# FINANCING THE ENERGY TRANSITION IN THE NETTHERLANDS THE IMPORTANT ROLE OF INSTITUTIONAL INVESTORS



Achieving the **Paris Climate Agreement goals** requires trillions of dollars in investments in sustainable energy infrastructure globally in the coming decades. This paper explores the important role that institutional investors can play in providing these required investments, and thus in the transition to a clean energy system. Through a series of semi-structured interviews with pension delivery organisations, asset managers and Dutch pension funds, the paper highlights key topics that need to be addressed to help institutional investors become the driving force behind scaling up and accelerating investments in the energy transition in the Netherlands and beyond.

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## **INTRODUCTION**

### SETTING THE SCENE

The landmark International Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C, published in 2018, states that the world must reach net zero emissions by 2050 at the latest to achieve the Paris Agreement goal of keeping average global surface temperature rise to below 1.5°C. The parties to the Paris Agreement have pledged their commitments to cutting greenhouse gas (GHG) emissions by submitting their Nationally Determined Contributions (NDCs) to the United Nations Framework Convention on Climate Change (UNFCCC). The European Union (EU) has committed to reducing GHG emissions by at least 40% below 1990 levels by 2030. At the national level, the Netherlands has passed legislation that sets climate goals of 49% emission reductions by 2030 and 95% by 2050, compared to 1990 levels.

The energy sector is the largest source of GHGs by sector globally, being responsible for around 35% of total anthropogenic GHG emissions (IPCC, 2014). Approximately 90% of energy-related emissions are derived from CO2 from burning fossil fuels (IPCC, 2014). Clearly, emission reductions in the energy sector is critical for achieving the world's climate change mitigation ambitions. This is reflected in the EU targets for renewable energy of at least a 32% share of total energy use and a minimum of 32.5% improvement in energy efficiency by 2030. At the national level, the Netherlands has set increasing targets for energy use from renewable sources: 14% by 2020, 16% by 2023, and 27-35% by 2030 (NECP, 2018). To meet the world's climate goals, transitioning to a clean energy system needs to happen, and it needs to happen fast.

Implementing climate and energy targets will require coordinated global action in many domains, including capacity building, institutional strengthening, and arguably most importantly financing. Transitioning to clean energy will require cumulative investments of trillions of US dollars globally (IEA, 2014, 2017; IFC, 2016; NCE, 2016). Average annual additional investments in the EU alone are expected to be roughly €38 billion between 2011 and 2030 to achieve the EU's stated climate and energy goals (EC, 2018). Planbureau voor de Leefomgeving (PBL) has estimated that around €200-300 billion of investment will be needed between 2020 to 2040 in the Netherlands to achieve emission reductions of 80-95% from 1990 levels by 2050. These financing requirements are substantial, and research clearly shows that current investment levels are insufficient to meet the Climate Goals (Energy and MFF, 2018).

### **PROBLEM DEFINITION**

Given the scale of investment required to achieve global, EU and national climate and energy targets, it is clear that limited public budgets will not be enough, especially taking into account the competing uses of these funds to address other economic and societal challenges. A large proportion of the required investment levels must come from the private sector in the form of companies and institutions. In particular, institutional investors such as pension funds, insurance companies, and investment banks, that have trillions of euros in Assets Under Management (AUM) could play a critical role in providing the amount of capital needed for a successful energy transition. Although these institutions have vast amounts of capital at their disposal, finance is currently not flowing towards the energy transition at the rate and scale that is needed.

This paper explores the factors that could influence the scale and speed of flow of capital from institutional investors to the energy transition. In a set of semi-structured interviews undertaken with pension delivery organisations, asset managers and Dutch pension funds about their clean energy investment strategies, and the challenges they are facing in scaling up investment in this domain, six key takeaways are identified. These all point to the following conclusion:

Companies, governments, clients of investors and investors themselves all have a key role to play if institutional investors are to become the driving force behind scaling up and accelerating investment in the Energy Transition in the Netherlands

