The role of Estonian pension funds in reinforcing and tackling climate change

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Estwatch is an independent non-profit civil society organization that aims to alleviate the adverse social and environmental impacts of Estonian-related companies and governmental agencies.

In its work in the financial sector, Estwatch aims to assure that all Estonian financial institutions would invest Estonian citizens' and their clients' money responsibly and transparently.

Author: Uku Lilleväli, Responsible Finance Specialist, Estwatch

The author has obtained theoretical knowledge and practical experiences in the field of responsible investments as part of his studies of MSc in International Development and Management at Lund University, Sweden, as well as through working at an impact investment fund GroFin in Mauritius, where he contributed to investing in impactful SMEs in Africa and the Middle East. This report is based on author's master's thesis "Seeking Climate Justice in the Financial Sector – Interpreting the fiduciary duty of Estonian pension funds based on their contribution to reinforcing/tackling climate change"[1].

Inquiries: info@estwatch.ee, www.estwatch.ee

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EXECUTIVE SUMMARY

Aim. The aim of the study “Seeking Climate Justice in the Financial Sector – Interpreting the fiduciary duty of Estonian pension funds based on their contribution to reinforcing/tackling climate change” is to identify, if and how Estonian pension fund managers: **1)** invest in companies that significantly reinforce climate change, **2)** address climate-related environmental and social harms and risks, and **3)** fulfil their legal fiduciary duty to manage Estonian citizens’ assets with sufficient prudence and competence.

Methods. The study:

1. Is based on a sample that consists of 36 companies that significantly reinforce climate change, considering greenhouse gas emissions and climate lobbying.
2. Analyses the January or February 2019 investment reports of all 23 mandatory second pillar pension funds to identify if and how the funds have invested in the 36 sample companies
3. Analyses if and how pension fund managers address, prevent and mitigate climate-related environmental and social harms and financial risks in their investment processes (online survey, emails, phone interviews and desk research during March-April 2019).
4. Analyses the factors that influence how Estonian pension funds and the financial sector more broadly address climate-related concerns in investment processes.

Results. The results imply that Estonian pension funds systemically reinforce climate change through their investments and – depending on the financial institution and pension fund – address climate-related environmental and social harms and financial risks either partially or not at all. Factors that support the neglection of climate risks include:

- The lack of climate- and sustainability-related competence – knowledge, skills and attitudes - in the Estonian financial sector.
- Small investment amounts together with relatively costly responsible investment mechanism development compared to global investors (i.e., lower economies of scale).
- The vagueness of how Estonian jurisdiction defines the fiduciary duty of financial institutions.
- Inexistent demand for addressing adverse climate risks in investment processes from clients, civil society, academia, the state and financial institutions themselves.
- The political context plausibly infuriating short-termism in investment-decisions.

Significance of the results. Neglecting or inadequately addressing adverse climate-related impacts and risks indicates, first, that Estonian citizens’ money directly supports reinforcing climate change, and secondly that their money is open to climate-related investment risks, which are not being addressed and which can, therefore, harm their assets’ financial value. Acknowledging the importance of Estonian pension funds in the society more broadly, pension fund managers must acknowledge climate-related environmental and social factors in investment decisions, in order to **1)** manage risks that may harm investment returns, **2)** assure that investment decisions are aligned with the environmental and social well-being, and **3)** meet the rising expectations from clients regarding responsible investments, especially concerning preventing and mitigating climate risks and harms.

Structure of the report. This report provides an overview of the context, aim, methodology, results and analysis of the original study, and concludes with **recommendations to financial institutions, state institutions, think tanks and expert groups, civil society organizations and citizens and clients regarding how they can support making Estonian financial sector more responsible**.

1. INTRODUCTION AND CONTEXT

Climate change is by many considered as the most critical problem our planet is facing, given its adverse impacts across geographies and all fields of life[2]. These include **a)** the physical impairment of constructions, land and infrastructure resulting from higher severity of climate-related events like droughts, floods, storms, rising sea levels and temperatures, heatwaves and others; **b)** secondary impacts like lowering crop yields, higher food insecurity and prevalence of diseases, shortening resources, disturbances in trade and supply chains, migration and violent conflicts; **c)** regulatory changes to cope with climate change, e.g., carbon pricing and removing subsidies from sectors with high greenhouse gas emissions, **d)** business risks, such as neglecting increasingly stringent climate-related environmental regulations, **e)** reputational business risks like not meeting clients' and shareholders' demands regarding tackling climate change, and **f)** financial market-specific risks like altering valuation of enterprises vulnerable to climate risks, and subsequently decreasing market confidence and prices[2,3,4,5,6,7,8].

