

# Fossil fuel-related investments and climate change

Scientific Committee Sustainable Investment Policy ABP

Dirk Schoenmaker (chair; Erasmus University Rotterdam)  
Heleen de Coninck (Eindhoven University of Technology)  
Roel Beetsma (University of Amsterdam)

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## Introduction and executive summary

Pressure is mounting on institutional investors to invest their funds responsibly. ABP, one of the largest pension funds in the world, is no exception. The [VSNU's Scientific Committee Sustainable Investment Policy ABP](#) advises ABP on the transition towards more sustainable investing. This first advice focuses on the reduction of the global warming impact of ABP's investment portfolio, in particular on how to reduce the greenhouse gas emissions resulting from its fossil fuel-related investments.

Our findings and recommendations are summarised as follows:

- ABP's climate goal to limit global warming to 1.5°C is in line with the Paris Agreement.
- The latest climate change assessments by the Intergovernmental Panel on Climate Change (IPCC) and modelling by the International Energy Agency (IEA) indicate that 1.5°C emission pathways require, globally, (1) halving CO<sub>2</sub> emissions between 2010 to 2030, and net zero CO<sub>2</sub> in 2050. This translates into annual reductions of 7 to 8% from 2021 and on, a rate that requires (2) systems transitions in sectors such as energy, industry, mobility and buildings; and (3) no exploration of new sources of fossil fuels.
- ABP, as pension fund, is a universal asset owner. This brings a shared responsibility for the system transitions. ABP invests globally, and should adjust its carbon targets to the geographical area where the investment is taking place. High-income countries are able, and according to the Paris Agreement obliged, to decarbonise faster than middle-income and especially low-income countries.
- ABP's sustainable investment policy distinguishes between leaders ("koplopers"), promises ("beloften") and laggards ("achterblijvers"). We support ABP's approach to invest in leaders and promises and divest from laggards. ABP engages with leaders (to stay at the forefront) and promises (to improve sufficiently against pre-defined targets). We also support ABP's approach towards Sustainable Development Investments (SDIs), as they generate positive impact across the Sustainable Development Goals (SDGs).

- Credible engagement with a company is costly. We recommend ABP to focus on a limited number of fossil fuel and other major carbon-emitting companies in a more concentrated portfolio and select them as follows:
  1. Divest from publicly listed and private companies with no clear or sufficiently ambitious reduction strategy, or in which the stake is too small for serious engagement;
  2. Keep and raise stakes in a limited number of oil and gas companies (fossil fuel supply) and other major carbon-emitting companies (creating fossil fuel demand) with a commitment to fully decarbonise with an ambitious and predefined time path, limited use of carbon dioxide removal (CDR), and that credibly pursue a business model in line with a world without CO<sub>2</sub> emissions;
  3. Engage deeply with these companies and monitor annually predefined reductions in emissions; joint engagement with other institutional investors can strengthen the effectiveness of the engagement;
  4. Vote for resolutions that require reductions in CO<sub>2</sub> and other greenhouse gas emissions in line with the latest available science.
- To contribute further to the energy transition, we recommend ABP to
  5. Shift the share of fossil fuel producers to companies solely producing renewable energy or companies that produce both fossil and renewable energy and that are committed to reducing their share of fossil energy at a sufficiently high rate (see recommendation 2); ABP's investments in clean and affordable energy (SDG7) can be intensified to increase the fraction of the portfolio invested in renewable energy producers and infrastructures;
  6. Raise the benchmark fractions invested in low-carbon sectors and reduce the benchmark fractions invested in carbon-intensive sectors. This helps to correct the carbon bias in the benchmark against which portfolio managers are evaluated;
  7. Tilt the benchmark fraction inside the carbon-intensive sectors further towards the less intensive firms to give additional incentive to reduce the carbon content of the portfolio.

### **Mandate**

The Association of Universities in the Netherlands (VSNU) has established an independent committee of scientific experts that provides solicited and unsolicited advice to the pension fund for the public sector and education in the Netherlands (ABP). The task of this committee is to critically monitor and assess ABP's investment policy with regard to achieving the UN Sustainable Development Goals on the one hand and achieving sufficient (risk-adjusted) investment returns on the other. The committee bases itself on scientific literature and adheres, among other things, to the methodology of 'science-based targets' and to transition paths that match the objectives to be achieved.

