majority shareholder. In most markets, our standard is that at least half the board should be independent. If this is not the case, we vote by definition against candidates we do not regard as independent. In Japan, for years we set a minimum of two independent members for each board. Last year, we raised the standard to a minimum of one third of the board members. This led to us voting against 53% of about 4,300 directors standing in Japan in 2017. In 2016, we voted against 5%.

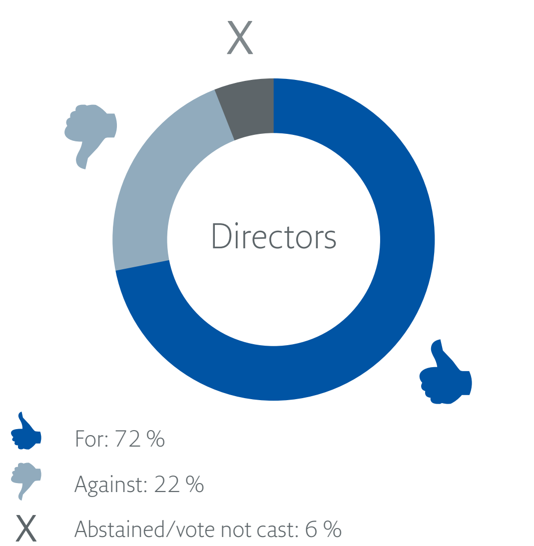
How we voted

47,000 resolutions



How we voted

18,000 directors



6.2 Board renewal

At Heineken we voted against the reappointment of Maarten Das to the Supervisory Board. Mr Das has been a supervisory director since 1994. The Dutch Corporate Governance Code states that a supervisory director must stand down after 12 years and Heineken has departed from this without explanation. By voting against, we wanted to issue a public signal. It was clear in advance that this would have no real effect since Mr Das was supported by the Heineken family, which controls a majority of the shares.

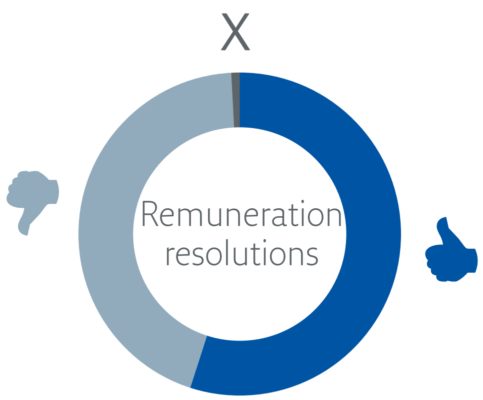
A large Asian mortgage provider announced that it would gradually reinvigorate its board after we had pointed out that the ages of the non-executive directors formed a risk for the continuity of the business. Only one of the seven was younger than seventy.

6.3 Directors with no clear function

We asked about thirty large Japanese companies if they employed former directors who no longer have a clear function. It is customary in Japan for CEOs and board chairmen to remain employed after they have resigned their position. Sometimes known as 'zombie CEOs', they generally receive a salary but have no formal position. Thanks to their experience and knowledge, they often still exercise powerful influence over the company. As an investor, we think it is undesirable that they interfere with day-to-day decision-making, which as a result is not transparent. Half of the companies confirmed that indeed they do employ such former directors. In this way we have put this matter on their agenda.

How we voted

1,600 remuneration resolutions



For: 55 %

Against: 44 %

X Abstained/vote not cast: 1 %

6.4 Sound remuneration policy

In 2017, we voted on some 1,600 remuneration resolutions at about 1,500 shareholders' meetings, voting in favour of 55% and against 44%. In 2016, we voted in favour of 52% of the resolutions and against 47%. The slight increase in the percentage in favour is in line with a trend that started last year when, for the first time in many years, we voted more often in favour than against remuneration resolutions. As we have not changed our voting policy, this seems to be a consequence of better policy at the companies we invest in.

Resolutions linking pay to challenging performance that makes a sufficient contribution to the strategic long-term targets of a company could generally rely on our support. The main reasons for voting against were excessively generous severance packages, inadequate links between pay and performance and opaque schemes.

6.5 Remuneration at Unilever and Philips

We voted against the remuneration policy at Unilever. Our main objection related to the ability to award a new CEO a sign-on bonus of almost five times annual salary. A majority of almost 98% voted in favour of the proposal, however.
Philips decided against putting a proposal to increase the remuneration of the supervisory directors on the agenda of the shareholders' meeting after we had expressed an objection. The proposed increase was disproportionate to the complexity of the company. Furthermore, the supervisory directors' remuneration had already been increased a year earlier.