Climate change is reinforced primarily by the increase in human-induced greenhouse gas emissions, mainly from the industries. The increase in carbon dioxide, methane, nitrous oxide and other greenhouse gas emissions (further: GHG emissions) results either directly or indirectly from the operations of energy, transportation and other industries, which often support their operations by using their economic and political influence to lower environmental regulations, which are critical to reducing GHG emissions[4,9,10].

The orientation towards short-term profits makes companies, industries and the financial sector to disregard climate-related risks and harms.

Many studies show that financial institutions systemically invest in companies and industries that significantly reinforce climate change[11,12]. Considering this, OECD declares that financial institutions of all sizes are expected to contribute to alleviating adverse environmental and social risks and impacts in their investment processes and portfolios because otherwise, their operations bear the risk of harming the societal well-being more broadly[13].

Financial institutions must manage climate-related financial risks, which may lower investment returns and asset value (further: financially material risks), to take care of their clients' assets with sufficient prudence and competence. While the present-day economic system implies that the financial sector still specialises on profits and overlooks climate-related environmental, social and governance-related risks (further: ESG risks), the growing body of knowledge proves these to have a financially material impact on investments' performance[2,14,15,16]. Such ESG risks include **1)** environmental factors such as pollution, resource efficiency and climate change, **2)** social factors like human rights, health, safety and community relations, and **3)** governance-related factors such as corruption, transparency and corporate governance[17,18]. These factors concern especially **a)** long-term investments because the financial materiality of climate risks increases in time, and **b)** public investments such as pension funds because they use Estonian citizens' capital and influence societal welfare more broadly[5,19].

Financial institutions not addressing financially material climate and ESG risks suggests that they are breaching their legal fiduciary duty, generally defined as their legal obligation to act in their clients' best interests and manage their assets with sufficient prudence and competence[20,21,22]. Climate risks (e.g., physical risks to assets and subsequent secondary impacts, or the risks associated with transitioning to a low-carbon economy like legal, policy, competition, market-related, reputational and technology-related risks) affect revenues, credit risk, cost of capital, operating costs, profitability, competitiveness, production capacity and output, market uncertainty and instability, and investments' overall financial performance[16,18,22]. Numerous studies have proven that thoughtfully addressing ESG risks and especially climate risks in investment processes has resulted in either costs and returns comparable to traditional investing (yet higher environmental and social impact) or lower volatility, improved risk-adjusted returns, higher enterprise or fund value, and other financial gains[23,24,25,26,27,28,29].

An increasing number of financial institutions globally include addressing adverse climate-related impacts and ESG risks as part of their legal fiduciary duty. Intergovernmental organizations like the European Union, the United Nations and OECD, governments and investors around the world have agreed on the urgency and are taking measures to support the regulatory, operational and behavioural transitioning to low-GHG-emitting investment portfolios and economy[30,31,32,33]. Thus, they necessitate a transformation of fiduciary duty from focusing solely on traditional financial factors to a more holistic function, i.e., addressing also adverse climate impacts and ESG risks in their investment processes.

In Estonia, though, investors, state institutions, academia, civil society and others have not publicly paid attention to and raised awareness regarding the impact of investments on climate and other concerns, and the impact of climate and ESG risks on investment returns and asset owners. This raises questions: **1)** if and how Estonian financial institutions consider climate factors in their investment processes, **2)** if and how Estonian citizens' money supports either reinforcing or tackling climate change, and **3)** if and to what extent these investments are susceptible to climate and ESG risks that are not being addressed by financial institutions but that harm the environment, the society and the investment returns.

The question at hand is especially important in the context of Estonian pension funds, as due to the goal and nature, these funds **a)** contribute to the well-being of all Estonian citizens more broadly, **b)** are more likely to be affected by climate-related harms and risks due to their long investment horizon and **c)** manage more than 4.1 billion euros of Estonian citizens' assets and have therefore great financial leverage and power to either reinforce or tackle climate change.