## Part 1 State of play

Fossil fuel-related assets consist of oil and gas companies, electricity utilities, carbon-intensive manufacturing, materials, like steel and cement, and fossil fuel-related commodities. ABP's investments in oil and gas companies amount to 3.1% of ABP's overall investment portfolio. Table 1 indicates that not only public equities (1.4%), but also bonds (0.9%) and alternative investments comprising infrastructure, private equity, hedge funds, commodities and thematic investments (0.8%) contribute significantly to ABP's investments in fossil fuel supply.

ABP's investments in renewables at €4 billion contribute 0.8% to ABP's overall investment portfolio. Taking a broader definition of renewables, ABP's has €13.8 billion (2.8% of its overall investment portfolio) allocated to SDG7 – affordable and clean energy, as part of its Sustainable Development Investments (SDIs). To facilitate the energy transition, ABP can further intensify its sustainable development investments in affordable and clean energy, while reducing its fossil fuel investments as announced.

**Table 1: ABP's investments in fossil-fuels suppliers (31/12/2020)**

Asset class	Investment in € billion	Investment in % of asset class	Investment in % of overall portfolio
<b>Equity</b>	7.0	4.3%	1.4%
<b>Bonds</b>	4.4	2.3%	0.9%
<b>Alternative investments</b>	3.9	4.1%	0.8%
<b>Total</b>	<b>15.0</b>		<b>3.1%</b>

Source: ABP (2021)

### *Carbon bias in index*

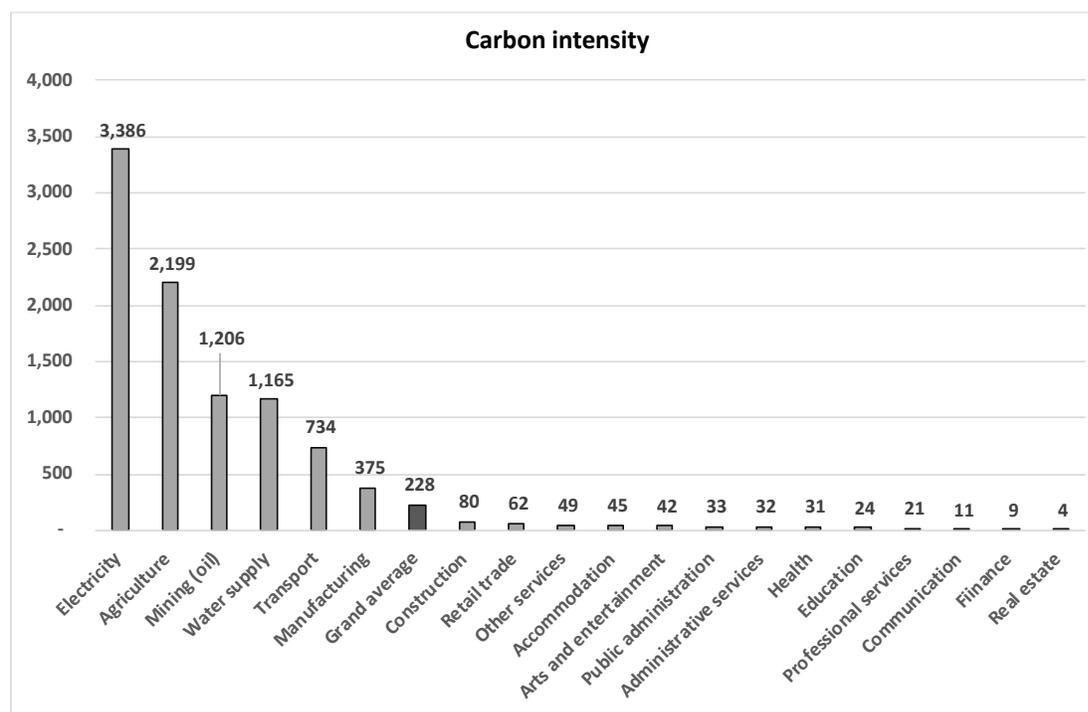
ABP follows the MSCI World index as benchmark for its developed markets equities portfolio. An implicit assumption is that an investment in the value-weighted market index reflects the 'average' economy and is therefore a well-diversified investment. But there is evidence of a bias towards carbon-intensive companies in the index. This carbon bias is explained by the fact that carbon-intensive companies, like oil and gas companies, utilities and manufacturers, are typically capital intensive and therefore issue relatively more equity and debt than other companies (Doda, 2018).