6.6 No blocks of shares as basic remuneration

We ensured that the long-term performance-linked remuneration for management at one of our largest investments was not replaced by guaranteed blocks of shares. At our request, a proposal on this was not submitted to the shareholders' meeting. More and more companies find agreements on the arrangements for remuneration of directors to be too complicated and instead are granting blocks of shares which can be cashed in after a set period. We fear that in practice these 'restricted stock plans' would often become a salary increase for management without there being specific underlying performance. As we are an active investor that examines the challenges facing the management of companies, we believe it is important that remuneration is based on how managers handle these challenges.

6.7 Greater attention to shareholders in Asia

In several Asian countries, it is not customary for shareholders to discuss the course of the business with directors. Investors with concerns about, for example, sustainability or financial performance find it difficult to be heard.

Consequently, for years we have been involved in drawing up and promoting 'stewardship' codes on how shareholders in listed companies should conduct themselves. In South Korea, where such a code has been in force since early 2017, we organised a meeting for investors and regulators to make the code better known. We have urged various companies to improve the structure of their boards and give more attention to minority shareholders.

We have asked Baidu, which owns the most widely used internet browser in China, to call a shareholders' meeting. Baidu, which is formally established in the Cayman Islands and listed on the American Nasdaq exchange, has not held an annual shareholders' meeting since 2006. Nor did it do so in 2017. We will continue to work on this.

6.8 More influence over American real estate companies

Five real estate companies in the US have announced that they will amend their articles of association if a majority of their shareholders want this. They are among the eighteen companies registered in Maryland that we approached with a request to grant this right, which shareholders elsewhere in the US already have, to their shareholders. Articles of association are important to us as they set out how our rights as a shareholder are governed.

6.9 Acquisition plans at Unilever and AkzoNobel

Further to the leaked plans of American food company Kraft Heinz to bid for the Anglo-Dutch company Unilever, we spoke to both companies. At Unilever we expressed our admiration for the shareholder value the company has created in recent years and its strong focus on sustainability. We also stated that as a shareholder we would like to see Unilever maintain this line and not take panic measures for the short term that could endanger long-term value creation.

Further to the bid by American paint and coatings company PPG for AkzoNobel, we also spoke to both parties. In talks with AkzoNobel we urged a careful analysis of the consequences of the various scenarios for the various stakeholders in the company.

6.10 No additional protection against acquisitions

Like our interest group Eumedion, we spoke against the plans of the then minister of Economic Affairs, Henk Kamp, to give Dutch listed companies more protection against hostile acquisitions. He wanted to give directors of these companies the right to consider a bid for up to a year during which time the shareholders would be unable to request an extraordinary shareholders' meeting or propose dismissing the directors or supervisory directors. We objected to this because there are already plenty of protective constructions and shareholders could in this way be silenced. Additional legislation is, therefore, not necessary and Dutch companies could become less attractive as investments.

6.11 Engagement for returns

If a company in which we invest has structured its board properly, this can have a positive effect on our returns. Various engagements on corporate governance, therefore, arise from our assessment that a company is performing below its abilities.

In 2017, seriously disappointing financial results prompted us (along with Robeco) to propose an independent director at the shareholders' meeting of the Korean steel company Posco. We have again proposed our candidate, who was not elected, for the meeting to be held in 2018.

The price of Procter & Gamble shares went up when Nelson Peltz, owner of the activist investor Trian Partners, was elected to the board. Mr Peltz was not supported by the board but received about half of the votes at the shareholders' meeting, including ours. Although the result of the voting was not confirmed, Procter & Gamble decided to take Mr Peltz on as a director. At the date of the voting on the board, we held about 0.2% of the shares.

7 Sustainability of the financial markets

We want to contribute to the further sustainability of financial markets by sharing our insights and experience. This will also help us operate more effectively as a responsible investor.

7.1 Advice to the European Commission

We responded favourably to the provisional recommendations by an expert group to the European Commission on improved sustainability of the financial markets. Higher standards need to be placed on the sustainability knowledge of directors of pension funds, insurance companies and banks. They should also have a better idea of the wishes of their participants and clients. The Commission had asked the High-Level Expert Group on Sustainable Finance (HLEG) to prepare Europe-wide proposals to ensure that the financial system is less sensitive to shocks and that more money is available for sustainable investment. The final report of the HLEG, which includes our head of sustainability and corporate governance, appeared in early 2018.

