Financing climate change

The Luxembourg Pension Fund's coal investments

Photo: Paul Corbit Brown

Published by urgewald and Votum Klima
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November 2016

We would like to thank the following for their support: Jens Ladekarl, Tiratu Belay Tombe

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Introduction

The Luxembourg parliament ratified the Paris Agreement unanimously on October 11, 2016. Luxembourg is presenting itself as a climate-conscious country. The Climate Finance Sector in Luxembourg is booming and Luxembourg's market share of all Green Bonds listings worldwide lies at 50%.[1] When looking at the investments of the Luxembourg pension fund however, it is clear that the country still has a long way to go when it comes to investing in a green future for the people and the planet.

In 2015, environmental and development NGOs highlighted on several occasions the exposure of the Luxembourg pension fund (Fonds de Compensation, FDC) to potentially stranded assets from the fossil fuel and nuclear sector. Both the government as well as the parliament's commission in charge of social security promised to investigate possibilities to divest the Luxembourg pension fund from fossil-fuel and nuclear investments. Today, almost one year after the COP21, nothing substantial has happened. No analysis about the carbon exposure of the Luxembourg pension fund, no stakeholder discussion, no process in parliament and no divestment decision.

In the last years we have seen a growing movement pushing for divestment – the act of retrieving money from the fossil fuel industry. 2015 was a big year for coal divestment: the decision of the Norwegian parliament to divest the country's sovereign wealth fund (GPFG) from coal investments was the biggest, but by far not the only divestment decision: insurance companies like AXA and Allianz as well as many cities and municipalities all over the world decided to take that step and thus sent an important signal to companies and financial markets. Environmental, social and climate arguments were often cited as reasons for divestment decisions. Another factor that surely played a role in those divestment decisions is the fact that the fossil fuel and especially the coal industry has not proven a very lucrative investment sector in recent months.

This briefing is the result of an analysis of the 2015 investments of the Luxembourg pension fund. It shows that there is a lot of coal dust on the pension fund's portfolios. Millions of tax payers' money is being invested into climate-destroying coal, and many of these investments are linked to further environmental destruction and human rights violations.

If Luxembourg wants to stay credible in regards to its climate protection and sustainable development agenda, it should follow the decision that many fund managers worldwide have already taken and divest immediately from the companies identified and listed in the annex to this report.

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[1] http://www.climatefinance.lu/419389425/3460757/posting/
http://www.luxembourgforfinance.com/en/news/luxembourg-financial-centre-breaks-new-ground-fight-against-climate-change
Blue and Green tomorrow (2016): Luxembourg Stock Exchange Lists its 100th Green Bond. 19. February. http://blueandgreentomorrow.com/ (Accessed 01.11.2016)
[http://blueandgreentomorrow.com/2016/02/19/luxembourg-stock-exchange-lists-its-100th-green-bond/]

Background

The Luxembourg pension fund "Fonds de Compensation commun au régime general de pension" (in short Fonds de Compensation or FDC) is a public entity. Its mission is to manage the reserves of the state's pension fund. Every employee in Luxembourg contributes with her/his social security contributions to the state's pension fund.

An administrative council is in charge of the management of the FDC. It is composed of 4 members representing the government, 4 members representing the employees and 4 members representing the employers. Decisions of the administrative council are presented to the minister for social security who decides on the basis of a recommendation of the general inspection entity (Inspection générale de la sécurité sociale, IGSS).

In 2007, a special investment fonds company was created, the so-called SICAV-FIS (SICAV: Société d'investissement à capital variable, FIS: Fonds d'investissement spécialisé). The company consists of 23 sub-fonds which are managed by different companies.
At the end of 2015, the reserves of the FDC amounted to 16,54 billion Euro. Of these, 15,81 billion Euro were managed by the FDC, 14,28 billion Euro were invested into SICAV-FIS. In 2015, the return on investment was 3,80%, which was 0,32% higher than the funds targeted minimum return on investment of 3,48%.

In 2011, the administrative council of the FDC integrated a social responsible investment policy for its investment strategy. According to this strategy, companies not respecting norms and international conventions signed by Luxembourg (in the environmental sector, human rights, labor rights) have to be excluded from investments.