The starting point for measuring the carbon bias is to estimate the carbon intensity for each industrial sector. The carbon intensity is calculated as a sector's "scope 1" carbon emissions divided by its gross value added (GVA). Figures 1 and 2 illustrate the lopsided distribution of carbon intensity across industrial sectors for Europe and the US, respectively. Electricity and

water utilities, agriculture, mining (oil), manufacturing and transportation are carbon-intensive sectors. The grand average stands for the average carbon intensity of the economy.

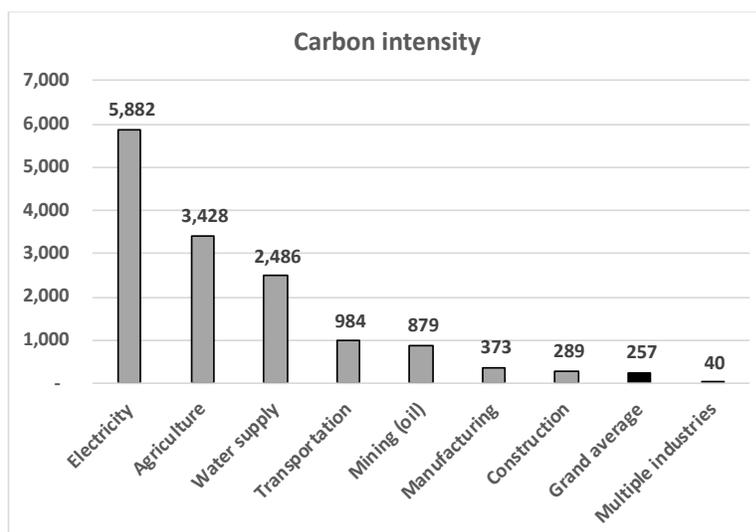
The next step is to compare the sectoral composition of the economy and the index. An overweight of the index in carbon-intensive sectors relative to the economy as a whole would produce a carbon bias. Cosemans and Schoenmaker (2021) find evidence of a carbon bias in the MSCI World Index of about 70%. This means that the carbon emissions of the index per dollar of value added generated are 70% higher than the carbon emissions of the underlying economy per dollar of value added. It appears that electricity utilities are a major contributor to the carbon bias of the MSCI World index. Oil and gas companies, (heavy) manufacturing and transportation are additional contributors to the carbon bias, even without counting their scope 2 and 3 emissions. Such a carbon bias is clearly at odds with ABP’s drive towards sustainable investing. Note that the same sectors tend to be more carbon intensive in the United States than in Europe, suggesting that already with present-day technology the financial sector has substantial scope to reduce carbon intensity in the US economy.

**Figure 1: Average carbon intensity by sector (EU28, 2019)**



Note: The graph depicts the average carbon intensity of sectors in the EU28 area, measured as average of emissions in millions metric ton CO<sub>2</sub> divided by GVA in trillions of euro. Source: Cosemans and Schoenmaker (2021) based on Eurostat.

**Figure 2: Average carbon intensity by sector (US, 2019)**



Note: The graph depicts the average carbon intensity of sectors in the United States, measured as average of emissions in millions metric ton CO<sub>2</sub> divided by GVA in trillions of dollar. Source: Cosemans and Schoenmaker (2021) based on OECD.

## Part 2 Analysis of transition path for 1.5°C

The 2015 Paris Agreement stipulates that global warming is to be limited to “well below 2°C” and that efforts must be made to limit warming to 1.5°C above pre-industrial levels (United Nations, 2015). After the IPCC published a Special Report (SR1.5) (IPCC, 2018) that clarified that there are clear benefits to limiting warming to 1.5°C, and that it is still possible to do so, many actors embraced the 1.5°C limit. ABP is no exception.

The SR1.5 found that for a reasonable likelihood of limiting warming to 1.5°C, global CO<sub>2</sub> emissions should be halved by 2030 compared to their 2010 levels and should be net-zero by 2050. In addition, some amount of net carbon dioxide removal (CDR) is necessary, especially in the second half of the 21st century, to compensate for earlier excess emissions and to lower temperature in case of an overshoot of 1.5°C (IPCC, 2018). The Working Group I contribution to the IPCC Sixth Assessment Report (IPCC, 2021) confirmed these numbers, and underlined their urgency by indicating that the 1.5°C-limit is “more likely than not” to be exceeded 10 years earlier than the estimate of the SR1.5 – around 2030 rather than around 2040 - even when ambitious mitigation pathways are pursued.