7.2 Reliable sustainability information

How can the quality of non-financial information in annual reports be improved and how can that information be better audited? At our request, the Public Company Accounting Oversight Board will examine these questions. The PCAOB is the body in the United States that supervises the quality of financial reporting by listed companies. It is important for us as an investor that their sustainability information is reliable. Until recently, sustainability was not on the PCAOB's agenda. One of our sustainability and corporate governance specialists has been an adviser to the PCAOB since 2017.

7.3 Equal rights of shareholders

We lodged an objection against plans by the Singapore stock exchange to implement a 'dual share structure' under which companies may issue shares with different voting rights. The dual share structure was introduced by the American government in the 1980s to protect companies in the US against hostile takeovers. In recent years, it has been used mainly by tech companies, not only in the US but increasingly in Asia. For us it is a point of principle that shareholders are treated equally on the 'one share, one vote' principle. The Hong Kong stock exchange, which in 2015 considered making a dual structure possible, presented a new proposal in 2017 which we have also spoken against.

7.4 Sustainability training for pension board members

Seventeen directors and managers of banks, insurance companies, pension funds and pension administrators took part in a new three-day training programme on sustainable financing. The programme was developed by Nyenrode Business University and the Sustainable Financing Platform of the Nederlandsche Bank, in which we participate with ABN AMRO, Achmea, AEGON, MN and the Groene Brein. We are still examining how parts of this programme can be used in other courses. Nyenrode is working on a follow-up programme that will be offered in 2018.

7.5 Sustainability in private equity

The way investors can best embed attention for sustainability and responsible business practices in the contracts they enter into with private equity managers is the subject of a brochure[15] we developed with the Principles for Responsible Investment (PRI). Since investors often have a long relationship with the managers of the funds they invest in, it is important to make good arrangements on this at an early stage. Far from every investor does this.

One of our responsible investment and corporate governance specialists is chair of Invest Europe, an association representing private equity managers in Europe. We believe it is a significant signal that this organisation has chosen a sustainability specialist as its figurehead.

At a meeting of hedge fund managers organised by PRI in New York, one of our responsible investment specialists made plain that funds that mainly use quantitative strategies can also increasingly use better sustainability information to improve their returns. This is in part because of the large scale of information (big data) available and artificial intelligence.

15. Incorporating Responsible Investment Requirements Into Private Equity Fund Terms.

8 Outlook for 2018 and later years

During 2018, we will continue our assessment of companies' responsible business practices that is required to implement our inclusion policy. By the end of the year we expect to have identified the leaders and laggards in all industries. This will allow us to select leaders and companies with the potential to improve via engagement (the 'improvement potentials'). By 2020 we expect to be ready with the phased implementation of this policy in our investment process.

Annex 1

Companies with which APG was in contact on sustainability and corporate governance

During 2017, our sustainable investment and corporate governance specialists engaged with 322 companies on sustainability and governance. The type of subjects discussed are set out below. More than one subject was discussed at some companies. The country abbreviations are shown at the end of the list.

Subjects and companies

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
322 companies		223	4	59	33	9	20	58
ABB Ltd	CH	+						
ABN AMRO Group NV	NL	+		+				
Acadia Realty Trust	US	+						
adidas AG	DE				+			
Aditya Birla Nuvo Ltd	IN	+						
AGNC Investment Corp	US	+						
AIMS AMP Capital Industrial REIT	SG	+		+				
Air Liquide SA	FR							+
Akzo Nobel NV	NL	+						
Alexandria Real Estate Equities Inc	US	+		+				
Alfa Laval AB	SE	+						
Alrosa PJSC	RU				+			
Amazon.com Inc	US							+
American Electric Power Co Inc	US			+				
Amgen Inc	US	+						
AMMB Holdings Bhd	MY	+						
Amphenol Corp	US	+						
Anglo American PLC	GB				+			
Anheuser-Busch InBev Worldwide Inc	BE							+
Apache Corp	US	+						
Apple Inc	US				+	+		
Arcadis NV	NL							+
ArcelorMittal	FR							+
ARMOUR Residential REIT Inc	US	+						
ASML Holding NV	NL	+						
Assa Abloy AB	SE	+						
Astra Agro Lestari Tbk PT	ID			+				