The administrative council of the FDC has mandated the Swedish company GES (www.ges-invest.com) to regularly analyze the investments of the FDC according to the exclusion criteria. The FDC has set up an exclusion list which is revised every six months. Companies excluded from investments are e.g. Chevron, AES Corp, Cairn Energy, Glencore, Petrobras, Rio Tinto, Tepco and many companies active in the nuclear weapons and cluster mines business.[2]

The 2015 annual report of the FDC is categorizing the investments of each of its 23 sub-fonds. For each sub-fonds, investments into oil and gas producers, oil and gas services and coal are listed. According to the FDC's annual report's categories, the total investments into fossil fuels amount to more than 457 million Euro or 3,21% of the total investments.

Oil and gas producers:	339.849.792 €
Oil and gas services:	117.429.474 €
Coal:	633.424 €
Total investments:	457.912.690 €
% of total investments	3,21%

[2] Fonds de Compensation (2016): FDC EXCLUSION LIST. 15 May. http://www.fdc.lu/ (Accessed 01.11.2016) [http://www.fdc.lu/fileadmin/file/fdc/Liste_d_exclusion_20160515.pdf#pageMode=bookmarks]

According to the FDC's own methodology, it seems that investments into coal only represent a small fraction of the total investments. However, this report comes to a different conclusion: more than 159 million Euro or 1,11% of the investments of the FDC are invested into major actors in the coal business.

Coal is the number one source of the CO_2 emissions heating up our planet. Coal emits more CO_2 than oil and more than twice as much as natural gas per unit of energy produced.[3] More than 3/5 of the rise in global CO_2 emissions since 2000 is due to the burning of coal.[4] Although the International Energy Agency (IEA) warns that global coal consumption must - at the very latest - peak by 2020, the coal industry still continues to expand.[5] Over 1,100 GW of new coal-fired power plants are currently planned or under construction[6] - this is more than 3 times the size of the United States' current coal fleet. If these plans become reality, they will undermine all chances of limiting global warming to 2°C.

Thus, if Luxembourg takes the Paris Agreement seriously it has to change its course of action and agree on a divestment policy for the FDC. As the fifth IPCC report says: "Emission patterns that limit temperature increase to no more than 2°C require considerably different patterns of investment."[7]

Impact Divesting

The term Impact Investing refers to an investment that generates beneficial social or environmental impact next to generating financial returns[8]. Very much like impact investing we can also think about impact divesting. A reason for a divestment can simply be considerations about the profitability of the investment in question. However, coal and fossil fuel divestment has a strong symbolic effect and shows the world that an investor is taking climate change seriously. Furthermore, such a divestment can also have a material impact on an industrial sector such as the coal sector. This is especially true when the entire coal value chain is off limits and future investments in the sector are excluded. Then the future growth and profitability of the sector as a whole can be hampered.

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[3] World Bank (2014): Understanding CO_2 Emissions from the Global Energy Sector. 24 February. documents.worldbank.org (Accessed 10.10.2016) http://documents.worldbank.org/curated/en/873091468155720710/pdf/851260BRI0Live00Box382147B00PUBLIC0.pdf

[4] International Energy Agency (2013): Coal Medium-Term Market Report. www.iea.org (Accessed 10.10.2016) [http://www.iea.org/publications/freepublications/publication/MTcoalMR2013_free.pdf]

[5] International Energy Agency (2013): Redrawing the Energy-Climate Map. 10 June. www.worldenergyoutlook.org (Accessed 10.10.2016) [http://www.worldenergyoutlook.org/media/weowebsite/2013/energyclimatemap/redrawingenergyclimatemap.pdf]

[6] Coalswarm and Sierra Club (2016) Boom and Bust – Tracking the Global Coal Plant Pipeline, March. www.sieraclub.org (Accessed 10.10.2016) [http://sierraclub.org/sites/www.sierraclub.org/files/uploads-wysiwig/final%20boom%20and%20bust%202017%20(3-27-16).pdf]

[7] IPCC (2014): 5th Assessment Report, Chapter 16: Cross-cutting Investment and Finance Issues. www.ipcc.ch (Accessed 10.10.2016) [https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter16.pdf]

[8] Global Impact Investing Network (2016): What You Need to Know About Impact Investing. https://thegiin.org/ (Accessed 11.10.2016) [https://thegiin.org/impact-investing/]

A meaningful divestment is one that is not simply aimed at divesting mining companies and re-investing in coal-fired utilities - such a divestment is merely window dressing and actually nonsense from a climate point of view. Divestment criteria should be used that exclude the entire coal-value chain (the mining of coal, the transporting of coal, the burning of coal, the development of new mines, the production of specialized coal equipment, the production of synthetic fuels from coal) and exclude the reinvestment in the industry in the future. Such a form of clearly defined divestment from the entire coal sector can be called impact divesting.