Most global warming is caused by CO<sub>2</sub>, which to a large degree originates from the use of fossil fuels. Other warming agents, in particular methane, nitrous oxide and black carbon, are also important, and other sectors, in particular food systems, contribute to both those other greenhouse gas emissions and to global CO<sub>2</sub> emissions (IPCC, 2019; Tubiello et al., 2021). This advice focuses on both CO<sub>2</sub> and methane emissions from fossil fuel use, as the largest

contributors to current warming. Greenhouse gas emissions from fossil fuels originate from the generation of energy from fossil fuels, the use of fossil fuels in buildings, industry and transport, and direct emissions from infrastructure such as mines and gas pipelines (IPCC, 2014).

For mitigation pathways consistent with limiting warming to 1.5°C, absolute emission reduction percentages of about 7 to 8% per year are needed globally (UNEP, 2020). Such a high rate of emission reduction, which is caused by delaying climate action when the problem first started to become apparent, requires system transitions, which change fundamental attributes of a sector. Disruptive technology can be part of that, but also the system's rules, purpose, business models, and behaviour are enablers of system transitions (IPCC, 2018).

Governments are increasingly committing to net-zero GHG or CO<sub>2</sub> emissions, not reaching the Paris Agreement temperature goals, but bringing them 'within reach' (Höhne et al., 2021). It is important to note that developed countries, according to the Paris Agreement, would need to reduce their emissions more quickly than emerging economies, and that emerging economies and especially low-income countries would need more time to decarbonise; this has implications for the 1.5°C compatibility of investments in these geographical areas. Companies and financial institutions are declaring themselves in alignment with "Science-Based Targets" (SBT), which is one of the frameworks that could be taken as a starting point for sustainable investing by ABP. For the financial sector, according to the pilot version of the SBT guidelines for the financial sector, GHG emission reduction targets in scope 1 and 2 for the long term (2050) are encouraged, intermediate targets need to be set in 5 to 15-year steps, and targets for emission reduction relative to dollar earned (i.e. intensity targets) are only to be considered SBT if they lead to absolute emission reductions (SBT, 2021).

Amongst many companies, there is a discussion on offsetting. Offsetting means that any remaining emissions or emissions exceeding the targets are to be compensated by emission reductions elsewhere; often in sectors or regions where emissions can be more readily or cost-effectively reduced. In addition, companies are exploring offsetting through CDR. SBT (2021) is clear that none of these types of offsetting ought to be counted towards current emission reductions in scope 1 or 2.

Although some CDR is a necessity to limit warming to 1.5°C (IPCC, 2018), its use must be regarded with utmost care. First, of several of the emission pathways assessed in the SR1.5, it is known that their use of CDR (in particular bioenergy with CO<sub>2</sub> capture and storage) well exceeds sustainable limits. This is clear from a bottom-up assessment that is also included in the SR1.5 (de Coninck et al. 2018) and has been confirmed by later assessments (Hanssen et al., 2020). Much care must be taken evaluating whether an option is actually removing CO<sub>2</sub> from the atmosphere (Tanzer and Ramírez, 2019) and relying on options that still have many uncertainties and limitations in terms of technological, environmental, geophysical, socio-cultural and institutional feasibility (Fuss et al. 2018). A study by the Green Climate Fund (Hourcade et al.,

2021) translating the messages of the SR1.5 to risks for the financial sector found that the higher the use of CDR, the greater the risks of not making the 1.5°C limit and overshooting 1.5°C.

For the emission reduction rates required to limit warming to 1.5°C, the mere implementation of a list of technological mitigation options will not suffice. Moreover, 1.5°C (or higher) requires adaptation alongside mitigation. The IPCC (2018) and many other scientific studies therefore conclude that systemic changes are needed. For instance, in the energy system transition, the generation of electricity with high levels of variable sources (wind and solar PV) requires changes in transmission and distribution infrastructure, hence in the electricity market set-up. Laws and regulation need to change, and it interacts with people's awareness and behaviour as "prosumers" (Palm et al., 2018). Reducing emissions from food systems requires changes across the value chain, different business models, and changes in behaviour and cultural preferences by consumers. The latter requires changes in incentives, for example via taxation of products with a large emission content.