### **OBSERVATIONS**

- 1. Money talks: Dutch institutional investors have the financial means to scale up and accelerate investment to the levels necessary for a successful energy transition
- 2. It's a two-way street: asset managers and their clients both have important roles to play in changing the status quo of how asset allocation decisions in investment portfolio management are made
- 3. Direct investment can have the largest impact: institutional investors can scale up and accelerate capital flows to the energy transition by injecting more equity into unlisted companies and projects
- 4. Regulation is key: appropriate government regulation can steer investor behaviour towards scaling up investment in the energy transition
- 5. Standardised Environmental, Social and Governance (ESG) criteria and reporting help investors better assess sustainable and responsible investment
- 6. Stewardship & Engagement can change the behaviour of companies: investors can influence the strategy and decisions of companies to ensure that their investments are future-proof, including from the energy transition perspective

can be the trigger: ESG investment criteria need to be clarified and standardized to

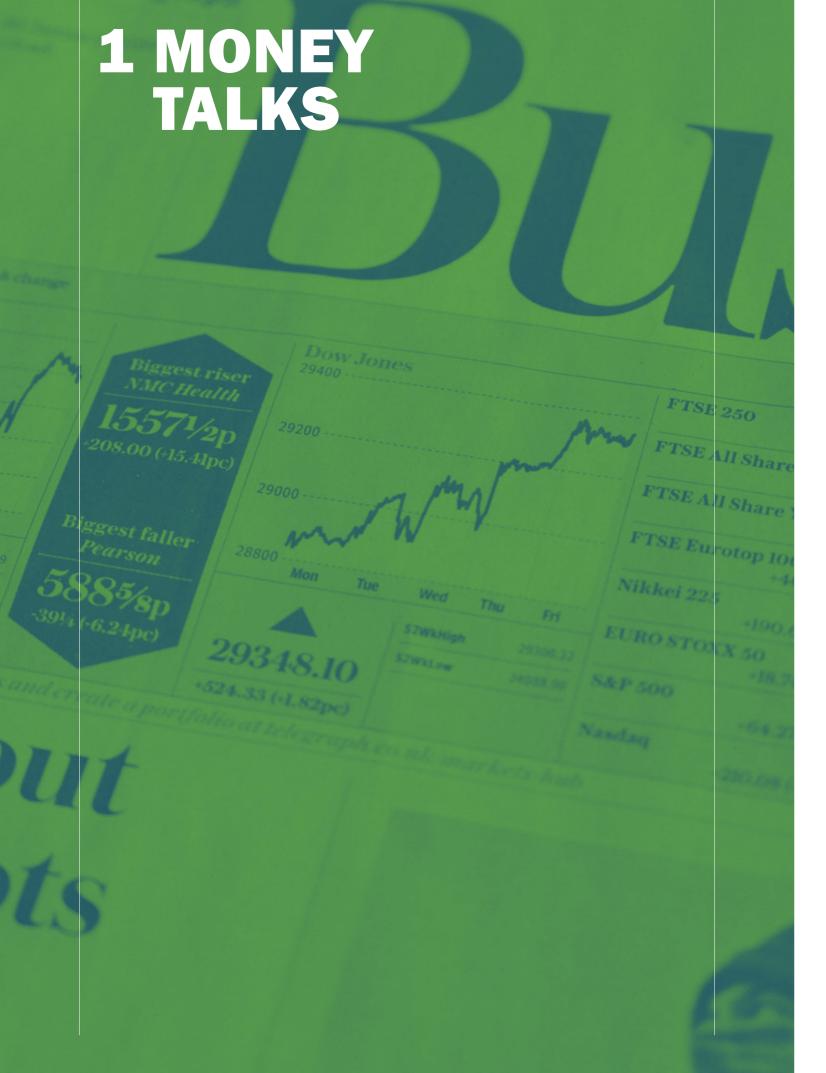
Institutional investors hold trillions of US dollars in assets under management (AUM) globally (OECD, 2019), thus clearly have the financial means to spearhead structural changes to existing social, economic and technical regimes. The global energy system is transitioning to one in which cleaner fuel sources and renewable energy technologies are becoming mainstream, and vast injections of capital are required for this transition to be successful. With such large amounts of financial resources at their disposal, undoubtedly institutional investors can be a key driving force in scaling up investment levels and expediting the transition.

In the Netherlands, large pension funds are a core part of the institutional investor landscape. The Dutch pension system is considered to be one of the most advanced in the world with a large asset base, excellent coverage of the population, strong governance and a high level of funded assets for the future (APG, 2016). Pension funds are in a strong position to support the energy transition, both directly through capital provision, and indirectly by using their wide geographical reach to drive societal change.