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
Atlas Copco AB	SE	+						
Automatic Data Processing Inc	US	+						
AvalonBay Communities Inc	US	+		+				
Avantium N.V.	NL							+
Axis Bank Ltd	IN	+						
Ayala Corp	PH							+
Ball Corp	US	+						
Banco Santander SA	ES	+						
Bank of America Corp	US	+						+
Bank of East Asia Ltd/The	HK	+						
Barry Callebaut AG	CH					+		
Baxter International Inc	US	+						
BBA Aviation PLC	GB	+						
Boliden AB	SE	+						
Boston Properties Inc	US	+		+				
BP PLC	GB			+				+
Britvic PLC	GB	+						
Brixmor Property Group Inc	US	+		+				
Bunzl PLC	GB	+						
Bure Equity AB	SE	+						
Cardinal Health Inc	US				+			
Care Capital Properties Inc	US	+		+				
Cenovus Energy Inc	CA							+
Centrica PLC	GB							+
Cheil Worldwide Inc	KR	+						
China Resources Land Ltd	CN	+		+				
Chipotle Mexican Grill Inc	US	+						
Chocoladefabriken Lindt & Spruengli AG	CH					+		
Chr Hansen Holding A/S	DK	+						+
Cie Financiere Richemont SA	CH	+						
Citigroup Inc	US				+			
Clariant AG	CH	+						+
Coca-Cola Co/The	US							+
Comcast Corp	US	+						
ConocoPhillips	US	+						
Consolidated Edison Inc	US	+						
CoreCivic Inc	US	+						
CorEnergy Infrastructure Trust Inc	US	+						
Costco Wholesale Corp	US						+	
Country Garden Holdings Co Ltd	CN	+						
Credit Suisse Group AG	CH	+						
Cummins Inc	US	+						
Daimler AG	DE				+			
Danone SA	FR							+

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
DBS Group Holdings Ltd	SG	+						
DCT Industrial Trust Inc	US	+		+				
De' Longhi SpA	IT	+						
DENTSPLY SIRONA Inc	US	+						
Digital Realty Trust Inc	US	+		+				
Direct Line Insurance Group PLC	GB	+						
Duke Energy Corp	US			+				
Duke Realty Corp	US	+		+				
East Japan Railway Co	JP	+						
Elementis PLC	GB	+						
Enbridge Inc	CA				+			
Enel SpA	IT				+			+
Energy Transfer Partners LP	US				+			
Engie SA	FR	+						+
Eni SpA	IT	+						
Entergy Corp	US	+						
Enterprise Products Partners LP	US				+			
Equity LifeStyle Properties Inc	US	+		+				
Equity One Inc	US	+		+				
Equity Residential	US	+		+				
Essex Property Trust Inc	US	+						
Extra Space Storage Inc	US	+						
Exxon Mobil Corp	US	+		+	+			
Fast Retailing Co Ltd	JP							+
Fastighets AB Balder	SE	+						
FinecoBank Banca Fineco SpA	IT	+						
First Resources Ltd	SG			+				
FirstEnergy Corp	US			+				
Fomento Economico Mexicano SAB de CV	MX							+
Fonciere Des Regions	FR	+						
Foot Locker Inc	US						+	
ForFarmers NV	NL	+						
Fortum OYJ	FI	+						
Gap Inc/The	US						+	
Gazprom PJSC	RU			+	+			
Gecina SA	FR	+						
General Electric Co	US	+		+				
Gerresheimer AG	DE							+
Getlink SE	FR							+
Glencore PLC	GB						+	
GN Store Nord A/S	DK	+						
Golden Agri-Resources Ltd	SG			+				
Goldman Sachs Group Inc/The	US	+						
Goodman Group	AU	+						