Such changes, involving not just a technology but also attributes of a system, would need to take place in all sectors that emit greenhouse gas: energy, mobility, built environment, industry, and agriculture and food. As these changes are profound and systemic, changing multiple aspects at the same time, it is key for a universal asset owner, like a pension fund, to stay abreast which these developments. But in addition, a universal asset owner has the possibility – and with that according to many the responsibility (Quigley 2021) – to start changing such systems to net-zero. It is recommended to search for those intervention points where ABP can make a difference. Minimum criteria would include whether the core business of a company is consistent with net-zero pathways and the degree to which offsets are part of the emission reduction strategy (the more the greater the transition risk). These net-zero pathways ought to be translated into annual milestones of emission reduction. But given the governance challenges of fast systemic transitions, softer criteria such as whether a company in its behaviour and external relations is supporting or undermining governmental action can also be considered. Indicators could include whether investments in innovation (e.g. patents) are in line with net-zero CO<sub>2</sub> in 2050 pathways, whether human resources are deployed to support these goals, whether investments in low-carbon equipment are done, and whether investments in high-carbon activities, infrastructure and equipment are stopped or scaled down.

Recent scenario analysis by the International Energy Agency (IEA, 2021) has resulted in the conclusion that in order to limit warming to 1.5°C and reach net-zero CO<sub>2</sub> emissions in 2050, new exploration of fossil fuels, including oil and gas, would have to be stopped immediately. This would imply that it would be inconsistent with 1.5°C pathways to continue investing in companies (through listed equity, private equity or credits) that still engage in the exploration of new fossil fuels fields. In addition, given their high energy consumption and fugitive emissions (Brandt et al. 2013), oil shale and sands recovery and infrastructure would be less competitive, on top of already higher costs (Mercure et al. 2018). The IEA (2021) also concludes that new coal mines or extension of existing coal mines are not needed as coal demand would fall even more rapidly

than demand for oil and gas. These findings should inform the sustainable investment policy of ABP, which would preferably exclude companies with such investments completely, but at the very least divest from companies with a share of more than 10% in very carbon-intensive fuels such as coal and/or oil sands, to divert away from assets with such high transition risks.

High-emitting sectors other than oil and gas, such as manufacturing (e.g., steel, cement, chemicals), transportation (personal and cargo) and real estate, are large users of fossil fuels, either directly (e.g. fuels for cars or home heating, feedstocks for industry) or indirectly (e.g. heat and electricity for industry) (IEA 2021). Although these sectors are not intrinsically dependent on fossil fuels, the inertia in energy systems makes it difficult for them to reduce their emissions in line with 1.5°C pathways, as they depend on the timely development of affordable alternatives and on technological innovation (as a switch away from fossil fuels often requires radically different conversion and production processes). If ABP is to play a pro-active role in the energy transition for these companies, it should divest from companies without a strategy for net-zero emissions by 2050 at the latest, but also monitor whether the value proposition of the assets is in line with the emission reduction pathway.

Finally, reporting matters. Disclosure of emissions embedded in ABP's investment portfolio should, next to direct emissions (scope 1), also include embedded emissions (scope 2 and 3), as well as a projection of the emissions of the assets in the coming years, given the lifetime of the investment. Rather than just relying on the strategy of the company, the 1.5°C-compatibility of the investment itself is in this way assessed.

### **Part 3 Investment policy**

ABP's investment policy is based on four cornerstones: return, risk, impact and costs. In finance, it is common to analyse return in relation to risk: risk-adjusted return. For our analysis, the challenge is to balance impact and risk- and cost-adjusted return. It is important to set targets for each dimension (i.e. impact and risk-adjusted return) in its own right. When there is a shortfall on any of these targets, ABP should formulate a credible transition pathway to restore the shortfall (Lima de Miranda and Snower, 2020; Schramade, Schoenmaker, De Adelhart Toorop, 2021).

Pension funds, like ABP, are universal asset owners that bear systematic risk (Lukomnik and Hawley, 2021; Quigley 2021). Universal asset owners are thus exposed to systematic sources of risk, such as the risk of climate change, in the real economy. Because of the long run and non-diversifiable nature of climate risk, investors cannot diversify away from this source of systematic risk in the market (Engle et al., 2020; Jung et al., 2021). The performance of asset owners is largely driven by the market as a whole - measured by beta in asset pricing terms- and far less by outperformance of the benchmark - measured by alpha (Lukomnik and Hawley, 2021).

Universal asset owners can mitigate systematic risk in the real world by effecting change at companies (Quigley, 2021). If asset owners can induce companies to speed up the transition from fossil fuels to renewables, the risk of climate change is mitigated. In this way, asset owners internalise, at least partly, climate externalities and protect the long-term health of the economy and financial stability.