Prudence is needed when highlighting the potential investment levels from institutional investors into the energy transition, despite the large total amount of capital they have at their disposal. The starting point of 'trillions of US dollars in AUM' can be misleading when articulating the potential financial impact institutional investors could have. Several factors need to be taken into consideration, for example the fiduciary duties that investors have to their clients to generate returns that are commensurate with the level of risk specified by the client. Investors might allocate assets to alternative sectors than clean energy if, for example, these sectors offer similar (or higher), more stable yields with an equivalent or lower risk (actual or perceived). Fossil fuel companies have offered stable investment track records of generating consistent yields for investors, as well as companies in other sectors such as pharmaceuticals and telecoms. All these sectors have the potential to compete for the allocation of institutional investor capital.

There is sufficient capital for institutional investors to drive a successful energy transition, and appetite among these investors to put this capital to work

The key message from the interviews conducted with asset managers and pension funds in this study is that there is sufficient capital for institutional investors to drive a successful energy transition, and appetite among these investors to put this capital to work. More attractive risk-return profiles need to be available in the sustainable energy domain to attract investors, even in the case of solar PV and wind energy (Ryszka, 2020) to scale up and accelerate future capital flows. This can be achieved through continued technological learning, consistent public policy measures that enhance return and/or mitigate risk, and strong government leadership on climate change and energy transition backed-up by ambitious targets and regulation.



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**2 IT'S A TWO-WAY** STREET

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Dutch pension funds use both pension delivery organisations (spin-offs from the pension fund itself) and / or (global) asset managers to manage their assets. Interviews with pension delivery organisations, asset managers and Dutch pension funds highlighted that there is an inertia from these different stakeholders to take the leading role in scaling up and accelerating investment in sustainable energy. During an interview with one of the largest asset managers globally (by AUM) the representative stated that "if our clients demand sustainable investment products, we will deliver, including in the clean energy sector". This seems a reasonable statement to make by an asset manager. A rational, profit seeking entity that has a fiduciary responsibility to their client will invest in, and possibly even create, products which their clients want. Increased demand for sustainable investments by pension funds and other client types, should stimulate the creation of more investment products focused on sustainability, such as responsible investment funds and indices.

'The asset management industry could do more to pro-actively inform their clients of investment opportunities in products focused on meeting sustainable and responsible criteria, including in the clean energy sector.'

Pension funds (and other client types) might also expect their asset managers to play a more advisory role about potential clean energy investment (and other ESG) opportunities and risks. Two asset managers with multi-trillion euro global investment portfolios indicated during interviews that, although they have a fiduciary responsibility to their clients to generate attractive returns, the asset management industry could do "much more to pro-actively inform their clients of investment opportunities in products focused on meeting sustainable and responsible criteria, including in the clean energy sector". One global asset manager gave an example of how they are taking a pro-active approach by organising roadshows in the Netherlands to better inform Dutch pension funds about ESG risks and investment opportunities in their portfolios. More specifically, these roadshows are being designed to raise awareness and explain opportunities of investing in the clean energy sector.

The client's mandate is crucial in shaping the investment strategy of the asset manager. Pension funds and other institutional clients are increasingly including ESG criteria in their mandates, which has resulted in an increase globally of 23,3% of assets managed in ESG mandates by the 500 largest asset managers (Thinking Ahead Institute, 2019). In addition, there is an important role of the asset manager to better inform, advise, and provide products for their clients to invest sustainably. This will require effort from both institutional investors and asset managers to develop 'Paris proof' responsible investment strategies.

**3 DIRECT** INVESTMENT CAN HAVE THE LARGEST IMPACT

Small-scale project developers and citizen-owned projects have played an important role in the energy transition in Western Europe thus far, notably in the deployment of renewable energy. In Germany, for example, 26% of investments in renewable energy power plants in 2012 were made by households (Trend Research, 2013). Small project developers (and individuals) typically do not have balance sheets that are large enough to secure sufficient finance to invest in large scale renewable energy projects. This is one main reason why project finance has thus far dominated the clean energy financing landscape in Western Europe, in contrast to fossil-fuel based power plants that have been mostly financed from corporate balance sheets (Steffen, 2017). Small project developers are conscious of the risk of debt overhang on their balance sheet, and raising debt and equity through, for example, setting up a Special Purpose Vehicle (SPV) can help them to overcome this. Investors can play a key role here by providing direct equity investment, thus supplying much needed growth capital for small companies to expand their operations and project pipelines. Although institutional investors are increasingly making direct equity investments (McKinsey, 2018), interviews with asset managers of Dutch pension funds in the Netherlands uncovered that investment in listed financial funds and companies in the energy sector, such as Shell, British Petroleum (BP), Exxon Mobile, and Gazprom is much more common than investment in small project developers because they offer scale, liquidity, and attractive risk-return profiles.

