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Annual Responsible Investment Report

2017

PGGM

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Statements

Management Statement

As the administrator for investment funds and the asset manager for pension funds, PGGM Vermogensbeheer B.V. (PGGM) supports its clients in their task of providing a stable and high-quality pension for their participants, now and in the future.

In this report we account for the activities carried out in the field of responsible investment in 2017. Our clients policies and the PGGM's responsible investment framework form the starting point for these activities. Within the PGGM investment funds, there is a clear responsible investment framework. Specific policy requirements of clients can take shape in internally and externally managed mandates. This means that the activities we describe in this report are not always applicable to all clients.

Where we refer to clients in this report we mean both the clients participating in the PGGM funds and the clients for whom we manage mandates. If we state that we invest in a certain portfolio, we always mean that we do so on behalf of our clients. In compiling the Annual Responsible Investment Report 2017 we have in principle adhered to the international reporting principles of the Global Reporting Initiative (GRI). The 6 principles of the UN Principles for Responsible Investment (PRI) were also used as a reporting guideline (Appendix 5).

We have assessed the Annual Responsible Investment Report 2017 and declare that, to the best of our knowledge and belief, the information in this report presents a true and fair view of reality. The Annual Responsible Investment Report 2017 has been assessed and provided with an independent assurance report by KPMG Sustainability, an independent external auditor. The assurance report is attached in Appendix 6.

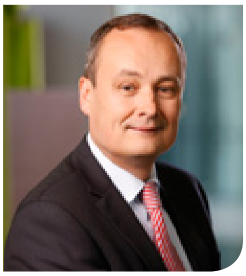
Zeist, 16 April 2018

Management of PGGM Vermogensbeheer B.V


Eloy Lindeijer


Sylvia Butzke


Arjen Pasma


Bob Rädecker


Frank Roeters van Lennep

Statement of the Supervisory Board

As supervisory directors, we supervised the preparation of the PGGM 2017 Annual Responsible Investment Report and declare that, to the best of our knowledge and belief, the information in this report presents a true and fair view of reality.

Zeist, 16 April 2018

Supervisory Board of PGGM Vermogensbeheer B.V.

Paul Boomkamp

Foreword

One of the key tasks of a pension fund is to realise optimal return within a responsible risk profile. With the assets entrusted to us by our clients, we are committed to realizing this. We firmly believe that responsible investment and consideration of ESG factors, is supportive of this key task and furthermore makes a positive contribution to a sustainable, liveable world in which pensioners can enjoy a good retirement. This is the wish we share with our clients: we want to achieve good returns and at the same time have a tangible impact on a sustainable world. PGGM currently has invested € 13.7 billion in climate, healthcare, food security and water scarcity solutions for its clients. In 2017, € 3.3 billion was spent on new investments in this category, including green bonds issued by governments. This fast growing market offers new opportunities in terms of scale and impact.

> ‘We want to achieve good returns and at the same time have a tangible impact on a sustainable world.’

This does not change the fact that finding sustainable investments of sufficient size continues to be a challenge. In particular this applies to private markets, such as infrastructure and private equity. That is why PGGM is looking for ways to effect smaller transactions and to aggregate investments into investable propositions. To support this development, we organised the first Impact Investment Initiative together with Het Financieele Dagblad, a daily Dutch newspaper focused on business and financial matters. Together with Dutch parties, we searched for opportunities for creating investments with a greater impact.

Consensus about solutions, selection criteria and impact indicators is very important for the transparency and credibility of such investments. In 2017, we worked together with a number of parties on a standard for investments in the Sustainable Development Goals. We refer to such investments as Sustainable Development Investments. Together with our peer, pension administrator APG, we developed a selection and impact measurement methodology in 2017.

In addition to investing for positive impact, we took further steps this year in incorporating ESG risks and opportunities into our investment decisions. Most investment teams have developed their own responsible investment guidelines and have published them on PGGM’s website. This year, for private equity, infrastructure and private real estate, we acquired greater insight into the ESG performance of the external parties with which we work and the companies and projects in which we invest. This provides key input for the monitoring discussions between our investment managers and these parties. The effect of ESG factors on risk management continues to be a challenge, for example for climate risks. There continues to be a high degree of uncertainty relating to climate scenarios and the response of companies and investors. The recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), published in 2017, are key in this respect. They provide a framework that ensures transparency concerning climate-related risks and opportunities. PGGM has started to implement the TCFD recommendations, starting with an investigation into the implication of various climate scenarios for the investments of our clients. It is encouraging that at the time of writing this Annual Report, approximately 250 companies have already publicly announced their support for the recommendations, including a large number of companies from the Netherlands.

To really make sustainable investments – on a large scale and with competitive returns – investors, banks and companies need to cooperate more. We devoted our efforts to this in 2017. For example, we joined Climate Action 100+.
We achieved positive results on the basis of joint engagement initiatives, such as improvements in the assessment of human rights risks in the mining, oil and gas sectors. These results are great but many challenges remain, both financial and social. This is why, in 2018 and beyond, we will continuously devote our efforts, together with our clients, to improving the responsible investment policy and its implementation.

Eloy Lindeijer, Chief Investment Management

TOTAL ASSETS UNDER MANAGEMENT

Total assets under management at year-end 2017: € 219 billion

Total assets under management at year-end 2016: € 206 billion

AREA OF FOCUS

- Climate change pollution & emissions
- Water scarcity
- Food security
- Healthcare
- Safeguarding human rights
- Corporate governance
- Stable financial system

INSTRUMENTS

INVESTING IN SOLUTIONS

Mandate: at least € 20 billion invested in solutions by 2020[1]

13.7 billion

Progress: € 13.7 billion of € 20 billion[2]

New in 2017: € 3,3 billion

Area of Focus	Euro's invested	New in 2017	Impact in 2016[3]
Climate change, pollution & emissions	€ 6.4 billion	€ 2.9 billion	Produced **7.8 million MWh** of renewable energy. Avoided **4 million tonnes** CO_2.
Water scarcity	€ 0.9 billion	€ 0 billion	**6 million m³ water saved** **Treated 350 million m³ of wastewater.**
Food security	€ 2.8 billion	€ 0.2 billion	**85.000 tonnes/hectare** improvement in return **3560** trucks filled with food.
Healthcare	€ 3.5 billion	€ 0.2 billion	**225.000 people** provided with access to good healthcare. **54.000** treatments avoided
Other	€ 0.1 billion	€ 0 billion	Impact not measured.

ESG-INTEGRATION

Mandate: CO_2 footprint of the investment portfolio halved by 2020[4]

Baseline measurement of the equity portfolio as at 31-12-2014:
relative CO_2 footprint = **339** tonnes of CO_2 per million dollars of company turnover.

As at 31-12-2017 the relative CO_2 footprint = **244** tonnes of CO_2 per million dollars of company turnover

28 %

ENGAGEMENT

Dialogue with 361 companies and 8 market parties:
46 results achieved among companies
4 results achieved among market parties

VOTING

Voted at 3.524 shareholder meetings.

41.304 votes cast.

LEGAL PROCEEDINGS

€ 3.1 million in investment losses recovered.

EXCLUSIONS

Total: 113 companies and government bonds of 13 countries.

New in 2017: Venezuela added to the list of excluded government bonds after EU arms embargo.

1 Commissioned by our largest client.
2 For all clients, both in funds and in separate mandates. The amounts concern the invested assets and outstanding commitments.
3 The impact has been measured in relation to the investments as at year-end 2016. Of the € 11.3 billion invested in Investments in Solutions, the impact of € 7.8 billion in investments has been calculated. This represents 68% of the total Investments in Solutions.
4 Commissioned by our largest client

Investing in Solutions 2017

Europe

- **Charlie Berlin** Sustainable real estate.
- **Grand Frais** French supermarket with focus on reducing food waste.
- **Boadilla III** Credit Risk Sharing of largely renewable energy projects.
- **Milan Green Fund** Real estate joint venture aimed at modernization and sustainability of outdated and underused office buildings in Milan.
- **Globalvia Inversiones** Infrastructure fund aimed, among other things, on sustainable transport.

20 green bonds were purchased in Europe, often used to finance renewable energy projects and water purification.

↓

- **Green bond KFW** Financing renewable energy projects in Germany.
- **Green bond MuniFin** Financing of Finnish local public sector.
- **Green bond France** Financing sustainable projects in France.
- **Green bond Nordic Investment** Financing of wastewater treatment.

North and Central America:

- **SolarCity** Solar energy systems.
- **Green bond Mexico City Airport** Financing sustainable energy and water saving projects.

Middle East

- **Green Bond National Bank of Abu Dhabi** Financing renewable energy.

Asia

- **Rural Electrification Corp.** Indian state bank focused on financing wind and solar energy projects.
- **Green bond DBS Group** Financing of sustainable energy projects and sustainable real estate.
- **Green bond China Development Bank** Financing of sustainable energy projects.
- **Indian Railway Finance Corp** Financing the purchase of energy-efficient trains.

South America

- **Green bond Klabin** Financing sustainable energy and water saving projects.
- **Rumo** Brazilian railway company with focus on transport of food, paper and fuel.
- **AdecoAgro** Agricultural company, active in the field of food and sustainable energy.

Responsible Investment Highlights 2017

January

Principles for good corporate governance and shareholdership for the American market
(see page 43)

Publication PGGM-**human rights policy**
(see page 37)

First Impact Investment initiative organised
(see page 4)

February

PGGM invests in French green government bonds
(see page 15)

March

Declaration of intent **CSR covenant** published
(see page 38)

April

April-May: Voting-season

PGGM, among other things, had a fruitful shareholders' dialogue to prevent abuse of medicines in the United States.
(see page 33)

May

SolarCity-deal: new step in sustainable energy investments
(see page 15)

June

Publication report Task Force on Climate-related Financial Disclosures
(see page 20)

July

Classification Sustainable Development Investments - (SDI Taxonomy) published
(see page 22)

Started with baseline measurement of climate-related risks in the entire investment portfolio.
(see page 21)

August

September

Started with CO_2 divestments within Developed Market Alternative Equities.
(see page 17)

October

DNB publishes core set of impact indicators for the various SDGs
(see page 23)

November

GRESB scores published: PGGM Private Real Estate investment portfolio has structurally improved more than the benchmark.
(see page 19 and 35)

December

Internal climate research completed.
(see page 21)

Introduction

As a manager of investment funds and asset manager for pension funds, we support our clients in fulfilling their primary task of providing a sound and stable pension for their participants. With the assets entrusted to us, we try to find a good mix between achieving returns and limiting financial risks. Our clients attach great value to responsible investment. We support them in this and take environmental, social and governance (ESG) factors into account in all of our investment decisions. We do this because we believe that financial and social returns go hand-in-hand and that these ESG factors affect the risk-return characteristics of these investments, certainly in the long-term. Responsible investment is also consistent with the identity and responsibility of our clients, as well as our own. We aim to contribute to a liveable, more sustainable world in which participants receive their pension. After all, a good pension is worth more in a liveable world.

Our approach: governance, instruments and areas of focus

1.1. Governance

Pension funds are our clients. The total assets we have under management and advice on behalf of our clients amounted to over € 218 billion at year-end 2017. Of this, € 209 billion falls within the PGGM funds and the externally managed client mandates that are subject to the PGGM Responsible Investment Implementation Framework (see Appendix 1).[5] Each client has its own policy with particular emphases within the field of responsible investment. Within the PGGM funds, with multiple clients, we apply clear implementation guidelines for responsible investment. These guidelines are discussed in Participant meetings, in which the various participants in a PGGM fund have the opportunity to take decisions on investment fund-specific subjects together with PGGM and other participants.

To achieve sound collective decision-making concerning responsible investment, PGGM and its clients can obtain advice and discuss dilemmas with an independent advisory council, the Advisory Board Responsible Investment (ABRI). In 2017, five external members with various fields of expertise served on the ABRI. The ABRI provided advice on topics such as our climate vision and climate risks, terminating or initiating the exclusion of a number of companies and government bonds, and cooperation and standardisation concerning impact investments. PGGM takes the advice on implementation into account in decision-making and reports on the follow-up steps it has taken to its clients. Policy advice is reported to our clients.

> **‘With the pension money of our clients we want to achieve the required financial return and have a positive impact on the world.’**

1.2. Our instruments

We use various instruments for implementing responsible investment: exclusion of companies and government bonds, ESG integration in the screening and monitoring of companies and external managers, engagement, voting, legal proceedings and investments in solutions for social and ecological issues. Figure 1 illustrates the triptych for Responsible Investment together with the associated instruments. On behalf of our clients we are increasingly focusing on the impact achieved through investments; the right-hand segment of the triptych.

1.2.1. Investing in Solutions

PGGM wants to achieve good financial returns for its clients through Investing in Solutions and at the same time have a tangible impact on creating a sustainable world. We define investment in solutions as investments that not only yield returns in line with market conditions, but that also yield added social value by contributing to solving local and global problems, such as climate change, water scarcity, food security and healthcare.[6] These problems not only constitute threats to society, they also translate into financial risks for companies and investors. At the same time, contributing to solutions to these issues represents a financial opportunity for investors.

5 Some externally managed client mandates are not subject to the Responsible Investment Implementation Framework. In this report we only report on responsible investment activities that are subject to the PGGM Responsible Investment Implementation Framework, i.e. over 96% of the managed assets.
6 To comply with the Investing in Solutions criteria, an investment must have an actual positive social impact on at least one of the four areas of focus eligible for investment. The investment's contribution to a solution must be substantial and the social impact must also be tangible: for the company or the project we require that the real impact of the solution is measured, managed and reported on. See our website for the criteria.

PGGM'S INSTRUMENTS FOR RESPONSIBLE INVESTMENT

NO
What we do not want

Direct exclusions:
- Government bonds on EU/UN sanction lists
- Controversial weapons
- Tobacco

Exclusion after engagement on:
- Human rights and social circumstances
- Environment
- Corporate governance

Instrument:
Exclusions

CHANGE
What we want to improve

Making companies and markets more sustainable through ESG integration and active ownership:

Instruments:
- ESG integration
- Engagement
- Voting
- Legal proceedings

YES
What we want to stimulate

Creating social returns in the area of:

- Climate change, pollution and emissions
- Water scarcity
- Food security
- Healthcare

Instrument:
Investing in Solutions

Figure 1. Triptych with instruments for responsible investment

The mandate from our largest client is to increase the investments in solutions from € 4.7 billion at the end of 2014 to at least € 20 billion by 2020. At the end of 2017, a total of € 13.7 billion had been invested in solutions.

We invest in solutions on the basis of a focused listed equities mandate that we refer to as Investments in Solutions via liquid equities (BOA). In addition, we invest in solutions via other investment categories, such as private real estate and infrastructure. Each year we calculate the impact of these investments over the previous year: in addition to the financial return, we indicate how these investments contributed to the selected themes Climate change, pollution and emissions, Water scarcity, Food security and Healthcare. We use impact data reported by companies and impact data based on impact models for this purpose.[7] In this calculation, we only allocate the share of the total impact to us that matches our share in the company or the fund. For a more detailed explanation of how the impact is calculated visit our website and see page 22 of this report.[8]

1.2.2. ESG Integration

PGGM evaluates possible investments in terms of the expected risk-return ratio. When the identified risks negatively affect the future expected return, PGGM may decide not to invest or to demand a higher expected return. ESG factors are also included in this risk analysis. By integrating these risks and opportunities into the investment process, we end up with a better risk-weighted return.

In 2015 we started to transition the responsibility for ESG integration from the RI team to the business line and investment management teams. In a two-year project, PGGM's investment and advisory teams were given full ownership of responsible investment. Our ultimate aim is for responsible investment to be a natural given for all teams and to be fully internalised as part of their daily activities.

Effectively integrating ESG is not easy. It requires investors to change their mindset and it requires the necessary skills. PGGM took further steps in this area during 2017. We organized knowledge sessions with the investment teams to enable them to independently

7 The increase in the impact reported, compared to last year cannot completley be linked to the improved performance of the companies in the portfolio. Part of this increase is due to the increased availability of impact data: the data coverage has increased.
8 Our clients do not have a target for the impact to be achieved.

perform ESG analyses as part of their investment activities. In addition, more investment teams developed responsible investment guidelines that they use in their daily activities. We are asking our external managers to provide greater transparency, for example by means of GRESB Real Estate and GRESB Infrastructure (see pages 19, 35 and 45 for more information). Finally, the ESG screening of the ESG implementation by our external managers has improved (see page 39 for more information). The implementation of ESG factors as part of our Systemic Equity Strategies is a new challenging area (see page 51 for more information).

'Minimizing negatives and maximizing positives!'

