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Luxembourg's financial industry at the crossroads of the global transition towards a low-carbon future

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Foreword

Luxembourg has already taken a range of steps to align its financial system with climate action and sustainable development, among others through various initiatives developed by the Climate Finance Task Force, such as the LuxFLAG Climate Finance and Green Bond labels, the Luxembourg–EIB Climate Finance platform, the Luxembourg Green Exchange and the International Climate Finance Accelerator. These efforts reveal the potential for the financial sector to become a driving force in the transition to a low-carbon economy. Furthermore, a collaboration between the Ministry of the Economy, the Chamber of Commerce, IMS Luxembourg[1] and representants of the civil society in 2016 resulted in a strategic study on 'the third industrial revolution'. The aim of the study commissioned by the Government and carried out using a participatory approach in collaboration with Jeremy Rifkin and his team of experts is to make the existing economic model more sustainable and interconnected. Among other points, the study calls on Luxembourg to become «a worldwide leading hub for financial innovation, SRI, trust and transparency where impact and socio-economic sustainability go hand-in-hand»[2].

Greenpeace Luxembourg welcomes the initiatives taken by the Luxembourg government so far. Moreover, Greenpeace Luxembourg has had the opportunity of participating in an initiative launched by the Government of Luxembourg with the aim to develop a National Roadmap on Sustainable Finance for Luxembourg. This Roadmap is being developed in partnership with UN Environment Finance Initiative, and similar strategic blueprints for countries such as China and Italy have already been developed by UNEP Inquiry. This initiative follows the release of the final report of the European Commission's High-Level Expert Group on Sustainable Finance and the EU's Action Plan for Financing Sustainable Growth and aims to assess the recommendations in a Luxembourg context.

With this briefing, Greenpeace Luxembourg intends to contribute to ongoing discussions and call on the government of Luxembourg to increase its ambition to tackle climate change; as well as to provide evidence for the potential systemic risk for the global and, more specifically, the Luxembourg economy arising from investments into potentially 'stranded', or high-carbon assets, with a strong understanding of the severe economic risks associated with poor governance on these issues.

[1] *IMS Luxembourg (Inspiring More Sustainability)*

[2] *http://www.troisiemerevolutionindustrielle.lu/wp-content/uploads/2016/11/TIR-CG_Luxembourg-Final-Report_Long-Version.pdf*

«It is estimated that 80 trillion Euro in infrastructure investment will be deployed globally to 2030. The infrastructure choices made in the next decade will determine whether future climate stability can be achieved and whether a significant part of this investment will become stranded as climate policy tightens in the face of increasing impacts.» (E3G)

Sense of urgency: we need to shift the trillions

In order to avoid the worst and most catastrophic effects of climate change, the shift to a carbon-free economy must happen at the latest by mid-century. Today, the flow of money to polluting fossil fuels and nuclear projects still stands in the way of a clean and secure future for all. Despite an increase in investment into renewable energies[3], current emission reduction commitments (Intended Nationally Determined Contributions, INDCs) governments have put forward for COP21 in Paris, even if fully implemented, would put the world on track for a warming of 2.7°C[4].

The message of the Paris Agreement is clear: it is not a question of whether we stop investing into high-carbon assets and fossil fuel companies, but how fast. The scale of the investment challenge is beyond the capacity of the public sector alone. It is clear that the financial sector has a key role to play in funding the fight against climate change, as it can re-direct investments towards more sustainable technologies and projects, it can finance sustainable development over the long-term, and it can contribute towards the creation of a sustainable and climate-resilient economy.

The financial sector must become part of the solution towards the healthy, sustainable and prosperous future we all want. By shifting investments to solar, wind and other clean, safe energy, the financial sector can accelerate the leap to our 100 percent renewable energy future. The demand for increasing transparency is gaining momentum from the side of the investors[5], all they need now is for investment funds to provide transparent and comprehensive information on their sustainability goals and their exposure to investments in high-carbon assets.

Sustainable investments in Luxembourg: Tip of the iceberg

As the second largest center for investment funds worldwide, Luxembourg is in a unique position to become a major catalyst for the global acceleration of investment into sustainable technologies and clean energy.