Asset managers play a critical role in transforming the energy sector if they are willing and able to invest equity capital at a larger scale in unlisted companies and projects.

The clean energy market is fragmented, and thus many small-scale project level investments are required for a successful energy transition, particularly, for example, in energy efficiency. Asset managers play a critical role in transforming the energy sector if they are willing to invest equity capital at a larger scale in unlisted companies and projects. By receiving equity capital injections from large investors, small businesses can grow to a scale at which they are either bought by larger, stock exchange listed companies or potentially they become publicly traded companies themselves, thus offering more listed investment opportunities to institutional investors.

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# **4 REGULATION** IS KEY

In addition to consistent support policies, appropriate regulation is needed to change investor behaviour and increase their focus on green financing opportunities. Regulation that may affect energy transition investments covers various sectors and affects a variety of stakeholders, including companies, asset managers and institutional investors. Sectors involved are the financial (including pension funds), energy, and other related sectors such as mobility.

Regulation of the financial sector is required to drive global transformation towards a green and sustainable economy (Frankfurt School of Finance). Since the most recent financial crisis, regulation of the financial markets in Europe and the Netherlands has become more stringent (EIB, 2019). Parallel to the overall tightening of financial market regulations, regulators have started to prioritise climate change aspects (including climate risk disclosure, green bond labels, and transparency and reporting on shareholder engagement). In December, the European Council agreed on a taxonomy for sustainable finance, as a key pillar of the European Green Deal (2019) and the Action Plan of Sustainable Finance (2018). The taxonomy highlights the need for a common language and framework to increase funding levels for renewable energy and other green investments. Much of the ambitions and plans outlined in the Green Deal and Action Plan of Sustainable Finance, as presented by the European Commission, will bring forward new regulation in the coming years that will impact institutional investors. This regulation can help to channel the billions of euros of investment needed for the sustainable energy transition and to achieve carbon neutrality by 2050.

### Appropriate regulation of various sectors will change investor behaviour and increase their focus on green financing.

In addition, specific regulation on pension funds has been recently adopted by the European Parliament and Council. The Institutions for Occupational Retirement Provisions (IORP) II regulation for pension funds states that more emphasis should be placed on ESG considerations and standards in the policies and risk management of pension funds. Moreover, the Dutch pension law and the IMVB (Internationaal Maatschappelijk Verantwoord Beleggen) covenant, recently signed by 73 Dutch pension funds covering 90% of invested pension assets, both focus on sustainable investment principles. Placing further emphasis on developing and enforcing these (ESG) principles, with stricter compliance standards on a global, European and national level, should help steer these institutional investors to scale up and accelerate investment into the energy transition.

National government and European-wide regulation at the sector level can also affect the decisions of institutional investors. The energy transition and climate change mitigation action has resulted in new policies, regulation, and legislation, most notably in the energy and mobility sectors. These developments can affect the value of assets and lower the returns institutional investors can generate from investing in conventional, traditional energy projects. This creates new risks, such as dealing with stranded assets resulting from the phase out of coal power plants in the Netherlands, that investors are forced to address. Conversely, policies and regulations can provide new investment opportunities. Interviews with institutional investors identified that "long, loud, legal" regulation and policies can reduce the policy uncertainty risk that often prevents investment from taking place. An example is the implementation of emissions regulation for the automotive sector by 2021 in Europe, which makes clear that the change towards zero- and low-emission vehicles in the car manufacturing industry will indeed happen. Institutional investors can take positive steps to adapt their strategies, as they now face reduced policy uncertainty and a positive market outlook for zeroand low-emission vehicles, including the associated supply chain. In the energy sector (stimulating) policies for low-carbon generation technologies such as wind and solar have already reduced financing costs (Olaf & Breitschopf, 2011, Grau 2014), by lowering (perceived) risks for investors. The future energy technology mix is highly sensitive to the level of financing cost, so this regulation helps shape Europe's future energy system (Halstead et al. 2019).