Appendix 2 contains the maturity matrix we used to verify, evaluate and guide the further integration of responsible investing by the investment teams. The approach differs for each investment category. The difference is caused by the degree of influence PGGM has on the investment process, for example, whether it is managed externally or internally. In addition, it makes a difference whether it is a passive oran active investment strategy. Furthermore, the effect that the ESG factors have on the investment category, such as risk reduction versus improvement in return, also plays a role. This report includes a few examples of ESG integration in various investment categories.

1.2.3. Engagement

On behalf of our clients we address companies and market parties to account for their policy and activities. Through this dialogue, we attempt to achieve ESG related improvements. We focus on various aspects, such as improving standards at the market level (market engagement). Where necessary, we engage in dialogue with legislators and regulators and focus on the development and implementation of voluntary best practice standards. In the dialogue with companies (company engagement), we focus on companies that have a halo effect within their region, sector or chain. These companies may be leaders or laggards.

We also engage companies that violate the United Nations Global Compact Principles. The UN Global Compact (UNGC) has introduced ten Principles for corporate social responsibility. The Principles concern respect for human rights, labour rights, environment and anti-corruption. We consider companies that do not respect these principles in their business operations to be Global Compact Violators.[9] We ask these companies to terminate these violations, implement remedial actions for victims (humans and/or the environment) and take measures to prevent the reoccurrence of such violations in the future. Finally, we engage companies in a dialogue when there appear to be ESG risks and in the event of reputation-sensitive incidents.[10]

1.2.4. Voting

Voting is one of the most important shareholder rights. This is why we vote at shareholder meetings (AGMs) throughout the world, on behalf of our clients. We apply the PGGM Voting Guidelines for this purpose. These guidelines are updated annually. For each company, PGGM publishes its voting record on a special website. We have outsourced part of the voting to the proxy service provider ISS, which votes on the basis of our guidelines. We actively monitor the outsourced voting activities on the basis of multiple sources and vote on the most relevant resolutions ourselves. In addition, PGGM submits shareholder's proposals itself, or in cooperation with other investors, at times when we consider this necessary to encourage a company to take action.

1.2.5. Legal Proceedings

When necessary, as shareholder, we institute legal proceedings against companies on behalf of our clients to recover investment losses or to enforce good corporate conduct. There must be clearly demonstrable grounds for instituting legal proceedings, for example, if a company has committed fraud or other forms of misconduct leading to losses for shareholders. In 2017, we recovered over € 3 million in investment losses by means of legal proceedings.

1.2.6. Exclusions

We want to avoid making investments that do not suit our clients' needs. This is why, in accordance with the PGGM Responsible Investment Implementation Framework, we exclude companies that are involved in controversial weapons and tobacco activities from the PGGM funds and internally managed mandates. In addition, we may exclude companies with elevated ESG risks. For example, we do this when companies violate the Global Compact Principles of the United Nations. In such instances, we first attempt to realise improvements by engaging the company in dialogue. In addition, we do not invest in the government bonds of countries subjected to sanctions by the UN Security Council and/or the European Union (EU).[11]

9 We use the analyses provided by data services provider Sustainalytics to identify the companies that violate the Global Compact Principles. In 2017, PGGM's Global Compact Violators engagement list contained 28 names. We established contact with these companies and an engagement process was initiated or continued from previous years with a number of companies. Several companies actually implemented improvements. A few companies have resolved the violation and implemented remedial actions and preventive measures for the future such that they are no longer considered a Global Compact Violator by Sustainalytics. If, after a period of time, engagement does not produce any results – the company does not put an end to the violation and is not prepared to engage in dialogue – our clients may decide to remove the company from their portfolios.

10 We have outsourced part of our engagement activities to Global Engagement Services (GES).

11 In case of private investments, we incorporate the exclusion criteria as investment restrictions in the contracts with external parties. We apply the guideline to over 99 per cent of the investments. This does not mean that the remaining 1 per cent contravenes the guideline, but we are unable to determine in all certainty that the guideline has been fully applied. This mainly concerns exchange-traded funds and index futures in the equity funds, and a number of remaining investments in the PGGM Fund of Hedge Funds.

1.3. Our areas of focus

In consultation with our clients, we have selected seven social areas of focus for our responsible investment activities. These areas of focus are as follows:

- Climate change, pollution and emissions
- Water scarcity
- Food security
- Healthcare
- Safeguarding human rights
- Good corporate governance
- Stable financial system

In the following chapters, for each area of focus, we identify the contribution we have made on behalf of our clients.

Climate change, pollution and emissions

Two years after signing the Paris Climate Agreement we see a number of positive developments, although it is also clear that the world continues to take insufficient action to achieve the agreed upon targets. The current ambitions of individual countries are insufficient for realising the required reduction in CO_2 emissions. Shortly after the United States withdrew from the climate agreement, the Dutch government announced its ambition of making the Netherlands a climate frontrunner. The governments coalition agreement includes a CO_2 reduction target of 49% by 2030. This target goes beyond the targets set by the EU. This target can only be achieved by means of far-reaching investments in sustainable energy, which creates opportunities for long-term investors. De EU High-Level Expert Group (HLEG) on Sustainable Finance is calling for an urgent and transformational action designed to accelerate the transition to a fossil-free, sustainable economy

> 'Climate change and measures to counteract climate change entail financial risks, as well as opportunities. Opportunities to make profitable investments in solutions that counteract climate change and at the same contribute to a liveable world in which the consequences of climate change remain limited for pension participants.'

How did we contribute to this theme in 2017?

1.1. Investing in climate solutions

At the end of 2017, we had invested a total of over € 6.4 billion in climate solutions on behalf of our clients, including sustainable energy and clean technology that contributes to greater efficiency and reduced raw materials wastage. An overview of all investments in climate solutions and their impact is available on our Investing in Solutions webpage.

New investments were made in a number of areas, including real estate. For example, we invested in real estate in Berlin. This investment forms part of our investment strategy of combining attractive financial returns with making office buildings in emerging locations sustainable and energy efficient. We also invested in two large distribution centres in Japan. These projects will be built in accordance with the latest sustainability insights and on completion will be among the most energy efficient centres in the world.

SolarCity

SolarCity is a new private markets Investment in Solutions. It is an investment in a portfolio with approximately 38 thousand solar energy systems in the United States. The combined installed capacity of these systems is approximately 275 megawatts. Since its acquisition in the second quarter of 2017, a total of approximately 200,000 tonnes of CO_2 emissions was avoided.

> **'The energy transition offers major opportunities to specialised investors such as PGGM, who are capable of making large-scale capital available for the long term. Pension funds are perfectly positioned to invest in a sustainable energy infrastructure.'**

French Green Bond

In 2017, PGGM, on behalf of its clients, invested € 330 million in the green government bond issued by the French government. The proceeds of this bond will be used to finance sustainable initiatives focused on reducing CO_2 emissions and enhancing biodiversity. This includes generating sustainable energy, recycling and waste management, 'greening' transport and real estate, stimulating research into sustainability and organic agriculture.

Dutch development Bank (FMO)

In 2017, in addition to this French green bond, we invested in a green bond of the Dutch development bank, FMO,+ which focuses on green and inclusive growth in developing countries in line with Dutch government policy. Approximately 80% of the proceeds of the FMO green bond is channelled into green projects and 20% into inclusive growth, i.e. micro financing and loans to small and medium enterprises in emerging countries.

INVESTING IN CLIMATE SOLUTIONS

TOTAL:	INVESTED IN (NON-EXCL.):	RESULTS (NON-EXCL.):	THE IMPACT OVER 2016 IS EQUIVALENT TO:
€ 6.4 billion New in 2017: **€ 2.9 billion**	> **Renewable energy**	**7.8** million MWh of renewable energy produced	the average electricity use of **2,4** million households per year.
	> **CO_2-efficient buildings and production**	**4** million tonnes of CO_2 avoided.	In 2016, the total CO_2 emissions avoided due to these investments was more than **4 million tonnes** of CO_2. This is equivalent to the average CO_2 emissions of more than **180** thousand households per year.[12]

12 The impact is calculated over 2016.

GREEN BONDS

PGGM has invested in green bonds via corporate bonds for several years. Since January 2017, it is also possible to invest in green bonds as part of the interest rate hedging mandate of our largest client and within the PGGM government bonds fund. The primary objective of these investments is to (partially) cover the interest rate exposure of pension liabilities. The green bonds consequently must be easily negotiable (liquid) investments with a high creditworthiness (minimum AA rating) and must have an effective interest rate cover. The green bonds in which we invest are issued by national, local and regional governments, supranational institutions (for example, the European Investment Bank) and agencies (such as FMO or other national development finance organisations).

Green bonds, just like other investments, are first assessed in terms of the risk and return they provide. If this is consistent with the portfolio, then the next question is whether PGGM agrees with the issuer's green bond classification. Because this is not a protected title, we assess for ourselves whether the investment in fact makes a sustainable contribution. PGGM adheres to the ICMA Green Bond Principles, that define four pillars pertaining to the process of issuing a green bond. In addition, PGGM verifies whether the green bond is consistent with the ESG policy of the issuing body. Finally, a green bond must significantly contribute to the Investing in Solutions themes Climate change, pollution and emissions and/or Water scarcity. At the end of 2017, we updated and adjusted the green bond framework in order to include social bonds in addition to green bonds. The proceeds of these bonds are used for social projects. This enables us to invest in solutions that contribute to the themes Food security and Healthcare, on behalf of our clients.

In 2017, we invested € 906 million in green bonds on behalf of our clients. We sold eight green bonds valued at € 68 million. The high demand for this type of investment has tremendously driven up the price of green bonds. Part of the market trades at higher prices than the 'grey bonds' of the same issuer. This makes it an attractive proposition to take profit on these bonds and to reinvest the proceeds elsewhere. The high prices of green bonds illustrate the tension that can sometimes emerge between financial objectives and sustainability goals.

ESG RISK ANALYSIS CONSIDERATIONS

Sometimes we decide not to invest in green bonds due to the ESG risks. For example, in 2017, we decided not to invest in the green bond of a Chinese energy company. The green bond is used to finance green projects, such as the Three Gorges Dam. During construction, there was negative publicity concerning the way in which the project drove over one million people from their homes and the way in which archaeological and cultural heritage was treated.
In addition, after the commissioning of the dam system other negative side effects came to light, including the increased risk of earthquakes, erosion, water scarcity and salinization. Furthermore, the way in which the company manages these aspects created controversy domestically as well as internationally. In terms of ESG, this investment opportunity therefore falls into a grey area. On the one hand, the green character of the projects to be financed is positive. On the other hand there are the abovementioned ESG risks. PGGM decided to assign a heavier weight to the ESG risks and not to invest in this green bond.

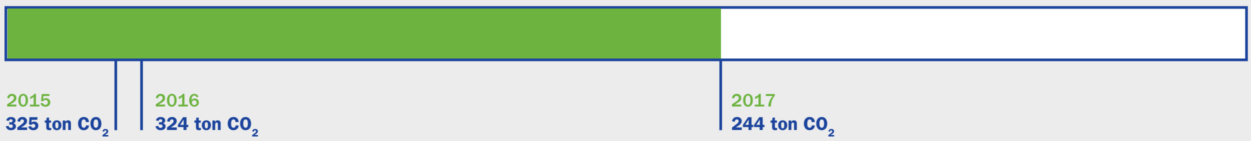
1.2. CO_2 Emissions of investments

We aim to counteract climate change by reducing the CO_2 emissions of our investments. We have been commissioned by our largest client to halve the CO_2 emission of investments by 2020 in comparison to 2014.[13] Since 2016, we have been selling the shares of the most CO_2-intensive companies in the most polluting sectors: utilities, energy and materials (70% of the total footprint comes from companies in these sectors). We reinvest the freed-up capital in the shares of more CO_2 efficient companies in these three sectors.

The diagram below illustrates the trend of the CO_2 footprint over time, including the starting point, the baseline as at year-end 2014.

GOAL 2020	BASELINE MEASUREMENT 2014
Halve the CO_2 emission to **170 ton/million $ company turnover**	**339 ton/million $ company turnover**

PROGRESS (ton/million $ company turnover)



Since the baseline measurement, the CO_2 footprint has been reduced from 339 tonnes of CO_2 per million dollars of company turnover to 244 tonnes of CO_2 per million dollars of company turnover as at 31-12-2017.[14]

The phase-out will be completed in four annual stages and will be completed at in 2020. In 2016, we initiated CO_2 reductions in the Developed Markets Equity fund and the Emerging Markets Equity fund.[15] Each year we rank the companies in the utilities, materials and energy sectors in the listed equity portfolio by CO_2 intensity. For certain companies, the CO_2 intensity has been relatively lowered due to specific actions, such as investments in energy efficiency and the increased use of cleaner fuels and energy. There are also examples of improved reporting, which creates an improved picture of the actual CO_2 intensity. Improved data quality and reporting therefore is a key objective in our communication with companies.

In the second half of 2017, we also started working on gradual emissions reduction within the Developed Market Alternative Equity funds.[16] We tried to adhere to the same methodology we use for the traditional equity portfolio as much as possible. We adjust the Alternative Equity benchmark by removing the same CO_2-intensive companies within the three sectors referenced above. Using the multi-factor construct supplied by our benchmark provider, the desired exposure by factor is achieved for the remaining universe in the index. Implementation is based on a CO_2 budget: the portfolio manager is given a maximum CO_2 intensity limit that is to be met by the portfolio. This is necessary because within alternative equity portfolios, portfolio managers have greater room to deviate from the benchmark. Providing a CO_2 budget therefore secures the sustainability objective and at the same time provides the portfolio manager with the room needed to construct a portfolio that is expected to provide sufficient exposure to the desired factors. This enables the portfolio manager to integrally balance the financial appeal and sustainability characteristics.

13 At the beginning of 2015, we identified the CO_2 emission of all companies in the equities portfolio and determined a baseline reference for halving emissions (portfolio reference date 31-12-2014). We use the CO_2 emission data of the companies in our portfolio that we purchase from the specialised data supplier, Trucost. Emission data is only available with a delay. As a result this data lags the portfolio reference date by at least one year. An elaborate description of the measurement method is available on PGGM's website.

14 In addition to the company's own CO_2 emissions (Scope 1), this also comprises electricity consumption (Scope 2) and part of the CO_2 emissions of direct suppliers (Scope 3). In the previous Annual Report, we reported the CO_2 footprint on the basis of the portfolio weights at the beginning of the year. This meant that the steps taken to achieve further reductions during the reporting year were not evident in the reported CO_2 footprint. To bring the reported CO_2 reduction in line with the reported activities during the year, we will from now on report the CO_2 footprint calculated on the basis of the year-end portfolio weight. This does not affect the methodology used or the baseline measurement.

15 Collective value as at 31 December 2017: € 33 billion

16 Collective value as at 31 December 2017: € 22 billion

CO_2 REDUCTION IN REAL ESTATE AND CREDITS

Last year we investigated the feasibility of a CO_2 reduction strategy within the investment categories, real estate and credits. The research proved that the availability of CO_2 data of sufficient quality within credit is still limited. This primarily concerns bonds in emerging markets and, to a lesser degree, high yield in developed markets. As a result it is not possible to implement a strategy with sufficient coverage and the desired consistency. We will engage data suppliers in discussion to encourage them to increase the availability of CO_2 data. Once this is successful, we will re-analyse the reduction strategy and discuss this with our clients.

We also decided not to implement a CO_2 reduction strategy for real estate for the time being. Real estate is responsible for approximately 30% of global CO_2 emissions. Making the built environment sustainable will contribute to counteracting climate change.[17] At the same time the real estate universe is relatively homogeneous: the differences between the emissions produced by buildings are much smaller than the differences among companies in, for example, the equity universe. This is reinforced by the characteristics of the portfolio, which already scores high on sustainability criteria. Consequently, a material reduction of the real estate portfolios footprint consequently is not possible without significantly changing the risk and expected return of the portfolio characteristics. However, this does not mean that we are not aiming for CO_2 reduction within real estate. We do this by greening existing office buildings, for example. We measure the results within real estate on the basis of the GRESB scores, which also incorporate CO_2 emissions (see pages 19 and 35). We will therefore continue to make the real estate portfolios sustainable, but do not opt for the method as used for the equity portfolios.

1.3. Engagement with companies and market parties

Dialogue with CO_2-intensive companies

We use the above-referenced phase-out of equity interests as a signal to CO_2-intensive companies. We combine this approach with substantive feedback. This year, the response by companies was high: more than half of the companies responded. The responses were primarily focused on our ranking methodology. In addition, companies explained the initiatives being implemented to reduce CO_2 emissions.

We held follow-up discussions with companies that were underweighted for the second year in a row: the companies of which we sold part of our interest. We primarily focus on utilities in the United States and China. In the US, President Trump's energy policy was the key topic of discussion. Almost all companies explained that their long-term energy vision is not dependent on Trump's support for coal and the rejection of the Clean Power Plan. Even from a purely economic perspective the transition to sustainable energy seems to be most appealing.