[3] In 2017, 228 billion Euro was invested in new capacity of renewables excluding large hydro. Bloomberg New Energy Finance estimates that just 88,5 billion Euro was invested in new fossil fuel power stations around the world last year, consisting of 60 billion Euro spent on new coal-fired power stations, 26,7 billion Euro on new gas-fired plants and 1,7 billion Euro on new on-grid oil-fired units. BNEF also estimates that 36 billion Euro was invested in new nuclear reactors and 38,7 billion Euro in large hydro-electric projects. (http://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Global_Trends_in_Renewable_Energy_Investment_Report_2018.pdf)

[4] http://climateanalytics.org/briefings/global-warming-reaches-1c-above-preindustrial-warmest-in-more-than-11000-years.html

[5] Big investors are increasing their efforts to hold companies they invest in to greater account regarding their strategies to address climate change. The number of companies being targeted by Climate Action 100+, a new initiative in which a coalition of investors call on the world's biggest emitters of greenhouse gases to cut emissions and improve their disclosure and oversight of climate-related risks, has continued to grow since the initiative launched in December 2017. Four new investors, including Alliance Bernstein, the 477 billion Euro fund manager and UniSuper, a 55 billion Euro Australian pension fund, have taken the group to 289 members with nearly 26 trillion Euro in AuM. Other investor-led initiatives which are designed to tackle climate change issues have also launched in recent years, such as the Investor Agenda, the Global Investor Coalition on Climate Change, and the Ceres Investor Network on Climate Risk and Sustainability. (https://www.ft.com/content/b3213fac-7e8b-11e8-bc55-50daf11b720d)

Indeed, Luxembourg could be a major driver in the global shift towards a low-carbon economy and benefit massively from the opportunities presented by such a transition.

Luxembourg has established itself as a leading hub for international investment. It is the second largest fund centre in the world and the leading hub for global fund distribution and international investors, handling 65% of distribution of cross-border funds worldwide[6]. This has attracted international banks, asset managers, fund promoters, insurance companies, pension funds, sovereign wealth funds and other financial service providers from across the world and has helped create an ecosystem that is perfectly suited to raising capital for responsible investments.

Luxembourg has also been at the forefront of the recent global development of sustainable finance, in great part thanks to close cooperation between the public, private, and civil society sectors. Several initiatives demonstrate the leadership that Luxembourg already commands in the sustainable finance space, such as the creation of the world's first dedicated green stock exchange which lists 50% of the world's listed green bonds. However, this is not enough. Around 27% of all investment funds in the EU are domiciled in Luxembourg[7], with net assets of 4.237 billion Euro as of May 2018 (about 70 times the country's GDP). Importantly, according to a July 2018 report from Luxembourg for Finance, only an estimated 6,8% of these assets are managed as responsible investment funds or green bonds[8].

While it can be expected that sustainable investing will see continued growth over the following years, today, the massive flow of money that composes the Luxembourg investment industry is not significantly contributing towards the transition to a low-carbon world. It is clear that Luxembourg still has to increase its commitments and ambitions for sustainable, climate-friendly finance as the world continues to undergo the dangerous effects of climate change. This will be crucial not only for Luxembourg to differentiate itself from competitors in the green finance space, but ultimately to guarantee the sustainability and prosperity of the Luxembourg people, environment and economy.

The Luxembourg government is continuously promoting Luxembourg as a sustainable finance center. However, it is important to note that current policy severely lacks coherence. For example, the Luxembourg pension fund (Fonds de Compensation, FDC), one of Luxembourg's sovereign wealth funds, has been investing into coal and other fossil fuels as well as supporting the nuclear industry, despite growing public opposition and national commitments (i.e. membership in the Powering Past Coal Alliance and the Paris Proof Coalition).

In order to maintain its credibility, the Luxembourg government should be transparent about its commitments to sustainable finance. Not only should the government be clear about a decision to stop funding fossil fuels and nuclear energy (i.e. through the FDC), but it should also introduce a policy framework, focused primarily on transparency and disclosure, in order to clean up the entire investment fund industry from risky and environmentally damaging fossil fuels.