One of the many factories of the German chemical company BASF, which is among the companies that contribute to reinforcing climate change the most. BASF is also one of the companies that all Estonian pension fund managers invest Estonian citizens' money in without considering adverse climate-related impacts and financial risks. Photo: BASF.

2. AIM AND METHODOLOGY

Aim of the study

This report provides an overview of the study that identifies how Estonian pension funds address climate-related harms and risks in their investments and analyses the prudential standards they adhere to as part of their fiduciary duty in the context of climate change.

The study seeks answers to three research questions:

1. Whether and if so, then to what extent have Estonian pension funds, in January or February 2019, invested in companies that are significantly reinforcing climate change?
2. What policies and mechanisms do pension funds have in place to address adverse climate-related impacts and ESG risks in their portfolios?
3. How do Estonian pension funds adhere to their legal fiduciary duty based on how they address climate risks in their investment processes?

Methodology

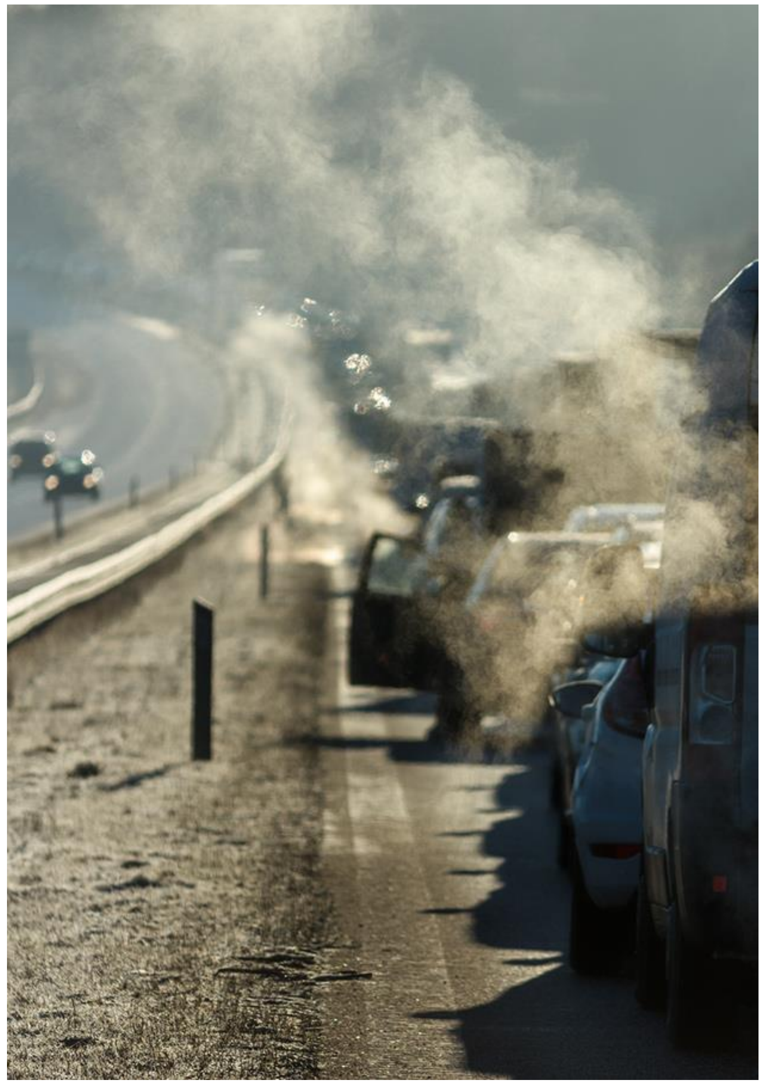
To conduct the study, first a sample of 36 companies that significantly reinforce climate change was compiled. The choice considers two criteria: GHG emissions (data from CDP) and climate lobbying (data from InfluenceMap). All 36 sample companies are described in the Appendix at the end of the report.