**5 STANDARDISED** ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) CRITERIA AND REPORTING CAN BE THE TRIGGER

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The topic of sustainability is attracting increasing attention from financial sector institutions. This is embodied in the growing focus by financial market regulators and market players themselves on the development of standardised environmental, social and (corporate) governance (ESG) principles. ESG principles include the following:

- Environmental aspects: environmental impact of business activities, energy generation, and air pollution.
- Social aspects: human rights, animal welfare, and consumer protection.
- Corporate governance aspects: fair company valuation, employee relations, and executive remuneration.

Embracing ESG principles in the investment strategies of institutional investors such as pension funds could foster increased investment in clean energy and a reconsideration of investments that contradict the objectives of the energy transition. When developing investment strategies, asset managers are constrained by the mandate given to them by their clients, for example pension funds. If this mandate makes it clear that asset managers should adhere to ESG principles, asset managers will be forced to increase investment in responsible and sustainable investment products. Several of the asset managers interviewed as part of this study mentioned that they already exclude specific companies from their portfolios on the basis that they do not meet certain criteria for sustainable or responsible investment. The most prominent examples being in the coal and tobacco industries. Excluding 'undesirable' companies is just one way of embracing ESG principles in investment strategies. Investors can, for example, adopt an 'inclusion' strategy whereby 'desirable' companies, for example, a company whose core business is renewable energy generation, are included in an investment portfolio. Investors can go further and allocate capital directly to desirable companies that meet ESG investment criteria. Whilst there are pension funds that have robust policies on addressing ESG issues, much work needs to be done to develop a consistent approach to incorporating ESG principles into investment decisions across the financial community (KPMG, 2019).

Asset managers, especially those adopting a more passive investment strategy, often invest substantial amounts of capital in funds that track the performance of a specific index. Indices that are based on ESG principles can play a crucial role in helping to scale up investment in the energy transition by institutional investors. The most well-known example is the MSCI ESG indexes: "the MSCI ESG Indexes are designed to support common approaches to environmental, social and governance (ESG) investing, and help institutional investors more effectively benchmark to ESG investment performance as well as manage, measure and report on ESG mandates" (MSCI, 2019), There are multiple ESG-focused or responsible investment indices, and funds that are established with the explicit objective of tracking the performance of these indices, but there is still no single definition of what makes an index responsible or sustainable. This makes it challenging for investors to evaluate and compare different responsible investment opportunities. Developing a standardised ESG assessment methodology and principles for ESG investment will help better inform investors and improve the transparency of the funds and indices in terms of meeting sustainable and responsible investment criteria.

There are already many initiatives and policies in place, both international (such as the UN Principles for Responsible Investment) and local (the Responsible Investment Framework in the UK). However, the problem of effective ESG reporting remains because some of those initiatives have governance issues and lack transparency or might be conflicting with each other. For example, UN PRI has been widely criticised for the fact that 10% of its signatories have not complied with the ESG principles they committed to (Thompson, 2018). Moreover, different ESG standards are often conflicting and require substantial effort from businesses to manage all disclosure requests (Tett, Nauman, Temple-West, 2019). Even if companies do publicly disclose their ESG performance in line with those requests, making investment decisions based on this information is complicated because there are multiple conflicting reporting standards in place. In order to solve this issue, further standardisation, coordination and transparency is required. Hence, clear, transparent and standardized methodologies to assess and report on ESG will provide direction for both asset managers and companies.

Only clear, transparent and standardized methodologies to assess and report on ESG will provide direction for both asset managers and companies

It would be misleading to suggest that climate and clean energy are the most prominent considerations in the area of ESG. They are part of a broad range of ESG topics, which makes it challenging to accurately assess the level of awareness and attention that is being given specifically to these two topics by investors. Moreover, interviewees mentioned that there is still an issue of 'greenwashing' by companies and institutions who claim to be adhering to ESG principles (see also Thompson, 2018). ESG principles, as defined today, may provide a direction, but much more work needs to be done to clarify these principles, increase transparency, and standardise methodologies to assess the ESG reporting requirements of companies, and the ESG compatibility of investment portfolios. There appears to be a role here for independent research organisations to help financial institutions develop robust, standardised methodologies to assess ESG compliance and the impact of this on their investment portfolios.