[6] http://www.luxembourgforfinance.com/sites/luxembourgforfinance/files/luxembourg_sustainable_finance_july_2018_1.pdf
[7] http://www.luxembourgforfinance.com/sites/luxembourgforfinance/files/luxembourg_sustainable_finance_july_2018_1.pdf
[8] http://www.luxembourgforfinance.com/sites/luxembourgforfinance/files/luxembourg_sustainable_finance_july_2018_1.pdf

Climate related financial risks: the next systemic crisis

All businesses, and therefore all investments, have the potential to positively or negatively impact both people and the planet. Investors are starting to factor ESG[9] considerations into their investment decisions. Furthermore, there is an increasing awareness of the financial risks of climate change and, in particular, of investing into 'high-carbon' assets. These assets, many of which must be stranded in order to keep the temperature of the Earth from rising 1.5°C above pre-industrial levels, present the current economy with a crucial challenge: how to shift economic flows such that they are aligned with the transition to a low-carbon world while managing the risks of having to do so quickly due to increasing and more severe impacts from climate change. The good news is that holding the temperature increase to 1.5°C is achievable, and now is the moment to increase our efforts and demand that our leaders and the massive forces of our economic system align with a future which is both climate resilient and prosperous for generations to come.

Climate related financial disclosure will play a crucial role in the mobilisation of capital flows towards responsible and sustainable investments - which in turn will provide the basis for informed divestment[10] from fossil fuels so that the goals of the Paris Agreement can be achieved, avoiding both the worst impacts of climate change and the greater economic risks which it presents.

Assessing the impact of climate risks and climate policies on the financial system is currently seen as one of the most urgent and prominent policy issues. There are a range of investment risks related to climate change that have been identified: physical, transition, litigation.

- Physical adaptation risks, such as those arising from climate and weather-related events that directly impact on physical assets, productivity of businesses and human labour. The financial risks associated with extreme weather events and resource scarcity will increasingly incur losses to the private sector due to unplanned or abrupt changes or disruptions to businesses or assets; with even greater losses from the government and public sector's perspective.
- Transition risks, such as changes in climate policy, technology or market sentiment which could prompt reassessment of value of a large range of assets leading to stranded assets. While this may seem counterintuitive, it is clear that the overall consequences of delaying action altogether would be far worse. Indeed, the reason why the transition process poses such risks is mainly due to the lack of action taken thus far which has only exacerbated the urgent speed at which the shift to a low-carbon economy must take place. These risks will directly impact the power sector, but also the transportation sector (i.e. cars, ships, planes) and energy-intensive businesses such as steel and cement producers.
- Liability risk, which can arise where parties that have suffered loss or damage from the effects of climate change seek compensation from those whom they hold accountable. There has been an upsurge in suits brought against corporations or

[9] ESG: Environmental, Social and Governance
[10] The sell-off of coal, oil and gas investments is led by the insurance industry, with 2.600 billion Euro of funds. But it also now includes the first nation to divest, Ireland, major cities including New York and key medical organisations. Major oil companies such as Shell have this year cited divestment as a material risk to its business. A September 2018 report has revealed that close to 1000 institutional investors with 5.360 billion Euro in assets have committed to divest from fossil fuels, up from 44,6 billion Euro just four years ago. (120x increase in 4 yrs) (https://www.arabellaadvisors.com/wp-content/uploads/2018/09/Global-Divestment-Report-2018.pdf)

governments for failure to take robust action on climate change.