### *Approaches for mitigating climate change*

Generally speaking, there are three approaches for mitigating the negative impact on climate change of an institutional investor's portfolio. These are *engagement*, *voting* and *divestment*. What is the best approach depends on the circumstances. Engagement refers to investors' dialogue with investee companies in order to change their behaviour in the desired direction. Voting refers to voting at the shareholder meetings where certain proposals by management or shareholders may or may not be supported in voting, and divestment refers to selling the investments in equity or debt issued by the company. Note that the instruments of engagement, voting and divestment should not only be used for high-carbon emitting companies in the real economy, but also for financial institutions that finance these companies. ABP, like other pension funds, is substantially invested in equity and bonds issued by financial institutions.

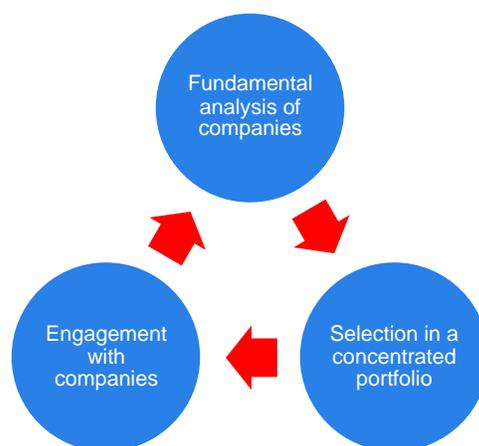
Typically, an investor would engage with a company if the investor has a reasonable expectation that the company will change its behaviour into the desired direction. This requires more than mere lip service by the company; it requires a clear commitment by the company to change its behaviour accompanied by a concrete path of milestones, the attainment of which needs to be evaluated on an annual basis. A larger equity stake in a company will *ceteris paribus* make engagement more effective (Dimson et al., 2015; 2021; Kölbel et al., 2020).

The latter is also the case for voting. A larger stake implies a larger vote. Both engagement and voting are more effective when institutional investors form a coalition to foster joint engagement. Dimson, Karakas and Li (2015; 2021) provide evidence that collaboration among investors is instrumental in increasing the success rate of social and environmental engagements. It should be added that engagement and voting are separate processes: in both cases the investor critically examines transition pathways and meeting of annual milestones. If these are not met, or need to be accelerated, the investor will engage and vote for tightening transition pathways.

Next, effective engagement and use of voting power requires substantial resources on the side of the investor. The investor needs to delve deeply into the company's activities and needs to form a view on whether a company's commitment is sincere, whether its path towards its goal of less climate impact is realistic, and whether the potential obstacles brought up are real. Hence, an institutional investor can only engage with a limited number of companies in a cost-effective way (Schoemaker and Schramade, 2019). Figure 3 illustrates a virtuous cycle of sustainable investing, whereby the portfolio manager conducts fundamental analysis, selects a limited number of companies in a concentrated portfolio, and engages with these companies. The

outcome of the engagement feeds back in the investment process. If a company fails to meet agreed annual milestones (e.g. on CO<sub>2</sub> reduction, capex towards low carbon and no exploration of new fields of fossil fuels), the portfolio manager may reconsider its investment in the company. Investors typically use a 2 to 3-year horizon for evaluating the results of engagement.