A constructive dialogue with the largest electricity producers was initiated in China. The fact that a sympathetic ear at the right level was found is a key milestone in this regard. The awareness that the climate risks of these companies are important to shareholders contributes to the accelerated greening of the electricity supply in China.

DILEMMA: REDUCING CO_2 EMISSIONS TAKES TIME

Not all companies that we have selected for underweighting in the CO_2 index are able to achieve immediate results. Reducing CO_2 emissions requires major investments on the part of companies, that sometimes are only reflected in CO_2 efficiency after many years. An example that comes to mind is a coal-fired plant that is replaced by more sustainable energy. Considering this, we send an ambiguous signal to polluting companies: we encourage companies to accelerate the greening process, but we are most likely going to remove them from the portfolio at the end of 2019 anyway, because they have not demonstrated sufficient progress. An exacerbating factor is the lagging data. For our rankings we depend on the companies' reporting cycle, which always lags by one year. We accept this ambiguity, because our method does emphasise the need for fast action to avoid the uncontrollable effects of climate change.

17 International Energy Agency (2015), 'Energy Efficient Buildings for Low Carbon Cities'.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN PRIVATE REAL ESTATE

PGGM invests in a large number of real estate funds and joint ventures throughout the world. ESG considerations are fully integrated into the screening, selection and monitoring processes of real estate funds. Mathieu Elshout, Investment Manager at PGGM, explains how ESG is integrated in private real estate:

Mathieu Elshout

'Our real estate yields relatively more financial return ánd has a relatively high degree of sustainability.'

'Our real estate team seeks out suitable real estate investments throughout the world. Our objective: to achieve a sound and stable long-term return. We firmly believe that financial and social returns go hand in hand. We also believe that ESG factors influence the risk return profile of our investments. On the one hand, we therefore try to create value and on the other hand we try to reduce the risks associated with ESG factors. The following example illustrates our approach. In various locations throughout the world we invest in existing, somewhat older office buildings. We believe that we can add value by making these office buildings future-proof. This goes hand-in-hand with investments in the exterior and interior of the building. We want to significantly reduce energy use. Sometimes we are amazed how you can significantly reduce energy use with just simple measures.

PGGM, as a shareholder in funds, also asks for attention to be devoted to the real estate portfolio's sustainability. We insist on the need for having proper insight into the energy and water consumption of the buildings in which we invest. Only then is it possible to take sensible measures that reduce this consumption. In shareholder meetings we challenge the management of real estate funds to set firm objectives in this area. We are now seeing real estate funds that are aiming to have a carbon-neutral footprint by 2030. However, we cannot make the world more sustainable by ourselves. This is why PGGM, in an industry context, works on sustainability reporting requirements for real estate funds through organisations such as INREV. The greater our insight, the better we can direct our efforts.

PGGM also supports initiatives such as GRESB. The more parties provide insight into their sustainability performance, the better. This puts pressure on the entire market. Last year, 96 percent of the funds in which PGGM Private Real Estate has invested, took part in the study – the last four percent concerns maturing investments. As such the real estate funds selected by us comply with our requirement that they must report in GRESB terms, so that we have proper insight into the degree to which they integrate sustainability into their operations. Of our real estate funds, 84% (with a € 9 billion real estate value) received a green star in the GRESB methodology. A green star in fact means that sustainability policy and management are good and that results are measured in terms of energy use, CO_2 emissions, water consumption and waste management. Thirty percent of our portfolio (22 % a year earlier) performs in the highest GRESB category. These real estate funds are in the upper twenty percent of the relative GRESB rankings. The most recent GRESB scores clearly indicate that the PGGM Private Real Estate investment portfolio structurally improved more than the benchmark. While the rest of the real estate world is taking steps towards increased sustainability - clearly indicated by GRESB for years - we are progressing faster.

At the same time, the real estate portfolio managed by PGGM also shows a structural financial outperformance in relation to the index. In other words, our real estate yields relatively more financial return and has a relatively high degree of sustainability. While we need longer data series to be able to determine whether sustainability pays off financially, for us this is proof that financial return and sustainability (avoidance of CO_2 production) can go hand-in-hand. With this message we are engaging our real estate managers throughout the world.'

Letter to the Party Chairmen of the Dutch House of Representatives
In addition to engaging CO_2-intensive companies in dialogue, we encourage policymakers to formulate national and international laws and regulations that recognise the urgency of climate change. Climate policy must contribute to a change in behaviour among companies. During the formation of government, the chairmen of thirteen financial institutions sent a letter to all party chairmen in the Dutch House of Representatives. In this letter, also signed by PGGM, they argue for a transition to a climate-neutral, circular and robust economy, and offer cooperation to achieve the climate targets.

Climate Action 100+
In December 2017, the Climate Action 100+ initiative was launched in Paris. PGGM, together with over 200 institutional investors throughout the world, has committed to this engagement initiative. Collectively, the 100 companies with the largest contribution to the global emission of greenhouse gases will be held to account. The objective of this engagement is to have these companies take greater responsibility for the risks of climate change at a management level, to take specific action to lower their own CO_2 emissions and that of the chain in line with the Paris Agreement, and to report in line with the TCFD recommendations. These objectives are largely in line with the objectives PGGM has set for its own engagement programme. By joining the Climate Action 100+ initiative, we expect to engage in a dialogue with companies more efficiently and with greater strength.

Engie S.A. held to account for nuclear safety
In the event of reputation-sensitive incidents or social unrest we reactively engage companies in dialogue. In 2017, we engaged Engie, manager of the Belgian nuclear power plants Tihange and Doel, in dialogue for this reason. There is social unrest about the safety of these nuclear power plants, both located just across the Dutch border. PGGM informed Engie that it attaches importance to full openness concerning the investigations, asked it to explain how the recommendations in the critical report issued by the Belgian regulatory authority will be addressed and how nuclear safety is organised at the highest level within the organisation. Engie's response was enlightening, but not yet entirely satisfactory. We are therefore still in discussion about the independence of the internal daily oversight and the openness of the internal nuclear safety committee, which directly reports to Engie's Supervisory Board. The social concerns about the safety of nuclear reactors can only be eliminated when Engie and the regulatory authorities convincingly and with maximum transparency demonstrate that the power plants are safe. We are also asking Engie to invest in alternative energy sources, so that the reactors do not have to remain operational any longer than necessary.

1.4. Shareholder proposals
By voting on shareholder proposals, PGGM, on behalf of its clients, exercises influence on companies to induce them to adopt better climate policy. In 2017, we voted at various AGMs. At the ExxonMobil Corporation AGM we voted for a proposal that would oblige the company to provide insight into the climate resilience of its portfolio effective from 2018. This proposal was adopted, which is unique. Thanks to the work of the TCFD, large American asset managers also realise the importance of counteracting climate change and voted for this proposal.

At the AGM of Royal Dutch Shell Plc (Shell), where 'Follow This' asked for CO_2 reduction targets for the company's own emissions, as well as that of its clients, we abstained from voting. The proposal was rejected with 88% of the votes. We abstained from voting, because we recognise Shell's efforts relating to the transition to a CO_2-neutral economy.

During the AGM we called on Shell to take action on developing its own emission targets, reduce client emissions and provide insight into the future energy mix. After the meeting, Shell agreed to develop targets. In November, Shell presented its own long-term goals: by 2050, the emission of CO_2 per megajoule of energy produced must be halved and by 2035, emissions must be reduced by 20%. Shell aims to bring the CO_2 intensity of its energy products in line with the Paris targets. Shell looks at the entire chain: at its own CO_2 emissions as well as the emissions associated with the use of its products. We applaud Shell on this step forward. Shell is demonstrating leadership in the sector by translating the Paris Climate Agreement targets into its own goals and clearly gives world leaders a positive signal. This raises the bar for other energy companies. We will ask sector peers to follow in Shell's footsteps and follow its example.

1.5. Collaboration
TCFD recommendations published
In June, TCFD published its final report with recommendations for transparency concerning the financial aspects of climate change. The objective of TCFD is to promote a more consistent approach to measuring and reducing climate risks in investment portfolios. Furthermore, insight into these risks can provide a major boost to the required energy transition, which also provides opportunities for long-term investors. TCFD's report received broad support from policymakers and industry alike. More than 250 companies and financial institutions, including PGGM, publicly endorsed the recommendations.

Naturally, we also want to set a good example ourselves and comply with TCFD's recommendations. Over the past year, with the help of an external consultant, PGGM has made a quantitative estimate of the climate risks in its portfolio and developed climate scenarios. In addition we invest in climate solutions (see page 15). Furthermore, we continued working on reducing CO_2 emissions (see page 17). A lower CO_2 footprint means lower exposure to future carbon taxes and technological risks. In the area of engagement, we encouraged the polluting companies to increase their CO_2 efficiency (see page 18) and asked them to adopt the TCFD reporting guidelines. This year we spoke to various companies about this, including Shell (see page 20). We stimulate companies and sectors to develop a strategy designed to stay relevant in a CO_2-neutral world. We also incorporate climate into our risk analyses, for example for real estate. For more information on this topic visit our website.

ANALYSIS OF PORTFOLIO CLIMATE RISKS

In 2017, our climate risk working group completed its analysis of the implications of climate change – and the measures designed to counteract climate change – for our client investments. We did this based on various climate scenarios. Technology and government policy in particular are determining factors for the degree to which the portfolio will be affected by climate risk over a 15-year horizon. In three of the four scenarios, the Paris Climate Agreement's targets are not achieved. Yet, a rapid transition is not inconceivable with a positive interaction between technological development and climate policy.

The working group has prepared recommendations focused on improving the understanding and management of risks and exploiting opportunities. The influence of various types of climate risk – technology, policy, availability of natural resources and physical impact – were qualitatively identified at sector level.

The initial analysis demonstrated that while the total climate-related risk inherent in the investments of our clients currently is material, it is relatively limited in comparison to other risks, such as the interest rate risk. Although partially explainable by the portfolio's spread and the horizon over which climate change occurs, the analysis also leads to new questions, such as effects at the sectoral and regional levels. We will try to answer these questions in an in-depth follow up study. In this study we will start off with the portfolio components that appear to be most sensitive to climate change, including marketable securities and raw materials. Other sensitive sectors include energy, utilities, materials, and mining: sectors in which CO_2 is produced or consumed on a large scale. We ask the companies in these sectors how they are preparing themselves for the energy transition and the prospects they see for themselves in a CO_2-free economy (see Section 1.3). The TCFD recommendations provide an excellent reference framework for this purpose. We will continue to monitor the various scenarios, so that we can make timely adjustments. Technology and policy developments are crucial to the degree and impact of climate change. By continuously monitoring these developments it may be possible to mitigate risks on a timely basis.

Featured: Investing in Solutions in a larger context

The demand for investments that yield social return in addition to financial return, known as impact investments, is growing rapidly.[18] However, as yet there is no clear definition for investing with impact. Because institutions use different definitions, it is impossible to compare reported volumes of impact investments and to calculate the precise contribution of the financial sector to solutions to large global challenges.[19]

Sustainable Development Investments (SDI): an impact investment framework.

This is why, together with Algemene Pensioen Groep N.V (APG), we worked on developing a clear definition and standard for impact investments. The Sustainable Development Goals (SDGs) form the starting point. These 17 global objectives form a framework for using the same language when speaking about impact and, consequently, to make it possible to compare the investment volumes of different institutions. We refer to the investments that contribute to the SDGs as Sustainable Development Investments (SDI).

> ‘Standards enable verifiability and consequently reliability and comparability.’

The definition is as follows: ‘SDIs are investments in solutions that contribute to the SDGs. These investments meet our financial risk and return requirements and support the generation of positive social and/or environmental impact through their products and services, and sometimes via recognised transformational leadership.’

At the end of 2016, APG and PGGM published a statement with this definition. In 2017, various international investors signed this statement, thus indicating that they are adopting SDI as the definition and standard.

The SDI methodology consists of various elements, including taxonomies, or the classification of solutions for each SDG. APG and PGGM conducted a review to determine which products, services and business operations contribute to global targets. This way companies can for example contribute to SDG 5, gender equality, by providing micro financing funds for women (product), by providing information and education about gender equality (service) or through equal treatment of women and men on the shop floor (business operations). Investors and companies can choose a selection from the SDGs and the associated taxonomies in line with their strategy.

Impact Investing at PGGM

Since 2014, our largest client has been investing in solutions for the 4 areas of focus – Climate change, pollution and emissions, Water scarcity, Food security and Healthcare. These 4 areas of focus correspond to 5 SDGs (see Figure 2). Over the course of 2018, PGGM expects to have calculated the SDI volume for the Investments in Solutions, i.e. the contribution to all SDGs.

AREA OF FOCUS:	CLIMATE CHANGE, POLLUTION AND EMISSIONS	WATER SCARCITY	HEALTHCARE	FOOD SECURITY
Overlap with UN Sustainable Development Goal (SDG):	12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 7 AFFORDABLE AND CLEAN ENERGY	6 CLEAN WATER AND SANITATION	3 GOOD HEALTH AND WELL-BEING	2 ZERO HUNGER

Figure 2

Measurable contribution

In addition to an unambiguous definition of impact investing, a lot of work remains to be done on measuring impact. This is not about the amount of euros invested, but about the actual social impact of the invested euro’s. Identifying the social impact of investments continues to be a challenge because as yet there is no market standard used by all companies and projects.

> ‘In addition to their financial return, we wish to be able to effectively compare investments in terms of their contribution to people and the environment as well.’

We want to be honest and complete when reporting the impact achieved by the companies in which we invest. Therefore we have joined The Impact Management Project, which has developed a framework for this purpose. We want to create clarity about the term ‘Impact’. The following questions are addressed in this project:

1. How do we define impact? Does ‘not as bad’ also count?
2. Is the impact attributable to the company? Or is the impact attributable to the investor in the company?
3. What do you need to know to be able to claim that you made a difference? For whom did you make this difference? How much of a difference and compared to what?

The goal is to have more than 600 investors subscribe to this framework.

In addition, together with the SDG Impact Measurement working group, we are working for the Platform for Sustainable Financing of De Nederlandsche Bank on impact measurement guidelines. In this partnership, we have proposed a limited number of positive impact indicators for each SDG that are relevant for large institutional investors.

Finally, we encourage companies in which we have invested to collect impact data and to make this data available.

18 According to the European Responsible Investment Association, Eurosif, impact investments grew by 385% between 2014 and 2016
19 IPE: Impact Investing a new frontier

2. Water scarcity

Worldwide, more than 60% of the population live in areas where the available water supply is unable to meet the demand.[20] Also, water is of major importance to industry: many products and business processes are dependent on a proper water supply.[21] Poor water quality or insufficient supply can limit, and even halt, activities in business operations and in the supply chain. This clearly poses risks for investors that invest in these companies, but also offers opportunities for investing in solutions for water shortages and in sustainable water management.

> ‘Knowledge and capital can help solve water problems throughout the world.’

20 World Bank
21 UNESCO: The United Nations World Water Development Report

How did we contribute to this theme in 2017?

2.1. Investing in water solutions

At the end of 2017, we had a total of € 900 million invested in water scarcity solutions on behalf of our clients. An overview of all investments in water solutions and their impact is available on our Investing in Solutions webpage.

An example of an investment in water solutions in 2017 is the purchase of the Nordic Investment Bank green bond. 22% of the proceeds of this green bond is allocated to waste water treatment, including an expansion of Stockholm's underground waste water treatment plant and the construction of a 15-kilometre long sewer tunnel below the city. The sewerage network's increased transport capacity is expected to reduce the overflow of wastewater into the Mälaren Lake from an estimated 185,000 m³ per year to less than 10,000 m³. The new technology is expected to reduce the discharge of phosphates into the Baltic Sea by 40% and that of nitrogen by 33%.

Another investment in water solutions is our investment in American Water Works. Twelve million Americans depend on American Water Works for their water supply and wastewater treatment. Through information programmes and technological improvements, American Water Works manages to save approximately 55 million m³ water each year, equivalent to the water consumption of 3 million people. Through the treatment of 19 million m³ wastewater, more clean river water is becoming available, enough to serve 15,000 people or 2,000 km² nature conservation area downstream.[23]

INVESTING IN WATER SOLUTIONS

TOTAL:	INVESTED IN:	RESULTS:	THE IMPACT OVER 2016 IS EQUIVALENT TO:
€ 0.9 billion New in 2017: € 0	**> Water purification** **> Water conservation** **> Drinking water production**	**6** million m³ of water saved **350** million m³ of wastewater treated.	the average water consumption of **120** thousand residents in the Netherlands. The number of litres of purified water is equivalent to the average amount of water consumed by taking **6 billion** showers.[22]

DILEMMA: WATER SCARCITY IS NOT REFLECTED IN PRICING

Too little is being invested in water solutions in the Netherlands as well as internationally. The fundamental problem with water is that the increasing scarcity is not reflected in a higher water price, as is the case for oil, for example. As a result, there is no stimulus to make efficient use of water, and this also limits the opportunities for Investing in Solutions. Given the lack of pricing information, investors have to rely on other data that enables them to include water scarcity and pollution in their decisions.