With the creation of the Taskforce for Climate-related Financial Disclosures (TCFD) in 2015, it is remarkable and highly relevant that the Financial Stability Board (FSB)[11], has identified climate change as a key priority and created a governance body that specifically aims to develop recommendations for more efficient and effective climate-related disclosures. The intention is that consistent and reliable disclosures in line with the TCFD recommendations will improve investor's decision-making, resulting in the necessary allocation of capital away from high-carbon assets and into renewables and sustainable investments (i.e. by allowing the clear identification of potentially stranded assets). The TCFD recommendations set out to provide a general overview of the information that companies across all sectors, and in particular companies in 16 'high-risk' sectors, will need to make available in order to disclose the material climate-related risks on financial performance and future prospects. This is in addition to information on governance structures, strategic assessments and risk analyses. In particular, a key recommendation relates to long-term risk disclosures, and the recommendations claim that these significant risks must be managed and disclosed through scenario assessments covering a range of possible climate futures. The recommendations of the TCFD have been supported by a range of key stakeholders in the financial sector, including some of the world's largest asset managers and insurance companies (many of them being present also in Luxembourg).

However, only a fifth of companies[12] support the TCFD recommendations, making it clear that the recommendations do not go far enough in addressing the urgency of action required to mitigate the financial risks of climate change. Indeed, the fact that they remain voluntary invites the common misconception that urgent action is not required. The potential impact of climate-related change on the assets owned and managed by institutional investors is significant and governments have no excuse for inaction. It is important to note that this is not a risk of volatility or temporary price movements but of permanent impairments and capital losses. Few institutional investors have addressed this risk to date and only a modest minority are even able to measure the carbon footprint of their own portfolios. Climate risks need to be assessed, disclosed and, where feasible, mitigated with urgency. Luxembourg itself has various reasons why it should adapt the recommendations into regulation, in particular if it wants to avoid the economic risks associated with climate change and establish a competitive advantage over other developing green finance centers.

Big stone in Luxembourg's shoe: Luxembourg's overall dependence on fossil fuels

A core challenge for Luxembourg is its overall financial reliance on fossil fuels. In fact, this places the country's economy at risk of a multiple exposure to climate related financial risks. Generally speaking, Luxembourg is almost completely dependent on energy imports: approximately 97% of the energy consumption is currently imported, and domestically produced renewable energy accounts for a mere 3%. Furthermore, Luxembourg's industry sector is dominated by several energy intensive industries and services (i.e. the iron and steel, non-ferrous metal, glass, cement, chemical industry, logistics industry (i.e.. airfreight, maritime), and information and communication technologies (ICT).

[11] FSB: an international body that monitors and makes recommendations about the global financial system. It was established after the G20 London summit in April 2009 as a successor to the Financial Stability Forum (FSF).
[12] https://www.ft.com/content/b3213fac-7e8b-11e8-bc55-50daf11b720d

Additionally, transport fuel tax rates are among the lowest in the EU and provide a strong economic incentive for increased fuel consumption, including cross-border sales. This results in highly negative ecological and health impacts, while contributing to increasing traffic congestion. Yet another significant portion of Luxembourg's state budget revenue is being sourced from sales of diesel and petrol[13], once again mainly to foreign customers. This has generated in 2012 an estimated 2.1 billion Euro through the selling of cheap petrol and diesel as well as by-products, of which 1.9 billion Euro are direct and indirect taxes and duties. This profound dependance is further exacerbated by the fact that Luxembourg has one of the highest rates of fuel subsidies per citizen in Europe. This is an area of serious concern that must be addressed in order to reduce Luxembourg's significant economic exposure to fossil fuels.

Luxembourg's economy poses yet another key challenge to the long-term sustainability of its public finances. With a financial sector which accounts for over 35% of the country's GDP, it is necessary to be particularly aware of the risks of over-dependence on any one industry sector. This is especially concerning with regards to Luxembourg's exposure to climate related financial risks. For example, the MSCI World Index's sector allocation shows that around 10-20% of global assets are invested into carbon intensive sectors, primarily the energy (6.39%) and utilities (2.91%) sectors, and also in other sectors depending highly on energy and fossil fuels (i.e. automobiles, materials and other energy intensive industries, etc)[14]. For Luxembourg domiciled funds - even assuming a substantially lower share of fossil fuel-dependent industries among the invested assets - could mean that hundreds of billions of Euro are at risk of being stranded - a very large sum in comparison to the country's GDP (55,4 billion Euro) or the capitalisation of the Luxembourg Stock Exchange (57,5 billion Euro).