In late May 2015 the Norwegian government decided that it's sovereign wealth fund (GPFG) should divest from coal. It was publicly announced that the GPFG would divest from mining companies and utilities if 30% or more of their revenues or their power production was based on coal. The new divestment criterion is being implemented since 1 January 2016. The GPFG's divestment policy offers a practical frame of reference for other funds. It has formulated clear divestment criteria and announced time line for the divestment. This is crucial to make divestment effective and measurable. However, the divestment criteria of the GPFG are not yet excluding the entire coal sector and additional steps need to be taken in the future to bring about a climate conscious divestment.

Methodology

A percentage criterion such as the one put in place by the Norwegian government alone is not enough to ensure a full and climate conscious coal divestment - in other words an impact divestment. The companies responsible for the growth of the coal plant fleet and some of the largest multinational mining companies are often not covered by this criterion. When screening the FDC's portfolio three criteria were used to identify coal investments.

1. The percentage criterion: 30% or more of revenues or of the coal share of power production of a company is based on coal. As explained above the GPFG follows this criterion for its divestment efforts. If one of the two values lie above 30% the investment is counted as a coal investment.
2. Absolute threshold: A company that produces more than 20 million tons of coal per year is counted as a coal investment.
3. Companies planning to develop new coal mines or build new coal-fired power plants are counted as coal investments.

If these three criteria are considered, the biggest and most aggressive part of the coal industry globally is covered and the most important companies for a coal divestment are identified.

The FDC's Coal Portfolio as a Whole

On the basis of the criteria laid out above we found that in 2015, the FDC was invested in 103 coal companies, totaling 159 million €. This is 1,11 % of the investment portfolio of the Fund as a whole. It is a small part of the Fund's portfolio as a whole, but the companies represented are the forerunners of fueling global climate change, are often involved in severe human rights violations and most often lack plans of reconsidering their business model.

We have looked at the companies financed by the fund and have drawn out a few examples that illustrate best the kind of companies a forward looking, sustainable Luxembourg should not be investing in.

India

The Luxembourg Pension Fund's (FDC) investments in India - the world's third largest producer of carbon dioxide after China and the US - total 7,5 million €. In India, 70% of the total electricity produced is generated by burning coal. The burning of coal actually accounts for as much as 40% of the country's total CO_2 emissions.

The pension fund holds a 2,9 million € investment in Power Finance Corporation (PFC). PFC, in cooperation with the government of India, develops huge coal-fired power plants, so-called Ultra Mega Power Projects in India and other countries in the region. These are projects of minimum 4000MW each, which will emit millions of tons of CO_2 in the atmosphere for decades to come. In 2015 alone, Power Finance Corporation has added 23.976,6 MW to its capacity whereof 94 percent was thermal energy.[9] A climate-conscious pension fund cannot be invested in a company with such significant responsibility in the expansion of the coal sector.