PGGM has conducted its own research into the potential losses caused by water shortage and/or pollution as a percentage of EBIT. This research focuses on 10 large companies in China, India and the US. We engage the senior management in these companies in a dialogue on the basis of the financial risks. The data we acquired gives greater weight to our arguments calling for water risks to be incorporated into strategy and to limit water consumption in business operations. Ultimately the issue at hand is to reduce water-related risks in the equity portfolio.

22 The impact is calculated over 2016.
23 These figures are based on models developed by the City University of New York.

2.2. Engagement with companies and market parties about water risks

Tyson Foods Inc (Tyson) improves wastewater management
We have been engaging various companies, including Tyson, in a dialogue since 2016. With its slaughterhouses and (primarily) intensive livestock farming operations, Tyson is one of the largest water polluters in the US. In 2017, Tyson appointed a Chief Sustainability Officer and improved wastewater management in its own factory farms and that of its direct suppliers. The company does not yet want to commit to a company-wide policy with water quality standards, because these would be dependent on 'specific circumstances and the supplier's ability'. We continue to urge the company to adopt a company-wide policy, for example by bringing a previously rejected shareholders' proposal back for a vote.

Water Information Request
In addition to engaging companies, we engage market parties to gain better insight into material water risks and opportunities, so these can be better integrated into investment decisions. An example of this is the long-term engagement with the Carbon Disclosure Project that bore fruit in 2017: the annual Water Information Request has been revised and focuses on 'value-at-water-risk' data for use by data suppliers such as MSCI Inc. (MSCI), Bloomberg L.P. and Trucost. Furthermore, it is now easier for companies to report on their water risks and mitigating measures. The Water Information Request now makes a distinction between general and sector-specific information and links a factory's water use to potential water scarcity at the relevant location.

This is expected to result in a higher company response rate and generate more relevant data for investors that want to quantify the water risk in their (index) portfolios. This data includes the number of production locations, the production capacity, actual production and ultimately the added value that is at issue as a result of water scarcity or pollution. Ultimately it must become possible to do for water what many investors already do for their carbon footprint: reweigh the companies in the index - increase investments in companies with low water risks and decrease investments in companies with high water risks. For more information about water-related engagement visit our website.

2.3. Collaborating for water

To focus attention on water risks and on opportunities to quantify and reduce these risks, PGGM in 2017 wrote articles and gave presentations. Standardisation is of major importance in this regard. Led by the American NGO Ceres, a group of investors, including PGGM, recently published the Investor Water Toolkit to be able to better integrate 'externalities' such as water scarcity, pollution or flooding risks (and the associated investment opportunities) into the investment process.

As is often the case when the issue is all about water, the Netherlands plays a prominent role. In 2017, PGGM was closely involved in the Amsterdam International Water Week, which is organised every two years around the Watertech trade fair. PGGM facilitated a session about attracting institutional investors to existing solutions for drinking water and wastewater facilities.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN LONG-TERM EQUITY STRATEGY

The Long-Term Equity Strategy team is positioned to invest in solutions by means of public equity for the four sustainability themes: Climate change, pollution and emissions, Water scarcity, Food security and Healthcare. The Investing in Solutions via Listed Equities portfolio comprises approximately 45 companies. Jeroen Junge, Investment Manager, explains on behalf of the LTES team consisting of 7 investment managers, how the team integrates ESG into its activities:

Jeroen Junge

'We are convinced that avoiding these ESG risks not only leads to a better world, but in the long term also to better financial return.'

'We are not only concerned with financial returns but also estimate and manage ESG-related risks on the one hand and the positive impact on the other hand. These two related factors are an integral part of the decision-making process whether to invest or not to invest. As far as ESG is concerned, we primarily focus on factors that constitute a significant risk for PGGM and its clients. Child labour and other forms of exploitation come to mind here. We are convinced that avoiding these ESG risks not only results in a better world, but in a better financial return in the long term. This is why ESG integration is important to LTES.

But how does this work in practice? The investable universe is composed on the basis of impact criteria. The universe could contain companies whose ESG risks do not counterbalance their impact. Part of the mandate therefore is to screen companies for ESG risks as part of the equity selection process. First, during our due diligence process, a thorough ESG analysis is carried out for a broad range of topics in order to identify the ESG risks relating to the company, resulting in a general score of 1 (high risk) to 5 (low risk). The analysis includes an assessment of the existing ESG policy, the reporting and management system, as well as an analysis by independent external sources concerning the company's ESG performance. We make use of external data sources, such as the internet, annual reports, and specialised databases, such as Sustainalytics B.V. and MSCI ESG Manager. In addition, LTES explicitly reviews any outstanding violations by companies. All this data is considered in the company's investment case, and discussed in the LTES sub-Investment Committee in the presence of PGGM Risk. In addition, we meet with the management of the companies in which we invest. The result of the ESG analysis forms an integral part of the investment case.

If portfolio companies are associated with material ESG issues, we try to contact the executive management to encourage risk management and process improvements. We try to exercise influence and to move the organisation towards adopting the sector's best practices and international standards. In a number of instances, our ESG analysis led us to refuse to include the company in our portfolio.

In addition to our focus on ESG risks, we also focus on impact. Quantifying impact at the product level is a relatively new development and consequently a challenge. We strongly believe that a well-supported quantitative statement of the positive impact of a company as a whole on the environment and on society must be developed bottom-up, at a product level. This requires close cooperation with the companies in our portfolio. The process requires patience and a great deal of work. Naturally, we are not shrinking from the challenge: we are making progress, one step at a time, in identifying our sustainability contribution. In 2017, our efforts produced various results. For example, the company Croda, at our urging, included impact as part of their annual CSR reporting and two other companies in the pharmaceutical sector created projects to measure the impact of different medicines.'

3. Food security

Food security for a global population growing to nine billion by 2050 is and remains a tremendous challenge, most definitely because increasingly more people are adopting a 'western' diet with a great deal of meat and dairy.[24] This not only concerns the amount of food but also the quality of our nutrition and the sustainability of production. In 2017, there were almost as many obese people as there were people who suffered from hunger.[25] In addition, it is becoming increasingly clear that the production system is taking a tremendous toll on the health of people and the environment, for example through deforestation (palm oil), excessive use of artificial fertilisers, water pollution and the salinization of agricultural lands, and resistance to antibiotics. It is clear that we have to move towards a more efficient, more sustainable and healthier food system. There are opportunities for investors here.

> 'We have to make production smarter in order to keep pace with the rising demand for food in a situation of lagging supply.'

24 United Nations General Assembly United Nations Decade of Action on Nutrition (2016-2025)
25 Food and Agriculture Organization of the United Nations, 'The state of Food Security and Nutrition in the World: Building Resilience for Peace and Food Security'.

How did we contribute to this theme in 2017?

3.1. Investing in Food Solutions

At the end of 2017, we had invested a total of € 2.8 billion in solutions for food security on behalf of our clients. An overview of all investments in food solutions and their impact is available on our Investing in Solutions webpage.

In 2017, we made new investments in food solutions. One of these investments concerns a co-investment in Grand Frais, a French market leader in the sale of fresh products to consumers. Grand Frais has approximately 185 shops in France that in addition to its own vegetables & fruit, fish and dairy department, also sell partner meats, groceries and spices. Grand Frais generated € 1.0 billion in revenues and this is expected to continue to grow to € 1.2 billion this year.[27]

In addition to the investment in Grand Frais, in 2017 we invested in AdecoAgro SA, an Agricultural company active in the field of efficient food production and sustainable energy. This company produces sustainable food using advanced techniques designed to maximise the efficiency of food production, while not depleting the soil at the same time.

NVESTING IN FOOD SOLUTIONS

TOTAL:	INVESTED IN (NON-EXCL.):	RESULTS (NON-EXCL.):	IMPACT OVER 2016 IS EQUIVALENT TO:
€ 2.8 billion New in 2017: **€ 0.2 billion**	> Efficient production > Solutions to combat food wastage	**85,000** tonnes improvement in return.	**3560** trucks filled with food.[26]

DILEMMAS IN DETERMINING IMPACT

There are dilemmas in determining impact. For example, there are companies with solutions for one theme that are at the expense of another theme. In addition, there are solutions with a downside. This is the case with artificial fertilisers for example: production is extremely CO_2 intensive and excessive use deteriorates water quality. At the same time, artificial fertilisers make a positive contribution to food security. Agricultural soil requires additional fertiliser to be able to produce sufficient food for a growing world population.

This presents us with a dilemma: artificial fertiliser companies may be underweighted in the CO_2 index, while they form part of the Investing in Solutions via Listed Equities universe.

Fortunately, this dilemma only applies to a handful of companies. In consultation with our clients, we have chosen to accept the dilemma that the production of artificial fertilisers is highly CO_2 intensive, but that the artificial fertiliser product is an important solution for food security. CO_2 reduction and Investing in Solutions are both important and we would shortchange one of these instruments if we made it subordinate to the other. Due to this dilemma, we always assign clear goals to each instrument. The CO_2 index only aims for CO_2 reduction and not for impact, and Investing in Solutions via Listed Equities only aims for impact and not for CO_2 reduction.[28]

26 The impact is calculated over 2016.
27 Revenues generated in 2016.
28 In the 2016 Responsible Investment Annual Report, we indicated that we would be initiating an engagement project with artificial fertiliser manufacturers. In the context of our focus, we have decided to abandon this after consultation with clients.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN PRIVATE EQUITY

PGGM has its own team of internal managers focused on investments in private equity. We apply ESG criteria to the private equity investments we make on behalf of our clients. Maurice Klaver, Investment Manager at PGGM for over 7 years, explains how he integrates ESG into his daily activities:

Maurice Klaver

'By setting an example, we hope to stimulate our partners to elevate their ESG policy to a higher level and consequently the industry gradually as well.'

'In my work as investment manager in private equity, the ESG criteria are integrated into the entire investment process. This starts off with the assessment of our investment partners. The PGGM private equity team does not only want to achieve good returns, but requires the General Partner (GP) to perform in the area of ESG as well. PGGM only selects funds with which agreements are reached concerning ESG standards. This is important, because the private equity partners with which we work are responsible for managing the ESG issues. We assess how they deal with ESG in their investment process through means of our ESG framework. For example, we review data about country and sector risks, and this is compared with the GP's ESG scores from our own assessment. This is then used as a basis to identify the General Partners to engage in dialogue. In addition, incidents, such as accidents with severe physical injury, major environmental incidents, and legally established misappropriation of funds are recorded and discussed.

This analysis on the basis of our ESG framework provides us with a proper context to engage our partners in dialogue about how they apply their process. In addition, it is an instrument to gain insight into which partners are lagging and it enables us to identify whether the portfolios of our General Partners contain high ESG risks. In 2017, pursuant to this analysis, we engaged in a dialogue with 12 GPs with a high ESG risk. A number of them has since improved their monitoring and reporting systems for their subordinate companies. PGGM also engages in a dialogue with the market in order to improve ESG performance. We enter into a dialogue about sustainability with partners and stakeholders to elevate the private equity industry to a higher level. Among other things, we devote attention to ESG reporting standards. In 2015, together with AlpInvest Prtn. and APG, we developed a template to promote standardised ESG reporting for private equity investments. In 2017, we evaluated to what extent our ESG template had gained acceptance. There continues to be a large divergence in the extent to which our standards are embraced by various General Partners. There are partners that have only recently included ESG as a factor in their investments. Often this is driven by a request from investors rather than a belief within the organisation that this would elevate their investments to a higher level. This is why it is important to draw the attention of our partners to the value of a sound ESG process. We continue to be practical in this respect: by setting an example, we hope to stimulate our partners to elevate their ESG policy to a higher level and consequently the industry gradually as well.'

4. Healthcare

Healthcare is an important area of focus for PGGM due to our affinity with this sector. Access to good healthcare is a basic need and a human right and we want to commit ourselves to this. In addition, healthcare has our attention because investments in this sector can result in both social and financial returns. Access to good healthcare throughout the world creates better living standards and provides opportunities for people to continue to develop themselves, for companies to tap into new markets and for economies to grow. Companies that do not sufficiently respond to global challenges, such as rising healthcare costs and the ageing population are running a risk. Companies that do however respond to these challenges, for example by developing better and cheaper medicines and conceiving innovative solutions for the care of the elderly, can instead leverage the demographic challenges to their benefit.

'Through our investments we want to contribute to access to good healthcare for everyone worldwide.'

How did we contribute to this theme in 2017?

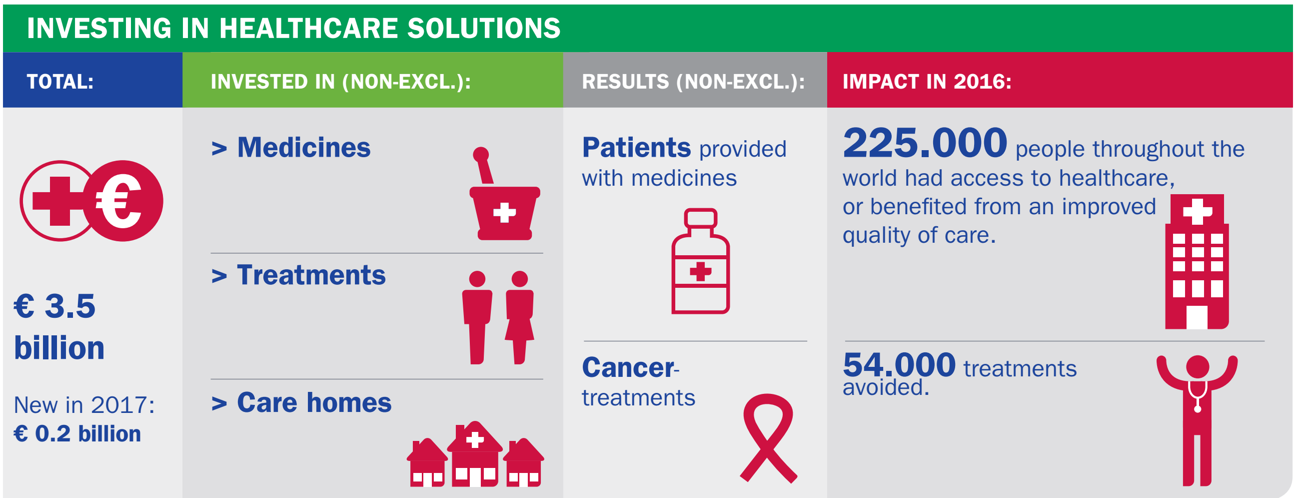
4.1. Investing in Healthcare Solutions

On behalf of our clients we invest in companies that work on solutions for improved (access to) healthcare. The reach of pharmaceutical companies covers tens of millions of patients. The investments of our clients contribute to this. Given the relatively small size of our interest, and on the basis of the available company reports or impact models over 2016, we are able to prove that access to healthcare for over 225,000 people has improved, or that they have benefited from an improved quality of care.[29] An overview of all investments in healthcare solutions and their impact is available on our Investing in Solutions webpage.

By means of the Investing in Solutions via Listed Equities portfolio, in 2017, we invested in pharmaceutical companies that make a contribution to healing or reducing the effects of various illnesses, such as hepatitis C, HIV/AIDS, cardiac insufficiency, various forms of cancer and neurological disorders. For example, we invested in the Swiss pharmaceutical company Novartis AG (Novartis). Novartis has developed a drug for treating cardiac insufficiency. Published research2 among 8,400 patients shows that this drug not only reduces the number of hospital admissions, but can also prolong the survival rate of patients with cardiac insufficiency by 1 to 2 years in comparison to the standard treatment. We also invest in AstraZeneca PLC. This company put a drug against ovarian cancer on the market. Every year, 1,350 woman in the Netherlands are diagnosed with ovarian cancer, and approximately 60% of them are expected to die from it. Combined with a test that detects a hereditary mutation, the drug is capable of adding a significant number of months of high-quality life in comparison to other therapies. For more information on impact investing in pharmaceutical companies click here.

In addition to investing in the pharmaceutical industry, we also invested in suppliers to this industry, such as suppliers of laboratory equipment capable of performing large numbers of diagnostic tests highly accurately and quickly.

Furthermore, PGGM invests in the build-up and management of healthcare real estate portfolios. In 2017, our largest client increased its investments in Dutch healthcare real estate via Amvest. In total, € 156 million was invested in small-scale residential care facilities for the elderly who due to their care needs are no longer able to live independently.