The current lack of mandatory disclosure of climate finance related risks allows for funds to hide their fossil exposure while continuing to attract vast amounts of investment, exposing the Luxembourg fund sector to potential "stranded assets" and economic losses. It is unclear how substantial potential losses in the value of fossil-heavy assets managed by Luxembourg-domiciled funds would affect the Luxembourg national economy and macro-finances; but given the fund sector's huge size to the economy caution, transparency and preparedness is highly recommended.

Turning risk into opportunity

Investors are increasingly seeking sustainable and responsible investment options and financial service providers can no longer ignore this shift in demand within the market. Despite this, investment funds are not interested in disclosing their climate related financial risk from exposure to fossil fuel assets and carbon intensive industries. This creates a gap of information in the market, allowing for a misallocation of capital which could result in substantial global economic losses from stranded carbon-

[13] Approximately 79% of diesel and petrol sales are to cross-border customers. Source: Ermittlung und Bewertung der positiven und negativen Wirkungen des Treibstoffverkaufs unter besonderer Berücksichtigung negativer externer Umwelt- und Gesundheitseffekte - Status quo 2012 und maßnahmeninduzierte Veränderungen. Bericht für das Ministerium für Nachhaltige Entwicklung und Infrastrukturen des Großherzogtums Luxemburg. Mai 2016

[14] The MSCI World Index captures large and mid cap representation across 23 Developed Markets (DM) countries. With 1,642 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. Importantly, the MSCI World Index refers to equity assets, which compose 30,5% of the Luxembourg investment class distribution. Therefore, a conservative 3-6% of Luxembourg investments would be directly at risk according to these figures. However, these statistics remain equally relevant for other investment classes and as such we are able to estimate the overall exposure to be 10-20%.*

intensive assets. Because Luxembourg is so dependent on its large financial sector, these could have a substantial impact on the country's economy. Instead of waiting for this to happen, Luxembourg must demand that investment funds report on their climate related risks so that investors can make the best choices and their investments can fund real sustainable and responsible projects.

Other financial centers are already beginning to move in this direction and will be key direct competitors to Luxembourg in the sustainable finance space.

- In the fall of 2015, and in the run up to the COP21 and the Paris Agreement, France became the first country to implement a law introducing mandatory climate-related, non-financial reporting for asset owners and asset managers, namely the "Energy Transition for Green Growth" law and the prominent Article 173-VI.

- In June 2018, a UK parliamentary committee released a report where, among other things, it called on the UK government to set a deadline for all UK listed companies and large asset owners to report on climate related risks and opportunities in line with the TCFD recommendations by 2022, and for this requirement to be reflected in amendments to the UK Stewardship and Governance codes.

- In August 2018, the Green and Sustainable Finance Cluster Germany issued a report in Frankfurt presenting an inventory of sustainability activities at the financial center of Frankfurt/Main. It is the first publication from this group, formed in early 2018 through a merger of the Green Finance Cluster Frankfurt of the Hessian Ministry of Economics and the Accelerating Sustainable Finance Initiative of Deutsche Börse. The group's purpose is to further mobilise the finance sector for climate protection and sustainable investment.

It is relevant to note that the sustainable finance initiatives taken so far by the Luxembourg government mean that the country's financial center has built up an ecosystem that is uniquely suited to raising international capital for responsible investment. To capitalise on this major political and economic opportunity, Luxembourg will need to take bold action on climate-related financial disclosure and the phase out of fossil fuels from its economy.

While proactive steps addressing climate risk can demonstrate leadership, isolated activities will ultimately be insufficient. This is a collective action problem that must be addressed if carbon emissions, and thus climate risks, are to be reduced. It is clear that government action is required to establish a firm, clear policy on climate related risk disclosure.

Governments and financial regulators: Addressing market failures is fundamentally the responsibility of governments. Financial regulators need to ensure that best practice becomes standard practice. This means recognizing climate risk as material and requiring the disclosure of carbon emissions by market actors. Standards for comparable information are necessary to identify free riders and concentrations of systemic risk.