**Figure 3: Virtuous cycle of sustainable investing**

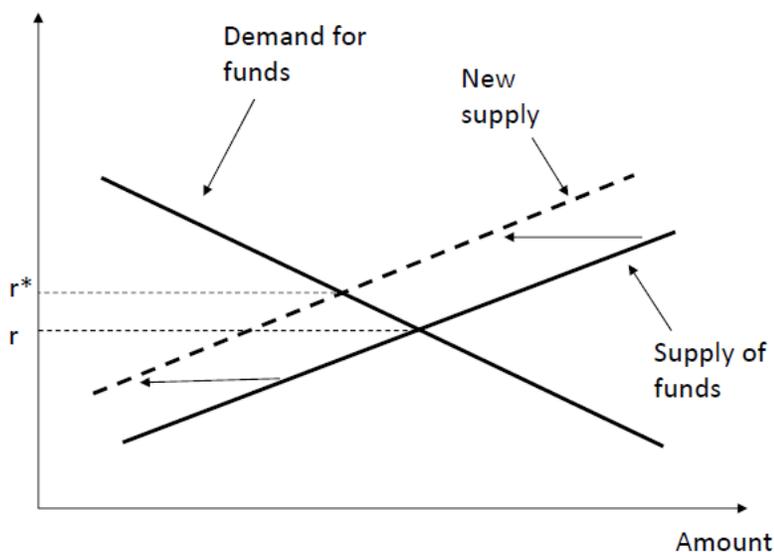


Divesting is often dismissed as ineffective, because some other party will buy the divested stake. Economically, this is not a sound argument. To show why, envisage a set of institutional investors (among which ABP) willing to invest more in high-emitting Firm X when the expected return on X's stocks is higher. Together, these institutional investors constitute the supply curve of capital in Figure 2. Firm X has a set of potential (physical) investment projects that can be ranked from high to low expected return. These projects require outside financing from our institutional investors. Hence, this will be Firm X's demand curve for capital. Equilibrium occurs at the point where the institutional investors' supply curve intersects with Firm X's demand curve, resulting in the equilibrium required expected rate of return  $r$ . Suppose that ABP sells its stake in X. This implies that, for *given* required expected return, the supply of capital falls. A new equilibrium is found at the new intersection of the two curves at the higher required expected return  $r^*$ . The result is that Firm X will scale down its investment in high-emitting activity.<sup>1</sup> The size of the scale down depends on the steepness of the curves. Obviously, if ABP holds only a small stake in Firm X the effect on Firm X's required expected return will be small. Moreover, the effect is smaller for large firms operating in liquid financial markets (Kölbel et al., 2020). If a large fraction of institutional investors follows the same strategy, the effect may become noticeable.<sup>2</sup>

<sup>1</sup> We assume that institutional investors treat 'similar' high-emitting firms (Firms Y and Z) in the same way.

<sup>2</sup> However, there is no evidence for this yet. According to Bolton and Kacperczyk (2021): "Overall, these findings lead us to reject the divestment hypothesis. ... although there is significant divestment by institutional investors, it is not directly linked to an effect on stock returns." It should be noted, though, that in estimating the effect of divestment

**Figure 4: Effects of divestment**



Note:  $r$  = required rate of return

Another, somewhat related argument, made in particular in relation to the fossil energy industry, is that fossil fuels will in any case be needed for the foreseeable future, so there is no point in divesting. This argument is also fallacious. The reason is that the higher cost of capital (the required expected return by the stock holders) will encourage the firm to innovate more in climate friendly activity for which the required expected return is lower, because investors are more willing to finance this activity. It may well be the case that a company is not prepared to change its climate impact, or that it does not stick to the CO<sub>2</sub>-reduction path it has set out. In that case, there may be no other choice than to divest. The criteria for divestment from these companies are set out in part 2.

#### Part 4 Portfolio level

Portfolio managers are usually evaluated on the basis of their performance relative to some benchmark.<sup>3</sup> In addition, the cost of a given degree of underperformance is usually higher than the reward for the same amount of overperformance. Benchmarks tend to be based on broad indices, for example the MSCI World index for developed market stocks, and represent

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there may be many confounding factors affecting returns, that the process of institutional divestment still has a long way to go and that there are other investor types investing in high-emitting firms dampening any effect of divestment by institutional investors.

<sup>3</sup> An alternative to relative performance evaluation against a particular benchmark is absolute performance evaluation. The large Swedish pension fund, Alecta, is evaluated on absolute return and risk on a five-year moving average for its major asset categories (Schoemaker and Schramade, 2019).

yesterday's economy. Such an index contains stocks of high-emitting companies contributing to climate change and even has a bias towards carbon-intensive sectors as explained in Part 1. Hence, an institutional investor who uses this index as benchmark will be encouraged to construct an investment portfolio that includes these very companies, thereby helping to finance these companies' carbon-intensive activities.

Alternative benchmarks can be constructed that underweigh the most carbon-intensive sectors.<sup>4</sup> The portfolio manager will be held accountable for deviations from this alternative benchmark and thus be encouraged to reduce the carbon content from his actual portfolio and invest in tomorrow's economy.

In view of the objective to bring the investment portfolio in line with the climate objectives, ABP could use (existing or yet to be constructed) benchmarks from which major climate violators in the most carbon-intensive sectors are purged. To maintain a sufficiently diversified benchmark and to also not deviate too much from the non-adjusted benchmark, exclusion could be confined to the largest polluters per carbon-intensive sector. Next, the benchmark could follow from optimisation, possibly of a risk-return trade-off under a given (time path of the) carbon budget (Pedersen et al., 2021).<sup>5</sup>

Maintaining sufficient presence in each sector would likely keep the risk-return trade-off essentially unchanged in the short run. In the longer run, there looms a danger of "stranded assets", in which case the adjusted benchmark likely outperforms the non-adjusted benchmark if the latter is too slow in reducing the weight of firms featuring stranded assets. The actual portfolio, when following the adjusted benchmark, would then also likely outperform the actual portfolio under an unadjusted benchmark.