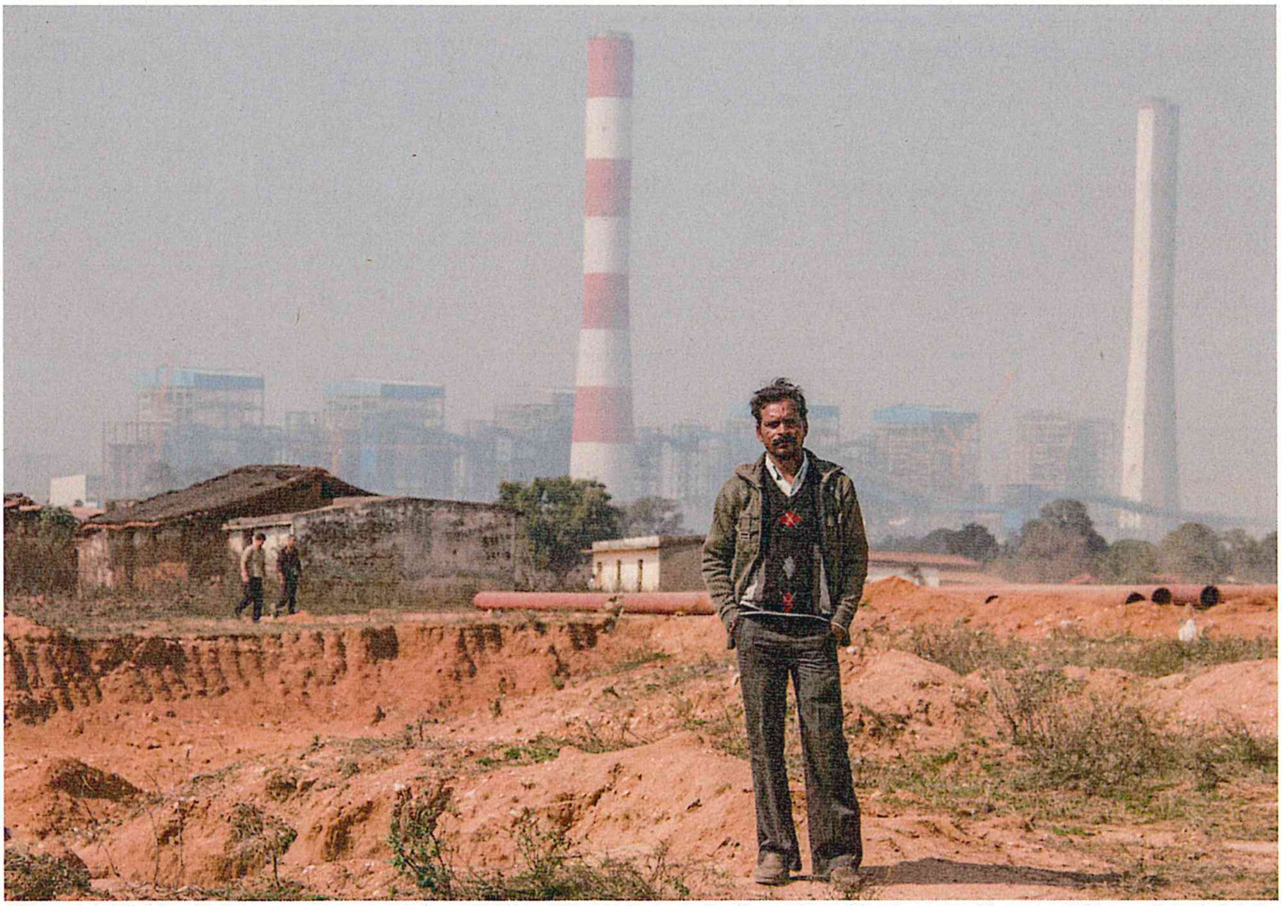

Photo 1: PFC built the controversial Sasan Ultra Mega Power Project that displaced villagers. Photo: Joe Athialy

[9] Power Finance Corporation (2016): Annual Report. http://www.pfcindia.com/ (Accessed 01.11.2016) [http://www.pfcindia.com/writereaddata/userfiles/file/Annual%20reports/Annualreport_2015_16.pdf]

Power Finance Corporation does not run the power plants it develops but sells them to Indian utilities, such as NTPC, that will run the plants for the next 40 years. The National Thermal Power Corporation (NTPC) is the largest thermal power producer in India. 95 percent of its total power generation stems from coal and its annual coal consumption amounts to more than 162 million metric tons[10] (equivalent to about 55-times the total emissions of CO_2 of Luxembourg in a year). Additionally, NTPC conducts mining to support this enormous demand. The pension fund's investments in the company add up to 3,4 million €.

Besides the problems of such an immense amount of coal burned by NTPC from a climate point of view, other issues are distressing also. The activities of NTPC are threatening the rich forest areas of India. These forests are home to some of the world's most spectacular and endangered wildlife, including elephants, leopards and tigers.