# **6 STEWARDSHIP & ENGAGEMENT CAN CHANGE THE BEHAVIOUR OF COMPANIES**

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Investors holding shares in companies have voting rights and access to the company's key decision-makers, thus often have power and influence to change the behaviour of these decision-makers. Investors can influence behaviour through various approaches, such as dialogue with the board of directors, exercising shareholder voting rights, proposing shareholder resolutions, and if necessary, by divesting their holdings in the company. These can be powerful tools that bring about change and have a potentially high impact on the behaviour of companies that (could) play a key role in a successful energy transition.

**Dialogue** with

more engagement with company

Large institutional investors can (often through their asset managers) engage with companies to discuss topics such as the company's strategy, performance, risk, capital structure, and corporate governance. Investors can exert influence via proposing shareholder resolutions (or even by divesting, or threatening to divest, their holdings), but asset managers expressed during the interviews that they often prefer to take a less radical approach. One asset manager stated that "access is not a problem...we receive a direct invitation to the board room. We typically don't participate in shareholder resolutions because we prefer to actively engage with companies first. If they then do not follow-up on our requests, we consider the route of a shareholder resolution". Thus, the preferred approach of institutional investors appears to be one of actively working together with companies to change their behaviour, rather than trying to enforce change.

Stewardship and active engagement are powerful tools for investors to steer the direction of the current key players in the energy sector into a sustainable future.

During the interviews, institutional investors expressed overall that they prefer an active engagement strategy over divesting from fossil fuel companies. All interviewees clearly stated that they expect companies focusing on conventional energy to be a key part of the energy transition. Asset managers are thus favouring a strategy of engagement and dialogue to discuss how these traditional energy companies are adapting their business models to fit an evolving energy system. Asset managers highlighted that they are expanding their investment stewardship teams to intensify active engagement, as well as company and ESG analysis. In addition, recent European (Shareholder Rights Directive, 2017) and Dutch (Stewardship Code, 2018) regulations that came into force, focusing on transparency around investment stewardship and engagement practices by asset managers with companies they invest in, require asset managers to report on this, including ESG.

The investment mandate from the client of an asset manager is not only crucial in shaping the investment strategy of the asset manager, it also influences its engagement strategies and activities. A prescriptive and explicit investment mandate from pension funds (and other clients of asset managers) with emphasis placed on sustainability can drive new investment in sustainable energy assets. It can also foster active engagement in traditional energy companies to urge them to, for example, adapt existing business models to become more sustainable and to invest more capital in low carbon assets. This will support the energy transition and the move to a carbon neutral economy.

## GLOSSARY

- Asset managers: intermediaries who manage other organisations' and individuals' investments.
- Clean energy: energy produced from sources that do emit greenhouse gasses and other pollutants into the atmosphere. Clean energy production, transportation and consumption as well as energy efficiency are included in the scope of the definition in this Paper.
- **Debt overhang:** a debt burden so large that an entity cannot take on additional debt to finance future projects (Debt overhang, 2019).
- **Direct investment:** investment of capital in physical assets or in the ownership of a whole enterprise (Direct investment, n.d.).
- Divestment: the reduction of an investment in an asset for financial, ethical, or political objectives or sale of an existing business by a firm.
- ESG: Environmental, social and governance (ESG) criteria are a set of standards for a company's operations that socially conscious investors use to screen potential investments (ESG, 2019).
- Indirect investment: investments made in portfolios and funds that pool investor money to buy or sell assets. Examples include mutual or index funds and real estate funds.
- Institutional investor: an entity which pools money to purchase investment assets, such as stocks and bonds. The types of entities classified as institutional investors include investment managers, asset managers, pension funds, and insurance companies.
- Investment mandate: an instruction to manage a pool of capital using a specific strategy and within certain risk parameters.
- **Listed securities:** financial instrument that is traded through an exchange.
- Passive investment: an approach aimed at matching the broad market performance. Passive investing has a long-term focus and ignores short-term market ups and downs. A passive investor limits the buying and selling activities in his portfolio in response to changing composition in the tracked index to be matched (Active vs Passive Investment, n.d.).
- Pension delivery organisation: an independent organisation created to handle the administration and asset management of the parent pension fund.
- Shareholder resolution: a non-binding recommendation to the board of directors of a public company. A resolution is proposed by shareholders and presented and voted upon at the company's annual meeting.
- Stewardship: active engagement of investors with public companies to encourage the adoption of best practices in corporate governance and long-term sustainable performance.
- Unlisted securities: a financial instrument that is not traded on an exchange.
- Yield: the income returned on an investment e.g. interest from holding a bond, dividend from holding a share. It is usually expressed as a percentage of annual change in market value against initial investment.