Second, the study analyses the monthly investment reports of January or February 2019 of all 23 Estonian mandatory pension funds to see whether they have invested in the 36 companies, either directly via stocks and bonds or indirectly via other investment funds. For direct investments, the identified investments are exhaustive, but for indirect investments, the study verifies whether the five financial institutions that manage the 23 pension funds have invested in the 36 sample companies through at least one investment fund. Overview of how each financial institution invests in the 36 companies is elaborated in the Appendix.

Third, the study examines if and how the five financial institutions that manage the 23 pension funds address adverse climate-related impacts and ESG risks in investment processes. For this, firstly, information and evidence were gathered from the representatives of the financial institutions regarding the mechanisms they use to address these risks (online survey, e-mail and phone interviews during March-April 2019). And second, desk research was conducted on the policies and documents that are publicly available or that were provided by the financial institutions. The collected data is systematized in three categories: acknowledging and committing to addressing climate risks, applying responsible investment mechanisms in practice (further: ESG mechanisms) and governance structures to assure the implementation of ESG mechanisms.

Fourth, the study analyses the fiduciary duty of pension funds and discusses plausible factors that define this duty. The analysis is based on three levels: narrow fiduciary duty (traditional view, neglecting climate and ESG risks), modern fiduciary duty (broad, considering financially material climate and ESG risks) and universal fiduciary duty (broad, considering all climate and ESG risks). According to the standards that are increasingly being applied globally, the modern fiduciary duty is the minimum that financial institutions should follow to address financially material climate risks and take adequate care of investment returns and clients' assets.

The full overview of the methods and limitations, including the list of representatives of the financial institutions and analysed documents, can be found in the original study[1].



All five pension fund managers invest in the car industry through companies such as Fiat Chrysler Automobiles, Daimler, Toyota Group, BMW Group, Renault and Ford Motor, which significantly reinforce climate change through climate lobbying and GHG emissions emitted via the long-term use of their products. Photo: Kim Hansen

3. RESULTS

Investments in climate adverse companies

In January/February 2019, all five financial institutions, through pension funds, invested in either 35 or all 36 sample companies that significantly reinforce climate change. Many investments were made directly via stocks or bonds but most through other investment funds, as exemplified in the Appendix. This suggests that Estonian financial institutions:

- Use Estonian citizens' capital to systemically support and reinforce climate change. As this directly harms the environmental and societal well-being, **the financial institutions are expected to support preventing and mitigating adverse climate impacts in their portfolios**.
- Expose the capital of Estonian citizens to systemic financial market risks as is climate change, which may harm the investment returns. For that reason, **financial institutions are required to manage financially material climate risks to act in their clients' best interests with sufficient prudence and competence**.

Mechanisms to address adverse climate impacts and risks

The representatives of Estonian-owned financial institutions (LHV and Tuleva) claimed not to be addressing adverse climate-related impacts and ESG risks in their pension fund investments. They stated that this is primarily because ESG risks are not considered important enough in Estonia and that the relatively small investment amounts in the global context do not support the development of ESG mechanisms. The representative of Tuleva also named its passive investment strategy as one factor that restricts the climate and ESG considerations.

Foreign-owned financial institutions (Luminor, SEB, Swedbank) have group-level policies and mechanisms to address adverse climate-related impacts and ESG risks, but their application in Estonian pension funds is largely restricted. The group-level policies for all three financial institutions indicate that they have signed initiatives that utilize investor leverage over investee companies to incentivize the latter to more effectively address climate-related factors in their operations. Based on the desk research on financial institutions' policies and documents, all three financial institutions use group-level exclusion lists, which means that in Estonian pension funds, they do not invest in companies that breach specific environmental or social standards. Based on the same documents, Luminor and SEB - on group-level - also use other ESG mechanisms that differ in their depth and criteria. These include positive screening (preferring investments with positive environmental or social impact), using quantitative ESG data in financial models (ESG analysis), voting on sustainability- and climate-issues at annual shareholder meetings, and continuously engaging with investee companies to reduce their negative impacts.