29 The impact is calculated over 2016.

OUR VISION OF IMPACT WITHIN LISTED EQUITIES

An often asked, and fundamental, question about our Investing in Solutions via Listed Equities is whether the investor actually makes a difference (has a positive social impact): What is the impact of purchasing or holding a listed share? Listed shares can be purchased and sold to other investors without effecting a change in actual practice.

First of all, the impact is produced by the company. We therefore have to be careful in appropriating that impact, which in all likelihood would have come about without the PGGM investment. Yet it cannot be said that the investor does not add anything at all. By explicitly selecting companies with the highest impact for the Investing in Solutions via Listed Equities mandate we send a clear signal to the market: impact is becoming an important asset allocation factor. In addition, we engage in a dialogue with these companies to reduce the ESG risks and, in particular, to measure the generated impact. We send an important signal with the last consideration: impact must be measured so that it can also be managed in due time.

At PGGM, we have made the measurement of impact easier using Sinzer's software. Together with the external manager of the Investing in Solutions via Listed Equities mandate, UBS, and academics at Harvard, City University of New York, and Wageningen University, we have developed models designed to determine the positive impact of listed companies. The aim is to further refine these models for application to a much larger number of companies.

4.2. Engagement of companies and market parties

We have a clear vision of access to medicines that we propogate in our engagement and voting activities: the pricing of medicines must be transparent and must take affordability into account. Affordable medicines lead to more accessible and better healthcare and sustainable profitability at the same time.

Improving access to affordable healthcare

In 2017, PGGM engaged a large number of pharmaceutical companies in a dialogue on potential improvements concerning access to healthcare. We held discussions with various companies such as Bristol-Myers Squibb Company, Gilead Sciences Inc., Novartis, Merck & Co Inc. (Merck), Pfizer Inc. (Pfizer) and Johnson & Johnson on how they can improve access to healthcare by educating doctors and nurses in developing countries. In addition, we asked them to offer a wider range of products, including products for non-contagious diseases, in developing countries.

Pay-for-Performance

In 2017, we spoke with the same companies about introducing Pay-for-Performance structures with providers of healthcare. Such structures remunerate producers on the basis of the effectiveness of their medicines. In the current healthcare debate, the pricing of medicines plays the most important role, while it is in fact the cost of healthcare that must be curbed in order to keep the system in place. Increasing the remuneration received by producers in case of successful treatments and reducing it when a treatment does not take hold, rewards innovation in the pharmaceutical sector. This provides a strong incentive for developing medicines that are as effective as possible and also being paid for this, without putting too much pressure on the healthcare system. It also forces producers to clearly identify the (social) impact of their medicines. Several companies, including Merck and Novartis, already took steps in this area in the past. We are asking other companies to do likewise.

Transparent pricing

During 2017, PGGM asked pharmaceutical companies to be more transparent in the pricing of their medicines. A number of producers is providing more clarity in this area, but as far as we are concerned they are not yet going far enough. PGGM once gain urged companies to include access to medicines and healthcare in the remuneration methodology. A number of companies have agreed to do so and to report on this in the near future

In discussion with McKesson Corporation (McKesson) and Pfizer on the use of medicines as a means of execution

In April 2017, McKesson and Pfizer turned out to be involved in the production and supply of a muscle relaxant that was going to be misused in a series of eight executions in Arkansas. This was the highest number of executions in almost half a century and the first executions in 12 years. The shelf-life of one of the three drugs to be used was set to expire shortly, as a result of which the State of Arkansas wanted to speed up the executions. Both Pfizer and McKesson, in part pursuant to engagement by PGGM, have recently implemented measures as part of their delivery conditions to prevent such misuse. However, the Arkansas prison had evaded these measures by means of deception.

AFFORDABLE HEALTHCARE FROM A SHAREHOLDERS' PERSPECTIVE

As a shareholder with roots in the healthcare sector and Dutch society, investing in pharmaceutical companies sometimes generates tensions. While we want to earn good returns for our clients and their participants, we also actively devote efforts to improving access to healthcare, for example by making and/or keeping healthcare affordable. PGGM is convinced that one does not have to be at the expense of the other. As indicated above, a pay-for-performance model can be of help here, but shifting the focus from turnover to a focus on patients also contributes to this. With the latter we aim to establish targets in relation to the number of patients pharmaceutical companies want to reach instead of merely financial targets. Some companies have started working on this. For example, the Accelerated Access initiative was launched at the beginning of 2017. This initiative is a partnership of 22 pharmaceutical companies with the objective of drastically reducing premature mortality as a result of non-contagious disorders by treating more patients. In addition, some pharmaceutical companies are now using internal targets for the number of patients they want to treat on an annual basis. This demonstrates that the sector is seeing a change in mentality that we sincerely applaud.

We spoke to McKesson and Pfizer on multiple occasions to urge them to speak out against the misuse of the drug in question. In addition, PGGM asked McKesson and Pfizer to undertake all necessary legal steps to prevent the executions. Pfizer said it had exhausted all of its legal avenues, but, at the request of PGGM, publicly supported McKesson in its attempt to retrieve the drugs. McKesson instituted various proceedings against the Arkansas prison and partly due to these efforts a number of executions have been prevented.

4.3. Exclusions

Where necessary we exclude companies in accordance with the PGGM Implementation Framework. The American company Reynolds American was removed from the list of exclusions after it was acquired British American Tobacco, which we had already excluded.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN LISTED REAL ESTATE

PGGM globally invests in real estate. Hans op 't Veld, Investment Manager at PGGM Listed Real Estate and as of May 2018 head of responsible investment at PGGM, explains how ESG is integrated into his activities:

Hans op 't Veld

'Listed Real Estate is eminently suitable to bring about ESG improvements in the built environment.'

'The companies in which we invest on behalf of our clients through the PGGM Listed Real Estate Fund (LREF) are scored in terms of ESG factors. Corporate Governance is a key factor in this respect. In case of a low score, we proportionately reduce our investments in the relevant company. In addition, the scores are a reason for engaging companies in dialogue. We maintain intensive contact with the management of each company in the portfolio and engage them in a dialogue on the possibility of implementing governance improvements. This dialogue is also increasingly conducted with the supervisory board, especially concerning the subject of remuneration and diversity. We also discuss crucial areas of governance with other investors in order to develop market standards. We use various means for this purpose, including the Investment Advisory Committee for Listed Real Estate that we created last year and which is chaired by us. This enables us as a sector to clearly identify the governance improvements we consider important, although every investor individually will have to disseminate this to the companies in the portfolio.

Another important factor in ESG integration in listed real estate is the reduction of the portfolio's footprint. After all, climate change can impact the portfolio. For example, in 2017, there was an energy shortage due to extreme weather in Australia and storms and floods in Florida and Puerto Rico. Although damage often is insured, insurance premiums will rise and without any change in policy it will become increasingly difficult to manage the more frequent events. On the other hand, investments must be made to keep the real estate relevant over the longer term, as the sustainability requirements are tightened and it is no longer possible to rely on fossil fuels. For example, we are observing that governments are tightening energy performance requirements, as a result of which it is no longer possible to let or sell buildings that are non-compliant. Measuring and managing this risk is a key aspect of portfolio management.

Given the contribution of real estate to the emission of greenhouse gases and the use of natural resources, increasing the sustainability of existing real estate is especially important. This means that return (adjusted for risk) and sustainability will go hand in hand over time. An example of this is the investment in Deutsche Wohnen [German Living] (approx. € 320 million). This company owns approximately 160,000 homes and care apartments and systematically renovates these – often ageing – apartments to bring them up to a more sustainable level. In 2016 alone this resulted in a reduction of 7.8% in energy intensity.

We measure progress in terms of the sustainability of the portfolio on the basis of the GRESB figures, among others. GRESB collects information about sustainability on the basis of an annual survey, which indicates the extent to which companies have a sustainability policy and whether they in fact implement this policy. The GRESB figures show that the listed real estate equities score better than the average results and that the portfolio managed by PGGM in turn structurally scores better than the average of the listed companies tracked by GRESB.

PGGM's role as a capital provider is also important in the build-up and management of care real estate portfolios. PGGM's listed real estate portfolio includes approximately € 800 million in care real estate investments. The bulk of these investments is currently located in the United States. However, we are seeing that – due to the increasingly ageing population – the market is growing fast in Europe. Through investments in the Belgian company Aedifica, we currently have investments in care real estate in the Netherlands as well, for example in Zeist and in Bosch en Duin. We expect the portfolio to continue to grow over the coming years.'

5. Safeguarding human rights

For an investor, there are all kinds of legal, operating and reputation risks inherent in companies that are incapable of preventing or mitigating negative impacts on human rights. Companies are increasingly held responsible for human rights violations occurring in the supply chain. Apart from risks, we are also perceiving opportunities in the effective management of human rights and working conditions. An active, fully integrated approach to human rights enables companies to anticipate and manage key risks before they manifest themselves or get out of control. We want to contribute to preventing and limiting human rights violations through means of engagement with the companies in our portfolio. We therefore recognise the responsibility of investors in the area of human rights.

> ‘The beliefs of our clients, as well as our own beliefs relating to responsible investment and our collective aim for sustainable development are a key motivation for us to take responsibility in the area of human rights.’

How did we contribute to this theme in 2017?

5.1. Engagement of companies

In 2017, our engagement activities were primarily focused on the implementation of the United Nations Guiding Principles for Business and Human Rights (UNGPs) in the mining, oil and gas sectors and on the improvement of working conditions in the agricultural supply chains. In addition, we were involved in engagement on child labour in the cobalt supply chain of telecoms and car companies. We are seeing that companies are increasingly aware of the problems in their supply chain and that they are open to engagement with us.

Engagement in the mining, oil and gas sectors

Activities in the mining, oil and gas sectors often go hand-in-hand with serious violations of the human rights of local communities. For example, these companies often take over the territory on which a local community economically depends without any or sufficient compensation and/or by coercion and violence.
We engaged approximately 30 of the largest companies in each sector in discussions about the implementation of the UNGPs. We contributed to the development of a methodology designed to measure the progress of selected indicators for each company. This methodology is in accordance with the Corporate Human Rights Benchmark (CHRB).

We are observing an improvement in transparency and reporting for all indicators. By comparing the KPIs with the UNGPs, all companies improved the transparency of their policy by 16%, implementation by 32% and remediation by 35%.

Within this programme, PGGM engaged various companies in discussions, including Glencore plc (Glencore) and Freeport McMoRan Inc. (Freeport). Both companies were open to discussion and at our request were available for a number of meetings. Glencore as well as Freeport have integrated the UNGPs to a greater extent than two years ago, which is when we initiated this project. Freeport appears to view being a reliable supplier of materials to its clients as a business case. The major impact of the Grasberg mine on the environment is an issue regarding which we will continue to engage the company. Glencore has strengthened the management and supervision of human rights issues and has significantly improved its reporting. Glencore now reports in accordance with the modern slavery act and reports on sustainability and climate change. Furthermore, the company has halted several activities in the Western Sahara and progress is evident in the effectiveness of the complaints committees. The supervision of the parties with which Glencore does business in high-risk areas has also been improved.

Working conditions in the agricultural sector

In 2017, we engaged collaboratively on labour practices in the agricultural supply chain. We are focused on improving the traceability of procurement activities and improving supplier relationships as a means of improving working conditions in the global agricultural supply chain.
A number of important issues, such as living wage, forced labour and women's rights are included in this programme.

Successful engagement with Centrais Elétricas Brasileiras SA – Eletrobras (Eletrobras)

In addition to our engagement programmes focused on human rights and working conditions, we also engage companies on the Global Compact Violators list (see page 12) in dialogue. One of the companies we spoke to in 2017 is the energy producer Centrais Elétricas Brasileiras (Eletrobras). Eletrobras was on the engagement list due to serious conflicts with the local population concerning the Belo Monte dam in Brazil, where the company generates power. The conflicts have decreased and cooled off, and the company is maintaining a continuous dialogue with the local communities. At a policy level, Eletrobras has developed a new CSR policy that includes a reference to the Indigenous and Tribal Peoples Convention (ILO169), which requires companies to take the indigenous populations that inhabit the region in which the company operates into account. Finally, the company has implemented the relevant requirements imposed by the Brazilian authorities and is reporting on this. As a result, Sustainalytics has concluded that the company should no longer be designated as a Global Compact Violator. The company has been removed from the engagement list, effective from 2018.

5.2. Publication of PGGM human rights policy

This year we published the PGGM human rights policy, which relates to our HR activities, PGGM's purchases and the investment activities we carry out on behalf of our clients. The PGGM human rights policy explains the human rights respected by PGGM. It specifies the business operations to which it applies and provides an overview of PGGM's activities in the area of human rights.

The policy zooms in on asset management, where the potential impact on human rights is greatest. It identifies the investment beliefs, indicate the relevance of human rights for investments, and shows how PGGM takes these into account in the investment processes it carries out on behalf of it clients.

These activities are not new. The policy development process helped increase our awareness and created a better understanding of the social problems that can be influenced and the potential negative influence on our investments. With the ambition of our largest client to quadruple investments with a positive impact, we came to

ENGAGEMENT: EXPECTATIONS AND REALITY

As a responsible investor we would like to exercise a positive influence on the companies in our portfolio and how they deal with human rights. This is challenging. To increase our influence, we work together with other shareholders. The larger our collective share in the company, the greater the influence we are able to exert.

We regularly receive inquiries from NGOs and trade unions concerning (alleged) violations of human rights and poor working conditions at companies throughout the world. Although we would like to tackle these problems as they occur, we are not always capable of doing so. We have a large number of companies in the portfolio, forcing us to make choices. Which companies do we want to engage in dialogue and which themes are a priority?

We select companies for engagement on the basis of validated data and our own professional view. In addition to this regular engagement programme, we reserve time for ad-hoc engagement with companies that are brought to our attention by NGOs, unions and other stakeholders

realise the growing importance of managing the negative effects. This makes the further implementation of the OECD guidelines, and more specifically the UN Guiding Principles on Business and Human Rights, increasingly more important.

In cooperation with an experienced third party we organised a human rights workshop.We want to increase the internal knowledge of investment teams so that they can integrate ESG factors, such as human rights, into their daily work. This is also a way for us to prepare ourselves for questions about human rights and labour laws that the pension sector can expect as a consequence of signing the International CSR covenant.

5.3. Partnerships, development of standards

International CSR covenant

In March 2017, the Pension Federation signed a statement of intent for the development of an International Corporate Social Responsible (International CSR) covenant. Most of PGGM's clients have also signed this declaration of intent. With this covenant the pension sector wants to make agreements with the government, NGOs and unions on how each party can promote International CSR. PGGM, as service provider, contributes to the covenant development process by sharing knowledge about the practicability of the covenant. The exploratory phase of the covenant development process was initiated in September 2017. During this phase, the pension sector, the government, NGOs and unions have come to understand each other's possibilities and limitations. In 2018, the substance of the covenant is on the agenda of the four parties.

Modern Slavery Act

PGGM has co-signed an Australian investors declaration that points out that the involvement of Australian companies in the use of forced labour in their supply chain can impact their long-term returns, their reputation and their license to operate. This declaration aims to bring the implementation of an Australian Modern Slavery Act closer, which provides opportunities for fundamentally tackling forced labour. 58 investors that collectively manage over € 3 billion in assets have signed the declaration.

5.4. Exclusions

In 2017, we added Venezuela to the list of exclusions for government bonds. The reason for excluding the Venezuela government bonds are the sanctions – including a weapons embargo – the European Union imposed on this country in November 2017.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION AND EXTERNAL MANAGEMENT

The External Management Team is responsible for the selection, monitoring and management of external client mandates in public markets and, since the end of 2017, for internally managed mandates in public markets as well.[30] Barbara van Weerden, Investment Manager, explains how the ESG factors are integrated into her activities.

Barbara van Weerden

'We aim to select external managers who share our ESG vision and that of our clients, and who devote proper attention to material ESG risks and opportunities in their investment processes.'

'When selecting, monitoring and managing external managers, we include aspects relating to responsible investment. We aim to select external managers who share our ESG vision and that of our clients, and who devote proper attention to material ESG risks and opportunities in their investment processes. These factors also are a fixed item on the agenda of the regular review meetings with external managers.

How the External Management Team integrates ESG factors is stipulated in Public Guidelines in 2016. In 2017, we developed an ESG scoring protocol to enable us to assess the extent to which our current managers are compliant with these guidelines. Our external managers received a questionnaire concerning ESG integration. Next, all managers were assigned a score on the basis of the responses provided. This involves an assessment of the responsible investment policy, governance, the degree of ESG integration in investments, voting/engagement, reporting and alignment with the PRI/other initiatives. All managers are uniformly scored on their ESG profile in accordance with this protocol. In 2017, there was a great deal of variance in manager scores. We use the knowledge gained by identifying this variance to help managers improve. We conducted a feedback meeting or call with each manager to cover the areas for improvement we had found.