	Country	Corporate governance	Corruption	Environment	Human rights	Child labour	Health & safety	Other
GPT Group/The	AU	+						
Grasim Industries Ltd	IN	+						
Hammerson PLC	GB	+						
Hanesbrands Inc	US						+	
HDFC Bank Ltd	IN	+						
Healthcare Trust of America Inc	US	+						
HeidelbergCement AG	DE				+			
Heineken Holding NV	NL							+
Heineken NV	NL	+						
Hennes & Mauritz AB	SE						+	
Hero MotoCorp Ltd	IN	+						
Hershey Co/The	US					+		
Highwoods Properties Inc	US	+		+				
Hindalco Industries Ltd	IN	+						
Hispania Activos Inmobiliarios SOCIMI SA	ES	+						
Hitachi Ltd	JP	+						
Honeywell International Inc	US	+						
Hongkong Land Holdings Ltd	HK	+						
Host Hotels & Resorts Inc	US	+		+				
Housing Development & Infrastructure Ltd	IN	+						
Housing Development Finance Corp Ltd	IN	+						
HP Inc	US			+	+			
HSBC Holdings PLC	GB	+						
Hyundai Heavy Industries Co Ltd	KR						+	
Hyundai Motor Co	KR	+						
Iberdrola SA	ES	+						+
ICA Gruppen AB	SE	+						
ICICI Bank Ltd	IN	+						
Idea Cellular Ltd	IN	+						
Industria de Diseno Textil SA	ES						+	
Infosys Ltd	IN	+						
Innogy SE	DE							+
InterGlobe Aviation Ltd	IN	+						
Invitation Homes Inc	US	+		+				
Japan Post Bank Co Ltd	JP	+						
JBS SA	BR		+					
JC Penney Co Inc	US						+	
John Wood Group PLC	GB	+						
Juniper Networks Inc	US	+						
KB Financial Group Inc	KR	+						
KDDI Corp	JP	+						
Kellogg Co	US	+		+				

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
Kia Motors Corp	KR	+						
Kimco Realty Corp	US	+		+				
Kinder Morgan Inc/DE	US				+			
Klepierre SA	FR	+						
Koninklijke Ahold Delhaize NV	NL	+						
Koninklijke DSM NV	NL	+		+				+
Koninklijke Philips NV	NL	+						+
Kotak Mahindra Bank Ltd	IN	+						
Kroton Educacional SA	BR							+
KT Corp	KR	+						
KT&G Corp	KR	+						
Kuala Lumpur Kepong Bhd	MY							
L Brands Inc	US						+	+
L3 Technologies Inc	US	+						
LG Display Co Ltd	KR	+						
Li & Fung Ltd	HK						+	
Link REIT	HK	+						
L'Oreal SA	FR							+
LUKOIL PJSC	RU				+			
Macerich Co/The	US	+						
Macy's Inc	US						+	
Mahindra & Mahindra Ltd	IN	+						
Malayan Banking Bhd	MY	+						
Mapletree Commercial Trust	SG	+						
Marks & Spencer Group PLC	GB						+	
Masco Corp	US	+						
McDonald's Corp	US	+						
McKesson Corp	US				+			
Mediobanca Banca di Credito Finanziario SpA	IT	+						
Microsoft Corp	US					+		+
Mid-America Apartment Communities Inc	US	+		+				
Mirvac Group	AU	+						
Mitsubishi UFJ Financial Group Inc	JP	+						
Mizuho Financial Group Inc	JP	+						
MMC Norilsk Nickel PJSC	RU				+			
Mondelez International Inc	US					+		
Monsanto Co	US	+						
MTN Group Ltd	ZA				+			
Muenchener Rueck-versicherungs-Gesellschaft AG in Muenchen	DE	+						
National Australia Bank Ltd	AU			+				
Nestle SA	CH			+		+		+

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
NetApp Inc	US	+						
Newmont Mining Corp	US	+						
NIKE Inc	US						+	
Nippon Steel & Sumitomo Metal Corp	JP	+						
Nippon Telegraph & Telephone Corp	JP	+						
Nissan Motor Co Ltd	JP	+						
Nomura Holdings Inc	JP	+						
Nordea Bank AB	SE	+						
Novartis AG	CH							+
Novatek PJSC	RU				+			
NTT DOCOMO Inc	JP	+						
Occidental Petroleum Corp	US	+		+				
Orbital ATK Inc	US				+			
O'Reilly Automotive Inc	US	+						
Panasonic Corp	JP	+						
PC Jeweller Ltd	IN	+						
PepsiCo Inc	US	+						+
Pernod Ricard SA	FR	+						
Petroleo Brasileiro SA	BR	+	+	+				
Pfizer Inc	US	+			+			
Philips Lighting NV	NL	+						
Phillips 66	US			+	+			
Plains All American Pipeline LP	US			+	+			
POSCO	KR	+						+
Premier Marketing PCL	TH							+
Procter & Gamble Co/The	US							+
Prologis Inc	US	+		+				
PSP Swiss Property AG	CH	+						
Public Storage	US	+		+				
PVH Corp	US						+	
R1 RCM Inc	US	+						
Randgold Resources Ltd	GB	+						
Randstad Holding NV	NL	+		+				
Raytheon Co	US	+						
Realty Income Corp	US	+						
Regency Centers Corp	US	+		+				
Reliance Industries Ltd	IN	+						
Remy Cointreau SA	FR	+						
Renault SA	FR	+		+				
Repsol SA	ES			+				
Resona Holdings Inc	JP	+						
Rio Tinto PLC	GB			+				
Robinsons Land Corp	PH	+						