However, according to the representatives of foreign-owned financial institutions, the group-level policies and mechanisms are applied in Estonian pension funds to a different extent. The representative of Luminor stated that ESG mechanisms are partially used in all Luminor's pension funds, emphasizing exclusion list, positive screening and investment in funds where all investments go through a thorough ESG analysis. SEB's representative stated that SEB applies – in all pension funds – a basic exclusion list that prohibits investing in specific companies and consults the group-level ESG team for investments made in SEB Estonia, if necessary. Also, stricter exclusion list that, among others, entirely excludes the energy sector, is applied partially (i.e., for direct investments in stocks) only in SEB's largest pension fund. Swedbank did not clarify utilizing ESG mechanisms in its Estonian pension funds and noted in March 2019 that they are planning to apply ESG policy in their pension funds in the first half of 2019.

Funds that are managed in Estonia consider climate and ESG risks significantly less than funds that are managed abroad. Based on the previous, it can be distinguished that funds managed in Estonia apply ESG mechanisms either not at all (LHV and Tuleva) or to a limited extent (all Swedbank's and most of SEB's pension funds), and funds that are managed via an investment mandate abroad (partially SEB's biggest and all Luminor's pension funds) apply ESG mechanisms to a much larger extent.

Even funds that apply ESG mechanisms do so only for direct investments or investments made in financial institution's internal funds. However, a large portion of investments is made in external investment funds, for which climate and ESG risks are not considered. Thus, even funds that apply ESG mechanisms in their investment processes – i.e., foreign-owned and those managed abroad – neglect climate risks and harms in a vast part of their investment portfolios.

4. ANALYSIS

Estonian pension funds and financial institutions consider adverse climate-related impacts and ESG risks in their investment processes insufficiently due to several factors:

1. **Estonian financial sector lacks climate and ESG competence: knowledge, skills and attitudes.**
2. **In the global context, relatively small investment amounts in the Estonian financial sector depict a seemingly smaller responsibility for addressing adverse climate-related impacts and ESG risks.** Nevertheless, following the principle that an investment of any amount is supporting the adverse impacts, financial institutions – both minority and majority share- or bondholders – are responsible and thus expected to contribute to mitigating these impacts. Further, considering that also smaller investors are exposed to financially material climate and ESG risks, neglecting the latter alludes that financial institutions breach their fiduciary duty as they do not manage their clients' assets with sufficient prudence and competence.
3. **Estonian-owned financial institutions have relatively higher costs of establishing ESG mechanisms than global investors.** This is likely due to lower economies of scale that hinders creating as cost-efficiently, for instance, a central ESG or sustainability team that would manage the group-level climate, sustainability and ESG-related issues across different subsidiaries. Similarly to the previous point, however, all financial institutions are responsible for supporting the mitigation of adverse climate impacts and addressing financially material ESG risks. Therefore, all financial institutions should begin to address climate risks and harms and develop ESG mechanisms gradually, following, for instance, the principles and guidelines that are developed to investors of different characteristics by the UN, OECD and other organizations.
4. **Estonian legislation defines financial institutions' fiduciary duty vaguely, describing that they are required to act based on their *expected* prudence and competence.** As it raises questions that the expectations by *whom* and of *what elements of prudence and competence* (e.g., if only traditional financial risks or all financially material risks should be managed), such vagueness is insufficient in requiring financial institutions to address and mitigate adverse climate-related impacts and ESG risks.
5. **Herding behaviour:** financial institutions not addressing adverse climate-related impacts and ESG risks claim not to do so because other financial institutions do not do the same, and financial institutions addressing these risks to some extent do not communicate it because others are not communicating it. This creates a vicious cycle of low overall

awareness in the financial sector and Estonia more broadly regarding the impact of investments on environment and society and the impact of climate and ESG risks on investment risks and returns.

6. **Inexistent popular demand for considering and addressing adverse climate-related impacts and ESG risks in investment processes.** In Estonia, investors, state institutions, academia, civil society and other stakeholders have not publicly brought attention to what is the impact of investments on climate, environment and society, and the impact of climate and ESG risks on investments. Therefore, it can be projected that an increase in the demand for financial institutions to address adverse climate-related impacts and ESG risks incentivizes financial institutions to improve their investment processes to be more considerate towards the climate and ESG factors.
7. **Political environment favours reinforcing short-termism in investment processes and thereby hinders considering adverse climate-related impacts and ESG risks.** One of the goals of the coalition created in March 2019 is to make the mandatory pension funds voluntary, which leads to financial institutions competing with other investors for short-term financial returns. Fuelling short-termism, however, inevitably hinders addressing climate and ESG risks as the financial materiality of the latter increases over time.