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### European Commission (2018). Communication from the Commission to the European Parliament, The European Council, The European Central Bank, the European Economic and Social Committee and the Committee of the Regions – Action Plan: Financing Sustainable Growth's, COM/2018/097 final (Brussels, European Commission, 8 Mar. 2018).

Grau, T. (2014). Comparison of Feed-In Tariffs and Tenders to Remunerate Solar Power Generation, SSRN Electronic Journal

Halstead, M., Donker, J., Longa, F. D., & Zwaan, B. V. D. (2019). The importance of fossil fuel divestment and competitive procurement for financing Europe's energy transition. Journal of Sustainable Finance & Investment, 9(4), 349–355

KPMG (2019). Het is moeilijk om bij te blijven.

McKinsey Global Private Markets Review (2018). The rise and rise of private markets. OECD (2019). OECD Institutional Investors Statistics 2019

Olaf, G., & Breitschopf, B. (2011). The Impact of Policy Elements on the Financing Costs of RE Investment - The Case of Wind Power in Germany. SSRN Electronic Journal

Ryszka K. (2020, January 24). Renewable project finance: Can corporate PPAs replace renewable energy subsidies? Retrieved from https://economics.rabobank.com/ publications/2020/january/renewable-project-finance-corporate-PPA/

Steffen, B. (2017). The importance of project finance for renewable energy projects. Energy Economics, 69, 280-294"

Tett G., Nauman B. & Temple-West P. (2019, November 13). Moral Money: infighting undermines ESG standardisation push. Financial Times. Retrieved from https://www.ft.com/content/0b354b76-059e-11ea-a984-fbbacad9e7dd

Thinking Ahead Institute (2019). The world's largest 500 asset managers. Retrieved from https://www.thinkingaheadinstitute.org/-/media/TAI/Pdf/Research-Ideas/a\_ public/PI500\_2019.pdf

Thompson, J. (2018, May 28). UN responsible investing body threatens to kick out laggards. Financial Times. Retrieved from https://www.ft.com/content/794219c0-6002-11e8-ad91-e01af256df68

Trend Research (2013). Definition und Marktanalyse von Bürgerenergie in Deutschland. What is responsible investment? (n.d.) Retrieved December 21, 2019, from https:// www.unpri.org/pri/an-introduction-to-responsible-investment/what-is-responsibleinvestment

## REFERENCES

Active investing. (2019). In Investopedia. Retrieved from https://www.investopedia. com/news/active-vs-passive-investing

Active vs Passive investing. (n.d.). Retrieved December 21, 2019, from https://www.educba.com/active-vs-passive-investing/

APG (2016). Pension Doc. Good pension design

BlackRock (2020). A Fundamental Reshaping of Finance. Retrieved, from https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

De Nederlandsche Bank (DNB). Retrieved December 21, 2019 from https://www.dnb.nl/en/about-dnb/index.jsp

Debt overhang. (2019). In Investopedia. Retrieved from https://www.investopedia.com/ terms/d/debtoverhang.asp

Direct investment. (2013). In Merriam-Webster online. Retrieved from https://www.merriam-webster.com/dictionary/direct%20investment

Directorate general for internal policies (2018). Energy and the MFF. Retrieved from http://www.europarl.europa.eu/RegData/etudes/STUD/2018/614223/IPOL STU(2018)614223 EN.pdf

EIB (2019) EIB investment report 2019/2020: accelerating Europe's transformation, European Investment Bank

ESG. (2019). In Investopedia. Retrieved from https://www.investopedia.com/terms/e/ environmental-social-and-governance-esg-criteria.asp

Eumedion (2018). Dutch Stewardship code. Retrieved from https://www.eumedion.nl/ en/public/knowledgenetwork/best-practices/2018-07-dutch-stewardship-code-finalversion.pdf

European Union, European Parliament and Council (2017). Directive (EU) 2017/828 amending Directive 2007/36/EC as regards the encouragement of long-term shareholder engagement. Retrieved from https://eur-lex.europa.eu/legal-content/EN/ TXT/?uri=CELEX%3A32017L0828

European Commission (2019). Communication from the Commission to the European Parliament, The European Council, the Council, the European Economic and Social Committee and the Committee of the Regions -The European Green Deal, COM/2019/640 final (Brussels, European Commission, 11 Dec. 2019).

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