In October 2015, New Delhi Central Electricity Authority reported that NTPC was not properly disposing of fly ash, thereby releasing mercury, toxic and heavy metals into the air, constituting a major threat to human health.[11] Additionally reports have documented several examples of illegal release of waste water into rare bio-diverse natural habitats.[12]

Furthermore, NTPC has a record of ongoing human rights violations. NTPC is a fifty percent shareholder of the controversial Rampal Power Plant project in Bangladesh. The project is associated with harassment, threats, assaults and forced evictions of locals and activists.[13] Rather than being an isolated incident these offenses seem to exemplify a pattern in NTPC projects: On October 1, 2016, four civilians were killed and dozens injured during clashes at protests demanding suspension of NTPC mining sites in Barkagaon due to maltreatment of the locals.[14] Divesting from the Indian coal industry is therefore essential in regard to human rights, the climate and the environment.

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[10] National Thermal Power Corporation (2016): Annual Report. http://www.ntpc.co.in/ (Accessed 01.11.16) [http://www.ntpc.co.in/annual-reports/6304/download-complete-annual-report-2015-16]

[11] Central Electricity Authority (2015): Report On Fly Ash Generation at coal/lignite based thermal power stations and its utilization in the country for the year 2014-15. October. http://cea.nic.in/ (Accessed 01.11.2016) [http://cea.nic.in/reports/others/thermal/tcd/flyash_final_1415.pdf]

[12] Manthan Adhyayan Kendra (2014): Impacts of Coastal Coal Based Thermal Power Plants on Water, October. http://manthan-india.org/ (Accessed 01.11.2016) [http://www.manthan-india.org/wp-content/uploads/2015/04/Impacts-of-Coastal-Coal-Based-Thermal-Power-Plants-on-Water-Report-of-Visit-in-Andhra-Pradesh-and-Tamil-Nadu.pdf]

[13] South Asians for Human Rights (2015): Report of the Fact Finding mission to Rampal South, Bangladesh. http://www.southasianrights.org/ (Accessed 01.11.2016) [http://www.southasianrights.org/wp-content/uploads/2015/09/Report-of-the-FFM-Rampa-Bangladesh.pdf]

[14] Times of India (2016): Four killed, dozens injured as police fire on NTPC protestors in Jharkhand. 1 October. http://timesofindia.indiatimes.com/ (Accessed 01.11.2016) [http://timesofindia.indiatimes.com/city/ranchi/Four-killed-dozens-injured-as-police-fire-on-NTPC-protestors-in-Jharkhand/articleshow/54631782.cms]

USA

In the United States the FDC is invested in as many as 33 utilities, amongst them some of the dirtiest in the country. These 35 companies produce between 30% and 100% of their energy by burning coal. The fund's investments in US utilities total 40,6 million €.

By far the largest US utility investment of the FDC is in Duke Energy. The Pension Fund holds shares and bonds worth 6,7 million € in Duke Energy, a company that is charged with numerous criminal violations by federal prosecutors and is among the worst polluters in the Unites States.[15] In February 2014, 40,000 tons of coal ash from one of Duke's coal-fired power stations spilled into North Carolina's Dan River. For 110 kilometers the river was coated with toxic gray sludge from 60 years of burning coal.

Photo 2: Duke Energy could have prevented the Dan River coal ash spill of 2014. Photo: Rick Dove Waterkeeper Alliance

Coal ash is the waste material left after coal is burned. It contains arsenic, mercury, lead, thallium, chromium and many other heavy metals that pose grave risks to human health. When released into the environment, these substances can cause cancer, neurological damage, heart and lung diseases, kidney disease, reproductive problems, birth defects, asthma and many other illnesses. Every year, coal-fired power stations in the U.S.

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[15] The New York Times (2015): Duke Energy Is Charged in Huge Coal Ash Leak. 20 February. www.nytimes.com (Accessed 10.10.2016) [http://www.nytimes.com/2015/02/21/us/duke-energy-is-charged-in-huge-coal-ash-leak.html]

generate 140 million tons of coal ash, making it the largest industrial waste stream in the United States.

The coal ash spill into the Dan River was symptomatic for Duke Energy's negligent handling of waste from its coal-fired power plants. The Norwegian Sovereign Wealth Fund (GPFG) that decided to divest from coal in late May of 2015 has decided to exclude Duke Energy from its investment portfolio.[16] Duke Energy and its daughter companies have been excluded due to an "unacceptable risk of these companies being responsible for severe environmental damages"[17]. The Council on Ethics reports: "Duke's companies have for a long time not responded adequately to several of the environmental challenges represented by their activities." (p.3).