Climate protest in San Francisco, USA. Photo: Bob Blob.

5. CONCLUSION

The results of the original study depict that Estonian financial institutions in their pension funds invest systemically in companies that significantly reinforce climate change. As these investments directly support the impairment of the environmental and social well-being, the financial institutions should contribute to mitigating adverse climate-related impacts in their investments. Also, considering that investing in companies and sectors that are more exposed to climate risks involve also financially material climate and ESG risks, financial institutions are obliged to address these risks to manage Estonian citizens' and their clients' assets with sufficient prudence and competence.

The findings reveal that *if* and *how* financial institutions consider climate and ESG risks in pension funds largely depends on whether the funds are managed by Estonian or foreign entities and which ESG mechanisms are integrated on a group- and which on Estonian-level (for foreign-owned financial institutions). Estonian-owned financial institutions LHV and Tuleva entirely disregard climate and ESG risks in their investment processes, whereas the foreign-owned financial institutions, such as Luminor and SEB, appear to adhere to group-level policies that recognise the importance of addressing financially material climate and ESG risks. Nevertheless, for foreign-owned financial institutions, pension funds managed by Estonian subsidiaries address climate and ESG risks considerably less than those managed abroad via an investment mandate (partially SEB's largest and all Luminor's pension funds). This implies that in the Estonian context, adverse climate-related impacts and ESG risks are vastly not considered.

Insufficiently or not at all considering climate and ESG factors is likely caused by 1) the lack of climate and ESG competence in the Estonian financial sector (i.e., knowledge, skills and attitudes), 2) relatively small investment amounts and costly development of ESG mechanisms, 3) vaguely defined fiduciary duty in the Estonian jurisdiction, 4) lacking societal demand for climate and ESG considerations in investment processes from the clients, state, financial industry and society more broadly, and 5) increasing short-termism of Estonian pension funds resulting from recent political developments.

Despite these factors, neglecting financially material climate and ESG risks can still be regarded as breaching the legal fiduciary duty, given the potential impact of these risks on investment returns.

6. RECOMMENDATIONS

To make Estonian financial sector more responsible towards the environment, society and investment returns, recommendations to five key stakeholders have been drafted below based on the context, results and analysis concluded in this report and elaborated in the original study[1].

Estonian financial institutions should:

- Acknowledge the importance of investment processes in maintaining and advancing environmental and societal well-being.
- Acknowledge the importance of addressing financially material climate and ESG risks in maximizing investment returns and managing their clients' assets.
- Develop policies and mechanisms to mitigate adverse social and environmental impacts (including climate-related impacts) and address financially material climate and ESG risks in investment processes.
- Take immediate steps to gradually decrease the amount of carbon dioxide and other greenhouse gas emissions in investment portfolios.
- Actively and openly inform clients and other stakeholders regarding the measures that are taken to prevent and mitigate adverse environmental and social impacts (including climate-related impacts) and to address financially material climate and ESG risks in investment processes.
- Align climate, ESG and sustainability-related policies and mechanisms in Estonia with group-level policies, if these exist (i.e., Luminor, SEB and Swedbank).

Estonian ministries and government should:

- Ensure in the jurisdiction that Estonian financial institutions should, in their investment processes, consider and address: 1) adverse environmental and social impacts that their investments are supporting and 2) climate and ESG risks that may harm the investment returns and asset value of financial institutions' clients.
- Critically review the legal duties of financial institutions to incorporate considering climate concerns and ESG risks in investment processes, and prescribe in the jurisdiction that financial institutions should disclose if and how they address climate-related risks and opportunities in their investment processes (possibly following the recommendations of Task Force on Climate-related Financial Disclosures or TCFD[16]).

- Integrate climate and sustainability issues in the curricula of business-, economy- and finance-related subjects and programmes in secondary and higher education institutions.
- Take specific steps to align the goals and activities of Estonian pension funds and financial institutions with the goals of the Paris Agreement, UN Framework Convention on Climate Change, UN Sustainable Development Goals, and other similar initiatives, which Estonia has undersigned.