In addition, we encourage external managers to be transparent and to share their knowledge of ESG integration and its impact on investments. We also assess the voting behaviour of external managers. How often do they vote in favour of management proposals? Is their voting behaviour in line with the voting guidelines? When we suspect discrepancies, we engage the external managers in dialogue. Apart from this, the team organises knowledge sessions to which external parties who we consider to be thought leaders are invited to share their knowledge with our internal teams and to enter into a dialogue relating to any responsible investment issues. This way we try to facilitate knowledge sharing among our internal and external managers.'

External Management also manages the Investing in Solutions via Listed Equities mandate, which is partially allocated internally to PGGM and partially externally to UBS. See page 22 for additional information about these investments in solutions.

30 See Appendix 1 for the implementation of responsible investment in externally managed mandates.

Featured: Does sustainability pay?

Over the past decade, the Dutch pension funds have to an important degree embraced the principles of responsible and sustainable investment. This is understandable in view of the long-term horizon associated with pension capital. PGGM interprets this as follows: responsibly invested pension assets contribute to a good pension and a liveable world. Such a 'valuable future' revolves around more than just money. The return on pension investments of course makes a key contribution to funding future pension entitlements. Investing pension assets makes it possible to significantly increase the value of every euro deposited by a pension beneficiary. This begs the question: are sustainable investments and achieving returns necessarily in conflict with each other? Is it possible to pursue both objectives at the same time?

Acting in accordance with sustainability principles can produce money for a company, for example when sustainability and operating more efficiently go hand-in-hand. Furthermore, long-term investors with broadly spread investment portfolios, such as pension funds, do not benefit when companies to an excessive degree shift costs to society. It is reasonable to assume that one way or another this will negatively affect the operating profits of other companies in the portfolio.

Whether sustainable investments also produce a better return is more difficult to say. However, empirical research in this area is fairly positive. According to the result of many studies, companies that score better on sustainability characteristics provide better return than less sustainable companies. Due to the dynamic nature of the financial markets we have to be careful in applying these expectations to the future. While the financial markets may not be perfectly rational, they are adaptive and capable of processing a great deal of information. For example, the increased focus on sustainability could also mean that the market has become better at taking sustainability characteristics into consideration, as a result of which the observed excessive returns are no longer achievable in the future: this would mean that the markets have factored in sustainability.

An investor who considers both sustainability and return important will have to continuously keep an eye on market conditions and the investment portfolio to stay alert for such developments. Finally, there are convincing indications that a sustainable investor has a real impact on the world. So this is not wasted energy. The driving force of money is thus used to focus on companies that operate more sustainably, shift less costs to society and as such can create more value over the long term, for ourselves as investor, as well as for society at large.

All in all, the studied academic literature offers support to investors actively involved in sustainability: the majority of the studies suggest that both a higher financial and social return can be achieved. But the same principle that applies to 'regular' investing also applies here. We have to stay alert to changing market circumstances so as not to be caught by surprise. We also have to keep working on elevating sustainability standards in the market, so that the availability and comparability of relevant, useful sustainability data is enhanced. At the same time we have to develop smart ways of taking sustainability into consideration into the design and implementation of the investments portfolio. And most of all, let's not do this all by ourselves. A multi-stakeholder approach by investors, academics, companies, the government, NGOs and other stakeholders has the potential of elevating our sustainable investing concept to a higher level faster.[31]

31 More information on this topic can be found in the Vision document: Sustainability, Return and the Long-term Investor (only available in Dutch). The references supporting these findings can also be found here.

6. Good corporate governance

Good corporate governance enables us, as shareholder, to exercise our influence in support of the sustainable financial and social added value of listed companies and effectively operating (financial) markets. In the markets in which we invest on behalf of our clients, we monitor how companies are managed and whether the management board reports on the policies pursued. We aim for an appropriate and coherent system of checks and balances between the executive board, the supervisory board and shareholders with a set of standards governing behaviour, the exercise of powers and the associated reporting.

> ‘Good corporate governance enables us to exercise our influence in support of sustainability.’

What did we do in the area of corporate governance?

6.1. Engagement of companies and market parties

We engage in a dialogue with companies when we see that corporate governance improvements are necessary. We focus on shareholder rights, the composition of the management board, supervision and remuneration. Geographically, we focus on our domestic market in the Netherlands and on the largest markets in terms of invested assets, the American market and the Japanese market.

Legal timeout for company takeovers

At the beginning of 2017, there was an increase in takeover activities in the Netherlands. The most eye-catching takeovers were the bid for Unilever N.V. by the Kraft Heinz Company and the bid for AkzoNobel N.V. by PPG Industries. The question that subsequently arose in the public debate was whether the management boards of Dutch companies are sufficiently capable of arriving at a thorough consideration of a takeover. The then outgoing Minister of Economic Affairs Henk Kamp proposed to give management boards a consideration period of a year in the event of a hostile takeover attempt. In addition, Kamp asked pension funds to invest more in Dutch equities as a means of protecting these companies against foreign competitors.

PGGM was given the opportunity to comment on these proposals. We indicated that we were not an advocate of a legal consideration period. This message was delivered by the umbrella organisation of institutional investors, Eumedion, during a round table discussion on the protection of Dutch companies organised by the Permanent Committee for Economic Affairs of the Dutch House of Representatives.[32] The reason for this is that an anti-takeover construct of this nature restricts shareholders' rights. We are of the opinion that in general Dutch listed companies are well-protected. Additional legislation therefore is not required. PGGM, on behalf of its clients, was also cautious in its response to Minister Kamp's request to invest more in Dutch listed companies. Our primary mandate is to achieve financial return at an acceptable risk. When a takeover bid is truly attractive we will vote in favour of it.

Remuneration Policy

We implement our remuneration guideline through engagement and voting. We have ranked the companies in the portfolio on the basis of the most excessive remuneration practices. We engage in a dialogue with the ten companies with the most excessive remuneration. For example, in 2017, we spoke with the pharmaceutical company McKesson about its excessive remuneration policy. We spoke out against the use of options as a means of remuneration and have asked the company to increase its performance-based remuneration. We voted against the remuneration policy at the AGM. After a 74% vote against, the remuneration policy was significantly adjusted. The overall salary of McKesson's CEO was reduced and will be further reduced in 2018. Furthermore, the remuneration policy will be more performance-based. The CEO and Chairman of the Board roles will be split when the next CEO is appointed. This is happening in response to a shareholder's proposal on this subject. PGGM has insisted on this since 2016.

Engagement with Oracle Corporation (Oracle) on remuneration policy

Over the past five years, PGGM has submitted various shareholder's proposals, spoken at the annual general meeting of shareholders (AGM) and met with the management board. In 2017, this dialogue was continued with the new independent chairman of the Remuneration Committee – a long-awaited change. This resulted in a more constructive dialogue in 2017 in which we were able to directly exercise influence on the remuneration policy. While the options have not been abolished since we submitted our letter, they are now performance-based. Oracle's remuneration policy once again is not to the satisfaction of the majority of shareholders and was rejected by the AGM for the sixth time in November. We will continue to conduct engagement with Oracle in 2018 and are increasing our pressure by cooperating with a larger group of investors.

Independence of management board of Japanese companies

Since the introduction of the Japanese Stewardship Code (2014) and the Corporate Governance Code (2015) we are observing improvements in the independence of management boards. The number of independent board members in various Japanese companies is increasing and boards are listening more to shareholders. A good example is Takeda Pharmaceutical Co. Ltd. whom we engaged in dialogue in recent years. During the 2016 AGM they nominated no less than 5 independent board members as a result of which the majority of the board has become independent. This percentage increased even further during the 2017 AGM. This strengthens board supervision.

32 PGGM is a member of Eumedion and sits on the board and various committees and working groups.

Investors fight non-voting shares

In June 2017, PGGM responded to the consultation conducted by FTSE Russell concerning the minimum requirements for FTSE Indices. We argued that non-voting shares should not be allowed to be included in an equity index and that the weight of a company in an equity index should be reduced as it increasingly deviates from the proportionality principle. The consultation process has since been completed and FTSE Russell has decided to no longer include non-voting shares in its leading equity indices. A majority of respondents was of the opinion that shares should only be allowed to be included in an index when at least 25% of the voting rights is held by independent shareholders who are not affiliated with the founders or the selling parties at the time of an IPO. FTSE Russell is not yet prepared to go that far. For the time being, the threshold is set at 5%, with a 5-year transition period for existing cases.

Engagement with global compact violator Beijing Capital International Airport Co. Ltd. (Beijing Capital)

Beijing Capital International Airport was on the engagement list due to a bribery and corruption scandal in 2010. Following earlier engagements, PGGM in the second half of 2017 revisited the company to assess the current situation. Beijing Capital has implemented improvements in recent years in order to prevent the risk of a reoccurrence of the bribery and corruption scandal. The company has developed an anti-bribery policy and created a special department that monitors bribery and corruption risks. We have asked the company to increase and improve its reporting about such matters in English, so that investors have easier access to this information. Sustainalytics has concluded that in the past five years there have been no new corruption incidents. The company has therefore been removed from the engagement list, effective from 2018.

6.2. Corporate Governance standards

Draft Dutch Stewardship Code

PGGM is part of the Eumedion working group that developed the draft Stewardship Code for responsible and engaged share-ownership. The Stewardship Code is intended to replace the Eumedion Best Practices for Engaged Share-Ownership developed in 2011. Eumedion has decided to convert the best practices into an official stewardship code, in part due to the new European Shareholders Guideline with obligations and responsibilities for institutional investors, which are to go into effect in June 2019. The new obligations are already incorporated into the draft stewardship code.

Application of the code's principles by institutional investors is expected to contribute to sustainable, long-term value creation for the companies in which investors invest and consequently to the long-term returns of the investment portfolio. The goal is increased transparency about the engagement activities of all institutional investors in Dutch companies. The draft Stewardship Code has been submitted to stakeholders for consultation. The incoming responses will be evaluated. The code will likely be implemented in 2018.

Principles for good corporate governance and shareholdership for the American market

At the beginning of 2017, the framework for good corporate governance and good shareholdership for the American market was published by the Investor Stewardship Group. The framework, co-initiated by PGGM, has since been signed by various large American and European investors. This is the first framework for good corporate governance and shareholdership on the American market with this wide support from American, European and Asian parties. This development is important for motivating major American asset managers to call companies to account about corporate governance. PGGM promotes good corporate governance and therefore is a member of the Governance Committee and of the Executive Committee of the Investor Stewardship Group. These committees determine how the Code will be adjusted and applied.

6.3. Voting

We voted against management's recommendations on 2,685 remuneration proposals. This represents 69% of the total number of votes on remuneration proposals. In the US, this figure is even higher and we voted against the management recommendation in 90.5% of the cases (1,181 times). Appendix 4 lists the regions and the subjects on which we voted in 2017.

Investors vote against remuneration policy and management board of Mylan N.V. (Mylan):

In June 2017, PGGM, in a coalition with New York State, New York Comptroller's Office and the California State Teachers' Retirement System, wrote a public letter to co-shareholders to appeal to them to vote against Mylan's remuneration proposal and the appointment of a number of its directors. This appeal to co-shareholders resulted in a 83% vote against Mylan's remuneration policy during the AGM. In addition, there was resistance against the reappointment of the directors.

In 2016, the remuneration of ex-CEO and current Chairman Coury was USD 160 million. This is extremely excessive in comparison to his peers. Furthermore, Mylan increased the prices of the EpiPen, a relatively simple medicine against allergic reactions, by an excessive 600% and consequently endangered access to this essential medicine. PGGM wants the board to accept responsibility for the lack of independent supervision of the remuneration policy, the non-independent composition of the board and the deplorable handling of the EpiPen scandal. At the end of 2017, in a meeting with Mr Coury, PGGM once again expressed the desire to significantly reduce remuneration. The new remuneration policy will be published in 2018.

> **‘We firmly believe that executive remuneration in the US simply is too high and too complex. We therefore voted against the majority of remuneration proposals.’**

6.4. Cooperating for greater impact

PGGM aims for coalitions to engage in dialogue with listed companies, together with other institutional investors. This increases our effectiveness because the total share in the company simply is greater. Furthermore, it is good to share resources and work more efficiently. In 2017, PGGM operated in various coalitions. The first coalition consists of North European and British investors and is focused on a dialogue with companies with excessive remuneration. The second coalition is an American-British-Dutch coalition, within which PGGM holds American companies accountable for the composition of their management board. Within the Asian Corporate Governance Association (ACGA), PGGM works together with the Japan working group and the China working group on corporate governance improvements in Asia.

6.5. Legal Proceedings

In 2017, there were seven active legal compensation proceedings in which we participated on behalf of our funds and clients. We did not run any risk of incurring costs in any of these proceedings, because all proceedings were conducted on a ‘no cure no pay’ basis. Furthermore, we only have a participating rather than a leading role in all class action suits.

- Brazilian arbitration against Petroleo Brasileiro S.A. (Petrobras): arbitration proceedings in Brazil against the Brazilian state company Petroleo pursuant to a corruption scandal, which reduced the market value of the oil conglomerate by half. The US class action suit concerning Petrobras is being concluded and we will claim damages via this settlement.
- Japanese legal action against Toshiba Corporation (Toshiba) due to bookkeeping fraud. Between the financial years 2008 and 2013, Toshiba raised its operating profit by over € 1 billion. The fall in prices that followed resulted in a maximum (price) drop of $11 million on the positions managed by us. A group of over 100 investors, including PGGM, has filed a claim against Toshiba on the basis of a class action (opt-in). The first hearing has taken place. There has as yet been no ruling pursuant to the hearing.
- Japanese legal action against Mitsubishi Motors Corporation: a case comparable to dieselgate. Mitsubishi for years has consciously erroneously tested several models to produce more favourable consumption figures.
- German legal action against Volkswagen AG and against Porsche AG due to dieselgate in which PGGM is a participant. The initial hearings are scheduled for April 2018.
- US opt-out Valeant Pharmaceuticals International (Valeant): PGGM on behalf of several PGGM funds and a segregated mandate has initiated individual legal proceedings against Valeant in relation to allegations of fraud in prescribing and having its medication prescribed, and in addition in relation to misstatements in its reporting.
- French legal action against Vivendi SA (Vivendi): Vivendi has kept its liquidity problems hidden and misled its shareholders. The case is being heard in France and the proceedings are of extremely long duration. The first expert review report was released in March 2018.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN INFRASTRUCTURE

The PGGM Infrastructure Team invests directly in infrastructure companies and projects. Due to our long-term focus, improving the sustainability of business operations of our investments is essential and in line with the interests of our clients and their participants. Through our direct interest, we can influence corporate governance policy and organisation structure. Future trends, such as climate change and technological developments focused on limiting climate change, are an important part of the long-term business plans we discuss with management. The Infrastructure Team makes the portfolio more sustainable and consequently more future-proof through direct investments in solutions for climate change and water scarcity and by making the existing broader infrastructure portfolio more sustainable. Corine van Heijningen, Investment Manager, explains how ESG factors are integrated into her activities:

'We focus on ESG improvements within the existing infrastructure portfolio. This includes safety in the construction industry and in maintenance, reducing energy use and implementing CO_2 reducing solutions, such as LED lighting, the use of residual heat and heat pumps. We specifically focus on projects that reduce CO_2 emissions and initiatives that limit industrial accidents and the absence of personnel.

Corine van Heijningen

'Due to our long-term focus, improving the sustainability of business operations of our investments is essential and in line with the interests of our clients and their participants.'

We also consider ESG factors in selecting new infrastructure projects. The initial step here is the ESG Quickscan: we assess the potential ESG risks. For example, we consider the potential for conflict within the region, the working standards and working conditions within the region, and the relationship with trade unions. Next, during the due diligence phase, we manage the identified risks. Depending on the outcome, we formulate agreements with companies on managing these risks and on reporting potential incidents. Participation in the GRESB Infrastructure, the online ESG benchmark platform, and ESG KPIs form part of the reporting requirements. The ESG factors furthermore are a fixed part of the monitoring discussions and management is asked to devote attention to these factors, particularly if performance is lagging.

We also measure the ESG-related performance of our investments through means of the GRESB Infrastructure. In 2017, the number of participating investments rose to 224 (21% more than in 2016). In addition, the scores for most investments also increased. PGGM scored highest among all funds in the area of fund policy and implementation. The scores of the underlying direct investments in the PGGM portfolio on average were just a little bit above the GRESB average. In 2017, 54% of the funds and the direct investments in the Infrastructure portfolio reported on the basis of the GRESB compared to 45% in 2016.