Photo 3: This is what a coal ash spill looks like. Photo: Amy Adams

Unfortunately, Duke Energy is not alone when it comes to this deplorable practice. In total, there are over 1,400 unlined coal ash ponds in the US. While they virtually all leak, many have also been rated as structurally unsafe and are at high risk of causing new spills.

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16 Stortinget (2015): The Storting has made the unanimous decision to pull the Government Pension Fund Global (GPFG) out of coal. 28 May. www.stortinget.no (Accessed 10.10.2016) [https://www.stortinget.no/en/In-English/About-the-Storting/News-archive/Front-page-news/2014-2015/hj9/]

17 Etikkradet (2016): Recommendation 5 April 2016 to exclude Duke Energy Corp., Duke Energy Carolinas LLC, Progress Energy Inc. and Duke Energy Progress Inc. 5 April. www.etikkradet.no (Accessed 10.10.2016) [http://etikkradet.no/files/2016/09/Rec-Duke-Eng-17486.pdf]

Among the owners of these ash ponds are Ameren, Dominion Resources, PPL and several other utilities the FDC is invested in.[18]

South Africa

South Africa is by far the largest emitter of carbon dioxide in Africa, emitting 73% of the continent's total CO_2 emissions (based on cumulative emissions from 1950 to 2000).[19] One of the biggest sources of greenhouse gas emissions is the coal sector. The country produced 259 million tons of coal in 2012 and generates 94% of its electricity by burning coal.[20]

Photo 4: The Waterberg area is incredibly water-scarce and Sasol's operations worsen the situation for the communities. Photo: Greenpeace

In South Africa the FDC is investing 2,3 million € in Sasol, an especially dirty and ruthless company. Sasol is the world's leader in coal-to-liquid (CTL) technology. Liquefying coal to synthetic fuels (synfuels) produces twice as many greenhouse gas emissions as

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[18] Sierra Club (2014): DANGEROUS WATERS: AMERICA'S COAL ASH CRISIS. 14 May. http://sierraclub.org/ (Accessed 01.11.2016) [https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org.creative-archive/files/pdfs/0712%20CoalAshMiniReport_MegaReport_02_web_1.pdf]

[19] Mvula Trust (2010): The Social and Environmental Consequences of Coal Mining in South Africa. January. http://www.bothends.org/nl/ (Accessed 01.11.206) [http://www.bothends.org/uploaded_files/uploadlibraryitem/1case_study_South_Africa_updated.pdf]

[20] Ibid

refining fuel from crude oil. Sasol mines more than 40 million tons of coal a year, in one of the world's biggest underground coal mining complexes.[21] The coal is mostly used for gasification at Sasol's synfuels plant in Secunda, the single largest CO_2 emitter in the world.[22] In 2011, Sasol's carbon dioxide emissions amounted to 52.9 million tons; 11% of South African greenhouse gas emissions and 4,9 times the annual CO_2 emissions of Luxembourg.[23]

The people living in the direct proximity of the Secunda and other Sasol plants are suffering massively under the air and water pollution caused. However, instead of changing its practices Sasol in 2014 sued the government's environmental department for wanting to strengthen air pollution legislation.[24] In April 2015 Sasol dropped the lawsuit and the government allowed for the company to postpone compliance with the law until 2020.[25] NGOs have criticized the government for not being able to maintain air quality monitoring stations and protect public health.[26]

Time for Coal Divestment

The analysis has shown that the FDC is invested in some of the dirtiest players in the coal industry globally, destroying forests, poisoning water, air and people and heating up our climate. Some of the investments of the FDC are responsible for the expansion of the coal sector and the building of new coal-fired power plants that will emit millions of tons of CO_2 for decades to come. In a post Paris world however there is no room for new coal, let alone new coal-fired power plants that create lock in situations and hamper the development of renewable sources of energy.