Adjusted benchmarks would be needed for each major asset category (equities -both public and private-, credits, commodities, infrastructure and real estate). They would need to be developed with the help of an external party to avoid a potential conflict of interest (e.g., to avoid the construction of a benchmark that is too easy to meet). The benchmark would be specified in the Service Level Agreement between ABP and its portfolio managers, in particular APG. The construction of the benchmark has to be flexible, to allow adjustment after a periodic evaluation. In practice, the actual portfolio of an investment category may deviate from the benchmark portfolio, for example because of trading frictions, larger stakes in fewer companies in each sector and specific investment opportunities encountered.

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<sup>4</sup> Constructing such an alternative benchmark is not a trivial exercise. However, at least two examples exist, viz. the benchmarks for developed and developing market equities used by the Dutch Retail Pension Fund (Pensioenfond Detailhandel) and constructed by FTSE Russell in collaboration with BlackRock.

<sup>5</sup> For example, for Pensioenfond Detailhandel FTSE Russell has constructed benchmarks in which firms performing well in relation with its selected SDGs are overweighed relative to their share in the total value of the stock market and badly performing firms are underweighted (sometimes sold). Maintaining a stake in the bad performers allows the fund to continue to engage with these firms and to vote at shareholder meetings.

## Part 5 Conclusions and advice

ABP is a large institutional investor. It invests in a very large number of companies through equities and bonds (as well as in the public sector through bonds). However, these stakes in companies are in the large majority of the cases quite small as a fraction of the total investment portfolio and as a fraction of the outstanding equity or debt of the firm. The large number of stakes make it impossible to engage with each company in the portfolio. The small fractions held in many companies make it difficult to effectively engage with these companies. At the same time (i) it is well-known that diversification gains set in very early, i.e. a limited number of stocks is sufficient to reap most of the potential diversification gains (Statman, 2004); and (ii) within sectors there can be substantial variation in the CO<sub>2</sub> content of its production or products. For example, electricity producers may produce green electricity (solar, wind, hydrogen) or energy by burning fossil fuels. A steel company may use fossil fuels or green electricity.

We recommend ABP to focus on a limited number of fossil fuel and other major carbon-emitting companies and select them as follows:

1. Divest from publicly listed and private companies with no clear or sufficiently ambitious reduction strategy, or in which the stake is too small for serious engagement;
2. Keep and raise stakes in a limited number of oil and gas companies (fossil fuel supply) and other major carbon-emitting companies (creating fossil fuel demand) with a commitment to fully decarbonise with an ambitious and predefined time path, limited use of carbon dioxide removal (CDR), and that credibly pursue a business model in line with a world without CO<sub>2</sub> emissions;
3. Engage deeply with these companies and monitor annually predefined reductions in emissions; joint engagement with other institutional investors can strengthen the effectiveness of the engagement;
4. Vote for resolutions that require reductions in CO<sub>2</sub> and other greenhouse gas emissions in line with the latest available science.

To contribute further to the energy transition, we recommend ABP to

5. Shift the share of fossil fuel producers to companies solely producing renewable energy or companies that produce both fossil and renewable energy and that are committed to reducing their share of fossil energy at a sufficiently high rate (see recommendation 2); ABP's investments in clean and affordable energy (SDG7) can be intensified to increase the fraction of the portfolio invested in renewable energy producers and infrastructures;
6. Raise the benchmark fractions invested in low-carbon sectors and reduce the benchmark fractions invested in carbon-intensive sectors. This helps to correct the carbon bias in the benchmark against which portfolio managers are evaluated;
7. Tilt the benchmark fraction inside the carbon-intensive sectors further towards the less intensive firms to give additional incentive to reduce the carbon content of the portfolio.

A central element of our recommendations is to invest in and engage deeply with companies that want to decarbonise (the so-called leaders and promises). ABP's recent announcement to divest from oil and gas companies is based on an observed lack of progress in carbon reductions; these companies are labelled 'laggards' in ABP's policy framework. We hope that some oil and gas companies can convert themselves into 'promises' by developing credible transition pathways towards decarbonisation (including credibly pursuing a business model in line with a future world without carbon emissions, a shift away from new fossil fuel development, and limited use of CDR). These companies can thus become investable again for responsible investors. An important indicator of their willingness is a switch in their capital expenditures (capex) from fossil fuels to renewables over the next years.

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