In 2017, the Infrastructure Team also focused on investments in wind and solar energy, efficient heating solutions and water treatment. This has resulted in the investment in a portfolio of solar energy on the roofs of SolarCity in America (see page 15) and an expansion of the existing investment in district heating. Our focus is on stable cash flows and returns on the basis of long-term purchasing contracts or subsidy arrangements for the electricity generated by wind farms.

Last year the market for sustainable investments continued to improve, with parties increasingly willing to invest at lower returns, with shorter purchase contracts and earlier in the construction phase. We are also seeing that large utilities are tendering new offshore wind projects at some locations at regular electricity prices, in other words without any subsidies, and at the same time with fewer and shorter purchasing contracts. For investors this means that income will fluctuate directly in line with electricity prices, which fell last year. A positive development is that large companies such as Microsoft, IKEA and Google are now purchasing this renewable electricity on the basis of long-term contracts. Infrastructure investors offer high prices for these projects, where the electricity risk is covered over the short term, but where they adopt a view of high electricity prices far into the future and/or accept lower returns. This makes it a challenging market, as well as a growing market in which we continue to search for attractive projects that fall within our return and sustainability targets,' says Corine.

7. Stable financial system

PGGM invests the pension assets of its clients with a long-term focus, so as to be able to realise a good pension for participants today as well as in the future. That requires a stable financial system. We consider a stable financial system to be a system with a long-term focus, a system that is transparent and client-oriented and that contributes to sustainable value creation in the real economy.

> ‘As pension investor we benefit from financial returns over the long-term. It is therefore in the interest of our clients and PGGM that the financial system is sufficiently stable in order to execute the desired investment transactions, now and in the future.’

What did we do in support of creating a sustainable financial system in 2017?

7.1. Engagement of counterparties

Participants in pension funds on average have a very long investment horizon and consequently a great deal of interest in the long-term result of their investments, both in the form of direct financial results (risk and return) and in the form of more indirect social side-effects (liveable world). Many parties, especially on the public equity market, are more focused on the short term. As a pension fund service provider, we assess where we can implement our role as a long-term investor. We attach value to having bank counterparties that are transparent about their business model and that give priority to client interests.

Sustainability Ladder

PGGM has developed a methodology designed to identify how the counterparties of our Treasury and Trading departments focus on this. The first version of the sustainability ladder was developed in 2016 and resulted in a ranking of the 14 most strategic counterparties. Since 2016, we have been using this ranking for evaluating counterparties for the annual Broker Review. To score the counterparties, we use the data available from various sources such as Sustainalytics, MSCI, and Institutional Shareholder Services (ISS).

In 2017, a minor increase in the average scores of the counterparties was evident. The outcomes were discussed with the evaluated banks. We held discussions with various banks concerning the steps they could take to improve their scores over the coming years, for example by demonstrating how they contribute to making the real economy and a stable financial system more sustainable.

The findings and the feedback from these discussions have been incorporated into the continued development of the sustainability ladder. Five counterparties were added in 2017. In addition, we have added Integrated Reporting to the scoring.

7.2. Compensation guidelines for financial service providers

PGGM and its clients have a relatively large involvement in the financial sector because we are a shareholder as well as a client and business partner of several large financial institutions. In this context, we see a role for ourselves in encouraging desirable changes in behaviour in the sector, for example in the area of remuneration. The major financial crisis has demonstrated that perverse incentives and remuneration are at the expense of client interests and financial stability. We therefore work with Compensation Guidelines for all asset classes that include a description of a set of standards for acceptable levels of management fees, performance fees, transaction costs and redemption fees. Thie guidelines furthermore provide greater insight into the asset management costs for our clients. In addition, compensation structures must be clear and transparent and aligned with the objectives of the capital provider (i.e. no high compensation for poor or mediocre performance).

7.3. Sustainable tax policy

Pension funds operate in a complex international environment in which investment structures are commonplace. Our views of tenable, responsible investment behaviour are embedded in our policy as a responsible investor. We look for ways to achieve return and at the same time contribute to a sustainable world. Part of a sustainable world is a tenable (international) tax system in which tax is paid where it is appropriate on the basis of the goals and purpose of laws and regulations, and in which pension participants are not subjected to double taxation. Institutional investors contribute to a stable financial system by treating taxation responsibly.

For PGGM, sustainable tax in the first instance means critically reviewing one's own tax behaviour within the investment chain. PGGM can exercise influence to a greater or lesser extent in this investment chain, in which other parties aside from PGGM operate, such as asset managers, managers of investment funds and advisors. PGGM renewed its tax policy over a year ago and we are working on strengthening the implementation of this policy in our daily investment practice. Key elements include: 1) even more consciously adopt fiscal positions, i.e. informed decisions, in the right areas of the organisation, while being able to transparently explain how and on the basis of what considerations these positions were established; 2) strengthen fiscal risk management; and 3) continue to further digitise the fiscal function.

Thoughts on what constitutes sustainable tax are evolving rapidly. PGGM monitors these developments closely and continues to innovate in this area. The change in behaviour in the investment industry is still in its infancy. PGGM wants to make a contribution to this, for example by participating in the social debate on this topic. PGGM considers it important to be transparent about its fiscal behaviour and to proactively convey this.

PERSPECTIVE OF THE INVESTOR: ESG INTEGRATION IN CREDIT RISK SHARING (CRS)

Through means of CRS investments, we share in the credit risks incurred by a bank in its lending operations. This concerns a long-standing core activity and a predetermined, representative cross-section of a bank's loan portfolio. Obviously for a fixed fee. Each transaction focuses on certain activities or customer groups that are a real core activity of the bank. For example, loans to large international companies or SMEs and in a certain country or region. Investment manager, Angélique Pieterse, explains how ESG factors are integrated into her work:

Angélique Pieterse
'Our experience is that banks have been improving over recent years and are placing a greater focus on evaluating risks that can arise from ESG-related areas.'

'Because we share in the bank's lending activity, we investigate the quality of all relevant components of the bank's lending process, including the ESG policy. For example, we review the guidelines the bank has developed concerning human rights and pollution. In interviews with employees who are responsible for lending decisions within the bank, we ask how they deal with this policy in actual practice and whether this policy is in fact supported.

In addition, PGGM makes use of information provided by external ESG advisors, such as Sustainalytics and MSCI. These are excellent sources to determine the issues potentially at play in the regions or specific sectors in which we will be sharing risk. We also take their opinion of the bank as a whole into consideration. In 2017, we increasingly standardised these processes and developed them in greater depth by creating a matrix in which we define what we consider a best practice and identify where improvements are possible. We evaluate the banks with which we enter into transactions on the basis of this scoring framework. If a bank has a very low ESG score and consequently does not manage credit risks properly, we will not enter into a transaction with that bank. In actual practice, a poor ESG score often coincides with a generally inadequate risk management policy.

Our experience is that banks have been improving over recent years and are placing a greater focus on evaluating risks that can arise from ESG-related subject areas. More and more banks are adopting internal policies on specific subject areas and sectors and ensure that attention is devoted to these policies during the loan approval process. In our discussions with banks we are observing that our feedback relating to the ESG domain is increasingly appreciated.'

More information on our Credit Risk Sharing Transactions is available here.

Outlook

In 2018, we will once again devote our efforts to realising both financial and social returns. We focus our efforts on achieving our mandate: investing € 20 billion in solutions for social issues. Due to the abundance of capital, the expected returns on conventional investments are decreasing. We are therefore looking for new opportunities for investing the pension capital of our clients in sustainable projects that result in material and manageable pension investments with excellent return. In 2018, we want to leverage the knowledge and expertise available in the Netherlands in the areas of water safety and water supply. We took a first step in this area at the beginning of 2018, by organising the Impact Investment Initiative conference with the theme 'The Dutch Water Sector'.

Together with other investors and financial institutions, companies and the government, we will continue to work on developing the SDI methodology. We want to create a market standard as a means of enhancing the comparability and consistency of impact investments. In 2018, we will calculate the SDI volume for the Investments in Solutions of our clients. This experience with classification in actual practice will help us to further develop the SDI methodology.

In addition to these positive impact-related activities, we will continue to engage companies in 2018; for example about working conditions in the agricultural supply chain. We will also engage pharmaceutical companies about the transparent pricing of medicines and about affordability. Together with our largest client, we will explore opportunities for an engagement programme in the food security area of focus.

Clients can expect PGGM to provide insight into climate change risks and opportunities, and to provide advice about its integration into policy and implementation. In 2018, our climate scenarios will be further refined and a basic scenario will then be developed. The portfolio will subsequently be tested for compliance with this basic scenario, starting with the most climate-sensitive investment categories. The development of a climate dashboard will help us actively monitor climate developments and adjust scenarios where necessary. In addition, we will investigate climate stress tests, that will enable us to identify the risks in the portfolios of our clients on a timely basis.

In 2018, we will continue to work on the further integration of ESG factors into the investments decision-making process. We believe that knowledge is the key to improving ESG integration. This is why we will initiate a training program on human rights for investment teams in 2018. Additional ESG training materials will be developed during the year.

By means of these activities, we hope to achieve good returns again in 2018 and at the same time take the world a small step further towards sustainability and durability.

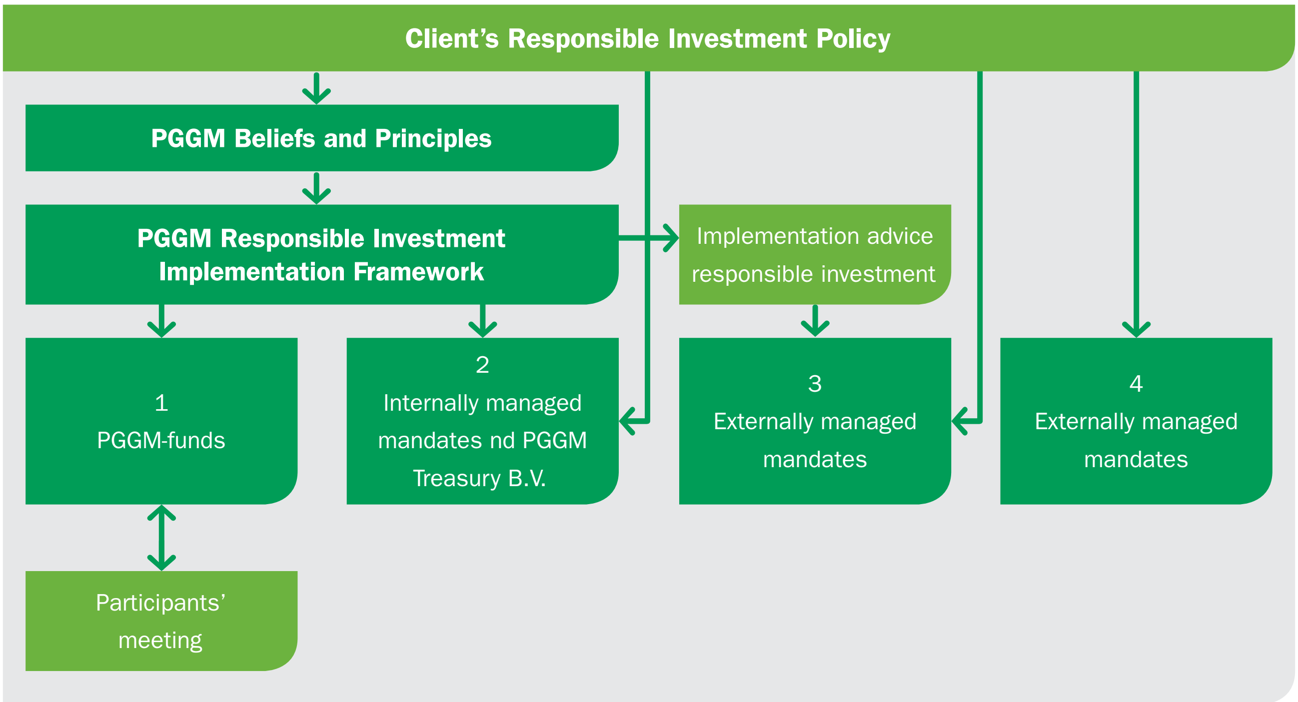
Finally, in 2018, together with our clients, we will investigate how best to continue to achieve their ambitions. 2020 is approaching and it is time to take stock: what initiatives do we have on the go and what are the objectives? Which instruments contribute most effectively and efficiently to the realisation of these objectives? With this reorientation of strategy and implementation, we want to further enhance the consistency and effectiveness of the responsible investment instruments. All this with a focus on our clients: our clients differ from each other and make their own assessments. PGGM wants to support them in a way that is consistent with their profile, investment and other convictions, and opportunities.

Appendix 1 Implementation of Responsible Investment

The PGGM Beliefs and foundations and the PGGM Responsible Investment Implementation Framework, suplemented by implementation guidelines for individual investment categories, apply to all investment and advisory activities that fall within the following three categories:

(1) We manage various PGGM mutual funds in which multiple clients participate, as well as the activities of PGGM Treasury B.V.
(2) We manage internal mandates for individual clients.
(3) We provide implementation advice to clients that invest in externally managed mandates via PGGM.

We also manage external mandates to which the PGGM Beliefs and Principles and the PGGM Responsible Investment Implementation Framework are not directly or indirectly applied (4).



Appendix 2 Maturity matrix

To provide insight into the extent to which the various investment categories have implemented ESG factors PGGM uses the maturity matrix. The investment teams are assessed on 4 categories. The following overview shows the progress of the teams since the beginning of 2016.

	Initiate	Experiment	Standardize	Internalize	Innovate
Mindset	No/limited interest in RI/ESG issues	Understand relevance to clients, open to learn about potential ESG impact on investments	Tick the box mentality to integration of RI, aware of ESG issues as a potential relevant risk factor	Take ownership of integration of RI, set team goals for RI, acknowledge RI as opportunity	Actively developing thought leadership on RI, sharing thought leadership in networks and events
RI integration	No integration of RI (possible) or very initial efforts, no/limited knowledge of ESG issues	Some integration, mostly ad hoc and dep. on individuals	RI integration mostly in first stages of investment process, some ESG knowledge	RI integrated in investment process, basic ESG knowledge throughout the team, doing research to further improve approach.	Developing new approaches to RI, actively moving others to improve on RI integration
Policy & tools	No reference to policies, no guidelines or tools available	Know and seek to implement PGGM and/or clients' policy frameworks, no own policy/guidelines	Asset class specific policy/guidelines in place, develop own tools based on best practice standards	Own policy/guidance is regularly updated to ensure alignment with changing client policies and latest best practice	Develop additional guidance or position statements on specific issues and develop innovative tools for RI integration
Behaviour-Stable FinancialSystem	No interest in or awareness of SFS and relevant behavioral issues	Initial discussions on SFS/behavioral issues	Discuss expectations and potential impacts internally and with counterparties	Willing to challenge the status quo, actively moving counterparties to behave in alignment with PGGM/client views	Developing alternatives to ensure that own behaviour is in line with PGGM/client views

Private Equity: During the years we have seen further standardization and internalization of ESG integration. The team takes ownership of integrating RI, they ask for training and knowledge sharing on RI, and include ESG in their regular monitoring meetings. The team developed a tool for ranking the GPs which is used for engagement selection and as input to the investment process. PE also applies the compensation policy for each new fund obligation.
For more information on ESG-integration in Private Equity see page 30

Private Real Estate: The PRE team has for a long time recognized the importance and the potential impact of environmental and governance performance of the underlying assets. The team is showing thought leadership in networks and events and explore innovative ways of how RI can add further value. In 2017, the team updated the Responsible Investment Guideline in Real Estate. The team pushes the management costs as much as possible, which leads to a very competitive Total Cost Ratio.
For more information on ESG-integration in PRE see page 19

Infrastructure: When we started this measurement, ESG was standardized across the board, with the exception of the compensation policy for external managers. During the past 2 years we have seen the inclusion of RI in monitoring and reporting. Also the team is actively working to develop GRESB for infrastructure. In 2017, for the first time the GRESB infrastructure assessment of the PGGM Infrastructure fund was completed. The fund scored second place on policy and management and first on implementation and measurement As far as compendation policy is concerned, the team now has a direct strategy aimed at no or low management fees. Through engagement, the team achieved results in 2017 on lowering CO_2 emissions and Lost Time Incidents.
For more information on ESG-integration in Infrastructure see page 45

Listed Real Estate: LRE is aware of potential risks and opportunities related to environmental issues such as climate change and the importance of good governance. The he team is showing thought leadership in networks and events and explore innovative ways of how RI can add further value. In 2017, the team updated the Responsible Investment Guideline in Real Estate and engaged with companies in portfolio regarding remuneration.
For more information on ESG-integration in LRE see page 35

Progress (2015–2017) — Private markets

Team	Categories	Initiate	Experiment	Standardize	Internalize	Innovate	AUM
Private Equity (PE)	Mindset						5,6%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Infrastructure	Mindset						3,7%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Private Real Estate (PRE)	Mindset						6,0%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Listed Real Estate (LRE)	Mindset						5,1%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Credit Risk Sharing Transactions (CRST)	Mindset						2,2%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Insurance Linked Investments (ILI)	Mindset						1,8%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						

Credit Risk Sharing Transactions: The team has always included ESG in their process and have discussed this in their investment process, but we've seen this all become more explicit, more proactive and more internalized across the board. In 2017 an ESG framework was developed and implemented for the due diligence at banks with which the team enters into transactions. The ESG score depends on the assessment by the CRST team whether sufficient ESG policy has been developed and how well this policy is actually taken into account in decision making regarding credit. The team is actively looking for opportunities to invest in Solutions.
For more information on ESG-integration in CRST see page 48

Insurance Linked Investments: We believe that in the Insurance team there is not much space for improvement or integration of RI given the limitations of the product. The team explores the possiblities but we haven't found best practices, expectations or guidance for integrating ESG in this part of the portfolio so far.