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
Rosneft Oil Co PJSC	RU				+			
Ross Stores Inc	US						+	
Rotork PLC	GB	+						+
Royal Dutch Shell PLC	GB	+		+				+
Safestore Holdings PLC	GB	+						
Safety Income & Growth Inc	US	+						
Samsung C&T Corp	KR	+						
Samsung Electro-Mechanics Co Ltd	KR	+						
Samsung Electronics Co Ltd	KR	+						+
Samsung Heavy Industries Co Ltd	KR						+	
Samsung SDI Co Ltd	KR				+	+		
Sberbank of Russia PJSC	RU	+	+	+				
Scentre Group	AU	+						
Schneider Electric SE	FR	+						
Segro PLC	GB	+						
SES SA	FR							+
Shinhan Financial Group Co Ltd	KR	+						
Showa Shell Sekiyu KK	JP	+						
Siemens AG	DE							+
Simon Property Group Inc	US	+		+				
Sino-Ocean Group Holding Ltd	CN	+						
Sinopec Shanghai Petrochemical Co Ltd	CN	+						
SK Hynix Inc	KR	+						
Skyworks Solutions Inc	US	+						
SL Green Realty Corp	US	+						
SM Prime Holdings Inc	PH	+						
SoftBank Group Corp	JP	+						
Sony Corp	JP	+						
Southern Co/The	US			+				
Spark Infrastructure Group	AU	+						
Spirax-Sarco Engineering PLC	GB	+						+
SSP Group Plc	GB	+						
Starbucks Corp	US							+
State Bank of India	IN	+						
Statoil ASA	NO			+				
STORE Capital Corp	US	+						
Sumitomo Mitsui Financial Group Inc	JP	+						
Summarecon Agung Tbk PT	ID	+						
Surgutneftegas OJSC	RU				+			
Swedbank AB	SE	+						
Swedish Match AB	SE	+						
Swire Pacific Ltd	HK	+						
Swire Properties Ltd	HK			+				

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
Symrise AG	DE							+
Taishin Financial Holding Co Ltd	TW	+						
Takko Fashion Sarl	LU						+	
Tata Consultancy Services Ltd	IN	+						
Tata Motors Ltd	IN	+						
Tata Power Co Ltd/The	IN	+						
Tata Sons Ltd	IN	+						
Tatneft PJSC	RU				+			
Taubman Centers Inc	US	+		+				
Tecan Group AG	CH							+
TechnipFMC PLC	US							+
Telecom Italia SpA/Milano	IT	+						
Telefonaktiebolaget LM Ericsson	SE							+
Telefonica SA	ES	+						
Telenor ASA	NO							+
Tesla Inc	US				+	+		+
TGS NOPEC Geophysical Co ASA	NO	+						
TJX Cos Inc/The	US	+					+	
Tomra Systems ASA	NO	+						+
Toronto-Dominion Bank/The	CA							+
TOTAL SA	FR	+		+				+
Toyota Motor Corp	JP	+						
TransCanada Corp	CA				+			
Ultrapar Participacoes SA	BR							+
Umicore SA	BE							+
Under Armour Inc	US	+						
Unibail-Rodamco SE	FR	+						
Unilever Indonesia Holding BV	ID							+
Unilever NV	NL	+						+
Uni-President Enterprises Corp	TW							+
United Continental Holdings Inc	US			+				
United Overseas Bank Ltd	SG	+						
United Rentals Inc	US	+						
Valeo SA	FR							+
Ventas Inc	US	+		+				
Veolia Environnement SA	FR	+						
Verisk Analytics Inc	US	+						
Vivendi SA	FR	+						
Vornado Realty Trust	US	+		+				
Wal-Mart Stores Inc	US						+	
Wells Fargo & Co	US	+	+					
Williams Cos Inc/The	US			+	+			
Wilmar International Ltd	SG			+				
Wolters Kluwer NV	NL	+						
Woodside Petroleum Ltd	AU	+						

	Country	Corporate governance	Corruption	Environ-ment	Human rights	Child labour	Health & safety	Other
Xenia Hotels & Resorts Inc	US	+						
Yahoo Japan Corp	JP	+						
Zijin Mining Group Co Ltd	CN			+	+			