Luxembourg has ratified the Paris agreement and promised to work towards reducing its carbon footprint. The Norwegian government has shown that it is possible for the state to step in and demand for sovereign money to be invested more sustainably. The government of

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[21] Sasol (2012): Opening remarks by Sasol's Chief Executive Officer, David e. Constable inauguration of the thubelisha shaft, twistdraai colliery. 22 May. http://sasol.com/ (Accessed 01.11.2016) [http://www.sasol.com/sites/sasol/files/presentations_speeches/Inauguration%20of%20the%20Thubelisha%20shaft,%20Twistdraai%20Colliery%20%E2%80%93%20Opening%20remarks%20by%20Sasol%E2%80%99s%20CEO,%20David%20E.%20Constable.pdf]

[22] Mvula Trust (2010): The Social and Environmental Consequences of Coal Mining in South Africa. January. http://www.bothends.org/nl/ (Accessed 01.11.206) [http://www.bothends.org/uploaded_files/uploadlibraryitem/1case_study_South_Africa_updated.pdf]

[23] Sasol (2011): Annual Report. 30 June. http://sasol.com/ (Accessed 01.11.2016) [http://www.sasol.com/extras/AIR_2016/sites/air_2016/files/Annual%20integrated%20report,%2030%20June%202011.pdf]

[24] Independant Online South Africa (2014): Sasol's pollution court battle. 4 July. http://www.iol.co.za/ (Accessed 01.11.2016) [http://www.iol.co.za/scitech/science/environment/sasols-pollution-court-battle-1714412]

[25] https://www.environment.gov.za/mediarelease/molewa_sasolwithdraw_litigation

[26] groundWork (2014): Slow Poison: Air Pollution, Public Health and Failing Governance. June http://groundwork.org.za/ (Accessed 01.11.2016) [http://www.groundwork.org.za/specialreports/Slow%20Poison%20(2014)%20groundWork.pdf]

Luxembourg has to finally follow-suit, put its money where its mouth is and stop using tax-payers' money to bankroll climate change. According to the criteria used in this analysis coal made up for a mere 1,11% of the FDC's investment portfolio in 2015. Reinvesting this money in environmentally and socially sound sectors is a simple first step towards climate-conscious investments in Luxembourg and will have an impact on investors and governments elsewhere.

The authors have made it clear that their main arguments for a divestment stem from the environmental, social and climatic problems associated with the coal industry. A further incentive for a divestment decision however should also be the current financial situation of the coal industry. According to the 2015 Annual report of the FDC, several investment portfolios benefited from lower energy weightings. At the same time, the portfolio investing according to the Environmental, Social and Governance (ESG) criteria was over-performing compared to the reference index.[27] Investing the Luxembourg tax payer's money in environmentally and socially sound sectors will in the end also be beneficial for the Fund itself.

[27] Fonds de Compensation (2016): Annual Report 2015. http://www.fdc.lu/ (Accessed 01.11.2016) http://www.fdc.lu/fileadmin/file/fdc/Rapport_annuel_2015_final_web.pdf#pageMode=bookmarks

Divestment To-Do List

	Company	Annual Coal Production > 20 Million Metric Tons	Coal Expansion Plans	Coal Share of Revenue > 30%	Coal Share of Power Production > 30%	Total SICAV investments in € in 2015
Australia						
1	AGL Energy Ltd	x			x	1.812.743
2	BHP Billiton group	x	x			17.141.453
3	Downer EDI Ltd		x	x		47.371
4	Origin Energy Ltd				x	410.999
5	Whitehaven Coal Ltd		x	x		17.116
Canada						
6	Capital Power Corp			x	x	47.293
7	Fortis Inc/Canada				x	411.541
8	Teck Resources Ltd	x		x		151.274
9	Transalta			x	x	70.254
10	Westshore Terminals Investment Corp			x		19.710
Chile						
11	AES Gener SA		x		x	134.292
China						
12	China Coal Energy Co Ltd (China National Coal)	x	x	x		206.373
13	China Petroleum & Chemical Corp.		x	x		2.880.516
14	China Power International		x		x	220.303
15	China Resources Power Holdings Co		x		x	572.768
16	China Shenhua Energy Co Ltd	x		x	x	866.593
17	CNOOC Ltd		x			3.581.047
18	Datang International Power				x	137.356
19	Huadian Power International Corp				x	1.831.898
20	Huaneng Power International Inc				x	702.458
21	SHANGHAI ELEC/JIANGSU GUOXIN		x			249.950
22	Sinopec Engineering Group Co Ltd		x	x		268.528
23	Yanzhou Coal Mining Co Ltd	x		x	x	240.102
Czech Republic						
24	CEZ AS				x	1.389.421
Denmark						
25	D/S Norden A/S			x		21.434
Germany						
26	E.ON SE		x			8.556.252
27	EnBW				x	4.921.747
28	RWE AG	x		x	x	3.052.249
Greece						
29	Public Power Corp SA	x			x	44.798
India						