Progress (2015–2017) — Public markets

Team	Categories	Initiate	Experiment	Standardize	Internalize	Innovate	AUM
External Management (EM)	Mindset						29,2%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Long-Term Equity Stratey (LTES)	Mindset						0,5%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Systematic Equity Strategies (SES)	Mindset						7,2%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Investment Grade Credits (IGC)	Mindset						2,3%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Emerging Market Credits (EMC)	Mindset						1,7%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Rates and Inflation	Mindset						28,8%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Treasury	Mindset						1,2%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Trading	Mindset						0%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						
Commodities	Mindset						4,6%
	RI Integration						
	Policy & Tools						
	Behaviour SFS						

External Management: One of the teams that has moved the most on the maturity matrix since 2015 is the external management team. Starting from the experimental phase in the beginning, the team has fully internalized ESG on most of the relevant categories. The team is actively working on improving knowledge in the field of ESG by following courses and training. The team has taken ownership of RI integration in their process, published own guidelines and developed team goals on RI. The policy of external managers is tested, based on a self-developed Responsible Investment Survey: this survey is integrated in S&MF and provides for a uniform assessment of external managers policy.
For more information on ESG-integration in External management see page 39

Investment Grade Credits & Emerging Markets Credits: Both fixed income teams (IGC and EMC) include ESG factors in credit risk analyzes. Every six months the team reviews both the portfolio and the benchmark. The teams have some room to deviate from the benchmark and include ESG factors in this consideration. A very low ESG score will almost always result in an underweight position. Since it is a relative mandate compared to a broad benchmark, complete exclusion is not always possible due to the amount of tracking error that arises. The teams have a proactive approach in the green bond and social bond market and have been involved in establishing the green bond principles. The team shares its knowledge in networks and events and conducts sector research on ESG risks and other challenges. During visits to companies and conversations with management ESG risks and controversies are actively put on the agenda.

Treasury en Trading: When we started to structurally integrate ESG factors in the investment decision-making process in 2015, both teams were actively involved in shaping the sustainability ladder. The results of the sustainability ladder are now used in the allocation process. The results of the Sustainability Ladder were shared with banking counterparties as part of Broker Review. We see little room for further ESG integration.

Long-Term Equity Strategy: The team is a forerunner in the area of impact investing, showing an actual positive impact on the four impact themes, under market returns. Since we started measuring the maturity of the team, we have seen development in the tools used for ESG integration. LTES actively engages with companies to measure their impact and improve impact metrics.
For more information on ESG-integration by the LTES team on page 27.

Systematic Equity Strategies: For a quant portfolio the ESG integration possibilities are in our experience limited. The team is exploring the possibilities for ESG integration in multi factor models. Depending on the outcome of the research the ESG factor will be added to the model or not if it turns out that it strongly correlates with the existing factors. Good and reliable data is naturally the challenge and key to this effort.

Rates & Inflation: The rates and inflation team has made the most progress on the maturity matrix. In 2017 the team started investing in green bonds. Green bonds are integrated in the reports. The green bond framework has been updated and adapted to include social bonds in addition to green bonds. The team also updated and published the Responsible Investment Guideline. Annually our counterparties for derivatives trading are ranked on an ESG matrix.

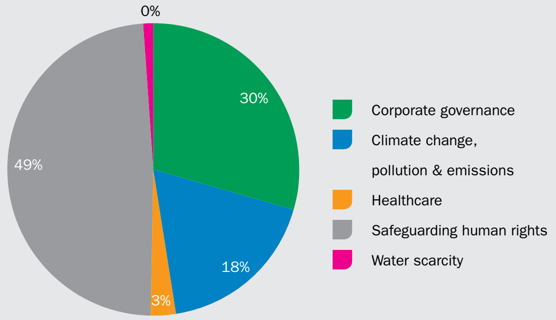
Commodities: Similar to the Insurance portfolio we see no room for further ESG integration, but the team remains open-minded and keep an eye open for alternative commodities.

Appendix 3: Engagement

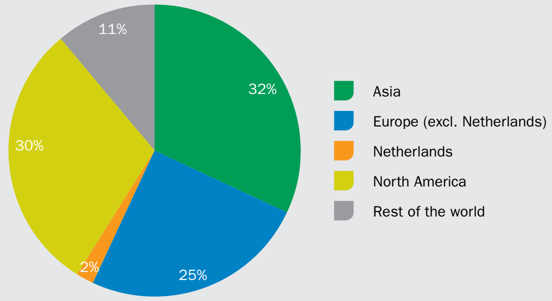
In 2017, we maintained a dialogue with 361 companies. We carry out part of these engagement activities ourselves. In addition, we have outsourced part to the engagement service provider, GES. This enables us to reach a broad range of the companies in the portfolio. The reported figures reflect our activities combined with GES' activities. The CO_2-intensive companies we wrote about in chapter 2.3.3. are not included in these figures. We achieved a total of 46 engagement results, or steps taken by these companies focused on ESG improvement.

In addition to engagement focused on companies, we seek dialogue with market parties such as legislators and regulators. In 2017, we engaged in a dialogue with 8 market parties, most of which was aimed at improving corporate governance standards in markets in which we invest. We achieved 4 engagement results. We are involved in engagement activities throughout the world. These activities are spread across various subject areas (see following diagrams).

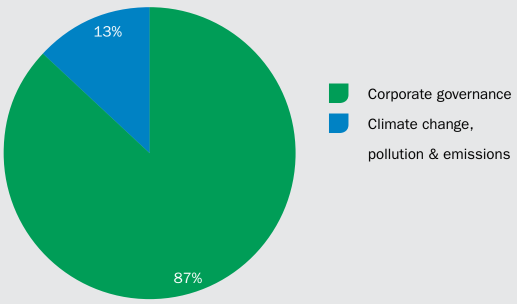
Distribution of Engagement Activities with Companies by Area of Focus in 2017:



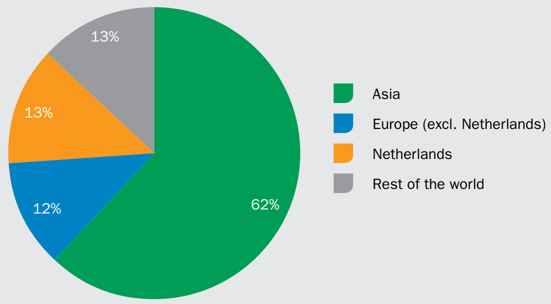
Distribution of Engagement Activities with Companies by Region in 2017:



Distribution of Engagement activities with market parties by Region in 2017:



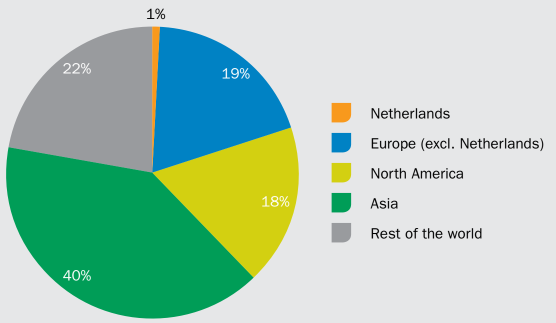
Distribution of Engagement activities with market parties by area of focus in 2017



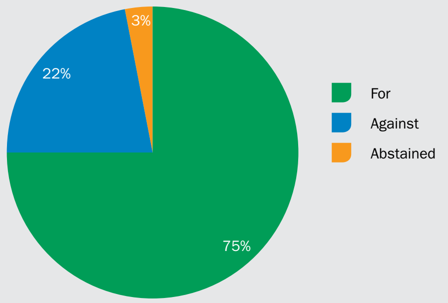
Appendix 4. Voting

In 2017 we voted at 3.524 shareholders’ meetings.

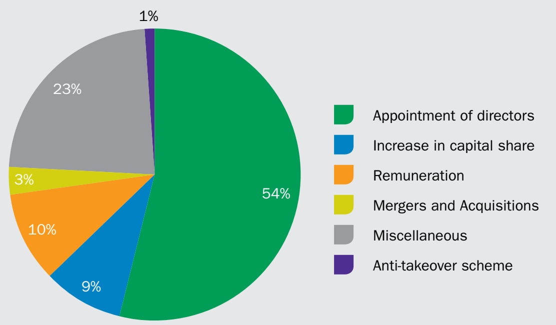
Distribution of Shareholders’ Meetings by Region in 2017:



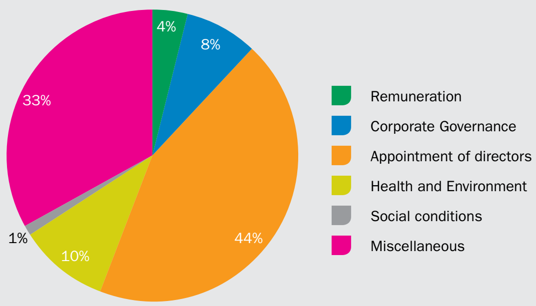
Distribution of Voting Instructions in 2017:



Distribution of 2017 Management Proposals (by category):



Distribution of 2017 Shareholders’ Proposals (by category):



Appendix 5. Accountability

In this 2017 Annual Responsible Investment Report, we provide information for our clients, their participants and other interested parties on the activities undertaken in the field of responsible investment in 2017. Where we refer to clients in this report we mean both the clients participating in the PGGM funds and the clients for whom we manage mandates. If we state that we invest in a certain portfolio, we always mean that we do so on behalf of our clients.

The information in this annual report only covers responsible investment activities carried out by PGGM. More extensive information on PGGM N.V. and PGGM Coöperatie U.A., and about sustainability at the PGGM N.V. level is available on PGGM's website and in the 2017 PGGM N.V. Annual Report. This PGGM 2017 Annual Responsible Investment Report provides information on the financial year running from 1 January to 31 December 2017. The report is a progress report and does not provide a comprehensive overview of activities and current investments. It is limited to the responsible investment activities carried out by PGGM Vermogensbeheer B.V. in 2017.

Reporting and Transparency

Transparency is an important element for us. We aim to be a reliable partner and provide clarity about what we do and why. We publish our Annual Responsible Investment Report every year on our website. We also provide quarterly reports to our clients and write online blogs that explain our position on specific topics. Finally, we also enable our clients to provide their participants and other stakeholders with annual information on the investment portfolio and on the parties with which we do business on their behalf.

Guidelines Followed

In compiling the PGGM 2017 Annual Responsible Investment Report we have in principle adhered to the international reporting principles of the Global Reporting Initiative (GRI), the GRI Standards. The GRI standards relate to both substantive choices (materiality, involvement of stakeholders, the sustainability context, completeness) and the quality of the reporting (balance, comparability, accuracy, timeliness, clarity, reliability). We did not follow the GRI to the letter in this report. We adhered as much as possible to the reporting principles specified in the GRI in compiling this annual report. The GRI standards do not fully apply to this annual report, because this report concerns asset management activities and is not relevant at the PGGM N.V. level. Further information on the sustainability activities at the corporate level can be found in the PGGM N.V. Annual Report, which fully adheres to the GRI reporting guidelines. The 6 principles of the PRI were also used as a reporting guideline. As a signatory to the PRI, we report on our activities to the PRI each year. The corresponding public report is available on PRI's website.

Selection of Material Subjects

As an asset manager with a widely diversified portfolio, it is not easy for us to define the most essential subject areas in the field of responsible investment. We have selected the relevant subject areas on the basis of a materiality analysis. During the process of identifying the material subject areas we consulted our clients, our key stakeholders. Internally, we consulted the asset management organisation, as well as the client advisory organisation. In addition, we conducted a media analysis of our own and our auditor conducted an external media analysis. We assigned a higher priority to subject areas that received a great deal of media attention.

In defining relevant subject areas we took external developments into account. The key sustainability subject areas, relevant laws and regulations and international agreements in each chapter form the framework, a broader context within which our activities take place.

The table below contains the key material subject areas for 2017. We consider it essential for these subject areas to be dealt with in the 2017 Annual Responsible Investment Report.

Material Subject Areas 2017

- Climate research
- Use of medicine as a means of execution
- Legal timeout for company takeovers
- CSR covenant
- Green bond France
- Engie
- Sustainable Development Investments (SDI)

Review

KPMG Sustainability has evaluated the PGGM 2017 Annual Responsible Investment Report. See the Assurance Report in Appendix 6.

Appendix 6. Assurance report of the independent auditor

To the readers of the Annual Responsible Investment Report 2017 of PGGM Vermogensbeheer B.V.

Our conclusion

We have reviewed the Annual Responsible Investment Report 2017 (hereafter: the Report) of PGGM Vermogensbeheer B.V. (hereafter: 'PGGM') based in Zeist. A review is aimed at obtaining a limited level of assurance.

Based on our procedures performed, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the applied reporting criteria as disclosed in section 'Appendix 5. Accountability.

Basis for our conclusion

We have performed our review on the Report in accordance with Dutch law, including Dutch Standard 3000A 'Assurance-opdrachten anders dan opdrachten tot controle of beoordeling van historische financiële informatie (attest-opdrachten)' (assurance engagements other than audits or reviews of historical financial information (attestation engagements).

This review engagement is aimed at obtaining limited assurance. Our responsibilities under this standard are further described in the section 'Our responsibilities for the review of the Report'.

We are independent of PGGM Vermogensbeheer N.V. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

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

Unexamined prospective information

The Report includes prospective information such as ambitions, strategy, plans, expectations and estimates. Inherently the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the Report.

Responsibilities of Management and the Supervisory Board for the Report

Management is responsible for the preparation of the Report in accordance with the applied reporting criteria as described in section 'Appendix 5. Accountability', including the identification of stakeholders and the definition of material matters. The choices made by Management regarding the scope of the Report and the reporting policy are summarized in section 'Appendix 5. Accountability'.

Management is also responsible for such internal control as Management determines is necessary to enable the preparation of the Report that is free from material misstatement, whether due to fraud or error.

The Supervisory Board is responsible for overseeing PGGM's reporting process.

Our responsibilities for the review of the Report

Our responsibility is to plan and perform the assurance engagement in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusion.

Procedures performed in an assurance engagement to obtain a limited level of assurance are aimed to determine the plausibility of information and are less extensive than a reasonable assurance engagement. The level of assurance obtained in assurance engagements is therefore substantially less than the level of assurance obtained in an audit engagement.

Misstatements can arise from fraud or errors and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of the Report. The materiality affects the nature, timing and extent of our review procedures and the evaluation of the effect of identified misstatements on our conclusion.

We apply the 'Nadere voorschriften kwaliteitssystemen' (Regulations on quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have exercised professional judgement and have maintained professional scepticism throughout the review, in accordance with the Dutch Standard 3000A ethical requirements and independence requirements.

Our review engagement included, among others, the following procedures:
- Performing an analysis of the external environment and obtaining an understanding of relevant responsible investment themes and issues, and the characteristics of the organization;
- Identifying areas of the Report where material misstatements, whether due to fraud or error, are likely to arise, designing and performing assurance procedures responsive to those areas, and obtaining assurance evidence that is sufficient and appropriate to provide a basis for our conclusion;
- Developing an understanding of internal control relevant to the assurance engagement in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the company's internal control;
- Evaluating the appropriateness of the reporting criteria used and their consistent application, including the evaluation of the results of the stakeholders' dialogue and the reasonableness of estimates made by management and related disclosures in the Report;
- Evaluating the overall presentation, structure and content of the Report, including the disclosures; and evaluating whether the Report represents the underlying transactions and events free from material misstatement;
- Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures on and consolidating the data in the Report;
- An analytical review of data and trends;
- Reviewing relevant internal and external documentation, on a limited test basis, in order to determine the reliability of the information in the Report.

Amsterdam, 16 April 2018

KPMG Sustainability,
Part of KPMG Advisory N.V.

M.A.S. Boekhold-Miltenburg RA
Director

Colophon

This annual report is published by PGGM Vermogensbeheer B.V.

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