Think tanks and expert groups should:

- Seek ways to support financial institutions and policymakers in Estonia and other countries with a similar context to integrate addressing climate and ESG risks in investment processes, considering context-specific nuances highlighted in this report. These include lacking climate and ESG competence (knowledge, skills, attitudes), comparatively small investment amounts, lack of societal demand for financial institutions to consider climate and ESG risks in investment processes, and others.

Civil society organizations involved in tackling climate change should:

- Call financial institutions to scrutinize their practices in the context of tackling climate change, and continuously engage with the financial institutions to ensure that they are contributing to maintaining and advancing the environmental and societal well-being.
- Raise awareness of the role of financial institutions in tackling climate change.

Citizens and customers should:

- Reach out to their pension fund managers and financial institutions to call them to 1) consider climate risks and impacts in investment processes and 2) publicly inform clients and other stakeholders how they address adverse climate-related impacts and ESG risks in their investment processes.

APPENDIX: INVESTMENTS IN CLIMATE-ADVERSE COMPANIES

The investments of Estonian pension fund managers in companies that significantly reinforce climate change, per financial institution as of 31.01.2019 (LHV Pension Fund Index) or 28.02.2019 (all other funds).

"++" marks that the financial institution invests in the company with its pension fund(s) through *both* direct investments (bonds or stocks) *and* at least one investment fund, and "+" that it invests in the company only through at least one investment fund (and no direct investments). See the original study for detailed information of which pension fund invests in which company and how more specifically[1].

	Ettevõte	LHV	Luminor	SEB	Swedbank	Tuleva
1	Nucor Corporation	+	+	++	+	+
2	Phillips 66	+	+	+	+	+
3	LyondellBasell Industries	+	+	++	++	+
4	Valero Energy	+	+	+	++	+
5	Southern Company	+	+	+	+	+
6	Chevron	+	+	+	++	+
7	Berkshire Hathaway	++	+	+	+	+
8	Occidental Petroleum	+	+	+	+	+
9	ExxonMobil	+	+	+	++	+
10	Glencore Int	+	+	++	+	+
11	OMV	+	+	+	+	+
12	ConocoPhillips	+	+	+	++	+
13	Lukoil	+	+			+
14	ArcelorMittal	+	+	+	+	+
15	BASF	++	+	+	++	+
16	BP	+	+	+	+	+
17	Duke Energy	+	+	+	+	+
18	HeidelberCement	+	+	+	++	+
19	Anglo American	+	+	+	++	+
20	American Electric Power	+	+	+	+	+
21	Solvay	+	+	+	+	+
22	Fiat Chrysler Automobiles	+	+	+	+	+
23	Daimler	++	+	++	+	+
24	Dow Chemicals	+	+	+	+	+
25	Rio Tinto Group	+	+	+	++	+
26	Toyota Motor	+	+	+	++	+
27	BMW Group	++	+	++	++	+
28	Renault	+	+	+	++	+
29	Ford Motor	+	+	+	++	+
30	Repsol	+	+	++	++	+
31	ThyssenKrupp AG	+	+	+	+	+
32	Air Liquide	+	+	++	+	+
33	RWE	+	+	+	+	+
34	Total	++	+	+	++	+
35	Royal Dutch Shell	+	+	+	++	+
36	BHP Billiton	+	+	+	+	+

BIBLIOGRAPHY

1 Lilleväli, U. (2019). Seeking Climate Justice in the Financial Sector - Interpreting the fiduciary duty of Estonian pension funds based on their contribution to reinforcing/tackling climate change. Lund University Papers.

2 Stern, N. (2007). The Economics of Climate Change: The Stern Review. Cambridge University Press.

3 Foley, D. K. (2007). The economic fundamentals of global warming. Workshop on the Economic Analysis of Global Warming. The New School.

4 IPCC. (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva.

5 Coburn, A., Copic, J., Crawford-Brown, D., Foley, A., Kelly, S., Neduv, E., Ralph, D., Saidi, F. and Yeo. J. (2015). Unhedgeable risk: How climate change sentiment impacts investment. University of Cambridge Institute for Sustainable Leadership.