30	Adani Power Ltd		x	x	x	510.577
31	Bharat Heavy Electricals Ltd			x		328.964
32	Coal India Ltd	x	x	x		352.336
33	NTPC Ltd		x	x	x	3.395.392
34	POWER FINANCE CORP LTD (PFC)					2.906.527
Indonesia						
35	PT Adaro Energy Tbk PT	x	x	x		172.966
Italy						
36	Enel SpA				x	13.688.282
Japan						
37	Chugoku Electric Power Co Inc/The				x	195.904
38	Electric Power Development Co Ltd	x	x		x	218.440
39	Hokkaido Electric Power Co Inc				x	92.564
40	Hokuriku Electric Power Co				x	68.681
41	Itochu Corp		x			1.246.943
42	KANSAI ELECTRIC POWER CO		x			500.363
43	Kawasaki Kisen Kaisha Ltd			x		71.627
44	Kyushu Electric Power Co Inc		x		x	279.259
45	Okinawa Electric Power Co Inc/The				x	32.491
46	Shikoku Electric Power Co Inc				x	136.673
47	Tohoku Electric Power Co Inc				x	250.083
Malaysia						
48	Tenaga Nasional Bhd				x	1.353.195
Philippines						
49	Aboitiz Power Corp				x	466.819
50	DMCI Holdings Inc			x		150.810
Poland						
51	Enea SA		x	x	x	188.734
52	Energa SA		x		x	82.981
53	Tauron Polska Energia SA				x	253.173
Portugal						
54	EDP Energias de Portugal SA				x	2.886.352
Russia						
55	Gazprom		x			4.855.911
56	OAO Severstal			x		2.483.486
South Africa						
57	Exxaro Resources Ltd	x		x		126.905
58	Sasol Ltd	x		x	x	2.339.120
South Korea						
59	Korea Electric Power Corp (KEPCO)		x			3.880.562
Spain						
60	Endesa SA				x	350.660
Sweden						
61	Vattenfall	x			x	10.622.973
Thailand						
62	Banpu	x	x	x		186.887

63	Glow Energy PCL			x		177.574
United Kingdom						
64	Anglo American PLC	x	x			1.342.470
65	Drax Group PLC				x	52.659
66	Evraz PLC	x				19.401
67	Glencore plc	x		x		2.682.971
68	SSE PLC			x	x	9.543.698
United States						
69	ALLETE Inc			x	x	75.616
70	Alliant Energy Corp			x	x	379.426
71	Ameren Corp				x	696.424
72	American Electric Power Co Inc				x	1.904.248
73	Black Hills Corp				x	70.865
74	CMS Energy Corp			x	x	614.453
75	CONSOL Energy Inc	x		x		101.268
76	CSX Corp	x				2.134.949
77	Dominion Resources Inc/VA				x	4.455.209
78	DTE Energy Co				x	1.048.235
79	Duke Energy Corp				x	6.724.366
80	Empire District Electric Co				x	43.411
81	FirstEnergy Corp				x	878.351
82	Georgia Power Co				x	520.584
83	Great Plains Energy Inc				x	162.608
84	IDACORP Inc				x	115.994
85	Joy Global Inc			x		60.038
86	MGE Energy Inc			x	x	98.028
87	Midamerican Energy Co				x	1.107.168
88	Norfolk Southern Corp	x				2.171.819
89	NRG Energy Inc	x		x		245.953
90	OGE Energy Corp			x	x	333.980
91	Otter Tail Corp				x	69.474
92	PacifiCorp				x	167.693
93	Peabody Energy Corp	x		x	x	14.939
94	Pinnacle West Capital Corp			x	x	2.564.598
95	PNM Resources Inc			x	x	81.329
96	PPL Corporation				x	5.684.532
97	SOUTHERN CO				x	2.915.628
98	Southwestern Electric Co				x	545.556
99	Tennessee Valley Authority				x	814.625
100	Vectren Corporation			x	x	118.243
101	Virginia Electric & Power Co				x	2.202.014
102	Westar Energy Inc				x	234.518
103	Xcel Energy Inc				x	1.213.198
				Total	159.072.592	

This Divestment To-Do list is based on the 2015 investments of the FDC.