Country abbreviations

AT Austria. AU Australia. BE Belgium. BR Brazil. CH Switzerland. CN China. DE Germany. DK Denmark. ES Spain. FI Finland. FR France. HK Hongkong. ID Indonesia. IN India. IT Italy. JE Jersey. JP Japan. KR South Korea. MY Malaysia. NL The Netherlands. NO Norway. RU Russia. SE Sweden. SG Singapore. TH Thailand. TW Taiwan. UK United Kingdom. US United States

Annex 2

Responding to the risks and opportunities from climate change

Climate change has major consequences for society and the economy and so also for investors. In mid-2017, the Task Force on Climate-related Financial Disclosures (TCFD) published a report on how pension funds, asset managers and companies could best report on climate change.

Climate change is addressed in various sections of this Responsible Investment Report. This annex sets out where the information can be found, in line with the four levels requiring attention to climate change according to the TCFD. As this report focuses on what we did in 2017, this annex also addresses what we set up in earlier years. Our report to the Principles for Responsible Investment (PRI) also presents information on our approach to the climate.

B 2.1 The way we have structured the governance of climate-related risks and opportunities

One of the responsibilities of the Board of APG Asset Management (AM) is to supervise climate-related risks and opportunities. As part of our strategy we have set clear targets, one of which is on the integration of climate-related risks and opportunities in the asset allocation and portfolio management. The Board of APG AM receives regular progress reports on our climate strategy and its implementation. We also advise our clients on the possible consequences of climate change.

The Global Responsible Investment and Governance team (GRIG) has a coordinating role in integrating attention for climate change in the investment process. The various investment teams are responsible for managing the risk exposure within their strategies.

More on this in this report:
p. 30 Team for responsible investment and governance;
p. 9 Reporting on climate risks.

B 2.2 The actual and potential consequences of climate-related risks and opportunities on our operations, strategy and financial planning

We distinguish between the following climate risks:

Policy risks	The consequences of tighter climate policy for companies and investors, such as the introduction of a price for CO_2 emissions, incentives for cleaner alternatives or restrictions for CO_2-intensive industries.
Technological risks	Consequences of cleaner alternatives that could replace CO_2-intensive production methods or products (such as electric cars and wind energy) or result in lower fuel consumption (energy efficiency) becoming available.
Consumer preferences	Changes in demand for products since consumers opt more often for cleaner alternatives.
Physical impact	The consequences of changes in weather patterns, including more frequent and intensive extreme weather (such as flooding and storms) and structural changes (such as long-term drought resulting from changes in precipitation patterns).

These climate risks may not only have adverse consequences for investments we manage but may also create new investment opportunities, for example in renewable energy, electric transport, energy efficiency and water management.

How and when these risks and opportunities will occur depends on the way in which policymakers respond, how consumers alter their behaviour and how fast the technology develops. To respond better to this, in 2014 we examined two different scenarios: a 'business-as-usual' scenario and a scenario with a gradual, accelerated transition in which global warming is limited to 2 degrees Celsius.

For the 'business-as-usual' scenario, we assumed ineffective (or delayed) tackling of climate problems by policymakers. Climate change continues and results in a rise in temperature of 5 degrees. In this scenario, little changes in the short term but there are great physical risks in the medium to long term. There is also a high risk of an abrupt tightening of climate policy. The chance of a change in consumer preferences is low as alternatives are not available or affordable.

In the second scenario there is a gradual but accelerated transition to a society that no longer uses fossil fuels. As a result, climate change slows down and the increase in temperature is limited to 2 degrees Celsius. The physical consequences will be less, in the short term there are policy and technological risks.

In summary we estimate the risks in the two scenarios as follows:

Estimated risks scenarios

Scenario	Business-as-usual			Gradual, accelerated transition		
	Short term	Medium term	Long term	Short term	Medium term	Long term
Policy risks	L	L	H	H	H	H
Technological risks	M	M	M	M	H	H
Consumer preferences	M	M	H	M	H	H
Physical impact	L	H	H	L	L	M

L = low
M = medium
H = high

Short term = 0-3 years
Medium term = 3-10 years
Long term = >10 years

As a result of this scenario analysis, we have carried out further research into the possible consequences for our energy investments within the scenario of gradual, accelerated transition. We, therefore, gave different insights from this research a place in our investment process. This addressed illiquid investments in energy and energy infrastructure with a longer time horizon. Further to this follow-up research, we have formulated an objective to reduce the CO_2 footprint of our equities portfolio by a quarter (by 2020).