Pensioners: Pensioners should insist that the fund managers responsible for their retirement savings seriously address the full spectrum of long-term risks of their investments. Concrete measures vary from promoting corporate engagement and public policy advocacy to potential legal action demanding that fiduciary responsibilities be met.

Stock Exchanges: Stock exchanges should require disclosure of greenhouse gases by all listed companies. Clear accounting of carbon intensity is needed. Without accurate information, integrated into financial reporting, investors cannot manage their risks appropriately

Institutional investors: Institutional investors must integrate climate change into their risk

management. Assessing and measuring the risks in their own portfolios is a necessary first step. This can lead to adjustments in investment strategy or to deeper engagement with company managers. Advocating that policymakers address market failures is in their collective self-interest. Complete inaction is a failure to act in the long-term interest of their beneficiaries and could risk future litigation. Rather than opposing this, institutional investors can collectively influence the companies in their portfolios to adapt and prepare for a lower carbon future. Moreover, investors can actively engage with policymakers, encouraging them to address this market failure as something that is in their collective self-interest. With sustainable and responsible investments becoming mainstream, investors now lack only the support of the government in order to achieve their profitable, sustainable objectives.

Greenpeace recommendations

With regards to the Luxembourg financial center, the Luxembourg government must show coherence of the country's pro-climate agenda and ensure it is aligned with international commitments. More specifically, it would be helpful to understand:

- How much of the total assets domiciled in Luxembourg is in sectors which are exposed to environmental risks[15], including climate related risks?

- How a significant and fast reduction in the value of these climate exposed assets (which is necessary in order to keep temperatures from rising 1.5°C above pre-industrial levels) would affect the Luxembourg finance sector and the Luxembourg macro-economic landscape?[16]

- Considering the large weight of the finance sector in the Luxembourg national economy, how is the Luxembourg government preparing to effectively manage the risks associated with the development of these so-called 'stranded' assets?

Given the urgent need to provide Luxembourg investors, business owners and legal communities with policy certainty, and to manage potential climate impacts on Luxembourg's economic stability, mandatory disclosure is required to catalyze action. Therefore, Greenpeace recommends that the Luxembourg government should as a priority:

- Immediately start divesting the Luxembourg sovereign wealth funds from carbon-intensive and nuclear assets
- Evaluate the potential climate-related systemic risks for the Luxembourg economy

[15] According to a 2015 report by Moody's found that eleven sectors have elevated credit exposure to environmental risks, representing $2 trillion in rated debt. Unregulated power generation, coal mining and coal terminals are the most immediately exposed. However, over the next three to five years (as of 2015), we see automobile manufacturers, independent oil and gas exploration and production, mining, steel, commodity chemicals, building materials, oil and gas refining and marketing and power generation projects as sectors facing environmental risks that could be material to their credit quality. A further 18 sectors, accounting for $7 trillion in rated debt, face environmental risks that could be material, but over five or more years (again as of 2015). These sectors – scored as "emerging, moderate risk" – have a clear exposure to environmental risks that could affect their credit quality. However, it is less certain that the identified risks will develop in a way that is material to ratings for most issuers in these sectors. The longer runway to respond to risks could provide time to implement policy changes, adjust business models or financial profiles, or develop technological or lower-cost solutions, mitigating the impact of such risks. Notable sectors in this risk category include developing economy sovereign and regional governments, integrated oil and gas companies and regulated power generation utilities.

[16] Not only funds investing substantially in fossil fuel industries (i.e. oil/gas under «energy» or coal) are exposed to climate related financial risks, but also funds investing into automobile and other industries that depend substantially on fossil fuels. Importantly, several sectors are already experiencing a decline due to developments in renewable energies and sustainable technologies.

emerging from the country's overall reliance on fossil fuels and, more specifically, the exposure of the Luxembourg finance sector to investments into fossil fuels and carbon-intensive sectors

- As a first step to break free from climate damaging and financially risky fossil fuel investments, and to contribute towards the transition to a 100% renewable and sustainable future, Luxembourg should introduce a national legislation for mandatory climate related non-financial disclosure which requires financial actors to make transparent their investment decisions and demonstrate how their portfolios support a carbon-free future.

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