6 EY. (2016). Climate change. The investment perspective. EYGM Limited.

7 Wuebbles, D., Fahey, D., Hibbard, K., DeAngelo, B., Doherty, S., Hayhoe, K., Horton, R., Kossin, J., Taylor, P., Waple, A. and Weaver, C. (2017). Executive Summary of the Climate Science Special Report: Fourth National Climate Assessment, Volume I. U.S. Global Change Research Program, Washington, DC.

8 IPCC. (2018). Summary for Policymakers. In Global Warming of 1.5°C.

9 Schendler, A., & Toffel, M. (2011). What Environmental Ratings Miss. (12-017).

10 CDP. (2017). The Carbon Majors Database: CDP Carbon Majors Report 2017.

11 FFGI. (2015). Undermining our future. A study of banks' investments in selected companies attributable to fossil fuels and renewable energy. Fair Finance Guide International.

12 Kirsch, A., Disterhoft, J. O., Louvel, Y., Saldamando, A., Aitken, G., Cushing, B., Stockman, L., Vincent, J., Adams, L., Goldtooth, T., Houska, T. and Parras, J. (2018). Banking on Climate Change: Fossil Fuel Finance Report Card 2018. BankTrack.

13 OECD. (2017). Responsible business conduct for institutional investors: Key considerations for due diligence under the OECD Guidelines for Multinational Enterprises.

14 Sullivan, R., & Mackenzie, C. (2006). Introduction. In R. Sullivan, & C. Mackenzie (Eds.), Responsible Investment (pp. 12-19). Sheffield: Greenleaf.

15 Woods, C. M. (2011). The environment, intergenerational equity & long-term investment. Worcester College, School of Geography and the Environment. Oxford.

16 TCFD. (2017). Recommendations of the Task Force on Climate-related Financial Disclosures. The Task Force on Climate-related Financial Disclosures.

17 European Commission. (2017). Financing a Sustainable European Economy. Interim Report, July 2017, By the High-Level Expert Group on Sustainable Finance.

18 Inderst, G., & Stewart, F. (2018). Incorporating Environmental, Social and Governance (ESG) Factors into Fixed Income Investment. World Bank Group.

19 2° Investing Initiative. (2017). All Swans are Black in the Dark: How the short-term focus of financial analysis does not shed light on the long term risk.

20 Sandberg, J. (2011). Socially Responsible Investment and Fiduciary Duty: Putting the Freshfields Report into perspective. Journal of Business Ethics, 101(1), 143-162.

21 Getzler, J. (2014). Financial Crisis and the Decline of Fiduciary Law. Capital Failure: Rebuilding Trust in Financial Services. Oxford Scholarship Online.

22 Sullivan, R., Martindale, W., Feller, E., & Bordon, A. (2015). Fiduciary Duty in the 21st Century.

23 Andersson, M., Bolton, P., & Samama, F. (2015). Hedging Climate Risk. Financial Analysts Journal, 72(3).

24 De, I., & Clayman, M. R. (2015). The Benefits of Socially Responsible Investing: An Active Manager's Perspective. Journal of Investing, 24(4), 49-72.

25 Melas, D., Nagy, Z., & Kulkarni, P. (2016). Factor Investing and ESG Integration. MSCI Research.

26 Fatemi, A. M., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. Global Finance Journal, 38, 45-64.

27 Gary, S. N. (2018). Best Interests in the Long Term: Fiduciary Duties and ESG Integration. University of Colorado Law Review, 90, 731-801.

28 Kumar, N., Menou, V., Doole, S., & Nishikawa, L. (2018). Broader Horizons: An Approach to ESG Strategic Tilting. Investments & Wealth Institute.

29 Yu, E. P.-y., Guo, C. Q., & Luu, B. V. (2018). Environmental, social and governance transparency and firm value. Business Strategy & the Environment, 27(7), 987-1004.

30 Blackrock. (2016). EXPLORING ESG: A Practitioner's Perspective.

31 Sullivan, R., & Fischer, R. (2017). Portfolio Investment in a Carbon Constrained World: The Third Annual Progress Report of The Portfolio Decarbonization Coalition.

32 European Commission. (2018). Action Plan: Financing Sustainable Growth. European Commission.

33 Matthews, A. (2018). EXECUTIVE PERSPECTIVE: Why contradictory climate lobbying has to end. Thomson Reuters.