More on this in this report:
p. 30 Working with scenarios; p. 33 Companies move under pressure from shareholders; p. 33 Joint approach to large emitters; p. 31 Sharing the approach with other investors.

B 2.3 Processes we use to identify, assess and manage risks associated with climate change

Risks and opportunities associated with climate change are mainly identified in a 'bottom up approach' involving the portfolio managers in different investment categories. As part of their investment analysis, they look at climate risks in the short, medium and long terms.

Managing climate-related risks and using opportunities is also done within the various investment categories where the portfolio managers have specific knowledge on how climate change can affect the investments. Climate change is, therefore, particularly part of the 'first line function' within the risk management framework.

More on this in this report:
p. 30 Good ranking at AODP; p. 31 Our CO_2 footprint is getting smaller; p. 32 Increasing investment in renewable energy; p. 32 More renewable, less coal.

B 2.4 Indicators and targets we use to assess and manage climate-related risks and opportunities

- We measure the CO_2 footprint of the equities portfolio and the real estate portfolio.
- > We have set a target of a 25% reduction in our CO_2 footprint from the listed equities portfolio by 2020 compared with 2014.
- We measure the amount we invest in renewable energy.
- > We have set a goal to have invested at least €5 billion in renewable energy by 2020.
- We measure how much we invest in companies that contribute to achieving the United Nations Sustainable Development Goals (Sustainable Development Investments (SDIs)).
- > We have set a goal to have invested at least €61.5 billion in SDIs by 2020.
- We measure the sources that our energy investments use to generate energy (coal, oil, gas, nuclear and renewable).
- We measure the amount of our portfolio invested in CO_2-intensive industries. We have done this at the request of DNB for its Waterproof? An exploration of climate-related risks for the Dutch financial sector report.

More on this in this report:
p. 30 Working with scenarios; p. 31 How we calculate our CO_2 footprint; p. 32 More renewable, less coal; p. 38 Reliable sustainability information.

Annex 3

Abbreviations and definitions

AODP	Asset Owners Disclosure Project; an organisation that highlights the way in which large investors identify the consequences of climate change
APG AM	APG Asset Management; APG's asset management business
CHRB	Corporate Human Rights Benchmark; a benchmark set up in 2017 to compare about 100 companies on human rights performance
ETF	Exchange-traded fund; basket of investments that, like shares, are traded on a stock exchange
ESG	Environment, Social and Governance; matters of interest in responsible investing
DNB	De Nederlandsche Bank (the Dutch central bank)
HLEG	High-Level Expert Group on Sustainable Finance; group of specialists who advised the European Commission on sustainability in financial markets in 2017 and 2018
HSI	High Sustainability Investment; investment with a high sustainability value (since replaced by SDI)
ICGN	International Corporate Governance Network; investor-led organisation to promote effective standards of corporate governance
IIGCC	Institutional Investors Group on Climate Change; a forum for institutional investors to collaborate on climate change
IMVO	International corporate social responsibility
JCI	Junior Chamber International; networking organisation of young entrepreneurs with about 170,000 members in over 100 countries
GRESB	Global Real Estate Sustainability Benchmark; organisation jointly founded by APG to measure the sustainability performance of real estate
GRIG	Global Responsible Investment and Governance team; APG specialists in sustainability and governance
OECD	Organisation for Economic Co-operation and Development
PRI	Principles for Responsible Investment; a global association of some 1,500 pension funds, asset managers and companies that want to encourage sustainable investing
SDI	Sustainable Development Investment; an investment that is both financially attractive and contributes to achieving the United Nations Sustainable Development Goals
SDG	Sustainable Development Goal; development goal that the United Nation wants to achieve by 2030 to make the world more sustainable
SPIL	Sustainable Pension Investments Lab; alliance of directors and investors from the Dutch pension and investment sector who develop ideas in a personal capacity on the sustainability on investing pension assets
TCFD	Task Force on Climate-related Financial Disclosure; working group led by Michael Bloomberg which issued a report in 2017 on how companies and funds could best report on climate change
PCAOB	Public Company Accounting Oversight Board; body that supervises the quality of financial reporting by listed companies in the United States
UNGC	United Nations Global Compact; an initiative of the United Nations to encourage businesses to adopt sustainable and socially responsible policies

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